

**DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII**

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November 28, 2007

Mr. Laurence K. Lau, Acting Director  
Office of Environmental Quality Control  
235 South Beretania Street, Room 702  
Honolulu, Hawaii 96813

**FINAL ENVIRONMENTAL ASSESSMENT (EA) AND FINDING OF NO SIGNIFICANT  
IMPACT (FONSI)  
WAIMEA WATER TREATMENT PLANT SLUDGE DRYING BEDS  
KAMUELA, SOUTH KOHALA DISTRICT, ISLAND OF HAWAII  
TAX MAP KEY (3) 6-5-001:003**

The Department of Water Supply (DWS) has reviewed the comments received during the 30-day public comment period for the Draft EA which began September 23, 2007, and has determined that the proposed project will have no significant adverse environmental impacts to native flora and fauna, and historical and/or cultural resources.

DWS hereby issues this FONSI and requests publication of this notice in the next issue of the OEQC *Environmental Notice*.

We have enclosed a completed OEQC Publication Form and three (3) copies of the Final EA (two (2) hard copies and one (1) PDF copy on compact disk.) Should you have any questions, please contact Mr. Keith Okamoto of our Engineering Division at 961-8070, extension 257.

Sincerely yours,

Milton D. Pavao, P.E.  
Manager

KKO:dfg

Enc.

*... Water brings progress...*

# FINAL ENVIRONMENTAL ASSESSMENT

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## Waimea Water Treatment Plant Sludge Drying Beds

Kamuela, South Kohala District

Island of Hawai'i

TMK (3) 6-5-001: 003

December 2007

### PREPARED FOR:

Department of Water Supply

County of Hawai'i

345 Kekuanaoa Street, Suite 20

Hilo, Hawai'i 96720

### PREPARED BY:

R.M. Towill Corporation

420 Waiakamilo Road, Suite 411

Honolulu, Hawai'i 96817

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1-20251-OP

# TABLE OF CONTENTS

SUMMARY OF PROPOSED ACTION .....	1
CHAPTER 1 - INTRODUCTION.....	2
1.1 PROJECT OVERVIEW .....	3
1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT .....	3
1.3 PURPOSE AND NEED FOR THE PROJECT.....	9
1.4 ALTERNATIVES TO THE PROPOSED ACTION .....	9
1.4.1 NO ACTION ALTERNATIVE.....	14
1.4.2 ALTERNATIVE 1: DRYING FACILITY AT THE WEST HAWAI'I LANDFILL.....	15
1.4.3 PREFERRED ALTERNATIVE: DRYING FACILITY AT THE WAIMEA WTP .....	15
CHAPTER 2 - DESCRIPTION OF THE PROPOSED ACTION .....	17
2.1 EXISTING CONDITIONS.....	17
2.2 PROPOSED ACTIVITIES.....	21
CHAPTER 3 - AFFECTED ENVIRONMENT: IMPACTS AND MITIGATION MEASURES.....	31
3.1 TOPOGRAPHY AND SOILS .....	31
3.2 NATURAL HAZARDS .....	33
3.2.1 FLOOD ZONES .....	33
3.2.2 EARTHQUAKES .....	39
3.3 AIR QUALITY .....	39
3.4 WATER QUALITY.....	40
3.5 NOISE .....	40
3.6 BIOLOGICAL RESOURCES.....	41
3.7 HISTORICAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES .....	42
3.8 SCENIC RESOURCES .....	44
CHAPTER 4 - SOCIO-ECONOMIC CONDITIONS: IMPACTS AND MITIGATION MEASURES.....	45
4.1 DEMOGRAPHICS, POPULATION AND ECONOMIC CHARACTERISTICS .....	45

CHAPTER 5 - PUBLIC SERVICES: IMPACTS AND MITIGATION MEASURES.....	47
5.1 TRAFFIC AND ROADWAYS .....	47
5.2 WASTEWATER.....	47
5.3 POTABLE WATER .....	48
5.4 SOLID WASTE .....	48
5.5 POLICE AND EMERGENCY SERVICES.....	49
5.6 FIRE PROTECTION SERVICES.....	49
5.7 ELECTRICAL AND COMMUNICATION FACILITIES.....	49
CHAPTER 6 - RELATIONSHIP TO LAND USE POLICIES AND CONTROLS OF THE AFFECTED AREA .....	51
6.1 OVERVIEW.....	51
6.2 HAWAI'I STATE PLAN .....	51
6.3 STATE LAND USE .....	52
6.4 COUNTY OF HAWAI'I GENERAL PLAN .....	55
6.5 COUNTY ZONING .....	57
6.6 SPECIAL MANAGEMENT AREA (SMA) PERMIT .....	62
CHAPTER 7 - NECESSARY PERMITS AND APPROVALS .....	63
7.1 FEDERAL .....	63
7.2 STATE OF HAWAI'I.....	63
7.3 COUNTY OF HAWAI'I.....	63
CHAPTER 8 - AGENCIES AND ORGANIZATIONS CONSULTED .....	65
8.1 STATE OF HAWAI'I.....	65
8.2 COUNTY OF HAWAI'I.....	65
8.3 ORGANIZATIONS.....	65
CHAPTER 9 - DETERMINATION OF SIGNIFICANCE .....	67
9.1 SIGNIFICANCE DETERMINATION .....	67
9.2 FINDINGS.....	71
REFERENCES.....	73

APPENDIX A. PUBLIC CONSULTATION

## LIST OF FIGURES

Figure 1	Project Location .....	5
Figure 2	TMK Map .....	7
Figure 3	Existing Facility .....	11
Figure 4	Existing Unit Process Train .....	19
Figure 5	Proposed Improvements.....	23
Figure 6	Solar Dryer System – Plan .....	25
Figure 7	Elevation Views - Solar Dryer Front Gable & Side .....	27
Figure 8	Solar Dryer System - Sections.....	29
Figure 9	Soil Map.....	35
Figure 10	Flood Zone Map .....	37
Figure 11	State Land Use Map.....	53
Figure 12	Zoning Map .....	59

## SUMMARY OF PROPOSED ACTION

Project:	Waimea Water Treatment Plant Sludge Drying Beds
Landowner / Applicant:	Department of Water Supply, County of Hawai'i
Accepting Agency:	Department of Water Supply - County of Hawai'i
Agent:	R.M. Towill Corporation
Location:	Kamuela, South Kohala District, Island of Hawai'i
Tax Map Key (TMK):	(3) 6-5-001: Parcel 003
Proposed Action:	Waimea Water Treatment Plant improvements – Construction of 9,240 square feet (sf) covered sludge drying beds, a 216 sf control center building, installation of approximately 2,000 feet of 6-inch force main, and future expansion
Land Area:	1,609,542 sf (36.95 acres) - Project area is 16,000 sf
Present Use:	Water Treatment Facility
State Land Use District:	Agricultural
General Plan Land Use Designation:	Low Density Urban & Extensive Agricultural Lands
Present Zoning:	Agricultural (A-1a & A-40a)
Special Management Area:	No
Permits Required:	Grading and Building Permits
Anticipated Determination:	Finding of No Significant Impact (FONSI)

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# CHAPTER 1 - INTRODUCTION

## 1.1 PROJECT OVERVIEW

The Hawai'i County Department of Water Supply (DWS) is proposing to construct a solar sludge drying facility to support its existing water treatment facility in Kamuela in the South Kohala District on the Island of Hawai'i. The proposed construction will include an 84' x 110' solar dryer building, a 12' x 18' control center building, and installation of approximately 2,000 linear feet of a 6-inch diameter force main and related appurtenances.

DWS proposes to commence construction in mid 2008 with construction lasting approximately 13 months. The proposed project will be funded with Hawai'i County funds at an approximate cost of \$2.5 to \$4 million.

The proposed water system improvement will take place entirely within a County property (TMK: (3) 6-5-001: Parcel 003) located in Kamuela (see **Figure 1, Project Location & Figure 2, TMK Map**). The land on which this proposed project will occur is ceded lands.

## 1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

This Environmental Assessment (EA) has been prepared pursuant to Hawai'i Revised Statutes (HRS), Section 343-5, which states an environmental assessment shall be required for actions which "Propose the use of state or county lands or the use of state or county funds, other than funds to be used for feasibility or planning studies for possible future programs or projects that the agency has not approved, adopted, or funded, or funds to be used for the acquisition of unimproved real property; provided that the agency shall consider environmental factors and available alternatives in its feasibility or planning studies."

This Final EA describes existing conditions and the limited environmental impacts

