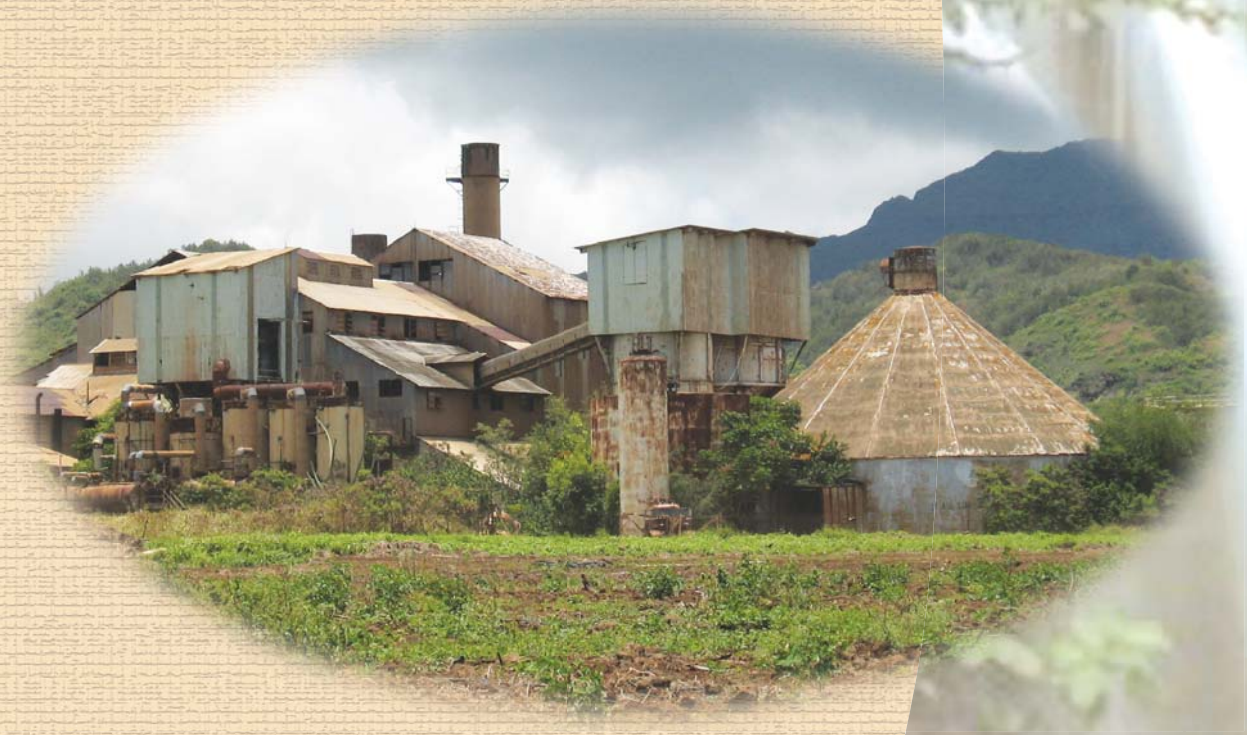
ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

For

KOLOA - POIPU REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT

Koloa, Kauai, Hawaii



October 2008

HOH Utilities, LLC

ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

FOR

KŌLOA-POʻIPŪ REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT

KŌLOA, KAUAʻI, HAWAII

OCTOBER 2008

This document was prepared pursuant to the requirements of Chapter 343, Hawaii Revised Statutes.

Prepared for:

HOH Utilities, LLC
3560 Kōloa Road
Kalāheo, Hawaii 96741

Prepared by:

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PREFACE

This Environmental Assessment and Environmental Impact Statement Preparation Notice was prepared pursuant to Chapter 343, Hawaii Revised Statutes, and Title 11, Chapter 200, Administrative Rules, Department of Health, State of Hawaii. HOH Utilities, LLC, the Applicant, proposes to develop a private regional wastewater reclamation facility and collection system in the Kōloa-Poʻipū area within the south shore area of the Island of Kauaʻi. The County of Kauaʻi, Planning Department is the Accepting Authority and has determined that the proposed action requires the preparation of an Environmental Impact Statement.

SUMMARY

Project: Kōloa-Poʻipū Regional Wastewater Reclamation Facility

Applicant: HOH Utilities, LLC
3560 Kōloa Road
Kalāheo, Hawaii 96741
Telephone: (808) 742-9784
Contact: Ian Kagimoto, P.E.

EIS Consultant: Wilson Okamoto Corporation
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Honolulu, Hawaiʻi 96826
Telephone: (808) 946-2277
Contact: Ronald Sato, AICP

Accepting Authority: County of Kauaʻi, Planning Department

Project Location: Kōloa and Poʻipū area of the south shore of the Island of Kauaʻi

Tax Map Keys: (4) 2-08-004: portion of 003, 2-08-008: portion of 001 and 036, 2-08-009: portion of 001, 2-08-011: portion of 001, 2-08-014: portions of 005, 019, 023, 030, and 037; 2-08-022: portions of 001, 011, 021, and 030; and 2-09-001: portions of 001 and 002.

Project Area: Approximately 13.0 acres

Proposed Action: The proposed action consists of the development of a regional wastewater reclamation facility and collection system in the Kōloa-Poʻipū area within the south shore of Kauaʻi, Hawaii.

A new Kōloa-Poʻipū Regional Wastewater Reclamation Facility (WRF) will be constructed on a portion of the former Kōloa Mill site to treat wastewater collected to produce R-1 quality recycled water. The Regional WRF also includes a system of wastewater collection systems identified as: 1) Kōloa Collection System; 2) Poʻipū Collection System; and 3) Eastern Collection System. This collection system includes new wastewater pump stations and gravity and force mains.

Determination: The Accepting Authority has determined that the proposed action requires the preparation of an Environmental Impact Statement based upon the Environmental Assessment and evaluation of the significance criteria set forth in Chapter 200, Title 11, Administrative Rules of the State of Hawaii Department of Health.

Existing Uses: Kōloa Mill site, undeveloped land, roadways, and utility easements.

State Land Use District Classification: Agricultural District and Urban District

Kauaʻi General Plan Designation: Residential Community, Resort and Agriculture

Special Management Area: The Project Area is not within the Special Management Area.

County Zoning District: Agriculture District (A), Open District (O), and Residential Districts (R-6 and R-20)

Agencies Consulted in Pre-Assessment Process:

State of Hawaii
Department of Business, Economic Development and Tourism, Land Use Commission
Department of Health

County of Kauaʻi
Planning Department

Organizations and Interested Parties
Kōloa Community Association
Malama Mahaulepu Board
Grove Farm Company, Inc.
Eric A. Knudsen Trust

1. INTRODUCTION

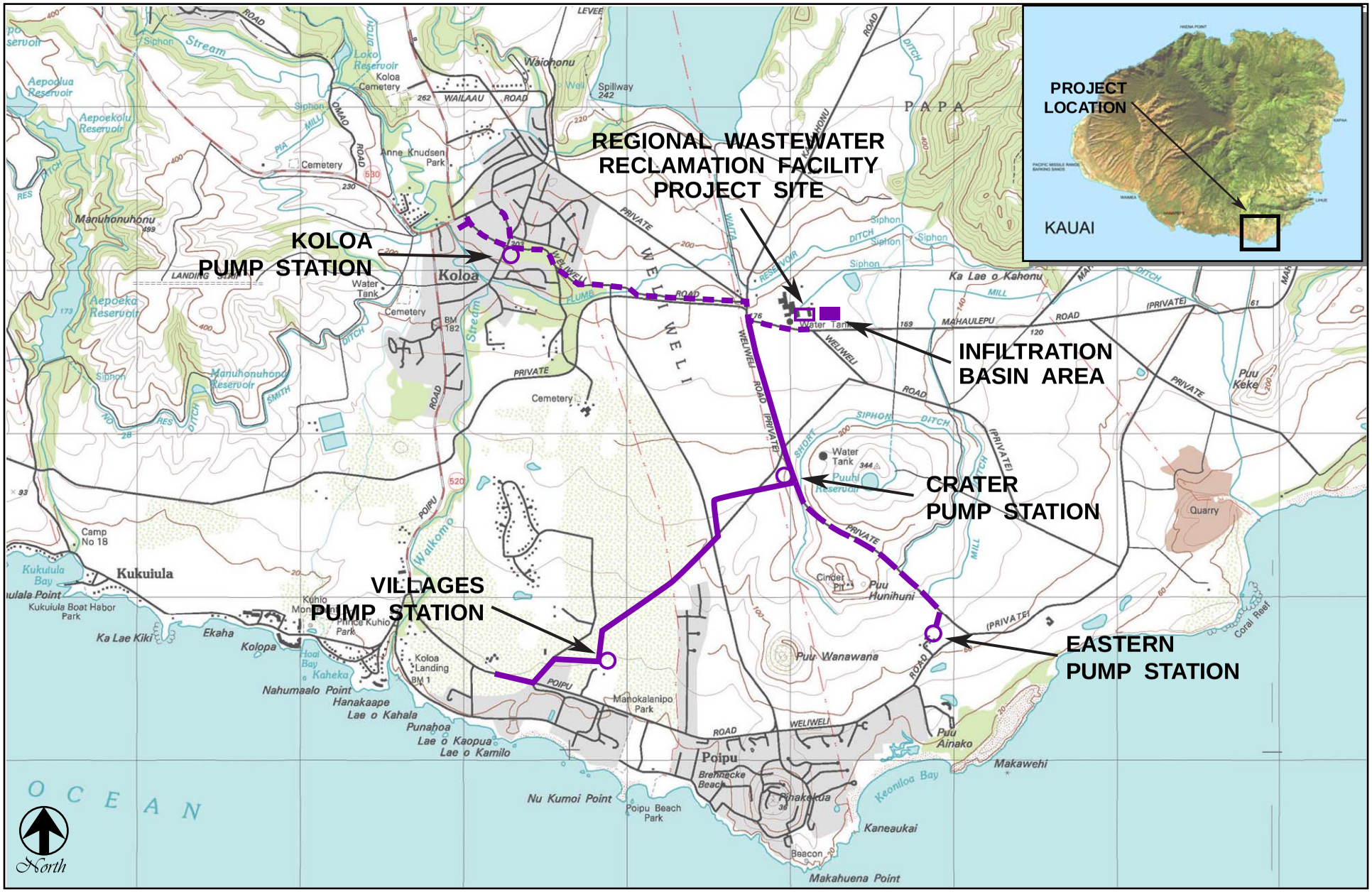
1.1 BACKGROUND

HOH Utilities, LLC is the Applicant proposing to develop a privately-owned and operated regional wastewater reclamation facility and associated wastewater collection system in the Kōloa-Poʻipū region on the south shore of the Island of Kauaʻi. HOH Utilities, LLC is a State Public Utilities Commission (PUC) regulated utility company. The proposed Kōloa-Poʻipū Regional Wastewater Reclamation Facility (Regional WRF) and collection system (hereinafter collectively referred to as the "Project") is intended to collect and treat wastewater associated with a service area encompassing the communities of Kōloa Town, Poʻipū, and Kukuiʻula.

The proposed Regional WRF will be situated on an approximately 3.0-acre area within a portion of the existing former Kōloa Mill site identified as Tax Map Key (TMK) No. (4) 2-09-001: portions of 001 and 002. A project location map is included in Figure 1.1. This site consists of property located at the eastern end of Weliweli Road in Kōloa and owned by Grove Farm Company, Inc.

The wastewater collection system serving this Regional WRF's is planned to consist of the following three (3) components and are identified on Figure 1.1:

1. Kōloa Collection System. A wastewater collection system will be constructed having a service area that includes several existing developed properties and planned developments within the Kōloa Town area. This collection system is referred to as the "Kōloa Collection System". New gravity sewer lines, and force mains would be routed within or along Kōloa Road, Waikomo Road, Weliweli Road, and across Ala Kinoiki Road in an eastbound direction to the proposed Regional WRF. A new wastewater pump stations (WWPS) would also be provided near the intersection of Waikomo Road with Weliweli Road.
2. Poʻipū Collection System. A wastewater collection system will be constructed with a service area that includes several existing developed properties and planned developments within the Poʻipū area. This collection system is referred to as the "Poʻipū Collection System," and will encompass a Poʻipū service area extending from the planned Kukuiʻula development in the west to the area of the Grand Hyatt Kauaʻi Resort and Spa in the east. Proposed collection system improvements includes two (2) new wastewater pump stations, gravity sewer lines, and force mains.



LEGEND:

- Koloa Collection System
- Po'ipu Collection System
- Eastern Collection System

Source:

State Office of Planning (USGS Map)
Aqua Engineers, Inc.

FIGURE 1.1
PROJECT LOCATION MAP

KOLOA-POIPU REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT
HOH Utilities, LLC

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3. Eastern Collection System. A wastewater collection system will be constructed with a service area that generally includes the area of the Poʻipū Bay Golf Course situated east of the Grand Hyatt Kauaʻi Resort. This collection system is referred to as the "Eastern Collection System". Collection system improvements include a new wastewater pump station, a gravity sewer line, and a force main. Effluent from the Regional WRF is planned to be used for irrigation of the Poʻipū Bay Golf Course.

HOH Utilities, LLC and Aqua Engineers, Inc.

HOH Utilities, LLC is a Hawaii based limited liability company. It is authorized by the State Public Utilities Commission to provide wastewater treatment services pursuant to its certificate of public convenience and necessity, granted in Decision and Order No. 17562, filed on February 25, 2000, in Docket No. 99-0343.

Aqua Engineers, Inc., which will be the operator of the Regional WRF, currently operates 24 wastewater treatment facilities, 10 water systems, and over 60 wastewater pump stations covering the islands of Kauaʻi, Oahu, Maui, Lanai, and Hawaii, making them one of the largest and most experienced firms in the industry in Hawaii. They are also the current operator of three (3) R-1 facilities in the State of Hawaii producing the highest quality wastewater effluent.

Starting in 1981, Aqua Engineers, Inc. initially provided operation and maintenance services for the Poʻipū WRF, and subsequently expanded to provide design and engineering services. Since then, the company has expanded its operations and services to include providing treatment facilities on various islands, and presently has operation and maintenance contracts at over 50 facilities throughout the State.

1.2 PURPOSE FOR EIS PREPARATION NOTICE

This Environmental Assessment and Environmental Impact Statement Preparation Notice (EISPN) document was prepared pursuant to Chapter 343, Hawaii Revised Statutes (HRS), and Title 11, Chapter 200, Hawaii Administrative Rules (HAR), Department of Health (DOH), State of Hawaii. The environmental review process for the proposed Project is required based upon the following triggers:

1. A wastewater treatment unit identified as the proposed Regional WRF and the associated collection system is proposed (Section 343-5 (a) (9) (A), HRS); and
2. The use of County lands identified as Kōloa Road, Waikomo Road, Weliweli Road and Ala Kinoiki Road (Eastern Bypass Road) are proposed for a portion of the wastewater collection system (Section 343-5 (a) (1), HRS).

Due to the potential for this Project likely having a significant effect on the environment, an Environmental Impact Statement (EIS) will be prepared to fully assess the Project and

identify pertinent mitigative measures that should be implemented to avoid or minimize Project-related impacts. This determination was based upon the results of this environmental assessment and consultation with the County of Kauaʻi, Planning Department.

Proposing Applicant and Accepting Authority

The proposed Project is considered an "Applicant Action" under the environmental review regulations because it is being initiated as a private action by HOH Utilities, LLC. As a result, HOH Utilities, LLC will serve as the Applicant initiating the preparation of the Environmental Impact Statement documents under these requirements. This Environmental Assessment and EIS Preparation Notice, or simply referred to as EISPN in this document, has been prepared in accordance with the requirements of Chapter 343, HRS and Chapter 200, HAR to notify the public of the proposed action, to identify potential concerns and issues that should be addressed in the Draft EIS, and to solicit further input from the public regarding this Project.

The site proposed for the Regional WRF is approximately 3.0 acres, and other associated collection system improvements involve about 10.0 additional acres. This is based upon a 10-foot-wide easement for sewer collection lines which could be less. Therefore, the total project area is about 13.0 acres.

The Regional WRF site is designated as "Agricultural District" under the State Land Use District classifications. In addition, portions of the wastewater collection system lines will be routed within roadways or property also classified as State Agricultural District. The total area for this facility and collection system within the Agricultural District will be about 11.0 acres. This total area is less than 15 acres, therefore, a State Special Permit processed by the County of Kauaʻi with the decision to be rendered by the County of Kauaʻi, Planning Commission will be required.

In addition, a County of Kauaʻi Use Permit and Class IV Zoning Permit will be required for the proposed Project with the decision rendered by the County of Kauaʻi, Planning Commission. Therefore, the County of Kauaʻi Planning Department will serve as the "Accepting Authority" for the EIS since these entitlements to be sought for the Project are required by the County of Kauaʻi. The Planning Department will thus serve as the authorized representative for the Mayor of the County of Kauaʻi.

1.3 BACKGROUND ON EXISTING WASTEWATER FACILITIES

The existing wastewater system in the Kōloa-Poʻipū area consists of the existing Poʻipū WRF, several packaged wastewater treatment plants (WWTPs) which serve existing developments in Poʻipū located east of Weliweli Tract, large capacity cesspools (LCCs) serving the various businesses within Kōloa Town, and cesspools and septic tank systems serving the individual residences within the Kōloa-Poʻipū area.

