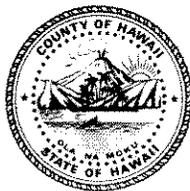


AUG 23 2007

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street • Hilo, Hawaii 96720-4252

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http://co.hawaii.hi.us/directory/dir_envmng.htm

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AUG 23 2007

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

August 10, 2007

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

SUBJECT: Finding of No Significant Impact (FONSI)
Nā`ālehu-Pahala Large Capacity Cesspool Conversion Project
Ka`ū, Hawaii

Dear Ms. Salmonson,

The County of Hawaii Department of Environmental Management has reviewed the comments received during the 30-day public comment period that ended on March 12, 2007. The agency has determined that this project will not have significant environment effects and has issued a Negative Declaration, also referred to as a Finding of No Significant Impact (FONSI).

Please publish this notice in the August 23, 2007 issue of the Office of Environmental Quality Control's *The Environmental Notice*. We have enclosed a completed OEQC Publication Form, two (2) hard copies of the Final EA, and one (1) CD containing the Final EA and the project summary.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., Chief, Technical Services Section
Jared Chang, SSFM International, Inc.

enclosures

9315

FINAL
ENVIRONMENTAL ASSESSMENT

NĀ‘ĀLEHU AND PĀHALA VILLAGES
LARGE CAPACITY CESSPOOL CONVERSION PROJECT

AUGUST 2007

PREPARED FOR:
COUNTY OF HAWAII
DEPT. OF ENVIRONMENTAL MANAGEMENT



PREPARED BY:
SSFM INTERNATIONAL INC.



**FINAL
ENVIRONMENTAL ASSESSMENT
FOR
NĀ‘ĀLEHU-PAHALA LARGE CAPACITY
CESSPOOL CONVERSION PROJECT**

KAU, HAWAII

AUGUST 2007

PROPOSING AGENCY:



County of Hawai‘i
Department of Environmental Management
25 Aupuni Street
Hilo, Hawai‘i 96720

PREPARED BY:



SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

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CHAPTER 1 INTRODUCTION

1.1 PURPOSE FOR ENVIRONMENTAL ASSESSMENT

The County of Hawai'i, Department of Environmental Management (DEM) is proposing to construct sewer system improvements to serve the communities of Nā'ālehu and Pāhala which are both located in the Ka'u District of the Island of Hawai'i. The improvements are planned to establish an approved collection, treatment, and disposal system replacing the large capacity cesspools presently serving areas of these communities. This project is referred to as the "Nā'ālehu and Pāhala Large Capacity Cesspool Conversion Project."

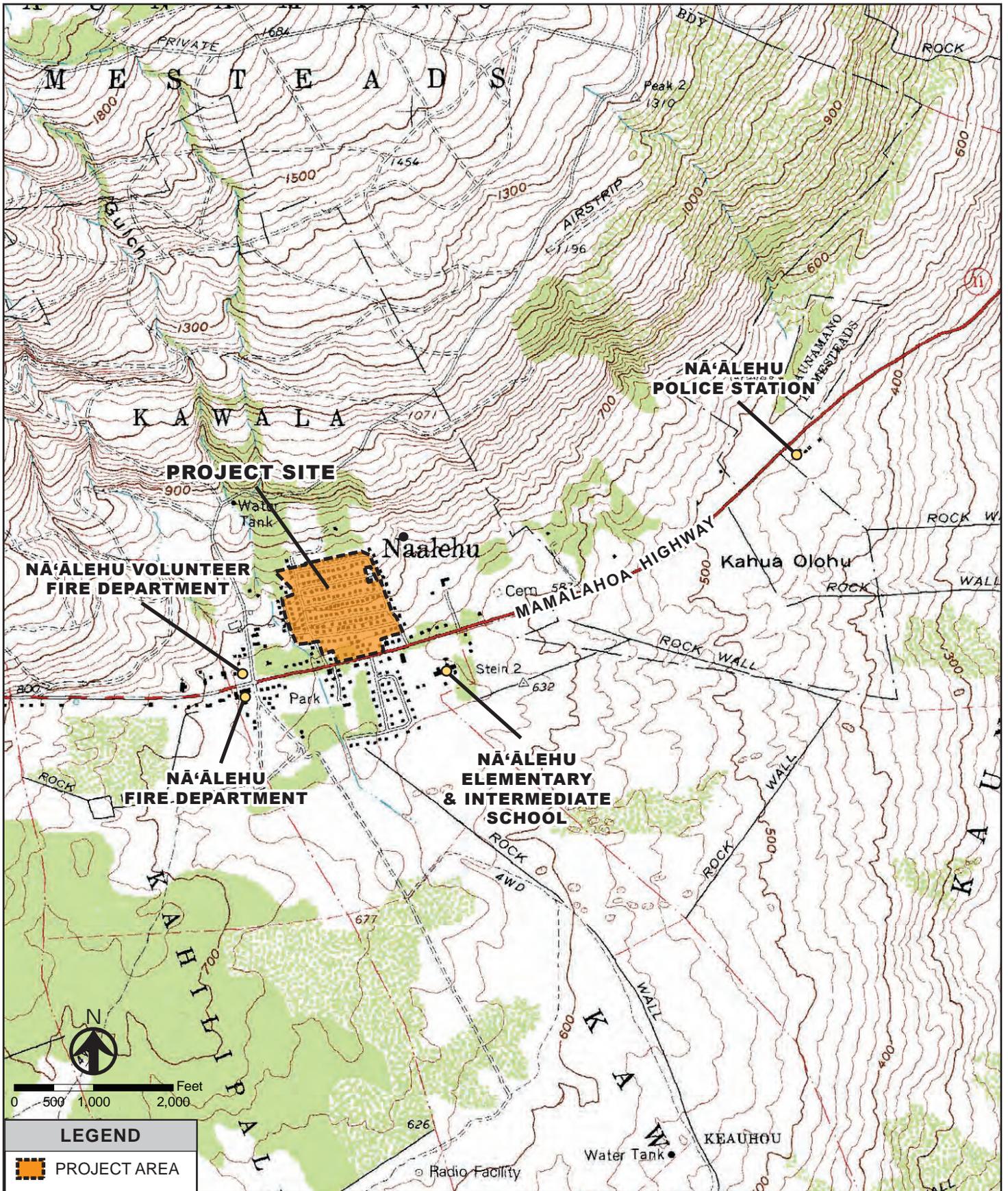
1.1.1 Summary of Project

In 1998, the U.S. Environmental Protection Agency (EPA) promulgated regulations (40 CFR 144.14) which required the elimination of all large capacity "gang" cesspools (LCCs) used for wastewater disposal by April 5, 2005. LCCs were banned because untreated sewage disposed into these cesspools is allowed to drain and percolate directly into the soil and groundwater potentially causing impacts to public health along with environmental concerns. However, due to the quantity of LCC's that exist throughout Hawai'i County, EPA officials and County officials have worked together to reach an agreement that allots the County a longer timetable to close these LCCs.

The Ka'u Sugar Company closed in 1996, and many of the current residents of the Nā'ālehu and Pāhala communities consist of former plantation workers or their descendants. The existing sewer systems serving these two communities for the last 60 years consist of LCCs that have been maintained and operated by the C. Brewer Corporation. However, the company is proposing to turn over these sewer systems to the County because the corporation is dissolving.

Therefore, the County DEM has initiated this project to address the closure of these LCCs within the Nā'ālehu and Pāhala communities. They propose to construct new sewer collection systems located within the public rights-of-way, and replace the existing LCC's with approved Individual Wastewater Systems (IWS) for treatment such as septic tanks, aerobic treatment units, etc. Sewer system improvements will thus serve properties that are currently serviced by C. Brewer Corporation's private sewer systems along with other properties in the vicinity of the service area that are presently connected to other LCC's based upon those owner's consultations with the County.

Figures 1.1 and 1.2 show the general location of the Nā'ālehu and Pāhala communities, respectively. Table 1.1 provides a summary of pertinent project related information.

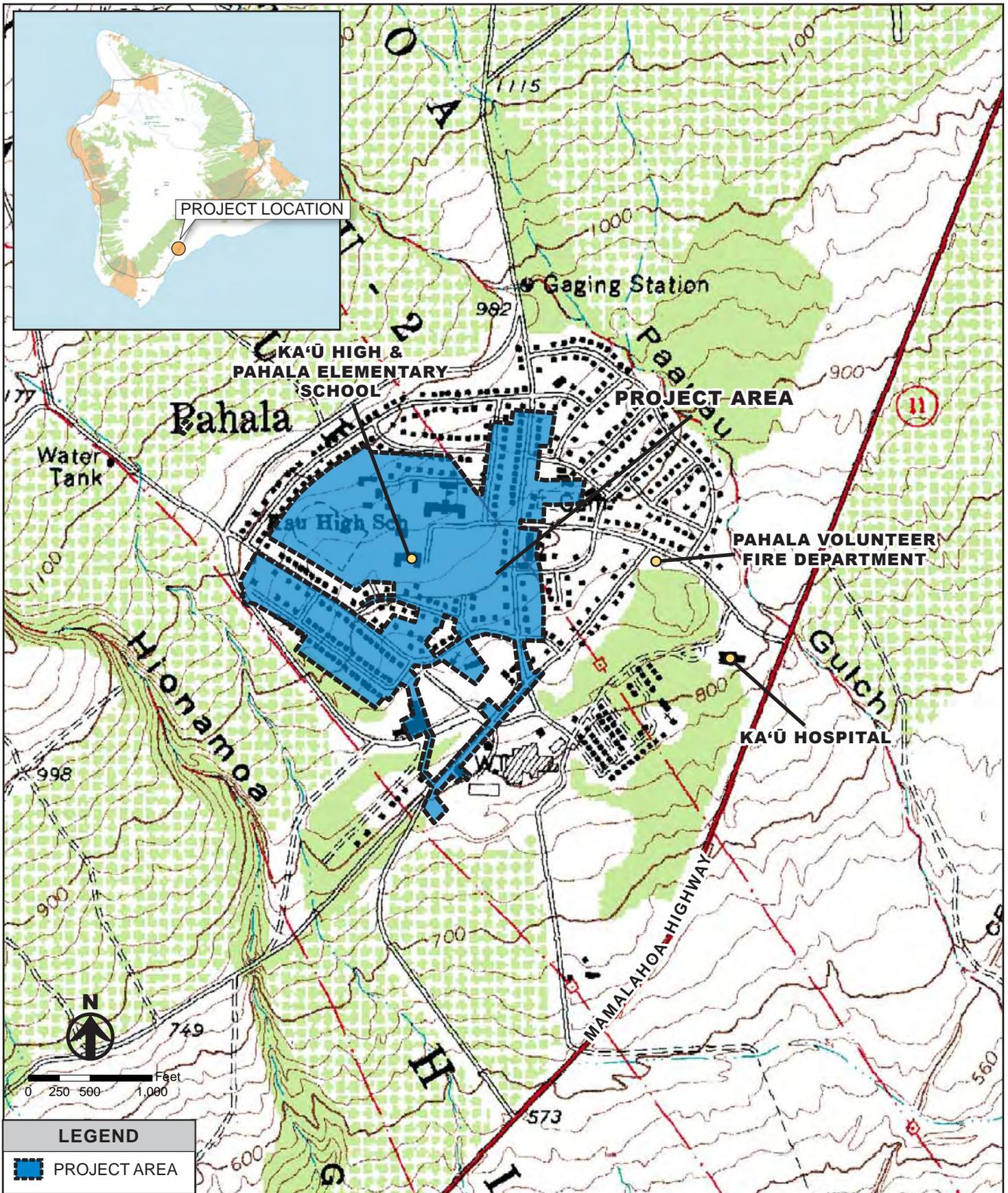


NĀ'ĀLEHU PROJECT LOCATION AND VICINITY MAP

Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
 County of Hawai'i, Department of Environmental Management

Source:
 USDA Geospatial Data Gateway (Aerial)
 County of Hawai'i Planning Dept. (GIS Data)





PĀHALA PROJECT LOCATION AND VICINITY MAP

*Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
County of Hawai'i, Department of Environmental Management*

Figure 1.2

Source:
USDA Geospatial Data Gateway (Aerial)
County of Hawai'i Planning Dept. (GIS Data)



Table 1.1 Summary Information

Project Name:	Nā'ālehu-Pāhala Large Capacity Cesspool Conversion Project
Proposing Agency:	Department of Environmental Management County of Hawai'i 25 Aupuni Street Hilo, Hawai'i 96720 Contact: Ms. Dora Beck, P.E., Technical Services Section Chief
Authorized Agent:	SSFM International, Inc. 501 Sumner Street, Suite 620 Honolulu, Hawai'i 96817 Contact: Mr. Jared K. Chang
Accepting Authority:	Department of Environmental Management, County of Hawai'i
Project Description:	This project involves the construction of new sewer collection systems and individual wastewater systems for treatment to serve portions of the existing communities of Nā'ālehu and Pāhala Villages in the Ka'u District of the Island of Hawai'i. These improvements would allow for the closure of existing large capacity "gang" cesspools (LCC) currently serving these communities. The project will improve the longevity of the sewer systems in these communities as well as assure compliance with the EPA mandated conversion of LCCs.
Project Location:	The proposed improvements will occur in the Ka'u district of the Island of Hawai'i within the communities of Nā'ālehu and Pāhala.
Land Ownership:	The sewer collection system improvements planned within both Nā'ālehu and Pāhala would predominantly occur within the rights-of-way of existing County roadways. However, there are some segments of the collection system that would run through portions of privately-owned property. The IWS improvements planned to treat the wastewater would occur within privately-owned property or portions of such property. Easements for the sewer collection system would be obtained from the landowners of the private properties affected. Easements or acquisition of property needed for the wastewater treatment sites would also be obtained.
Tax Map Key:	There are no TMK numbers for the County roadways right-of-way for which improvements are planned. TMK plat numbers for privately-owned parcels to be serviced by the new system or in involve improvements are provided. Nā'ālehu – (3) 9-05-024: 011 (septic tanks). Pāhala - (3) 9-06-002: portion of 016 (sewer line and septic tanks); 9-06-002: 024 (alternative for septic tanks), 9-06-005: portions of 036 and 044 (sewer line sections). TMK plat numbers for the various parcels being serviced by the new sewer collection and treatment systems are identified below: Nā'ālehu - (3) 9-05-024, (3) 9-05-025, and (3) 9-05-026. Pāhala - (3) 9-06-002; 9-06-005; 9-06-014, 9-06-015, 9-06-016, 9-06-017, 9-06-018, and 9-06-020.
State Land Use:	Urban District for both Nā'ālehu and Pāhala
County Zoning:	Nā'ālehu Project Area - Single Family Residential (RS-7.5) and Village Commercial (CV-10) Pāhala Project Area – Single Family Residential (RS-7.5, RS-10, RS-15 and OPEN)
SMA Designation:	Project improvements (sewer collection and treatment system) would not occur within the County's Special Management Area.

1.1.2 Proposing Agency and Approving Agency

The Nā'ālehu and Pāhala LCC Conversion Project will involve the use of County funds and property (County roadways) for the construction of proposed sewer collection and treatment system improvements. As a result, this project is subject to the environmental documentation requirements prescribed under Chapter 343, Environmental Impact Statements, Hawaii Revised Statutes (HRS) and Title 11, Chapter 200 (Environmental Impact Statement Rules) of the State Department of Health's (DOH) Administrative Rules (HAR).

The County DEM will serve as the Proposing Agency for this project. This project subsequently involves an "Agency Action" being undertaken by this department under the State's environmental regulations. As a result, the County DEM will serve as the "Approving Agency" for this Environmental Assessment.

A Draft Environmental Assessment (Draft EA) prepared in conformance to the regulatory requirements was published in the February 8, 2007 issue of the State Office of Environmental Quality Control's *The Environmental Notice*. The 30-day public comment period for the review of that Draft EA ended on March 12, 2007. This Final Environmental Assessment (Final EA) was prepared based upon the comments received on the Draft EA, and a Negative Declaration, also referred to as a Finding of No Significant Impact (FONSI), is warranted for this project.

1.1.3 Clean Water State Revolving Fund Program

This project may also be funded by Federal funds through the State of Hawai'i's Clean Water State Revolving Fund (CWSRF) Program which would constitute a Federal action, and will require the project to meet all National Environmental Policy Act (NEPA) and Hawaii SRF program requirements.

Program Background

The Federal Water Quality Act of 1987 created the State Revolving Fund Loan Program, commonly known as the SRF. This Federal Act authorized low interest loans for the construction of publicly-owned wastewater treatment works, for implementation of a non-point source pollution control management program, and for implementation of an estuary conservation and management program (DOH, 2005).

The State DOH, Environmental Management Division, Wastewater Branch administers the statewide engineering and financial functions relating to water pollution control, municipal and private wastewater treatment works program, and individual wastewater systems program. This Branch is responsible for the overall management and implementation of the CWSRF Program. This Program assists County and State agencies by providing low interest loans to construct, modify or rehabilitate point and non-point source water pollution control projects necessary to prevent contamination of groundwater and coastal water resources, and to protect and promote the health, safety and welfare of the citizens of the State of Hawai'i (EMD, no date).

Sources of non-point source pollution are many and can consist of several categories. As a result, pollution control projects addressing any of these sources are eligible for CWSRF Program funding which includes the proposed Nā'ālehu and Pāhala LCC Conversion Project. The following are examples of non-point source projects that are eligible for CWSRF funding:

- Replacement of cesspools with septic tanks, aerobic units, or treatment plants.
- Equipment purchase of street sweepers and catch basin vacuum vehicles; sediment traps and basins.
- Capping and closure of municipal solid waste landfills, landfill reclamation, landfill leachate collection, storage and treatment, and landfill gas collection and control systems.
- Brownfield projects eligible include site assessments, UST removal and disposal, contaminated soil or sediment removal and disposal, capping wells or soil, remediation of stormwater runoff, and monitoring groundwater and surface water for contaminants (EMD, no date).

Environmental Assessment Documents (EAD's) Compliance

The State DOH oversees the environmental review process for all CWSRF proposed projects so that they are in compliance with all State and Federal requirements. Under the CWSRF Program requirements, Environmental Assessment Documents (EADs) are required to provide an assessment of the impact of a proposed project on the local environment. These EADs consist of an Environmental Assessment, the EA Checklist, and a Certification form.

Under program requirements, the EAD's need to address various criteria which are: 1) OEQC criteria related to environmental documents; 2) State environmental review process (SERP) criteria; and 3) Federal criteria which consist of various Federal "cross-cutting" authorities. Following the procedures and requirements of Chapters 343, HRS and Title 11, Chapter 200, HAR addresses the OEQC and SERP criteria (DOH, 2005). This Final EA thus includes the information and forms to address these criteria associated with these EAD's in compliance with these CWSRF Program requirements.

1.2 LAND USE CLASSIFICATIONS AND DESIGNATIONS

Information on the existing State and County land use designations associated with the project sites and surrounding areas are provided along with applicable figures to graphically show them. Discussion of the project's consistency with these land use designations and applicable regulations are provided later under the plans and policies chapter in this document.

1.2.1 State Land Use District

Under Chapter 205, HRS, all lands in the State of Hawai'i are classified into four major land use districts (State Land Use Districts) which are the Urban, Rural, Agricultural, and Conservation districts. Permitted uses within these districts are prescribed under Title 13, Chapter 205 (Land Use Commission), HRS, and the State Land Use Commission's Administrative Rules prescribed under Title 15, Subtitle 3, Chapter 15, HAR. Land uses within Urban Districts are governed by the ordinances or regulations of the county within which the urban district is situated.

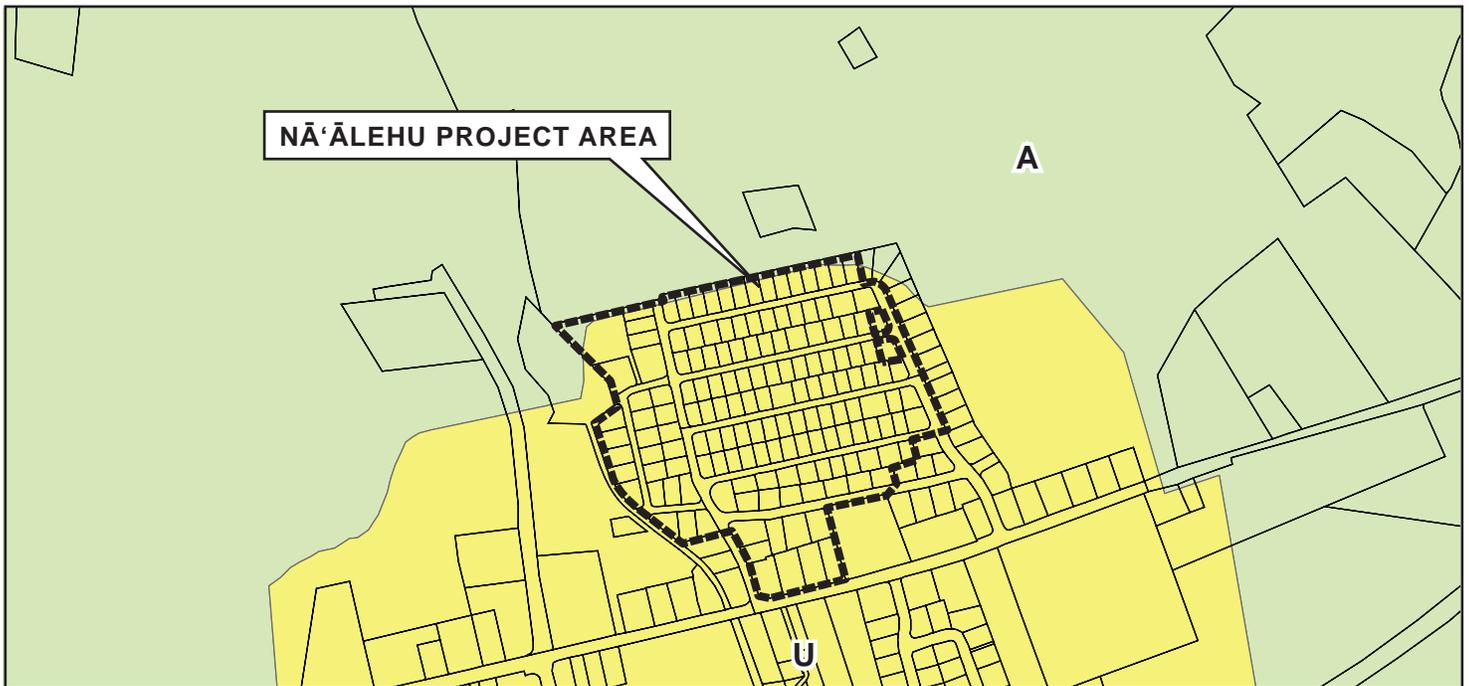
The State Land Use Commission Land Use District Boundary Map for the Nā'ālehu community indicates that the proposed sewer system improvements and service area along with the immediate surrounding areas would occur predominantly within properties designated as "Urban District". There are a few residential lots to be serviced that are designated both "Agricultural District" and "Urban District". However, the sewer system improvements would occur within property entirely within the Urban District. Consequently, land use jurisdiction over the sewer improvements proposed would fall under the County of Hawai'i.

The Boundary Map for the Pāhala community indicates that the proposed sewer system improvements and service area along with the immediate surrounding areas are also designated as "Urban District". Land use jurisdiction over sewer system improvements within this community would fall under the County of Hawai'i. Figure 1.3 shows the land use district classifications associated with both the Nā'ālehu and Pāhala communities.

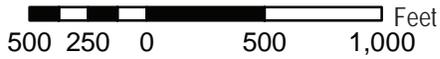
1.2.2 County of Hawaii General Plan

The County of Hawai'i's *General Plan* was updated last year, and adopted under Ordinance 05-69. This *General Plan* serves as a policy document for the long-range comprehensive development of the island of Hawai'i. It is used to guide the pattern of future development in the County based upon long-term goals based upon the visions, values, and priorities important to the people of the County (County of Hawai'i, 2005). The updated Land Use Pattern Allocation Guide (LUPAG) Maps from this *General Plan* thus establish the future land use patterns for the County which includes the communities of Nā'ālehu and Pāhala. Figure 1.4 shows the LUPAG land use designations for the Nā'ālehu and Pāhala communities.

The sewer system improvements planned within the communities of Nā'ālehu and Pāhala will affect properties predominantly designated as "Low Density Urban" and "Medium Density Urban" uses. As shown on the LUPAG figure, the majority of parcels affected within these communities are designated Low Density Urban. In Pāhala, some parcels affected by the sewer improvements are situated within the "Industrial" land use designation. The project improvements planned would not conflict with the LUPAG designations for affected parcels which also include County roadways. Discussion of the project's consistency with the *General Plan* is provided in Chapter 7 of this document.



GRAPHIC SCALE



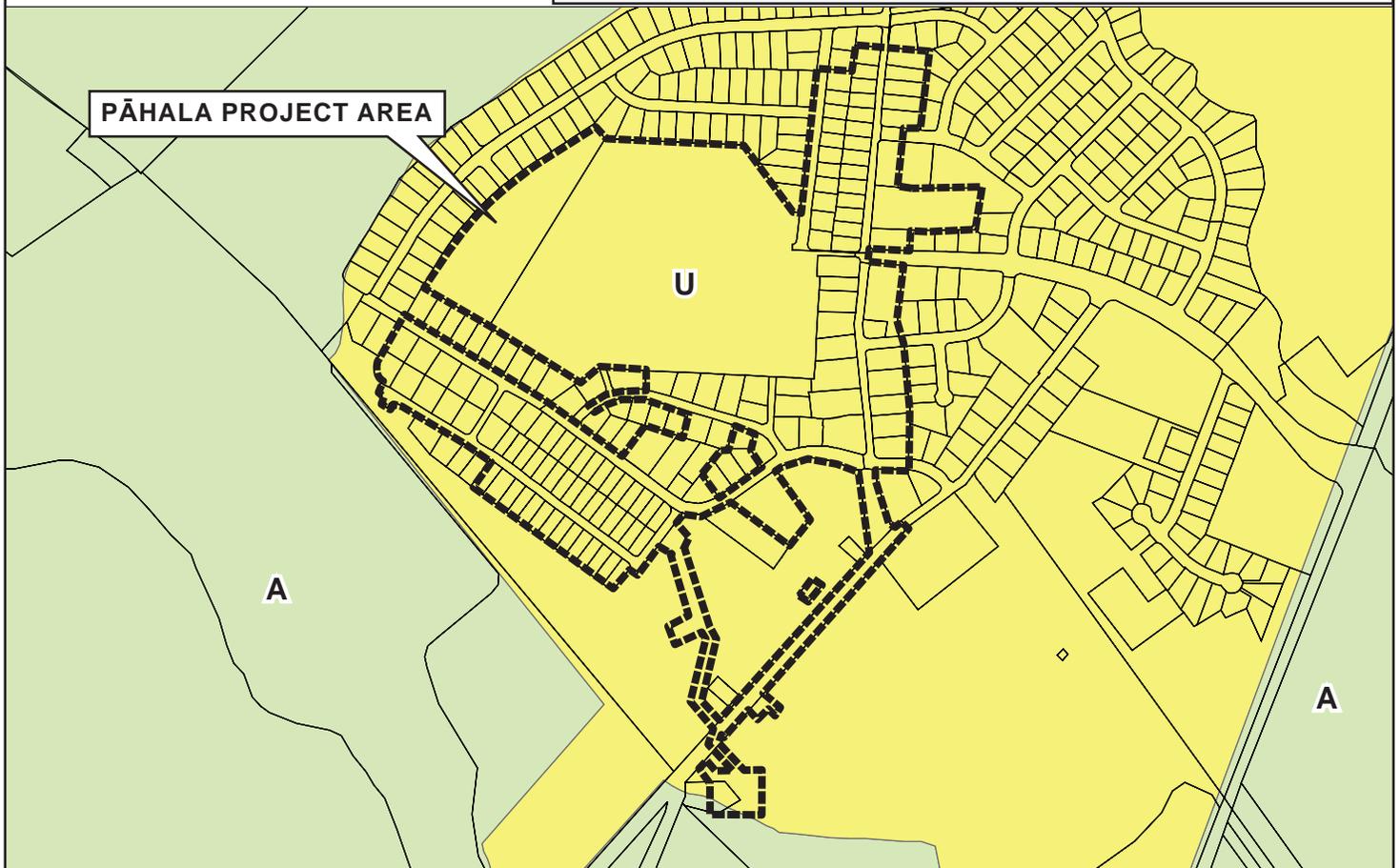
LEGEND

A - Agricultural

R - Rural

C - Conservation

U - Urban



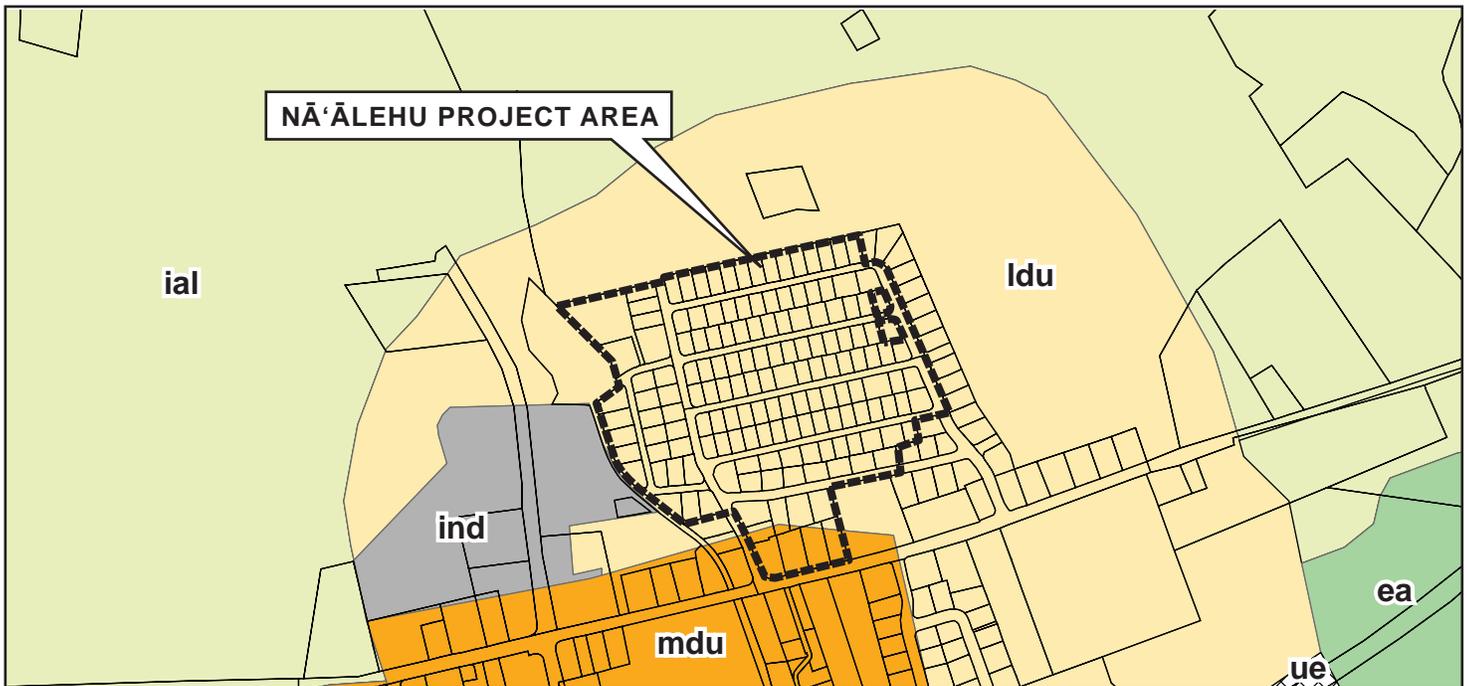
**NĀ'ĀLEHU AND PĀHALA
STATE LAND USE DISTRICT MAP**

*Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
County of Hawai'i, Department of Environmental Management*

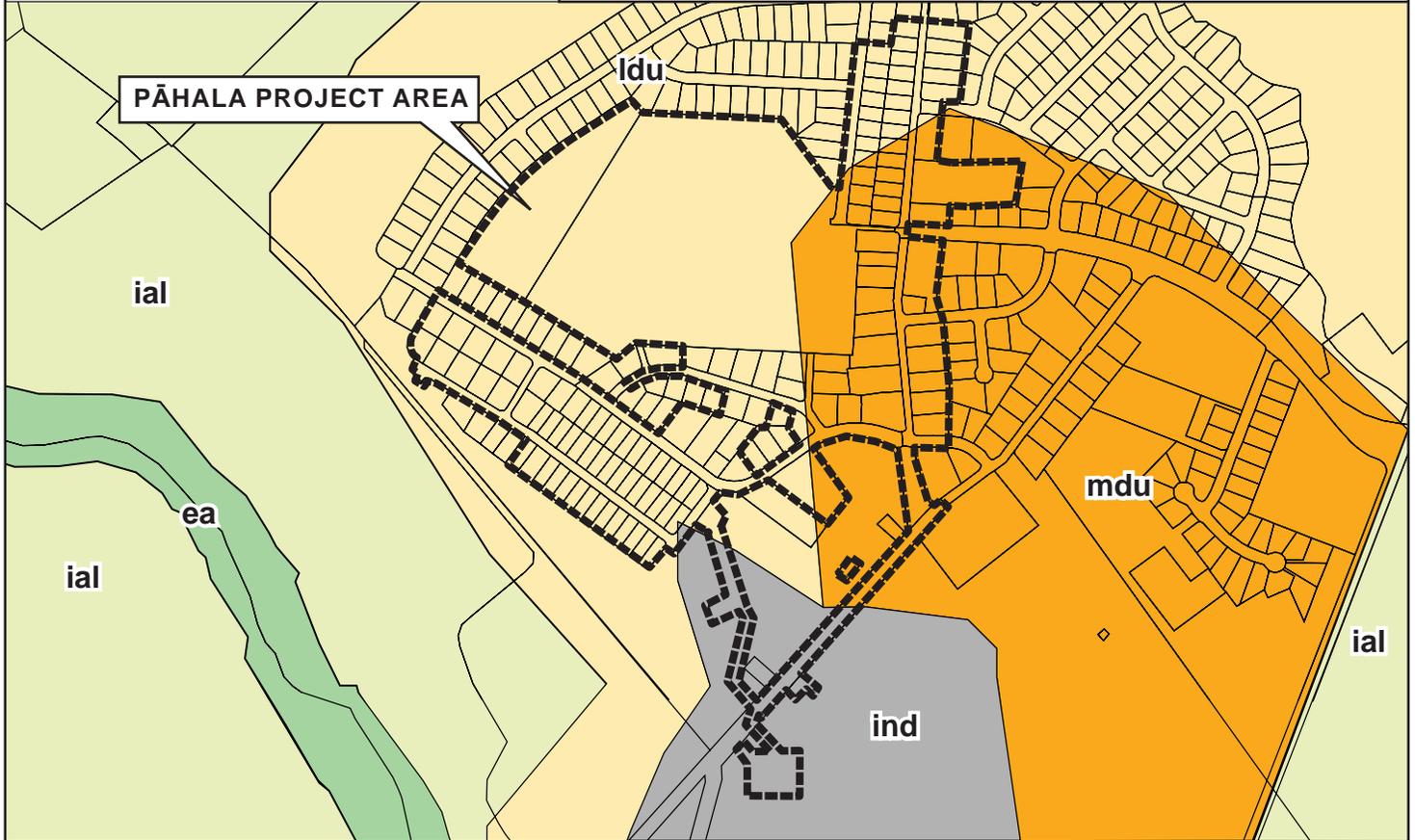
Figure 1.3

*Source:
State of Hawaii, Office of Planning
(2006)*





 <p>GRAPHIC SCALE</p>  <p>500 250 0 500 1,000 Feet</p>	LEGEND	
	 ldu - Low Density Urban	 ial - Important Agricultural Lands
 mdu - Medium Density Urban	 ea - Extensive Agriculture	
 ue - Urban Expansion	 ind - Industrial	



<h3>NĀ'ĀLEHU AND PĀHALA LAND USE PATTERN ALLOCATION GUIDE MAP</h3> <p><i>Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project</i> County of Hawai'i, Department of Environmental Management</p>		<h3>Figure 1.4</h3> <p>Source: County of Hawai'i, Planning Dept. (2005)</p>	
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1.2.3 County of Hawai'i Zoning District

The Zoning Code for the County is prescribed under Chapter 25 of the *Hawai'i County Code 1983* (2005 Edition). This Zoning Code is applied and administered within the framework of the *General Plan*, and for the purpose of promoting health, safety, morals, or the general welfare of the County. This chapter regulates land use development covering various areas such as restrictions on height, size of buildings, and other structures, off-street parking requirements, setbacks, open spaces, the density of population, and the location and use of buildings, structures, and land for trade, industry, residence, or other purposes (County, June 2005).