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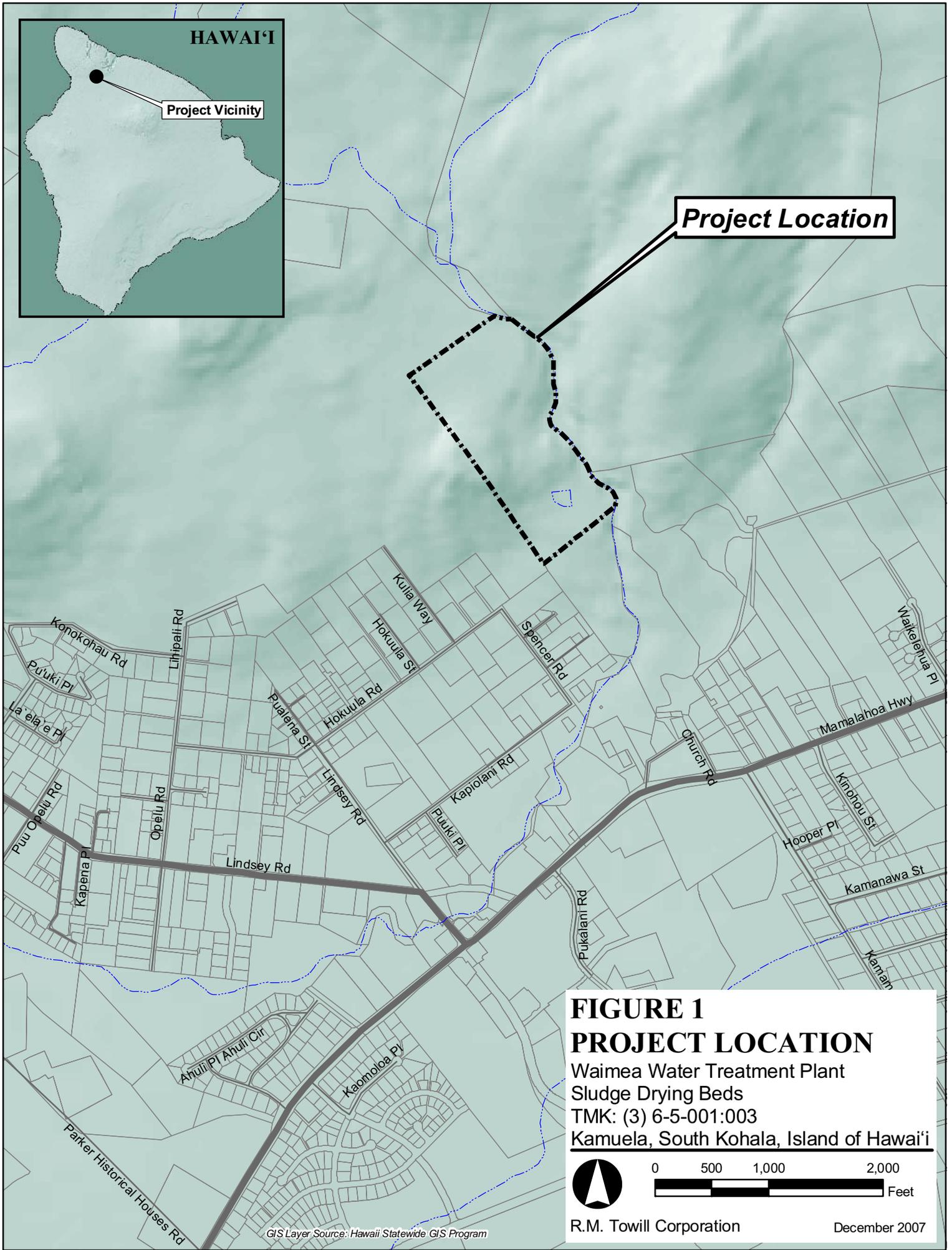
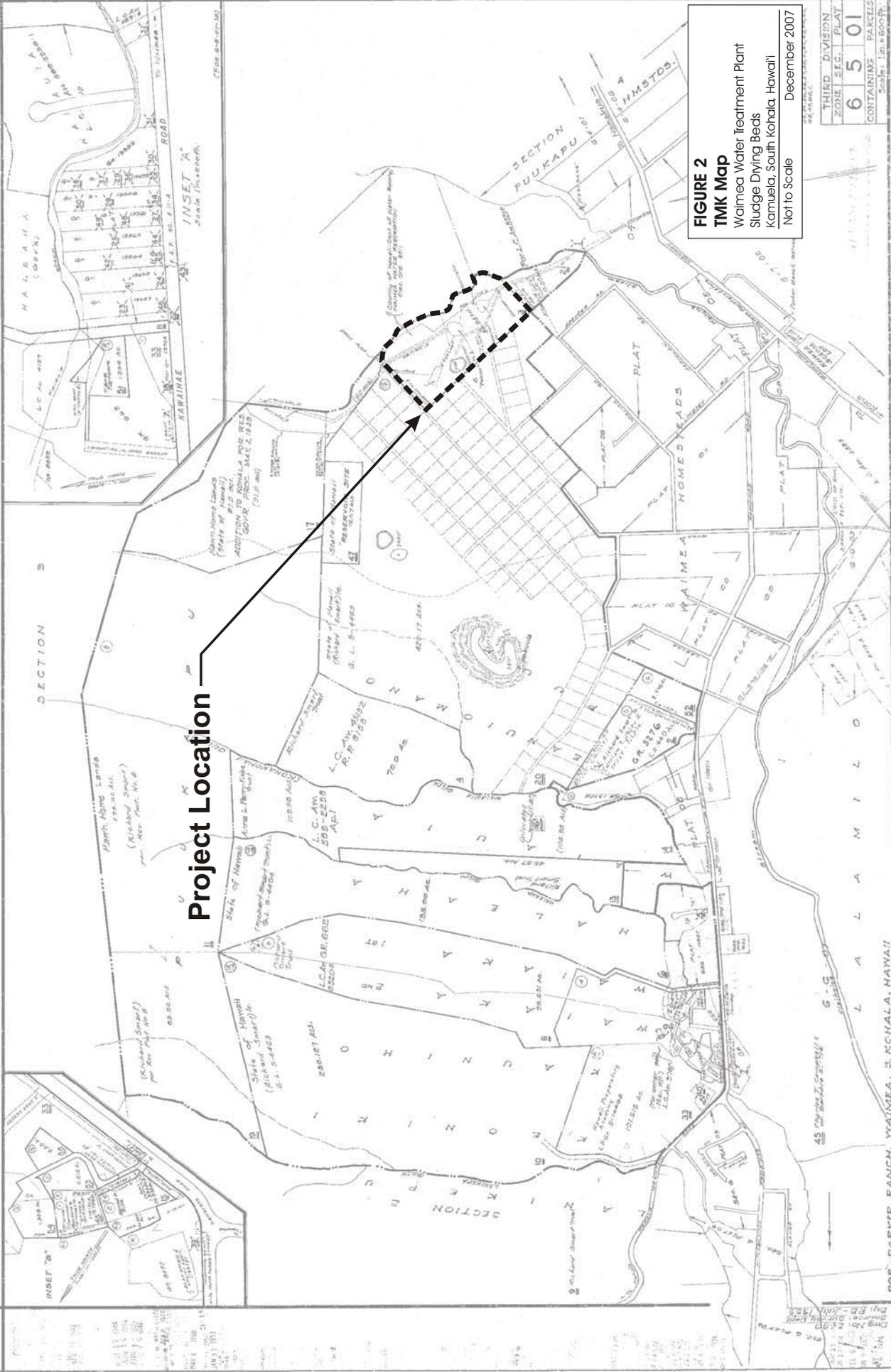


FIGURE 1 back



Project Location

**FIGURE 2**  
**TMK Map**  
 Waimea Water Treatment Plant  
 Sludge Drying Beds  
 Kamehaha, South Kohala, Hawaii  
 Not to Scale  
 December 2007

THIRD DIVISION	PLAT
ZONE 1E1	6 5 01
CONTAINING PARCELS	
Scale: 1 in. = 600 FT.	

FOR PARKER RANCH, WAIMEA, S. KOHALA, HAWAII

FIGURE 2 back

anticipated from development of the proposed project as well as mitigation measures that will reduce, minimize or eliminate adverse impacts. A Finding of No Significant Impact (FONSI) is anticipated by the DWS.

### **1.3 PURPOSE AND NEED FOR THE PROJECT**

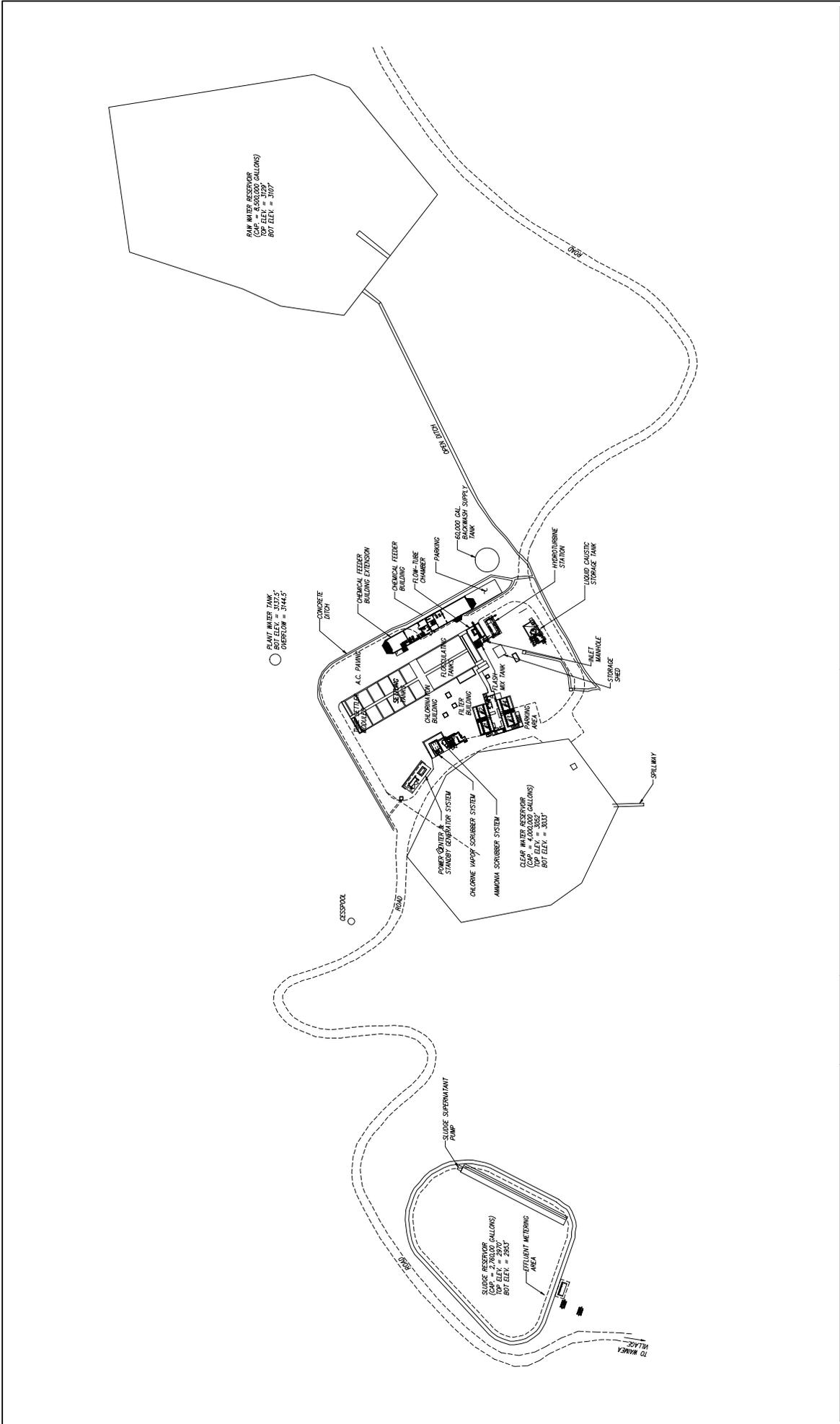
Originally built in the 1970s, the Waimea Water Treatment Plant (WTP) is a conventional water treatment plant serving Waimea town and nearby surrounding areas. The facility currently produces 2.0 million gallons per day (mgd) of potable water and has a potential capacity of 4.0 mgd (see **Figure 3, Existing Facility**). Sludge residue resulting from the water filtration process is discharged into an open 2.76 million gallon capacity concrete reservoir. The capacity of the reservoir to store the sludge is nearly exhausted, therefore prompting the need for this proposed facility improvement.

The purpose of this project is to address the long-term plan for sludge handling and disposal at the WTP facility. The proposed solar drying facility will be used to dewater and dry the WTP's sludge residue resulting in a more effective disposal process. Currently, wet sludge is being removed from the WTP facility and hauled to a disposal facility once a week in an effort to prevent the overflow of the sludge reservoir.

### **1.4 ALTERNATIVES TO THE PROPOSED ACTION**

The available options for disposing of sludge include disposal to an existing landfill or used for land application. However, State regulations governing the use of sludge from WTP for land application have not been formally implemented. Institutional requirements for setting up an initial program will likely be time consuming and require additional resources, therefore the option of utilizing the sludge for land applications is eliminated. Sludge disposal will be through the use of the County's West Hawai'i Landfill located at Pu'uanaulu, approximately 15 miles away.

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**Waikea Treatment Plant Sludge Drying Beds**

**Existing Facility**

**Figure 3**

North

SCALE: 1" = 100'

Planning - Engineering - Environmental Services - Photogrammetry - Surveying - Construction Management  
**R. M. TOWILL CORPORATION**  
 808 842 1133 420 Waikele Road Suite 411 Honolulu Hawaii 96817-4941

FIGURE 3 back

Requirements for disposal of sludge at the County landfill include:

- Material must pass the paint filter test, implying the sludge must be dewatered to a solids content of high teens to low twenties percentile. The dewatered sludge could also be part of the landfill cover.
- Sludge must be non-hazardous (an analysis of the sludge determined that there were no hazardous materials).

Processing the sludge to acceptable levels for disposal at the County landfill would involve thickening and/or dewatering activities. Conventional thickening processes are unsuitable due to the poor settleability of the sludge, however long-term storage in the existing sludge reservoir (20+ days) results in thickening of the residuals from the 0.5% sedimentation basin sludge and 0.01% filter backwash sludge, to 2.4%. Therefore it is recommended that the sludge reservoir be retained as a thickening facility.

The proposed processing of the sludge to meet the County landfill requirements would be through the use of sludge drying beds (housed inside the solar drying building). The alternatives considered involve the location of the drying beds; whether they are built at the Waimea WTP or at the West Hawai'i Landfill at Pu'uana'hulu.