Poʻipū Wastewater Reclamation Facility

The existing Poʻipū WRF was constructed in 1981 as a subregional wastewater system by the Moana Corporation and other area resorts. This Poʻipū WRF is owned by HOH Utilities, LLC and operated by Aqua Engineers, Inc. It is located on approximately 2.0 acres of land adjacent to and mauka of Poʻipū Road, approximately 0.2 mile west of the intersection of Kiahuna Plantation Drive. The facility currently treats wastewater flows from various resort developments in Poʻipū, as well as the Poʻipū Shopping Village.

The Poʻipū WRF was upgraded in 2005 from an initial design capacity of 0.5 million gallons per day (mgd) to a new design capacity of 1.0 mgd, with a peak hour flow capacity of 3.5 mgd, and from a secondary treatment system to a R-1 (tertiary) treatment system with filtration and ultraviolet (UV) disinfection systems. The Poʻipū WRF currently treats approximately 360,000 gallons per day (gpd) of wastewater, with the effluent used to irrigate the existing Kiahuna Golf Course and landscape open space areas located mauka of the Poʻipū WRF.

As part of this upgrade, an integrated influent pump station was recently constructed within the Poʻipū WRF site to distribute the flow between the existing Poʻipū WRF and the new proposed Regional WRF. Since the integrated influent pump station has already been constructed and there are no other improvements to be constructed as part of the upgrade of this facility, the Poʻipū WRF is not included as part of the proposed Project improvements being assessed in the EIS.

Packaged Wastewater Treatment Plants and Cesspools

Currently, the existing resort developments in Poʻipū located east of Weliweli Tract operate their own wastewater treatment facilities. There are currently a total of 16 privately-owned packaged WWTPs serving these developments, including the Grand Hyatt Kauaʻi Resort and Spa. A packaged WWTP consists of units or modules designed for construction, assembly, connection, and installation at the site for treatment of wastewater.

To date, existing businesses within Kōloa Town have relied on large capacity cesspools (LCCs) for wastewater disposal. LCCs are defined as those serving multiple (two (2) or more) dwellings, or those for non-single-family residential buildings/businesses having the capacity to serve 20 or more persons per day. On December 7, 1999, the U.S. Environmental Protection Agency (EPA) promulgated regulations under the Safe Drinking Water Act, Underground Injection Control (UIC) Program which prohibited the construction of new large capacity cesspools (LCCs) effective April 2000, and required the closure or upgrade of all existing LCCs by April 5, 2005 to prevent contamination of current and potential underground sources of drinking water.

Existing single-family residences in the Poʻipū and Kōloa Town Service Areas are currently served by individual cesspools and septic tank systems. Since the proposed Regional WRF will be a private wastewater system, there will be no requirement for the existing single-family residences to connect to the Regional WRF. However, residences will be allowed to connect to the regional system if owners desire to do so.

2. PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND VICINITY

The Project is located on the south shore of the Island of Kauaʻi in the Kōloa District which has the second largest population on the Island. This district is comprised of several existing communities of which those directly affected by this Project are Kōloa Town and Poʻipū. The future planned community of Kukuiʻula situated west of Poʻipū will also be affected by this Project.

The Project Area covered under the EIS document being prepared for the Regional WRF system improvements will encompass the Poʻipū area and a portion of the Kōloa Town area (hereinafter collectively referred to as the "Project Area"). A Project Vicinity Map with an aerial photo is included as Figure 2.1 showing the project area and improvements planned.

Existing And Surrounding Uses

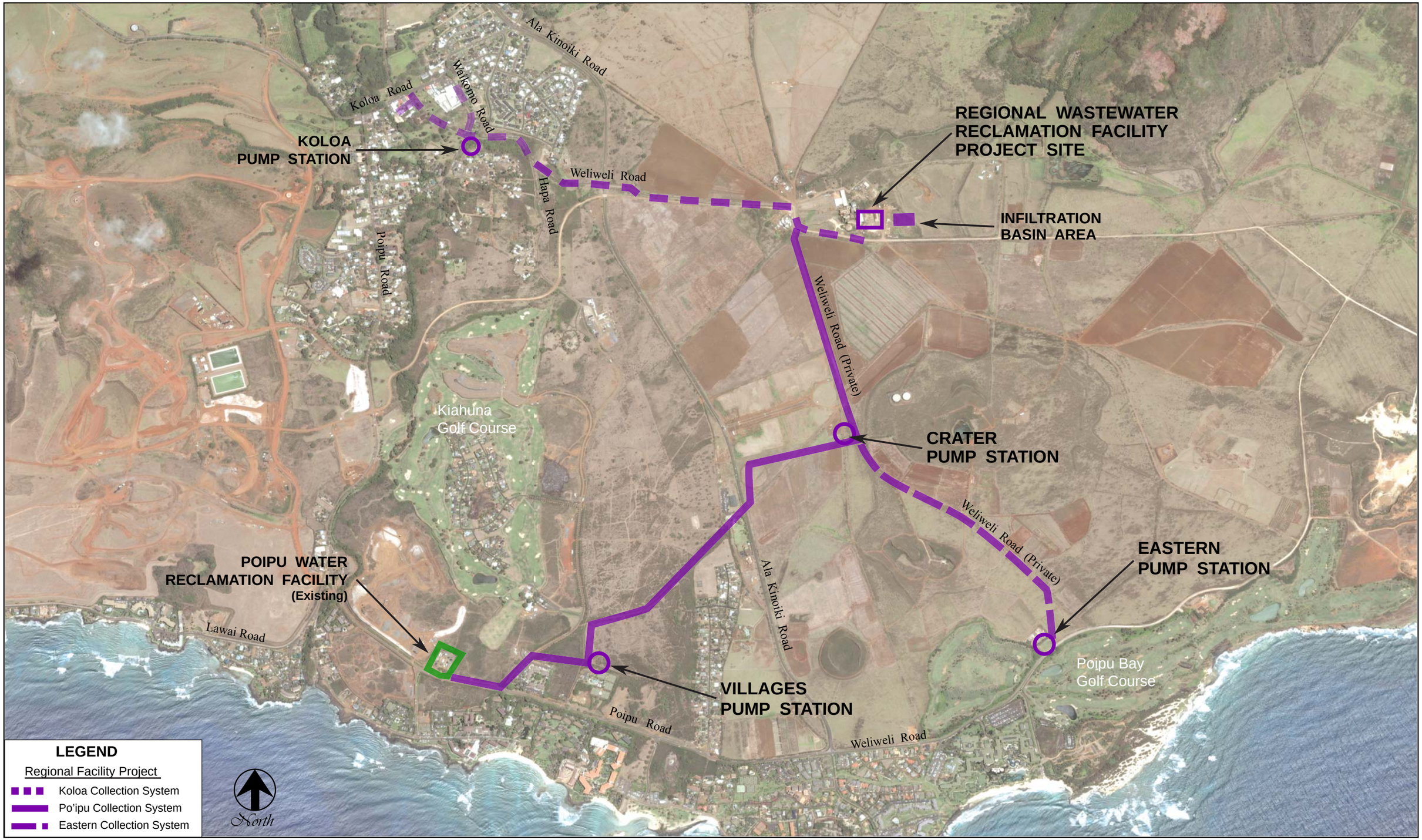
At the proposed Regional WRF site, the existing property consists predominantly of abandoned structures associated with the former Kōloa Mill operations and undeveloped land area. Surrounding uses consist of mostly vacant agricultural land formerly used for plantation activities, and an all-terrain vehicle (ATV) commercial operation. Figure 2.1 includes an aerial photo showing this site in relation to the surrounding land uses.

A large portion of the wastewater collection system would be located within existing undeveloped lands and private roadways routed through agricultural land. Thus, there are no existing developments present along these corridors. Other portions of the collection system would be within County roadways that have residences or other urban uses in the general vicinity, and privately-owned property.

Project Site and Ownership Information

The new Regional WRF will be situated within an agricultural area utilizing a portion of the existing Kōloa Mill site. This site is located east of Weliweli Road (private road portion) and further east of the Kōloa Town area as shown on Figure 2.1. Figure 2.2 shows the location of this proposed Regional WRF site in relation to Tax Map Key (TMK): (4) 2-09-001: portions of 001 and 002.

The proposed wastewater collection system improvements would consist of four (4) WWPSs along with gravity lines and force mains situated within existing undeveloped lands, roadways or along established utility line corridors or unpaved roadway corridors within this predominantly agricultural area. Appropriate easements for these collection system improvements will be acquired from private land owners or the County of Kauaʻi.



Source:

Digital Globe (Aerial Map - May 2007)
Aqua Engineers, Inc. (Regional Facility System)

FIGURE 2.1
PROJECT VICINITY MAP

KOLOA-POIPU REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT
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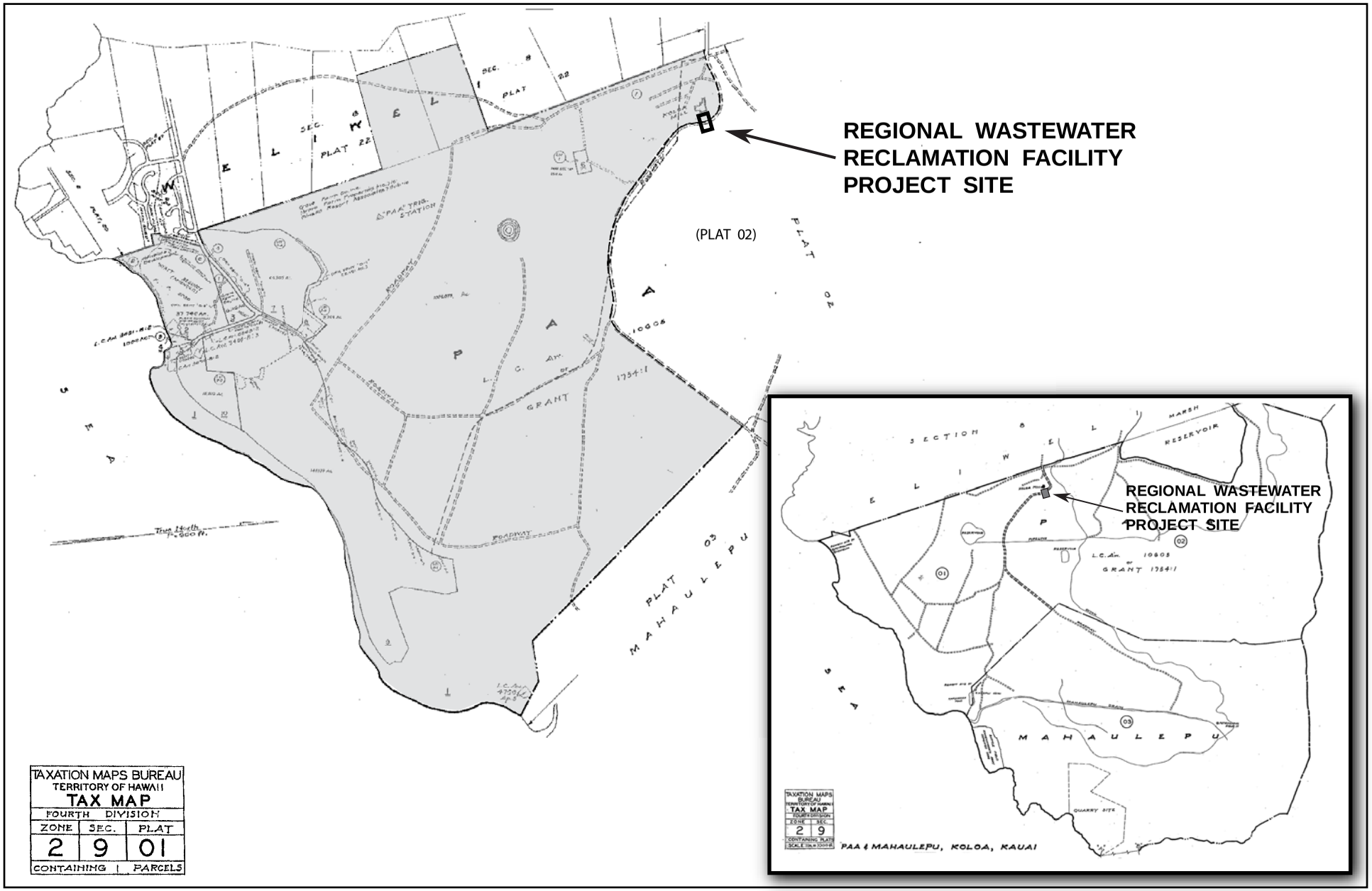

North

Source:

County of Kauai

FIGURE 2.2
REGIONAL WRF TAX KEY MAP

KOLOA-POIPU REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT
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Four wastewater pump stations would be constructed under this project consisting of: 1) Kōloa WWPS, 2) Villages WWPS, 3) Crater WWPS, and 4) the Eastern WWPS. The "Kōloa WWPS" is proposed to be located on an undeveloped parcel situated along Weliweli Road near its intersection with Waikomo Road. This property is identified as TMK 2-08-011: portion of 001. A proposed "Villages WWPS" will be located within an undeveloped site just mauka of the existing Kiahuna Swim and Tennis Club facility and east of Hapa Road within a parcel identified as TMK: (4) 2-08-014: portion of 019.

A proposed "Crater WWPS" will be located within an undeveloped site east of the existing water tanks near Puuhi Reservoir within a parcel identified as TMK: (4) 2-09-001: portion of 001. The proposed "Eastern WWPS" will be located within an undeveloped site located east of the Poʻipū Bay Golf Course and mauka of the private road that extends eastward from Poʻipū Road within a parcel identified as TMK: (4) 2-09-001: portion of 001.

The various wastewater collection system lines are proposed to be located within various parcels and roadways within the Project Area. New sewer lines associated with the Kōloa Collection System would be routed within both privately-owned property and the rights-of-way for portions of County roadways which are Kōloa Road, Waikomo Road, Weliweli Road, and across Ala Kinoiki Road. Privately-owned properties affected include parcels associated with Tax Map Keys (TMKs): 2-08-004: portion of 003, 2-08-008: portion of 001 and 036 (Yamada Road), 2-08-009: portion of 001, and 2-08-011: portion of 001, 2-08-014: portion of 023, and 2-08-022: portion of 001.

Sewer lines associated with the Poʻipū and Eastern Collection Systems would predominantly be located within privately owned property and a few County roadways. These properties are identified as TMKs: (4) 2-08-014: portions of 005 (Kiahuna Plantation Drive), 019, 030, and 037; (4) 2-08-022: portions of 011, 021, and 030; (4) 2-09-001: portion of 001. Figures depicting the locations of these proposed wastewater collection system improvements in relation to the respective TMKs will be included in the Draft EIS.

2.2 PROJECT NEED AND OBJECTIVES

2.2.1 Need for Project Improvements

The need for the proposed Project is to provide improved wastewater collection and treatment facilities on a regional level serving existing and future land uses in the south shore area extending from Kōloa Town to Poʻipū, and Kukuiʻula. The proposed Regional WRF is intended to treat wastewater at a tertiary level that will result in R-1 quality effluent water that can be reused for beneficial applications. The R-1 water, as prescribed under the State Department of Health, is the highest level of treated wastewater. These infrastructure improvements would thus address existing wastewater systems presently serving these areas by providing improved treatment and water quality associated with R-1 effluent disposal or reuse. Greater discussion of the need for this Project is provided below.

Replace Existing Large Capacity Cesspools

To date, existing businesses and residential developments in Kōloa Town have relied on large capacity "gang" cesspools (LCCs) for wastewater disposal because there is no regional wastewater collection and disposal system serving this area. Individual residences presently utilize cesspools or septic tanks systems for their wastewater treatment.

However, the U.S. Environmental Protection Agency (EPA) promulgated regulations (40 CFR 144.14) in 1998 that require the elimination of all large capacity "gang" cesspools used for wastewater disposal by April 5, 2005. LCCs were banned because untreated sewage is disposed into these cesspools and subsequently allowed to drain and percolate directly into the soil and groundwater, potentially causing impacts to public health along with environmental concerns. This increases the likelihood of releasing disease causing pathogens and other contaminants, such as nitrate, into groundwater aquifers, streams, and eventually the ocean.

Large capacity cesspools are defined as a cesspool serving multiple (two (2) or more) dwellings, a community or regional development, or any non-single-family residential building or business that generate sanitary wastes, containing human excreta from 20 or more persons per day. Sanitary waste, also referred to as domestic waste, consists of liquids or solid wastes originating from human activities, such as wastes collected from toilets, showers, washbasins, sinks used for cleaning domestic areas, food preparation, clothes or dishwashing operations (DOH, August 2004). Examples of this include a cesspool serving a duplex, an apartment building or townhouse development, a residential condominium, or multiple single-family dwellings clustered together.

In addition, a cesspool serving a non-residential building is considered an LCC if it receives sanitary waste containing human excreta from 20 or more persons in a single day. Examples of this include schools, churches, visitor centers, golf course clubhouses, park restroom facilities, retail businesses, restaurants or food establishments, hotels, and commercial or industrial uses.

As a result of this EPA regulation, existing businesses and residential developments in Kōloa Town were required to either close or upgrade all existing LCCs by April 5, 2005. In addition, new businesses and development projects are prohibited from constructing new LCCs. It has been difficult for affected developments to meet this requirement because there is currently inadequate land area available within Kōloa Town to upgrade their existing LCCs. In addition, it is very costly for landowners to undertake designing, permitting, and constructing the necessary wastewater system upgrades.