Under the Zoning Code, various zoning districts are established which regulate the type of development and permitted uses of property, and are depicted on zoning district maps. The zoning districts established for the Nā'ālehu and Pāhala project areas are shown on Figure 1.5.

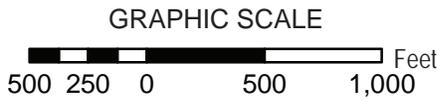
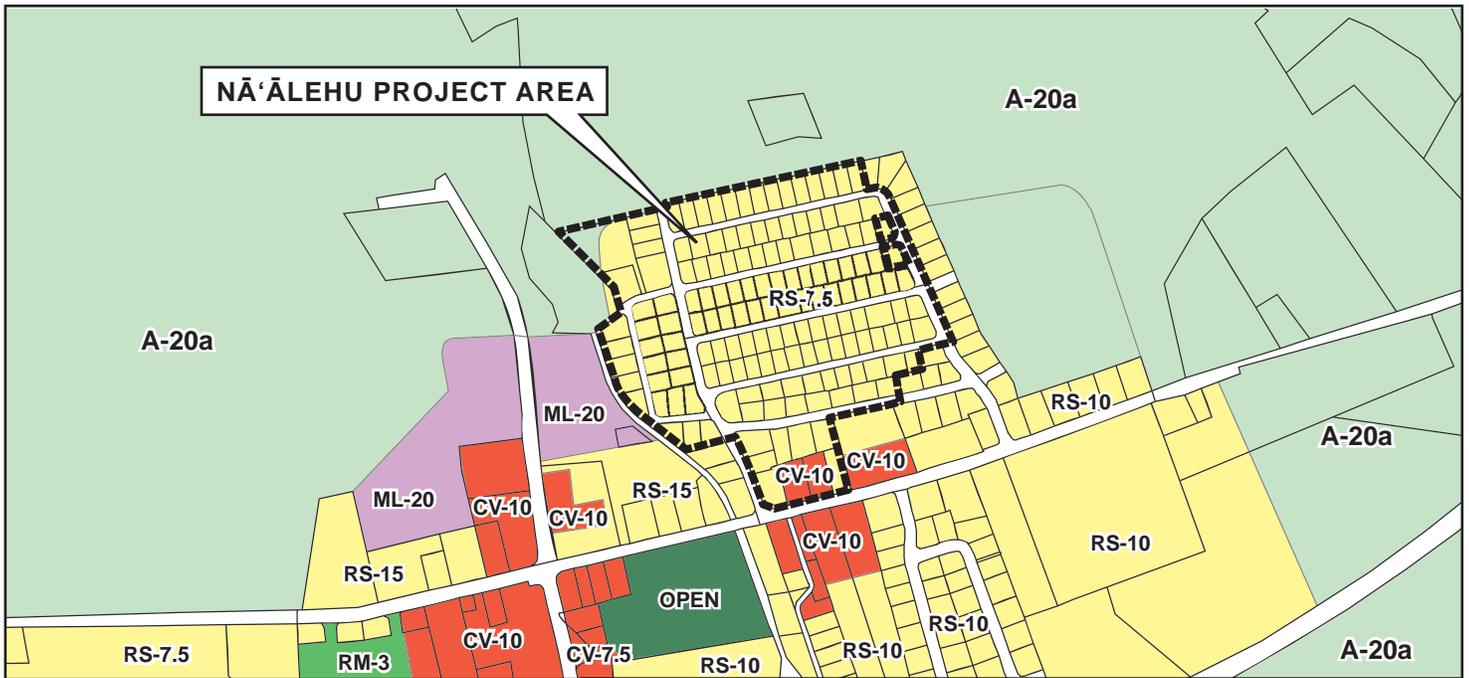
The Nā'ālehu project area encompasses lands predominantly zoned Single-Family Residential District (RS-7.5), with some parcels zoned Village Commercial District (CV-10). The Pāhala project area encompasses lands consisting of several different zoning districts. As shown on Figure 1.5, these districts include Single-Family Residential District (RS-7.5, RS-10, and RS-15), Village Commercial District (CV-10), Open District, and Limited Industrial District (ML-20).

This project would be consistent with the County's Zoning Code because it involves a government function for public benefit by providing improved and more reliable sewer collection service to the community. Such use is permitted in any zoning district. Greater discussion of the project's consistency with the Zoning Code is provided in Chapter 7.

1.2.4 Special Management Area

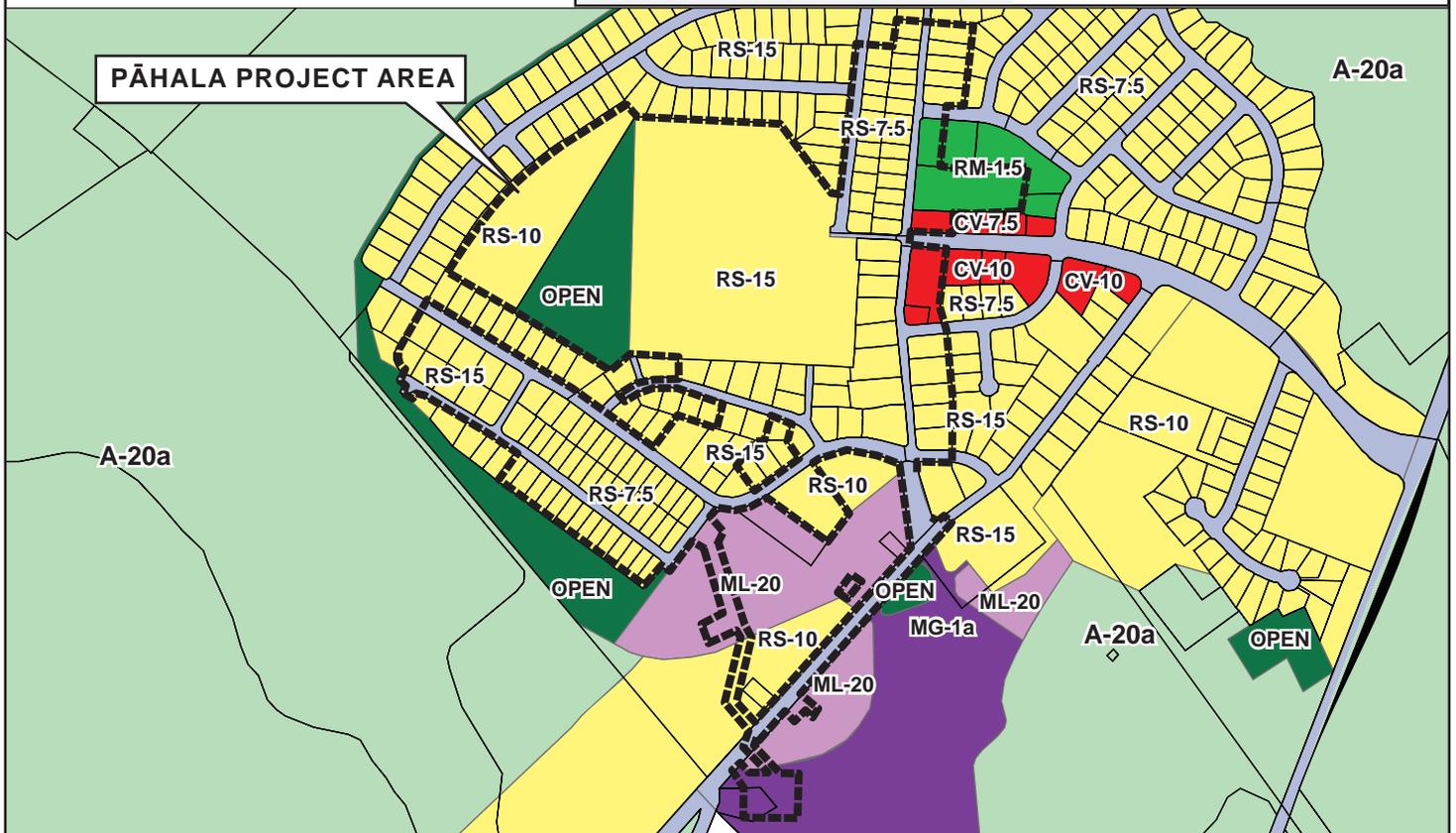
Under Chapter 205A (Coastal Zone Management), HRS, the County is given authorization to regulate land uses located within the established Special Management Area (SMA) for the Island of Hawai'i. Review of the County of Hawai'i's Special Management Area map for the Ka'u district determined that the Nā'ālehu and Pāhala project areas are outside of the SMA boundary. The SMA boundary near these communities generally runs along the coastline up to about 1,000 feet inland.

The improvements planned along with these communities are situated well inland of this boundary. As a result, this project is not subject to the County of Hawai'i assessment and processing procedures established under the Planning Commission's Rule 9, Special Management Area.



LEGEND

A - Agricultural	OPEN
CV - Village Commercial	RM - Multiple-Family Residential
ML - Limited Industrial	RS - Single-Family Residential
MG - General Industrial	



PĀHALA PROJECT AREA

**NĀ'ĀLEHU AND PĀHALA
COUNTY OF HAWAII ZONING DISTRICTS**

*Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
County of Hawai'i, Department of Environmental Management*

Figure 1.5

*Source:
County of Hawai'i, Planning Dept.
(2005)*



CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND VICINITY

The Nā'ālehu and Pāhala LCC Conversion Project is located on the southeastern end of the Island of Hawai'i in the Ka'ū District. The Ka'ū district is the largest in area on the island but has the second smallest population. This district includes communities extending from West Hawai'i to South Point and to East Hawai'i. Such communities on the eastern end of the island include the Nā'ālehu and Pāhala communities along with Punalu'u, Wai'ōhinu, and Honu'apo.

2.1.1 Project Location

Both the Nā'ālehu and Pāhala communities were established as a result of the area's major sugar operations, and provided housing for many of the industry's employees. Although the Ka'ū Sugar Company closed in 1996, many of the current residents within these communities consist of former sugar workers and their descendants. Māmalahoa Highway (Highway 11) is the only State highway facility providing vehicular access to and from the communities within this district.

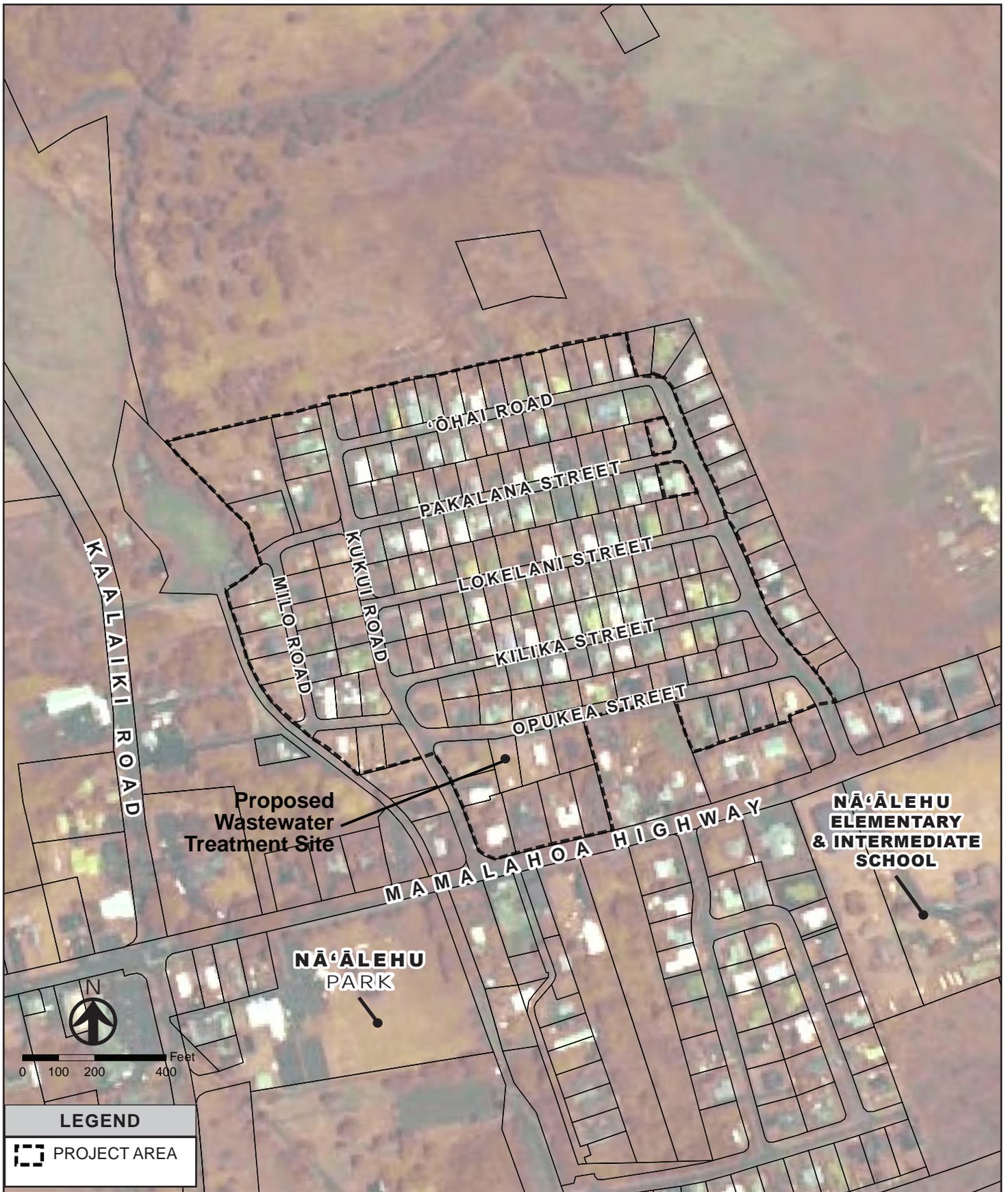
Nā'ālehu Community Location

The Nā'ālehu community is located on the northeastern end of this Ka'ū district approximately 12 miles south of the Pāhala community. This community generally encompasses an area of about 2.16 square miles (about 1,380 acres) situated inland (mauka) of Māmalahoa Highway. The areas to be provided sewer system service or affected by the proposed improvements are shown on a vicinity map on Figure 2.1.

As shown on the figure, the project area includes primarily residential lots associated with the subdivision. The project area encompasses approximately 33.3 acres and is generally bounded by Ohai Road to the north and east, Milo Street to the west, and Mamalahoa Highway to the south. The project area includes several parcels or portions of them associated with the following Tax Map Key (TMK) plats: (3) 9-05-024; 9-05-025; and 9-05-026.

Pāhala Community Location

The Pāhala community is located on the northeastern end of this Ka'ū district. This community generally encompasses an area of about 0.8 square miles (512 acres) situated inland (mauka) of Māmalahoa Highway. The areas to be serviced or affected by the proposed improvements are shown on a vicinity map on Figure 2.2.



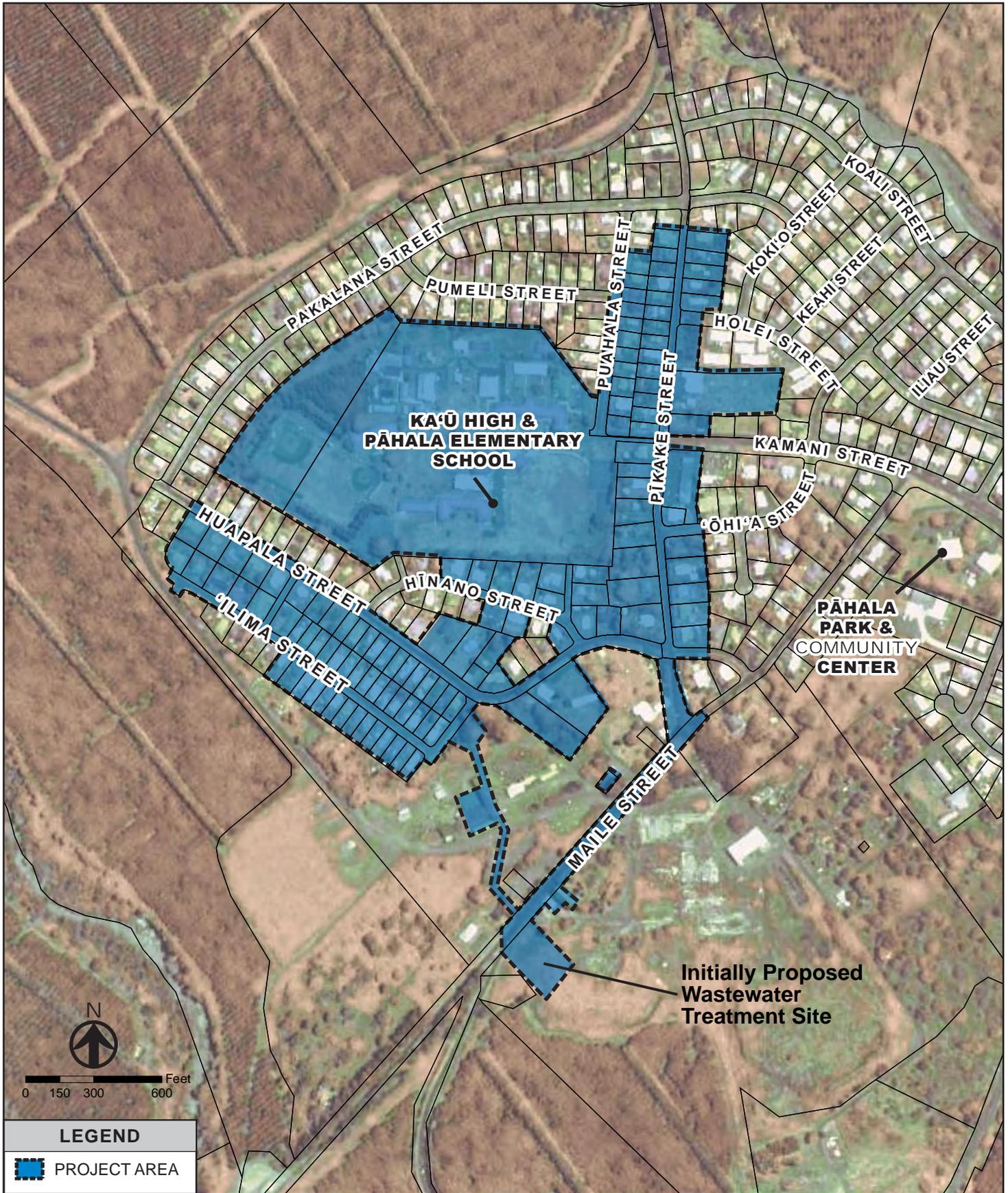
NĀ'ĀLEHU DETAILED VICINITY MAP

Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
 County of Hawai'i, Department of Environmental Management

Figure 2.1

Source:
 USDA Geospatial Data Gateway (Aerial)
 County of Hawai'i Planning Dept. (GIS Data)





PAHALA DETAILED VICINITY MAP

Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
 County of Hawai'i, Department of Environmental Management

Figure 2.2

Source:
 USDA Geospatial Data Gateway (Aerial)
 County of Hawai'i Planning Dept. (GIS Data)



As shown on the figure, the project area includes several residential lots, some vacant areas, and the Ka'ū High and Pāhala Elementary School site. This project area encompasses approximately 61.7 acres and is generally bounded by Pakalana Street to the north, Pikake Street to the east, Maile Street to the south, and Ilima Street to the west. The project area includes several parcels or portions of them associated with the following Tax Map Key plats: (3) 9-06-002; 9-06-005; 9-06-014; 9-06-015; 9-06-016; 9-06-017, 9-06-018, and 9-06-020.

2.1.2 Existing Surrounding Uses

The existing settlement pattern in the Ka'ū district is rural in character with small communities established at various locations along the highway separated by large areas of agricultural land. Agriculture is the economic mainstay of the Ka'ū region with coffee, orchids, vegetables, flowers, and macadamia nuts grown. There are also several cattle ranches present in the district that utilize vast acreages of grazing lands. As a result, surrounding land uses around the communities of Nā'ālehu and Pāhala are primarily agricultural related.

Within the Nā'ālehu project area, surrounding uses similarly consist of existing residences along with some undeveloped areas. The Nā'ālehu Elementary and Intermediate School site and Nā'ālehu Park are prominent features in the vicinity of the project area situated across (makai) the highway. Other surrounding uses situated primarily along the highway include a few restaurants and commercial businesses.

Within the Pāhala project area, surrounding uses generally consist of existing residences along with some undeveloped areas. The majority of sewer improvements would consist of collection lines constructed within existing roadways. The Ka'ū High and Pāhala Elementary School site is a prominent feature within the project area that would be serviced by the sewer improvements. Other uses surrounding the project area include the Pāhala Park and Community Center, the Ka'ū Hospital and Rural Health Clinic, and a few commercial businesses.

2.1.3 Background on Existing Sewer Collection System

In the Ka'ū district, there are no existing County wastewater treatment plants to provide treatment and disposal of wastewater generated from communities. The closest County wastewater treatment plant is located in the town of Hilo which is approximately 50 miles north of the town of Pāhala. Consequently, sewer collection and disposal for the Nā'ālehu and Pāhala communities have been thru the use of large capacity cesspools, or LCCs.

The existing sewer systems serving both the Nā'ālehu and Pāhala communities are comprised of a series of collection lines running across various residential parcels throughout the subdivisions. These sewer collection systems collect and convey wastewater from residences or other properties to large capacity cesspools for disposal. These gravity fed sewer lines are owned and have been maintained by C. Brewer Corporation. Sewer easements for these lines have been established in favor of C. Brewer Corporation.

A concern associated with these existing sewer lines and easements is that permanent or semi-permanent structures have been constructed over the easements on some parcels by homeowners. In addition, the condition of these existing sewer lines is unknown.

In Nā‘ālehu, a total of 165 lots are presently serviced by existing LCCs in the project area. There is one existing LCC that collects residential wastewater from 155 lots and one non-residential lot. This LCC is situated on a portion of a property identified as TMK 9-05-024: 011 located along Opukea Street. There are also eight (8) other residential lots which connect to another C. Brewer Corporation sewer collection and LCC system in the area. Another large lot (TMK 9-05-024: 007) used as a fruit stand has its own LCC system in the area.

In Pāhala, a total of 127 lots are serviced by existing LCCs in the project area. There is one existing LCC which collects wastewater from 106 residential parcels and 2 non-residential parcels. The LCC serving these lots is situated on a portion of a larger property identified as TMK 9-06-002: 016 located to the south of the Maile Street and Lower Maoula Road intersection. There are also eight (8) other residential lots that are served by another C. Brewer Corporation sewer collection and LCC system in the area. Another 11 non-residential properties in the project area are presently served by other separately owned LCCs.

2.2 PROJECT AREA CONDITIONS

2.2.1 Improvements Area and Ownership Information

The majority of property affected by the planned construction of sewer improvements will occur within County-owned roadways. However, there are some privately-owned parcels or portions of them that would also be used for improvements such as sewer lines or septic tanks with possible leach field areas. Information associated with these roadways and properties are identified below.

Nā‘ālehu Community

In Nā‘ālehu, the following seven (7) roadways would be used for the construction of a new sewer collection system.

- Ohai Road
- Lokelani Street
- Opukea Street
- Milo Road
- Pakalana Street
- Kilika Street
- Kukui Road

These roads in Nā‘ālehu are all under the jurisdiction of the County of Hawai‘i, and generally consist of two-laned roadways either striped or unmarked serving residential areas of this community. These roads have unpaved shoulders and sidewalks. There are some open grassed areas present along some roadways which are frequently used for parking. Figure 2.1 previously showed the location of these roadways, and some photos showing the general character are provided below. Appendix A also includes some photos of this project area.



Photos showing typical existing conditions present along roadways in Nā'ālehu.

There is one privately-owned property that is planned to be acquired for use as part of the sewer improvements for Nā'ālehu. This parcel is undeveloped, and was previously shown on Figure 2.1. There is an existing LCC already present on this property serving several parcels in the area. Information associated with this property is identified below, and Figure 2.3 graphically identifies its location along with proposed roadways affected in relation to the County's Tax Maps.

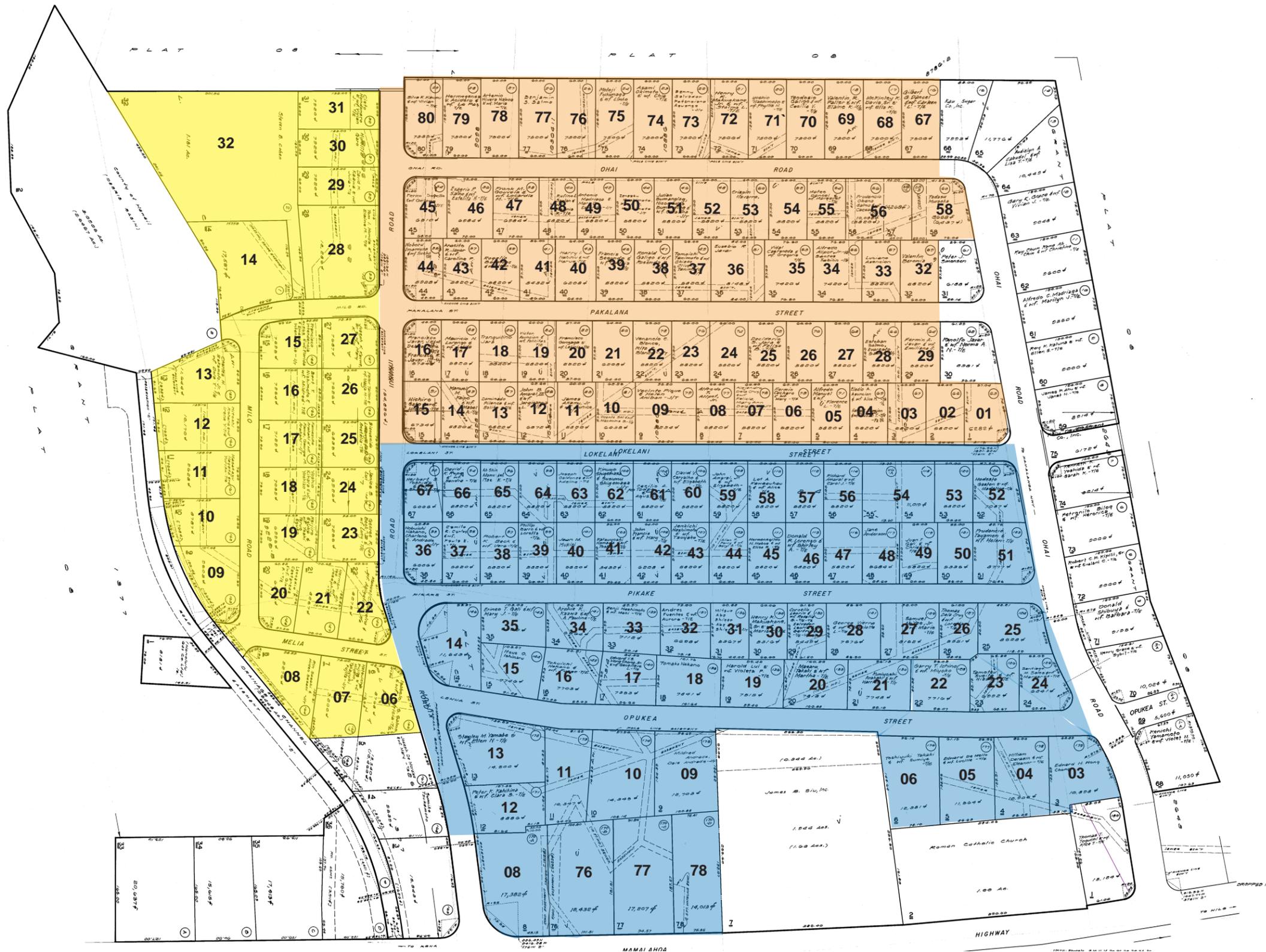
	TMK Parcel	Acreage	Projected Use of Site
1.	9-05-024: 011	0.235 acres	Septic tanks/seepage pit
	This property is undeveloped and currently used for the existing LCC.		

Pāhala Community

In Pāhala, the following seven (7) roadways would be used for the construction of a new sewer collection system.

- Maile Street
- Huapala Street
- Ilima Street
- Puahala Street
- Pikake Street
- Hala Street
- Hinano Street

These roads are all under the jurisdiction of the County of Hawai'i, and generally consist of two-lane roadways either striped or unmarked which serve the residential areas of this community. These roads have unpaved shoulders and no paved sidewalks. Open grassed areas present along some roads are frequently used for parking. Figure 2.2 previously showed the location of these roadways, and some photos showing the general character are provided below. Appendix A includes some photos of the project area.



LEGEND

Project Service Area
Tax Map Plats

- TMK 9-05-024
- TMK 9-05-025
- TMK 9-05-026

TAX MAP SHOWING PROJECT AREA FOR NĀ'ĀLEHU

Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
County of Hawai'i, Department of Environmental Management

Figure 2.3

Source:
SSFM International Inc.





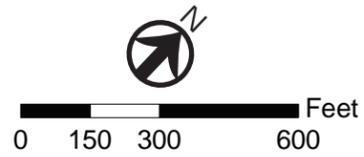
Photos showing typical existing conditions present along roadways in Pahala.

Portions of privately-owned property are also planned to be used for sections of the sewer collection system along with the treatment and disposal of wastewater. The land area required for the treatment and disposal of wastewater would involve approximately 2.5 to 3.0 acres since it will include a leach field.

Initial plans were to utilize a portion of property identified as TMK 9-06-002: 016 for the treatment and disposal of wastewater from this sewer system. However, the landowner has since indicated that they may not want to reuse the existing location of the LCC for such use.

Consequently, another site on the same parcel may need to be utilized for treatment and disposal, but such a site is subsequently undermined at this time. If a new site is necessary, a Supplemental Environmental Assessment document will be prepared and processed to address the probable effects associated with its use for the treatment and disposal of wastewater.

	<u>TMK Parcel</u>	<u>Acreage</u>	<u>Projected Use of Site</u>
1.	9-06-002: portion of 016 The portion of the property to be used is undeveloped.	66.72 acres	Sewer line and septic tanks/leach field
2.	9-06-005: portion of 036 The portion of the property to be used for the sewer line is undeveloped, but located near existing structures.	25.35 acres	Sewer line
3.	9-06-005: portion of 044 The property consists of a section of roadway that is privately-owned.	0.44 acres	Sewer line



LEGEND	
Project Service Area Tax Map Plats	
	TMK 9-06-002
	TMK 9-06-005
	TMK 9-06-014
	TMK 9-06-015
	TMK 9-06-016
	TMK 9-06-017
	TMK 9-06-018
	TMK 9-06-020

(The Board of Home Missions and Church Extension of the Methodist Episcopal Church) (e.)



TAX MAP PROJECT SERVICE AREA FOR PĀHALA

Figure 2.4

2.2.2 Project Service Area

This project is intended to provide improved sewer service to portions of the communities of Nā'ālehu and Pāhala that have been serviced by C. Brewer Corporation's private sewer system for many decades. Consequently, the sewer collection and treatment system improvements are intended to primarily serve residential properties within these communities under C. Brewer Corporation's system. Figures 2.1 and 2.2 previously showed the project areas included under study and assessed under this document.

The proposed service area for the Nā'ālehu sewer collection system is generally bounded by Ohai Road to the north and east, Milo Street to the west, and Māmalahoa Highway to the south. This service area encompasses a total of about 33.3 acres. Sewer improvements will service predominantly residential lots as previously shown on Figure 2.1. Provisions have also been made to include sewer collection service to a commercial site on property situated at the corner of Kukui Road with Māmalahoa Highway that was already connected to C. Brewer Corporation's sewer system. Further details associated with service areas and improvements are discussed later.

The proposed service area for the Pāhala sewer system is generally bounded by Pakalana Street to the north, Pikake Street to the east, Maile Street to the south, and Ilima Street to the west. This service area encompasses a total of approximately 61.7 acres. The majority of residential lots being serviced are located along these streets.

In addition, several non-residential properties along Pikake Street will be serviced. As shown on previous Figures, two existing lots along Maile Street will be serviced along with existing structures within an industrial site. Provisions have also been made to include providing sewer collection service to the Ka'ū High and Pāhala Elementary School site based upon the County DEM's prior discussions with the State Department of Education. Further details associated with service areas and improvements are discussed later.

2.3 PROJECT NEED AND OBJECTIVES

2.3.1 Need for Project

In 1998, the U.S. Environmental Protection Agency (EPA) promulgated regulations under 40 CFR 144.14 requiring the elimination of all large capacity "gang" cesspools presently used for wastewater disposal. Under these regulations, such existing LCCs need to be closed by April 5, 2005. Consequently, the County of Hawai'i is required to eliminate all large capacity "gang" cesspools presently used for wastewater disposal under these regulations issued by the U.S. EPA. However, due to the quantity of LCC's that presently exist throughout Hawai'i County, EPA officials and County officials have worked together to reach an agreement that allots the County a longer timetable to close these LCCs.

LCCs were banned by the EPA because untreated sewage is disposed into these cesspools. This disposal method raises public health and environmental concerns because they allow untreated sewage to percolate directly into the soil and ground water. This increases the likelihood of releasing disease causing pathogens and other contaminants, such as nitrate, into groundwater aquifers, streams, and eventually the ocean. Consequently, improved treatment methods for sewage are needed to mitigate such concerns and effects on the environment.

Background on Large Capacity Cesspools

Large capacity cesspools are defined as a cesspool serving multiple (two 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).

A cesspool is considered an LCC if it receives sanitary waste from multiple dwellings. 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. 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 includes schools, churches, visitor centers, golf course clubhouses, park restroom facilities, retail businesses, restaurants or food establishments, hotels, and commercial or industrial uses.

Pāhala and Nā'ālehu Community LCCs

The Nā'ālehu and Pāhala residential lots were generally established as communities to service the plantation operations in the early 1900s. Thus, many of the current residents of the Nā'ālehu and Pāhala communities consist of former plantation workers or their descendants. The sewer systems constructed and serving these two communities for the last 60 years consist of sewer lines for collection and LCCs for disposal that have been maintained and operated by the plantation landowner which is C. Brewer Corporation.

The Ka'u Sugar Company closed in 1996, and consequently the C. Brewer Corporation will be dissolving. Therefore, the future maintenance and responsibilities associated with the existing sewer system and LCCs need to be planned for and addressed. The C. Brewer Corporation is subsequently proposing to turn over these sewer systems to the County. The County thus needed to develop a plan to address these issues affecting these communities given the EPA requirements for closures of LCCs.

2.3.2 Project Objectives

The County DEM has subsequently initiated this proposed sewer system project due to the EPA mandate to close existing LCCs and the C. Brewer Corporation's plan to dissolve which affects the existing sewer systems serving the Nā'ālehu and Pāhala communities. This project is intended to address the closure of these LCCs within the Nā'ālehu and Pāhala communities, and to construct a new sewer collection and treatment system. The County has consulted with both the community and C. Brewer Corporation to properly address and resolve improvements needed.

The objective of this project is to service those properties that are currently serviced by the C. Brewer Corporation's existing sewer system. The County is subsequently proposing to construct a new sewer collection system located within the public rights-of-way, and replace the existing LCC's with approved individual wastewater systems for treatment such as septic tanks, aerobic treatment units, etc. to achieve this objective.

In addition, the County has also identified other properties in Pāhala that will be allowed to connect to the new sewer system. These other properties are in the vicinity of the service area, and are presently connected to other privately owned LCC's. Such properties include Ka'ū High and Pāhala Elementary School site and some commercial sites. Stub-outs for connection points to the sewer system will be provided for these other properties. However, it will be the respective property owners' responsibility to design and construct the connection and to properly close their LCCs. These additions will support the County's objective of closing LCCs under the EPA requirement.