To assess the effectiveness of sludge drying beds at Waimea and West Hawai'i landfill, pan evaporation rates were determined for each area. For the West Hawai'i landfill area, pan evaporation from the Waikoloa area was the closest available data. Sludge drying beds can be covered, to mitigate the negative impacts of rainfall, or uncovered. The following are the results:

- Waimea Uncovered -1.10 inches / month (not feasible)
- Waimea Covered +4.31 inches / month
- Waikoloa Uncovered +2.10 inches / month
- Waikoloa Covered +9.00 inches / month

The uncovered drying bed option at Waimea is not feasible due to the area's high rainfall environment (rainfall exceeds evaporation normal rate).

Utilizing a 24 inch thick sludge drying bed and a 30% target sludge concentration (more than enough to qualify for land disposal) the following sludge drying bed area requirements are needed for a WTP flow of 2 mgd:

- Waimea Covered 20,000 sq. ft.
- West Hawai'i Landfill Uncovered 41,000 sq. ft.
- West Hawai'i Landfill Covered 9,600 sq. ft.

Other than the No Action Alternative, only one other alternative (Alternative 1) to the proposed action was considered. Alternative 1 involves locating the proposed drying facility at the West Hawai'i Landfill at Pu'uana'hulu.

Both Alternative 1 and the Preferred Alternative require no changes to the existing in-plant residuals handling system other than diverting the discharges from the sludge reservoir to sludge drying beds or sludge haul trucks, depending on the alternative.

#### **1.4.1 NO ACTION ALTERNATIVE**

Under the No Action Alternative, the subject facility remains unimproved and the potential for environmental, social, and economic impacts disclosed in this Assessment would be precluded. Taking no action does not accomplish the stated purpose of the proposed action which is for DWS to upgrade the existing Waimea WTP to address the long-term plan for sludge disposal and alleviate the dwindling capacity of the existing sludge reservoir. DWS will have to continue its weekly removal of sludge from the reservoir to avoid an overflow event.

#### **1.4.2 ALTERNATIVE 1: DRYING FACILITY AT THE WEST HAWAI'I LANDFILL**

This alternative involves construction of the sludge drying facility (either covered or uncovered) at the West Hawai'i Landfill. Thickened sludge at the Waimea WTP is loaded onto a 2,500 gallon sludge hauling truck and hauled to the sludge drying facility at West Hawai'i Landfill. Hauling activities will occur 3 times a week resulting in 156 trips annually (compared to 28 trips annually for the Waimea option). Sludge removal is required every 10.5 months for the covered bed option and 2.5 months for the uncovered bed option at the landfill facility (as compared to 5.1 months for the Waimea option).

While the construction of the sludge drying beds at the landfill site would involve a smaller facility (in the covered option) or a larger but cheaper facility (in the uncovered option), looking at the long-term operation and maintenance of the WTP facility, this alternative would entail significantly higher hauling costs (as thinner under-watered sludge would be hauled). This option would also have a greater impact to traffic conditions as it will require hauling of sludge 3 times a week (156 trips annually).

#### **1.4.3 PREFERRED ALTERNATIVE: DRYING FACILITY AT THE WAIMEA WTP**

This alternative involves construction of the sludge drying facility at the existing Waimea WTP. Sludge to be dried would be pumped by self priming pumps to the sludge drying beds. Due to the large size of the existing sludge reservoir (which is to be used for thickening), discharge can be on a batch basis coincident with the removal of sludge. The sludge drying beds would have two compartments to allow for alternating use. Once dried to a predetermined level, the sludge is hauled to the landfill. For a 2.0 mgd process flow rate, sludge will need to be removed and hauled to the landfill every 5.1 months for each drying bed. This would require approximately 6 trips for a 10-cubic yard capacity dump truck every 2.5 months or approximately 28 truck trips annually.

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## CHAPTER 2 - DESCRIPTION OF THE PROPOSED ACTION

### 2.1 EXISTING CONDITIONS

The Waimea WTP provides treatment of surface waters to serve the South Kohala water system, the town of Waimea and surrounding areas. The site plan of the plant including one of several raw (untreated) water reservoirs is shown in Figure 3.

The major process components for this facility are listed below and presented schematically in **Figure 4, Existing Unit Process Train**.

Liquid stream processes:

- Raw water reservoirs (4)
- Coagulant feed system
- Rapid mix basin
- Flocculation / Sedimentation Basin (Using tube settlers)
- Rapid Sand Filtration
- pH adjustment (neutralization and corrosivity control)
- Chlorination
- Clearwell (storage)

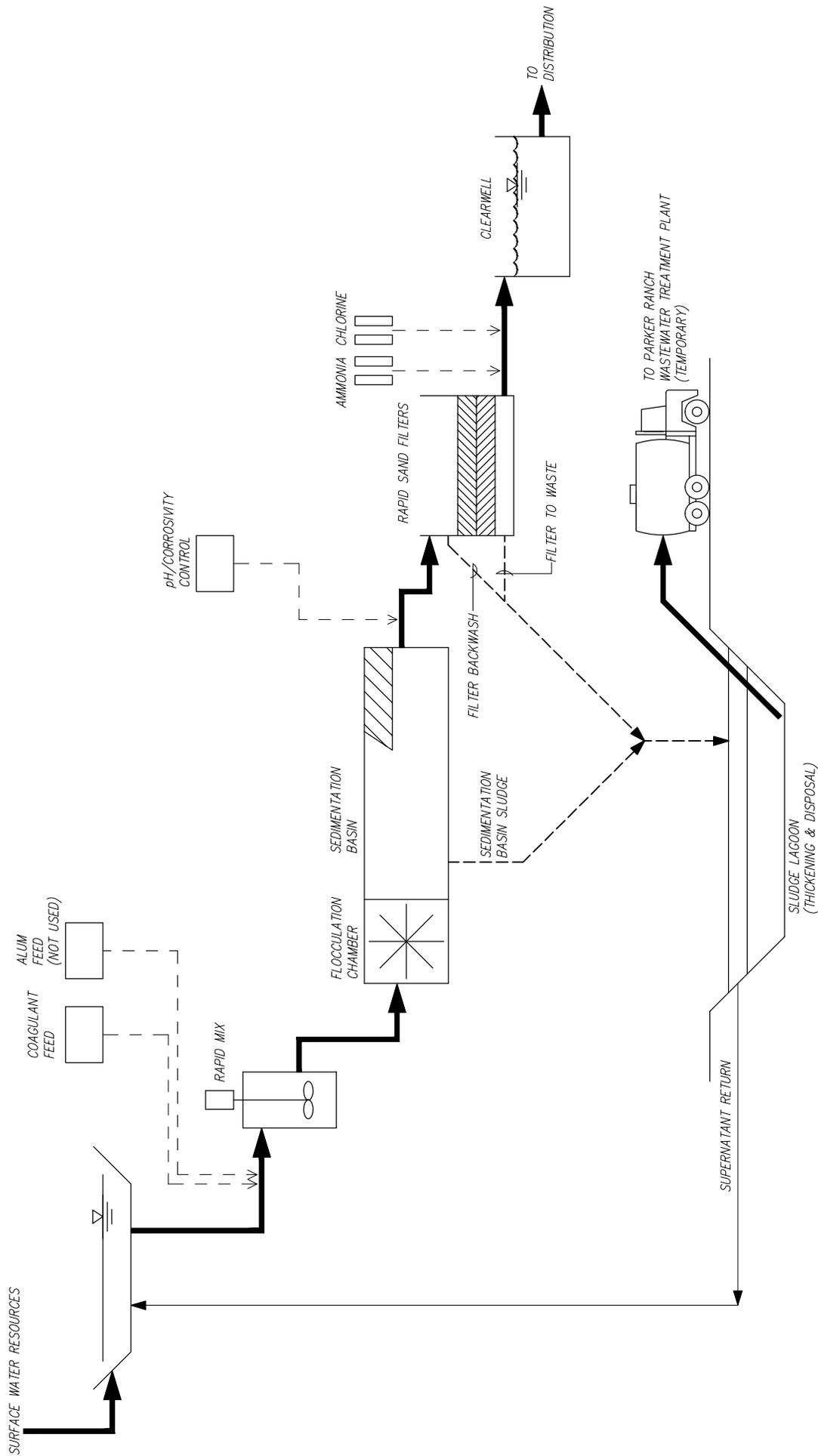
Solids stream processes:

- Sludge reservoir
- Periodic contract hauling

The Waimea WTP was initially constructed in the 1970's as a conventional water treatment plant. The ultimate design capacity of the facility is 4.0 mgd and was designed to meet the primary drinking water standards at that time.

The plant has undergone several improvements to upgrade aging equipment and to meet the requirements of the newer regulations.

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 North	<b>Existing Unit Process Train</b>	<b>Waimea Treatment Plant Sludge Drying Beds</b>
 Planning - Engineering - Environmental Services - Photogrammetry - Surveying - Construction Management <b>R. M. TOWILL CORPORATION</b> 808 842 1133 420 Waialeale Road Suite 411 Honolulu Hawaii 96817-4941		

**Figure 4**

FIGURE 4 back

Upgrades that occurred in the late 1990's include the following:

- Surface Water Treatment Rule Upgrades
- Upgrade of the Existing Rapid Sand Filters
- Compliance with the Lead and Copper Rule

The Surface Water Treatment Rule Upgrades included upgrading of the rapid mix system, modification of the chlorination system, the addition of monitoring systems, and the addition of emergency power. Chemical feed facilities have also been added to comply with the regulations on lead and copper.

The original plant's sludge handling system has not received any upgrade. Sludge from the WTP has been discharged to an open concrete reservoir since the commencing operations in the 1970's. Supernatant is currently being pumped back to the source water reservoirs. The sludge thickens to some degree and is stored in the reservoir. Currently, wet sludge is being removed from the WTP facility and hauled to a disposal site once a week in an effort to prevent the overflow of the sludge reservoir. A pumper truck hauls one load of sludge per week, or about 3,000 gallons, to the Parker Ranch Wastewater Treatment Plant.