Consequently, improved treatment methods for wastewater collection and disposal are immediately needed for Kōloa Town to properly comply with the EPA regulation and to mitigate effects on the environment from the existing LCCs. The proposed Regional WRF and collection

system will provide these existing landowners affected with the opportunity to connect to the regional system, and thereby resolve this wastewater issue and comply with the EPA regulation. The Regional WRF will also allow new developments planned within Kōloa Town to connect to the regional system. In addition, existing residences within the proposed service area that are using cesspools or septic tank systems will have the opportunity to connect to this regional wastewater system.

Replace Existing Packaged Treatment Systems

Existing developments along the southern coastline of Poʻipū and including Kukuiʻula presently operate their own wastewater treatment facilities or packaged wastewater treatment plants (WWTPs). There are about 16 individual packaged WWTPs serving developments in this area with existing average daily design flows ranging from about 5,000 gallons per day (gpd) to about 180,000 gpd. Each of these treatment facilities generally has about one (1) to two (2) injection wells for the disposal of effluent.

These packaged plants do not include a tertiary process for treating wastewater to obtain the highest quality effluent water (R-1). These packaged plants currently produce R-2 effluent quality water. Thus, this effluent is disposed of via the injection wells which are predominantly located along the shoreline. If wastewater was treated at a tertiary level, the effluent discharged could be reused for other uses, and water quality along the coastline would be improved. In addition, the existing injection wells serving these packaged plants could be closed.

Therefore, the Regional WRF would also allow these existing developments that currently operate their own wastewater treatment facilities or packaged WWTPs to connect to the regional wastewater system. This will allow the individual packaged WWTPs to be discontinued and ultimately decommissioned.

Address Projected Wastewater Flows

There is a need to properly plan and implement regional improvements to accommodate the planned increase in wastewater generation resulting from the existing and planned developments in the Kōloa-Poʻipū region. New residential and commercial projects along with the expanded development of existing resorts are currently being undertaken in the Kukuiʻula to Poʻipū area. These future developments proposed for the area will exceed the 1.0 mgd treatment capacity of the existing Poʻipū WRF.

Therefore, a regional approach to address wastewater collection and treatment for this region is needed. Otherwise, these planned developments will likely implement packaged wastewater treatment plants resulting in the disconnected management of wastewater treatment in this region.

Furthermore, there is a need for an entity to initiate the planning and programming for the implementation of a regional wastewater system to service this area. Existing wastewater systems serving this region are privately owned and operated. Thus, it is difficult and probably impractical for one of these landowners to initiate such regional programming efforts. Therefore, the proposed Project will help address this issue.

The existing and projected wastewater flows from the developments within the Poʻipū Service Area to the recently upgraded influent WWPS at the existing Poʻipū WRF, the proposed Kōloa, Villages, Crater, and Eastern WWPSs, and ultimately to the proposed Regional WRF are presented in Table 2-1.

Table 2-1
Existing and Future Flows – Poʻipū and Kōloa Service Areas
Kōloa-Poʻipū Regional Wastewater Reclamation Facility

Phase	Project	Average Daily Flow (gpd)	Influent WWPS	Eastern WWPS	Crater WWPS	Regional WRF
Poʻipū Service Area						
Existing	Poʻipū WRF	386,000	✓			♦
Existing	Brennecke/Misc.	5,000	✓			♦
Existing	Lawai Beach/Kuhio Shores	61,500	✓			♦
Existing	Whalers Cove	8,000	✓			♦
Existing	Waikomo Stream	16,000	✓			♦
Existing	Alihilani	3,800	✓			♦
Existing	Grand Hyatt	144,200			✓	♦
Existing	Makahuena	25,000			✓	♦
Existing	Poʻipū Kai	103,000			✓	♦
Existing	Hale Kahanalu	1,450			✓	♦
Existing	Nihikai	10,000			✓	♦
Existing	Poʻipū Shores	7,500			✓	♦
Existing	Sunset Kahili	6,000			✓	♦
Existing	Poʻipū Palms	2,150			✓	♦
Existing	Poʻipū Makai	3,500			✓	♦
Existing	Weliweli Tract	32,000	✓			♦
New	Poʻipū Beach Estates (KMP-1)	34,560	✓			♦
New	Royal Palms (KMP-2)	39,360	✓			♦
New	Pili Mai (KMP-3)	45,840		✓		♦
New	Windridge (KMP -4)	67,200		✓		♦
New	Wainani (KMP-5)	22,400		✓		♦
New	Kōloa Landing	80,400	✓			♦
New	Starwood Expansion	57,600	✓			♦
New	Poʻipū Beach Hotel	33,880	✓			♦
New	Village at Poʻipū –I	16,000		✓		♦
New	Village at Poʻipū-II	40,160		✓		♦
New	Village at Poʻipū-III Phase 1	29,920		✓		♦
New	Village at Poʻipū-III Phase 2	29,920		✓		♦

Table 2-1 (Continued)
Existing and Future Flows – Poʻipū and Kōloa Service Areas
Kōloa-Poʻipū Regional Wastewater Reclamation Facility

Phase	Project	Average Daily Flow (gpd)	Influent WWPS	Eastern WWPS	Crater WWPS	Regional WRF
New	Kukuiʻula	560,000	✓			♦
New	Poʻipū Shopping Village Exp.	16,800	✓			♦
Kōloa Service Area						
Existing	Old Kōloa Town	2,250				♦
Existing	Sueoka Store	2,500				♦
Existing	Big Save	2,500				♦
Existing	Bendor Village/Poʻipū Realty/Fish Market	1,840				♦
Existing	DMB Employee Housing	5,520				♦
Existing	Hale Ohana	11,250				♦
Existing	Kōloa Shops (Wine Store)	800				♦
Existing	Dr. Murray	1,600				♦
Existing	Kōloa Early School	560				♦
New	Village at Kōloa Town	22,720				♦
New	Kōloa Creekside	19,840				♦
New	The Shops at Kōloa Town	16,000				♦
New	Potential Future Development	41,360				♦
Total Average Daily Demand		**2,018,150**				

2.2.2 Project Objectives

The proposed Project would address the need for a regional wastewater system serving the existing communities from Kōloa Town makai to Poʻipū and the developing Kukuiʻula community. The Project includes a new wastewater collection system, new pump stations, and a new regional treatment facility. This new facility would also include tertiary treatment producing R-1 effluent which is the highest standard currently regulated by the State Department of Health. A summary of the Project's objectives in addressing this need is provided.

1. The regional system will allow for the replacement of existing LCCs in Kōloa Town.
   a. The collection system will extend to Kōloa Town to include that area as part of the service area for the Regional WRF.
   b. Existing developments will be able to connect to this regional system, and those respective landowners will then be able to close their LLCs.
   c. Closing of the LLCs will allow landowners to comply with the EPA regulation mandating their closures.
   d. Residences along the service route will have the option to close their cesspool and connect to the regional system.

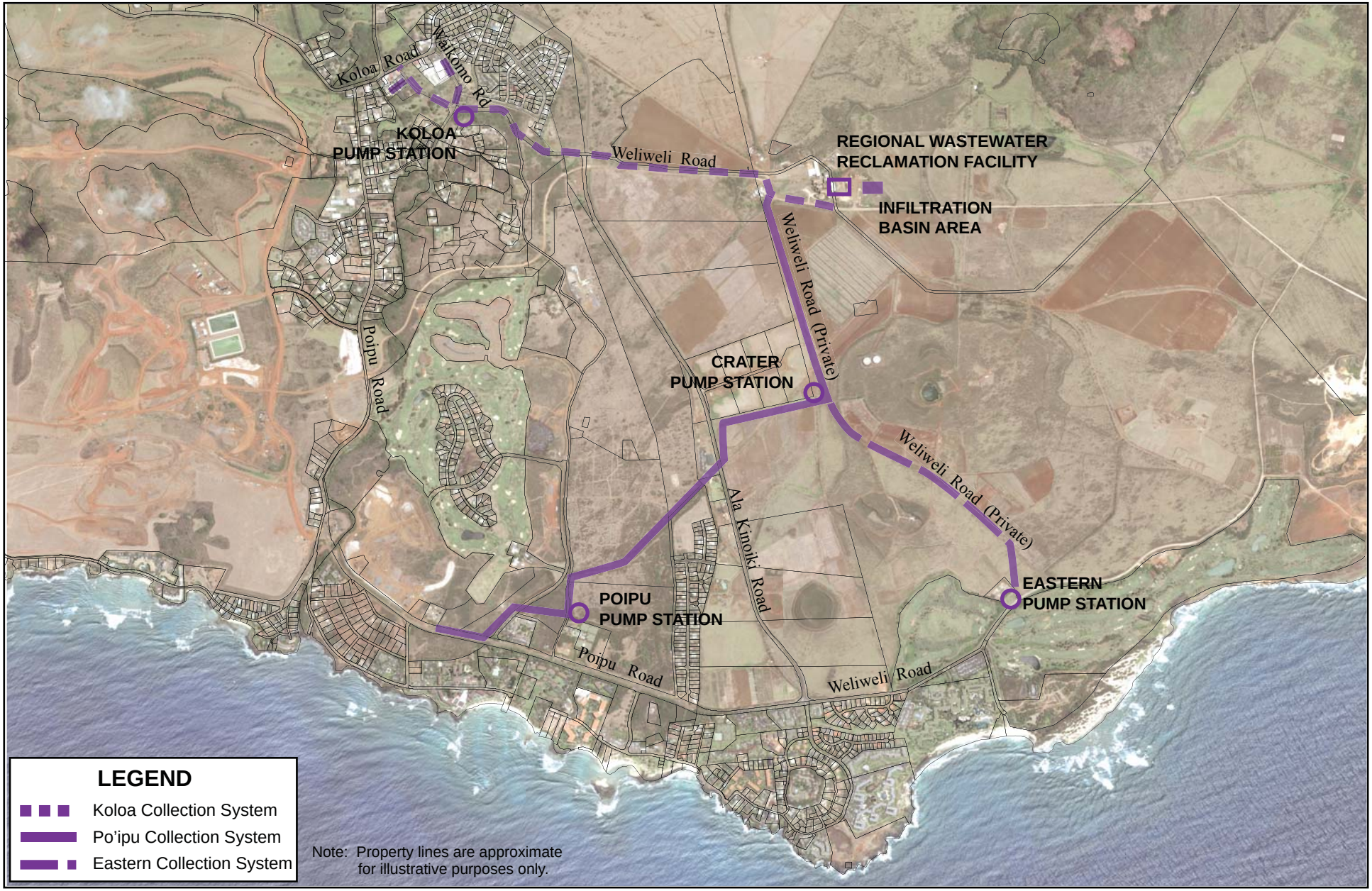
2. Existing packaged WWTPs in the areas of Lawai, Kukuiʻula, and Poʻipū will have the opportunity to connect to the regional system.
    a. These existing systems can be phased out over time and result in the closure of their associated injection wells.
    b. Connecting to the regional system will improve the quality of effluent currently being discharged and improve water quality along the coastline.
3. The regional system will provide sufficient capacity to accommodate the current and future demands occurring in this region.
4. The tertiary treatment process implemented under the regional system will provide positive benefits to the environment by improving the water quality of effluent discharged.
    a. The R-1 effluent from the regional treatment facility can be reused for irrigation or other sources.
    b. Reuse of the R-1 quality water will lessen the demand placed on potable water resources.
5. HOH Utilities, LLC and Aqua Engineers, Inc., is providing the resources to plan, program, and construct this regional wastewater system.

2.3 PROJECT DESCRIPTION

The proposed Project consists of the Regional WRF and collection system improvements. Figure 2.3 shows a preliminary site plan identifying the location of the facilities and routing of the collection system improvements. The proposed wastewater facility improvements will encompass a total of approximately 13.0 acres of land within the Project Area. Site improvements along with the facility's treatment process are still being refined, but will be discussed in greater detail in the Draft EIS prepared.

The proposed Regional WRF will be developed on the site of the existing Kōloa Mill which has not been in operation for about 10 years. As development plans for the Kōloa Mill have not been determined, the Regional WRF design considers future development of the Mill and surrounding areas. In consideration of the historic character and nature of the Kōloa Mill, the design of the buildings associated with the Regional WRF will emulate the architectural characteristics of the Mill to the extent possible.

The new Regional WRF facility is planned to treat excess wastewater from the existing Poʻipū WRF beyond 1.0 mgd along with its waste activated sludge, and wastewater from other residential and commercial developments within the Kōloa Town and Poʻipū service areas. The existing Poʻipū WRF will continue to treat wastewater from the region up to approximately 1.0 mgd, with the excess flows to be conveyed to the Regional WRF for treatment and disposal.



North

Source:
Austin Tsutsumi Associates &
Engineering Concepts, Inc.
Digital Globe (May 2007 Aerial)
State Office of Planning (GIS TMK Data)

FIGURE 2.3
REGIONAL FACILITY IMPROVEMENTS SITE PLAN

KOLOA-POIPU REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT
HOH Utilities, LLC

WILSON OKAMOTO CORPORATION
ENGINEERS · PLANNERS · CONSULTANTS

The Poʻipū WRF will continue to supply reclaimed water to the Kiahuna Golf Club and other potential users in the area. Until the Regional WRF is constructed in 2010, all wastewater flows will continue to be conveyed to the existing Poʻipū WRF for treatment, reuse and disposal.

As part of the recent upgrade to the Poʻipū WRF, an integrated influent WWPS was recently constructed which will distribute flows between the Poʻipū WRF and the proposed Regional WRF. Flows that are directed to the Regional WRF will be conveyed via two (2) proposed intermediate WWPSs. The first WWPS will be located just mauka of the Kiahuna Swim and Tennis Club and east of Hapa Road, and the second WWPS will be located near the existing water tanks along the privately-owned portion of Weliweli Road makai of the Regional WRF which will collect and transport the flows to the Regional WRF.

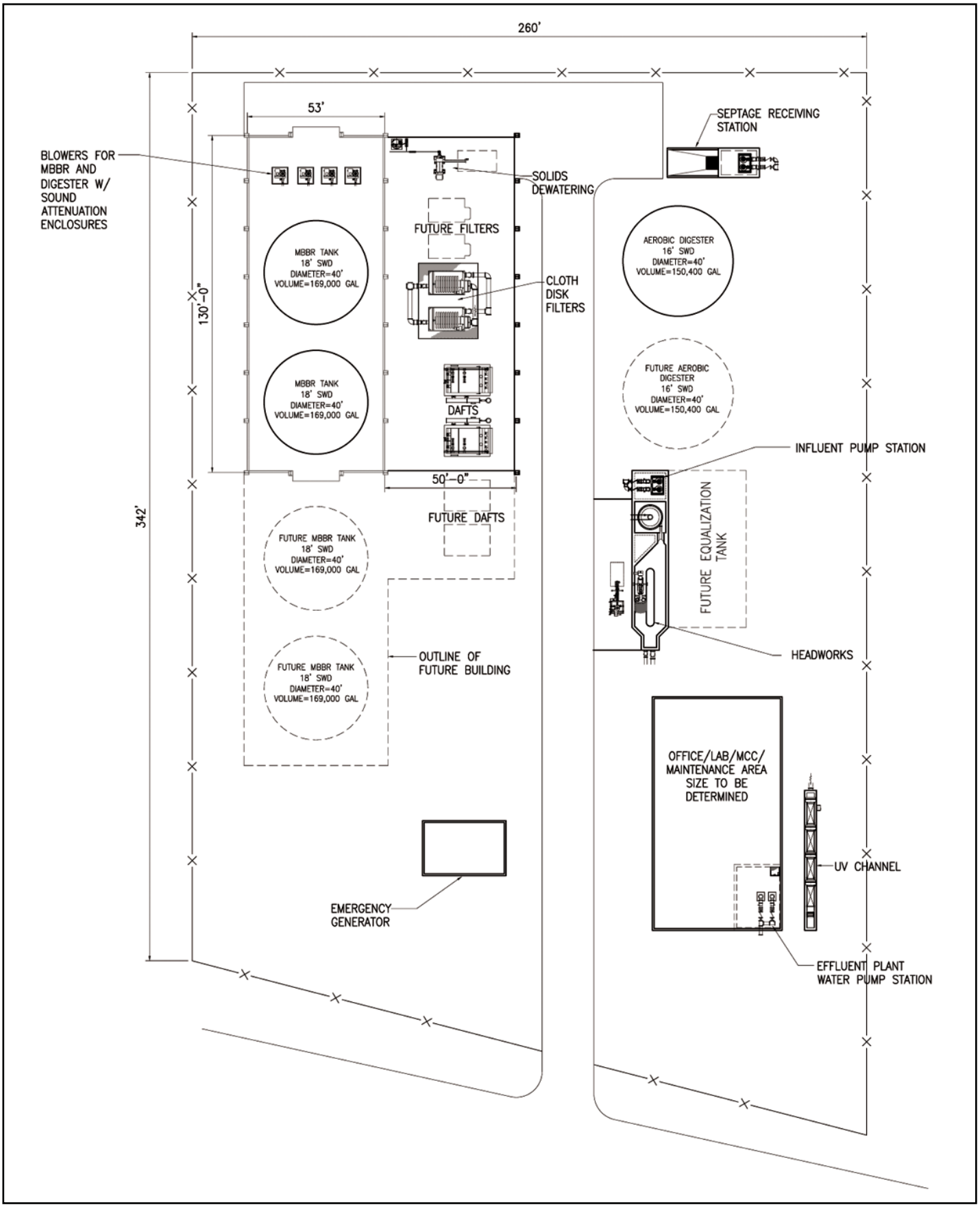
Figure 2.3 showed the locations of these WWPS. Other flows to be treated at the Regional WRF will originate from several existing, planned and future developments in Kōloa Town and will be pumped to the Regional WRF via a Kōloa Town WWPS to be located at the corner of Waikomo Road and Weliweli Road.