2.4 DESCRIPTION OF PROJECT

This section discusses the proposed sewer collection system improvements and the treatment and disposal method planned to service the proposed areas within the Nā'ālehu and Pāhala communities. Design criteria and guidelines were used to estimate projected flows from these service areas to size the sewer collection and treatment system.

2.4.1 Project Design Criteria

The design of the proposed sewer system improvements was based upon several guidelines and criteria. Based upon these criteria, alternatives were developed that were evaluated by the County DEM which resulted in the eventual selection of the proposed collection system improvements and disposal methods.

The *Design Standards of the Department of Wastewater Management, Volume 1*, (July, 1993) of the Department of Wastewater Management, City and County of Honolulu, State of Hawai'i (henceforth referred to as C&C Standards) was used for the design of the wastewater collection system. The requirements under Chapter 11-62, HAR were used to design the individual wastewater treatment systems since the C&C Standards didn't provide design criteria for approved treatment system units (septic tanks or small-scale wastewater treatment units).

The design period used for both the Nā‘ālehu and Pāhala communities to address treatment of flows and the sizing of the collection system was 20 years (2026). The system’s design was based on accommodating current estimated flows from those parcels under C. Brewer Corporation’s system, and additional flows from other properties currently served by other privately-owned LCC’s that will be allowed to connect to the system.

None of the parcels within the project’s service area or in the immediate vicinity were identified as future growth areas under the County *General Plan’s* LUPAG map for this district. It was thus assumed that each parcel within the study areas would retain its current zoning during the design period (20 years). There are no known sewer master plans available for this region that indicate future growth or significant changes the land use associated with these communities.

Therefore, future wastewater generation calculations were based upon each parcel’s current zoning district to establish its land use and the C&C Standards. The resulting wastewaters estimated from these service areas are as follows:

- | | | | |
|----|-----------------------|-------------|-------------------------|
| 1. | Nā‘ālehu Service Area | 164 parcels | 103,800 gallons per day |
| 2. | Pāhala Service Area | 127 parcels | 117,300 gallons per day |

Treatment units would be designed to accommodate projected wastewater flows from the proposed service areas for these communities. Infiltration/inflow (I/I) was also considered in the design to handle the peak wet weather flows without wastewater spills. The sizing methodology indicated under Chapter 11-62, HAR was used to estimate the required/design volumes of the proposed treatment units.

2.4.2 Overall Improvements Proposed

Sewer system improvements planned for Nā‘ālehu and Pāhala will consist of three components which are: 1) sewer collection system, 2) wastewater treatment, and 3) wastewater disposal. The County will be responsible for these new systems, and will implement a maintenance program to continually inspect and monitor these systems in order to prevent system failures.

Sewer collection system improvements will consist of constructing new sewer mains and laterals within the public roadway rights-of-way to serve designated areas within Nā‘ālehu and Pāhala. Approved individual wastewater systems consisting of septic tanks will be used for the treatment of wastewater collected. Effluent from the septic tanks will be disposed through the use of seepage pits or leach fields to allow the effluent to percolate into the ground.

The existing LCC serving properties under the C. Brewer Corporation sewer system for Nā'ālehu will be utilized under this project as a seepage pit for wastewater disposal. The existing LCC serving properties in Pahala will be closed because a septic tank system with leach field will probably be utilized for wastewater treatment and disposal. This Pahala LCC may not be permitted for reuse as a seepage pit for the new sewer system because it is located mauka (above) of the State DOH's regulated underground injection control line, and will accommodate additional flows from new properties being connected.

The LCCs for the other additional parcels being serviced under this County project will be closed by each respective property owner. The sewer connections from each parcel under the C. Brewer Corporation existing system to the new collection system will be the responsibility of and implemented by C. Brewer Corporation. Sewer connections for the other additional parcels to the system will be the responsibility of each respective property owner.

Department of Health Variance for Individual Wastewater Systems

There are no existing public wastewater treatment plants within or in close proximity to the Nā'ālehu and Pāhala communities. The closest County wastewater treatment plant is in Hilo, approximately 50 miles to the north of Pāhala. As a result, connecting these communities to a wastewater treatment plant for disposal is not feasible or practical.

Therefore, the County is proposing to replace the existing LCC's with an approved treatment system consisting of individual wastewater systems such as septic tanks, aerobic treatment units, etc. However, the expected volume of wastewater to be disposed from these two communities would not comply with the State Department of Health's (DOH) current rules and regulations for wastewater systems. Such rules are specified under Title 11, Department of Health, Chapter 62, Wastewater Systems, *Hawai'i Administrative Rules* (January, 2004).

Under these regulations, "individual wastewater systems" is defined as a facility which is designed to receive and dispose of not more than 1,000 gallons per day of domestic wastewater. Expected flows from these communities would exceed this 1,000 gallon per day limitation. Community wastewater systems, such as small aerobic package treatment and disposal systems, could be built and meet the State DOH requirements under Chapter 11-62, HAR. However, the residents from the Nā'ālehu and Pāhala community along with the County cannot practically afford the costs for constructing and operating such systems. The operational costs of packaged secondary treatment systems are also relatively very high.

To address this, the County was granted a variance from the State DOH from the pertinent rules associated with Chapter 11-62, HAR. This variance was approved in April 2004 under Docket No. 03-VWW-06, and permits the County to use individual wastewater systems for treatment of wastewater generated by the Nā'ālehu and Pāhala communities. The County will also be responsible for the operation and maintenance of the septic tanks and disposal systems (DOH, 2004).

2.4.3 Nā‘ālehu System Improvements

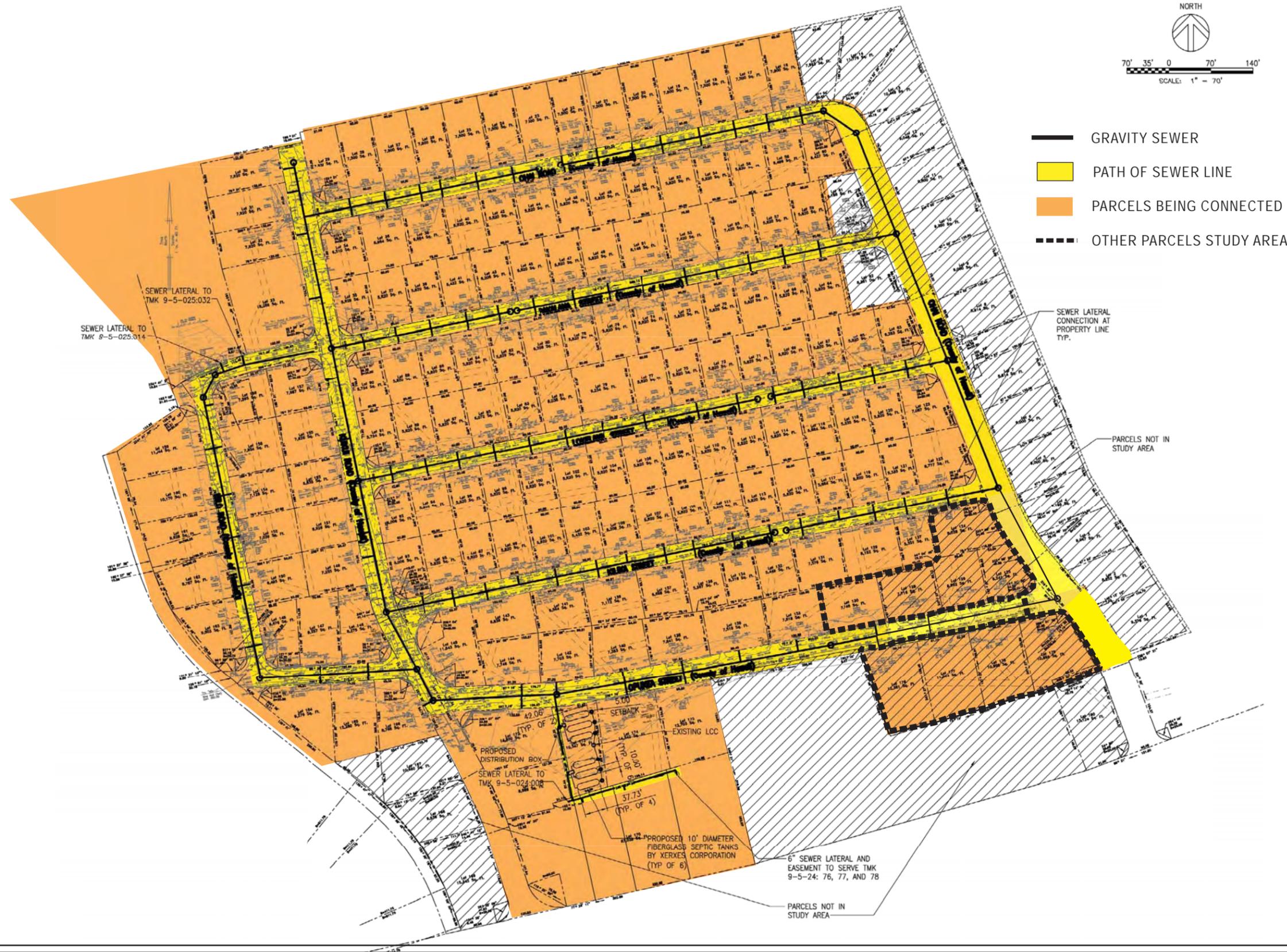
A new sewer collection system serving designated properties within Nā‘ālehu would consist of installing new gravity sewer mains within the rights-of-way of several existing roadways. These sewer mains would be 8-inch lines and total about 8,360 lineal feet in length. Plastic covers on new sewer manholes installed with this system is similarly planned to be used to limit the amount of storm water inflow into the system. Figure 2.5 shows the preliminary plans for these improvements.

These sewer mains would generally gravity flow from the northern side of the area to the southern side. As shown on Figure 2.5, sewer mains generally routed in an east-west direction would be located within a section of Ohai Road, Pakalana Street, Lokelani Street, and Kilika Street, and Opukea Street. Sewer mains within Kukui Road, a section of Ohai Road, and Milo Road generally run in a north-south (mauka-makai) direction to gravity flow wastewater into the septic tanks for treatment situated south of Opukea Street. Opukea Street would be the primary sewer main collecting this wastewater before discharging it for treatment.

A total of 164 parcels currently connected to C. Brewer Corporation’s system will be connected to this new County sewer system. This amount includes 163 residential parcels plus a non-residential property.

Sewer laterals (6-inch diameter) would also be constructed from these sewer mains to the property lines of all parcels being served by this system. The design of these standard sewer laterals to each property would be in accordance with current County standards. Property owners will then be required to connect their existing plumbing from their residence or structure to the County’s new sewer lateral provided. C. Brewer Corporation would be responsible for coordinating and paying for the construction of these connections for those residences on their existing system. The other property owners being added to this new system will be responsible to coordinate and construct their own connections to the sewer laterals.

There are some residences which may be situated at a lower elevation than the sewer main routed within the County roadways. As a result, such residences would need a pump system to connect to the sewer laterals being provided. C. Brewer Corporation would be responsible for coordinating and paying for the installation of these pumps and of the sewer lateral connections. Once installed, each homeowner would be responsible for maintaining their connections to these sewer laterals and/or pumps included within their property.



NĀ'ĀLEHU LCC CONVERSION PROPOSED SITE PLAN

Figure 2.5

Wastewater Treatment and Disposal

To treat the wastewater, two (2) septic tanks of nominal capacity of 20,000 gallons each and another four (4) tanks of nominal capacity of 22,000 gallons each, are planned to be installed in parallel to meet volume requirements. Figure 2.6 graphically shows the concept associated with a typical septic tank treatment system. These septic tanks would be situated within a 0.24-acre (10,347 square feet) parcel situated south (makai) of Opukea Street as previously shown on the site plan. This property is identified as TMK 9-05-024: 011, and was acquired by the County from C. Brewer Corporation.

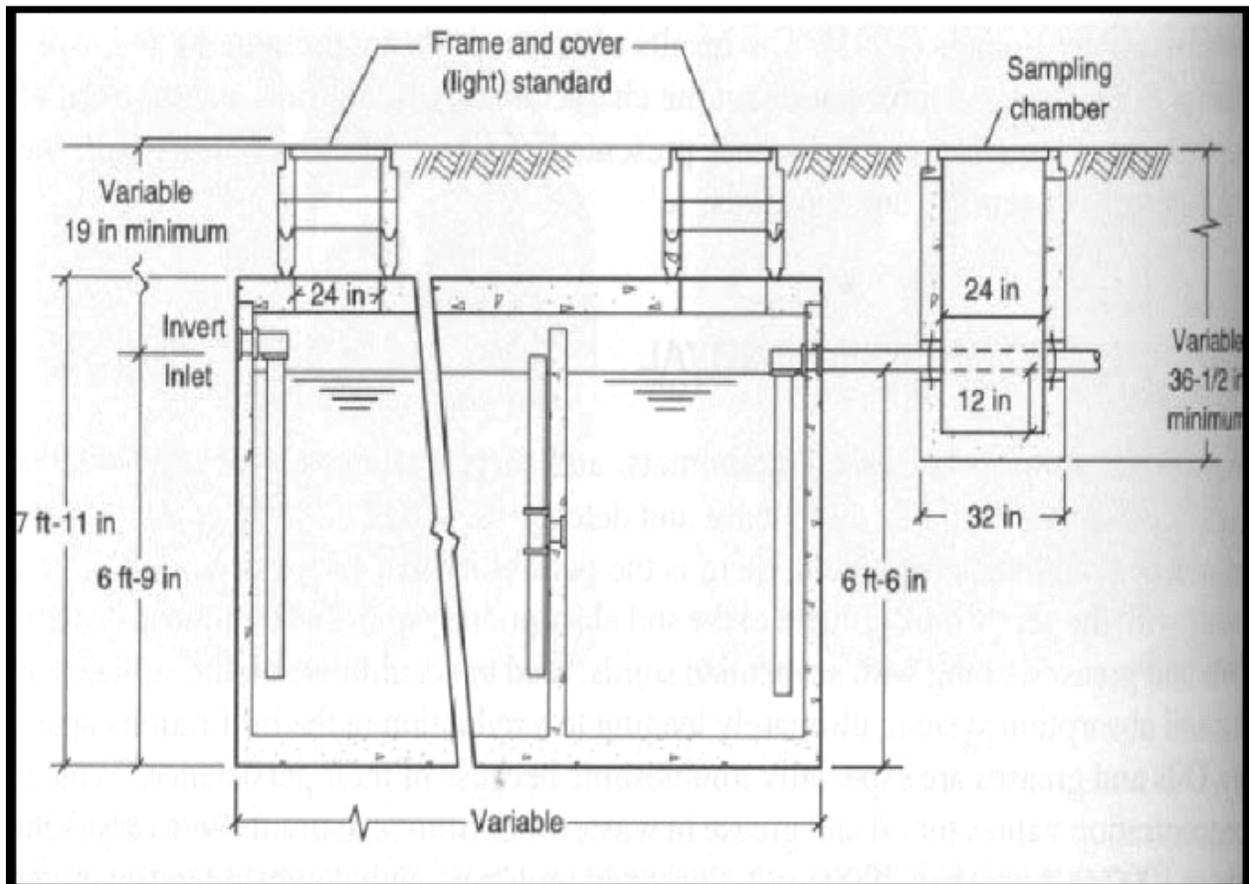


Figure 2.6 Septic Tank Concept

Wastewater effluent from these septic tanks would then gravity drain into a seepage pit for disposal. The existing Nā'ālehu LCC is located on this parcel, and would be reused as a seepage pit.

The seepage pit would be classified as a "Class V, Subclass A" type of injection well under the State DOH's regulations (Chapter 11-23, HAR). This seepage pit would be considered an existing injection well that would need to be registered under the DOH's regulations, and issued an Underground Injection Control (UIC) permit by the State DOH, Safe Drinking Water Branch.

Easements would be established within the County roadways utilized for the new sewer collection system constructed under this project. With this new collection system, the existing sewer line easements in favor of C. Brewer Corporation would be returned to the property owners. For portions of the collection system routed within privately-owned property, easements about 15 feet wide for the sewer main will similarly be obtained from the owners.

Other Parcels in Project Area

There are a total of eight other parcels within the Nā'ālehu study area that will be connected to the County's new sewer collection and treatment system. These parcels consist of eight residential lots and were identified in Figure 2.5.

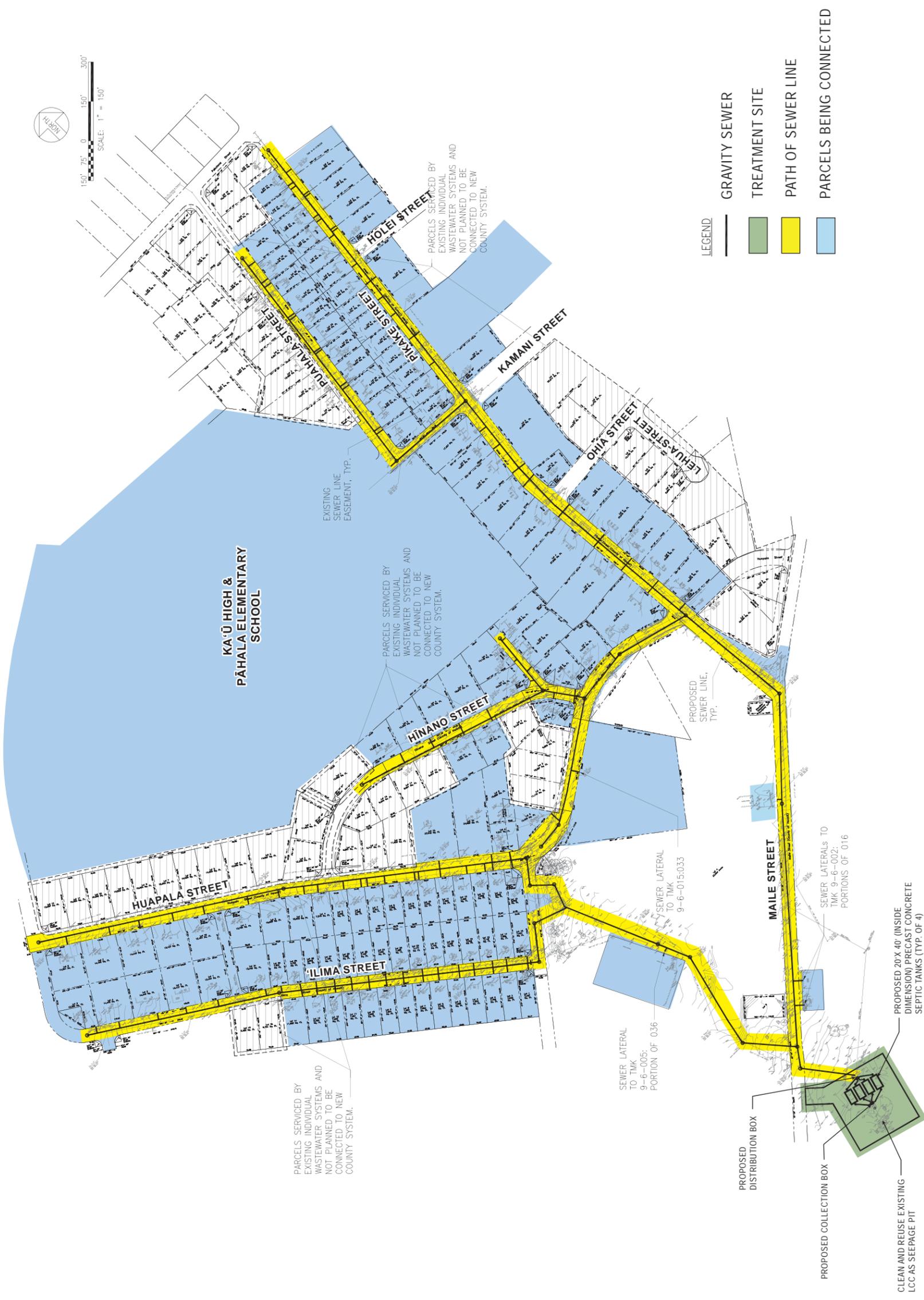
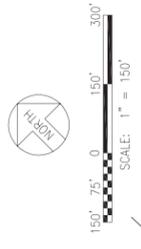
These other parcels are presently connected to a separate sewer collection system and LCC. Adding them to the County's proposed system will increase the wastewater volumes presently being served by the LCC that is planned to be reused as a seepage pit under the new system. As such, current State DOH policies would not permit the reuse of the existing LCC planned as a seepage pit for the disposal of treated wastewater unless the flows into the reused LCC are less than or equal to the flows originally conveyed to the LCC. However, the County Department of Environmental Management is currently in the process of requesting approval from State DOH for connection of the eight additional parcels to the new sewer collection and treatment system.

2.4.4 Pāhala System Improvements

A new sewer collection system serving designated properties within the Pāhala project area would consist of installing new gravity sewer mains within the rights-of-way of several existing roadways. These sewer mains would be 8-inch lines and total about 12,000 lineal feet in length. In addition, the installation of plastic covers on new sewer manholes is planned to limit the amount of storm water inflow into the system. Figure 2.7 shows the preliminary plans for these improvements.

Due to the existing topography of the service area, these sewer mains would generally gravity flow from the northern side of the area to the southern side. There would be one major gravity sewer collector main situated along Pikake Street and another along Huapala Street. These mains would feed into the primary sewer main located along Maile Street for eventual discharging into the septic tanks for treatment

A total of 127 parcels will be connected to the County's new sewer collection and treatment system. This total includes 106 residential parcels and 2 non-residential parcels which are presently on a C. Brewer Corporation sewer system and LCC.



- LEGEND**
- GRAVITY SEWER
 - █ TREATMENT SITE
 - █ PATH OF SEWER LINE
 - █ PARCELS BEING CONNECTED

Figure 2.7

PĀHALA LCC CONVERSION PROPOSED SITE PLAN

Nā'ālehu and Pāhala Villages Large Capacity Cesspool Conversion Project
 County of Hawai'i, Department of Environmental Management

Source:
 SSFM International, Inc.



It also includes eight (8) residential parcels that are presently connected to another separate C. Brewer Corporation sewer system and LCC in the area. There will also be an additional 11 non-residential properties connected to this County sewer system that are currently served by other privately-owned sewer collection and treatment systems. These other properties include Kau High and Pāhala Elementary School, a few apartment buildings, and some commercial properties.

Sewer laterals (6-inch diameter) would also be constructed from these sewer mains to the property lines of all parcels being served by this system. The design of these standard sewer laterals to each property would be in accordance with current County standards. Property owners will then be required to connect their existing plumbing from their residence or structure to the County's new sewer lateral provided.

Each property owner would be responsible for installing and maintaining their connections to these sewer laterals. C. Brewer Corporation would be responsible for coordinating and paying for the construction of these connections for those residences on their existing system. The other property owners being added to this new system will be responsible to coordinate and construct their own connections to the sewer laterals.

Wastewater Treatment and Disposal

To treat the wastewater collected, four (4) septic tanks of approximately 25,000 gallons each and two (2) tanks of approximately 22,000 gallons each are proposed and would be laid in parallel to meet volume requirements. Wastewater effluent from these septic tanks would then typically gravity drain into a seepage pit or leach field for disposal. Figure 2.6 graphically showed the concept associated with a typical septic tank treatment system.

Re-use of the existing LCC as a seepage pit was initially planned for the disposal of wastewater from this collection system. The septic tank treatment site was planned to be situated near an existing LCC on a portion of a larger property identified as TMK 9-06-002: 016 located to the south of the Maile Street and Lower Maoula Road intersection.

Initial plans were to utilize a portion of property identified as 9-06-002: 016 for the treatment and disposal of wastewater from this sewer system. However, the landowner has since indicated that they may not want to reuse the existing location of the LCC for such use.

Consequently, another site on the same parcel may need to be utilized for treatment and disposal, but such a site is subsequently undetermined at this time. If a new site is necessary, a Supplemental Environmental Assessment document will be prepared and processed to address the probable effects associated with its use for the treatment and disposal of wastewater

Easements would be established within the County roadways utilized for the new sewer collection system constructed under this project. With this new collection system, the existing sewer line easements in favor of C. Brewer Corporation would be returned to the property

owners. For portions of the collection system routed within privately-owned property, easements about 15 feet wide for the sewer main will similarly be obtained from the owners. The area required for the wastewater treatment and disposal will be acquired from the owners since it will occur within privately-owned property. However, a temporary easement for this area may be obtained until such acquisition can be processed and completed at a later date.

2.4.5 Development Schedule and Estimated Construction Costs

Upon completion of the environmental review process, design work for this conversion project would be finalized and completed. Construction plans would then be submitted to pertinent agencies for ministerial review and approval. No discretionary land use approvals would be required for this project.

Completion of the environmental review process is expected in Fall 2007. Finalization of design plans, obtaining ministerial permits, and completion of construction documents is thus expected by the end of 2007. Consequently, construction is expected to begin in early 2008 and be completed within 1 year (in 2009).

Estimated Construction Costs

The estimated County construction costs for these sewer improvements are shown below.

- | | |
|---------------------------------------|-----------------|
| 1. Nā'ālehu Sewer System Improvements | \$7.55 million |
| 2. Pāhala Sewer System Improvements | \$10.04 million |

Construction costs to be funded privately by C. Brewer Corporation for existing residents or by other property owners to connect to the system is not included. However, it is estimated that a typical connection for a residence to the sewer lateral being provided would be about \$5,700. If a grinder pump is required for certain residences to connect, the estimated total cost would be about \$6,500.

Listing of Permits

A listing of required ministerial related permits for this project is provided below.

State of Hawai'i Permits

1. DOH Noise Variance (only if required).
2. DOH Existing Well Registration and Underground Injection Control Permits
3. DOH NPDES Construction Stormwater Permits

County of Hawai'i Approvals and Permits

1. Grading Permits
2. Work within the Right-of-Way Permit

2.5 ALTERNATIVES EVALUATED AND ELIMINATED FROM CONSIDERATION

This section discusses alternatives associated with the proposed project that were considered and evaluated by the County DEM. These alternatives include not implementing the project referred to as the “No Action Alternative” along with different collection system design alternatives serving both the service areas in Pāhala and Nā‘ālehu. These alternatives were subsequently eliminated from further consideration because they didn’t sufficiently meet the project need and objectives as compared to the improvements being proposed.

2.5.1 Criteria Used in Evaluating Alternatives

Various criteria were used in the evaluation of design alternatives developed for this project. The type of wastewater collection and treatment system that is most appropriate for the study area is dependent upon several factors. As a result, the following major criteria were identified and used in the evaluation of collection systems alternatives.

- Existing topography. The preferred sewer collection system should be gravity sewer lines to take advantage of the area’s topography, and to minimize construction and maintenance costs.
- Expected growth patterns of service area. Anticipated land use development and growth patterns within the proposed service areas were considered. Since the project essentially will serve existing residents on the C. Brewer Corporation’s sewer system, no major changes were anticipated within these service areas.
- Land acquisition. The County may need to acquire private land or obtain new utility easements associated with the proposed improvements. Thus, preferred sewer collection system alignments along with treatment and disposal improvements should minimize or eliminate the need for land acquisition or new utility easements.
- Initial construction costs. Initial construction costs were major factors considered in evaluating the preferred sewer collection system alignment.
- Future costs of operating and maintenance (O&M). The approximate future costs estimated for operations and maintenance associated with the system were considered in the evaluation process. The County DEM’s objective was to minimize the amount of future O&M costs.
- Reuse of existing cesspools as seepage pits. The State DOH allows existing cesspools to be used as a seepage pit for treated wastewater effluent subject to review and permitting. Thus, the availability of such use was considered since it would reduce land acquisition and minimize construction costs.

2.5.2 No Action Alternative

The No Action Alternative would involve the County not proceeding with the implementation of sewer system improvements serving the project areas within the Pāhala and Nā'ālehu communities. Under this alternative, the C. Brewer Corporation would dissolve affecting the status of existing wastewater systems serving the Nā'ālehu and Pāhala communities. Consequently, these communities would end up being responsible to address the long-term maintenance and responsibilities associated with these systems. It is also unclear how the EPA mandate to close existing LCCs would be addressed and under what timetable. The potential costs associated with these items would also be difficult for these communities to fund.

This situation would also not support the County's effort to close all LCCs as mandated under the EPA regulations. It would also not support their effort to achieve this objective under the extended timetable permitted under the County's agreement with EPA. A daily fine could be issued to the County by the EPA of up to \$32,500 per day which amounts to \$11,862,500 in fines per year. Such fines could also be made retroactive back to April 5, 2005 deadline under the 1998 EPA regulation. These fines would have a significant impact on the County's fiscal condition and operations affecting the residents of the County of Hawaii.

This alternative would also conflict with the County's prior consultations with both the communities and C. Brewer Corporation to properly address and resolve improvements needed for the closure of the LCCs and sewer system improvements. Based upon these consultations, the County has already developed a workable plan that would address both the EPA mandate and planned dissolving of the C. Brewer Corporation. The No Action Alternative would significantly conflict with the County's efforts already expended to address these items.

Therefore, this alternative was eliminated from further consideration because it will not achieve the County's need for this project nor the project objectives as discussed earlier in this chapter.

2.5.3 Collection System Alternatives

Alternative sewer collection systems serving the project areas of Pāhala and Nā'ālehu were identified and evaluated. However, these alternative collection systems were eliminated from further consideration because the project's proposed system would better meet the project need and objectives and evaluation criteria. These other alternatives are summarized below.

Nā'ālehu Collection System Alternatives

Two collection system alternatives were considered for Nā'ālehu which are identified as: 1) Alternative A – New Sewer Easements; and 2) Alternative B – Existing Sewer Easements. These alternatives are summarized below.

Alternative A – New Sewer Easements

1. Construct approximately 7,410 linear feet of 8-inch gravity collection sewer mains on

- ‘Ohai Road, Pakalana Street, Lokelani Street, Kilika Street, Kukui Road, and Opukea Street.
2. Design and construct approximately 950 linear feet of 8- inch gravity trunk sewer mains on Kukui Road and ‘Ohai Road which would flow downhill towards the proposed wastewater treatment location.
 3. Construct new sewer laterals from properties on the north side across the southern parcels and into the sewer collector mains.
 4. Setup and obtain sewer easements for these new sewer lines across private property.
 - Construction work on private property should be performed by the private owners and C. Brewer Corporation.
 - These easements will need to be from one property owner in favor of another property owner.
 - The County of Hawaii will have no jurisdiction on these new sewer laterals and easements.
 5. Construct a deep sewer or install grinder pumps to serve the parcels at corner of Opukea Street and Ohai Road which are at lower elevations.
 6. Construct a treatment unit and disposal system on a County acquired parcel located south of Opukea Street and identified as TMK 9-05-024: 011.
 7. Estimated County construction cost is \$6.18 million.

Alternative B – Existing Sewer Easements

1. Construct approximately 6,920 linear feet of 8-inch gravity collection sewer mains on Milo Road, ‘Ohai Road, Pakalana Street, Lokelani Street, Kilika Street, Kukui Road, and Opukea Street.
2. Construct sewer laterals from the new County sewer collection mains to the property line of parcels not currently served by the existing sewer laterals and easements.
3. Reuse the existing sewer laterals and sewer easements within this project area.
 - The existing sewer laterals would most likely need to be refurbished or portions of it reconstructed.
 - Construction work on private property should be performed by the private owners and C. Brewer Corporation.
 - These easements will need to be from one property owner in favor of another property owner.
 - The County of Hawaii will have no jurisdiction on these new sewer laterals and easements.
4. Construct a deep sewer or install grinder pumps to serve the parcels at corner of Opukea Street and Ohai Road which are at lower elevations.
5. Construct a treatment unit and disposal system on a County acquired parcel located south of Opukea Street and identified as TMK 9-05-024: 011.
6. Estimated County construction cost is \$5.05 million.

Alternative A (New Sewer Easements) was eliminated primarily because it would require a large amount of new sewer easements being created through several privately-owned parcels. Creating such new easements would be timely and difficult due to the number of parcels involved, and responsibilities associated with the construction work implemented by others. It would also have a high initial construction cost already similar to the improvements being proposed under this project.

Alternative B (Existing Sewer Easements) was eliminated primarily because it would require utilizing the existing C. Brewer Corporation sewer system which is substandard. As a result, the sewer system and laterals would likely need to be refurbished or portions of it reconstructed. There is also a higher likelihood of this system failing due to the age of the sewer lines. Although the initial construction cost is significantly lower and would require shorter sewer mains constructed, the potential future problems associated with the existing system could exceed these costs. The coordination and responsibilities associated with the construction work implemented by others within the privately-owned parcels also makes this alternative difficult to implement and complete in a timely manner.

Pāhala Collection System Alternatives

Two collection system alternatives were considered for Pāhala which are identified as: 1) Alternative A – Existing and New Sewer Easements; and 2) Alternative B – Multiple Septic Tanks. These alternatives are summarized below.

Alternative A – Existing and New Sewer Easements

1. Construct about 5,400 linear feet of 8-inch gravity collector sewer mains on Pikake Street, Puahala Street, Hinano Street, and Maile Street.
2. Construct new sewer laterals from the sewer trunk lines to property lines.
3. Design and construct approximately 5,900 linear feet of 8-inch gravity collector sewer mains within new sewer easements.
4. Reuse existing sewer laterals and sewer easements serving area residences.
 - Thee existing sewer laterals would most likely need to be refurbished or reconstructed.
 - Construction work on private property should be performed by the private owners and C. Brewer Corporation.
 - These easements will need to be from one property owner in favor of another property owner.
 - The County of Hawaii will have no jurisdiction on these new sewer laterals and easements.
5. Connect re-used sewer laterals and easements to new County sewer trunk lines on Kamani Street and Ilima Street.
6. Construct a treatment unit and disposal system on either a portion of property

identified as TMK 9-06-002: 016 (PMK Capital Partners/Mauna Loa Orchards).

7. Estimated County construction cost is \$9.01 million.

Alternative B – Multiple Septic Tanks

1. Construct approximately 4,700 linear feet of 8-inch gravity collection sewer mains on Pikake Street, Puahala Street, Hinano Street, and Maile Street.
 - Construct an individual wastewater system on a parcel identified as TMK 9-06-005: 036 (Edmund Olson/Mauna Loa Orchards) for the wastewater collected from these lines.
2. Construct approximately 3,300 linear feet of 8-inch gravity collection sewer mains on Huapala Street and Ilima Street.
 - Construct an individual wastewater system on a parcel identified as TMK 9-06-005: 036 (Edmund Olson/Mauna Loa Orchards) for the wastewater collected from these lines.
3. Construct new sewer laterals from the sewer trunk lines to property lines.
4. Construct a treatment unit and disposal system on a parcel identified as TMK 9-06-002: 016 (PMK Capital Partners/Mauna Loa Orchards).
5. Estimated County construction cost is \$7.41 million.

Alternative A (Existing and New Sewer Easements) was eliminated primarily because it would require a large amount of new sewer easements being created through several privately-owned parcels. Creating such new easements would be timely and difficult due to the number of parcels involved, and responsibilities associated with the construction work implemented by others. In addition, this alternative would require refurbishing the existing C. Brewer Corporation sewer system which is substandard. There is also a higher likelihood of this system failing due to the age of the sewer lines.

Alternative B (Multiple Septic Tanks) was eliminated primarily because it would result in higher maintenance costs for the County over the long-term due to multiple systems needing to be serviced. It would also require about twice as much area to be acquired from privately-owned property for the treatment and disposal portion of the system.

CHAPTER 3

PHYSICAL AND BIOLOGICAL ENVIRONMENT

This chapter discusses the existing physical and biological environment of the project area. The probable impacts associated with the construction of the proposed sewer improvements are discussed, and mitigative measures are identified if necessary.

3.1 CLIMATE, TOPOGRAPHY, AND SOILS

3.1.1 Climate and Topography

Climate on the Island of Hawai'i, as well as within the State of Hawai'i can be characterized as having low day-to-day and month-to-month variability. Differences in the climate of various areas are generally attributed to the island's geologic formation and topography creating miniature ecosystems ranging from tropical rain forests to dryer plains along with corresponding differences in temperature, humidity, wind and rainfall (Department of Geography, 1998).