## 2.2 PROPOSED ACTIVITIES

The proposed sludge drying facility will include construction of an 84' x 110' solar dryer building, a 12' x 18' control center building, and installation of approximately 2,000 linear feet of a 6-inch diameter force main from the sludge reservoir to the solar dryer building (See **Figures 5 - Proposed Improvements, 6 - Solar Dryer System – Plan, 7 - Elevation Views - Solar Dryer Front Gable & Side, and 8 - Solar Dryer System - Sections**). A portable pump will be used to convey sludge via the new 6-inch force main to the sludge drying beds in the solar dryer building. The solar dryer and control center buildings will be built immediately north of the 8.5 million-gallon raw water reservoir (see **Figure 5**). The proposed improvement will also involve electrical improvements and other related

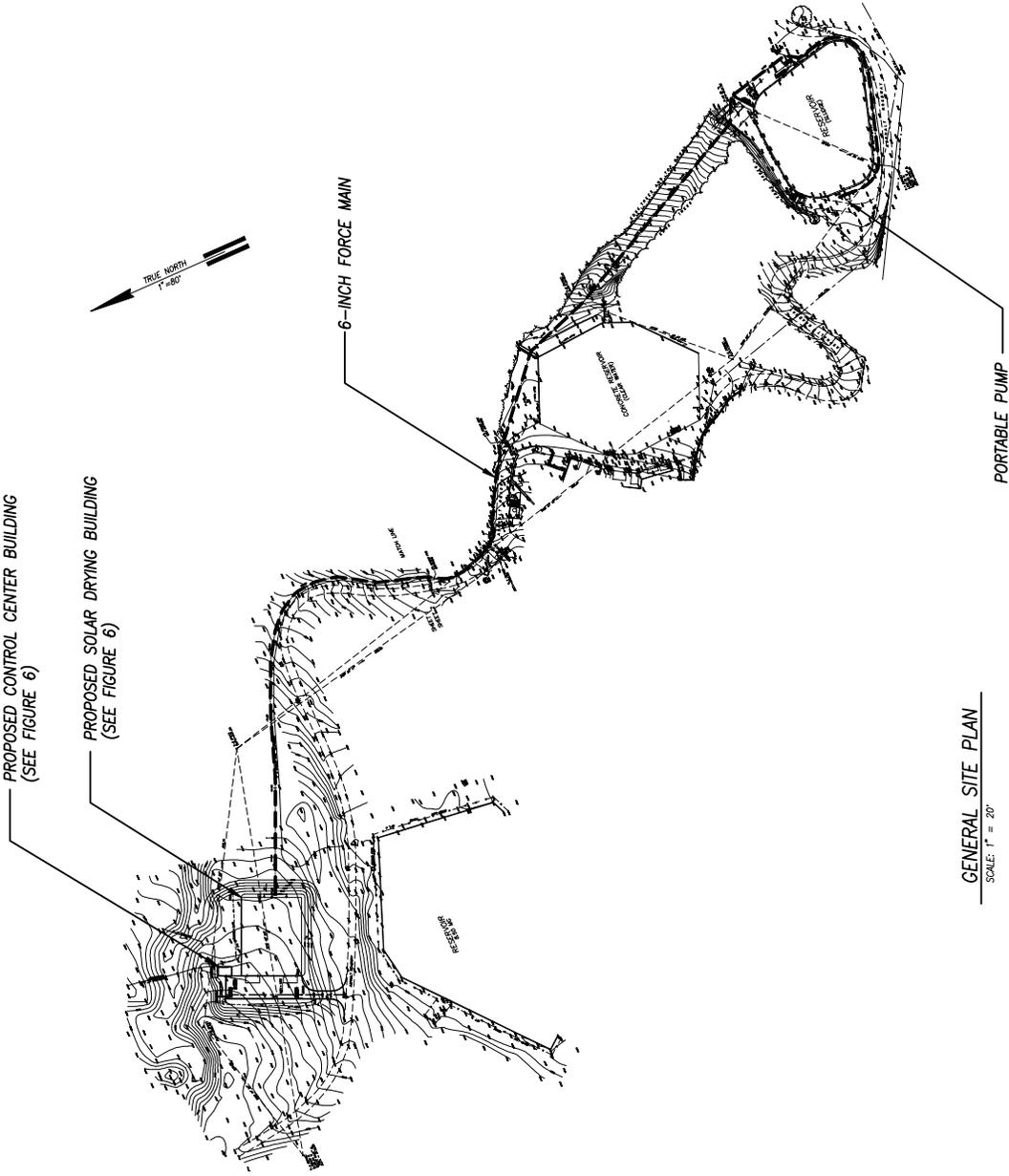
appurtenances. The proposed project will take place entirely within the existing Waimea WTP facility and occupy approximately 0.37 acres of land.

PROPOSED CONTROL CENTER BUILDING  
(SEE FIGURE 6)

PROPOSED SOLAR DRYING BUILDING  
(SEE FIGURE 6)

6-INCH FORCE MAIN

PORTABLE PUMP



GENERAL SITE PLAN  
SCALE: 1" = 20'

GRAPHIC SCALE:



THIS PLAN AND THE WORK SHOWN THEREON ARE THE PROPERTY OF THE ENGINEER AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.

DEPARTMENT OF WATER SUPPLY  
COUNTY OF HAWAII

PROJECT: WAIMEA TREATMENT PLANT  
SLUDGE DRYING BEDS  
PROPOSED IMPROVEMENTS

FIGURE  
**5**

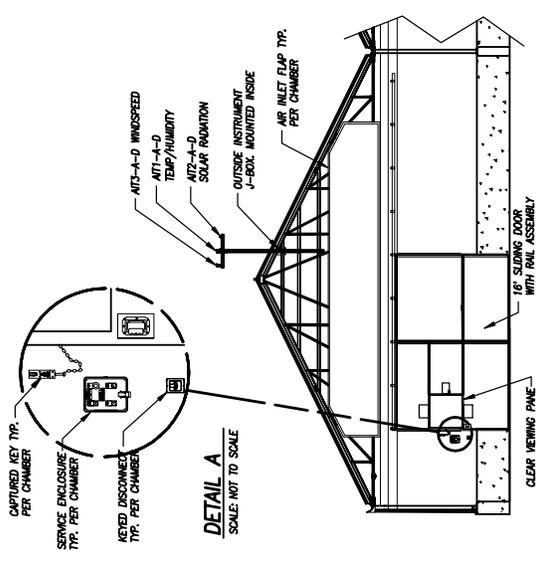
## FIGURE 5 back



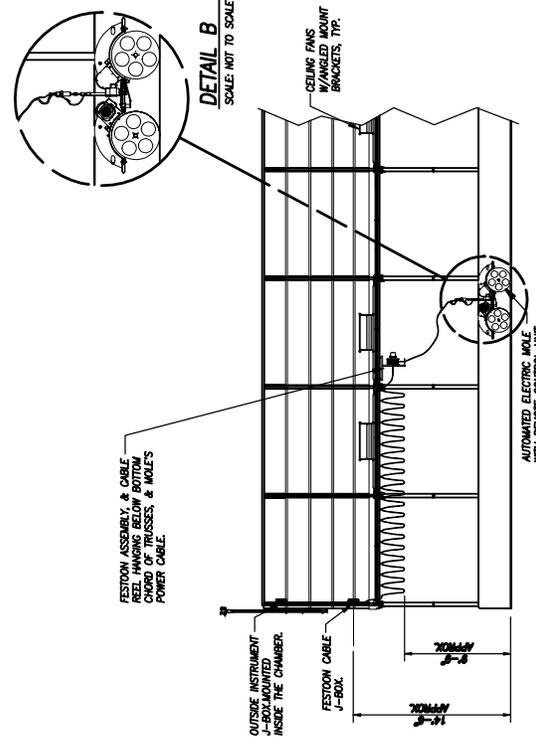
## FIGURE 6 back



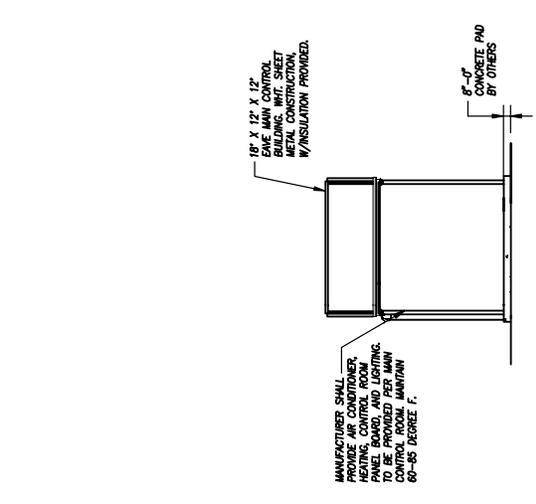
## FIGURE 7 back



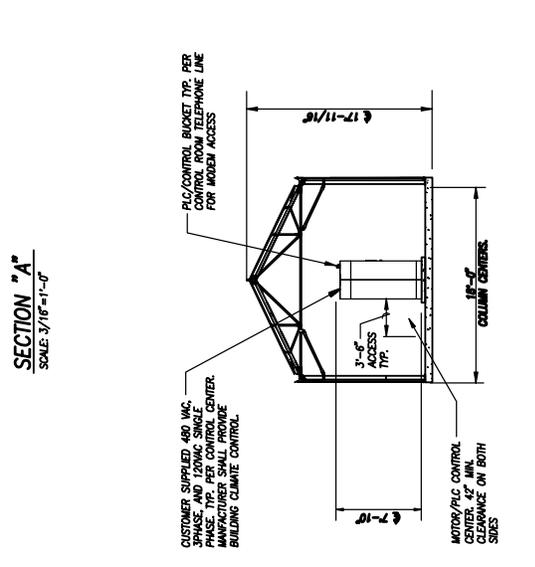
**SECTION "A"**  
SCALE: 3/16"=1'-0"



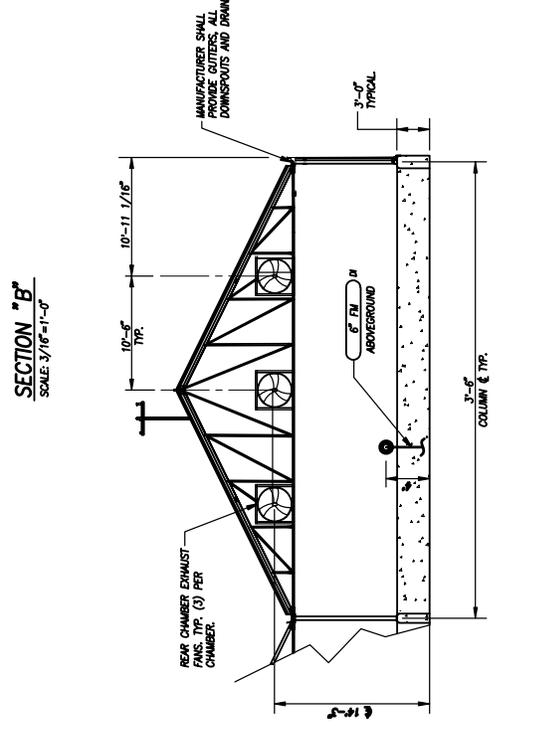
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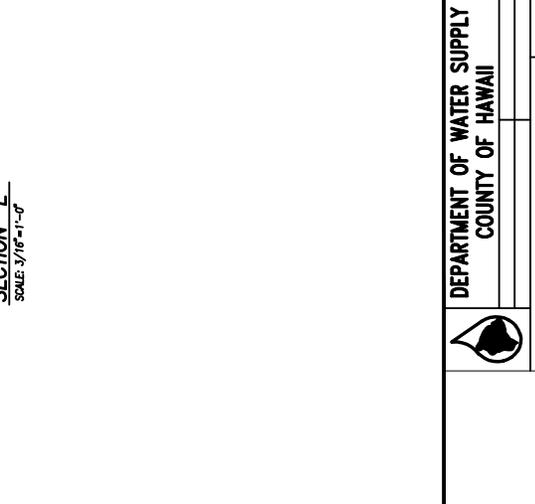
**SECTION "E"**  
SCALE: 3/16"=1'-0"



**SECTION "C"**  
SCALE: 3/16"=1'-0"



**SECTION "D"**  
SCALE: 3/16"=1'-0"



**SECTION "E"**  
SCALE: 3/16"=1'-0"

DEPARTMENT OF WATER SUPPLY  
COUNTY OF HAWAII

PROJECT: WAIMANA TREATMENT PLANT  
SLUDGE DRYING BEDS  
SOLAR DRYER SYSTEM - SECTIONS

DATE: 04/20/04  
DRAWN BY: [Name]  
CHECKED BY: [Name]  
SCALE: 3/16"=1'-0"

BY WORKING FROM THESE PLANS, THE USER ASSUMES ALL LIABILITY FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

FIGURE 8



## FIGURE 8 back

# CHAPTER 3 - AFFECTED ENVIRONMENT: IMPACTS AND MITIGATION MEASURES

## 3.1 TOPOGRAPHY AND SOILS

The project area ranges in elevation from 2,969 feet to 3,165 feet AMSL. The landscape of the area ranges from flat to gentle slopes to moderate slopes.