The Regional WRF will be developed in phases based on the demand for wastewater treatment. The first phase of the facility is scheduled for completion in 2010 will be designed for a 0.6 mgd average daily flow (ADF). The second phase of the facility which is scheduled for completion by 2015 will expand the capacity to 1.1 mgd ADF. Beyond 2020, the demand for new wastewater treatment capacity will be dependent upon the connection of existing developments located in the Poʻipū area east of Weliweli Tract which are currently served by private individual wastewater treatment facilities. Should these existing developments connect to the Regional WRF, the facility would be expanded to a capacity of about 1.7 mgd ADF.

2.3.1 Treatment and Disposal System Improvements

The wastewater treatment process selected for the proposed Regional WRF is largely determined by the planned use of the effluent to be generated from the facility. Two (2) factors govern the determination of the treatment process to be used at the Regional WRF. First, reuse of the effluent for irrigation purposes will require filtration and disinfection as part of the process train to meet the R-1 quality water requirements pursuant to HAR, State DOH, Chapter 62 of Title 11, Wastewater Systems.

Secondly, the excess R-1 water, as well as effluent that does not conform to R-1 quality water requirements, is planned to be discharged into an infiltration basin located near the treatment facility. Figure 2.4 includes a preliminary site plan for this new Regional WRF.



North

Source:

Austin, Tsutsumi & Associates, Inc.

FIGURE 2.4
REGIONAL WRF SITE PLAN

KOLOA-POIPU REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT
HOH Utilities, LLC

WILSON OKAMOTO CORPORATION
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Due to the size of the Regional WRF, an aerobic secondary process and aerobic sludge stabilization process have been selected for the facility. The secondary treatment process selected is the Moving Bed Biofilm Reactor (MBBR). Consideration will be given to include provisions to modify the process to a Moving Bed Biofilm Reactor/Integrated Fixed Film Activated Sludge (MBBR/IFAS) in the future. The MBBR process will provide high quality water for reuse, minimize odors, reduce the operational complexity, and reduce the overall footprint required for the WRF.

The use of primary clarifiers will not be incorporated in the facility, which will eliminate the need for handling of the raw primary sludge and associated increased odor potential. Dewatering of the aerobically digested stabilized sludge will be undertaken through mechanical means versus a less costly, but potential odor-producing drying bed type of operation. The proposed treatment and disposal process for the Regional WRF is described below:

Pretreatment Process

The raw wastewater will be pumped from the proposed Crater WWPS and Kōloa WWPS through separate flow meters before entering the headworks of the Regional WRF. The entire headworks will be elevated and constructed on steel supports with an operations platform to take advantage of the head produced by the two aforementioned pump stations. The headworks will provide preliminary treatment of the raw wastewater, which includes screening and grit removal.

The raw wastewater will enter the headworks where a splitter box will direct the flow to one of two rotary drum screening units. Each screening units will be outfitted with a ¼-inch perforated rotary drum screen. Any debris within the wastewater stream larger than ¼-inch will be removed, cleaned, dewatered and compacted by the rotary drum screen assembly. Each screen will have a chute to discharge the screenings to a dumpster located below at grade level. Adequate access to the dumpster will be provided to allow the operations personnel to occasionally remove the dumpster for disposal at the County's Kehaka Landfill.

After screening, the wastewater will flow to a vortex grit chamber, where fine, inorganic, inert, sand-like materials will be removed from the wastewater. The grit slurry will flow by gravity to a grit classifier to remove organics from the inert grit and to dewater the grit. The washed grit will be deposited in the same dumpster as the screenings

The screening unit and grit removal unit will be enclosed to contain the foul odors and gases emitted. A blower will continuously evacuate air from the headspaces in the units. The blower will discharge the foul air into an odor control biofilter. The biofilter will be an in-ground system using soil or other material as the media. From the vortex grit system, the wastewater will flow by gravity to a common manifold which will distribute the wastewater to the secondary process units.

Secondary Treatment Process

The MBBR combines an attached growth media in a suspended growth biological reactor. The media is retained within the tanks by screens, allowing the mixed liquor suspended solids to be conveyed through the screens to the two dissolved air flotation thickener (DAFT) units for solids/liquid separation. The DAFT units will be complete packaged units requiring a concrete foundation and electrical and piping connections. It will be housed in an enclosed extension of the Bagasse Building.

Tertiary Process

Following the DAFT, cloth disk filters and a ultra-violet (UV) disinfection unit will be provided for the filtering and disinfection of the effluent to meet the R-1 reclaimed water standards. The UV unit will eliminate the need for any type of chlorine to be used and the associated hazards of working with chlorine. The cloth disk filters will be complete packaged units requiring a concrete foundation and electrical and piping connections, and will be housed in the same extension of the Bagasse Building as the DAFT units. The UV unit will be installed in a concrete channel, and sized to accommodate future flows with the addition of future banks.

Biosolids Stabilization and Dewatering

The waste activated sludge (WAS) solids portion from the DAFT will be pumped to an aerobic digester. The biosolids in the digester will have a solids retention time of 20 days to meet the Federal requirement to produce Class B sludge for land disposal. From the aerobic digester, the stabilized biosolids will be pumped to a mechanical solids dewatering unit to remove as much water from the biosolids as possible before being hauled off site. The mechanical solids dewatering unit will be located in its own solids handling room sized to accommodate future build-out. The solids handling room will be equipped with a ventilation system to remove any foul odors and to direct it to the centrally located odor control unit.

Buildings

The various buildings proposed to be located within the Regional WRF project site include the following:

Existing Bagasse Building: The existing Bagasse Building will be used to house the MBBR tanks, headworks and centrifuge. An extension of this building would house the DAFT units, cloth filter units and pumps.

Control Building: The Control Building will house the operations center, computer and supervisory control and data acquisition (SCADA) areas, offices, laboratory, toilet and locker facilities, break room, storage and filing rooms and maintenance areas. The instrumentation and control systems within this building will allow the facility's operators

to monitor and control the operations associated with the facility's processes, as well as those of the proposed off-site WWPSs. A generator building will be constructed adjacent to the control building.

Disinfection Building: The Disinfection Building will house the UV channel, fire pumps, plant water pumps and R-1 water pumps to the on-site water storage tank.

Septage Receiving Station

A septage receiving station will consist of a coarse screen and a concrete containment pad for washdown and dumping of non-hazardous, septic waste. The septage will be accumulated in a single holding tank, and will then be pumped to the aerobic digester.

2.3.2 Collection System Improvements

The proposed wastewater collection system improvements associated with this Regional WRF will consist of three systems identified as: 1) Kōloa Collection System; 2) Poʻipū Collection System; and 3) Eastern Collection System. Improvements associated with these collection systems include development of four (4) WWPSs along with gravity lines and force mains.

Kōloa Collection System

The Kōloa Collection System improvements proposed would include approximately 8,000 linear-feet of sewer lines and a new Kōloa Town WWPS to service areas within Kōloa Town. Sewer lines would consist of new 8-inch and 12-inch gravity sewer lines, and a new 6-inch force main as part of that wastewater collection system. The Kōloa WWPS is proposed to be located on an undeveloped parcel encompassing about 750 square feet of area situated along Weliweli Road near its intersection with Waikomo Road.

New gravity sewer lines would be routed within both privately-owned property and the rights-of-way for portions of County roadways which are Kōloa Road, Waikomo Road, and Weliweli Road. From the Kōloa WWPS, a new 6-inch force main would proceed in an eastbound direction to the proposed Regional WRF located either along or within portions of Weliweli Road within a private easement.

The Kōloa WWPS will initially be sized to accommodate the present peak flows from Kōloa Town. The pump size will be increased in the future to accommodate the additional flows from the developments along Weliweli Road. Approximately 130,000 gpd is estimated to be generated from this Kōloa Town service area.

Poʻipū Collection System

The proposed Poʻipū Collection System improvements include the development of two (2) new WWPSs, and gravity lines and a force main. This collection system will be connected with the existing Poʻipū WRF along Poʻipū Road.

A recently constructed influent WWPS at the existing Poʻipū WRF will distribute flows among the Poʻipū WRF and the proposed Regional WRF. The 1.2 mgd influent WWPS consists of two (2) pumping facilities, both equipped with variable speed pumps. One set of pumps will be dedicated to convey flows to the existing Poʻipū WRF and the second set will convey flows to the new Regional WRF.

Wastewater currently entering the existing Poʻipū WRF will be re-routed to the integrated influent WWPS. In the interim, the influent WWPS will convey all flows to the Poʻipū WRF. Upon completion of two (2) proposed intermediate WWPSs and the Regional WRF, the integrated WWPS will distribute the wastewater flows among the existing Poʻipū WRF and the Regional WRF.

Currently, wastewater flow to the existing Poʻipū WRF is conveyed entirely by the Poʻipū WWPS No. 2 located makai of the intersection of Hoʻonani Road and Kapili Road. In addition to wastewater from the Poʻipū WWPS No. 2, future flows to the new influent WWPS will be conveyed from the mauka residential subdivisions by an existing 24-inch gravity sewer line along Poʻipū Road from the west and existing dual 14-inch force mains along Poʻipū Road from the east.

Dual 14-inch polyvinyl chloride (PVC) force mains will be installed to convey flows from the existing dual 14-inch force mains along Poʻipū Road to the new Villages WWPS to be located east of the Poʻipū WRF, just mauka of the Kiahuna Swim and Tennis Club. From the existing dual 14-inch force mains along Poʻipū Road, the alignment of the proposed dual 14-inch force mains will be mauka along Kiahuna Plantation Drive and then east along the northern boundary of the Poʻipū Shopping Village and through Hapa Road to the Villages WWPS, a distance of approximately 1,500 linear feet.

Villages and Crater WWPSs

Two (2) intermediate WWPSs are proposed to be located between the influent WWPS at the Poʻipū WRF and the new Regional WRF. These two (2) WWPSs will operate in series to convey flows to the Regional WRF and to intercept additional flows from nearby tributary areas.

The first intermediate WWPS, identified as the Villages WWPS, is proposed to be located just mauka of the existing Kiahuna Swim and Tennis Club and east of Hapa Road at an elevation of approximately 40 feet above mean sea level (msl). Based on the projected development of the

tributary area, the total average daily flow to the proposed Villages WWPS will be 0.6 mgd. The maximum and peak hourly flows to this pump station will be 2.3 mgd and 4.5 mgd, respectively. Flows converging at the Villages WWPS will be conveyed to the Crater WWPS.

A single or dual 24-inch force main concept will be utilized to convey flows from the Villages WWPS to the new Crater WWPS. The dual concept will use one force main to convey the entire flow, with the second line serving as a standby force main. The route of the force main from the Villages WWPS site to the Crater WWPS site will generally follow the alignment of an existing County Department of Water (DOW) 18-inch water line, a distance of approximately 6,200 linear feet. Most of this alignment is along private property.

The second intermediate WWPS, identified as the Crater WWPS, is proposed to be located adjacent to and east of Weliweli Road, near two (2) existing water tanks along the privately-owned portion of Weliwili Road makai of the Regional WRF, at an elevation of approximately 146 feet above msl. Based on the projected development of the tributary area, the total average daily flow entering the Crater WWPS will be 0.9 mgd. The maximum and peak hourly flows to this WWPS will be 2.9 mgd and 4.9 mgd, respectively.

In the future, there may be plans for wastewater flows generated from existing developments located in Poʻipū east of Weliweli Tract to consolidate and pump their combined flows to the Crater WWPS. This will result in a substantial increase in flow to the Crater WWPS which is reflected in the above-referenced projected flows. Therefore, the infrastructure (i.e., wet well, valve boxes, piping, etc.) of the Crater WWPS will be designed to accommodate the potential ultimate flows, including those from developments east of Weliweli Tract.

A single or dual 24-inch force main concept will be utilized to convey flows from the Crater WWPS to the Regional WRF. The dual concept will use one force main to convey the entire flow, with the second line serving as a standby force main. The route of the force main from the Crater WWPS site to the headworks of the Regional WRF will follow the alignment of an existing private road, a distance of approximately 4,200 linear feet.

Eastern Collection System

In the future, another WWPS will be required to convey wastewater flows generated from existing developments located in Poʻipū east of Weliweli Tract, including the Grand Hyatt Kauaʻi Resort and Spa, to the Crater WWPS for ultimate conveyance to the Regional WRF. This fourth WWPS of the Regional collection system , identified as the Eastern WWPS, is proposed to be located at the site of the existing Hyatt WWTP, at an elevation of approximately 66 feet above msl.

A 24-inch force main will be utilized to convey flows from the Eastern WWPS mauka to the Crater WWPS. The route of the force main from the Eastern WWPS to the Crater WWPS will follow the alignment of an existing private road thru agricultural land, a distance of approximately 5,000 linear feet.

2.3.3 Reuse

The R-1 quality effluent water produced from the Regional WRF is proposed for reuse to irrigate the existing Poʻipū Bay Golf Course located adjacent to the Grand Hyatt Kauaʻi Resort and Spa. The Poʻipū Bay Golf Course is currently irrigated with non-potable water from the existing Waita Reservoir located mauka of the proposed Regional WRF site.

When the Regional WRF is completed, a line will connect the treatment facility to the existing irrigation line from the reservoir serving the Poʻipū Bay Golf Course. Thus, effluent water from the Regional WRF will then replace the non-potable water from the reservoir using this existing irrigation line.

Excess R-1 water, as well as effluent that does not conform to R-1 quality water requirements, is planned to be discharged into an infiltration basin for disposal located near the Regional WRF. Based upon consultation with the State Department of Health, the Applicant needs to provide a basin large enough for one (1) day production capacity from the Regional WRF. This infiltration basin of about 2 acres is thus planned to be sized and designed to accommodate up to approximately 2 million gallons of effluent. Preliminary coordination between the State Department of Health, Wastewater Branch and Aqua Engineers, Inc. regarding this alternative disposal method have been conducted and determined that it will be acceptable.

2.4 DEVELOPMENT SCHEDULE

Development of the proposed Project will be in phases based on the demand for wastewater treatment capacity. The first phase, to be completed by 2010, will provide a wastewater treatment capacity of 600,000 gpd ADF. This would include completing the Kōloa Collection System to the regional plant. The second phase, scheduled for completion by 2015, will expand the treatment capacity of 1,600,000 gpd ADF. Improvements associated with the Eastern Collection System connecting existing developments located in Poʻipū, which are currently served by private package WWTPs, could also be completed within this timeframe.

Beyond 2015, the demand for new wastewater treatment capacity will be dependent upon additional demands for service created by existing or new developments in the region. Should these developments connect to the Regional WRF's system, the facility could then be expanded to a capacity of 1,900,000 gpd ADF, with a peak hourly flow of 5,900,000 gpd. However, future expansions will be determined based upon additional demand and connections to the system.

2.5 PERMITS AND APPROVALS

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

State of Hawaii

Department of Health
- National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water Associated with Construction Activity
- NPDES Permit for Dewatering
- NPDES Permit for Hydrotesting
- Noise Permit
- Air Quality Permit
- Underground Injection Control (UIC) Permit
- Wastewater Management Plan Permit
- Use of Recycled Water for Irrigation Permit

Department of Land and Natural Resources Historic Preservation Division
- Chapter 6E, HRS Historic Preservation

Office of Planning
- Coastal Zone Management (CZM) Program Consistency Review

County of Kauaʻi

Planning Department
- Special Permit
- Use Permit
- Class IV Zoning Permit

Department of Public Works
- Road Permit
- Grading/Grubbing Permit
- Building Permit
- Excavation Permit
- Drainage Plan Approval

Department of Water
- Water and Water System Requirements
- Water Connection Approval

Utility Companies
- Utility Service Requirements
- Permit Regarding Work on Utility Lines

3. PROJECT ALTERNATIVES CONSIDERED

This chapter identifies alternatives associated with the proposed Project that were eliminated from consideration after being assessed and evaluated.

The alternatives considered include: 1) not implementing development of the Project, otherwise referred to as the No Action Alternative, 2) alternative location for the proposed Regional WRF, and 3) alternative methods of secondary treatment for the Regional WRF. The Draft EIS will discuss the reasons for the elimination of these alternatives considered in relation to the Project's purpose and need, and their feasibility and practicability.

3.1 NO ACTION ALTERNATIVE

The No Action Alternative would entail not proceeding with the Regional WRF improvements. Under this alternative, the existing methods of wastewater treatment and disposal would remain and other alternatives would need to be considered. Furthermore, the existing Kōloa Town businesses will be unable to comply with the EPA-promulgated regulations which require the upgrade or closure of existing LCCs by April 5, 2005, and the developments in Poʻipū who currently operate their own package WWTPs will be unable to connect to a regional wastewater system and ultimately phase out their treatment facilities.

3.2 ALTERNATIVE LOCATION FOR THE REGIONAL WRF

The Draft EIS will include a discussion of possible alternative locations for the Regional WRF, including the existing Poʻipū WRF site. The feasibility and practicability of such alternative locations will be addressed in the Draft EIS along with the reasoning for their elimination.