The climates of both Nā'ālehu and Pāhala communities are typical of the Ka'u District which is predominantly dry. The National Ocean and Atmospheric Administration (NOAA) designates these areas as a Humid Tropical Zone with lowland areas on the island that are transitional in location between windward and leeward regions. The area receives less orographic rainfall since they are not oriented normal to trade wind flow, and exhibit a distinctive summer dry season.

Temperatures in the Ka'u District generally are in the between 70 and 80 degrees during daylight hours and between 60 and 70 degrees during night hours. Rain totals for 2005 ended up at near to below normal levels at most of the gages on the island. Most gages reported less than 50 percent of normal rainfall in the Ka'u District (NOAA 2005).

Prevailing trade winds in the Ka'u District area are from the southeast direction and usually dominate from April to November. Wind speeds average about 15 miles per hour and vary between approximately 10 to 20 miles per hour. Winds from the southwest are less frequently occurring mainly during the winter associated with "Kona" storms (Department of Geography 1998).

Topography

The Island of Hawai'i is the largest island in the Hawaiian Archipelago chain, and covers an area of approximately 4,000 square miles. This island was formed by the activity of five shield volcanoes which are: 1) Kohala (long extinct); 2) Mauna Kea (some activity during recent geologic times); 3) Hualalai (last erupted in 1801 and is considered dormant); 4) Mauna Loa (still active); and Kīlauea (still active). Both the Nā'ālehu and Pāhala communities are situated on the

slopes of Mauna Loa. The surrounding area consists of a fewer inter-stratified beds of volcanic ash that sits upon the exposed bedrock.

The Pāhala project site is approximately 61.7 acres and bounded by Pakalana Street to the north, Pikake Street to the east, Maile Street to the south, and Ilima Street to the west. The Pāhala study area is also generally situated on a north to south slope. The elevation of the study area ranges from approximately 900 feet to 800 feet above mean sea level (msl) and existing slopes are approximately 5 percent to 8 percent.

The Nā'ālehu project site is approximately 33.3 acres and bounded by Ohai Road to the north and east, Milo Street to the west, and Mamalahoa Highway to the south. The topography associated with the Nā'ālehu study area can be characterized as generally consisting of a gradual slope from north to south. The elevation of the study area ranges from approximately 700 feet to 650 feet above mean sea level (msl). Thus, existing slopes are approximately 10 percent to 15 percent.

3.1.2 Soils

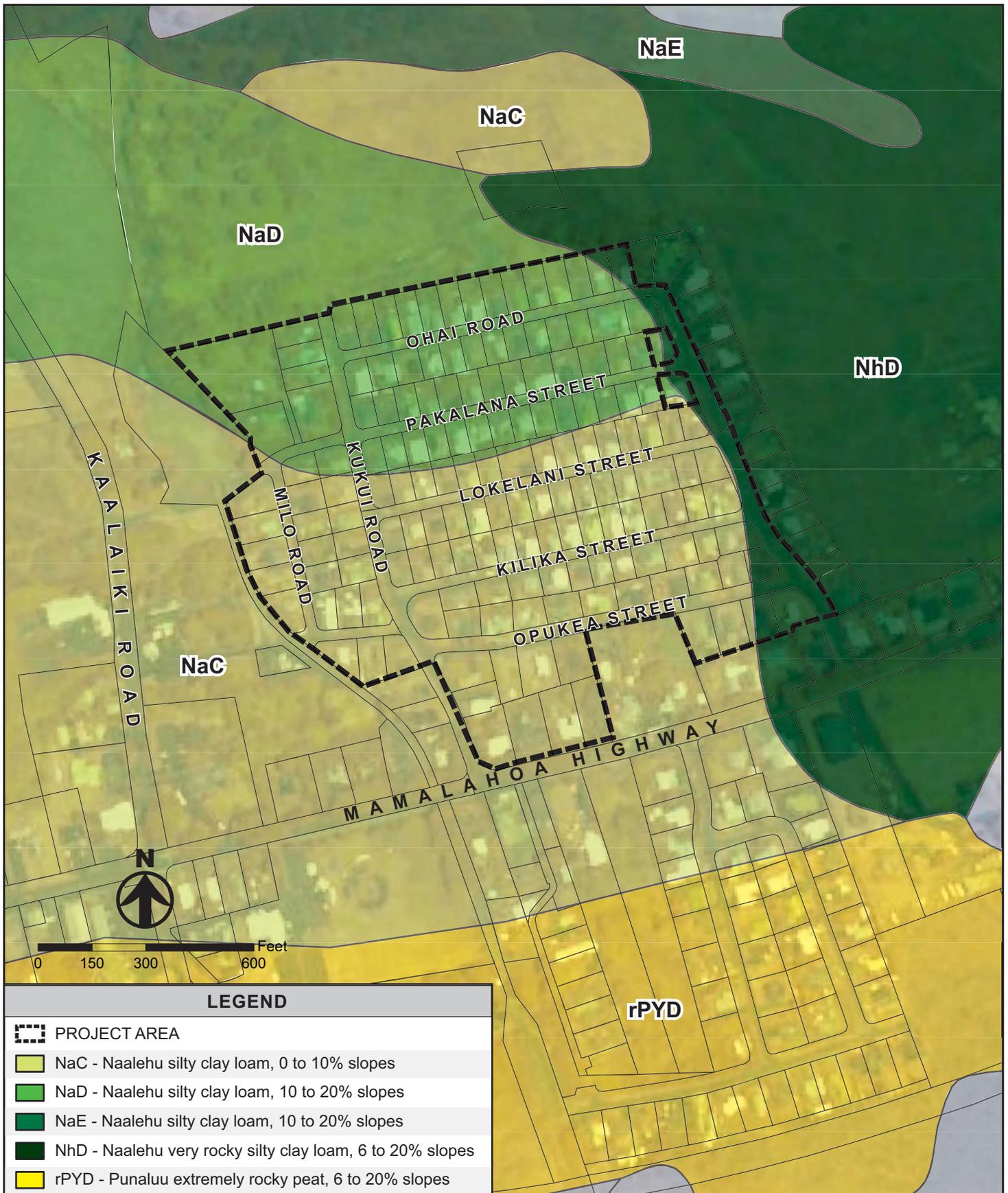
The U.S. Department of Agriculture, Soil Conservation Service's Soil Survey of Island of Hawai'i, State of Hawai'i includes general soil maps developed for this island based upon soil surveys (SCS, 1973). These soil maps show soil characteristics by area which are classified by soil series and associations. As indicated by the soil maps, the types of soils within both Nā'ālehu and Pāhala project sites were identified and the following descriptions are provided. Figures 3.1 and 3.2 graphically shows the soils associated with each area.

In January 2006, exploratory tests of several sites within the project areas of Pāhala (TMK (3) 9-6-14, 15, 16, and 20) and Nā'ālehu (TMK (3) 9-5-24, 25, and 26) were conducted. The findings from these tests were consistent with the SCS soil results (Masa Fujioka and Associates, 2006). The following descriptions of the land and soils types are from the Soil Survey of Island of Hawai'i (SCS, 1973):

Nā'ālehu Soil Survey

Soils situated within the Nā'ālehu project area consists of that associated with the Nā'ālehu series. This series consists of well-drained silt loams that formed in volcanic ash. These soils are at sites nearly level to moderate steep, and most areas are extremely stony (NhD). They are on uplands at an elevation ranging from 750 to about 1,800 feet msl (SCS 1973). The various Nā'ālehu soil types are listed below.

- Nā'ālehu silty clay loam, 10 to 20 percent slopes (NaD). This series consists of well-drained silty clay loams that formed in volcanic ash. They are typically found on uplands at an elevation ranging from 750 to 1,800 feet above mean sea level (msl). This soil normally overlies pahoehoe or a'a lava flows at depths of more than 40 inches.



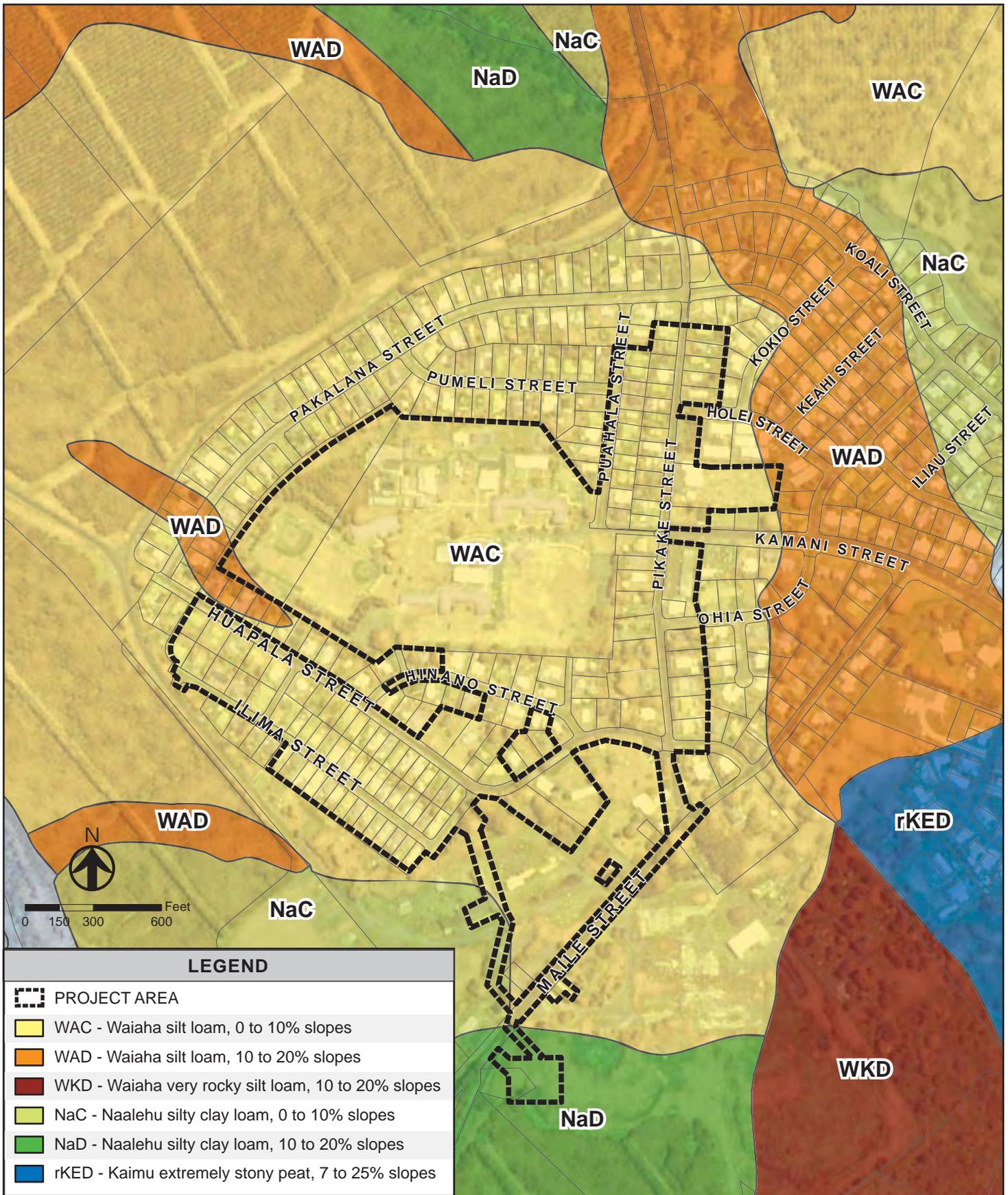
SOILS SURVEY MAP OF NĀ'ĀLEHU PROJECT SERVICE AREA

*Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
County of Hawai'i, Department of Environmental Management*

Figure 3.1

Source:
USDA Geospatial Data Gateway (Aerial)
NRCS (GIS Data)





**SOILS SURVEY MAP OF PĀHALA
PROJECT SERVICE AREA**

*Nā'ālehu and Pahala Villages Large Capacity Cesspool Conversion Project
County of Hawai'i, Department of Environmental Management*

Figure 3.2

Source:
USDA Geospatial Data Gateway (Aerial)
NRCS (GIS Data)



- Nā'ālehu silty clay loam, 0 to 10 percent slopes (NaC). The erosion hazard for this soil is slight and runoff is slow. Typically used for sugarcane cultivation, these soils are similar to NaD, except that the slopes are less steep.
- Nā'ālehu very rocky silty clay loam, 6 to 20 percent slopes (NhD). The erosion hazard for this soil is slight to moderate and runoff is slow to medium. This soil is usually shallower than is typical for the Nā'ālehu Series.

Pāhala Soil Survey

Soils situated within the Pāhala project area consist of that associated with the Waiaha series. The Waiaha series consists of shallow, well-drained silt loams that formed in volcanic ash. These soils are at sites nearly level to moderate steep, and most areas are not stony. They are on uplands at an elevation ranging from near sea level to about 1,000 feet (SCS 1973).

Soil classifications associated with the project area consisted of the Waiaha silt loam, 0 to 10 percent slopes (WAC), and also appears to include a portion on Waiaha silt loam, 10 to 20 percent slopes (WAD). The site reconnaissance study conducted (Masa Fujioka and Associates, 2006) noted that the Pāhala site appears to conform to the geologic and soils mapping.

- Waiaha silt loam, 0 to 10 percent slopes (WAC). In a representative profile of this soil, the surface layer is very dark brown extremely stony silt loam about 4 inches thick. The subsoil is dark-brown very stony silt loam about 14 inches thick. The substratum is Pahoeheo lava bedrock. The surface layer is slightly acid, and the subsoil is neutral to mildly alkaline. This Waiaha silt loam has a surface layer that is non-stony as compared to other Waiaha soil types, and receives more rain during the winter. This soil is used in pastures and orchards.
- Waiaha silt loam, 10 to 20 percent slopes (WAD). This soil is similar to the WAC soil and is also non-stony. Runoff is medium and erosion hazard is moderate. This soil was also used for pasture and orchards (SCS 1973).

Land Study Bureau

Under the Land Study Bureau's Detailed Land Classification – Island of Hawai'i, (LSB 1965), soils situated on the subject property consists of land given an overall master productivity rating of "C". The soils within the communities were given a productivity rating of C153. These ratings are described below:

- C153 - Nā'ālehu, Kamaoa and Pāhala soils having moderate deep depth, fine texture, dark brown in color, volcanic ash as the parent material, non – stony to slightly stony in character, is well drained, and is moderately suited for machine tillability.

3.1.3 Impacts on Soils and Topography

Construction of the Nā'ālehu and Pāhala LCC Conversion Project is not expected to have a significant impact on the existing topography or soils of the project area. Construction of the new sewer system collection system will result in some soil erosion. To minimize potential short-term erosion impacts during construction activities, various erosion control measures are available for implementation. Necessary measures would be developed during the final design of this project, and would comply with the County's Erosion and Sediment Control regulations prescribed under Chapter 10 of the Hawai'i County Code (County 2000).

Erosion control measures considered to minimize effects during construction may include: use of temporary sprinklers in non-active construction areas; stationing water trucks on the site during construction to provide immediate sprinkling in active construction areas; use of temporary berms and cut-off ditches; use of temporary silt fencing, sand bags, or screens; thorough watering of graded areas after construction activity has ceased for the day; or sodding or planting slopes immediately after grading work has been completed.

However, the actual erosion control measures implemented would be developed during the final design of this project, and would comply with the County's erosion and sedimentation control regulations and NPDES permit requirements. Grading activities will also be performed in accordance with applicable provisions of permits obtained from the State DOH.

Other Short-Term Construction Impacts

Other typical short-term impacts that are usually associated with construction related activities may include fugitive dust emissions, construction noise from equipment, and traffic disturbances from construction vehicles occurring along the subdivision streets. Minimal vehicular traffic presently occurs along the site's access roads. Given the width of the existing subdivision streets, there will be some disturbances of traffic flow by residents during the duration of the project.

Fugitive dust emissions and construction noise are expected to cause a disturbance or annoyance to surrounding properties or residents. Such measures would be determined during the project's design and preparation of construction plans. Measures considered could include the use of wind breaks or watering to reduce dust and planting disturbed areas immediately after grading work has been completed. Specific measures will be incorporated as part of the Grading Plan and best management practices (BMPs) developed. These measures would be designed to make construction activities comply with pertinent Administrative Rules of the State Department of Health such as Title 11: Chapter 46 (Community Noise Control), and Chapter 60 (Air Pollution Control).

3.2 NATURAL HAZARDS

This section addresses natural and urban-related hazards applicable to the site. Potential natural hazards addressed include earthquakes, lava flows, hurricane, and flooding hazards. There are no other known potential urban-related hazards applicable to the project site such as airport clear zones, hazardous wastes, or other site safety issues associated with urban use.

3.2.1 Earthquake Hazards

Earthquakes in the Hawaiian Islands are primarily associated with volcanic eruptions resulting from the inflation or shrinkage of magma reservoirs beneath which shift segments of the volcano (Macdonald, Abbott, and Peterson 1983). Although difficult to predict, an earthquake of sufficient magnitude causing structural or other damage to the collection system and IWS facilities may occur in the future. Most of the earthquakes that have occurred were volcanic earthquakes causing little or no damage. The seismic risk classification of the Island of Hawaii is a rating of Zone 4 (USGS 1997).

The Island of Hawaii experiences thousands of earthquakes each year, however, most are so small that they can only be detected by instruments. There are some strong enough to be felt, and a few cause minor to moderate damage. Most of this island's earthquakes are directly related to volcanic activity, and are caused by magma moving beneath the earth's surface. Earthquakes may occur before or during an eruption, or may result from the underground movement of magma that comes close to the surface. A few of the island's earthquakes are less directly related to volcanism. These originate in the zones of structural weakness at the base of the volcanoes or deep within the earth beneath the island (USGS 1997).

The locations of larger damaging earthquakes of magnitude 6 or greater since 1868 on the Island of Hawaii have generally occurred on the southern half of the island primarily on the eastern end. Plots of recent earthquakes of magnitude 4.0 and greater from 1962 to 1985 also determined that few have generally occurred in the Ka'u District. The most recent large earthquake on this south flank occurred in June 1989 with a magnitude of 6.1 (USGS 1997).

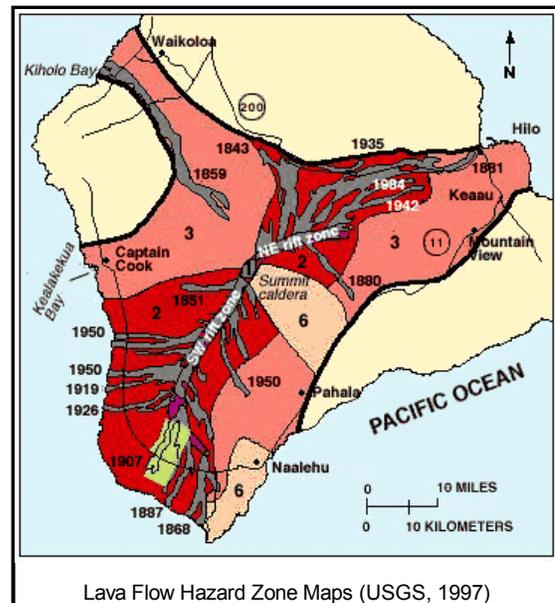
Potential Impacts from Future Earthquakes

There is the possibility of future earthquakes occurring on the Island of Hawai'i especially on the south flank of Kīlauea. As a result, the collection system may be subject to damage from an earthquake of sufficient magnitude occurring in the area. The susceptibility of being damaged from an earthquake would be no different from other homes and facilities would be designed and constructed in accordance to the County design standards for Zone IV areas. Therefore, risk of potential damage to the facilities planned on the project sites will not be more than other existing land uses in the Ka'u District.

3.2.2 Lava Flow Hazards

Volcanic hazard zone maps developed for the Island of Hawaii were revised by the U.S. Geological Survey in 1997. The current map divides this island into zones ranked from 1 through 9 based on the probability of coverage by lava flows (see graphic). Hazard zones from lava flows are based mainly on the location and frequency of both historic and prehistoric eruptions. Hazard zones also take into account the larger topographic features of volcanoes that affect the distribution of lava flows (USGS, 1997).

Based upon this map, the Ka'u district area was given hazard zone ratings of 3 and 6 for Naalehu and Pāhala respectively.



Naalehu Hazard Zone

The zone rating of 3 reflects between a 1 to 5 percent of area covered by lava since 1800 and 15 to 75 percent in the last 750 years (USGS 1997). The rating of 3 indicates a moderate hazard from lava flows and corresponds to the activity associated with Kīlauea Volcano affecting areas adjacent to and down slope of the volcano's active rift zones.

Pāhala Hazard Zone

Pāhala has a zone rating of 6 which are generally areas protected by previous lava flows topography of the volcano.

Therefore, the potential for damages to the project areas is moderate since the Nā'ālehu and Pāhala communities are a great distance away from any active vents and hazards.

3.2.3 Hurricane Hazards, Tsunami Inundation, and Flooding

Hurricanes cause three major hazards: 1) strong winds and gusts, 2) large waves and storm surges, and 3) heavy rainfall (FEMA 1993). Of these three, only strong winds and heavy rainfall could affect the project. The site is located well inland from the shoreline and at an elevation of approximately 1,100 feet mean sea level. As a result, this location makes impacts from large waves and storm surge extremely unlikely. Impacts associated with heavy rainfall are addressed later under drainage facilities.

A hazard mitigation report prepared by the Federal Emergency Management Agency after Hurricane Iniki in 1992 determined that nine hurricanes approached within 300 nautical miles (about one day's travel time) of the Hawaiian Islands' coastlines between 1970 and 1992. Most

hurricanes affecting the islands have focused on Kauai. Based upon a tracking of hurricanes since 1950, there appears to be no geographical or meteorological reasons why hurricanes miss the other islands but tend to steer toward Ka'uai (FEMA 1993).

Although unpredictable, the Island of Hawaii has historically received less threat and damage from hurricanes as compared to Kauai. However, as with other existing and future developments in the Ka'u District as well as on the Island of Hawaii, structures built on the project site could potentially receive damage from the high winds caused by a hurricane passing close to the island.

The potential damage to the converted collection system from high winds should be little to none as most of the system is located underground. To minimize potential damages to any accessory facilities the facilities would be designed and constructed in accordance to the City and County design requirements and standards.

A tsunami is a series of huge waves most commonly caused by violent movement of the sea floor. It is characterized by high speed, long wave length, long period between successive crests, and low height in the open ocean. Along a coastline, a tsunami can flood inland 100's of feet or more and cause considerable damage and loss of life.

The Flood Insurance Rate Map (FIRM), Community Panel Numbers 155166 1725 C and 155166 1850 C, was researched to identify floodways that may affect the project areas in Pāhala and Nā'ālehu. This FIRM showed that both project sites are located in Zone X which represents areas determined to be outside the 500-year flood plain (FEMA 1998). A small portion of the Pāhala project site is located within the Zone X 500 designation.

Due to the high elevations of both sites and in accordance with FIRM designations, the project site is not situated in an area that has been historically subject to flood inundation by a tsunami or a 100-year flood. Therefore, the project should not be adversely affected by flooding or tsunami hazards.

3.3 HISTORIC, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

3.3.1 Historic and Archaeological Resources

Research of available information was conducted to determine the presence of historic sites in the immediate vicinity of proposed sewer improvements for both Nā'ālehu and Pāhala. In Pāhala, the Ka'u High and Pāhala Elementary School is listed on the State of Hawai'i register of historic places. In Nā'ālehu, the Nā'ālehu School is also listed on the State of Hawai'i register of historic places. No other historic sites were identified within the areas planned for improvements.

Existing Historic Sites and Resources in Pāhala

The Ka'u High and Pāhala Elementary School is situated at TMK 9-06-005: 008, and was listed on the State of Hawai'i register of historic places on June 29, 2002. This school is listed under the State Inventory of Historic Places (SIHP) site #10-69-7522 for public schools on the island of Hawai'i. This listing is for a thematic group of sites which includes several other public schools under this SIHP site number. This school was identified as a significant site based upon the National Register Criteria A and C which are:

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

Under criteria "A", the school was significant to the categories of education and social history, and under criteria "C" it was significant to the category of architecture. The period of significance was from 1935 to 1950. The school has 8 out of 15 buildings, and 2 out of 8 structures which are contributing resources to this significance (NPS, 2002). The eight buildings of significance include:

1. Building E (main classroom building) - A large building "E" shaped in design with a lanai running through its spine, and a corrugated metal, hip roof.
2. Classroom Buildings A and B - These U-shaped, single-wall constructed, tongue-and-groove vertical board school buildings on post and pier foundation with a double-pitch hip roof.
3. Music Building – This old building is a very simple rectangular, single vertical board wall with posts structure.
4. Building D (Gymnasium Building) - This is a large-scaled building approximately 60 by 100 feet in size with a large hip, corrugated galvanized iron roof.
5. Teacher Cottages (3 buildings) - Teacher's cottages built as duplexes typical of this rural plantation style using single wall construction and a chair rail on the interior of the house which acts as a girt.

Built in the 1930s, Ka'u High and Pāhala Elementary School was determined to be significant as an intact example of a rural school to service the plantation community. This school reflected the time period in the County of Hawai'i's building program of rapid expansion in the plantation population, and thus the educational needs in rural areas of the island.

It was also a largely intact campus designed by Frank F. Arakawa who was a County architect and engineer. This school, built in the later years of the school building boom, utilized some “Hawaiian style” characteristics. It was simple and vernacular in style, and was reflective of the surrounding plantation town it resided in.

The school was far from the main town center of Hilo, and the children of the burgeoning plantation towns needed education. Many of these rural schools throughout the island had teacher’s housing, but today most of them have been torn down or reworked to house other school functions. Teacher's cottages were vital to attracting teachers to these rural areas. Ka‘ū High and Pāhala Elementary School are one of few schools which still have the teacher’s cottages.

Today, the school continues to be a major public institution in the area and visually retains its association with its plantation roots. While there are numerous new structures scattered throughout the campus, these buildings have been designed in the same vernacular architectural vocabulary, and did not detract from the rural character of the school. Many of the newer buildings also reflected the agrarian heritage of the area, including green houses and an imu (ground oven for roasting pigs) (NPS, 2002).

Existing Historic Sites and Resources in Nā‘ālehu

The Nā‘ālehu Elementary School is situated at TMK 9-05-009: 006 and 015, and was listed on the State of Hawai‘i register of historic places on June 29, 2002. Similar to Ka‘u High and Pāhala Elementary School, this school is also listed under the State Inventory of Historic Places (SIHP) site #10-69-7522 for public schools on the island of Hawai‘i. This listing was for a thematic group of sites which included several other public schools under this SIHP site number. This school was identified as a significant based upon the same National Register Criteria A and C as done for Ka‘u High and Pāhala Elementary School.

Under criteria “A”, the school was significant to the categories of education and social history, and under criteria “C” it was significant to the category of architecture for vernacular classical revival. The period of significance was from 1928 to 1950. The school has 3 out of 13 buildings identified as contributing resources to this significance (NPS, 2002a).

Building A is of significance and serves as the school’s main building, classrooms, and office which is typical of Hawaii County schools of this era. It is a linear organization of classrooms along an open lanai corridor with two wings extending towards the front lawn. This one-story, single-wall constructed building was sited to capture the mauka to makai tradewinds. The original plans for the main Building A were symmetrical and designed as a 10-classroom building. However, two wing additions were completed in 1937 and 1941 creating slight asymmetry at the wings and adding 6 classrooms.

Nā'ālehu Elementary School was determined to be significant as an intact example of a rural school to service its surrounding plantation community. Like Pāhala Elementary, this elementary school served as a feeder school to the upper levels at Ka'u High School.

Many of these rural schools throughout the island had teacher's housing, but today most of them have been torn down or reworked to house other school functions. As with Ka'ū High and Pāhala Elementary School, Na'alehu Elementary School was one of the few schools which still have these teacher's cottages. Teacher's cottages were vital to attracting teachers to rural areas especially on the island of Hawaii which has an area larger than all the other islands combined.

This school reflected the time period in the County of Hawai'i's building program of rapid expansion in plantation population, and therefore the rapid expansion in educational needs for rural areas of the island. As with other schools in the Ka'ū district, Nā'ālehu Elementary School buildings were simple and vernacular in style with large open spaces, reflecting its plantation heritage and surroundings. It was similarly reflective of Frank F. Arakawa's architectural style, which could be simple and functional, yet with attention to architectural details such as decorative rafter ends (NPS, 2002a).

Probable Effects on Historic Sites and Resources

Construction of the new sewer collection and treatment system serving both the Pāhala and Nā'ālehu service areas is not expected to have a significant impact on historic sites or resources. Sewer mains and laterals associated with the collection system would predominantly be constructed within existing County roadways. Some other segments of the sewer mains would be routed within privately-owned property, however, these parcels are not known to have historic sites or resources present. Similarly, construction improvements associated with the septic tanks and seepage pits would occur within privately-owned properties which are not known to contain historic sites that could be affected.

The historic Ka'ū High and Pāhala Elementary School will be one of several other properties being allowed by the County to connect to the sewer collection system planned under this project. However, only a sewer lateral will be provided along Kamani Street extending up to the school's property line. The State Department of Education will be responsible for sewer improvements within the school to connect their wastewater system to this sewer lateral. Therefore, construction of this sewer lateral along with other project improvements would not impact the school's historic buildings, structures, or character.

Construction activities such as noise, and fugitive dust would have a short-term impact on the school's activities. However, such effects would be temporary, and best management practices would be implemented by the contractor to minimize disruptions. These construction related effects would not affect the physical features associated with buildings and structures contributing to the school's historical character and placement on the State register.

The historic Nā'ālehu Elementary School is located in the vicinity of proposed sewer improvements planned in that community. However, this school is located makai (south) of the highway and improvements would generally occur mauka (north or above) the highway. There will be no sewer lateral connections being provided to this school. Therefore, the project would not affect the buildings contributing to the school's historic character and placement on the State register. The only effects to this school would be from short-term construction related activities such as noise and dust emissions. As with Ka'u High and Pāhala Elementary School, such effects would be temporary, and best management practices would be implemented by the contractor to minimize disruptions. In addition, pertinent school officials will be notified prior to construction activities starting in the vicinity of such schools.

There is the potential for construction activities to encounter subsurface historic properties or resources such as human remains or cultural deposits. However, the potential for encountering such resources is expected to be low due to the current soil types associated with the project areas which are not sandy soils as previously discussed in section 3.1. Also, these areas were likely disturbed from large scale agricultural activities conducted along with the construction of the residences and roadways associated with these communities.

Nevertheless, in the event subsurface human remains, cultural layer, artifacts, or other indications of human activity older than 50 years are encountered during construction activities, all work would stop immediately and the State Historic Preservation Department notified. The treatment of any human remains encountered would be determined, and conducted in accordance with the applicable requirements of Chapter 6E, HRS, and Chapter 13-300, HAR. Furthermore, as a precautionary measure, construction personnel involved in development activities on the site would be informed of the possibility of inadvertent cultural finds, and would be made aware of the appropriate notification measures to follow.

3.3.2 Cultural Resources

In terms of cultural resources, this project is not expected to significantly affect traditional native Hawaiian cultural practices or other traditional cultural practices occurring within the project area or in the immediate vicinity of proposed improvements. There are no known traditional cultural practices occurring within or along the existing roadways since it is under the jurisdiction of the County of Hawai'i and adjacent residential parcels are privately owned. The project areas being affected are generally associated with residential communities established as part of former large scale sugar cane plantations.

The project would also not restrict access to the surrounding areas which may potentially be used for traditional Native Hawaiian cultural practices. Surrounding uses generally consist of other existing residences or uses serving these rural communities such as schools or commercial uses. Therefore, this project would not significantly restrict access to other surrounding areas that may be used for cultural practices because improvements would only be limited to the

rights-of-way associated with existing County roadways or a few privately-owned parcels. Temporary construction activities would similarly not restrict or prohibit access to other land areas that may be used for traditional gathering or other cultural practices.

3.4 BOTANICAL RESOURCES

The Pāhala project area is generally situated at elevations of approximately 800 to 900 feet above mean sea level placing this area within the dryland forest and shrub vegetation zone. The Nā'ālehu project area is generally situated at lower elevations than the Pāhala project area. Elevations associated with this area are approximately 650 to 700 feet above mean sea level which similarly places this area within the dryland forest and shrub vegetation zone.

This vegetation zone typically includes areas that have been used for cattle grazing and sugar and pineapple cultivation. Dryland forest typically ranged from the 650 to 1,000-foot elevation up to the 3,000-foot elevation (Sohmer and Gustafson).

Proposed sewer improvements would predominantly consist of constructing a sewer collection system within existing County roadways within both Pāhala and Nā'ālehu. Surrounding properties along these roadways consist of residential lots established to provide housing for many of the employees associated with former sugar operations conducted in the region. As a result, there are no threatened or endangered species or species of concern known to be or are likely to be present along these roadways.

The sites planned for the septic tank treatment system consist of undeveloped parcels that are similarly not known to have any threatened or endangered species or species of concern present. These parcels affected already have the existing large capacity cesspools currently serving the project areas. They also appear to consist of areas that were previously disturbed from either large scale agricultural activities or development of the present communities.

Therefore, construction of the proposed sewer collection and treatment systems serving the project areas within Pāhala and Nā'ālehu are not expected to have a significant impact on important botanical resources.

3.5 AVIFAUNAL AND FERAL MAMMALS

No avian species listed as endangered, threatened, proposed, or as a candidate species by the U.S. Fish and Wildlife Service or by the State of Hawai'i are known to be present within the Nā'ālehu and Pāhala areas planned for the new sewer collection system and treatment sites. Both project areas are not located within a State of Hawai'i designated Natural Area Reserve nor are they within areas designated as critical habitat by the U.S. Fish and Wildlife Service.

Most of the proposed improvements will consist of the sewer collection system that would be situated within existing County roadways. Other properties affected are associated with portions of parcels planned for the treatment and disposal system along with some segments for sewer mains. These project areas along with adjacent areas are already developed with residences, commercial uses, or schools.

These areas are not known to contain any special features such as wetlands that may be suitable as habitat for endangered or endemic avian species. Vegetation associated with the project areas generally reflects decades of disturbance as part of large scale agricultural cultivation. Avian species present would likely consist of introduced species such as various types of pigeons and doves, babblers, silvereyes, saltators, and cardinals. Therefore, the proposed sewer improvements are not expected to have a significant impact on important avian species or their habitat.

Mammals present in both the Pāhala and Nā'ālehu project areas would likely consist of both domestic and feral mammals typical of surrounding residential communities and surrounding agricultural lands. Such mammals would typically include domestic dogs (*Canis familiaris*). Feral mammals likely to be present in the areas include small Indian mongoose (*Herpestes auro-punctatus*), feral cats (*Felis catus*), and wild pigs (*Sus scrofa*). Various types of rodents also likely to be present in the general area include Roof rats (*Rattus r. rattus*), Norway rats (*Rattus norvegicus*), and possibly Polynesian rats (*Rattus exulans hawaiiensis*) as well as House mice (*Mus musculus*) (van Viper 1982).

There are no federally listed endangered, threatened, proposed, or candidate avian or mammalian species likely to be present on the project site or in the immediate vicinity. The project site consists of Macadamia nut trees that do not provide important nesting or foraging habitat for endangered or threatened avian species such as wetlands or forest reserves. Existing mammalian species present are introduced species all of which are predators to avian populations. Consequently, construction of the LCC conversion project is not expected to have a significant impact on important avian or mammalian species that may be present in the area.

3.6 AIR QUALITY

Ambient air quality standards (AAQS) have been established by both Federal and State governments that limit ambient concentrations of particulate, matter less than 10 microns (PM₁₀), sulfur dioxide, nitrogen dioxide, carbon monoxide (CO), ozone, and lead. In addition, a State standard has been established for hydrogen sulfide. State AAQS are more stringent than the comparable national limits (NAAQS) except for the standards for sulfur dioxide, particulate matter and lead, which are set at the same levels.