The soil type at the project site is classified as Maile Silt Loam (MLD) Series (see **Figure 9, Soil Map**). This soil type is found at intermediate elevations on the windward side of Mauna Kea and has a dominant slope of about 15 percent. Permeability for this soil type is moderately rapid, runoff is slow, and the erosion hazard is slight. Roots can penetrate to a depth of 5 feet or more. This soil is used for pasture and woodland.

### **Potential Impacts and Mitigation Measures**

The proposed project will involve grading, excavation and backfill activities to prepare the site for development. Earthwork will consist of minor grading and trenching to level the site for the drying beds and install the force main. Soil from disturbed areas could potentially be washed into Waikoloa Stream located at the western boundary of the subject property.

The potential for release of sediments in storm water runoff from disturbed areas and temporary stockpile sites will be addressed through a County-required Grading Plan and a National Pollutant Discharge Elimination System (NPDES) permit for discharges associated with construction storm water that will be filed for this project. The Grading Plan and NPDES permit applications will require the use of Best Management Practices (BMPs) to prevent or mitigate the potential for impacts to State waters as a result of storm water runoff from the construction site. BMPs will be implemented as required by law.

Excavated material will be used on-site for fill material. Imported fill will be limited to clean and uncontaminated material for backfill purposes. Any excess fill material is planned to be disposed of at an approved waste facility.

The following are typical BMP measures that would be applied to the subject project to address NPDES construction storm water requirements:

#### Before Construction

1. Existing ground cover will not be destroyed, removed or disturbed more than 20 calendar days prior to start of construction.
2. Erosion and sediment control measures will be in place and functional before earthwork may begin, and will be maintained throughout the construction period. Temporary measures may be removed at the beginning of the work day, but shall be replaced at the end of the work day.

#### During Construction

1. Clearing shall be held to the minimum necessary for grading, equipment operation, and site work.
2. Construction shall be sequenced to minimize the exposure time of cleared surface areas. Areas of one phase shall be stabilized before another phase can be initiated. Stabilization shall be accomplished by protecting areas of disturbed soils from rainfall and runoff by use of structural controls such as PVC sheets, geotextile filter fabric, berms or sediment basins, or vegetative controls such as grass seedling or hydromulch.
3. Temporary soil stabilization with appropriate vegetation shall be applied on areas that remain unfinished for more than 30 calendar days, and permanent soil stabilization using vegetative controls shall be applied as soon as practicable after final grading.
4. All control measures shall be checked and repaired as necessary, e.g., weekly in dry periods and within 24 hours after any heavy rainfall event. During periods of prolonged rainfall, daily checking should be conducted.
5. Maintenance and fueling of construction equipment and vehicles shall be performed only in designated areas protected by a containment berm to

control potential spillage or fuel, lubricants or hydrocarbon based constituents. Sorbent and cleanup materials shall be placed in a conspicuous location to facilitate cleanup in the event of inadvertent leaks or spills. Refueling and maintenance of vehicles and equipment shall not be permitted outside of designated refueling areas.

6. All liquid materials including petroleum, oils, and lubricants (POLs), solvents, and cleaners, shall be stored in sealable containers. No open containers for the storage of such materials will be permitted.
7. Vehicle washing may only be performed in a designated area protected by appropriate controls such as a containment berm.

#### After Construction

Following construction, all equipment no longer necessary to the site will be removed. Construction debris and refuse will be disposed of at an approved facility that accepts construction and demolition debris waste by the contractor.

The implementation of the proposed mitigation measures described above is expected to result in no further adverse impact to the topography or soil conditions on the project site. No further mitigation measures are proposed or are anticipated to be required.

## **3.2 NATURAL HAZARDS**

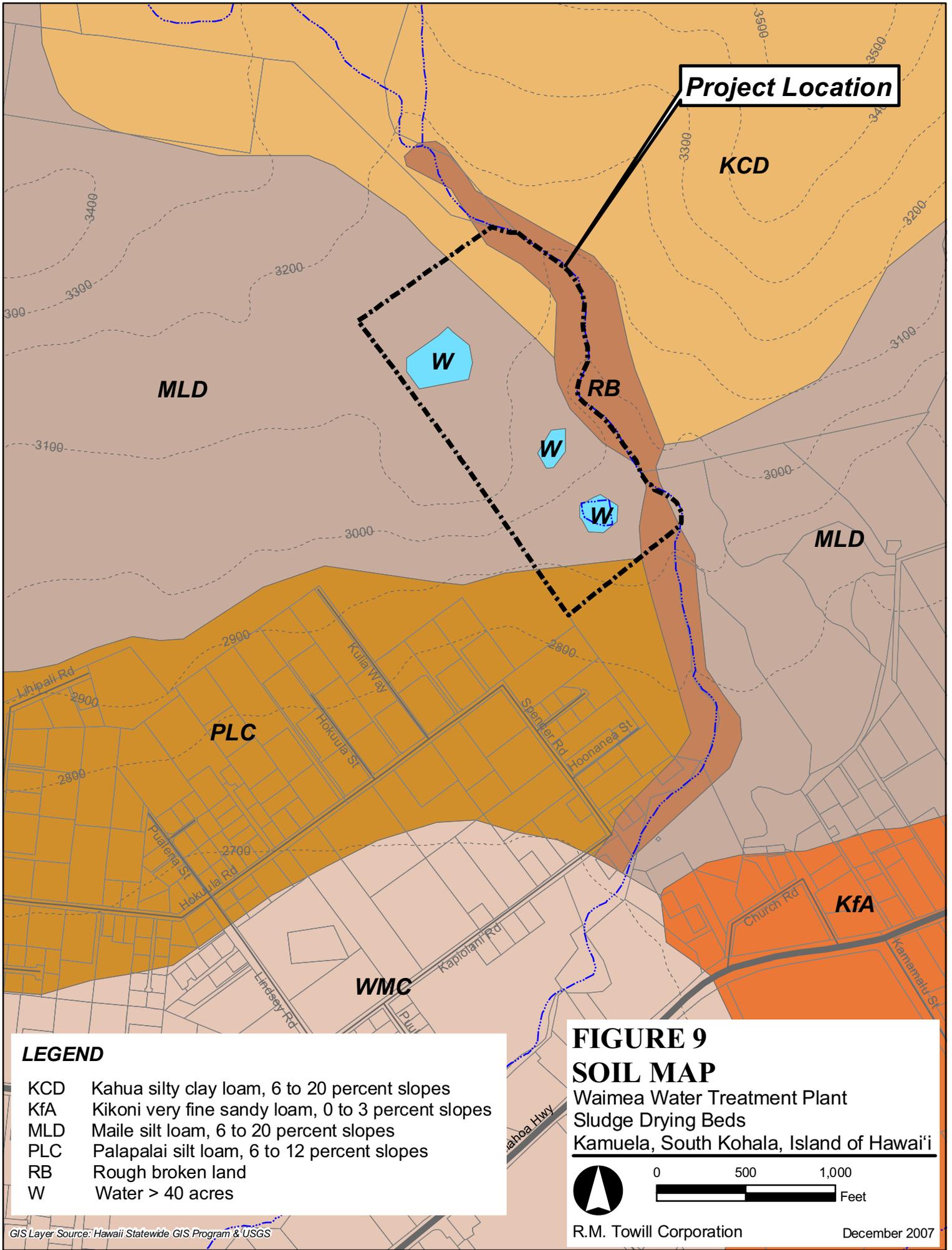
### **3.2.1 FLOOD ZONES**

The entire project site is located in an area determined to be outside the 1% and 0.2% annual chance floodplains flood zone (Zone X). See **Figure 10, Flood Zone Map**.

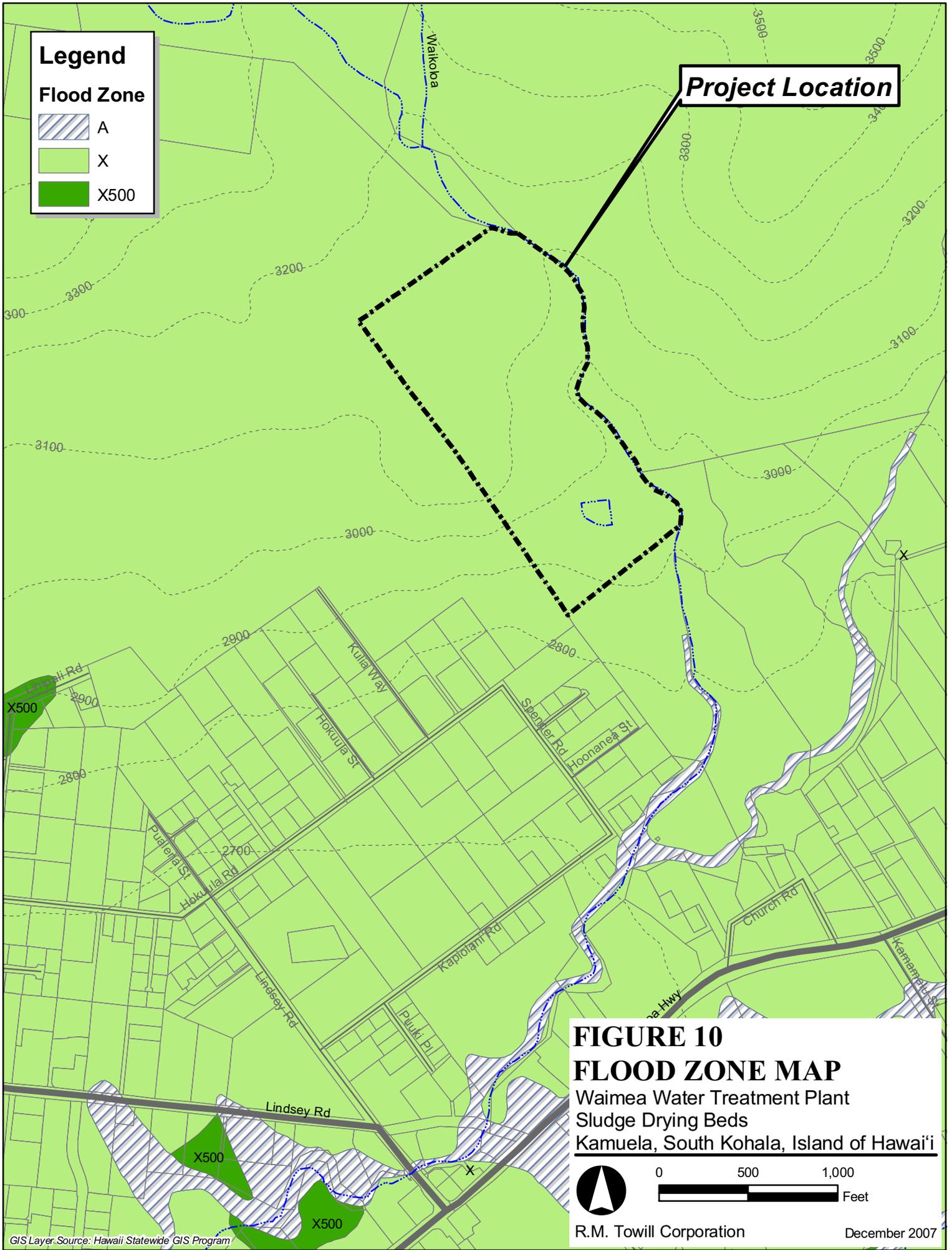
#### **Potential Impacts and Mitigation Measures**

The proposed water system improvements are not expected to have significant impacts on flood conditions therefore no mitigation measures are proposed.