3.3 SECONDARY TREATMENT ALTERNATIVES

Secondary treatment alternatives for the Regional WRF were identified and evaluated in preliminary engineering assessments conducted for this Project. Such alternatives considered included: 1) Conventional Activated Sludge-Extended Aeration (CAS), 2) Sequencing Batch Reactor (SBR), 3) Membrane Bioreactor (MBR), and 4) Advanced Ecological Engineering Systems (AEES). The feasibility and practicability of such secondary treatment alternatives will be addressed in the Draft EIS along with the reasoning for their elimination.

4. DESCRIPTION OF THE EXISTING ENVIRONMENT AND PROJECT IMPACTS

This chapter identifies the resource areas that will be addressed in the Draft EIS, describes the scope of the analysis and assessment to be conducted, and identifies the anticipated environmental impacts and issues. The Draft EIS will discuss and evaluate the environmental impacts of the Project on the various resources and identify pertinent mitigative measures if warranted.

The following discussion of resources generally includes five (5) major resource categories which are: 1) physical environment, 2) biological environment, 3) historic, archaeological and cultural environment, 4) socio-economic environment, and 5) infrastructure and public facilities.

4.1 CLIMATE

The semi-arid climate of Poʻipū and Kōloa is typically dry and sunny. The climate of the Poʻipū area is very much affected by the topography of the Island and its coastal situation. Winds are predominately trade winds from the east or northeast. Wind speeds average about 11 to 12 miles per hour, providing relatively good ventilation much of the time. Occasional storms may generate strong winds from the south (Kona winds) for brief periods. Land breeze-sea breeze circulations may develop when trade winds are weak. Temperatures in the area are generally very moderate with average daily temperatures ranging from about 68 degrees Fahrenheit to 81 degrees Fahrenheit. Average annual rainfall in the Poʻipū area amounts to about 40 to 45 inches, with summer months being the driest. In the greater Kōloa-Poʻipū area, rainfall ranges from 30 inches at the coast to 200 inches in mountain areas.

4.2 GEOLOGY AND TOPOGRAPHY

The Project Area is located on the Kōloa Plain, which formed over lava flows from the post-erosional Kōloa volcanic series. Kauaʻi Island consists of a single great shield volcano, which is eroded and partly veneered with much later volcanics. The rocks of the Kauaʻi shield volcano are named the Waimea Canyon Volcanic Series; the portion that built the main mass of the shield outside the caldera is called the Napali formation. Presumably, the Kōloa eruptions were fed by dikes, but very few have been found, probably because erosion has not yet cut deeply enough to expose them.

The topography of the Project Area is generally characterized as relatively flat and gently sloping downward from mauka to makai. The Project Area ranges in elevation from approximately 200 feet above mean sea level (msl) near Weliweli Road in the vicinity of Kōloa Town down to approximately 40 feet above msl at the existing Poʻipū WRF. The proposed Regional WRF and WWPS sites are all relatively flat and contain no unique or unusual topographic features.

The proposed Regional WRF site is located at an elevation of approximately 174 feet above msl. The proposed Kōloa WWPS site is located at an elevation of approximately 200 feet above msl. The proposed Villages WWPS site is located at an elevation of approximately 40 feet above msl. The elevation of the proposed Crater Tank WWPS site is approximately 141 feet above msl. The proposed Eastern WWPS site is located at an elevation of approximately 66 feet above msl.

Potential Effects and Issues

Development of the proposed wastewater facility improvements will involve clearing, grubbing, grading, and excavation of presently undeveloped and developed areas. The relatively flat terrain of the affected areas, however, would minimize the amount of grading required during construction activities and, therefore, result in minor modification of the existing topography. The areas to be graded and excavated will either be built over, paved over, or backfilled to site requirements or existing contours. Design considerations that can be implemented to minimize modifications to the existing topography that may be caused by grading and excavation activities will be addressed in the Draft EIS.

4.3 SOILS

The U.S. Department of Agriculture Natural Resources Conservation Service classifies five (5) principle soil types within the Project Area as described below.

Waikomo stony silty clay (WS). This soil is common throughout the western portion of the Project Area. In a representative profile, the surface layer is very dark grayish-brown stony silty clay about 14 inches thick. The subsoil, about 6 inches thick, is reddish-brown stony heavy silty clay loam that has subangular and angular blocky structure. The substratum is hard rock and the soil is neutral to mildly alkaline throughout. Permeability is moderately slow, runoff is slow, and the erosion hazard is slight. The available water capacity is about 1.0 inch per foot of soil. Except for cracks in the rock, roots penetrate to a depth of no more than 20 inches. The slope ranges from 0 to 6 percent.

Waikomo very rocky silty clay (WT). This soil occurs throughout the eastern portion of the Project Area and is similar to Waikomo stony silty clay. It is used for pasture, wildlife habitat, and home sites. Rock outcrops cover 3 to 25 percent of the surface. This soil has limited use due to stoniness and unfavorable texture, ranging from very stony, very rocky to extremely stony, or extremely rocky. The slopes range from 0 to 35 percent.

Fill land (Fd). This soil type is found along a small section of the northwest portion of the Project Area and consists mostly of areas filled with bagasse and slurry from sugar mills. A few areas are filled with material from dredging and soil excavations. Generally, these materials are dumped and spread over marshes, low-lying areas along the coastal flats, coral sand, coral limestone, or areas shallow to bedrock.

Kōloa stony silty clay, 3 to 8 percent slopes (KvB). This soil typically occurs in upland slopes and is prevalent in the southeastern portion of the Project Area. In a representative profile, the surface layer is dark reddish-brown stony silty clay about 7 inches thick. The subsoil, about 13 inches thick, is dark-red and dark reddish-brown stony silty clay that has subangular blocky structure. The substratum is hard rock and the soil is slightly acid to neutral throughout the profile. Permeability is moderately slow, runoff is slow, and the erosion hazard is slight. The available water capacity is about 1.8 inches per foot of soil. Roots penetrate to the bedrock.

Kōloa stony silty clay, 8 to 15 percent slopes (KvC). This soil underlies a small section of the central portion of the Project Area and is very similar to KvB. On this soil, runoff is medium and the erosion hazard is moderate. Both KvC and KvB soils were formerly used for sugarcane cultivation.

The University of Hawai‘i Land Study Bureau’s (LSB) *Detailed Land Classification – Island of Kaua‘i* evaluates the quality or productive capacity of certain lands on the Island for selected crops and overall suitability in agricultural use. A five-class productivity rating system is established, with “A” representing the class of highest productivity and “E” the lowest. The majority of the Project Area located west of Ala Kinoiki Road is classified as “E” rated soils, which is considered very poor characteristics for productive agricultural areas. Within the area east of Ala Kinoiki Road, the majority of the Project Area is classified as “B” rated soils, which indicates a high suitability for productive agriculture. Smaller areas are classified as “D” rated soils, which is considered poor characteristics for productive agricultural areas. The existing Kōloa Mill site and immediate surrounding area is classified as “U” which indicates an urban classification.

Based on the Agricultural Lands of Importance in the State of Hawai‘i (ALISH) map prepared by the State Department of Agriculture, the portion of the Project Area west of Ala Kinoiki Road is unclassified. The portion of the Project Area east of Ala Kinoiki Road is classified as “Prime Agricultural Land”, “Other Important Agricultural Land”, and unclassified land. The existing Kōloa Mill site and immediate surrounding area is unclassified.

Potential Effects and Issues

Development of the proposed wastewater facility improvements will involve clearing, grubbing, grading, and excavation of presently undeveloped and developed areas. Such activities will involve site disturbance that may result in soil erosion during significant storm events. To minimize such effects, Best Management Practices (BMPs) will be incorporated into the design plans of the proposed wastewater facility improvements. Such BMPs may include structural or non-structural measures such as silt fences, appropriately stockpiling materials on site to prevent runoff, and minimizing the time of exposure between construction and repaving or re-vegetation of the exposed areas. The Draft EIS will address such short-term construction-related effects and identify potential BMPs that could be implemented.

The proposed Project will also comply with the pertinent State and County regulations addressing such areas. Grading activities will comply with the State DOH's Title 11, Chapters 54 and 55, HAR regarding water quality standards and water pollution control, respectively, and the County's Grading Ordinance.

Since the area of soil disturbance will exceed one (1) acre, pursuant to Chapter 11-55, HAR, a National Pollutant Discharge Elimination System (NPDES) Permit for Construction Storm Water Activities will be required from the State DOH prior to the start of construction of the proposed Project improvements. The Draft EIS will identify the applicable permits which may be required for development of the proposed Project improvements.

4.4 HYDROLOGY AND MARINE RESOURCES

4.4.1 Groundwater

The State of Hawai'i Department of Land and Natural Resources (DLNR), Commission on Water Resource Management (CWRM) has established groundwater hydrologic units and an aquifer coding system to provide a consistent basis for managing ground water resources. The Project Area is located within the Kōloa Aquifer System Area (aquifer system code 20101). For purposes of managing groundwater withdrawals, CWRM has adopted the sustainable yield of 30 mgd for the Kōloa Aquifer System Area's sustainable yield. Recent estimates indicate that current groundwater withdrawals from the system total approximately 3 mgd.

The surface geology of the Kōloa Aquifer System consists mainly of post-erosional Kōloa Volcanics overlying older thin-bedded shield-building flank lavas of the Napali Member and dike-intruded caldera lavas and breccia of the Haupu Member. The Kōloa Volcanics were erupted from approximately 23 northeast-trending vents within the boundaries of the System. Kōloa Volcanics exposed include nephelinic to alkalic basalt lava flows and pyroclastic deposits interbedded with boulder conglomerates. These flows and tephra deposits mantle existing topography and give the area a gentle geomorphic expression.

Basal aquifers occur within the Napali Member Basalts and Kōloa Volcanics. Water level records of wells drilled below Kōloa Volcanics, into flank flows show head elevations ranging from 30-140 feet above mean sea level, suggesting mixed basal and high-level conditions in wells and drilled holes near Lawai. Deeply buried dikes may control groundwater levels. Perched groundwater occurs in the Kōloa Volcanics as small discontinuous aquifers that vary in thickness and size. Large and small streams in the Kōloa System may receive a portion of flow from perched spring discharge. Because most of the rainfall in the System infiltrates into the Kōloa Volcanics, much of the groundwater in the System may be perched. High-level dike water has not been clearly identified but probably exists.

The Underground Injection Control (UIC) program, administered by the State DOH's Safe Drinking Water Branch, serves to protect the quality of Hawai'i's underground sources of drinking water from chemical, physical, radioactive, and biological contamination that could originate from injection well activity. The boundary between non-drinking water aquifers and underground sources of drinking water is generally referred to as the "UIC Line". Within the areas located above (mauka) the UIC Line, the underlying aquifers are considered a drinking water source. Within the areas located below (makai) the UIC Line, the underlying aquifers are not considered a drinking water source. The Project Area is mostly located below (makai) the UIC Line, except for the existing Kōloa Mill site which is located above (mauka) the UIC Line.

Potential Effects and Issues

Construction activities are not likely to introduce to, nor release from the soil any materials which could adversely affect groundwater. The Draft EIS will address such short-term construction-related effects and identify potential BMPs that could be implemented.

The potential for wastewater spills impacting groundwater underlying the proposed facility improvements during major rain storm events will be mitigated by design and operation of the facilities to accommodate peak flows and plant upset situations. The Draft EIS will address in more detail such design and operation measures that would be implemented.

The proposed regional collection and treatment system would have a beneficial impact on groundwater resources since existing developments in the Project's service area which operate their own wastewater treatment facilities or packaged WWTPs would have the opportunity to connect to this regional wastewater system. The R-1 (tertiary) treatment process planned for the Regional WRF would be an improvement over these other packaged WWTPs and would allow for these existing systems to be phased out over time and result in the closure of their associated injection wells. The Draft EIS will address in more detail the beneficial impacts that the proposed wastewater facility improvements would have on groundwater resources.

4.4.2 Surface Water

The State DLNR CWRM has established surface water hydrologic units (watershed units) and a surface water hydrologic unit coding system to provide a consistent basis for managing surface water resources. The Project Area spans two (2) watershed units. The majority of the Project Area is located within the Waikomo Surface Water Hydrologic Unit (unit code 2049). Sections of the Project Area on the north and east are within the Mahaulepu Surface Water Hydrologic Unit (unit code 2048).

Mean annual rainfall in this region varies from 30 inches at the coast to greater than 200 inches at Puu Kapalao, north of the Project Area. Although precipitation is high, stream discharge is relatively low. Seven (7) years of measured stream flow (1963-70) at the U.S.

Geological Survey's (USGS) Lawai Stream Gage No. 16052500 average 5.28 mgd. Currently, only crest-stage recorder measurements of maximum flow are available for this gage.

Streams in the Kōloa-Poʻipū area tend to be shorter and straighter, as opposed to other Kauaʻi streams that meander along considerable distances. Undoubtedly, many of the streams in the Kōloa-Poʻipū region have had their courses affected by the Kōloa Volcanics. Waikomo Stream is located in the Project vicinity just east of Poʻipū Road.

Other surface water features in the Project vicinity include reservoirs and irrigation ditch systems that were formerly used for plantation agriculture. The ditch systems diverted water from streams and transported irrigation water to reservoirs for storage and throughout planting fields. The Project Area is located approximately 3,000 feet south of the Waita Reservoir, which is the largest man-made surface water feature in the area. Extensive ditch systems are located throughout the surrounding areas.

Potential Effects and Issues

Construction activities associated with the proposed wastewater system improvements are not likely to significantly impact surface water resources in the Project vicinity. Potential impacts to the quality of surface waters in streams and drainage systems during construction of the proposed facility improvements will be mitigated by adherence to State and County water quality regulations governing grading, excavation, and stockpiling. The Draft EIS will address such short-term construction-related effects and identify potential BMPs that could be implemented.

Any potential for wastewater spills affecting vicinity streams in the event of flow diversion or flooding will be mitigated by designing the proposed facilities with adequate capacities and flood protection. The Draft EIS will address in more detail such design and operation measures that would be implemented.

The Draft EIS will include a survey of the aquatic environment of streams in the Project Area and discussion of the potential effects of the Project on the stream resources and appropriate mitigative measures.

4.4.3 Coastal Waters

Coastal waters along the Poʻipū area of Kauaʻi are classified as Class A and Class AA by the State DOH. Class A waters are found east of Makahuena Point toward Nawiliwili Bay. Class AA waters are found along the approximately two (2) miles of coastline between Makahuena Point and Hoai Bay, just west of the Waikomo Stream estuary.

Class A waters are classified by the DOH with the objective that "*their use for recreational purposes and aesthetic enjoyment be protected. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class*" (HAR Title 11, Chapter 54, Water Quality Standards).

Class AA waters are recognized as high quality coastal waters by the DOH, with the objective that "*these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused sources or actions*" (HAR Title 11, Chapter 54, Water Quality Standards).

Coastal waters of the Pacific Ocean are located approximately 0.25 miles from the makai-most section of the Project Area along Poʻipū Road. The proposed Regional WRF is located approximately 2 miles inland from the coast.

Potential Effects and Issues

Potential water quality impacts to coastal receiving waters will be mitigated by controlling sedimentation in surface flows by adherence to State and County water quality regulations governing grading, excavation, and stockpiling. The Draft EIS will address such short-term construction-related effects and identify potential BMPs that could be implemented.

The Draft EIS will include information and available data to assess and address the effects of the proposed wastewater facilities on marine resources in the Project vicinity. Available water quality data of the nearshore marine environment will be incorporated in the assessment of Project effects. Based upon the information collected, the effects of the Project on marine resources and coastal water quality will be discussed, and appropriate mitigative measures identified.

4.5 NATURAL HAZARDS

Natural hazards impacting the Hawaiian Islands include hurricanes, volcanic eruptions, earthquakes, tsunamis, and floods. Volcanic hazards in the region of the Project Area are considered minimal due to the dormant status of the Waialeale volcano. The Island of Kauaʻi has a Zone 1 Seismic Probability Rating and volcanic eruption is unlikely. (In comparison, Hawaiʻi Island is in Zone 3.)

In Hawaiʻi, most earthquakes are linked to volcanic activity, unlike other places where a shift in tectonic plates is the cause of the earthquake. Each year, thousands of earthquakes occur in Hawaiʻi, the vast majority of them so small they are detectable only with highly sensitive instruments. Earthquake hazard in the Project Area is considered minimal.

Kauaʻi has been affected by devastating hurricanes, most recently by Hurricane Iniki in 1992 and Hurricane Iwa in 1982. While it is difficult to predict these natural occurrences, it is reasonable to assume that future events could be likely, given the recent record. The Project Area, as well as the rest of the Island and State, are no more or less vulnerable to the torrential rains and high winds associated with hurricanes.

Tsunamis are large, rapidly moving ocean waves triggered by a major disturbance of the ocean floor. Earthquakes, submarine landslides, or volcanic eruptions can trigger tsunamis. About 50 tsunamis have been reported in the Hawaiian Islands since the early 1800s. Seven (7) caused major damage, and two (2) of these were locally generated. The tsunami evacuation zone is located along a 200- to 600-foot wide swath of the shoreline area of the Kōloa-Poʻipū Region. At its closest point, the tsunami evacuation zone is located approximately 750 feet seaward of the nearest portion of the Project Area, situated along Poʻipū Road.

The Project Area is relatively free from flood hazards. According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), the Project Area is located within Zone "X", "Areas determined to be outside the 0.2% annual chance floodplain".