Air quality issues most applicable to the proposed project sites in both the Naalehu and Pāhala Communities concern short-term construction related emissions such as fugitive dust. Vehicular emissions (carbon monoxide) from traffic occurring along the residential streets are not considered to be an important factor influencing both project areas. This project involves construction of new underground sewer improvements that will not generate any long-term traffic in the area.

A summary of both State and National AAQS is presented below. Hawaii's standards are not divided into primary and secondary standards as are the National standards. Primary standards are intended to protect public health with an adequate margin of safety while secondary standards are intended to protect public welfare through the prevention of damage to soils, water, vegetation, man-made materials, animals, wildlife, visibility, climate, and economic values.

Summary of National and State Ambient Air Quality Standards

Pollutant	Sampling Period	NAAQS Primary	NAAQS Secondary	State Standards
Particulate Matter Less Than 10 Microns (PM ₁₀)	Annual	50	50	50
	24-Hour	150	150	150
Sulfur Dioxide	Annual	80	n/a	80
	24-Hour	365	n/a	365
Nitrogen Dioxide	Annual	100	n/a	70
Carbon Monoxide	8-Hour	10	n/a	5
	1-Hour	40	n/a	10
Ozone	1-Hour	235	n/a	100
Hydrogen Sulfide	1-Hour	n/a	n/a	35
Lead	Quarter	1.5	n/a	1.5

Note: All concentrations in micrograms per cubic meter (µg/m³) except for carbon monoxide which is in milligrams per cubic meter (mg/m³)

Impacts from Short-Term Construction Activities

Impacts associated with this project would be limited to short-term construction activities associated with the installation of new sewer mains and laterals, and the treatment and disposal system. These improvements would be located underground within existing County roadways and generally through or within privately-owned properties for which easements would be obtained or acquired by the County.

Short-term impacts on air quality from construction activities would predominantly be associated with fugitive dust emissions from construction activities and exhaust emissions from on-site construction equipment. Fugitive dust emissions would generally arise from clearing, grading, and other dirt moving activities associated with site clearing and ground preparation. Trenching work within roadways would be required to install the sewer mains for the collection system planned along with the sewer laterals to parcels being serviced. Some minor grubbing and grading activities may be required for site preparation associated with some trenching work required within some privately-owned properties for sewer mains.

The majority of grubbing and grading activities would be associated with the installation of septic tank treatment units and seepage pits for wastewater effluent disposal. Areas planned for these treatment systems generally have a relatively gentle sloping topography that should require minimal cut and filling.

Short-term impacts associated with fugitive dust emissions on surrounding areas would be mitigated through the implementation of a dust control plan developed during the project's design phase. State air pollution controls prohibit visible emissions of fugitive dust from construction activities at the property line. Therefore, a dust control plan would be prepared and implemented to have the contractor comply with these regulations. Adequate fugitive dust control can usually be accomplished by establishing a frequent watering program or implementing other measures to address grubbing and grading activities. Some measures that could be considered during the project's design for implementation by the contractor may include:

1. Limiting the areas that are disturbed at any given time;
2. Applying chemical soil stabilizers, mulching, or using wind screens;
3. Establishing a road cleaning or tire washing program to reduce fugitive dust emissions from trucks using paved roadways in the project site; and
4. Establishing landscaping early in the construction schedule to control dust.

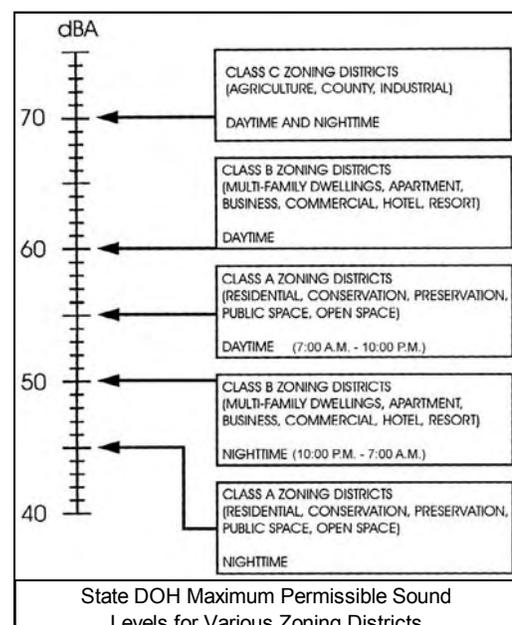
On-site mobile and stationary construction equipment would also emit air pollutants from engine exhausts. Minor nitrogen dioxide emissions from construction equipment should not violate stricter State standards since such emissions would be short-term and the standards are set on an annual basis. Short-term carbon monoxide emissions from construction equipment would similarly be low and should be relatively insignificant.

3.7 NOISE

Potential noise impacts associated with this project would mainly be associated with short-term construction activities. Due to the nature of this project, no long-term noise impacts from project-related vehicular traffic or noise impacts from operation of collection system are anticipated.

Noise Standards and Guidelines

The State DOH has established guidelines and standards for assessing environmental noise impacts, and has set noise limits as a function of land use. Three classes of zoning districts are defined which specify maximum permissible sound levels due to stationary noise sources such as air-conditioning units, exhaust



systems, generators, compressors, pumps, etc. These levels are enforced for any location at or beyond the property line and shall not be exceeded for more than 10 percent of the time during any 20 minute period. The noise limits which apply are a function of the zoning and time of day.

Existing noise levels in the Nā'ālehu and Pāhala project areas are generally associated with vehicular traffic and general activities associated with residences such as children playing, radio or television noise, or voices. Most of the proposed collection system route will occur along residential roadways within these communities. There are also other uses that generate other sources of existing noise within these project areas. These include some commercial sites and schools. Existing noise generated from residential lots is not expected to currently generate considerable noise volumes that may exceed State DOH standards. Similarly, the schools and commercial sites should be meeting applicable noise limits.

Noise from construction activities are regulated under Title 11, Chapter 46 (Community Noise Control) of the State DOH's Administrative Rules. Under these regulations, the project area and immediate vicinity fall under the Class A zoning district. This district allows daytime (7 a.m. to 10 p.m.) maximum permissible sounds levels of up to 55 dBA. Construction activities are not planned at night, so the nighttime noise level restriction should not be applicable.

Short-Term Noise Impacts from Construction Activities

Construction activities will temporarily increase ambient noise levels within the vicinity of the work area. The project would involve excavation, grading, and associated construction activities for the installation of a sewer collection system along with the treatment and disposal systems that will generate some audible noise. The actual noise levels would be dependent upon the construction methods and equipment employed by the contractor during each stage of the construction process. Earthmoving equipment such as bulldozers and diesel-powered trucks would probably be the loudest equipment used during construction. Typical ranges of construction equipment noise vary between 70 and 95 dBA.

However, any noise impact from these activities would be relatively short-term and minor given the type and size of the sewer improvement being constructed by the County DEM. Construction equipment would be equipped with mufflers as required under DOH regulations. In cases where construction noise exceeds, or is expected to exceed, the maximum permissible noise level allowable to property line limits, a noise permit would be obtained from the DOH by the contractor to allow these activities.

This permit includes restrictions to mitigate potential noise impacts resulting from short-term construction activities. Such restrictions would be followed by the contractor. Specific permit restrictions included as conditions under this permit for construction activities are:

- No permit shall allow construction activities generating noise levels beyond the maximum permissible sound level at the property line before 7:00 a.m. and after 6:00 p.m. of the same day, Mondays through Fridays.

- No permit shall allow construction activities generating noise levels beyond the maximum permissible sound level at the property line before 9:00 a.m. and after 6:00 p.m. on Saturdays.
- No permit shall allow construction activities generating noise levels beyond the maximum permissible sound level at the property line on Sundays and holidays.

3.8 VISUAL RESOURCES

Existing important visual resources in the Nā'ālehu and Pāhala communities were identified to determine the possible impacts resulting from the project. Visual resources may consist of scenic resources such as major land forms, open spaces, viewing points, scenic drives, and other physical features that create the visual quality of the area. The *General Plan* of the County of Hawaii (County, February 2005) identified a number of sites as important scenic resources contributing to the natural beauty of the Ka'ū District.

The Hawaii Volcanoes National Park encompasses a large portion of this district and serves as a large physical feature providing character to this area. This park is a natural area with a minimum of man-made objects that are blended into the character of the physical environment. The landscape is a contrast between open lava land with little or no vegetation and dense ohia lehua forests. The natural beauty of the landscape in the southern part of Ka'ū is characterized by vistas from the mountain slopes to the ocean. The coastline is highlighted by Manuka Bay, Green Sands Beach, and Punaluu Black Sand Beach (County, February 2005).

Some of the natural beauty sites identified for the Ka'ū district most pertinent to the Pāhala and Nā'ālehu project areas include: 1) view of Mauna Loa from the highway; 2) scenic view of the shoreline between Pāhala and Punaluu; and 3) the lava flows of 1868, 1887, and 1907.

None of these pertinent natural beauty sites would be affected by the construction of sewer improvements serving the Pāhala and Nā'ālehu project areas. Similarly, views of the Hawaii Volcanoes National Park would not be affected. The sewer collection lines would be located underground within existing County roadways or within some privately owned properties. Similarly, the septic tank treatment system and seepage pits disposal system for wastewater effluent would be located underground. These areas affected do not include any physical features which may serve as important visual resources or scenic viewing locations. As a result, these infrastructure facilities would not be visible to the general public and subsequently not affect views of important sites or visual resources.

3.9 HYDROGEOLOGICAL RESOURCES

Under the State's Water Resource Protection Plan, aquifers of the island of Hawaii have been classified under an aquifer coding system to identify and describe these aquifers. This system is comprised of Aquifer Sectors, and then Aquifer Systems located within these sectors.

An Aquifer Sector reflects an area with broad hydrogeological (subsurface) similarities while maintaining traditional hydrographic (surface), topographic and historical boundaries. The Aquifer system is an area within a sector that is more specifically defined by hydrogeologic continuity, particularly hydraulic connections among aquifer types and units (CWRM 1990).

Existing Aquifer System

The Pāhala community is serviced by the Kilauea Aquifer Sector (Sector 808). Within this Kilauea aquifer sector, there are four aquifer systems which are the Pāhoa, Kalapana, Hilina, and Keaiwa. The project area in Pāhala appears to be situated within the Keaiwa (80804) aquifer system located near its boundary with the Nā'ālehu aquifer system (80503). Figure 3.3 identifies the location and area included within this Keaiwa aquifer system.

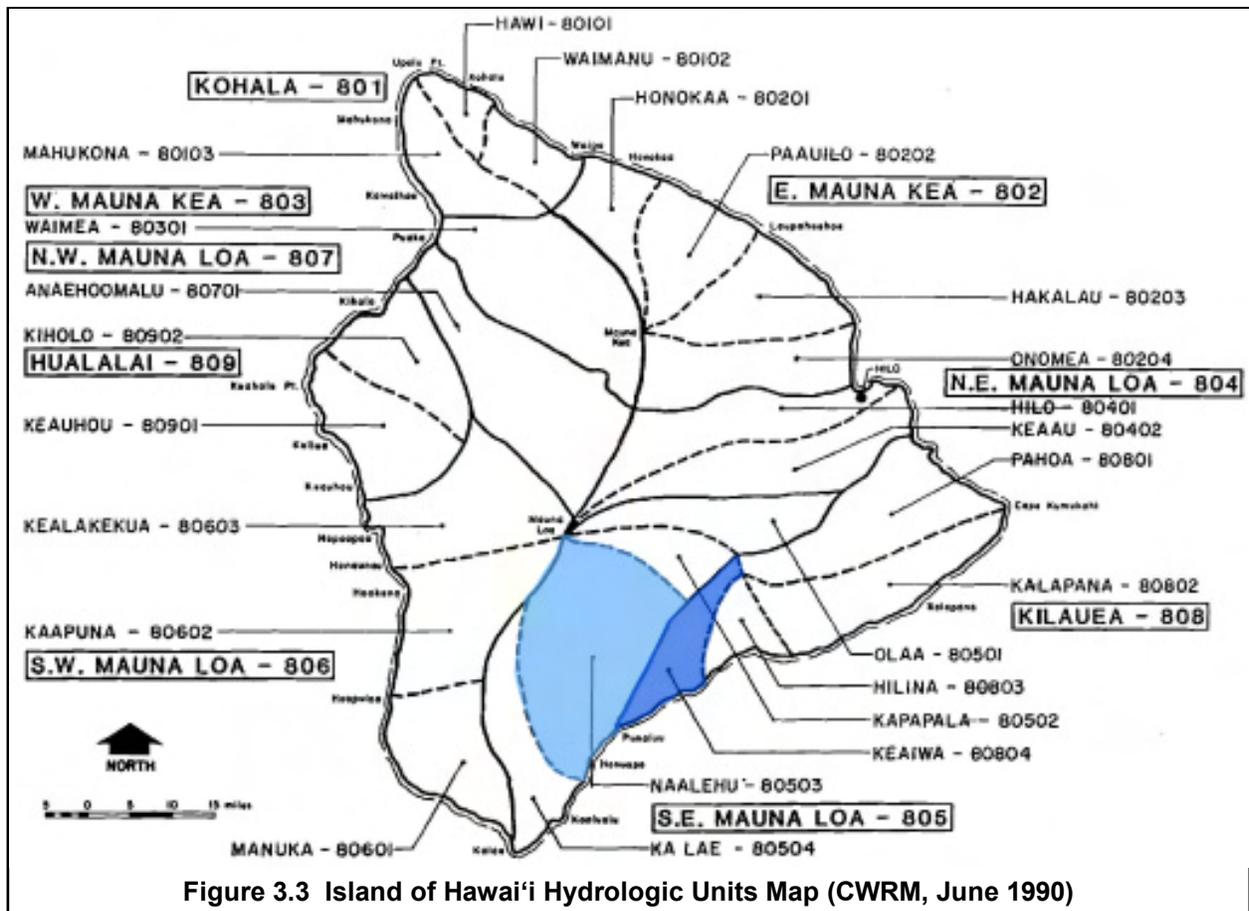


Figure 3.3 Island of Hawai'i Hydrologic Units Map (CWRM, June 1990)

Most of the region associated with this aquifer system may be underlain with high level groundwater in the southwest rift of Kilauea. Along the coastline, basal water saturates the highly permeable Puna volcanics. Basal groundwater of low head is present along the coastline discharging as brackish springs. Small perched sources may occur in the ash deposits, but these are ephemeral and likely active only after heavy rains. Dike impounded water is most likely present, but development of this water has not been tested (CWRM 1990).

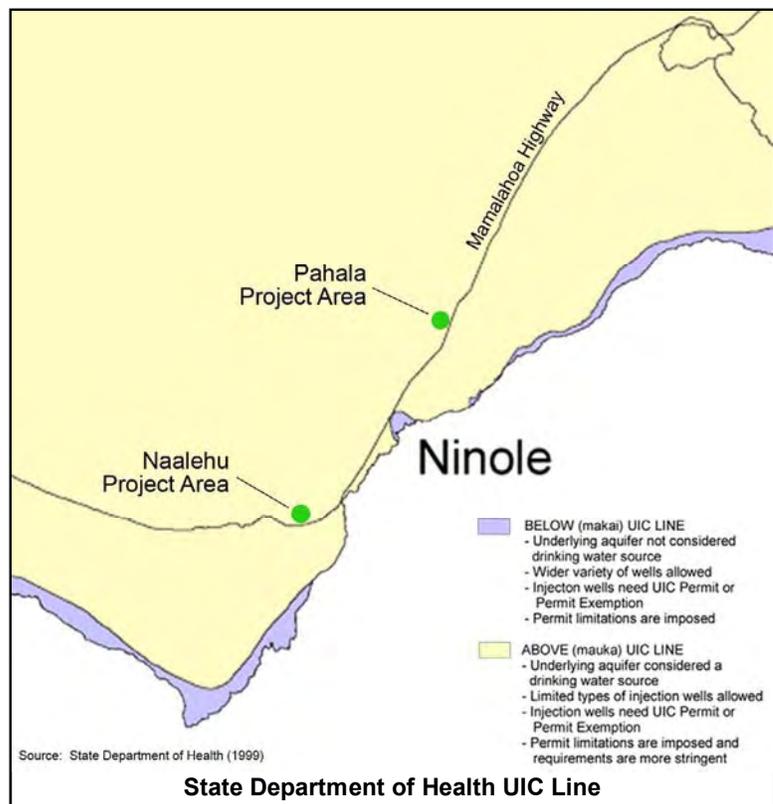
The Nā'ālehu community is serviced by the Southeast Mauna Loa Aquifer Sector (Sector 805). Within this sector, there are three aquifer systems which are the 'Ōla'a, Kapalapala, and Nā'ālehu systems. The Nā'ālehu project area is situated within the Nā'ālehu aquifer system (80503). Figure 3.3 identified the location and area included within this Nā'ālehu aquifer system.

The most extensive formation associated with this aquifer system is the Ka'ū volcanics, but significant and hydrogeologically important exposures of the Kahuku and Nīnole series of Mauna Loa occur in the southern part of the system. Basal groundwater extends several miles inland between Punaluu and Nā'ālehu. Further inland, perched water is associated with ash beds in the Kahuku and Nīnole series. High level dike water underlies the region inland of this basal groundwater section. No caprock impedes the escape of groundwater from the basal lens at the coastline (CWRM 1990).

The wastewater project areas for both the Nā'ālehu and Pāhala communities are situated above the State DOH's underground injection control (UIC) line based upon the UIC map for the Island of Hawai'i (see exhibit). Areas above this UIC line have an underlying aquifer considered a drinking water source. Thus, limited types of injection wells are allowed, either a UIC Permit or Permit Exemption is necessary, and permit limitation are imposed and requirements are more stringent.

Effects on Aquifer Systems

The LCC conversion project being undertaken by the County is expected to have a positive effect on aquifer systems underlying the proposed service areas in Nā'ālehu and Pāhala. The existing cesspools serving the various parcels would be replaced with seepage pits or leach field for the disposal of wastewater effluent discharged from the septic tank treatment system planned. As a result, the quality of water being discharged into these aquifer systems would be improved since untreated sewage would no longer be allowed to percolate directly into these aquifers. This project would also decrease the potential release of disease causing pathogens and other contaminants, such as nitrate, into these aquifers.



Construction of the sewer collection and treatment system should have minimal if any impacts on aquifer systems underlying these areas. Such work would involve trenching within the rights-of-way of County roadways along with some portions of privately-owned property for this new sewer collection system. Septic tanks constructed would involve some grubbing and minor grading within properties, but are similarly not expected to affect these aquifer systems. These improvements would be designed in accordance with applicable State DOH and County design standards and requirements which include agency review of construction plans.

For Nā'ālehu, an existing cesspool would be reused as a seepage pit for wastewater effluent disposal. This would consist of an underground injection well approximately 75-feet deep. Appropriate geotechnical studies would be conducted during the project's design phase to determine necessary requirements based upon soils and geological conditions. The seepage pit would be subject to the State DOH's regulations (Chapter 11-23, HAR), and approved via an Underground Injection Control (UIC) permit by the State DOH, Safe Drinking Water Branch. As a result, this new seepage pit is not expected to have a significant impact on the underlying aquifer system.

For Pāhala, the reuse of an existing cesspool would be considered for possible reuse as a seepage pit for wastewater effluent disposal. If not feasible, a leach field would then be implemented for the disposal of effluent. Similarly, design plans will be coordinated with the State DOH for review, and if necessary a UIC Permit obtained. Therefore, the proposed improvements are not expected to have a significant impact on existing aquifer systems.

Existing Wells and Probable Effects

Research was conducted to identify whether there were any drinking water wells located in the immediate vicinity of the proposed improvements for Nā'ālehu and Pāhala. Consultation with the State Commission on Water Resource Management (CWRM) was also conducted to obtain information regarding the location and type of wells that may be in the project area. Focus was primarily given on the proposed location of wastewater treatment and disposal areas in relation to existing wells. Under the State DOH's Chapter 11-62, Appendix F, HAR, a minimum separation of 1,000 feet from existing wells is required for wastewater treatment sites.

In Nā'ālehu, there is an existing well identified as 0335-01 located on the makai (south) side of Māmalahoa Highway (Hawai'i Belt Road) and about 1 mile west of the Nā'ālehu subdivision area. The proposed wastewater treatment and disposal system for Nā'ālehu would be located at a site near the sewer collection system improvements within the subdivision area as discussed in Chapter 2. As a result, this well is situated a considerable distance away from the project area and should not be affected by proposed improvements. The wastewater treatment system will also meet the 1,000 foot separation distance from existing wells under the State DOH's Chapter 11-62, Appendix F, HAR.

In Pāhala, there were three existing wells located in the general vicinity of the Pāhala community and town area. Two of the wells were located well over 1 mile away from this town and the site currently proposed for wastewater treatment and disposal. The third well identified as 1128-01 is situated makai (seaward) of Maile Street and near the existing Pāhala large capacity cesspool. Thus, this well is in the general vicinity of the project's proposed treatment and disposal area.

However, this well is not used for domestic water use because it is used by Mauna Loa Mac Orchards for industrial purposes based upon consultation with the State CWRM. The proposed improvements will be designed to meet the State DOH's requirement of having at least a 1,000 foot separation from this well, and design plans will be coordinated with the State DOH for review. Therefore, the project should not have a significant impact on this well, and because it is not a drinking water well.

3.10 STREAMS AND AQUATIC RESOURCES

Streams are generally not developed within the Kīlauea aquifer sector due to this area's youthfulness in terms of geological character. As a result, runoff in the Pāhala area quickly infiltrates into the ground because of the high permeability of the lavas present. However, runoff from torrential rain storms could result into sheet flows that would follow any depressions which eventually become channelized following geologic patterns (CWRM 1990).

In Nā'ālehu, the Nā'ālehu aquifer system is the only one in the Southeast Mauna Loa aquifer sector that has streams which are gaged by the U.S. Geological Survey. Streams occur in the valleys eroded into the Kahuku basalt and partially filled by prehistoric Ka'ū lava flows. Heavy rainfall in the higher elevations southwest of Kapapala Ranch up to Nā'ālehu contributes to stream flow. Heavy rainfall resulting from Kona and frontal storms causes laval channels in the Ka'ū basalt to act as stream courses. Overland sheet flow is prevalent at high elevation during such storms (CWRM 1990).

Based upon review of the *Hawaii Stream Assessment* report (HCPSU 1990), there are no perennial streams located in the general vicinity of both the Nā'ālehu and Pāhala project areas. Based upon the field inspection of these project areas where improvements are planned to occur, there were also no major streams or drainageways identified running across roadways or through privately-owned property proposed for use. Consequently, there are no significant aquatic resources present in the vicinity of these project areas.

The proposed LCC conversion project is not expected to have an adverse effect on streams or important aquatic resources since none are present within the improvement areas or in the immediate vicinity. Construction of the sewer collection systems would involve trenching within the rights-of-way of County roadways along with some portions of privately-owned property for these new sewer collection systems.

Septic tanks constructed would involve some grubbing and minor grading within other properties, but are similarly not expected to affect any streams. Improvements would be designed in accordance with applicable State DOH and County design standards and requirements which include agency review. In addition, best management practices would be implemented by the contractor as part of NPDES permit requirements.

CHAPTER 4 ECONOMIC AND SOCIAL FACTORS

4.1 ECONOMIC AND FISCAL FACTORS

Construction of the sewer system improvements should have a small minor positive economic impact mainly associated with the creation of short-term construction related jobs.

Construction Related Jobs

The total estimated construction cost for these improvements in Pāhala and Nā'ālehu is about \$17.60 million as discussed in Chapter 2. As a result, this construction project would create several construction jobs over the anticipated one-year construction period. These additional jobs will provide a small positive impact to supporting business within both the County and State such as manufacturers, building and equipment suppliers, etc.

Direct construction jobs would typically consist of on-site laborers, tradesmen, mechanical operators, supervisors, etc. Direct construction jobs created would also stimulate indirect and induced employment within other industries on the island such as retail, restaurants, material distributors, and other related businesses supporting the construction industry.

These new jobs would generate additional personal income for construction workers as well. Personal income is defined as the wages paid to the direct construction workers or operational employees associated with a development. It is anticipated that these construction jobs would likely be filled by residents from the Island of Hawai'i or within the State of Hawai'i employed within the construction industry. Indirect and induced income would also be generated from this project that would flow back in the County and State's economy. Additional income for individuals generated by this project would be spent within the local and State-wide economy creating a short-term minor positive impact.

Fiscal Factors

Fiscal impacts associated with this project would primarily involve some additional tax revenue generated to the State. Tax revenue sources for State government are composed primarily of general excise taxes (GET) on development costs and construction materials, along with corporate income tax. In addition, GET taxes on indirect and induced income spent stimulated by the spending of direct income would also contribute new revenues to the State.

The \$17.60 million construction budget anticipated to be expended by the County for construction would generate a relatively modest increase in tax revenue to the State. Other corporate tax, income tax, and excise taxes would also be generated by this project. This amount of revenue generated is relatively minimal in comparison to State-wide total revenues, but it would result in a minor short-term positive impact on the State's fiscal condition.

County revenues are primarily limited to tax revenues on privately-owned property and improvements. This project is thus expected to have minimal impact on the current or future levels of County tax revenues being generated.

This project is not expected to generate any new permanent in-migrant residents to the Island of Hawaii to fill the few short-term construction related jobs created. Thus, there would not be any impact on State and County operational expenditures for public services serving this community and surrounding areas.

4.2 SOCIAL IMPACT FACTORS

This project would improve the County DEM's existing wastewater system serving both the Nā'ālehu and Pāhala Communities which are generally developed along the rural highway. This community is made up predominantly of residential lots, and has similar rural characteristics with other surrounding communities in the Ka'ū district.

The nature of this Ka'ū coastline generally consists of strings of separated small subdivisions and communities predominantly concentrated along the main coastal highway. Both the Nā'ālehu and Pāhala towns were once plantation agricultural towns where hundreds of surrounding acres were cultivated for sugar cane. Thus, much of the older existing residential areas, or camps, present were associated with families working for this sugar company. Since then, this plantation town has since transformed into the current rural subdivision along with more recent expansions of subdivision areas.

The population for the Nā'ālehu census designated place (CDP), which includes the project service area, was 919 persons based upon the recent 2000 Census data. There were 290 households and the median age of residents was 35.6 years (Bureau of the Census 2000). Table 4.1 shows this CDP census information in comparison to both the County and State.

The population for the Pāhala census designated place (CDP), which includes the project service area, was 1,378 persons based upon the recent 2000 Census data. There were 443 households and the median age of residents was 39.6 years (Bureau of the Census 2000). Table 4.2 shows this CDP census information in comparison to both the County and State.

The sewer improvements planned to serve the areas within Pāhala and Nā'ālehu are not expected to have a significant impact on social factors such as population and housing. The improvements would provide an improved sewer system serving these existing residences and help the County meet the EPA mandate to close existing LCCs. Therefore no changes to the population or housing of these communities are expected from this project. The improvements are also not expected to change the rural character or nature associated with these communities since it only involves sewer system improvements.

Description	Nā'ālehu CDP		Hawaii County		State of Hawaii	
	No.	%	No.	%	No.	%
Total Population	919		148,677		1,211,537	
Age:						
0 - 5 years	61	6.6%	9,130	6.1%	78,163	6.5%
5 - 9 years	82	8.9%	11,033	7.4%	84,980	7.0%
10 - 14 years	80	8.7%	11,568	7.8%	83,106	6.9%
15 - 19 years	83	9.0%	11,089	7.5%	81,002	6.7%
20 - 24 years	46	5.0%	8,232	5.5%	83,409	6.9%
25 - 34 years	95	10.3%	16,050	10.8%	171,159	14.1%
35 - 44 years	120	13.1%	22,838	15.4%	191,177	15.8%
45 - 54 years	91	9.9%	24,452	16.4%	170,979	14.1%
55 - 59 years	61	6.6%	8,163	5.5%	60,561	5.0%
60 - 64 years	48	5.2%	6,003	4.0%	46,400	3.8%
65 - 74 years	84	9.1%	10,923	7.3%	85,262	7.0%
75 - 84 years	55	6.0%	7,064	4.8%	57,775	4.8%
85 years and over	33	2.4%	2,132	1.4%	17,564	1.4%
Median Age	35.6 years		38.6 years		36.2 years	
Number of Households	290		52,985		403,240	
Owner-occupied units	207 (71.4%)		34,175 (64.5%)		227,888 (56.5%)	
Renter-occupied units	83 (28.6%)		18,810 (35.5%)		175,352 (43.5%)	
Average Family Size	3.77		3.24		3.42	
Average Household Size	3.17		2.75		2.92	

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

Description	Pāhala CDP		Hawaii County		State of Hawaii	
	No.	%	No.	%	No.	%
Total Population	1,378		148,667		1,211,537	
Age:						
0 - 5 years	65	4.7%	9,130	6.1%	78,163	6.5%
5 - 9 years	85	6.2%	11,033	7.4%	84,980	7.0%
10 - 14 years	116	8.4%	11,568	7.8%	83,106	6.9%
15 - 19 years	152	11%	11,089	7.5%	81,002	6.7%
20 - 24 years	89	6.5%	8,232	5.5%	83,409	6.9%
25 - 34 years	114	8.3%	16,050	10.8%	171,159	14.1%
35 - 44 years	175	12.7%	22,838	15.4%	191,177	15.8%
45 - 54 years	195	14.2%	24,452	16.4%	170,979	14.1%
55 - 59 years	63	4.6%	8,163	5.5%	60,561	5.0%
60 - 64 years	63	4.6%	6,003	4.0%	46,400	3.8%
65 - 74 years	117	8.5%	10,923	7.3%	85,262	7.0%
75 - 84 years	106	7.7%	7,064	4.8%	57,775	4.8%
85 years and over	38	2.8%	2,132	1.4%	17,564	1.4%
Median Age	39.6 years		38.6 years		36.2 years	

Number of Households	443	52,985	403,240
Owner-occupied units	339 (76.5%)	34,175 (64.5%)	227,888 (56.5%)
Renter-occupied units	104 (23.5%)	18,810 (35.5%)	175,352 (43.5%)
Average Family Size	3.51	3.24	3.42
Average Household Size	3.08	2.75	2.92

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

4.3 SECONDARY AND CUMULATIVE IMPACTS

Secondary 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. The proposed sewer system project is expected to have minimal if any secondary impacts on resident populations, land use patterns, public facilities and infrastructure, and the natural environment associated with Pāhala and Nā‘ālehu.

Construction of this project is expected to generate only minor short-term impacts associated with these activities. Creation of short-term construction jobs are not expected to generate a substantial number of workers in-migrating to the Island of Hawaii to fill these jobs. It is anticipated that qualified local contractors on the island or within the State of Hawaii would likely be used for the project’s construction. These workers would thus have minimal if any effect on the County’s residential population or housing demand.

This project would not affect the County’s resident population growth projected for the region, and thus not generate the associated secondary effects on infrastructure, public facilities, and housing. Although the project would improve the wastewater collection system, such enhancements are not expected to significantly affect the County’s rate of in-migration or potential relocation to the area. Such decisions would be more appropriately based upon economic factors such as jobs, housing supply and costs, schools, etc.

Cumulative Impacts

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. The cumulative impacts associated with this project includes assessing the various implementation phases of the project to evaluate it and incorporating other known planned improvements within the study area that would effect or be affected by the project.

The assessment results discussed in this document incorporated the future planned conversion of the Large Capacity Cesspools in both Nā'ālehu and Pāhala communities. There are no other known developments planned in the immediate area. Existing surrounding uses outside of the immediate urban towns of Nā'ālehu and Pāhala consists of undeveloped land formerly used for former sugar cane cultivation. Other surrounding uses include macadamia nut cultivation, diversified agricultural, and cattle ranching activities.

Therefore, the discussion of impacts presented within this document has included the cumulative effects associated with the project and other reasonably foreseeable future actions being implemented. The assessment results in this document show that there are no major cumulative impacts associated with this project.

CHAPTER 5

INFRASTRUCTURE FACILITIES

This chapter addresses the project's probable effect on existing infrastructure associated with the Large Capacity Cesspool Conversion project. Due to the nature of this project, impacts would be more related to short-term construction activities, and should thus not have a significant impact on infrastructure facilities.

5.1 WATER FACILITIES

The County of Hawai'i, Department of Water Supply (DWS) owns and operates two existing water systems serving the Ka'u District. The Nā'ālehu Aquifer System (80503) is the major source of water for both systems within the Ka'u District (CWRM, 1990). The sustainable yield of the Nā'ālehu Aquifer is 117 million gallons per day (MGD).

The Pāhala System normally relies on the Ali'i Tunnel for its supply and supplements this municipal system with water from the Pāhala deep well during dry weather periods. The Pāhala Well is located at the Pāhala Reservoir site and includes an existing 0.5 MG steel water tank.

The New Mountain House Tunnel and Haa Spring are the primary sources of water for the Wai'ōhinu-Nā'ālehu System which serves the Nā'ālehu area. Nā'ālehu Well supplements the tunnel and spring sources during dry weather periods. The supply from the tunnel and spring sources is piped to Wai'ōhinu and further distributed to Nā'ālehu and South Point communities.

Existing water lines serving these communities are owned by the County, DWS and located within existing roadways.

The new sewer collection and treatment system will be located within the public rights-of-way and will replace the existing. This project will not require installation of new water lines or the relocation of existing water lines within either study area. Furthermore, completion of the LCC Conversion project will not increase the water demand for either Nā'ālehu or Pāhala communities. Therefore, this project is not expected to have an adverse impact on water supply or the DWS facilities serving residences. Design plans for this project would be appropriately coordinated with the DWS as part of the normal design process for their ministerial review and approval.

5.2 DRAINAGE FACILITIES

There is no existing County drainage system located within both Nā'ālehu or Pāhala communities. Existing stormwater runoff from the project areas generally collects along the paved roadways within each subdivision and sheet flows towards Mamalahoa Highway. The

stormwater runoff then collects along Mamalahoa Highway and disperses into open swales or grassed areas.

Development of this project should have minimal impacts on the existing drainage pattern and conditions associated with the Nā'ālehu and Pāhala communities. The project is expected to create additional impervious areas associated with the new sewer collection system. However, increases in impervious areas will be slight and there should not be a substantial increase in runoff resulting from the completion of the project. The project is not expected to change the existing drainage patterns of the project site. Therefore, the project should not have a significant adverse impact on the drainage facilities in the Nā'ālehu or Pāhala communities. Drainage plans will also be reviewed and approved by the County, and necessary improvements implemented.

5.3 WASTEWATER FACILITIES

The Ka'u District does not have a County wastewater treatment plant to provide treatment and disposal of wastewater generated from communities. The project is located beyond the County of Hawai'i's existing sewer system limits. Consequently, there are no available sewer lines within or in close proximity to the both the Nā'ālehu and Pāhala communities.

As previously described in Chapter 2 of this document, the existing wastewater system serving both the Nā'ālehu and Pāhala communities are comprised of a series of collection lines running across various residential parcels throughout the subdivisions. These gravity fed sewer lines collect and convey wastewater from residences to the community's LCC's for disposal. These existing gravity fed sewer lines are owned and have been maintained by C. Brewer Corporation. Other privately owned residences and uses within these communities have individual cesspools or possibly septic tank systems to address their wastewater.

In Nā'ālehu, there is one existing LCC that collects residential wastewater from 154 parcels. This LCC is situated on a portion of a property identified as TMK 9-05-024: 011 located along Opukea Street. There are also eight (8) other residential lots which connect to another C. Brewer Corporation sewer collection and LCC system in the area. Another large lot (TMK 9-05-024: 007) used as a fruit stand has its own LCC system in the area.

In Pāhala, a total of 127 lots are serviced by existing LCCs in the project area. There is one existing LCC which collects wastewater from 106 residential parcels and 2 non-residential parcels. The LCC serving these lots is situated on a portion of a larger property identified as TMK 9-06-002: 016 located to the south of the Maile Street and Lower Maoula Road intersection. There are also eight (8) other residential lots that are served by another C. Brewer Corporation sewer collection and LCC system in the area. Another 11 non-residential properties in the project area are presently served by other separately owned LCCs. The non-residential properties include Kau High and Pāhala Elementary School, a couple of apartment buildings, and several commercial properties.