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FIGUER 9 back



**Legend**

**Flood Zone**

-  A
-  X
-  X500

**Project Location**

**FIGURE 10**  
**FLOOD ZONE MAP**  
 Waimea Water Treatment Plant  
 Sludge Drying Beds  
 Kamuela, South Kohala, Island of Hawai'i

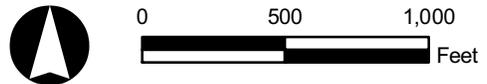


Figure 10 back

### 3.2.2 EARTHQUAKES

The Uniform Building Code (UBC) provides minimum design criteria to address potential for damage due to seismic disturbances. Range of seismic risk varies from Zone 0, indicating no damage, to Zone 4, indicating major damage. The island of Hawai'i is in Seismic Zone 4, as established by the UBC, indicating a high risk of damage from earthquake.

#### **Potential Impacts and Mitigation Measures**

A seismic event could affect the proposed improvements. DWS will ensure that building designs are compliant with current seismic design parameters. All structures proposed for this project will be built, at a minimum, according to standards for UBC Seismic Zone 4.

### 3.3 AIR QUALITY

Air quality in the project area is excellent. The combination of elevation (> 2,900 feet), prevailing trade winds from the northeast and absence of stationary pollutant sources contribute to the good air quality in the area.

#### **Potential Impacts and Mitigation Measures**

Air quality impacts attributed to the proposed action will be temporary and will include exhaust emissions of construction vehicles and dust generated by short-term, construction-related activities. Site grading, construction of the buildings and trenching to install the force main will generate airborne particulates. Dust control measures such as watering will be implemented as needed to minimize wind-blown emissions.

Construction-related exhaust emissions will be mitigated by ensuring the project contractor maintains internal combustion engines in proper working order and

immediately repair or replace faulty equipment. The contractor, at his own expense, will keep the project area and surrounding area free from dust nuisance. The work will be in conformance with the air pollution control standards contained in Hawai'i Administrative Rules, Title 11, Chapters 59, "Ambient Air Quality Standards," and Chapter 60, "Air Pollution Control." Long-term air quality impacts resulting from operation of the water system and related vehicle traffic are not expected to cause significant increases in air pollution over existing levels. No long-term mitigation is needed.

### 3.4 WATER QUALITY

Waikoloa Stream lies along the western boundary of the project area. Waikoloa Stream is designated as a Class 2 inland water body by the State Department of Health.

#### **Potential Impacts and Mitigation Measures**

The proposed water system improvement will not require work within the boundaries of Waikoloa Stream. All grading operations shall be performed in conformance with the applicable provisions of the water pollution control and water quality standards contained in Hawai'i Administrative Rules, Chapter 11-55, "Water Pollution Control" and Chapter 11-54, "Water Quality Standards." A Department of the Army permit will not be required for this project as waters of the U.S. are not affected.

### 3.5 NOISE

Existing noise levels at the subject property are very low given the surrounding open space and the agricultural land use of the surrounding area.

#### **Potential Impacts and Mitigation Measures**

Noise will be generated from short-term construction activity. Construction noise from machines and vehicles may impact nearby existing residences, but will be

confined to daylight working hours only. Construction activities will comply with Hawai'i Administrative Rules, Chapter 11-46, "Community Noise Control." No grading work shall be done on Saturdays, Sundays and holidays at any time without prior notice to the County of Hawai'i, Department of Public Works, Chief Engineer, provided that such grading work is also in conformance with HAR, Chapter 11-46. Once construction is completed, it is anticipated that the proposed improvements will not have an adverse impact upon existing noise characteristics. Long-term noise impacts resulting from the normal operation of the sludge drying facility are not expected to cause significant increases in noise over existing levels. No long-term mitigation is needed.

### **3.6 BIOLOGICAL RESOURCES**

There is no rare, threatened, or endangered plant or animal species or significant habitats on the subject property. The WTP site is former pasture lands. Plant material on the property consists of primarily introduced grasses and other non-native plant species.

Based on general information about the area, it is expected that resident mammals are limited to cows, goats, pigs, dogs, cats, mongooses and various rodents. Most of the birds in the area are introduced species such as pheasants, doves, mynas and thrushes. Native birds that may inhabit or traverse the area include the endemic Hawaiian short-eared owl or pueo (*Asio flammeus*). The federally-threatened Newell's shearwater (*Puffinus auricularis newelli*) and the federally endangered Hawaiian hawk or 'Io (*Buteo solitarius*), Hawaiian hoary bat (*Lasirus cinereus semotus*) and Hawaiian duck (*Anas wyvilliana*) have been observed in the project vicinity.

#### **Potential Impacts and Mitigation Measures**

No adverse impacts to terrestrial flora are anticipated or expected. Temporary construction activities may affect the normal patterns of listed species transiting the

project site. Construction activity, construction-related noise and increased human presence at the project site may disturb birds visiting the area. However, the construction activity is temporary and once the proposed project is completed, noise and human activities in the area will decrease considerably.

The proposed facility will be covered and therefore will not attract migratory and listed waterbirds that could result in increased predation pressures from non-native predators.

The long-term normal operation of the new sludge drying beds is not expected to significantly affect any listed species that may occur in the vicinity of the project site. No further mitigative measures are proposed.

### **3.7 HISTORICAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES**

Information on archaeological resources for the project site is based on Archeological Survey Report conducted by William J. Bonk in October of 1985 as part of the U.S. Department of Agriculture's Waimea Water System project. An examination of the State Historic Preservation Division's library did not find more recent studies either within or near the project site.

A portion of the survey involved an inventory of a site for a proposed reservoir approximately 2,500 feet to the northwest of the proposed solar drying facility. Field examination did not uncover any artifacts, features, sites or any other resources of cultural significance. The proposed site and surrounding areas have been used extensively as ranch lands decades prior to construction of the WTP. Furthermore, the project site is an existing water treatment facility that has undergone ground disturbance activities. Any historic or culturally significant resources that may have existed would have been uncovered during prior activities. It is anticipated that the proposed project will not have a significant impact

to archaeological or historic resources.

The subject property is a County facility with restricted access to the public. While the facility is not fenced, there is a gate at the entry into the facility that prevents unauthorized vehicles from entering the facility. Because access is restricted there are few to no opportunities to use the property for cultural practices involving the gathering of plant, animal or mineral resources, or for conducting ceremonial or religious activities. Vegetation on the property is dominated by introduced plants and grasses (see Section 3.6, above).

### **Potential Impacts and Mitigation Measures**

No significant negative impacts to historic, archaeological or cultural resources or practices are anticipated to result from the proposed project activities due to extensive past disturbance and the present use of the land as a water treatment facility. However, in the unlikely event that archaeological or cultural remains are unearthed, work will be halted and SHPD notified to determine an appropriate course of action.

The Water Treatment Plant manager was contacted for information regarding potential cultural practices that might be occurring at the site. He stated that in the 9 years that he's worked there, no requests have been made to access the site or persons turned away for cultural or religious purposes. Ms. Ruby McDonald, the Community Resources Coordinator for the Office of Hawaiian Affairs' (OHA) Kona Office was also contacted for information on historic and cultural resources at the project site. At the time of the conversation, Ms. McDonald could not recall any archaeological studies conducted at the project site or any persons utilizing the site for cultural or religious purposes. However, should additional information regarding historic and/or cultural resources be brought to light, proper mitigation will be employed to ensure that no historic and/or cultural resources are negatively

affected. Measures will include, but not be limited to, ceasing work in the immediate area, protecting the site from further disturbance and contacting the SHPD to determine the appropriate course of action.

### **3.8 SCENIC RESOURCES**

The WTP is located on the southern slope of the Kohala Mountain Range above the Waimea Town. To the north and east of the project site is the Kohala Forest Reserve. Lands to the west and south of the site are dedicated to agricultural uses. Portions of the existing facility are only visible from a few vantage points in town. The proposed solar drying building will have an elevation of 23 feet 6 inches. The control center building will be approximately 18 feet high. The location of the buildings on the WTP facility will be on a vacant portion of the property north of the 8.5 million gallon raw water reservoir. Pu'u Kī, one of several cinder cones dotting the area, sits just south of the building site and obstructs views of the proposed buildings from Waimea Town below.

#### **Potential Impacts and Mitigation Measures**

The proposed improvements are not expected to be a visual intrusion into the existing landscape. No impacts are anticipated as the proposed improvements are limited in scope with the proposed buildings built in an area that is not visible from the town below. The proposed project will not interfere with any existing mountain views. No further mitigative measures are proposed.

# CHAPTER 4 - SOCIO-ECONOMIC CONDITIONS: IMPACTS AND MITIGATION MEASURES

## 4.1 DEMOGRAPHICS, POPULATION AND ECONOMIC CHARACTERISTICS

The 2000 Census recorded 7,028 persons in the Waimea Area (U.S. Census Bureau, 2007). The population for the South Kohala District for the same year was 13,131 (Hawai'i County General Plan, 2005). The median age in Waimea is 36.5 years old and approximately 70 percent of the population is between the ages of 18 and 65. The total number of households in Waimea is 6,983 with an average household size of 2.95. The median household and per capita incomes (in 1999 dollars) are \$51,150 and \$20,773, respectively.

The project is being proposed to upgrade the plant's sludge handling capacity through the use of sludge drying beds in a solar drying building. The proposed improvement project was initiated to provide a long-term solution to process and dispose of sludge produced from normal operations of the WTP.

### **Potential Impacts and Mitigation Measures**

The proposed water system improvement will not materially change the character of the area. On a short-term basis, the proposed project will support construction and construction-related employment. In the long-term, the proposed project will not have an impact on employment opportunities. The project will not itself result in an increased population growth. No mitigation measures are being proposed.

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# CHAPTER 5 - PUBLIC SERVICES: IMPACTS AND MITIGATION MEASURES

## 5.1 TRAFFIC AND ROADWAYS

Primary access to the site is via an existing driveway off of Spencer Road.

### **Potential Impacts and Mitigation Measures**

The proposed action is not expected to significantly alter the total volume of traffic on nearby roadways. On a short-term basis, construction-related work on the proposed project may impact traffic flow on the streets leading to the project site. Short-term impacts are not considered significant since project-related delays experienced by motorists, if any, are anticipated to be minor. As required, flagmen will be used to direct traffic during delivery of materials and equipment to the project site.

In the long-term, the proposed improvements will not have a significant effect on traffic conditions in the area. Once construction is complete, the only anticipated increase in traffic will be the 5-6 sludge hauling trips that will occur approximately every 2.5 months or an average of about 28 truck trips annually.

## 5.2 WASTEWATER

Waimea Town, including the project site, is not served by a municipal sewer system. Wastewater treatment is either by small private treatment systems or individual septic systems. The Waimea WTP utilizes an individual cesspool sanitary system to treat on-site wastewater.

### **Potential Impacts and Mitigation Measures**

The proposed improvement project is not expected to adversely affect the existing wastewater treatment at the site. During construction, portable toilet facilities will

be provided for temporary use. The proposed project will not require wastewater treatment beyond the use of portable toilet facilities to serve construction work crews.

### **5.3 POTABLE WATER**

The Waimea WTP provides potable water to the South Kohala water system, the town of Waimea and surrounding areas. The facility currently produces 2.0 million gallons per day (mgd) of potable water and has a potential capacity of 4.0 mgd.

#### **Potential Impacts and Mitigation Measures**

The proposed project will provide a long-term solution to handle the disposal of sludge resulting from the water treatment process. No adverse impacts with regard to the potable water supply are anticipated therefore no mitigation measures are proposed.

### **5.4 SOLID WASTE**

Solid waste from the proposed project will be disposed of at the County of Hawai'i's West Hawai'i Landfill at Pu'uanahulu.

#### **Potential Impacts and Mitigation Measures**

The impact to solid waste collection services will occur during and after the construction of the project. During construction, excess soil that cannot be reused on-site, along with other construction-related wastes will be disposed of at a County-approved solid waste facility. The long-term operation of the proposed improvements will impact the West Hawai'i Landfill through the annual disposal of approximately 280 cubic yards of dried sludge residue resulting from the 2 drying beds at a process flow rate of 2.0 mgd. The sludge hauling activity will require approximately 28 truck trips annually for a 10-cubic yard capacity dump truck. No mitigation measures are proposed.