Potential Effects and Issues

The proposed Project is not anticipated to contribute to an increase in strength or frequency of hurricanes, earthquakes, volcanism, or flooding of lower elevation properties. To protect Project structures that may be subject to seismic activity, all proposed structures will be designed in accordance with the construction standards of the applicable Uniform Building Code (UBC) requirements. The Draft EIS will discuss the Project's susceptibility to such natural hazards in further detail, and identify measures that can be implemented to minimize damages.

4.6 NATURAL ENVIRONMENT

4.6.1 Botanical Resources

Within the Project Area, botanical resources predominantly include pastureland scrub and koa haole (*Leucaena leucocephala*) thickets. Other vegetation found within the Project Area include hedge cactus (*Cereus uruguayanus*), castor bean (*Ricinus communis*), and various other species of scrub vegetation, grasses and weeds typical of those found in lowland habitats throughout the Hawaiian Islands.

Potential Effects and Issues

There are presently no known habitats of a proposed or listed, threatened or endangered plant species, or other sensitive vegetation types, including wetlands, within the Project Area. Therefore, as the Project Area does not provide a unique habitat, no significant impacts on flora

species are anticipated from the construction and operation of the proposed wastewater system improvements.

A botanical survey will be conducted of the proposed wastewater facility system sites and collection system routes to verify the presence of existing vegetation. The results of the botanical survey will be included in the Draft EIS.

4.6.2 Avifauna, Mammal, and Invertebrate Resources

The Project Area is a known habitat for a variety of regularly encountered alien avian species, common in the low- to mid-elevation areas on the south side of the Island of Kauaʻi. These include the migratory Pacific Golden Plover (*Pluvialis fulva*), Java Sparrow (*Padda oryzivora*), House Finch (*Carpodacus mexicanus frontalis*), and Common Myna (*Acridotheres tristis*). It is likely that the endangered Hawaiian Petrel (*Pterodroma sandwichensis*) and the threatened, endemic sub-species of the Newell's Shearwater (*Puffinus auricularis newelli*) overfly the Project Area as both species have been well-documented crossing the northern, eastern and southern coastlines of Kauaʻi during the breeding season. It is also likely that the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) forages for insects over the Project Area, as this species is regularly seen in and around the Kōloa and Poʻipū areas, as well as within most of the lowland areas on the Island.

Introduced mammals are likely present within the Project Area, including rats and mice.

Within the Kōloa-Poʻipū region, the U.S. Fish and Wildlife Service (USFWS) has designated several "critical habitat" areas for the subterranean endemic, endangered Kauaʻi Cave Wolf Spider (*Adelocosa anops*) and Kauaʻi Cave Amphipod (*Spelaeorchistia Kōloana*). The Project Area does not overlap any critical habitat area. However, an approximately 950-foot long segment of the proposed wastewater transmission line alignment along Weliweli Road near Kōloa Town comes within close proximity to a 35.3-acre Critical Habitat Unit (Unit 10) designated in the USFWS' *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Kauaʻi Cave Wolf Spider and Kauaʻi Cave Amphipod; Final Rule* published April 9, 2003.

Potential Effects and Issues

A faunal survey will be conducted of the Project Area to document the presence of avian and mammalian species, and to ascertain the presence of any endemic Federally listed vertebrate species. The faunal survey will also include protocols for addressing construction activities associated with the proposed Project improvements and the potential impacts on the endangered Kauaʻi Cave Wolf Spider (*Adelocosa anops*) and Kauaʻi Cave Amphipod (*Spelaeorchistia Kōloana*). The results of this survey will be included in the Draft EIS.

4.7 NOISE

Ambient noise in the Project Area is predominantly attributed to vehicular traffic traveling along the adjacent roadways. Other sources of noise include construction-related activities associated with the various developments occurring in the area.

Potential Effects and Issues

Noise from short-term construction activities will be unavoidable as the Project is developed. Since construction activity will occur in different locations within the Project Area and at different times, the intensity and duration of exposure to construction noise at noise sensitive land uses will vary.

Construction activities will need to comply with State DOH rules for "Community Noise Control," HAR Chapter 11-46. These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable noise levels stated in the Chapter 46 rules. Mitigation of construction noise to inaudible levels will not be practical due to the anticipated intensity of noise sources, and due to the exterior nature of the work (excavation, grading, trenching, concrete pouring, etc.). It shall be the contractors' responsibility to minimize noise by properly maintaining noise mufflers and other noise-attenuating equipment, and to maintain noise levels below allowable regulatory limits. Also, the guidelines for the hours of heavy equipment operation and noise curfew times as set forth by the DOH noise control regulations must be adhered to.

Long-term noise impacts would primarily be associated with the operation of the proposed wastewater system facilities. Noise from the proposed wastewater collection and treatment systems improvements will be attenuated to meet the allowable noise levels as established in the State DOH Chapter 46 rules.

A noise study will be conducted to assess noise levels and impacts associated with the operations of the proposed wastewater system facilities. The noise study will also include recommendations for mitigating the noise impacts of the Project. The results of this study will be included in the Draft EIS.

4.8 AIR QUALITY

Within the Project Area, vehicular-related emissions are generated from traffic traveling along the adjacent roadways. The distance from any major commercial or industrial sources of air pollution contributes to good ambient air quality in the Project Area. Currently, the primary source of ambient air quality concerns relate to locally-produced dust emissions from the various development-related construction activities occurring in the region.

Both Federal and State standards have been established to maintain ambient air quality. Seven (7) parameters are regulated, including particulate matter, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, carbon monoxide, ozone, and lead. Hawai'i's State air quality standards are comparable to the national standards except those for nitrogen dioxide and carbon monoxide, which are more stringent than the Federal standards.

There is very little air quality data available from the State DOH for the Island of Kaua'i. Based on available information, it appears that all Federal air quality standards are currently being met in the Project vicinity, although it is possible that the more stringent State standard for carbon monoxide may occasionally be exceeded at the more congested roadway intersections.

Potential Effects and Issues

The proposed Project has the potential to impact air quality due to fugitive dust generated by construction activities such as grading and excavation, and emissions from construction vehicles and equipment and from vehicles used by commuting construction workers. The construction contractor is responsible for complying with the State DOH Administrative Rules, Title 11, Chapter 60-11.1 regarding "Air Pollution Control". Compliance with State regulations will require adequate measures to control fugitive dust by methods such as water spraying and sprinkling of loose or exposed soils or ground surface areas and dust-generating equipment during construction. The movement of construction vehicles would be minimized during the peak traffic periods to avoid traffic congestion and an associated increase in vehicular emissions.

During operations of the proposed wastewater facility improvements, the primary concern will be potential odor nuisance from the Regional WRF and associated WWPSs. The Draft EIS will include a discussion of the odor control measures that could be implemented at these wastewater facilities.

An air quality study will be conducted to assess construction-related air quality impacts and to evaluate potential air quality impacts resulting from the operations of the proposed Project improvements. The air quality study will also include recommendations for mitigating the air quality impacts of the Project. The results of this study will be included in the Draft EIS.

4.9 HAZARDOUS MATERIALS

Due to the industrial nature of the prior operations of the Kōloa Mill, hazardous materials and wastes may be present within the site. A Phase I Environmental Site Assessment will be conducted to identify recognized environmental conditions of the site.

The Assessment will include a review of available historical and geological information of the site and surrounding properties; a site reconnaissance of the site; a search of underground and aboveground storage tanks; a review of local, State and Federal regulatory databases for environmental incidents and conditions at and near the site; and interviews with individuals

familiar with present and prior site activities. The findings of the Environmental Site Assessment will be included in the Draft EIS.

Potential Effects and Issues

The Phase I Environmental Site Assessment conducted for the Kōloa Mill site will include recommendations for mitigating any findings of hazardous materials and wastes that may be present within the site. This information will be included in the Draft EIS.

4.10 ARCHAEOLOGICAL, HISTORIC, AND CULTURAL RESOURCES

4.10.1 Archaeological and Historic Resources

There are numerous archaeological and historic surveys that have been conducted throughout the Poʻipū area. Archaeological research prior to 1960 was limited to oral history accounts and surveys of the larger sites, especially heiau along the coast. Beginning in the 1960s, several large archaeological surveys were conducted, covering a large portion of Kōloa and surrounding ahupuaʻa.

An archaeological inventory survey will be conducted for the Project Area. The archaeological inventory survey and report will document all historic properties within the Project Area. The findings of the survey will be included in the Draft EIS.

Potential Effects and Issues

The Draft EIS will include information from prior studies on archaeological and historic resources to identify existing historic properties in the vicinity of the Project Area and resources that may be affected by the proposed Project. The archaeological inventory survey will identify necessary mitigation measures and the findings and recommendations will be included in the Draft EIS.

In the event cultural artifacts, subsurface human remains or other indications of human activity older than 50 years are encountered during construction activities, all work will stop immediately and the State DLNR Historic Preservation Division (SHPD) will be notified. The treatment of any human remains encountered will be determined and conducted in accordance with the applicable requirements of Chapter 6E, HRS, and Chapter 13-300, HAR. During the Project's design phase, construction plans developed will also be coordinated by reviewing agencies with the SHPD for review and comment.

4.10.2 Cultural Resources

The Project Area encompasses three (3) ahupuaa: Paa, Weliweli, and Kōloa. Existing documentation of archaeological and historic resources, along with accounts of oral history and legends, suggest a heightened cultural richness in this region.

To gather information about traditional cultural practices and pre-historic and historic cultural resources, a cultural impact assessment (CIA) will be prepared for the proposed Project. Preparation of the CIA will include archival and documentary research, review of existing archaeological information, and consultation with individuals with knowledge of the area, and the cultural resources, practices, and beliefs associated with the area. The findings of the CIA will be included in the Draft EIS.

Potential Effects and Issues

The CIA to be prepared for the proposed Project will include a summary of the information gathered related to traditional practices and land use of the Project Area, and will assess the impact of the proposed Project on the cultural practices and features identified. The findings and recommendations of the CIA will be included in the Draft EIS.

4.11 VISUAL RESOURCES

The viewshed within the Project Area is characterized by predominantly open, undeveloped land, with residential, commercial and golf course uses interspersed within the western portion of the area. Moderate to expansive panoramic views are available from selected points within the Project Area. Mauka views of the Project Area are afforded from Poʻipū Road, the primary coastal road traversing along the southern portion of the Project Area. Views of the existing Kōloa Mill site are available from Weliweli Road and Ala Kinoiki Road to the west.

Potential Effects

The proposed Project improvements will be visible from various public roadways in the nearby area, including Poʻipū Road, Ala Kinoiki Road, and Weliweli Road. Views from various portions of the Project Area may be limited by the gradual slope of area topography, vegetation, and existing developments.

Although the Project Area is visible from nearby public roadways, most of the proposed improvements within the Project Area will consist of the installation of wastewater transmission lines that will be placed underground for its entire length.

The three (3) proposed WWPSs will alter the existing undeveloped nature of their respective sites. Appropriate landscaping improvements will be implemented to visually screen

the WWPS facilities from the surrounding areas. In consideration of the historic character and nature of the existing Kōloa Mill, the design of the facilities associated with the Regional WRF will emulate the architectural characteristics of the Mill to the extent possible.

4.12 SOCIO-ECONOMIC CHARACTERISTICS

The Project Area is located within the Poʻipū Census Tract (CT) 406. The following is an overview of the socio-economic characteristics of the Poʻipū CT as also indicated in Table 3-1.

Population and Housing:

Based on the 2000 Census, the population in Poʻipū has increased just slightly since the 1990 Census. In 1990, Poʻipū (CT 406) had a population of 1,068 and in 2000 the population had increased to 1,075. During the same 10-year period, the population of the Island of Kauaʻi had increased 14.2 percent, from 51,177 to 58,463. The slight population change in Poʻipū is indicative of stability.

- The median age of the population in Poʻipū is higher than on Kauaʻi at 48.6 versus 38.4;
- By racial mix, there are more Whites and less Asians and Native Hawaiian and other Pacific Islanders in Poʻipū than Kauaʻi;
- Households in Poʻipū have a smaller average size, but slightly higher married-couple families and more non-family householders than Kauaʻi; and
- There are substantially more vacant units in Poʻipū than Kauaʻi.

Economy

According to the 2000 Census, the median household income for the Poʻipū CT was 51,442, which is greater than the median household income for Kauaʻi which was 45,020.

Table 3-1
Demographic Characteristics: 2000

Subject	CT 406 (Poʻipū)		Kauaʻi	
	Number	Percent	Number	Percent
Total Population	**1,075**	**100**	**58,463**	**100**
AGE				
Under 5 Years	37	3.4	3,605	6.2
5 – 19 years	151	14.0	13,147	22.5
20 – 64 years	667	62.0	33,642	57.5
65 years and over	220	20.5	8,069	13.8
Median age (years)	48.6	--	38.4	--
RACE				
White	746	69.4	17,255	29.5
Black or African American	1	0.1	177	0.3
American Indian and Alaska Native	4	0.4	212	0.4

Table 3-1
Demographic Characteristics: 2000

Subject	CT 406 (Poʻipū)		Kauaʻi	
	Number	Percent	Number	Percent
Total Population	**1,075**	**100**	**58,463**	**100**
Asian	182	16.9	21,042	36.0
Native Hawaiian and other Pacific Islander	21	2.0	5,334	9.1
Two or more races	113	10.5	13,938	23.8
Other	8	0.7	505	0.9
HOUSEHOLD (BY TYPE)				
Total Households	**472**	**100**	**20,183**	**100**
Family households (families)	311	65.9	14,572	72.2
With own children under 18 years	88	18.6	6,865	34.0
Married-couple family	271	57.4	10,881	53.9
With own children under 18 years	69	14.6	4,842	24.0
Female householder, no husband present				
With own children under 18 years	25	5.3	2,582	12.8
	14	3.0	1,424	7.1
Nonfamily households				
	161	34.1	5,611	27.8
Average household size				
	2.28	--	2.87	--
HOUSING OCCUPANCY AND TENURE				
Total Housing Units	**1,969**	**100**	**25,331**	**100**
Occupied units	472	24.0	20,183	79.7
By owner	287	60.8	12,384	61.4
By renter	185	39.2	7,799	38.6
Vacant units	1,497	76.0	5,148	20.3
SOCIAL CHARACTERISTICS				
Population 25 years and over	**885**	**100**	**38,872**	**100**
High school graduate or higher	855	96.6	32,368	83.3
Bachelor's degree or higher	306	34.6	7,551	19.4
ECONOMIC CHARACTERISTICS				
In labor force (pop. 16 & over)	573	59.7	28,355	63.1
Median household income (dollars)	51,442	--	45,020	--
Median family income (dollars)	62,396	--	51,378	--
Per capita income (dollars)	35,800	--	20,301	--

Source: U.S. Census Bureau, Census 2000 Summary

Potential Effects and Issues

In the short term, the proposed Project will confer positive benefits in the local area. Direct economic benefits will result from construction expenditures both through the purchase of material from local suppliers and through the employment of local labor, thereby stimulating that

sector of the economy. Indirect economic benefits may include benefits to local retailing businesses resulting from construction activities.

Construction activities associated with the proposed Project will create some adverse short-term impacts such as temporary disruption of traffic, unavoidable noise impacts, and air quality impacts from soil excavation and grading activities in the vicinity of the Project Site. The construction contractor(s) will be required to mitigate potential vehicular and pedestrian traffic impacts through appropriate traffic control measures and safety devices. Unavoidable construction noise impacts on nearby land uses in the vicinity of the proposed Project will be mitigated to some degree by complying with the provisions of the State DOH Administrative Rules, Title 11, Chapter 46, Community Noise Control. Potential air quality impacts during construction of the proposed Project will be mitigated by complying with the State DOH Administrative Rules, Title 11, Chapter 60, Air Pollution Control.

In the long-term, the wastewater system improvements will allow for a more systematic and consolidated approach to the conveyance, treatment and disposal of wastewater for the region. The Draft EIS will include a more detailed discussion of the short- and long-term socio-economic impacts resulting from the proposed Project.

4.13 PUBLIC SERVICES AND FACILITIES

4.13.1 Police Services

The Project Area is located within Police Sector 7 of the County of Kauaʻi Police Department's Waimea District. The Waimea Police Substation is located to the northwest of the Project Area along Kaumualiʻi Highway at the intersection with Menehune Road. There are also two (2) mini police substations in the Project vicinity – one located in Poʻipū Kai at the Peʻe Road/Poʻipū Road intersection, and the other located in Kōloa Town.

The proposed Project is not anticipated to significantly impact or increase demand on police services. As the proposed Project will involve the construction and operation of wastewater facilities, such facilities are not anticipated to require police services on a regular basis.

4.13.2 Fire Services

The Project Area is located in the area served by the Kōloa Fire Station located at the intersection of Poʻipū Road and Lawai Road to the west. The initial backup unit to the Kōloa Fire Station will be provided by the Kalaheo Fire Station, with the second backup response unit from the Lihue Fire Station.

The proposed Project is not anticipated to significantly impact or increase demand on fire services. As the proposed Project will involve the construction and operation of wastewater facilities, such facilities are not anticipated to require fire services on a regular basis.