New sewer system improvements planned for Pāhala and Nā'ālehu will consist of three components which are: 1) sewer collection system, 2) wastewater treatment, and 3) wastewater disposal. The County will be responsible for these new systems, and will implement a maintenance program to continually inspect and monitor these systems in order to prevent system failures.

The existing LCCs serving properties that are currently serviced by the C. Brewer Corporation sewer system will be closed and abandoned under this project. Sewer collection system improvements will consist of constructing new sewer mains and laterals within the public roadway rights-of-way to serve designated areas within Pāhala and Nā'ālehu.

Since this project will involve the replacement of existing LCC wastewater systems with approved IWS consisting of septic tanks, it is expected that this project will not have any adverse impact to the wastewater systems currently serving the project area. The project will provide an improvement to the sewer system serving the proposed service areas by implementing a new collection system and better wastewater treatment before being discharged.

5.4 SOLID WASTE

The County Department of Environmental Management, Wastewater/Solid Waste Division operates two County landfills, one in Kona (Pu'uanahulu Landfill) and the other in Hilo (Hilo Landfill). There are also several solid waste transfer stations located throughout the Island of Hawai'i. In the Ka'u District, there are two transfer stations which are located in Pāhala and Wai'ōhinu. Construction waste, junked cars, large white goods, and dead animals are delivered directly to the Hilo Landfill.

Construction of the LCC Conversion project will generate solid waste typical of normal construction related activities. Construction waste will be generated over a relatively short period of time, and consist primarily of vegetation, rocks, and other debris resulting from grubbing and grading. Such activities are expected to have a minimal impact on County solid waste facilities and will be properly disposed of by the contractor.

Some solid waste would be generated by this project associated with the sludge and scum collected within the septic tanks that will need to be pumped and disposed of at the County's wastewater treatment plant in Hilo. These septic tanks would be maintained by the County which will periodically require their removal either by the County or contracted by a private septic tank pumping company. Such waste will be discharged to the County's wastewater treatment plant where it would be properly treated and then disposed of at the landfill by the County as part of their normal treatment plant activities. Thus, such waste is not expected to have a significant impact on the County's solid waste facilities.

5.5 TRANSPORTATION FACILITIES

Vehicular access to Nā'ālehu and Pāhala communities is provided by the State's Mamalahoa Highway (Highway 11). This highway consists of a rural two-lane roadway which generally runs in a west to east direction and is located along the southern border of both communities. Access into the Pāhala subdivision is from Kamani Street near the Ka'u Hospital or from Maile Street located along the southern edge of this community. Access to the Nā'ālehu subdivision is from 'Ōhai Road or Kukui Road.

In Nā'ālehu and Pāhala, there are a limited number of existing roads (public and private) within the study area. The roads within the subdivision consist of two-lane roadways with unimproved shoulders and no sidewalks. Traffic along these streets is light since it is generally limited to use by residents living in the area.

In Pāhala there are a limited number of existing roads (public and private) in the study area. These roads are under the jurisdiction of the County of Hawai'i. These roads are all two-lane residential roads with no sidewalks and no defined road-side swales. These roads run generally in a north-south direction.

Short-term construction related activities are expected to cause minimal increases in traffic in the immediate project vicinities. Consequently, this project will not result in an increase in traffic volumes once the project is completed.

CHAPTER 6

PUBLIC FACILITIES AND UTILITIES

This chapter addresses the probable impact on public facilities and utilities serving the subject property. In summary, the Naalehu Pāhala Large Capacity Cesspool Conversion project is not expected to have any long-term significant effect on these facilities. Minor project related effects are expected to be primarily associated with short-term construction activities installing sewer improvements.

6.1 ELECTRICAL AND COMMUNICATION FACILITIES

Hawaii Electric Light Company, Inc. (HELCO) and Hawaiian Telcom currently provide electrical and telephone service, respectively, to existing developments in the surrounding vicinity. HELCO is regulated by the State and owns and operates a number of power generation facilities in the County. HELCO presently has overhead electrical lines situated on utility poles routed along the streets within the subdivision for both Nā'ālehu and Pāhala communities.

Construction of the sewer improvements for both the Naalehu and Pāhala communities are not expected to have an impact on existing electrical facilities operated by HELCO. Improvements would involve the construction of underground sewer lines predominantly within existing roadways and septic tank treatment facilities within undeveloped areas. As a result, such improvements are not expected to affect existing above ground utility poles. This project will also not affect the existing electrical demand generated by these communities and subsequently HELCO's power generating facilities. Appropriate design plans for this project would be coordinated with HELCO as applicable during the project's design phase.

This project would not impact Hawaiian Telecom utility lines which are situated on existing utility poles for the same reasons as those discussed under project effects to HELCO's facilities. Sewer improvements would thus not affect existing demand or Hawaiian Telcom's ability to provide communication service to these communities and the surrounding area. Appropriate design plans for this project would be coordinated with Hawaiian Telcom as applicable during the project's design phase.

6.2 MEDICAL FACILITIES

The Ka'u Hospital and Rural Health Clinic (Ka'u Hospital) services both the Nā'ālehu and Pāhala communities, and is located off of the main Hawai'i Belt Road near the entrance into the Pāhala town area.

Ka'ū Hospital is a 21-bed critical access facility providing both acute and long-term care. This hospital provides 24-hour emergency services and a family practice medical clinic with 16 long-term and 5 acute care beds. The current hospital was built in 1971 to replace the former plantation hospital and to further serve the medical needs of the area. Ka'ū Hospital became a Critical Access Hospital July of 2001 and a federally certified Rural Health Clinic was added to the spectrum of services on the hospital campus in September of 2003.

Potential impacts to this medical facility would only be associated with short-term construction activities which are typically associated with noise and fugitive dust emission. Consequently, the LCC conversion project is not expected to have a significant impact on this medical facility or its operations. Such construction activities should not adversely affect these facilities since the project areas are located a considerable distance from Ka'ū Hospital. Furthermore, the completion of the project also should not impact the medical facilities operations or services provided at Ka'ū Hospital.

6.3 EDUCATIONAL FACILITIES

The Nā'ālehu Elementary and Intermediate Schools provide public education for students in grades Kindergarten through 8th grade and is operated by the Hawai'i State Department of Education. This Nā'ālehu complex had an enrollment of about 355 students in 2006 serving students from Kindergarten through 8th grade.

There is only a single school which serves students residing in the Pāhala community. Ka'ū High and Pāhala Elementary are combined into a rural school serving students from Kindergarten through 12th grade. The elementary school serves students from Kindergarten through 8th grade from Pāhala. Ka'ū High serves students from Pāhala and includes communities in Nā'ālehu such as Wai'ōhinu (12 miles southwest of Pāhala), Mark Twain, Green Sands and Discovery Harbor subdivisions, and Hawaiian Ocean View Estates/Ocean View Ranchos (27 miles southwest of Pāhala).

The Nā'ālehu-Pāhala LCC Conversion project should not have any significant impact on these existing school facilities or the activities and operations conducted at these schools. This project would not result in direct or indirect changes to current and future enrollments projected for these schools. As a result, the existing teacher and administrative staffing requirements for these schools would not be affected.

Potential impacts to these schools would mostly be associated with short-term construction-related activities. Noise and dust emissions would likely constitute the primary impacts associated with construction activities. In order to mitigate these impacts, the contractor would be required to comply with applicable regulations and permit conditions governing construction activities to minimize disruptions to on-going classes, and nearby residential areas. Best management practices (BMP's) would be implemented to minimize dust, erosion, and other impacts from

construction-related activities in accordance with permit requirements and State DOH regulations. Prior to the start of construction activities, notification will be given to the principals of each school of the pending work and if there will be changes in traffic patterns or utility service to these schools.

6.4 POLICE PROTECTION

The Hawai'i County Police Department provides services to the Ka'u District which includes both Nā'ālehu and Pāhala communities. A single police station located in Nā'ālehu which serves the entire Kau district. The Kau Patrol District encompasses 700 square miles and is bound by the Kona District at Kaulanamauna and the Puna District at Keauhou Landing. Its officers operate out of a central station in Naalehu and a substation in Hawai'i Ocean View Estates subdivision.

The project is expected to create no additional demand for police protection and related services since it will not increase the resident population or visitors to the area. This project should have minimal impact on the police department's operations or ability to provide adequate protection services to the surrounding community. If necessary, off-duty police staff may be hired to assist in directing traffic during construction activities.

6.5 FIRE PROTECTION

There are fire stations located within both the Nā'ālehu and Pāhala communities. Each station is within a mile from the project sites. The regular fire stations and three of the volunteer stations (Lāupahoehoe, Pāhala, Naalehu) provide 24-hour fire protection and emergency medical services. The County has contracted with the State Department of Health for emergency medical ambulance services. All fire department personnel who provide basic and advanced life support are licensed or certified as required by State law.

This cesspool conversion project is not expected to have a significant impact on the County's Fire Department's facilities or ability of staff to provide fire protection services to the schools and surrounding Kau District. The project would not affect their operations nor require additional fire protection services since it does not increase the resident population or visitors to the Nā'ālehu or Pāhala areas. Appropriate design plans will also be coordinated with the Fire Department for their review during the project's design phase.

CHAPTER 7

CONFORMANCE WITH PLANS AND POLICIES

This chapter discusses the project's conformance with the State Land Use District regulations, and the County's General Plan goals and policies, and Zoning District standards.

7.1 STATE LAND USE DISTRICT

Pursuant to Chapter 205, HRS, all lands in the State of Hawai'i are classified by the State Land Use Commission (LUC) into four major land use districts. These four land use districts are Urban, Rural, Agricultural, and Conservation districts. The boundaries of these districts are shown on maps referred to as State Land Use District Boundary Maps. The State Land Use District Boundary Maps for Ka'u indicates that the project sites for Nā'ālehu and Pāhala are located within the State's Urban and Agricultural Districts. These boundaries were shown on a figure in Chapter 1.

Permitted uses within the State Land Use District are prescribed under Title 13, Chapter 205 (Land Use Commission), HRS, and the State Land Use Commission's Administrative Rules prescribed under Title 15, Subtitle 3, Chapter 15, Hawai'i Administrative Rules. Land uses within Urban Districts are governed by the ordinances or regulations of the county within which the urban district is situated. The proposed Nā'ālehu and Pāhala Large Capacity Cesspool Conversion Project is consistent with the County's zoning ordinances which are discussed later in this document.

7.2 CHAPTER 344, STATE ENVIRONMENTAL POLICY

This section discusses the project's conformance and consistency with the pertinent goals, policies, and guidelines described under Chapter 344, HRS, State Environmental Policy.

Environmental Policy

1. *Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawaii.*

The project is consistent with the State's environmental policy because the conversion would provide an improved sewer collection and treatment system, and ensure continued reliable service for the community in the future. This project would

not have an adverse impact on natural resources or the environment as discussed in the various sections of this document.

The proposed conversion, along with construction activities conducted, would meet all applicable Federal, State and County regulations to protect the environment, and all necessary permits would be obtained. Best management practices would be implemented during construction to minimize runoff and other short-term impacts such as fugitive dust and noise. Thus, this project will help conserve and preserve open space lands, and is not anticipated to impact the shoreline and ocean waters.

2. *Enhance the quality of life by:*
 - A. *Setting population limits so that the interaction between the natural and manmade environments and the population is mutually beneficial.*
 - B. *Creating opportunities for the residents of Hawaii to improve their quality of life through diverse economic activities which are stable and in balance with the physical and social environments.*
 - C. *Establishing communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian.*
 - D. *Establishing a commitment on the part of each person to protect and enhance Hawaii's environment and reduce the drain on nonrenewable resources.*

The project would be consistent with these environmental policies regarding the quality of life. The proposed project does not involve the development of any new homes or visitor units. Thus, these improvements would not adversely affect the existing or future projected resident population in the Nā'ālehu and Pāhala communities. This project would support the community by assisting the County DEM in providing improved, continuous, and reliable sewer collection service without adversely effecting the physical and social environment. The resulting interaction between the natural and man-made environments would continue to be mutually beneficial.

Construction of the project would create additional short-term construction related jobs for island residents helping County residents improve their quality of life and economic activity. Such short-term construction jobs are expected to be filled by Hawai'i residents not resulting in any in-migration.

The project does not conflict with the policy of establishing communities providing a sense of identity and wise use of land. It would support the existing community by improving the collection system reliability and its impact to the environment. As discussed in this document, the project should not adversely affect the natural environment and will be designed to be compatible with the environment.

Guidelines

1. Population

- A. *Recognize population impact as a major factor in environmental degradation and adopt guidelines to alleviate this impact and minimize future degradation.*
- B. *Recognize optimum population levels for counties and districts within the State, keeping in mind that these will change with technology and circumstance, and adopt guidelines to limit population to the levels determined.*

This project would not affect the existing or future projected resident population in both Nā'ālehu and Pāhala communities. The proposed improvements do not involve the introduction of any new residences or visitor units, and short-term construction jobs are expected to be filled by Hawai'i residents not resulting in any in-migration.

2. Land, water, mineral, visual, air, and other natural resources

- A. *Encourage the management practices which conserve and protect watersheds and water sources, forest, and open space areas.*
- B. *Establish and maintain natural area preserves, wildlife preserves, forest preserves, marine preserves, and unique ecological preserves.*

The project would be consistent with these guidelines because the improvements would not adversely impact those natural resources identified such as watersheds, forest preserves, wildlife preserves, or unique ecological preserves. The project would not impact an area that is valuable as important open space area since the project area is already designated as urban. Appropriate measures would be incorporated into the project's design to minimize erosion and address appropriate drainage requirements. Furthermore, the overall impact of the project will enhance the quality and condition of the watershed since the removal of large capacity cesspools will prevent untreated wastewater from seeping into the ground.

3. Flora and fauna

- A. *Protect endangered species of indigenous plants and animals and introduce new plants or animals only upon assurance of negligible ecological hazard.*
- B. *Foster the planting of native as well as other trees, shrubs, and flowering plants compatible to the enhancement of our environment.*

As discussed in this document, the project would not impact endangered plants or animals since none are known to be present on the site, and existing plants within the project site are primarily invasive species. This project would not introduce any new plants or animals to the area. Thus, this project would be consistent with these guidelines.

4. *Parks, recreation, and open space*

- A. *Establish, preserve and maintain scenic, historic, cultural, park and recreation areas including the shorelines, for public recreational, educational, and scientific uses.*

The project is not expected to impact significant historic properties or cultural resources and practices as discussed in Chapter 3 since there are no known sites present or traditional cultural practices directly affected by the project. The proposed improvements are not expected to significantly impact recreational areas, educational facilities, or scenic visual resources. Appropriate coordination and notification will be given to the schools in the area before construction activities begin in their area.

5. *Economic development*

- A. *Promote and foster the agricultural industry of the State; and preserve and conserve productive agricultural lands.*

The project would be consistent with this guideline because it is not expected to significantly impact the agricultural industry. The proposed improvements will occur predominantly within existing County roadways in both Nā'ālehu and Pāhala which are currently developed urban residential communities. Other privately-owned properties are not presently utilized for agricultural activities or affect such nearby activities. The project should have no effect on the overall agricultural operations occurring in the Ka'u Districts or on the County's agricultural industry.

6. *Citizen participation*

- A. *Provide for expanding citizen participation in the decision making process so it continually embraces more citizens and more issues.*

The environmental review process undertaken allows for public and government agency input to express concerns and comments associated with the project. Such opportunities include pre-assessment consultation efforts and the availability of the Draft EA for public review. Thus, the public consultation process incorporated within this environmental review process provides the general public and decision-makers with a diverse array of information to consider in evaluating this project.

7.3 COUNTY OF HAWAI'I GENERAL PLAN

This section discusses the project's conformance and consistency with relevant goals, policies, and standards from the County's existing *General Plan* dated February 2005.

A. *Economic*

1. *Goals:*

- a. *Provide residents with opportunities to improve their quality of life.*

- b. *Economic development and improvement shall be in balance with the physical and social environments of the island of Hawaii.*
 - c. *Promote and develop the island of Hawai'i into a unique scientific and cultural model, where economic gains are in balance with social and physical amenities. Development should be reviewed on the basis of total impact on the residents of the County, not only in terms of immediate short run economic benefits.*
 - d. *The County shall strive for full employment.*
2. *Policies:*
- a. *Capital improvements program shall improve the quality of existing commercial and industrial areas.*
 - b. *The County of Hawaii's land, water, air, sea, and people shall be considered as essential economic resources for present and future generations and should be protected and enhanced through the use of economic incentives.*
3. *Ka'u District Courses of Action:*
- a. *Balance development with the social and physical environment of the area. Provisions for orderly development, housing and pollution controls shall be implemented.*
 - b. *Recognize the natural beauty of the area as a major economic and social asset. Protect this resource through appropriate review processes when development is proposed.*

The project would be consistent with these goals, policies, and standards because it would create additional short-term construction related jobs for island residents. As discussed throughout this document, the proposed conversion of existing LCC's is not expected to have significant adverse impacts upon the environment. This project would assist the County DEM in providing an improved sewer collection and treatment system for the Nā'ālehu and Pāhala properties being serviced without adversely effecting the physical and social environment. This collection system improvement will provide a long-term benefit for residents by improving the surrounding natural environment which includes groundwater resources and the coastal environment with the conversion of cesspools. It will also provide a County maintained sewer system eliminating the potential for affected residents to have to address improvements and maintain a private system due to the dissolving of the C. Brewer Corporation.

C. Environmental Quality

1. *Goals:*
 - a. *Maintain and, if feasible, improve the existing environmental quality of the island.*
 - b. *Control Pollution.*
2. *Policies:*
 - a. *Take positive action to further maintain the quality of the environment.*
 - b. *Reinforce and strengthen established standards where it is necessary, principally by initiating, recommending, and adopting ordinances pertaining to the control of pollutants that affect the environment.*
 - c. *Advise the public of environmental conditions and research undertaken on the island's environment.*
 - d. *Participate in watershed management projects to improve stream and coastal water quality and encourage local communities to develop such projects.*
 - e. *Work with the appropriate agencies to adopt appropriate measures and provide incentives to control point and nonpoint sources of pollution.*
3. *Standards:*
 - a. *Pollution shall be prevented, abated, and controlled at levels which will protect and preserve the public health and well-being, through the enforcement of appropriate Federal, State and County standards.*
 - b. *Federal and State environmental regulations shall be adhered to.*

The new sewer collection and treatment system would be consistent with these environmental quality policies and goals since it would provide an improved system that will help ensure continued reliable service for residents in the future. This project would not have an adverse impact on the environment as discussed in this document and will be in line with ensuring a “clean” environment (air, soil and water) for optimum growth. It will help to improve the existing environmental conditions of the area by removing LCCs that introduce untreated wastewater into the ground.

The proposed project is in conformance with the goals of the island of Hawai‘i and will assist in the control of pollution to the coastal waters around the Ka‘u District. All structures and appurtenances constructed would meet all applicable Federal, State and County regulations to protect the environment and meet water quality requirements. This would include coordinating the review and approval of construction plans with pertinent government agencies.

D. Flood Control and Drainage

1. *Goals:*

- a. *Protect human life.*
- b. *Prevent damage to man-made improvements.*
- c. *Control pollution.*

2. *Policies:*

- b. *Encourage grassed shoulder and swale roadway design where climate and grade are conducive.*
- d. *Consider natural hazards in all land use planning and permitting.*

3. *Standards:*

- a. *Applicable standards and regulations of Chapter 10, "Erosion and Sedimentation Control," of the Hawai'i County Code.*

Given the small trench size required to install the collection system piping the project would not cause a significant increase in surface runoff or alter existing drainage patterns in the surrounding area. Design of the structures would meet County standards and requirements addressing runoff and be coordinated with appropriate regulatory agencies.

E. Historic Sites

1. *Goals:*

- a. *Protect, restore and enhance the sites, buildings and objects of significant historical and cultural importance to Hawaii.*
- b. *Appropriate access to significant historic sites, buildings, and objects of public interest should be made available.*

2. *Policies:*

- c. *The County of Hawaii shall require both public and private developers of land to provide a historical survey prior to the clearing or development of land when there are indications that the land under consideration has historical significance.*

This project is not expected to impact significant historic properties or cultural resources and practices as discussed in Chapter 3. Ka`u High and Pāhala Elementary School and Nā'ālehu Elementary and Intermediate School are on the State of Hawai'i Register of Historic Places. These historic schools are not being directly affected by the project due to the construction area ending within the County right-of-way and subsequently no impact would occur to any structures on the registered parcels. Coordination would be conducted with the SHPD to address the presence this historic site as part of this environmental review process.

In the event subsurface historic properties, such as burials, are encountered during construction, all work would stop and the SHPD would be notified. Treatment of any properties would be conducted in conformance with Chapter 6E, HRS and the §13-300, Hawai'i Administrative Rules.

F. Natural Beauty

1. *Goals:*

- a. *Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.*
- b. *Protect scenic vistas and view planes from becoming obstructed.*
- c. *Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.*

2. *Policies:*

- a. *Access easement to public or private lands which have natural or scenic value shall be provided or acquired for the public.*
- b. *Do not allow incompatible construction in areas of natural beauty.*

The project would not impact coastal or other scenic resources since there are none present on the project site or within the immediate vicinity. There are also no public scenic lookouts or viewing points from the project site. Furthermore, existing view planes will not be disturbed because all improvements will occur underground.

G. Natural Resources and Shoreline

1. *Goals:*

- a. *Protect and conserve the natural resources of the County of Hawaii from undue exploitation, encroachment and damage.*
- b. *Protect and promote the prudent use of Hawaii's unique, fragile, and significant environmental and natural resources.*
- c. *Protect rare or endangered species and habitats native to Hawaii.*
- d. *Protect and effectively manage Hawaii's open space, watersheds, and natural areas.*
- e. *Ensure that alterations to existing land forms and vegetation, except crops, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of earthquake.*

2. *Policies:*

- a. *The County shall encourage public and private agencies to manage the natural resources in a manner that avoids or minimizes adverse effects on the environment and depletion of energy and natural resources to the fullest extent.*

- b. *The County shall encourage an overall conservation ethic in the use of Hawaii's resources by protecting, preserving, and conserving the critical and significant natural resources of the County of Hawaii.*
- c. *The County shall encourage the protection of watersheds, forest, brush, and grassland from destructive agents and uses.*
- d. *The installation of utility facilities, highways and related public improvements in natural and wildland areas should avoid the contamination or despoilment of natural resources where feasible by design view, conservation principles, and by mutual agreement between County and affected agencies.*
- e. *Ensure that activities authorized or funded by the County do not damage important natural resources.*

The project would be consistent with these goals and policies. There are no rare or endangered species or significant habitats present in the project area which would be adversely affected by the improvements. As discussed in this document, the project is not expected to have a significant impact on the physical environment which includes natural resources, recreational amenities, and scenic resources. This project would not impact watersheds, forest reserves, or other important vegetation in a negative manner. Appropriate measures would be incorporated into the project's design to minimize erosion and address appropriate drainage requirements.

H. Housing

- 1. *Goals:*
 - a. *Attain safe, sanitary, and livable housing for the residents of the County of Hawai'i.*
 - b. *Create viable communities with affordable housing and suitable living environments.*
- 2. *Policies:*
 - b. *Support programs that improve, maintain, and rehabilitate the existing housing inventory to maintain the viability of existing communities.*
 - c. *Ensure that adequate infrastructure is available in appropriate locations to support the timely development of affordable housing.*

Most of the interior roads of the subdivisions are substandard. While continued in-filling of subdivisions may occur, the subdivisions are lacking adequate infrastructure. This project will assist in meeting the plans and policies of the living environment of residents in both communities by providing an improved wastewater collection system.

J. Public Utilities

1. *Goals:*
 - a. *Ensure that properly regulated, adequate, efficient and dependable public and private utility services will be available to users.*
 - b. *Maximize efficiency and economy in the provision of public utility services.*
 - c. *Design public utility facilities to fit into their surroundings or concealed from public view.*
2. *Policies:*
 - a. *Public utility facilities shall be designed so as to complement adjacent land uses and shall be operated so as to minimize pollution or disturbance.*
 - b. *Provide utilities and service facilities which minimize total cost to the public and effectively service the needs of the community.*
 - c. *Utility facilities shall be designed to minimize conflict with the natural environment and natural resources.*
 - d. *Improvement of existing utility services shall be encouraged to meet the needs of users.*
 - e. *The County shall develop short and long range capital improvement programs and plans for public utilities within its jurisdiction and which are consistent with the County General Plan.*

This project would not create adverse impacts causing increases in pollution to the community or environment. Appropriate measures would be incorporated into the project's design to minimize noise and fugitive dust emissions during construction. The conversion of the LCC to an IWS will help DEM assure that the collection system is treating the sewage in a correct and acceptable manner per EPA requirements.

Water

Policies:

- a. *Water sources shall be adequately protected to prevent depletion and contamination from natural and man-made occurrences or events.*
- c. *Seek State and Federal funds to assist in financing projects to bring the County into compliance with the Safe Drinking Water Act.*

This project will improve the quality of the groundwater within the areas of both the Nā'ālehu and Pāhala communities as described in Chapter 3. Currently both communities are serviced by groundwater sources via the Alili Tunnel and a deep well source in Pāhala and the Haaō Spings, Mountain House Tunnel Spring and deep well in Nā'ālehu. The conversion of LCCs to an improved sewer collection and treatment system will replace the inadequate systems currently in place that directly allows untreated sewage to seep into the ground water.

Sewage

Policies:

- a. *The “Sewerage Study for All Urban and Urbanized Areas of the County of Hawai‘i, State of Hawai‘i,” December 1970, and the “water Quality management Plan for the County of Hawai‘i,” December 1980, shall be updated and used as guides for the general planning of sewerage disposal systems.*
- b. *Immediate steps should be taken to designate treatment of plant sites, sewerage pump station sites, and sewer easements according to the facility plans to facilitate their acquisition.*
- c. *Continue to seek State and Federal funds to finance the construction of proposed sewer systems and improve existing systems.*

Standards:

- a. *Incorporate sewage works standards proposed in the “Sewerage Study for All Urban and Urbanized Areas of the County of Hawai‘i” and the “Water Quality Management Plan for the County of Hawai‘i.”*
- b. *Sewerage systems shall be designed for a particular area, depending on topography, geology, density of population, costs, and other considerations of the specific area.*
- c. *Applicable standards and regulations of the State Department of Health, Chapter 23 “Underground Injection Control”.*
- d. *Applicable standards and regulations of the State Department of Health, Chapter 54 “Water Quality Standards”.*
- e. *Applicable standards and regulations of the State Department of Health, Chapter 62, HRS, “Wastewater Systems”.*
- f. *All wastewater disposal systems shall conform to the applicable provisions of Chapter 11-62, Hawai‘i Administrative Rules for the Department of Health to ensure proper treatment and disposal of wastewater and to prevent further contamination of waterways, underground water sources, and the coastal waters.*

The project would be consistent with these policies and standards since it will replace the existing LCCs with an improved sewer collection and treatment system serving both the areas of Pāhala and Nā'ālehu. Such improvements would comply with the EPA mandate closing cesspools and Federal funding is planned to be utilized to finance construction of improvements. All improvements would be constructed in accordance to applicable Federal, State, and County design standards and requirements which will include their ministerial review of construction plans for approval.

7.4 COUNTY ZONING DISTRICT

The project area within Pāhala encompasses lands consisting of several different zoning districts. These districts include Single-Family Residential District (RS-7.5, RS-10, and RS-15), Village Commercial District (CV-10), Open District, and Limited Industrial District (ML-20). The Nā‘ālehu project area encompasses lands predominantly zoned Single-Family Residential District (RS-7.5), with some parcels zoned Village Commercial District (CV-10).

Under the Hawai‘i County Code, Chapter 25, Zoning (Zoning Code), the proposed project is considered a utility within a “street” because the sewer collection system (utility) would predominantly be within a County roadway right-of-way. Such roadways are used for vehicle purposes and pedestrian traffic, and the placement of utilities, or a private right-of-way for vehicular purposes which provide access to building sites. The utilities within the “street” serve a County government function for public benefit by providing improved and more reliable sewer collection service to the community.

Some segments of the sewer collection system would occur with privately-owned property, and the treatment system (septic tanks) portions will be within private property. Under the County Code, any utility for the purpose of furnishing telephone, gas, electricity, water, sewer, radio, or television shall be a permitted use in any district provided that the use is not hazardous or dangerous to the surrounding area. As a result, the sewer collection and treatment systems within Nā‘ālehu and Pāhala are permitted uses in any district, provided the County Planning Director issues Plan Approval for this use (§25-4.6 and .11). Such Plan Approval will be obtained for this project during the design phase.

7.5 COMPLIANCE WITH FEDERAL CROSS-CUTTING REQUIREMENTS

This project may also be funded by Federal Funds through the State of Hawaii’s Clean Water State Revolving Fund Program. As a result, this would constitute a Federal action, and will require the project to meet all Hawaii CWSRF program requirements which include compliance with several Federal regulations. The project’s compliance and consistency with these Federal “cross-cutting” regulations and authorities are discussed.

7.5.1 National Historic Preservation Act and Archaeological and Historic Preservation Act

The National Historic Preservation Act (NHPA), as amended (16 U.S.C. § 470), directs Federal agencies to integrate historic preservation into all activities which either directly or indirectly involve land use decisions. This is to ensure Federal leadership in the preservation of historic resources of the United States.

The Archaeological and Historic Preservation Act (AHPA), as amended (16 U.S.C. § 469-469c), further the policies of the Historic Sites Act of 1935 by providing for the preservation of cultural resources that may be damaged by Federally authorized construction activities.

National Historic Preservation Act

Under the NHPA, Section 106 and 110 are most pertinent to this project. Section 106 consultation procedures are defined by the Advisory Council on Historic Preservation (ACHP) under their regulations 36 CFR Part 800, Protection of Historic Properties. These consultation procedures require Federal agencies to take into account the effects of their undertakings on historic properties. If this project is eventually Federally funded, it would constitute a Federal “undertaking” necessitating compliance with these consultation procedures.

Based upon the assessment results conducted thus far, the proposed sewer improvements are not expected to effect historic properties or resources. The Ka`u High and Pāhala Elementary School and Nā'ālehu Elementary School are listed on the State historic register. However, these two historic properties would not be affected by the improvements as discussed in this document.

There is the potential for construction activities to encounter subsurface historic properties or resources such as human remains or cultural deposits. However, the potential for encountering such resources is expected to be low due to the current soil types associated with the project areas which are not sandy soils. Also, these areas were likely disturbed from large scale agricultural activities conducted along with the construction of the residences and roadways associated with these communities. Mitigative measures were discussed in the event subsurface human remains, cultural layer, artifacts, or other indications of human activity older than 50 years are encountered during construction activities. Such actions taken would comply with the applicable requirements of Chapter 6E, HRS, and Chapter 13-300, HAR.

Consultation with the State Historic Preservation Division was conducted under this environmental review process to evaluate potential project impacts on historic sites and obtain a determination. A pre-assessment consultation letter with information was sent to that division, and a copy of the Draft EA was also provided for their review. The Draft EA was also provided to other pertinent parties for review and comment such as the Hawaii Island Burial Council, State Office of Hawaiian Affairs, and State Department of Hawaiian Home Lands. Based upon Draft EA review comments received, the project is not expected to have a significant impact on historic or cultural resources.

Section 110 of the NHPA describes the responsibilities of Federal agencies regarding the identification, evaluation, registration, protection, and preservation of historic properties eligible or listed on the National Register of Historic Places. It also requires minimizing harm to National Historic Landmarks. This project would not affect any National Historic Landmarks since none are identified within the project areas' immediate vicinities.

Archaeological and Historic Preservation Act

Under the AHPA, Section 469a-1 (Data Recovery) is most pertinent to this project. This section generally addresses data recovery and protection of data when a project may result in the irreparable loss or destruction of significant historic data. It specifies the notification and request for preservation of data along with surveying of the site and compensation.

As previously discussed, the project is not expected to have an effect on historic sites since none should be directly affected by construction. As a result, construction of the sewer collection and treatment system should not result in the need for data recovery or the protection of such data as stipulated under this Act.

7.5.2 Clean Air Act

The Clean Air Act (16 U.S.C. § 7506(c)) was established to protect and enhance the quality of the Nation's air resources to promote the public health and welfare and the productive capacity of its population. Individual States administer much of this law by setting air pollutant limits, processing permit applications, and implementing plans addressing compliance with this Act.

The project would be consistent with this Act and the State's implementation regulations and requirements since it would not generate long-term impacts on air quality. Given the type of improvements associated with this project, the only potential effects on air quality would be associated with short-term construction activities which were addressed under Chapter 3. The contractor will implement appropriate best management practices during construction and will need to comply with fugitive dust emissions or obtain a permit from the State Department of Health.

7.5.3 Coastal Zone Management Act

The Coastal Zone Management (CZM) Act encourages the management of coastal areas and provides grants for maintaining coastal zone areas. It requires Federal agencies to be consistent with the enforceable policies of State coastal zone management programs when conducting activities affecting a coastal zone. It is intended to ensure that Federal activities are consistent with state programs for the protection and, where possible, enhancement of the nation's coastal zones.

The State's CZM policies and regulations are prescribed under Chapter 205A, HRS. The project would be consistent with those pertinent State CZM objectives and policies as discussed below. Those objectives which do not have policies that are pertinent to this project are identified below as well.

A. Objectives:

1. *Provide coastal recreational opportunities accessible to the public. (Not applicable)*
2. *Protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*
3. *Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.*
4. *Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*
5. *Provide public or private facilities and improvements important to the State's economy in suitable locations.*
6. *Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*
7. *Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*
8. *Stimulate public awareness, education, and participation in coastal management.*
9. *Protect beaches for public use and recreation. (Not applicable)*
10. *Implement the State's ocean resources management plan. (Not applicable)*

A discussion of this project's conformance and consistency with the various applicable policies developed for each objective is provided. In summary, the construction of sewer improvements to convert existing LCCs would be consistent with applicable policies. Therefore, the project would be consistent with these CZM objectives.

B. Policies:

1. *Historic Resources:*
 - a. *Identify and analyze significant archaeological resources;*
 - b. *Maximize information retention through preservation of remains and artifacts or salvage operations; and*
 - c. *Support state goals for protection, restoration, interpretation, and display of historic resources.*

As discussed in Chapter 3, the project is not expected to impact historic sites or cultural within the project area or in the immediate surrounding area. Furthermore,

most of the work would occur within existing County roadways which have been previously disturbed from other utility and roadway infrastructure construction. Coordination with the SHPD would be conducted under this environmental review process to confirm the assessment findings. If necessary, appropriate measures will be implemented during construction to mitigate potential impacts on historic resources.

2. *Scenic and open space resources:*

- a. *Identify valued scenic resources in the coastal zone management area;*
- b. *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline; and*
- c. *Encourage those developments which are not coastal dependent to locate to inland areas.*

The project is consistent with these policies since the improvements would not adversely affect scenic and open space resources as discussed in Chapter 3. There were no scenic resources present within the immediate project area that would be affected or any scenic viewing points nearby within Nā'ālehu and Pāhala. The project would have minimal effects or alterations to natural landforms, and improvements would be appropriately designed to be compatible with the surrounding environment. This LCC conversion is not coastal dependent since it involves improvements located well inland.

3. *Coastal Ecosystems:*

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

The project will be consistent with this policy since it would not disrupt existing streams through diversions or channelization, or degrade coastal water ecosystems. Best management practices would be implemented during the project's construction to minimize erosion and runoff. Such measures would be developed during the design of this project, and would comply with the County's Erosion and Sedimentation Control regulations. Other mitigative measures would be specified as part of applicable National Pollutant Discharge Elimination System (NPDES) permits obtained for this project. The project should improve coastal water ecosystems because it would replace the existing LCCs serving these areas with more appropriate wastewater treatment systems.

4. *Economic uses:*

- a. *Concentrate coastal dependent development in appropriate areas.*

The project is not a coastal dependent development, and is appropriately sited well inland to serve the community's wastewater needs.

5. *Coastal hazards:*

- a. *Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards.*
- b. *Ensure that developments comply with requirements of the Federal Flood Insurance Program.*
- c. *Prevent coastal flooding from inland projects.*

The project would not be located in coastal areas that are typically subject to storm wave, tsunami, and flooding because it is located well inland. This site is not located within a designated flood hazard area under the FIRM, or subject to non-point source pollution hazards.