## 5.5 POLICE AND EMERGENCY SERVICES

The proposed project site and surrounding areas is served by the Hawai'i County Police Department located in Waimea Town.

### **Potential Impacts and Mitigation Measures**

There will be no significant impact on police or emergency services as a result of the proposed project. No mitigation measures are proposed.

## 5.6 FIRE PROTECTION SERVICES

The property is under the jurisdiction of the Hawai'i County Fire Department located in Waimea Town.

### **Potential Impacts and Mitigation Measures**

There will be no significant adverse impact on fire services as a result of the proposed project. No mitigation measures are proposed.

## 5.7 ELECTRICAL AND COMMUNICATION FACILITIES

Electrical power for the South Kohala area is provided by Hawai'i Electric and Light Company (HELCO) and telephone service is provided by Hawaiian Telecom.

### **Potential Impacts and Mitigation Measures**

No adverse impacts are expected from the proposed project. The project will require electrical services for operation. The routine operation of the proposed project will not create negative impacts to existing facilities. No mitigation measures are proposed.

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## CHAPTER 6 - RELATIONSHIP TO LAND USE POLICIES AND CONTROLS OF THE AFFECTED AREA

### 6.1 OVERVIEW

State and County policy, land use plans and controls are established to guide development in a manner that enhances the overall living environment of Hawai'i, and ensures that the long-term social, economic, environmental, and land use needs of Hawai'i are met. The proposed water system improvements project is in accordance with State and County land use plans and policies, as discussed below.

### 6.2 HAWAI'I STATE PLAN

The Hawai'i State Plan, adopted in 1978, consist of three parts:

1. An overall theme with broad goals, objectives and policies
2. A system designed to coordinate public planning to implement the goals, objectives and policies of the State Plan; and
3. Priority guidelines which are statements of Statewide interrelated problems deserving immediate action.

The State objective for water systems is as follows:

*Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities. (HRS, §226-16(a)).*

The proposed project supports the State water facility system policy to:

*Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use (HRS, §226-16(b) (4)).*

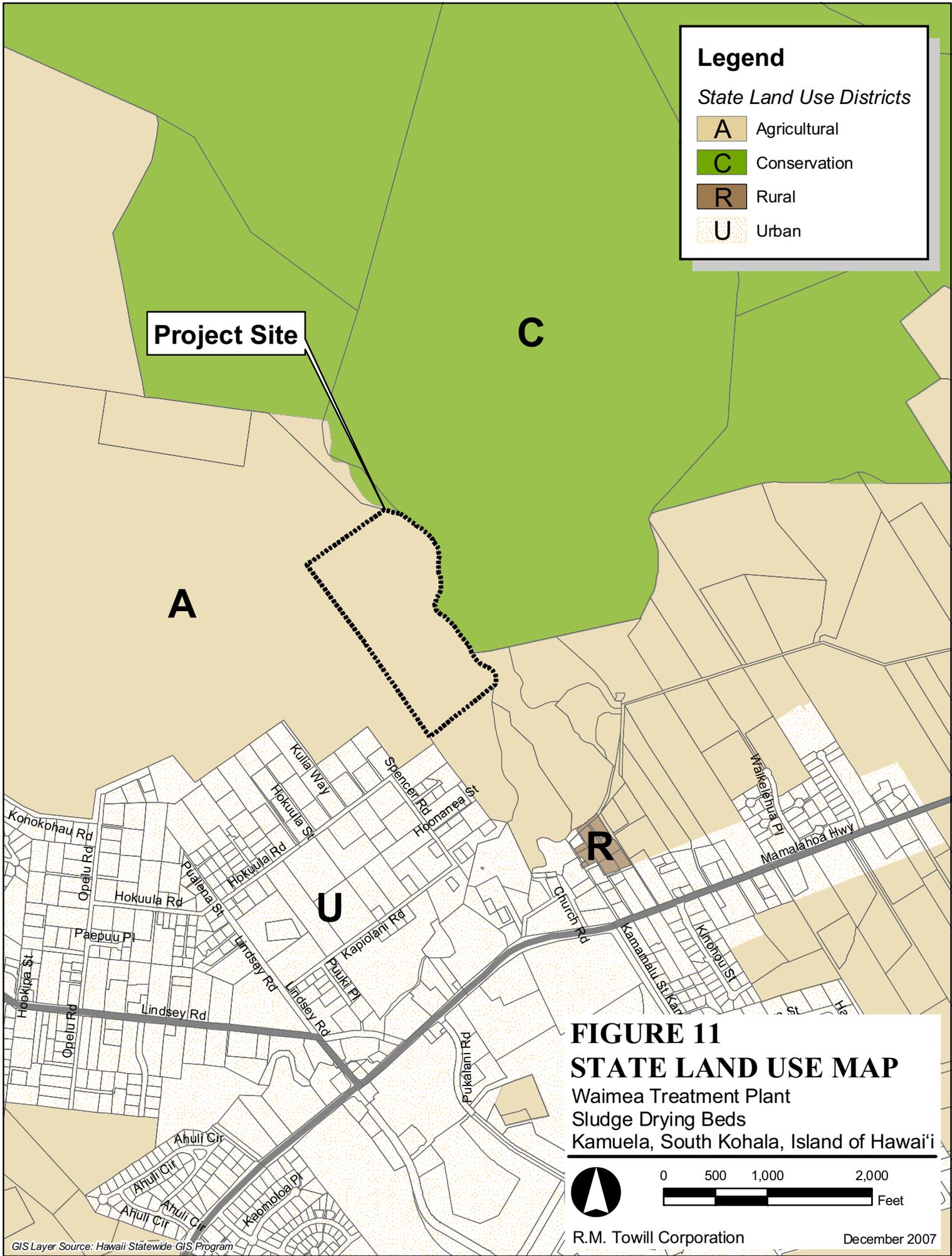
### 6.3 STATE LAND USE

The State Land Use Commission classifies all lands in the State of Hawai'i into one of four land use designations: Urban, Rural, Agricultural and Conservation. The proposed project is in the Agricultural District. See **Figure 11, State Land Use Map**.

The proposed land use is consistent with the Agricultural land use of the site under Hawaii Revised Statutes, Chapter 205-4.5(7):

*§205-4.5 Permissible uses within the agricultural districts. (a) Within the agricultural district, all lands with soil classified by the land study bureau's detailed land classification as overall (master) productivity rating class A or B shall be restricted to the following permitted uses:*

*(7) Public, private, and quasi-public utility lines and roadways, transformer stations, communications equipment buildings, solid waste transfer stations, major water storage tanks, and appurtenant small buildings such as booster pumping stations, but not including offices or yards for equipment, material, vehicle storage, repair or maintenance, or treatment plants, or corporation yards, or other like structures;*



**Legend**

*State Land Use Districts*

- A** Agricultural
- C** Conservation
- R** Rural
- U** Urban

**Project Site**

**C**

**A**



**U**

**R**

**FIGURE 11**  
**STATE LAND USE MAP**  
 Waimea Treatment Plant  
 Sludge Drying Beds  
 Kamuela, South Kohala, Island of Hawai'i



FIGURE 11 back

## 6.4 COUNTY OF HAWAI'I GENERAL PLAN

The current edition of the County of Hawai'i General Plan was adopted in 2005. The Plan is a comprehensive statement of objectives and policies for Hawai'i's future development. The proposed project meets all stated public utility goals in the Plan (Section 11):

### *11.1.2. Goals*

(a) Ensure that properly regulated, adequate, efficient and dependable public and private utility services are available to users.

The proposed project is intended to address the long-term solution to the handling of sludge residue from the WTP. This is an effort to ensure efficient and dependable service to customers.

(b) Maximize efficiency and economy in the provision of public utility services.

The preferred alternative being proposed is the most efficient and economical option of all alternatives proposed. This alternative achieves the stated goal to address the long-term plan for sludge handling and disposal at the WTP facility

(c) Design public utility facilities to fit into their surroundings or concealed from public view.

The construction of the WTP improvements will be entirely within the existing Waimea WTP facility. The proposed buildings will be located in a portion of the facility that is not visible from surrounding areas. Other improvements will be low-lying (i.e. water line) and will not intrude into existing mountain views from nearby vantage points.

The following are the development policies set forth in 11.2.2 of the General Plan:

### *11. Public Utilities*

#### *11.2. Water*

##### *11.2.2. Policies*

- (a) Water system improvements shall correlate with the County's desired land use development pattern.*
- (b) All water systems shall be designed and built to Department of Water Supply standards.*
- (c) Improve and replace inadequate systems.*
- (d) Water sources shall be adequately protected to prevent depletion and*

- contamination from natural and man-made occurrences or events.*
- (e) Water system improvements should be first installed in areas that have established needs and characteristics, such as occupied dwellings, agricultural operations and other uses, or in areas adjacent to them if there is need for urban expansion.*
  - (f) A coordinated effort by County, State and private interests shall be developed to identify sources of additional water supply and be implemented to ensure the development of sufficient quantities of water for existing and future needs of high growth areas and agricultural production.*
  - (g) The fire prevention systems shall be coordinated with water distribution systems in order to ensure water supplies for fire protection purposes.*
  - (h) Develop and adopt standards for individual water catchment units.*
  - (i) Cooperate with the State Department of Health to develop standards and/or guidelines for the construction and use of rainwater catchment systems to minimize the intrusion of any chemical and microbiological contaminants.*
  - (j) Cooperate with appropriate State and Federal agencies and the private sector to develop, improve and expand agricultural water systems in appropriate areas on the island.*
  - (k) Promote the use of ground water sources to meet State Department of Health water quality standards.*
  - (l) Continue to participate in the United States Geological Survey's exploratory well drilling program.*
  - (m) Seek State and Federal funds to assist in financing projects to bring the County into compliance with the Safe Drinking Water Act.*
  - (n) Develop and adopt a water master plan that will consider water yield, present and future demand, alternative sources of water, guidelines and policies for the issuing of water commitments.*
  - (o) Expand programs to provide for agricultural irrigation water.*

The proposed project is in accordance with policy items a, b, c, d, and e.