4.13.3 Medical Services

The closest hospital to the Project Area is the Wilcox Memorial Hospital located in Lihue which provides 71 acute care beds and emergency room service. The medical clinic closest to the Project Area is located in Kōloa Town and is operated by the Wilcox Health System's Kauaʻi Medical Clinic. Emergency medical service is provided by American Medical Response, a private ambulance service contracted by the County of Kauaʻi. The closest ambulance service is located along Poʻipū Road across of the Kōloa Fire Station.

The proposed Project is not anticipated to significantly impact or increase demand on medical services. As the proposed Project will involve the construction and operation of wastewater facilities, such facilities are not population generators and therefore will not increase demand on area medical facilities and services.

4.13.4 Recreational Facilities

Existing County parks in the region include the Anne Knudsen District Park, Wakomo Neighborhood Park and Weliweli Neighborhood Park. County beach parks in the region include Poʻipū Beach Park and Brennecke Beach Park in Poʻipū and the Spouting Horn Park to the west. The State's Kukuiʻula Small Boat Harbor is located to the southwest of the Project Area. The region has two (2) golf courses, including the Kiahuna Golf Club located to the west and the Popu Bay Golf Course located to the southeast.

The proposed Project is not anticipated to induce impacts on recreational resources in the Kōloa-Poʻipū area. As the proposed Project will involve the construction and operation of wastewater facilities, such facilities are not population generators and will not increase demand on area recreational facilities.

4.14 INFRASTRUCTURE AND UTILITIES

4.14.1 Roadways and Traffic

The existing roads traversing within and in the nearby vicinity of the Project Area include Maluhia Road, Kōloa Road, Poʻipū Road, Weliweli Road, and Ala Kinoiki Road (Eastern Bypass Road). Maluhia Road is a two-way, two-lane County road providing mauka-makai access between Kaumualii Highway and Kōloa Road. Kōloa Road is a two-way, two-lane County road providing east-west access between Kaumualii Highway to the west and Kōloa Town to the east. From Kōloa Road, Weliweli Road is a two-way, two-lane County road which provides east-west access through Kōloa Town and to the Kōloa Mill site. Poʻipū Road is a two-way, two-lane County collector road that is oriented in the mauka-makai direction from Kōloa

Road to Lawai Road to the south. Poʻipū Road changes to an east-west orientation after its intersection with Lawai Road, providing access to the Poʻipū resort area. Ala Kinoiki Road is a two-way, two-lane County bypass road that provides mauka-makai access between Maluhia Road and Poʻipū Road near the Poʻipū resort area. Other area roads provide localized access to residential, resort, commercial, and recreational areas.

Within the Project Area, there is a network of unimproved, private cane haul roads that provide access to and from the Kōloa Mill site. Roadways in the Project Area operate fairly well throughout the weekday, except during periods of peak traffic conditions.

Potential Effects and Issues

During construction of the proposed wastewater system improvements, potential impacts to traffic along roadways in the immediate vicinity of the proposed improvements will be partially mitigated by appropriate traffic control measures. Temporary traffic congestion that could result from the movement of construction-related vehicles may inconvenience motorists in the immediate vicinity of the various Project sites.

Toward mitigating potential traffic congestion and delays, the movement of construction vehicles will be restricted during the morning and afternoon peak traffic hours. Flagmen or police officers will be employed as needed to direct traffic during the transport of larger construction vehicles to minimize traffic congestion. The potential closure of traffic lanes during construction of the wastewater system improvements may cause inconveniences to motorists as well as residents and businesses in the affected vicinity. To avoid potential traffic congestion, any lane closures would be restricted during the morning and afternoon peak traffic hours.

No significant impacts on vehicular traffic associated with the operation of the proposed wastewater facility improvements are anticipated. An insignificant increase in traffic associated with the proposed facility improvements is anticipated.

A more detailed discussed of the proposed impacts to the roadways and traffic resulting from the construction and operation of proposed Project and recommendations for mitigating the impacts will be included in the Draft EIS.

4.14.2 Water Facilities

Water service in the Kōloa-Poʻipū area is provided by the County of Kauaʻi Department of Water (DOW). The DOW operates 13 water systems that serve particular geographic areas. Three (3) DOW water systems are located in the greater Project vicinity: Kōloa-Poʻipū, Kalaheo, and Lawai-Omao. The Project Area is located within the Kōloa-Poʻipū Water System service area, which consists of a concentration of resorts along the coast, with residential communities clustered near the coast and around Kōloa Town.

The Kōloa-Poʻipū Water System is divided into a 366-foot pressure zone and a 245-foot pressure zone. System sources include five (5) wells with a total capacity of 3,560 gallons per minute (gpm). System storage capacity is 4.25 mg. Kōloa Wells C and D are the sources located nearest the proposed Regional WRF, approximately 0.8 mile to the northeast. Kōloa 16-B Deep Well is also located in the Project vicinity, approximately 1.24 miles northwest of the proposed Regional WRF. Various water transmission lines are located throughout the water service area. A 16-inch line conveys water to the 1.5 mg Poʻipū storage tank. This line has a north-south alignment approximately 0.4 mile east of the proposed Regional WRF. There are 16-, 18-, and 8-inch water lines located in roadways adjacent to the proposed WWPS sites.

The DOW's *Water Plan 2020* (2001) includes the following information on the Kōloa-Poʻipū Water System's historical and forecasted water use:

Table 3-2
DOW Historical and Forecasted Water Use for the Kōloa-Poʻipū Water System

	Historical Water Use (1,000 gallons/day)				Forecast Water Use (1,000 gallons/day)		
Water System	**1995-96**	**1996-97**	**1997-98**	**1998-99**	**2005**	**2010**	**2020**
Kōloa-Poʻipū System	2,439	2,338	2,660	2,716	2,794	3,242	3,751
Kōloa	459	421	413	391	520	614	798
Poʻipū	1,980	1,917	2,247	2,325	2,454	2,628	2,953

Source: County of Kauaʻi Department of Water, *Water Plan 2020* (2001), page 4-7, Table 4-5, Historical and Forecasted Water Use.

Potential Effects and Issues

No significant impacts to water service are anticipated during construction of the proposed wastewater facilities. During design and construction, close coordination will be maintained with DOW to ensure that any existing water lines are not adversely impacted and water service is not interrupted.

In the long-term, the proposed Project will provide R-1 (tertiary) non-potable water suitable for landscape irrigation and other non-domestic water demands. Therefore, the Project will provide the benefits of an alternative non-potable water source and relieve some of the irrigation demand for potable water.

The Draft EIS will include more detailed discussion of the anticipated impacts and recommended mitigation measures of the construction and operations of the proposed Project, as well as information on the proposed water demand required for operation of the Project.

4.14.3 Drainage

Drainage throughout the Project Area currently follows existing drainage patterns makai to natural swales and drainageways. Factors that affect drainage patterns include area topography and natural and manmade barriers to water flow. Waikomo Stream is located in the Project vicinity just east of Poʻipū Road.

Potential impacts to the quality of surface waters in streams and drainage systems during construction of the proposed facility improvements will be mitigated by adherence to State and County water quality regulations governing grading, excavation, and stockpiling. The Draft EIS will address such short-term construction-related effects and identify potential BMPs that could be implemented.

During design and construction of the proposed wastewater system improvements which may affect existing drainage facilities, close coordination will be maintained with the County Department of Public Works and the respective landowners to ensure that functions of the existing area drainage improvements are not impacted or impeded.

Construction of the proposed Regional WRF and WWPS facilities will create additional impervious surface areas, resulting in a slight increase in runoff. The Draft EIS will include a discussion of the anticipated drainage impacts that may result from the construction and operation of the proposed Project improvements and recommended mitigative measures.

4.14.4 Electrical and Communication Systems

Electrical service in the Project vicinity is provided by Kauaʻi Island Utility Cooperative (KIUC). Telephone service in the Project vicinity is provided by Hawaiian Telcom. Oceanic Time Warner Cable of Hawaii is the local CATV provider in the Project Area.

An existing network of overhead and underground electrical and communications lines and facilities are located within the Project Area.

Prior to construction of the proposed wastewater system improvements, the construction contractor(s) will be responsible for verifying the location and depth of all existing electrical utilities within the affected portions of the Project Area to ensure that functions of the utilities are not impacted or impeded.

Energy-efficient measures to reduce the maximum electrical demand will be considered where feasible in the design and operation of the proposed Regional WRF and WWPSs. The Draft EIS will include a discussion of the proposed electrical demand for the Project and energy-efficient measures that may be implemented within the Project to reduce energy consumption.

4.13.3 Solid Waste

The County DPW maintains an Island-wide solid waste collection and disposal system. The existing Kekaha Landfill Phase is the primary disposal site for solid waste on the Island. The County is currently seeking a lateral expansion of the Kekaha Landfill which could extend its capacity by about 12 years, and is also seeking another landfill site as part of its long-term planning objectives.

During construction of the Project, a trash management and recycling program will be developed and implemented to minimize impacts to the Kekaha Landfill.

Operation of the proposed Regional WRF will produce solid waste as a byproduct of the wastewater treatment and reclamation process. The wastewater reclamation process will remove and treat liquids from effluent to R-1 quality standards for reuse in non-potable applications. The remaining solids will be disposed of at the Kekaha Landfill. The Draft EIS will address the anticipated solid waste volumes associated with the proposed Regional WRF and resulting impacts to the Kekaha Landfill.

4.15 SECONDARY AND CUMULATIVE IMPACTS

Secondary impacts, or indirect effects, are effects which are caused by an action and are later in time or farther removed in distance, but are still reasonably foreseeable. Such effects may include growth inducing impacts and other effects related to changes in land use patterns, population density or growth rate, and related effects on air, water, and other natural systems. Cumulative impacts are effects on the environment which result from the incremental impact of a project when added to past, present, and reasonably foreseeable future actions regardless of what government agency or person undertakes the action.

The Draft EIS will identify and address the potential secondary impacts associated with the proposed Project, and the cumulative impacts from this Project taking into account other pertinent developments in the immediate vicinity.

5. RELATIONSHIP TO LAND USE, POLICIES AND CONTROLS

This section discusses State and County of Kauaʻi land use plans, policies, and controls relating to the proposed Project.

5.1 HAWAIʻI STATE PLAN

The Hawaiʻi State Plan, Chapter 226, HRS, serves as a guide for goals, objectives, policies, and priorities for the State. The Hawaii State Plan provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities. It establishes a set of themes, goals, objectives and policies that are meant to guide the State's long-range growth and development activities. A discussion of the proposed Project's consistency with the applicable State Plan objectives, policies and priority guidelines will be included in the Draft EIS.

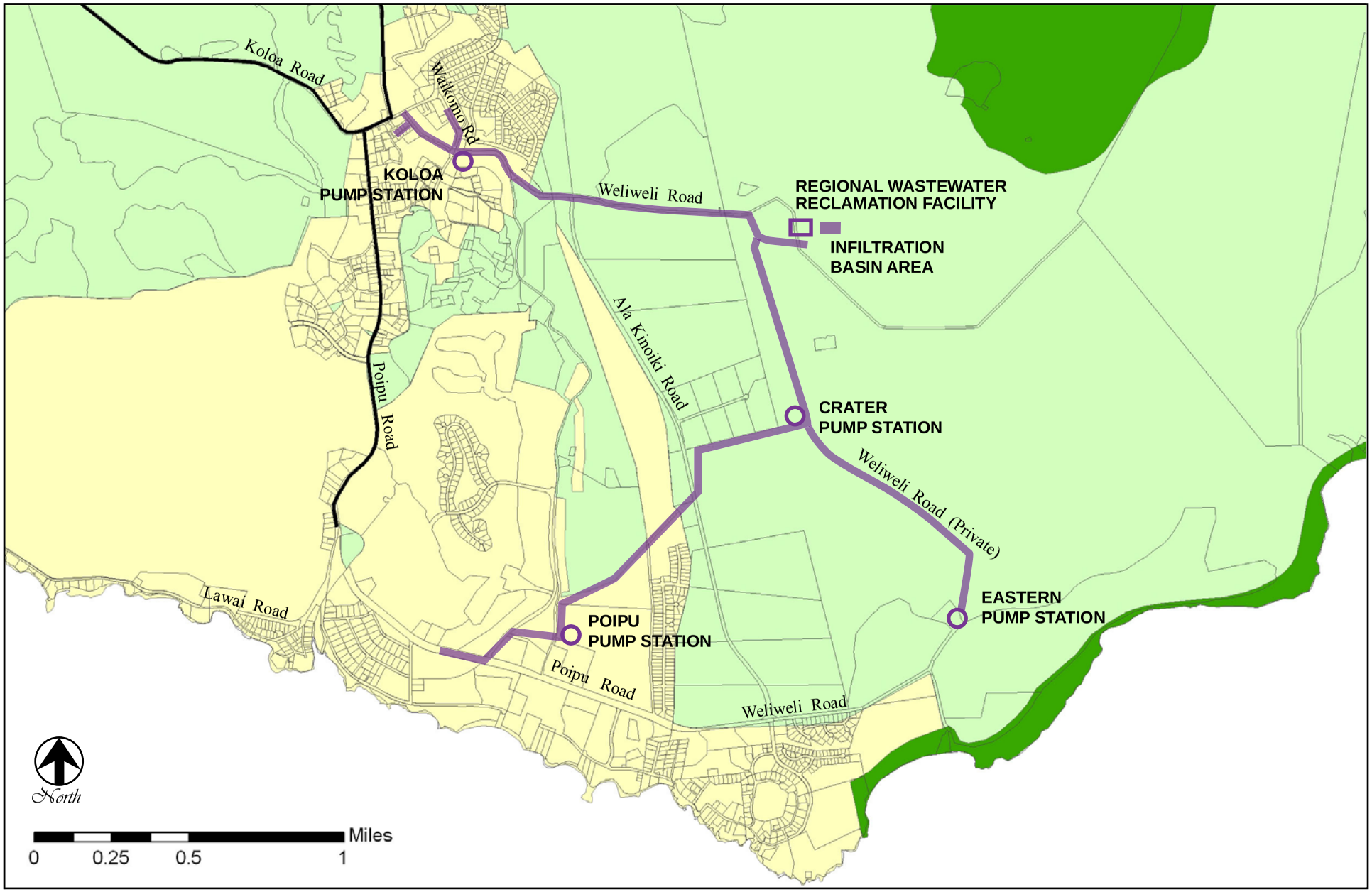
5.2 STATE FUNCTIONAL PLANS

The Hawaiʻi State Plan requires the development of State Functional Plans that are approved by the Governor of Hawaiʻi. There are 12 Functional Plans, each setting forth objectives and policies. The State Functional Plans guide the implementation of State and County actions in the areas of agriculture, transportation, conservation lands, housing, tourism, historic preservation, energy, recreation, education, health, human services, and employment. A discussion of the proposed Project's consistency with the applicable objectives and policies of the State Functional Plans will be included in the Draft EIS.

5.3 STATE LAND USE DISTRICT

The State Land Use Law, Chapter 205, HRS is intended to preserve, protect, and encourage the development of lands in the State for uses that are best suited to the public health and welfare of Hawaii's people. Under Chapter 205, HRS all lands in the State of Hawaii are classified by the State Land Use Commission (LUC) into four (4) major categories referred to as State Land Use Districts. These districts are identified as the Urban District, Rural District, Agricultural District, and Conservation District.

The LUC's Land Use District Boundary Map for the Island of Kauaʻi depicts the lands within the Project Area as being designated within the State Agricultural District and State Urban District. Figure 5.1 shows the locations of the proposed Project improvements in relation to the State Land Use District designations.



LEGEND

- Agricultural
- Conservation
- Urban
- Regional Collection System

Source:

State Office of Planning (GIS Data)

FIGURE 5.1
STATE LAND USE DISTRICTS MAP

KOLOA-POIPU REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT
HOH Utilities, LLC

WILSON OKAMOTO CORPORATION
ENGINEERS | PLANNERS | CONSULTANTS

Within the Project Area, approximately 11.0 acres of the proposed Project improvements are located within the State Agricultural District, and the remaining approximately 2.0 acres of the proposed Project improvements is located within the State Urban District. The Project improvements located within the State Agricultural District include the proposed Regional WRF, infiltration basin, Crater WWPS, Eastern WWPS, and approximately 5.6 acres of the collection system lines. The Project improvements located within the State Urban District include the proposed Kōloa and Villages WWPS and nearby associated collection system lines.