6. *Managing development:*

- a. *Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;*
- b. *Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and*
- c. *Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.*

The project is consistent with these policies as it will be developed in accordance with all applicable laws, rules and regulations. Furthermore, appropriate coordination with agencies is being conducted in a coordinated manner to minimize overlapping or conflicting permit requirements. Lastly, the potential impacts of the project will be communicated to the public through the environmental review processes.

7. *Public participation:*

- a. *Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal-related issues, developments, and government activities.*

A Draft EA document was published under the environmental review process which disseminated information available to the public, government agencies, and concerned organizations on the probable impacts resulting from the project. Based upon agency and public review comments, this Final EA was completed which addresses review comments and incorporates pertinent revisions.

7.5.4 Endangered Species Act

The Endangered Species Act (16 U.S.C. § 1531) was established to ensure that Federal agencies use their authorities to protect and conserve endangered and threatened species. Section 7 of this Act requires such agencies to prevent or modify projects authorized, funded, or carried out that are likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of critical habitat of such species.

If this project is Federally funded, it would constitute a Federal “action” making it subject to Section 7 consultation under the Endangered Species Act. This project should not be considered a “major construction activity” therefore “informal consultation” would be conducted with the U.S. Fish and Wildlife Service (FWS). This consultation would be conducted to ensure that the project is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

Based upon the assessment conducted, there appears to be no known endangered or threatened species present within the project area planned for improvements or in the immediate surrounding vicinity. Most of the improvements would occur within existing County roadways that do not have endangered or threatened species present. Properties along these roadways similarly consist of existing residences. The areas where improvements are planned within privately-owned property are not known to contain or provide suitable habitat for such species. In addition, none of the project improvement areas have been designated as critical habitat by the FWS.

The site does not appear to have other resources, such as wetlands, which may be suitable for habitat by endangered birds or mammals. The majority of mammals present likely consist of alien species such as rodents or feral animals normally harmful to native avian and plant communities. No federally endangered, threatened, or candidate species, significant wetlands, or other Federal trust resources under their jurisdiction thus occur at the project site. Therefore, construction of the sewer improvements should not jeopardize the continued existence of a listed species or adversely affect designated critical habitat.

Consultation with the FWS was performed as part of this environmental review process to obtain further input and comments on this assessment. This included providing the FWS with a copy of the Draft EA for review and comments along with sending a pre-assessment consultation letter to solicit their comments. No comments were received from the FWS associated with these consultation efforts, and the project is not expected to significantly impact resources.

7.5.5 Farmland Protection Policy Act

The Farmland Protection Policy Act (7 U.S.C. § 4201) was established to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. It is also to assure that federal programs are administered in a manner that will be compatible with State, local, and private programs and policies to protect farmland.

The project should not have an adverse impact on farmlands since the proposed sewer improvements would occur within existing roadways or undeveloped property not currently utilized for agricultural production. Areas for treatment system improvements are also not utilized for agriculture. All the project areas affected are designated Urban under the State Land Use District boundary maps. As a result, the Farmland Conversion Impact Rating Form (AD 1006) should not be required for the Natural Resources Conservation Services evaluation and processing.

7.5.6 The Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. § 661) was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. This requires Federal agencies to take into consideration the effect that water-related projects would have on fish and wildlife resources, take action to prevent loss or damage to these resources, and provide for the development and improvement of these resources.

This project would not involve the control or modification of any natural streams or body of water. The improvements would occur predominantly within existing County roadways, along with some privately-owned parcels that are undeveloped. Consequently, this is not expected to negatively impact fish and wildlife resources in the immediate vicinity.

Consultation with the FWS and State DLNR was performed as part of this environmental review process to obtain further input and comments on this assessment. This included providing these agencies with a copy of the Draft EA for their review and comments. Pre-assessment consultation letters were already provided to these agencies soliciting their comments. No information or major concerns have been identified from these agencies associated with this project's effects on fish and wildlife resources.

7.5.7 Executive Order 11988 Floodplain Management

Executive Order 11988 requires Federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains. It also requires agencies to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

The proposed improvements would not be constructed within or modify a designated floodplain as identified under the FIRM. Consequently, this project would not conflict with this Executive Order.

7.5.8 Executive Order 11990 Protection of Wetlands

Executive Order 11990 was issued to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. This Order requires Federal agencies, in their planning actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided.

The improvements would occur predominantly within existing County roadways, along with some privately-owned parcels that are undeveloped. As a result, there are no known wetlands within these roadways or adjacent areas since they consist of residential lots. Similarly, improvements occurring within privately-owned parcels consist of areas that don't have any wetlands present. Consequently, the project would not affect or result in the loss or destruction of wetland, and will not conflict with this Executive Order.

7.5.9 Safe Drinking Water Act

The Safe Drinking Water Act (42 U.S.C. § 300) was established to protect public health by regulating the nation's public drinking water supply. This law incorporates many actions to protect drinking water and its sources such as rivers, lakes, reservoirs, springs, and ground water wells. Under this Act, it authorizes the U.S. Environmental Protection Agency (EPA) to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The EPA works with States to make sure that these standards are met.

The main purpose for this project is to comply with the EPA requirements requiring the closure of large capacity cesspools. Therefore, the sewer collection and treatment system improvements would support this Act by improving the quality of wastewater effluent discharged into aquifers.

7.5.10 The Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act (16 U.S.C. § 271) was established to preserve the free-flowing state of rivers that are listed in the National Wild and Scenic Rivers System or rivers under study for inclusion due to its scenic, recreational, historic, or other similar values. This Act establishes requirements applicable to water resource projects and protects both the river, or river segments, and the land immediately surrounding them.

There are no rivers within the project site or in the immediate vicinity which are included under this National Wild and Scenic Rivers System, or rivers under study for its inclusion. Consequently, this project would not impact such designated rivers or be in conflict with this Act's requirements.

7.5.11 The Wilderness Act

The Wilderness Act (16 U.S.C. § 1131) establishes a system of National Wilderness areas and a policy for protecting and managing this system. The Act prohibits motorized equipment, structures, roads, commercial enterprises, aircraft landings, and mechanical transport in these areas.

There are no areas within the project site or in the immediate vicinity which are included under this National Wilderness system. Consequently, this project would not impact such wilderness areas or be in conflict with this Act's restrictions on uses.

7.5.12 Environmental Justice

Executive Order 12898 covering Environmental Justice is intended to ensure that Federal agencies identify and address disproportionately high and adverse human health or the environmental effects of their policies, programs, and activities on minority and low income populations.

The proposed improvements would not result in a disproportionately high impact on minority populations or low-income populations in the area. This includes short-term construction related effects, long-term, and cumulative effects as discussed in various sections of this document.

The project would not require the acquisition or displacement of any homes and the associated effects on resident populations from such actions since it will involve infrastructure improvements primarily within existing roadways. Other privately-owned parcels and project areas planned to be affected by improvements would not result in adverse effects on minority and low income populations since these areas are undeveloped. Consequently, this project would be consistent with Executive Order 12898 regarding Environmental Justice.

CHAPTER 8 AGENCY AND PUBLIC CONSULTATION

Consultation with various government agencies and the community have been conducted for this project as part of the process implemented in preparing this document.

Publication of the Draft EA also provided an opportunity for government agencies, the community and affected property owners to review the document and provide comments. These consultation efforts are discussed in the Chapter, and copies of comments received are included in Appendix B of this document.

8.1 PRE-ASSESSMENT CONSULTATION (DRAFT EA)

Consultation with various Federal, State and County government agencies was conducted to obtain their comments and concerns associated with the project as part of the environmental assessment process. Letters providing project information along with a location map were sent to these parties in August 22, 2006 for their review.

A listing of agencies and organizations for which consultation letters were sent is provided below. Those providing written response are identified with a “»” symbol. Copies of their written comments received with responses are included in Appendix B.

Federal Agencies

- Department of Agriculture, Natural Resources Conservation Service
- » Department of the Army, U.S. Army Engineer District, Honolulu
- Department of the Interior, National Park Service, Pacific West Region
- Department of the Interior, Water Resources Division, Geological Survey
- Department of Transportation, Federal Highway Administration, Hawai'i Division

State of Hawai'i Agencies

- » Department of Accounting and General Services
- 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 Education
- » Department of Hawaiian Home Lands
- Department of Health
- » Department of Health, Environmental Planning Office
- Department of Land and Natural Resources
- » Department of Land and Natural Resources, State Historic Preservation Division
- » Department of Transportation

- » Department of Transportation, Hawai'i District Office, Highway Division
- » Office of Hawaiian Affairs

County of Hawai'i Agencies

- Civil Defense Agency
- » Department of Parks and Recreation
- Department of Public Works
- » Department of Research and Development
- Department of Water Supply
- Office of the Mayor
- » Fire Department
- » Police Department
- » Planning Department

Community Groups

- Senator Lorrain Inouye, 21st District
- Representative Robert Herkes, 5th District
- Council Member Bob Jacobson, District 6

Non-Governmental Agencies

- Hawaiian Electric Light Company, Inc.
- » Hawaiian Telecom, Inc.

8.2 DRAFT ENVIRONMENTAL ASSESSMENT COMMENTS

The Draft EA for this Nā'ālehu and Pāhala LCC Conversion Project was published in the February 8, 2007 issue of the State Office of Environmental Quality Control's *The Environmental Notice* initiating a 30-day public comment period that ended on March 12, 2007. Copies of the Draft EA were distributed to the following parties for review and comments.

Those parties that submitted comments are indicated with a "»" next to them. Comment letters received from these parties along with corresponding response letters from the County DEM are included in Appendix B. This Final EA has incorporated additional information in response to comments received on the Draft EA.

Federal Agencies

- Department of Agriculture, Natural Resources Conservation Service
- » Department of the Army, U.S. Army Engineer District, Honolulu
- Department of the Interior, National Park Service, Pacific West Region
- Department of the Interior, Water Resources Division, Geological Survey
- Department of Transportation, Federal Highway Administration, Hawai'i Division

State of Hawai'i Agencies

- » Department of Accounting and General Services
- 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 Education
- » Department of Hawaiian Home Lands
- Department of Health
- » Department of Health, Environmental Planning Office
- » Department of Health, Office of Environmental Quality Control
- » Department of Land and Natural Resources
- Department of Land and Natural Resources, State Historic Preservation Division
- Department of Transportation
- Department of Transportation, Hawai'i District Office, Highway Division
- » Office of Hawaiian Affairs

County of Hawai'i Agencies

- Civil Defense Agency
- Department of Parks and Recreation
- Department of Public Works
- » Department of Research and Development
- » Department of Water Supply
- Office of the Mayor
- » Fire Department
- Police Department
- » Planning Department

Community Groups

- Sentator Lorrain Inouye, 21st District
- Representative Robert Herkes, 5th District
- Council Member Bob Jacobson, District 6

Non-Governmental Agencies

- Hawaiian Electric Light Company, Inc.
- Hawaiian Telecom, Inc.

CHAPTER 9 FINDINGS AND DETERMINATION

To determine whether a proposed action may have a significant effect on the environment, the Approving Agency needs to consider every phase of the action, the expected primary and secondary consequences, cumulative effect, and the short- and long-term effects. The Approving Agency's review and evaluation of the proposed action's effect on the environment would result in a determination whether: 1) the action would have a significant effect on the environment, and an Environmental Impact Statement Preparation Notice should be issued, or 2) the action would not have a significant effect warranting a Finding of No Significant Impact (FONSI).

This chapter discusses the results of the assessment conducted for the proposed improvements associated with the Nā'ālehu-Pāhala Large Capacity Cesspool Conversion project in relation to the 13 Significance Criteria prescribed under the State Department of Health's Administrative Rules Title 11, Chapter 200. The purpose of this assessment was to consider the "significance" of potential environmental effects which includes the sum of effects on the quality of the environment along with the overall and cumulative effects. The findings are discussed below for each of these criteria.

9.1 PRELIMINARY FINDINGS

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

The project should not result in the irrevocable commitment to loss or destruction of any natural or cultural resource. As discussed in the various chapters of this document, the improvements would not negatively impact any natural or cultural resources of significance. The property being used for the collections system and IWS are within the County right-of-way and on County property. The project area's current conditions consist of developed residential subdivisions with homes and paved roadways. The proposed project would be constructed within already urbanized areas. Thus, there would be no destruction or loss of any significant, endangered, or threatened botanical, faunal, geological, or other natural resources since none are known to be present.

In terms of archaeological resources, there are no known culturally significant sites within or surrounding the project areas nor are these areas known to be used for any traditional native Hawaiian or other cultural practices. However, in the event any subsurface historic properties or burials are encountered during construction, all work would stop and the SHPD notified. Treatment of any findings would be conducted in compliance with Chapter 6E, HRS and the §13-300, Hawai'i Administrative Rules.

The project would also not restrict access to surrounding land areas which may be potentially used for traditional gathering or other cultural practices. The project would not prevent access to shoreline areas.

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

The project would not curtail the range of beneficial uses of the surrounding environment. The present and historic uses of Nā'ālehu and Pāhala project sites have been primarily residential. Thus, the improvements planned would not change the existing uses of such lands. The project would provide a needed improvement to Nā'ālehu and Pāhala residential communities by providing improved sewer collection and treatment systems.

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

The improvements would not conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS. A discussion of the project's consistency with applicable guidelines was provided in a previous chapter. This Draft EA addressed the probable environmental impacts associated with the project of which most would be primarily associated with short-term construction activities. Consequently, the improvements are not expected to have a significant impact on natural resources or the surrounding environment.

4. *Substantially affects the economic, or social welfare, cultural practices of the community or State.¹*

As discussed in this document, the project would not have any significant negative impacts on the Nā'ālehu and Pāhala communities economic or social welfare. This project would create some minor short-term construction related jobs and increased tax revenue that would have a minor positive effect on the overall economy of the County and State.

This project is not expected to significantly affect traditional native Hawaiian cultural practices occurring in the project area or surrounding areas. There are no known traditional cultural practices occurring within the project site since the project site is within the established residential communities of Nā'ālehu and Pāhala. Adjacent areas surrounding this project site are similarly used for Macadamia cultivation. Consequently, the proposed project is not expected to have an adverse impact on cultural resources or traditional cultural practices and would also not restrict access to surrounding areas which may be potentially used for traditional native Hawaiian cultural practices.

¹ This significance criteria were modified to reflect the recent change to Chapter 343, HRS approved by the Governor as Act 50 on April 26, 2000. This Act added "cultural practices" as part of the factors considered in determining the significance of an effect.

5. *Substantially affects public health.*

The project is not expected to substantially affect public health since it would involve improvements to each community's existing wastewater collection system. The proposed facilities are designed to improve soil and ground water quality by preventing untreated sewage from percolating directly in the ground. The proposed project will also reduce the likelihood of releasing disease causing pathogens and other contaminants, such as nitrate, into ground water, streams, and eventually the ocean.

Construction activities are similarly not expected to cause significant air pollution in the form of fugitive dust or generate any other type of pollutants which may have an adverse affect on public health. Construction activities would occur only during a short time period, and best management practices would be incorporated into the project's design to further minimize nuisances and other typical impacts associated with construction activity.

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

This project should not have any secondary impacts on the social environment or other infrastructure and public facilities. The project is limited to the conversion of Large Capacity Cesspools to Individual Wastewater Systems. As a result, the improvements do not include new housing units or visitor unit which would affect the area's resident population and demand for public facilities. Therefore, there would not be any elements of the project contributing to in-migration of residents or additional visitors to the island. The project would also not significantly impact other public facilities or infrastructure in the immediate area due to the types of improvements being proposed as discussed under Chapter 2.

7. *Involves a substantial degradation of environmental quality.*

The improvements would not involve a substantial degradation to the quality of the surrounding environment. This document discussed the probable impacts of several environmental factors associated with these improvements which determined that there should not be an adverse impact on the quality of the existing environment. The overall impact of the proposed project would increase the quality of the environment by preventing untreated wastewater from entering the ground and reducing the likelihood of releasing other contaminants.

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

This project only involves the conversion of Large Capacity Cesspools to Individual Wastewater Systems, and therefore does not involve a commitment for larger actions. Impacts associated with these improvements were addressed in this document and are mainly associated with short-term construction related activities. Consequently, this project

would not have an adverse significant impact on the environment both individually and cumulatively.

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

As discussed in this document, there are no known endangered, threatened, or rare botanical resources within the project site. The improvements would also not substantially affect endangered or threatened faunal or avifaunal resources which may occur in the general vicinity. Necessary control measures and best management practices would also be implemented to minimize runoff and other potential short-term impacts associated with construction activity. Thus, the project is not expected to substantially affect rare, threatened, or endangered species or potential habitat for such species.

10. *Detrimentially affects air or water quality or ambient noise levels.*

This project should not have a detrimentally significant impact on air, water quality, or ambient noise levels in the immediate vicinity of the project site. Impacts associated with these factors would mainly be limited to short-term construction activities. The immediate surrounding area is comprised of agricultural uses and open pastures. There are scattered housing units located in the surrounding area, but none are situated in the immediate vicinity of the project site. Short-term construction related impacts are expected to be minor due to the relatively low amount of grading and excavation required. To further minimize impacts, construction activities would be subject to applicable State regulations addressing air quality, noise, and water quality.

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

The project site is not located within an environmentally sensitive area, nor is it situated within a tsunami inundation zone, erosion prone area, or geologically hazardous areas. Consequently, the construction of the new sewer collection and treatment system would not be affected by those hazards or impact such environmentally sensitive areas. Furthermore, construction of the new sewer collection and treatment system would be done in compliance with applicable County building codes and DEM system standards.

12. *Substantially affects scenic vistas and viewplanes identified in county or state plans or studies.*

The project would not affect scenic vistas or view planes as discussed in Chapter 3. There are no significant views or landforms in the immediate vicinity which would be adversely affected by the project.

13. Requires substantial energy consumption.

The project would not require substantial energy consumption or increased capacity of supporting electrical facilities because it is limited to the conversion of the Large Capacity Cesspools to sewer collection and treatment system. Improvements planned are relatively minor and can be serviced using existing electrical distribution facilities and power generating sources.

9.2 DETERMINATION

A Finding of No Significant Impact (FONSI) determination should be warranted for the Nā'ālehu-Pāhala Large Capacity Cesspool Conversion Project based upon the information provided in this Final EA document. The results of the assessments conducted have determined that the sewer collection and treatment system proposed should not have a significant impact on the surrounding environment. The findings supporting this determination are based upon the previous discussion of the project's affect on the environment in relation to the 13 Significance Criteria.

CHAPTER 10 BIBLIOGRAPHY

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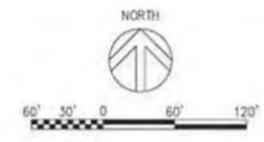
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APPENDICES

APPENDIX A

PHOTOGRAPHS OF PROJECT SITE AND SURROUNDING AREAS

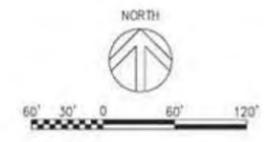


----- EXISTING SEWER COLLECTION SYSTEM



NĀ'ĀLEHU SITE VISIT PHOTOS ALONG OHAI ROAD



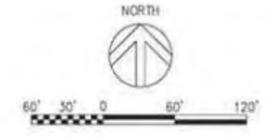


----- EXISTING SEWER COLLECTION SYSTEM



**NĀ'ĀLEHU SITE VISIT PHOTOS
MILO AND KUKUI STREETS**





----- EXISTING SEWER COLLECTION SYSTEM



NĀ'ĀLEHU SITE VISIT PHOTOS LOKELANI AND KILIKA STREETS



150' 75' 0 150' 300'

EXISTING SEWER COLLECTION SYSTEM



PĀHALA SITE VISIT PHOTOS PIKAKE STREET





**PĀHALA SITE VISIT PHOTOS
MAILE STREET**



**PĀHALA SITE VISIT PHOTOS
HUALAPA AND HINANO STREET**

APPENDIX B

CONSULTATION EFFORTS

APPENDIX B

CONSULTATION EFFORTS

APPENDIX B-1

*PRE-ASSESSMENT CONSULTATION
COMMENTS & RESPONSE LETTERS*



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

September 8, 2006

Regulatory Branch

File No. POH-2006-353

Ronald A. Sato
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

SSFM INTERNATIONAL, INC.
RECEIVED
SEP 13 2006
RAS

FILE _____

FILE COPY

Dear Mr. Sato:

This letter is in response to your letter dated August 22, 2006 for a pre-assessment consultation review comments for large capacity cesspool (LCC) conversion project in the communities of Pahala and Naalehu, Ka'u District, Hawaii Island, Hawaii (TMKs: (3) 9-06-014, (3) 9-06-014, (3) 9-06-016, and (3) 9-06-020 for Pahala, and TMKs (3) 9-05-024, (3) 9-05-025, and (3) 9-05-026 for Naalehu).

Based on the preliminary information you provided on behalf of the County of Hawaii, Department of Environmental Management – Technical Services Section (DEM) Front Street Associates, LCC, we are unable determine whether the proposed project will require a DA permit. Please submit to our office for review and comments a copy of the project's environmental assessment (EA). Additionally, please note that the EA should identify the presence of streams and wetlands in the project area and the relationship of the proposed work on these or other aquatic features.

If proposed project activities involve the placement or discharge of dredge or fill material into waters of the U.S., including adjacent wetlands, a DA permit will be required. Should you have any questions regarding this project, please contact Ms. Joy Anamizu by phone at 808-438-7023, by facsimile at 808-438-4060, or by e-mail at joy.n.anamizu@usace.army.mil and refer to the file number above.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Mr. George P. Young, Chief
Regulatory Branch
Department of the Army
US Army Engineer District
Fort Shafter, Hawai'i 96858-5440

Dear Mr. Young:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 8, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

As requested, a copy of the Draft EA will be provided for your review and comment as part of the State's 30-day public review process. There are no known streams or wetlands within the project area or in the immediate vicinity that would be affected by proposed improvements, and the Draft EA will address this. Most of the proposed improvements would consist of constructing a sewer collection system within existing County roadways.

Therefore, there are no indications at this time that the project will result in the placement or discharge of dredged or fill materials into the waters of the U.S. Consequently, we don't believe a Department of Army Permit should be required for this project.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in cursive script that reads 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

LINDA LINGLE
GOVERNOR



RUSS K. SAITO
COMPTROLLER

KATHERINE H. THOMASON
DEPUTY COMPTROLLER

STATE OF HAWAII

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

(P)1190.6

SEP 13 2006

SSFM INTERNATIONAL, INC
RECEIVED

SEP 14 2006

ras

FILE COPY

Mr. Ronald A. Sato, AICP
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, HI 96817

Dear Mr. Sato:

Subject: Naalehu and Pahala Villages
Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Various TMKs, Naalehu and Pahala, Hawaii

FILE

We would like to know if the EPA mandate or the County of Hawaii will require other adjacent properties to connect to proposed sewer lines and Individual Wastewater Systems once the project is completed. If so, the nearby Naalehu School and Naalehu State Office Building which are already in the process of implementing projects to convert existing cesspools to septic systems will be impacted.

If you have any questions regarding the above, please have your staff call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,

ERNEST Y. W. LAU
Public Works Administrator

DD:mo

c: Ms. Genevieve Salmonson, OEQC
Mr. Glenn Okada, DAGS Hawaii District Office



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Mr. Ernest Y.W. Lau, Public Works Administrator
Department of Accounting and General Services
State of Hawai'i
P.O. Box 119
Honolulu, Hawai'i 96810

Dear Mr. Lau:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 13, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

The County Department of Environmental Management has identified those properties which will be allowed to connect to the sewer collection and treatment system improvements planned under this project. These properties primarily consist of existing residential lots currently being serviced by the C. Brewer Corporation sewer system, and properties will be identified in the Draft EA published for this project. The Nā'ālehu School and Nā'ālehu State Office Building are not planned to be connected to the proposed improvements.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink that reads 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner



STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, Hawaii 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

SSFM INTERNATIONAL, INC
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SEP 13 2006
ras

FILE _____

September 11, 2006

Mr. Ronald A. Sato
Senior Project Planner
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

FILE COPY

Dear Mr. Sato:

Subject: Pre-Assessment Consultation for Draft Environmental Assessment (DEA)
Naalehu and Pahala Villages – Large Capacity Cesspool Conversion Project
Naalehu and Pahala, Hawaii

We are in receipt of your letter dated August 22, 2006, requesting our comments on the subject project during the pre-assessment consultation period for the DEA.

We have reviewed the information provided in your letter and find that the Pahala project area, as represented on Exhibit 1, is designated within the State Land Use Urban District. The Naalehu project area, as represented on Exhibit 2, is designated within the State Land Use Urban and Agricultural Districts. We suggest that the DEA include a map showing the project areas in relation to the State land use districts.

We have no further comments to offer at this time. Thank you for the opportunity to provide comments on the subject project during the pre-assessment consultation period for the DEA.

Should you have any questions, please feel free to call me or Bert Saruwatari of our office at 587-3822.

Sincerely,


ANTHONY J. H. CHING
Executive Officer



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Mr. Anthony J.H. Ching, Executive Officer
Land Use Commission
Department of Business, Economic Development & Tourism
State of Hawai'i
P.O. Box 2359
Honolulu, Hawai'i 96804

Dear Mr. Ching:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 11, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We confirm your determination that the project area for Pahala is located within the State Land Use Urban District. We also confirm that the majority of the project area for Nā'ālehu is within the Urban District while a few small portions of parcels are within the Agricultural District. The Draft EA will include a figure showing these project areas in relation to the State Land use districts.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink that reads 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

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OFFICE OF THE SUPERINTENDENT

September 12, 2006

FILE COPY

Mr. Ronald A. Sato
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

Dear Mr. Sato:

Subject: Early Consultation on Cesspool Conversions in Na`alehu and Pahala, Ka`u, Hawai`i

The Department of Education (DOE) is seeking confirmation on the scope of work being proposed in your conversion project. Is your project only concerned with building a new sewer system for those properties currently being served by the gang cesspools operated and maintained by C. Brewer?

In Exhibit 1, Ka`u High and Pahala Elementary schools are within the project area, but the school is not identified. The school's TMK numbers (9-6-5: 8 & 39) are not included in your list of Pahala parcels.

In Exhibit 2, Na`alehu Elementary and Intermediate School is not within the project area and the school's TMK numbers (9-5-9: 6 & 15) are not included in your list of Na`alehu parcels, but the school is identified on the map.

We request that the Draft Environmental Assessment (DEA) clarify the project's relationship to the two Ka`u schools. Our other concerns involve the impact of the construction on the schools. We request that the principals of the schools be notified as early as possible when there will be changes in traffic patterns or utility service. We also hope that efforts will be made to mitigate noise and dust that could affect the students while they are in school.

Thank you for the opportunity to offer our early comments. If you have any questions, please call Heidi Meeker of the Facilities Development Branch at 733-4862.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:ly

cc: Randolph Moore, Acting Assistant Superintendent, OBS
Duane Kashiwai, Public Works Manager, FDB
Mary Correa, CAS, Ka`u/Kea`au/Pahoa Complex Areas



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American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Ms. Patricia Hamamoto, Superintendent
Department of Education
State of Hawai'i
P.O. Box 2360
Honolulu, Hawai'i 96804

Dear Ms. Hamamoto:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 12, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

The Draft EA will clarify the scope of proposed improvements serving both the Pahala and Nā'ālehu areas. The primary purpose for the project is to service those residential lots currently under the C. Brewer Corporation's sewer system so that the existing large capacity cesspools can be closed. However, the County Department of Environmental Management is allowing certain other properties to connect to the proposed system which will be clarified in the Draft EA.

Ka'ū High and Pahala Elementary School is presently planned to be serviced by the new sewer collection and treatment system, and a sewer lateral will be provided for the school to connect their wastewater system. Nā'ālehu Elementary and Intermediate School is not planned to be serviced by the new system serving the Nā'ālehu project area.

The Draft EA will address the potential construction related impacts to both schools and identify potential mitigative measures that could be implemented by the contractor. Such measures will include notifying the principals of the schools in advance of pending construction activities.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

LINDA LINGLE
GOVERNOR
STATE OF HAWAII



MICAH A. KANE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

BEN HENDERSON
DEPUTY TO THE CHAIRMAN

KAULANA H. PARK
EXECUTIVE ASSISTANT

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879
HONOLULU, HAWAII 96805

September 6, 2006

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ras _____

FILE _____

FILE COPY

Mr. Ronald A. Sato, AICP
Senior Project Planner
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

Dear Mr. Sato:

Thank you for the opportunity to participate in the early consultation phase of the proposed new sewer collection system and treatment improvements project that will serve the existing communities of Na'alehu and Pahala Villages in Ka'u, Hawaii. The Department of Hawaiian Home Lands has no comments to offer at this time.

Should you have any questions, please call the Planning Office at (808) 586-3836.

Aloha and mahalo,

for

Micah A. Kane, Chairman
Hawaiian Homes Commission



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Mr. Micah Kane, Chairman
Hawaiian Homes Commission
Department of Hawaiian Home Lands
State of Hawai'i
P.O. Box 1879
Honolulu, Hawai'i 96805

Dear Mr. Kane:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 6, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We note that you have no comments to offer at this time.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

LINDA LINGLE
GOVERNOR OF HAWAII



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

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SEP 22 2006

FILE _____

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
EPO-06-159

September 18, 2006

FILE COPY

Mr. Ronald A. Sato, AICP
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

Dear Mr. Sato:

SUBJECT: Pre-Assessment Consultation for Naalehu Pahala Villages Large Capacity
Cesspool Conversion Project at Kau District, Island of Hawaii, Hawaii
TMK: (3) 9-6-014, 9-6-015, 9-6-016, 9-6-020, 512 acres for Pahala Community
(3) 9-5-024, 9-5-025, 9-5-026, 2.6 square miles for Naalehu Community

Thank you for allowing us to review and comment on the subject document dated August 22, 2006. The document was routed to the various branches of the Environmental Health Administration. We have the following Wastewater Branch comments.

Wastewater Branch

We are in favor of sewer improvements which will service our communities better and discontinue the use of Large Capacity Cesspools (LCC). Therefore we have no objections to the project and look forward to the following comments being addressed in the Draft Environmental Assessment (DEA).

We have been informed that County of Hawaii is planning to apply for a State Revolving Fund (SRF) loan to fund this project. Therefore, SRF and Federal environmental requirements need to be thoroughly addressed and included in the DEA. Please contact Ms. Sina Purder at (808) 586-4294 for additional information.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at (808) 586-4294.

Mr. Sato
September 18, 2006
Page 2

We strongly recommend that you review all of the Standard Comments on our website:
www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments
specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiakai Liu with the Environmental
Planning Office at (808) 586-4346.

Sincerely,

A handwritten signature in black ink, appearing to read "Kelvin H. Sunada", with a long horizontal flourish extending to the right.

KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
CWB



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

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American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Mr. Kelvin H. Sunada, Manager
Environmental Planning Office
Department of Health
State of Hawai'i
P.O. Box 3378
Honolulu, Hawai'i 96810-3378

Dear Mr. Sunada:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 18, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project. We appreciate your wastewater branch's support for the sewer improvements planned which will better service these communities and discontinue the use of existing large capacity cesspools.

The County of Hawai'i is planning to apply for funding for this project from the State Revolving Fund (SRF) loan program. Consequently, this Draft EA does include information to address the SRF and Federal environmental "cross cutter" requirements that are indicated in your application program guidelines.

Further, all wastewater plans will conform to the applicable provisions of the State Department of Health's Administrative Rules, Chapter 11-62, Wastewater Systems. As advised, design plans will be forwarded to your department for review and approval.

The standard comments identified in your website that are applicable to this project will be addressed in this Draft EA.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

August 31, 2006

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FILE _____

Mr. Ronald A. Sato, AICP
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, HI 96817

LOG NO: 2006.2982
DOC NO: 0608JT70
Archaeology

Dear Mr. Sato:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –
Na‘alehu and Pahala Villages Large Capacity Cesspool Conversion Project
Ka‘u District, Island of Hawai‘i
TMK: various**

Thank you for your letter of inquiry regarding the large capacity cesspool conversion project in Na‘alehu and Pahala Villages. Both of these villages have a history related to the sugar plantations of Ka‘u, and archaeological and cultural sites are also present in the vicinity. The schools in both villages are listed on the Hawaii State Register of Historic Places. Other historic properties in the area are listed in the Inventory of Historic Places. We recommend a thorough archaeological and cultural review for the Environmental Assessment to evaluate the effects of this project on any currently known or unknown historic properties (including archaeological sites, historic buildings, etc.) in these two areas. Both villages also have active historical and preservation organizations and knowledgeable individuals who should be consulted for this review.

Thank you for your inquiry. If you have any comments or questions please contact Dr. Julie Taomia of the Hawai‘i Island office at (808) 327-3691.

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

JT:gvf



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Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Ms. Melanie A. Chinen, Administrator
State Historic Preservation Division
Department of Land and Natural Resources
State of Hawai'i
601 Kamokila Boulevard, Room 555
Kapolei, Hawai'i 96707

Dear Ms. Chinen:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated August 31, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

Additionally, thank you for the information associated with the presence of archaeological and cultural sites in these areas. We are aware of the history related to sugar plantations associated with these communities along with the school in boths being listed on the Hawai'i State Register of Historic Places.

Information associated with these two schools and other archaeological sites within the project area that may be affected by improvements will be discussed in the Draft EA. We anticipate the project should have minimal or no effect on such sites or cultural resources since the majority of improvements will consist of sewer collection lines that will be constructed underground within the rights-of-way of existing County roadways.

Your department along with other pertinent historical organizations will be provided a copy of the Draft EA for review and comment as part of the 30-day public review process.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

LINDA LINGLE
GOVERNOR



RODNEY K. HARAGA
DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

STP 8.2265

September 13, 2006

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Mr. Ronald A. Sato, AICP
Senior Project Planner
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

FILE COPY

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FILE _____

Dear Mr. Sato:

Subject: Pre-Assessment Consultation for Draft Environmental Assessment
Naalehu and Pahala Villages – Large Capacity Cesspool Conversion

Thank you for your notification of the subject project being planned by the County of Hawaii, Department of Environmental Management, Technical Services Section.

We would be concerned about any project work affecting our highway facilities or entering a highway right-of-way. Our Highways Division staff, especially the Highways Hawaii District Office, will need to be consulted on the project's planning and construction coordination.

Copies of the Draft Environmental Assessment can be sent directly to our Highways Planning Branch for distribution to all concerned highway staff, including the Hawaii District Office, for review and further comments.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation



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501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

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American Council of Engineering Companies, Member

January 10, 2007

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Mr. Barry Fukunaga, Director of Transportation
Department of Transportation
State of Hawai'i
869 Punchbowl Street
Honolulu, Hawai'i 96813-5097

Dear Mr. Fukunaga:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 13, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

Proposed improvements are not planned to occur within the rights-of-way of existing State highway facilities. Your Highways Division staff will be consulted on the project's planning which includes providing copies of the Draft EA for review as indicated.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner



SSFM INTERNATIONAL, INC.

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Honolulu, Hawaii 96817

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January 10, 2007

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Mr. Stanley Tamura, Hawai'i District Engineer
Highways Division
Department of Transportation
State of Hawai'i
50 Makaala Street
Hilo, Hawai'i 96720

Dear Mr. Tamura:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 1, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

Proposed improvements are not planned to occur within the rights-of-way of existing State highway facilities since they will be located within existing County roadways. A copy of the Draft EA will be provided to your district office for review and comments.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

Harry Kim
Mayor



Patricia G. Engelhard
Director

Pamela N. Mizuno
Deputy Director

County of Hawai'i
DEPARTMENT OF PARKS AND RECREATION
101 Pauahi Street, Suite 6 • Hilo, Hawai'i 96720
(808) 961-8311 • Fax (808) 961-8411

August 31, 2006

Mr. Ronald Sato
Senior Project Planner
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, HI 96817

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Dear Mr. Sato:

**Subject: Na'alehu and Pahala Villages
Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment**

We have reviewed the information sent on August 22nd relating to the Pre-Assessment Consultation for Draft Environmental Assessment for above-referenced LCCC Project and have no comments to offer.

Thank you for the opportunity to review project summary.

Sincerely,


Patricia G. Engelhard
Director



SSFM INTERNATIONAL, INC.

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Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

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January 10, 2007

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Ms. Patricia G. Englehard, Director
Department of Parks and Recreation
County of Hawai'i
101 Pauahi Street, Suite 6
Hilo, Hawai'i 96720

Dear Ms. Englehard:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated August 31, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We note that you have no comments to offer at this time.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink that reads 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

Harry Kim
Mayor



Jane H. Testa
Director

Diane L. Ley
Deputy Director

County of Hawaii

DEPARTMENT OF RESEARCH AND DEVELOPMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8366 • Fax (808) 935-1205
E-mail: chresdev@co.hawaii.hi.us

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13 September 2006

Mr. Ronald A. Sato, AICP
Senior Project Planner
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, HI 96817

Re: Na'alehu and Pahala Villages
Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Na'alehu and Pahala, Hawaii

Dear Mr. Sato:

Thank you for the opportunity to provide comments on this project. The partnership between the County of Hawaii and C. Brewer Co. to convert the Pahala and Na'alehu's Large Capacity Cesspools (LLC) to an approved wastewater system is an example of how a public-private partnership can provide required services to our communities. Further, it has created an impetus on the part of the County to develop an "orderly" sewer system in the developed residential areas of Pahala and Na'alehu.

Specifically, we are very concerned that sites for Individual Wastewater Systems (IWS) be carefully selected to insure that they are not situated in flood prone areas. Also, provisions for future increase in the usage of the sewer systems should be addressed in the plan.

Sincerely,

Jr Jane H. Testa
Director

MH



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Ms. Jane H. Testa Director
Department of Research and Development
County of Hawai'i
25 Aupuni Street, Room 109
Hilo, Hawai'i 96720

Dear Ms. Testa:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 13, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We appreciate your comments indicating how this project is able to utilize a public-private partnership to provide necessary sewer improvements for these communities, and to allow the County to develop and orderly sewer system.

The areas planned for individual wastewater system improvements would not be located in flood prone areas based upon the preliminary engineering work conducted as part of this project. The preliminary engineering work also addressed future demands and accommodating other parcels in appropriately planning and sizing the system.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

Harry Kim
Mayor



Lawrence K. Mahuna
Police Chief

Harry S. Kubojiri
Deputy Police Chief

County of Hawaii

POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-2389

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ras

FILE _____

August 31, 2006

Mr. Ronald Sato, AICP
Senior Project Planner
SSFM International Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

FILE COPY

Dear Mr. Sato:

**SUBJECT: NAALEHU AND PAHALA VILLAGES
LARGE CAPACITY CESSPOOL CONVERSION PROJECT
PRE-ASSESSMENT CONSULTATION FOR
DRAFT ENVIRONMENTAL ASSESSMENT**

This is in response to your letter of August 22, 2006, soliciting any comments in reference to the above-referenced project.

Staff has reviewed the Draft Environmental Assessment and has no comments or objections to offer at this time.

Sincerely,

LAWRENCE K. MAHUNA
POLICE CHIEF


RONALD T. NAKAMICHI
ASSISTANT POLICE CHIEF
AREA II OPERATIONS



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Mr. Ronald T. Nakamichi
Assistant Police Chief – Area II Division
Police Department
County of Hawai'i
349 Kapi'olani Street
Hilo, Hawai'i 96720

Dear Mr. Nakamichi:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated August 31, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We note that you have no comments to offer at this time.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink that reads 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Mr. Darryl Oliveira, Fire Chief
Fire Department
County of Hawai'i
25 Aupuni Street, Suite 103
Hilo, Hawai'i 96720

Dear Mr. Nakamichi:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated August 31, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

We note that you have no comments to offer at this time.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink that reads 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

Harry Kim
Mayor



County of Hawaii
PLANNING DEPARTMENT
101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043
(808) 961-8288 • FAX (808) 961-8742

Christopher J. Yuen
Director
Brad Kurokawa, ASLA
LEED® AP
Deputy Director

SSFM INTERNATIONAL, INC.
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September 22, 2006

Mr. Ronald A. Sato, AICP
Senior Project Planner
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu HI 96817

FILE COPY

Dear Mr. Sato:

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment
Applicant: County of Hawaii, Department of Environmental Management
Project: Sewer Collection System and Treatment Improvements
TMK: Portions of 9-5-24 to 26, Naalehu Village, Kau, Hawaii
TMK: Portions of 9-6-5, 14 to 18, and 20, Pahala Village, Kau, Hawaii

In response to your August 22, 2006 letter and information received on September 21, 2006, we have the following comments to offer:

1. We understand that the project area was revised by your client. Based on the Pahala Project Location Map, the Plats affected by the proposed improvement also includes Plats 5, 17 and 18.
2. All of the affected parcels are designated Urban by the State Land Use Commission except for TMK: 9-5-25:14 and 32, which are both designated Agricultural/Urban.
3. The General Plan designations for the affected parcels appears to include Medium Density Urban, Low Density Urban and Industrial Area. Medium Density Urban is characterized as "*Village and neighborhood commercial and single family and multiple family residential and related functions (multiple family residential – up*

Mr. Ronald A. Sato, AICP
 Senior Project Planner
 SSFM International, Inc.
 Page 2
 September 22, 2006

to 35 units per acre)". Low Density Urban is characterized as "Residential, with ancillary community and public uses, and neighborhood and convenience-type commercial uses; overall residential density may be up to six units per acre". Industrial Area states that "These areas include uses such as manufacturing and processing, wholesaling, large storage and transportation facilities, light industrial and industrial-commercial uses".

- Zonings of the affected parcels include Single-Family Residential (RS-7.5, 10 and 15), Multiple-Family Residential (RM-1.5), Village Commercial (CV-7.5 and 10), Limited Industrial (ML-20), Agricultural (A-20a) and Open (O). The zoning of the affected parcels, by Plats, are as follows:

Plat	RS-7.5	RS-10	RS-15	RM-1.5	CV-7.5	CV-10	ML-20	A-20a	O
9-5-24	x				x	x			
9-5-25	x							x	
9-5-26	x								
9-6-5		x	x						x
9-6-14	x		x						
9-6-15		x	x				x		
9-6-16			x			x			
9-6-17				x	x				
9-6-18	x								
9-6-20	x		x						

- According to the Hawaii County Code, Section 25-4-11(c), "Public uses, structures and buildings and community buildings are permitted uses in any district, provided that the director has issued plan approval for such use".
- None of the plats are located within the County's Special Management Area.

We appreciate the opportunity to comment on the proposed sewer collection system and treatment improvements for the Naalehu and Pahala Villages.

Mr. Ronald A. Sato, AICP
Senior Project Planner
SSFM International, Inc.
Page 3
September 22, 2006

If you have questions, please contact Esther Imamura or Larry Brown of this office at 961-8288, extension 257 or 258, respectively.

Sincerely,



CHRISTOPHER J. YUEN
Planning Director

ETI:mad

\\Coh31\planning\public\wpwin60\ETI\EAdraftPre-consul\Sato SSFM Naalehu Pahala CP Conversion.rtf

xc: Planning Department - Kona



SSFM INTERNATIONAL, INC.

501 Sumner Street, Suite 620

Honolulu, Hawaii 96817

Phone: (808) 531-1308

Fax: (808) 521-7348

Project Managers, Planners, & Engineers
American Council of Engineering Companies, Member

January 10, 2007

SSFM 2005_103.000

Mr. Christopher J. Yuen, Planning Director
Planning Department
County of Hawai'i
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720-3043

Dear Mr. Yuen:

Subject: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Pre-Assessment Consultation for Draft Environmental Assessment
Nā'ālehu and Pahala, Hawai'i

Thank you for your letter dated September 22, 2006 providing pre-assessment consultation comments for the preparation of the Draft Environmental Assessment (Draft EA) for the subject project.

Information associated with parcels being serviced by the sewer improvements in Pahala will be clarified in the Draft EA. Graphic showing the State Land Use District designations for parcels affected or being serviced by the project will also be provided in the document.

We appreciate and confirm the General Plan designations and Zoning district information provided for the project area. Graphics showing these designations for parcels affected or being serviced by the project will be provided in the Draft EA.

We concur with your determination that public uses are permitted uses in any zoning district provide the Director has issued plan approval for the use. Discussion of the project's consistency with zoning district regulations will be provided. We also confirm that the proposed improvements are not situated within the County's Special Management Area.

If you have any questions on this matter, please contact me at 531-1308. Thank you.

Sincerely,

A handwritten signature in black ink that reads 'Ronald A. Sato'.

Ronald A. Sato, AICP
Senior Project Planner

APPENDIX B-2

***DRAFT ENVIRONMENTAL ASSESSMENT
COMMENTS & RESPONSE LETTERS***



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

March 5, 2007

Regulatory Branch

File No. **POH-2006-353-3**

Ronald A. Sato
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

SSFM INTERNATIONAL, INC.
RECEIVED
MAR 08 2007
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FILE

FILE COPY

Dear Mr. Sato:

This letter is in response to your letter dated February 8, 2007 for comments on a draft Environmental Assessment (EA) for Large Capacity Cesspool (LCC) Conversion Project in the communities of Pahala and Naalehu, Ka'u District, Hawaii Island, Hawaii (TMKs: (3) 9-06-014, (3) 9-06-014, (3) 9-06-016, and (3) 9-06-020 for Pahala, and TMKs (3) 9-05-024, (3) 9-05-025, and (3) 9-05-026 for Naalehu).

Based on the information provided in the draft EA and our available references, we have determined all the parcels identified on which the proposed project in both the Pahala and Naalehu areas are absent of waters of the U.S. subject to our jurisdiction. We also understand the proposed project will not involve activities that require the placement of dredged or fill material into waters of the U.S. either in the nearby vicinity or elsewhere, including adjacent wetlands; **therefore, a DA permit is not required.**

Should you have any questions regarding this project, please contact Ms. Joy Anamizu by phone at 808-438-7023, by facsimile at 808-438-4060, or by e-mail at joy.n.anamizu@usace.army.mil and refer to the file number above.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
25 Aupuni Street • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086
http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Mr. George P. Young, P.E., Chief
Regulatory Branch
Department of the Army
U.S. Army Engineer District, Honolulu
Fort Shafter, Hawai'i 96858-5440

SUBJECT: Nā`ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka`ū, Hawai'i

Dear Mr. Young,

Thank you for the letter dated March 5, 2007 providing comments on the Draft Environmental Assessment for the subject project.

We confirm your determination that the improvements proposed for Pahala and Nā`ālehu are absent of waters of the U.S. subject to your jurisdiction. Therefore, a Department of Army permit is not required.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

0317

LINDA LINGLE
GOVERNOR



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

SSFM INTERNATIONAL, INC
RECEIVED

MAR 07 2007

RUSS K. SAITO
COMPTROLLER

PCS

(P)1050.7

MAR - 6 2007

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FILE COPY

Mr. Ronald A. Sato, AICP
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

Dear Mr. Sato:

Subject: Naalehu and Pahala Villages
Large Capacity Cesspool Conversion Project
Draft Environmental Assessment
Various TMKs, Naalehu and Pahala, Hawaii

The project does not impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer.

If there are any questions regarding the above, please have your staff call Mr. David DePonte of the Planning Branch at 586-0492.

Sincerely,

A handwritten signature in black ink, appearing to read "Ernest Y.W. Lau".

ERNEST Y.W. LAU
Public Works Administrator

DD:vca

c: Ms. Genevieve Salmonson, OEQC
Ms. Dora Beck, Department of Environmental Management
Mr. Glenn Okada, DAGS Hawaii District Office

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street • Hilo, Hawai'i 96720-4252

(808) 961-8083 • Fax (808) 961-8086

http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Mr. Ernest Y.W. Lau, Public Works Administrator
Department of Accounting and General Services
State of Hawai'i
P.O. Box 119
Honolulu, Hawai'i 96810

SUBJECT: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka'ū, Hawai'i

Dear Mr. Lau,

Thank you for the letter dated March 6, 2007 providing comments on the Draft Environmental Assessment for the subject project.

We confirm your determination that this project will not impact any of your projects or existing facilities, and you have no further comments to offer.

If you have any questions on this matter, please contact Ms Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

2/16

LINDA LINGLE
GOVERNOR OF HAWAII



PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

AGRICULTURE
BOATING AND OCEAN RECREATION
BUREAU OF CONSERVATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

SSFM INTERNATIONAL, INC.

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FILE

February 12, 2007

SSFM International, Inc.
501 Sumner Street Suite 620
Honolulu, Hawaii 96817

Attention: Ronald Sato, AICP

Gentlemen:

Subject: Naalehu and Pahala Villages Large Capacity Cesspool Conversion Project, Kau, Hawaii, Tax Map Key: (3) 9-5-24; 9-5-25; 9-5-26; 9-6-2; 9-6-5; 9-6-14; 9-6-15; 9-6-16; 9-6-20

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources has no comment to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Russell Y. Tsuji
Administrator

Cc: Central Files

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
25 Aupuni Street • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086
http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

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

SUBJECT: Nā`ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka`ū, Hawai'i

Dear Mr. Tsuji,

Thank you for the letter dated February 12, 2007 on the Draft Environmental Assessment for the subject project.

We note your department had no comments to offer at this time.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

A handwritten signature in cursive script that reads "Bobby Jean Leithead-Todd".

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

2313



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

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MAR 12 2007

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OFFICE OF THE SUPERINTENDENT

March 9, 2007

Mr. Ronald A. Sato
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawai'i 96817

Dear Mr. Sato:

Subject: Draft Environmental Assessment for Cesspool Conversion
in Na`alehu and Pahala, Ka`u, Hawai`i

The Department of Education (DOE) has reviewed the draft environmental assessment for the Na`alehu and Pahala large capacity cesspool conversion project.

The DOE expects that the project will serve Ka`u High and Pahala Elementary School. The school is planning to abandon its cesspool and hook into the Pahala system. The DOE has discussed these plans with the County of Hawaii, the state Department of Health, and the federal Environmental Protection Agency. We ask that we continue to be informed of the timeline of the project to coordinate actions.

Thank you for the opportunity to offer our comments. If you have any questions, please call Heidi Meeker of the Facilities Development Branch at 733-4862.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:jmb

- cc: Randolph Moore, Acting Assistant Superintendent, OBS
- Duane Kashiwai, Public Works Administrator, FDB
- Mary Correa, CAS, Ka`u/Kea`au/Pahoa Complex Areas
- Dora Beck, Department of Environmental Management, County of Hawaii

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street • Hilo, Hawai'i 96720-4252

(808) 961-8083 • Fax (808) 961-8086

http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Ms. Patricia Hamamoto, Superintendent
Department of Education
State of Hawai'i
P.O. Box 2360
Hilo, Hawai'i 96804

SUBJECT: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka'ū, Hawai'i

Dear Ms. Hamamoto,

Thank you for the letter dated March 9, 2007 providing comments on the Draft Environmental Assessment for the subject project.

The project will include improvements allowing for Ka'ū High and Pahala Elementary School to connect to the sewer system as indicated in the Draft Environmental Assessment. We will appropriately coordinate the timing of construction improvements for this system with your department.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bobby Jean Leithead-Todd".

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

2318

LINDA LINGLE
GOVERNOR
STATE OF HAWAII



MICAH A. KANE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

BEN HENDERSON
DEPUTY TO THE CHAIRMAN

KAULANA H. PARK
EXECUTIVE ASSISTANT

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879
HONOLULU, HAWAII 96805

February 16, 2007

SSFM INTERNATIONAL, INC.
RECEIVED

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FILE _____

FILE COPY

Mr. Ronald Sato, AICP
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

Dear Mr. Sato:

Thank you for the opportunity to comment on the draft Environmental Assessment report for the Naalehu and Pahala Villages Large Cesspool Conversion project proposed by the County of Hawaii's Department of Environmental Management. The Department of Hawaiian Home Lands has no comments.

Should you have any questions, please call the Planning Office at (808) 586-3836.

Aloha and mahalo,

Micah Kane
Micah A. Kane, Chairman
Hawaiian Homes Commission

for

c: County of Hawaii, Department of
Environmental Management

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
25 Aupuni Street • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086
http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Mr. Micah A. Kane, Chairman
Hawaiian Homes Commission
Department of Hawaiian Homelands
State of Hawai'i
P.O. Box 1879
Honolulu, Hawai'i 96805

SUBJECT: Nā`ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka`ū, Hawai'i

Dear Mr. Kane,

Thank you for the letter dated February 16, 2007 on the Draft Environmental Assessment for the subject project.

We note your department had no comments on the Draft Environmental Assessment.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P. E., TSS Chief
Jared K. Chang, SSFM International, Inc.

2314

LINDA LINGLE
GOVERNOR OF HAWAII



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

March 12, 2007

SSFM INTERNATIONAL, INC.
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CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
EPO-7-037

FILE COPY

Mr. Ronald Sato, AICP
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

Dear Mr. Sato:

SUBJECT: Draft Environmental Assessment for the Naalehu and Pahala Villages Large Capacity Cesspool Conversion Project, Kau, Island of Hawaii, Hawaii
TMK: (3) 9-05-024; 9-05-025 and 9-05-026 - Naalehu
(3) 9-06-002; 9-06-005; 9-06-014; 9-06-015; 9-06-016 and 9-06-020 - Pahala

Thank you for allowing us to review and comment on the subject documents. The documents were routed to the various branches of the Environmental Health Administration. We have the following Wastewater Branch, Clean Water Branch and General comments.

Wastewater Branch

We have reviewed the document which proposes wastewater system improvements for the communities of Naalehu and Pahala. The improvements are being undertaken as part of replacing several large capacity cesspools presently serving these communities. Use of such large capacity cesspools were banned by the U.S. EPA as of April 5, 2005.

The project is located in a non - critical wastewater disposal area (CWDA) where new cesspools are still allowed to be constructed. On April 16, 2004, the Department of Health granted the County of Hawaii a variance from various sections of the Hawaii Administrative Rules (HAR) Chapter 11-62. The variance allows the County to construct and use large sized septic systems to serve the subject communities. As this project is intended to be funded in part by the State's Clean Water SRF loan program and possibly with other federal funds, we have no objections to it.

All wastewater plans must meet Department's Rules, HAR Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. If you have any questions, please contact the Planning & Design Section of the Wastewater Branch at 586-4294.

Clean Water Branch

The Department of Health (DOH), Clean Water Branch (CWB) has reviewed the limited information contained in the document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 for this project. Pursuant to Federal Water Pollution Control Act (commonly known as the "Clean Water Act" (CWA) Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40, Code of Federal Regulations (CFR), Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.
2. In accordance with HAR, Sections 11-55-04 and 11-55-34.05, the Director of Health may require the submittal of an individual permit application or a Notice of Intent (NOI) for general permit coverage authorized under the National Pollutant Discharge Elimination System (NPDES).
 - a. An application for an NPDES individual permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at:
<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html>.
 - b. An NOI to be covered by an NPDES general permit is to be submitted at least 30 days before the commencement of the respective activity. A separate NOI is needed for coverage under each NPDES general permit. The NOI forms may be picked up at our office or downloaded from our website at:
<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.
 - i. Storm water associated with industrial activities, as defined in Title 40, CFR, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi). [HAR, Chapter 11-55, Appendix B]
 - ii. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.** [HAR, Chapter 11-55, Appendix C]

- iii. Discharges of treated effluent from leaking underground storage tank remedial activities. [HAR, Chapter 11-55, Appendix D]
 - iv. Discharges of once through cooling water less than one (1) million gallons per day. [HAR, Chapter 11-55, Appendix E]
 - v. Discharges of hydrotesting water. [HAR, Chapter 11-55, Appendix F]
 - vi. Discharges of construction dewatering effluent. [HAR, Chapter 11-55, Appendix G]
 - vii. Discharges of treated effluent from petroleum bulk stations and terminals. [HAR, Chapter 11-55, Appendix H]
 - viii. Discharges of treated effluent from well drilling activities. [HAR, Chapter 11-55, Appendix I]
 - ix. Discharges of treated effluent from recycled water distribution systems. [HAR, Chapter 11-55, Appendix J]
 - x. Discharges of storm water from a small municipal separate storm sewer system. [HAR, Chapter 11-55, Appendix K]
 - xi. Discharges of circulation water from decorative ponds or tanks. [HAR, Chapter 11-55, Appendix L]
3. In accordance with HAR, Section 11-55-38, the applicant for an NPDES permit is required to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. If applicable, please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.
4. Any discharges related to project construction or operation activities, with or without a Section 401 WQC or NPDES permit coverage, shall comply with the applicable State Water Quality Standards as specified in HAR, Chapter 11-54.

The Hawaii Revised Statutes, Subsection 342D-50(a), requires that "[n]o person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter, or a permit or variance issued by the director."

If you have any questions, please contact the Engineering Section, CWB, at (808) 586-4309.

Mr. Sato
March 12, 2007
Page 4

General

We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

If there are any questions about these comments please contact Jiakai Liu with the Environmental Planning Office at 586-4346.

Sincerely,



KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
WWB
CWB
EH-Hawaii
County of Hawaii Department of Environmental Management, Ms. Dora Beck

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
25 Aupuni Street • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086
http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Mr. Kelvin H. Sunada, Manager
Environmental Planning Office
Department of Health
State of Hawai'i
P.O. Box 3378
Honolulu, Hawai'i 96801-3378

SUBJECT: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka'ū, Hawai'i

Dear Mr. Sunada,

Thank you for the letter dated March 12, 2007 on the Draft Environmental Assessment for the subject project.

Wastewater Branch

Thank you for the information associated with the U.S. EPA ban on large capacity cesspools, non-critical wastewater disposal area, and the variance issued to the County. We note your branch has no objections to the proposed project. Wastewater design plans will conform to the requirements of Chapter 11-62, HAR, and they will be coordinated with your branch for review and approval.

Clean Water Branch

We have the following responses which are numbered to correspond to your comments.

1. The Department of Army was consulted on this project, and determined that a Department of Army Permit will not be required. As a result, a Section 401 Water Quality Certification will not be required as well.
2. Applications for the applicable NPDES permits will be submitted for the construction activities associated with this project.
3. A copy of necessary NPDES permit applications will be submitted to the State Historic Preservation Division (SHPD) for their review. Either a copy of the request for review by SHPD or their determination letter will be provided to your branch.

2307

4. Project related discharges will comply with the applicable State Water Quality Standards as specified under Chapter 11-54, HAR.

The project will be designed to comply with Subsection 342D-50(a), HRS associated with the discharge of water pollutants into State waters.

General

Regarding the Standard Comments from your website referred to in your letter, we provide the following responses to the other pertinent comments from your other branches.

1. Clean Air Branch.
 - Project impacts associated with fugitive dust were addressed in the Draft EA and potential mitigative measures identified that could be implemented by the contractor.
 - Construction activities conducted by the contractor will be in compliance with your Administrative Rules on fugitive dust, and adequate measures implemented to control dust.
2. Environmental Planning Office.
 - No impaired or other types of waterbodies would be affected by the project as discussed in the Draft EA.
 - NPDES permits and related permits required for this project were identified in the Draft EA and are addressed under the response to the Clean Water Branch.
 - There are no known specific prescriptions for water quality management applicable to the project site.
 - There are no known water bodies affected by the project which appear on the current List of Impaired Waters in Hawai'i.
 - The project would not affect water bodies on the list of impaired waters, therefore, information the site and watershed conditions and characteristics are not applicable.
 - The information requested on TMDLs would not be applicable to this project based upon the prior responses.
 - The Draft EA assessed the project impacts on hydrology, water quality, aquatic and riparian ecosystems at a reasonable and practicable scale given the nature of the project being proposed.
3. Health Evaluation and Emergency Response Office.
 - The project area where improvements are planned is not expected to contain arsenic contamination.
 - The project area is not expected to have a history of previous releases of hazardous materials. Thus, a "no further action" letter should not be required.
4. Noise, Radiation, and Indoor Air Quality Branch.
 - The project will comply with the pertinent Administrative Rules identified.
5. Safe Drinking Water Branch.
 - New potable water sources are not included as part of this project, thus, the engineering report, other requirements, and related comments identified would not be applicable.
 - Appropriate coordination will be conducted with this branch as part of the review and approval of design plans associated with applicable injection wells for wastewater disposal needed for this project.

6. Solid and Hazardous Waste Branch.

- An applicable solid waste management plan will be developed during the project's design phase to address construction activities.
- Solid waste generated during project construction will be directed to a permitted disposal or recycling facility.
- This project consists of underground sewer system improvements and would thus not be applicable to the comment on developing recycling facilities.
- Roadway repaving implemented by this project will consider the utilization of crushed glass aggregate discussed to the extent reasonable and practicable.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,



Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

LINDA LINGLE
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

March 5, 2007

Barbara Bell
Department of Environmental Management
25 Aupuni Street #210
Hilo, Hawaii 96720

Attn: Dora Beck

Subject: Draft environmental assessment (EA)
Naalehu & Pahala LCC Conversion Project

Dear Ms. Bell:

Please print on both sides of the pages in the final document to reduce bulk and save on paper. HRS 342G-44 requires double-sided copying in all state and county agencies, offices and facilities.

If you have any questions call Nancy Heinrich at 586-4185.

Sincerely,


GENEVIEVE SALMONSON
Director

c: Ron Sato

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
25 Aupuni Street • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086
http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
Department of Health
State of Hawai'i
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813

SUBJECT: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka'ū, Hawai'i

Dear Ms. Salmonson,

Thank you for the letter dated March 5, 2007 on the Draft Environmental Assessment for the subject project.

Copies of the Draft Environmental Assessment distributed for review during the 30-day comment period were printed on both sides to reduce bulk and save on paper. Copies of the Final Environmental Assessment will similarly be printed on both sides.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

1308



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

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March 12, 2007

Ronald Sato
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, HI 96817

**RE: Draft Environmental Assessment for the Proposed Cesspool Conversion Project,
Nā'ālehu and Pāhala, Hawai'i Island.**

Dear Mr. Sato,

The Office of Hawaiian Affairs (OHA) is in receipt of your February 8, 2007 submission and offers the following comments:

Please contact Mrs. Pele Hānoa and Mr. Earl Louis as they may have specific recommendations regarding the proposed project. Thank you for your continued correspondence.

OHA asks that, in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if the project moves forward, and if any significant cultural deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State Historic Preservation Division (SHPD/DLNR) shall be contacted.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck, Native Rights Policy Advocate, at (808) 594-0239 or jessey@oha.org.

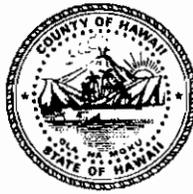
Aloha,

Clyde W. Nāmu'o
Administrator

C: Lukela Ruddle
OHA Community Affairs Coordinator (Hilo)
162 A Baker Avenue
Hilo, HI 96720-4869

Dora Beck
Department of Environmental Management
County of Hawai'i
2100 Kanoelehua Ave
Hilo, HI 96720

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street • Hilo, Hawai'i 96720-4252

(808) 961-8083 • Fax (808) 961-8086

http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Mr. Clyde W. Nāmu`o, Administrator
Office of Hawai`ian Affairs
State of Hawai`i
711 Kapi`olani Boulevard, Suite 500
Honolulu, Hawai`i 96813

SUBJECT: Nā`ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka`ū, Hawai`i

Dear Mr. Nāmu`o,

Thank you for the letter dated March 12, 2007 on the Draft Environmental Assessment for the subject project.

Proposed improvements are not expected to impact any historic or cultural resources since the majority of improvements will be within existing County roadways. We appreciate the information on your contacts noted who will be consulted as appropriate during the project's design phase.

In the event subsurface human remains, cultural layer, artifacts, or other indications of human activity older than 50 years are encountered during construction activities, all work would stop immediately and the State Historic Preservation Department notified. The treatment of any human remains encountered would be determined, and conducted in accordance with the applicable requirements of Chapter 6E, HRS, and Chapter 13-300, HAR.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

2309



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
 345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAII 96720
 TELEPHONE (808) 961-8050 • FAX (808) 961-8657

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March 13, 2007

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SSFM International, Inc.
 501 Sumner Street, Suite 620
 Honolulu, HI 96817

**DRAFT ENVIRONMENTAL ASSESSMENT
 NAALEHU - PAHALA VILLAGES LARGE CAPACITY CESSPOOL CONVERSION PROJECT
 NAALEHU AND PAHALA, KA'U, ISLAND OF HAWAII, HAWAII
 TAX MAP KEY: NAALEHU – (3) 9-5-024, 025, AND 026
 PAHALA – (3) 9-6-002, 005, 014, 015, 016 AND 020**

We have reviewed the subject Environmental Assessment and have the following comments.

The Department supports the conversion of wastewater treatment from large capacity cesspools to secondary level wastewater treatment as it will reduce the potential for contamination of our existing Naalehu production well serving Naalehu Village and the Pahala production well serving Pahala Village.

The Department requests that the construction plans show, and the proposed sewers line be installed with, the proper horizontal and vertical clearances from our existing water system facilities and concrete jacketing at waterline crossings (where necessary), as recommended by the Department's Water System Standards. In addition, backflow prevention devices must be installed where there are connections to our water system at wastewater processing and treatment facilities.

Should there be any questions, please contact Mr. Finn McCall of our Water Resources and Planning Branch at (808) 961-8070, extension 255.

Sincerely yours,

Milton D. Pavao, P.E.
 Manager

FM:dfg

copy - State of Hawaii, Office of Environmental Quality Control
 County of Hawaii, Department of Environmental Management, Wastewater Division

... Water brings progress...

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street • Hilo, Hawai'i 96720-4252

(808) 961-8083 • Fax (808) 961-8086

http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Mr. Milton D. Pavao, P.E., Manager
Department of Water Supply
County of Hawai'i
345 Kekūanaō'a Street, Suite 20
Hilo, Hawai'i 96720

SUBJECT: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka'ū, Hawai'i

Dear Mr. Pavao,

Thank you for the letter dated March 13, 2007 on the Draft Environmental Assessment for the subject project.

We appreciate your support of the planned conversion of the existing large capacity cesspools in Pahala and Nā'ālehu.

Design plans for the new sewer line collection system will be designed to provide the proper horizontal and vertical clearances from your existing water system facilities, and include concrete jacketing at waterline crossings as necessary. Backflow prevention devices will be installed as appropriate. These design plans will be coordinated through your department for review and approval.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

2306

Harry Kim
Mayor



Darryl J. Oliveira
Fire Chief

Glen P.I. Honda
Deputy Fire Chief

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PC/S

County of Hawai'i
HAWAII FIRE DEPARTMENT
25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720
(808) 981-8394 • Fax (808) 981-2037

February 22, 2007

FILE COPY

Mr. Ronald Sato
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, Hawaii 96817

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
Project Name: Naalehu and Pahala Large Capacity Cesspool Conversion Project
TAX MAP KEY: Naalehu – (3)9-05-24; (3)9-05,025 and (3)9-05-026
Pahala (3)9-06-002; 9-06-005; 9-06-014; 9-06-15; 9-06-016 and 9-06-020

We have no comments to offer at this time in reference to the above-mentioned Draft Environmental Assessment Consultation.

A handwritten signature in black ink, appearing to read "Glen Honda".

GLEN HONDA
Deputy Fire Chief

PBE:lpc



Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
25 Aupuni Street • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086
http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Glen Honda, Deputy Fire Chief
Hawai'i Fire Department
County of Hawai'i
25 Aupuni Street, Suite 103
Hilo, Hawai'i 96720

SUBJECT: Nā`ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka`ū, Hawai'i

Dear Deputy Chief Honda,

Thank you for the letter dated February 22, 2007 on the Draft Environmental Assessment for the subject project.

We note your department had no comments on the Draft Environmental Assessment at this time.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

A handwritten signature in cursive script that reads "B.J. Leithead-Todd".

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P. E., TSS Chief
Jared K. Chang, SSFM International, Inc.

2312

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
25 Aupuni Street • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086
http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Ms. Jane H. Testa, Director
Department of Research and Development
County of Hawai'i
25 Aupuni Street
Hilo, Hawai'i 96720-4252

SUBJECT: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka'ū, Hawai'i

Dear Ms. Testa,

Thank you for the letter dated March 9, 2007 on the Draft Environmental Assessment for the subject project. We have the following responses which are numbered to correspond to your comments.

1. This project may be funded by Federal Funds through the State of Hawaii's Clean Water State Revolving Fund (CWSRF) Program, and will need to meet National Environmental Policy Act (NEPA) and Hawaii CWSRF program requirements. Under the CWSRF requirements, Environmental Assessment Documents (EADs) are required to provide an assessment of the impact of a proposed project on the local environment. The Final EA includes the information and forms necessary to address EAD compliance as part of the CWSRF Program requirements.
2. Those parcels being connected to the system were determined based upon the Department of Environment Management's consultation with the Mayor's office, C. Brewer Corporation, the community, and consideration of State Department of Health wastewater regulations as it may affect required improvements. The objective for this project is to serve the proposed Nā'ālehu area due to the dissolving of the C. Brewer Corporation, and subsequent inability of the homeowners to takeover, operate, and maintain the existing 60-year old private wastewater system. Therefore, this project was initiated with the primary objective to serve these homeowners along with addressing the closure of existing large capacity cesspools under the EPA mandate.
3. The previous response is also applicable to this comment associated with the proposed service area for Pahala.

4. Thank you for the input on potential user fees for the residents of Nā'ālehu and Pahala. Appropriate user fees will be developed by our Department based upon operation and maintenance costs, which are increased due to the remote location of the communities.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,



Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

Harry Kim
Mayor



Christopher J. Yuen
Director

Brad Kurokawa, ASLA
LEED® AP
Deputy Director

County of Hawaii
PLANNING DEPARTMENT

101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043
(808) 961-8288 • FAX (808) 961-8742

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March 12, 2007

Mr. Ronald Sato, AICP
SSFM International, Inc.
501 Sumner Street, Suite 620
Honolulu, HI 96817

FILE COPY

Dear Mr. Sato:

**Draft Environmental Assessment (EA)/Anticipated Findings of
No Significant Impact
Nā'ālehu-Pahala Villages Large Capacity Cesspool Conversion Project
TMK: 9-5-24 to 26, Nā'ālehu Village
TMK: 9-6-02; 9-6-05; 9-6-14 to 16 and 9-6-20, Pahala Village, Ka'u, Hawai'i**

Thank you for the opportunity to review the Draft Environmental Assessment/Anticipated Findings of No Significant Impact for the proposed Nā'ālehu-Pahala Villages Large Capacity Cesspool Conversion Project.

We have no further comments on the document. However, please be informed that only the first page of our September 22, 2006 letter is included in the Draft EA.

Should you have any questions, please feel free to contact Alice Kawaha of this department at 961-8288, Ext. 203.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

AK:cd
p:/wpwin60/alicewin/LSatoSSFM DEANAalehu&PahalaLCC

xc: Ms. Dora Beck, Department of Environmental Management

Harry Kim
Mayor



Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street • Hilo, Hawai'i 96720-4252

(808) 961-8083 • Fax (808) 961-8086

http://co.hawaii.hi.us/directory/dir_envmng.htm

August 10, 2007

Mr. Christopher J. Yuen, Planning Director
Planning Department
County of Hawai'i
101 Pauahi Street, Suite 3
Hilo, Hawai'i 96720-3043

SUBJECT: Nā'ālehu-Pahala Large Capacity Cesspool Conversion Project
Draft Environmental Assessment Comments
Ka'ū, Hawai'i

Dear Mr. Yuen,

Thank you for the letter dated March 12, 2007 on the Draft Environmental Assessment for the subject project.

We note your department had no comments on the Draft Environmental Assessment at this time. Copies of other pages from your pre-assessment consultation response letter will be included in the Final EA, and we apologize for the printing error which didn't include them in the Draft EA.

If you have any questions on this matter, please contact Ms. Dora Beck, P.E., Technical Services Section Chief at (808) 961-8028.

Sincerely,

Bobby Jean Leithead-Todd
DIRECTOR

cc: Dora Beck, P.E., TSS Chief
Jared K. Chang, SSFM International, Inc.

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