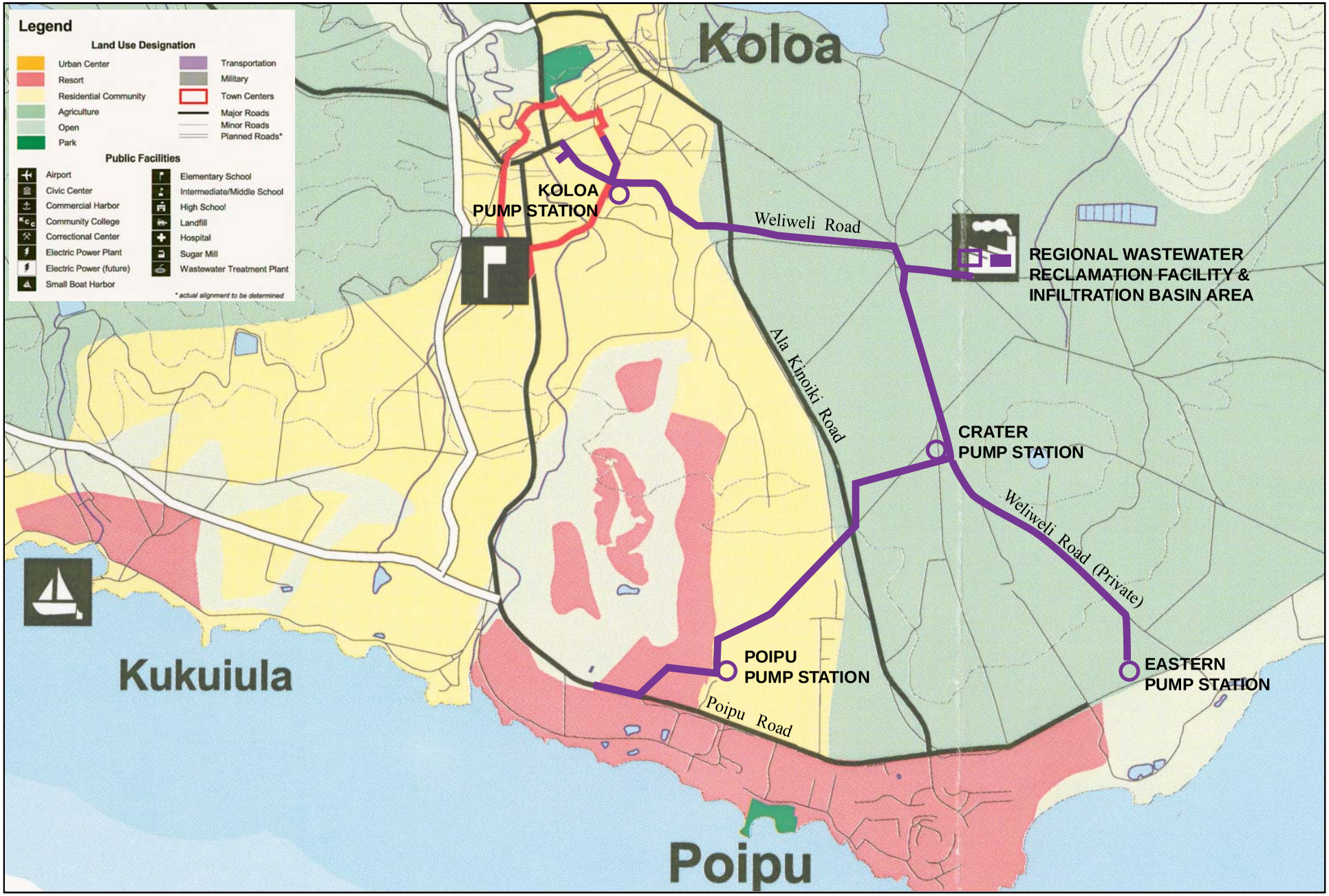
Since the aforementioned proposed wastewater system improvements are not identified as permissible uses within the State Agricultural District pursuant to §205-4.5, HRS, a State Special Permit will be required. Since the Special Permit is for a land area that is less than 15 acres, the Special Permit will be subject to processing by the County Planning Department and approval by the County Planning Commission.

5.4 STATE COASTAL ZONE MANAGEMENT PROGRAM

The National Coastal Zone Management Program was created through passage of the Coastal Zone Management Act of 1972. Hawaii's Coastal Zone Management (CZM) Program, adopted as Chapter 205A, HRS, as amended, provides a basis for protecting, restoring and responsibly developing coastal communities and resources. The objectives and policies of the Hawaii CZM Program encompass broad concerns such as impacts on recreational resources, historic and archaeological resources, coastal scenic resources and open space, coastal ecosystems, coastal hazards, and the management of development. A discussion of the proposed Project's consistency with the objectives and policies of the Coastal Zone Management Program will be provided in the Draft EIS.

5.5 COUNTY OF KAUAʻI GENERAL PLAN

The General Plan of the County of Kauaʻi is a policy document that is intended to help guide development for the enhancement and improvement of life on Kauaʻi. The document provides broad policy statements to guide land use regulations, new developments and facilities, and planning for County facilities and services. The General Plan includes land use maps for planning districts on Kauaʻi. The Project Area encompasses several designations within the Kōloa-Poʻipū-Kalaheo Planning District Land Use Map, including Residential Community, Resort and Agriculture. Figure 5.2 shows the General Plan land use designations of the Project Area. The Draft EIS will include a discussion of the proposed Project's consistency with the applicable policies of the General Plan.



North

LEGEND

Regional Collection System

Source:
County of Kauai

FIGURE 5.2
COUNTY GENERAL PLAN LAND USE MAP

KOLOA-POIPU REGIONAL WASTEWATER RECLAMATION FACILITY PROJECT
HOH Utilities, LLC

WILSON OKAMOTO CORPORATION
ENGINEERS | PLANNERS | CONSULTANTS

5.6 COUNTY OF KAUAʻI KŌLOA-POʻIPŪ-KALAHEO DEVELOPMENT PLAN

The County's Kōloa-Poʻipū-Kalaheo Development Plan, adopted by the County ordinance in 1983, provides physical, social and economic measures which relate specifically to these communities. The Kōloa-Poʻipū-Kalaheo Development Plan land use designations for the Project Area are Agriculture, Residential and Open. The Draft EIS will include a discussion of the proposed Project's consistency with the applicable goals and objectives of the Kōloa-Poʻipū-Kalaheo Development Plan.

5.7 COUNTY OF KAUAʻI COMPREHENSIVE ZONING ORDINANCE AND ZONING

The County's Comprehensive Zoning Ordinance (CZO) sets forth standards for land development and construction of buildings and other structures in the County. The CZO establishes land use districts and delineates the respective types of permitted uses and the development that can take place in those districts.

The zoning designations for the proposed Project improvements are indicated in Table 5-1. A Zoning Map depicting the current zoning designations of the proposed Project improvements will be included in the Draft EIS.

Table 5-1
Existing County of Kauaʻi Zoning Designations

Proposed Improvements	Zoning Designation
Regional WRF	Agriculture District (A)
Infiltration basin	Agriculture District (A)
Kōloa WWPS	Residential District (R-20)
Villages WWPS	Open District (O)
Crater TankWWPS	Agriculture District (A)
Eastern WWPS	Agriculture District (A)
Wastewater Transmission Lines	Residential Districts (R-6 and R-20), Open District (O), and Agricultural District (A)

Pursuant to the County's CZO, private utilities and facilities are not outright permitted uses in the Residential, Agriculture and Open Districts. Therefore, a County Use Permit will be required for the proposed wastewater system improvements located in the Residential, Agriculture and Open Districts. Since a County Use Permit will be required, a County Class IV Zoning Permit will also be required for the proposed Project improvements. The Use Permit and Class IV Zoning Permit would be concurrently processed by the County Planning Department and approval would be granted by the County Planning Commission.

5.8 COUNTY OF KAUAʻI SPECIAL MANAGEMENT AREA

The Hawaii Coastal Zone Management Act, Chapter 205A, HRS contains the general objectives and policies upon which all counties have enacted ordinances to establish Special Management Areas (SMA). Any "development" within the SMA requires an SMA Use Permit administered by the County of Kauaʻi Planning Department. Approval of a SMA Use Permit is granted by the County Planning Commission.

The proposed Project improvements are located outside of the SMA boundary established pursuant to the Hawaii Coastal Zone Management Law, Chapter 205A, HRS. Therefore, a SMA Use Permit will not be required for the proposed Project improvements.

6. PRE-ASSESSMENT CONSULTATION

The following agencies and organizations were consulted during the pre-assessment phase to assist in evaluating project design requirements, potential project impacts, and determining the need to prepare an Environmental Impact Statement.

State of Hawaii

Department of Business, Economic Development and Tourism, Land Use Commission
Department of Health

County of Kauaʻi

Planning Department

Organizations and Interested Parties

Kōloa Community Association
Malama Mahaulepu Board
Grove Farm Company, Inc.
Eric A. Knudsen Trust

Aqua Engineers, Inc. and HOH Utilities, LLC have been consultation with the State Department of Health regarding design requirements for the wastewater reclamation facility, and in developing preliminary plans and treatment methods. Consultation with the State Land Use Commission was conducted to help assess what project improvements situated within the State Agricultural District needed to be included in the acreage calculation for boundary amendment purposes.

Consultation with the County Planning Department was held to brief them of the project and address coordination with that department since they would be serving as the Accepting Authority for the EIS document. Input on potential study areas were received along with clarifying improvements that should be included in the EIS document. Finally, it was determined that an EIS document would be appropriate for this project based upon the potential impacts and size of this improvement.

In addition, the following community meetings were held to solicit input on the proposed Project: 1) a Kōloa Town meeting held on November 1, 2007; 2) a Kōloa Community Association Board/Malama Mahaulepu Board meeting held on December 6, 2007; and 3) a Kōloa Community Association General Membership meeting held on January 17, 2008. Various input and comments from these meetings were received. Such questions included clarifications of the improvements planned, wastewater system service areas, potential project benefits such as improving water quality, and identifying environmental areas that should be addressed in the environmental document. Many community members were generally supportive of the project

since it would improve wastewater collection in the region and mitigate effects from current individual treatment systems on water quality and the coastline. Further information associated with these and future planned community meetings will be included in the Draft EIS.

Finally, consultations between Aqua Engineers, Inc. and HOH Utilities, LLC with the landowners of property planned for project improvements have been occurring to coordinate use of the property and effects it may have on their future development plans. Landowners included Grove Farm Company, Inc. and Eric A. Knudsen Trust.

7. FINDINGS AND DETERMINATION

To determine whether a proposed action may have a significant effect on the environment, the Accepting Authority needs to consider every phase of the action, the expected primary and secondary consequences, cumulative effect, and the short- and long-term effects. The Accepting Authority's review and evaluation of the proposed action's effect on the environment would result in a determination of whether: 1) the action would have a significant effect on the environment and an EISPN should be issued, or 2) the action would not have a significant effect, warranting pursuing a Negative Declaration or otherwise also referred to as a Finding of No Significant Impact (FONSI).

7.1 FINDINGS AND DETERMINATION

The County of Kauaʻi Planning Department, the Accepting Authority, has determined that the proposed action requires the preparation of an Environmental Impact Statement, based on the environmental assessment and evaluation of the significance criteria set forth in Chapter 200, Title 11, State of Hawaii Department of Health Administrative Rules. The reasons supporting this determination are described below according to these significance criteria:

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

Development of the proposed project will require an irrevocable commitment of land for project improvements and use of energy for its operation. Since the majority of the Project Area consists of vacant, undeveloped lands, the proposed action represents a commitment of new land resources. The project is not expected to result in the loss or destruction of historic or cultural resources, however, there are potential historic properties that may be affected by improvements. Such sites include the Kōloa Mill and potential archeological resources along the path of collection system lines. The Draft EIS will discuss the Project's effects on the natural and cultural resources in greater detail along with proposed mitigative measures.

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

The intention of the proposed facility improvements is to commit the affected Project Area to the proposed use over the long-term. The Project would not significantly curtail the range of beneficial uses associated with the Project Area since the majority of the Project Area is privately-owned and not open to the general public for use. Nevertheless, the Draft EIS will include greater discussion of uses and activities associated with the Project Area.

(3) Conflict 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 should not conflict with the State's long-term environmental policies or goals and guidelines as set forth in Chapter 344, HRS. A discussion of the Project's consistency with the applicable guidelines of Chapter 344, HRS will be provided in the Draft EIS.

(4) Substantially affects the economic welfare, social welfare and cultural practices of the community or state;

The proposed regional wastewater reclamation facility and collection system will accommodate projected flows through the year 2020 and will provide adequate wastewater systems to support projected population and economic growth in the Kōloa-Poʻipū area. The Project may affect the economic and social welfare of the community in both a positive and negative manner, and these affects will be examined in greater detail in the Draft EIS. The Project is not expected to significantly affect traditional native Hawaiian cultural practices other traditional cultural practices occurring in the surrounding area. However, a cultural impact assessment will be conducted and the results discussed in the Draft EIS.

(5) Substantially affect public health;

Minimal effects on public heath are anticipated relative to various health issues such as water quality, air quality and noise associated with the propose Project improvements. The project should improve water quality along the coastline, however, treatment and disposal of effluent from the treatment facility will need to be studied in greater detail to better address likely effects. The Draft EIS will address the Project's effects on such public health issues.

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

The proposed Project is not expected to induce population growth in the region or influence the future distribution of the Island's population. Rather, the proposed wastewater system improvements will accommodate projected flows up to the year 2020 and will provide sufficient capacity to accommodate the current and future demands occurring in the region. The Draft EIS will address such secondary impacts associated with the Project and effects on public facilities.

(7) Involve a substantial degradation of environmental quality;

The proposed project is not expected to involve a substantial degradation of environmental quality. The proposed regional collection and treatment system would have a beneficial impact on groundwater resources since existing developments in the Project's service area which operate their own wastewater treatment facilities or packaged WWTPs would have the opportunity to connect to this regional wastewater system. An air quality study will be conducted to assess construction-related air quality impacts and to evaluate potential air quality impacts resulting from the operations of the proposed Project improvements. The Draft EIS will include further discussion of the Project's potential impacts on the environment and associated mitigative measures.

(8) Individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The proposed Project considers the long-range improvements to the region's wastewater system to the year 2020. However, there is the potential for cumulative effects on certain environmental factors which will be addressed in the Draft EIS.

(9) Substantially affect a rare, threatened, or endangered species, or its habitat;

Construction and operation of the proposed Project should not have an adverse effect on rare, threatened, or endangered species or habitat within the Project Area. Botanical and faunal surveys will be conducted for the Draft EIS of the proposed wastewater system sites to ascertain the presence of any proposed or listed, threatened or endangered species and to identify necessary mitigative measures.

Within the Kōloa-Poʻipū region, the US FWS has designated several "critical habitat" areas for the subterranean endemic, endangered Kauaʻi Cave Wolf Spider (Adelocosa anops) and Kauaʻi Cave Amphipod (Spelaeorchistia Kōloana). Project improvements do not overlap any critical habitat area. However, a segment of the proposed wastewater collection line does come within close proximity to an area. Therefore, a study will be conducted under the Draft EIS to better assess potential effects and identify pertinent mitigative measures.

(10) Detrimentally affect air or water quality or ambient noise levels;

The proposed Project should not have a detrimentally significant impact on air, water quality or ambient noise levels in the immediate vicinity of the Project Area. Impacts associated with these factors should be limited to short-term construction-related activities. To minimize impacts, construction activities would be subject to applicable State regulations addressing air quality, water quality and noise issues. The Draft EIS

will address the Project's effects on these areas and identify necessary mitigative measures.

(11) Affect 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 Project Area is not located in an environmentally sensitive area. The Island of Kauaʻi has a Zone 1 Seismic Probability Rating and volcanic eruption is unlikely. The Project Area is relatively free from flood hazards, and the tsunami evacuation zone is located approximately 750 feet seaward of the nearest portion of the Project Area. The Draft EIS will discuss in greater detail the proposed Project relative to environmentally sensitive areas.

(12) Substantially affect scenic vistas and view planes identified in county or state plans or studies;

The proposed Project is not anticipated to affect any scenic vistas or viewplanes identified in County or State plans or studies. The Draft EIS will discuss probable visual impacts and appropriate mitigative measures, including landscaping improvements to visually screen the proposed wastewater facilities from the surrounding areas.

(13) Require substantial energy consumption

Over the long-term, operation of the proposed wastewater system improvements will increase energy consumption. The Draft EIS will include a discussion of the proposed electrical demand for the Project and energy-efficient measures that may be implemented within the Project to reduce energy consumption.

7.2 EISPN CONSULTATION

The following agencies and organizations will be distributed a copy of the EISPN as consulted parties to the preparation of the Draft EIS.

Federal

U.S. Army Corps of Engineers
U.S. Geological Survey
U.S. Fish and Wildlife Service
U.S. Natural Resources Conservation Service
U.S. Environmental Protection Agency, Region IX

State of Hawaii

Department of Agriculture
Department of Business, Economic Development and Tourism
Department of Business, Economic Development and Tourism, Land Use Commission
Department of Business, Economic Development and Tourism, Office of Planning
Department of Business, Economic Development and Tourism, Energy, Resources and Technology Division
Department of Health
Department of Health, Office of Environmental Quality Control
Department of Health, Environmental Health Services (Kauaʻi Office)
Department of Land and Natural Resources
Department of Land and Natural Resources, Commission on Water Resource Management
Department of Land and Natural Resources, Division of Aquatic Resources
Department of Land and Natural Resources, Historic Preservation Division
Office of Hawaiian Affairs
University of Hawaii Environmental Center
University of Hawaii Water Resources Research Center
University of Hawaii Institute of Marine Biology

County of Kauaʻi

Office of the Mayor
Office of the County Clerk
Planning Department
Department of Public Works, Engineering Division
Department of Public Works, Division of Wastewater Management
Department of Public Works, Building Division
Department of Public Works, Division of Solid Waste Management
Department of Water
Police Department
Fire Department

Utility Agencies

Kauaʻi Island Utility Cooperative
Hawaiian Telcom
Oceanic Time Warner Cable of Hawaii

Organizations and Interested Parties

Kōloa Community Association
Malama Mahaulepu
Poʻipū Beach Resort Association

Grove Farm Company, Inc.
Eric A. Knudsen Trust
Kōloa/Public School Library

The above list is a preliminary identification of parties with interests at stake or who may have information pertinent to the proposed Project. The Applicant welcomes any assistance in identifying others who would be appropriate to be consulted in the process of preparing the Draft EIS.

8. REFERENCES

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