## 6.5 COUNTY ZONING

The subject parcel is zoned Agriculture (A-1a & A-5a). See **Figure 12, Zoning Map**. The proposed project is consistent with the zoning regulation of the site under Chapter 25-5-72 of the Hawaii County Code:

*Division 7. A, Agricultural Districts.*

*Section 25-5-70. Purpose and applicability.*

*The A (agricultural) district provides for agricultural and very low density agriculturally-based residential use, encompassing rural areas of good to marginal agricultural and grazing land, forest land, game habitats, and areas where urbanization is not found to be appropriate.*

*Section 25-5-71. Designation of A districts. Each A (agricultural) district shall be designated on the zoning map by the symbol "A" followed by a number together with the lower case letter "a" which indicates the required or minimum number of acres for each building site. For example, A-10a means an agricultural district with a minimum building site area of ten acres.*

*Section 25-5-72. Permitted uses.*

*(a) The following uses shall be permitted in the A district:*

*(1) Agricultural parks.*

*(2) Agricultural products processing, major and minor.*

*(3) Animal hospitals.*

*(4) Aquaculture.*

*(5) Botanical gardens, nurseries and greenhouses, seed farms, plant experimental stations, arboretums, floriculture, and similar uses dealing with the growing of plants.*

*(6) Campgrounds, parks, playgrounds, tennis courts, swimming pools, and other similar open area recreational facilities, where none of the recreational features are entirely enclosed in a building.*

*(7) Cemeteries and mausoleums, as permitted under Chapter 6, article 1 of this Code.*

*(8) Crop production.*

*(9) Dwelling, single-family, as permitted under chapter 205, Hawai'i Revised Statutes and as permitted under section 25-5-77(b).*

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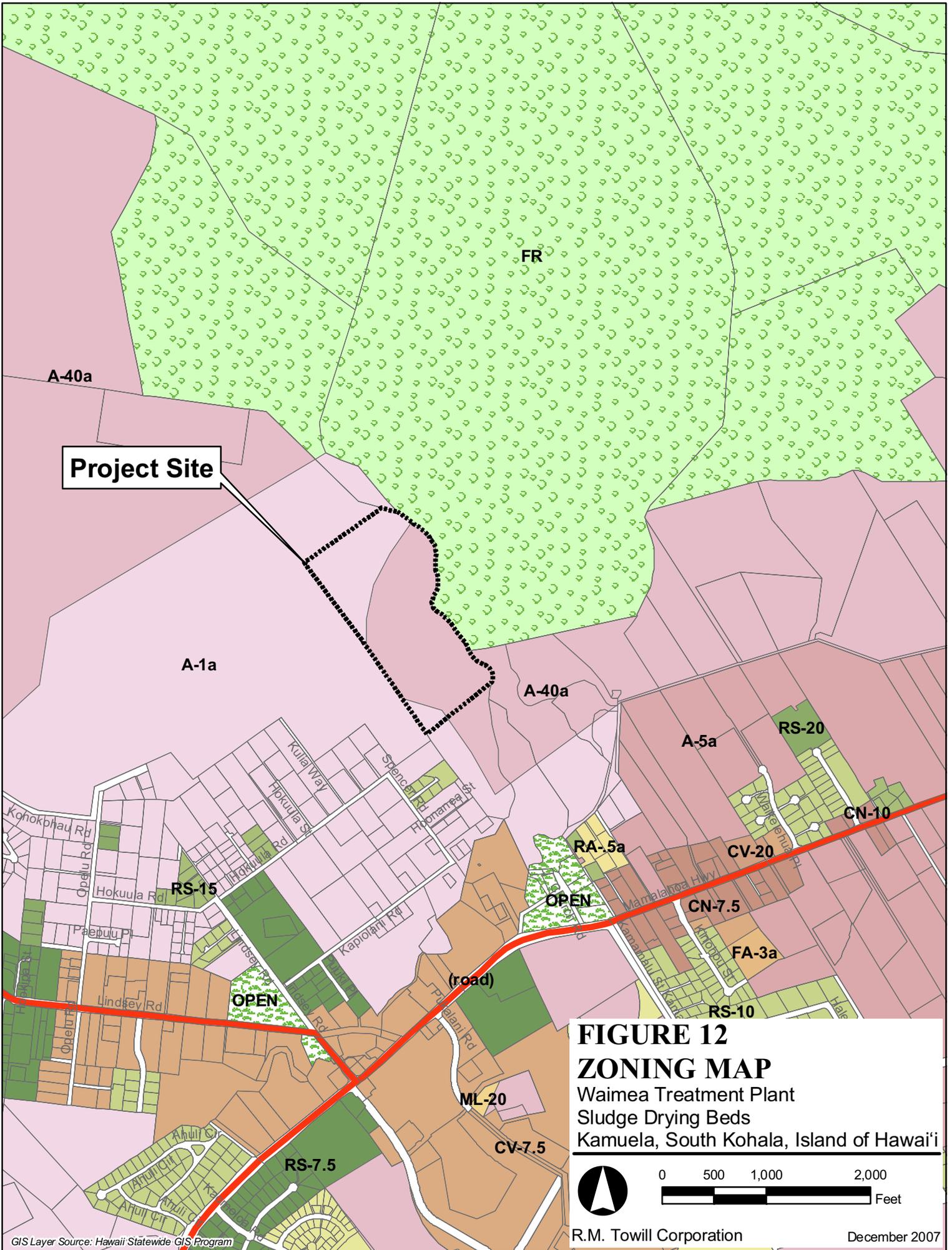


FIGURE 12 back

- (10) Farm dwellings, as permitted under section 25-5-77(b) and (c).*
- (11) Fertilizer yards utilizing only manure and soil, for commercial use.*
- (12) Forestry.*
- (13) Game and fish propagation.*
- (14) Group living facilities.*
- (15) Kennels.*
- (16) Livestock production, provided that piggeries, apiaries, and pen feeding of livestock shall only be located on sites approved by the State department of health and the director, and must be located no closer than one thousand feet away from any major public street or from any other zoning district.*
- (17) Public uses and structures which are necessary for agricultural practices.*
- (18) Retention, restoration, rehabilitation, or improvement of building or sites of historic or scenic interest.*
- (19) Riding academies, and rental or boarding stables.*
- (20) Roadside stands for the sale of agricultural products grown on the premises.*
- (21) Telecommunication antennas, as permitted under section 25-4-12.*
- (22) Utility substations, as permitted under section 25-4-11.***
- (23) Vehicle and equipment storage areas that are directly accessory to aquaculture, crop production, game and fish propagation, livestock grazing and livestock production.*
- (24) Veterinary establishments.*
- (25) Wind energy facilities.*

Where utility substations are defined in Section 25-4-11 as:

*Section 25-4-11. Power lines; utility substations; public buildings.*

*(a) Communication, transmission, and power lines of public and private utilities and governmental agencies are permitted uses within any district.*

***(b) Any substation used by a public utility for the purpose of furnishing telephone, gas, electricity, water, radio, or television shall be a permitted use in any district provided that the use is not hazardous or dangerous to the surrounding area and the director has issued plan approval for such use.***

*(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.*

## 6.6 SPECIAL MANAGEMENT AREA (SMA) PERMIT

The proposed project is not located within the boundaries of the SMA as defined by the County of Hawai'i.

## CHAPTER 7 - NECESSARY PERMITS AND APPROVALS

### 7.1 FEDERAL

No federal permits are required for this project.

### 7.2 STATE OF HAWAI'I

No State permits are required for this project.

### 7.3 COUNTY OF HAWAI'I

- Grading Permit
- Building Permit

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# CHAPTER 8 – ORGANIZATIONS, AGENCIES AND STAKEHOLDERS CONSULTED OR TO BE CONSULTED DURING THE PREPARATION OF THE DRAFT EA

## 8.1 FEDERAL

- US Fish and Wildlife Service

## 8.2 COUNTY OF HAWAI'I

- Department of Hawaiian Home Lands
- Department of Health, Environmental Planning Office
- Department of Land and Natural Resources
- Office of Environmental Quality Control
- Office of Hawaiian Affairs

## 8.3 COUNTY OF HAWAI'I

- Department of Environmental Management
- Department of Public Works
- Department of Water Supply
- Fire Department
- Planning Department
- Police Department

## 8.4 ELECTED OFFICIALS, ORGANIZATIONS AND INDIVIDUALS

- Representative Dwight Y. Takamine, 1st Representative District
- Council Member Pete Hoffmann, Hawai'i County Council District 9
- Senator Paul Whalen, 3rd Senatorial District
- Hawai'i Electric Light Company

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## CHAPTER 9 - DETERMINATION OF SIGNIFICANCE

### 9.1 SIGNIFICANCE DETERMINATION

Based on significance criteria set forth in Hawai'i Administrative Rules, Title 11, Department of Health, Chapter 200, "Environmental Impact Statement Rules," the proposed project is not expected to have a significant impact on the environment. As such, the recommended preliminary determination for the proposed project is a Finding of No Significant Impact (FONSI). The findings and reasons supporting this determination are discussed below.

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

The proposed project will not result in a significant loss of natural or cultural resources. The proposed project site is dominated by introduced vegetation with no occurrence of rare, threatened or endangered species in the area.

The project site is within the existing Waimea water treatment facility. Archaeological studies in the vicinity of the project site did not identify any sites with archaeological or historic significance. Cultural and/or religious activities are not known to occur on the subject property. Furthermore, past agricultural activities and the present use of the area makes it unlikely that archaeological sites remain.

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

Presently, the subject property is a water treatment facility. The proposed improvements will occur entirely on the site and therefore does not curtail beneficial uses of the environment.

3. *Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 343, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.*

The proposed project has been planned and designed in conformance with the environmental policies and guidelines established in Chapter 343, HRS. The subject property is not under a Court Decision or Executive Order.

4. *Substantially affects the economic and social welfare of the community or state.*

The proposed project is a public utility improvement that will improve the long-term sludge handling and disposal capacity of the WTP. The proposed project will not adversely impact the economy or social welfare of the community or state.

5. *Substantially affects public health.*

Factors affecting public health, including air quality, water quality, and noise levels, are expected to be only minimally effected during construction. These temporary impacts will be mitigated in accordance with the State Department of Health and County of Hawai'i regulations. The long-term operation of the sludge drying facility is not expected to cause substantial negative effects on public health.

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

The proposed activity is intended to improve sludge residue handling and disposal capacity of the facility. The proposed improvement is not anticipated to cause substantial secondary or indirect impacts such as population changes nor result in additional burden on other public facilities.

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

Impacts to air and water quality, noise levels, natural resources, and land use associated with the construction and operation of the sludge drying facility is anticipated to be minimal. Mitigation measures will be employed as practicable to further minimize potentially detrimental effects to the environment resulting from project activities. The proposed project does not involve substantial degradation of environmental quality.

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

The proposed improvement accomplishes the identified public utilities goals in the Hawai'i County General Plan to:

- (a) Ensure that properly regulated, adequate, efficient and dependable public and private utility services are available to users;
- (b) Maximize efficiency and economy in the provision of public utility services; and
- (c) Design public utility facilities to fit into their surroundings or concealed from public view.

Adverse cumulative impacts on the environment are not anticipated as a result of this project. The proposed project does not involve a commitment for larger actions.

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

There are no threatened or endangered plant or animal species on the subject property. The proposed facility will be covered and therefore will not attract migratory and listed waterbirds that could result in increased predation pressures from non-native predators.

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

On a short-term basis, ambient air and noise conditions will be affected by construction activities, however the potential for impacts will be controlled by mitigative measures described in this Environmental Assessment. Once the project is completed, air and noise conditions in the project vicinity are expected to return to preconstruction levels.

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

The proposed improvements will be located in areas determined by the Federal Emergency Management Agency to be outside the flood zone. All structures proposed for this project will be built according to equivalent standards for Seismic Zone 4, as established by the Uniform Building Code. The project is not located in an environmentally sensitive area and is unlikely to affect or suffer damage from natural forces such as flooding, or earthquakes.

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

The proposed facility will not impact scenic view planes or scenic vistas. The proposed sludge drying facility will be built within the existing WTP and will not be visible from nearby vantage points in Waimea Town.

13. *Requires substantial energy consumption.*

Construction and operation associated with the proposed project will not require substantial amounts of electrical energy.

## 9.2 FINDINGS

In accordance with the provisions set forth in Chapter 343(HRS), and the significance criteria in Section 11-200-12 of Title 11, Chapter 200 (HAR), it is anticipated that the project will have no significant adverse impact to water quality, air quality, existing utilities, noise levels, social welfare, archaeological sites, or wildlife habitat. All anticipated construction impacts will be temporary and will not adversely impact the environmental quality of the area. It has been determined that an Environmental Impact Statement (EIS) will not be required, and that a Finding of No Significant Impact (FONSI) has been issued for this project.

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- U.S. Census Bureau, 2000, <http://www.census.gov/census2000/states/hi.html>
- U.S. Department of Agriculture, Soil Survey of the Island of Hawai'i, State of Hawai'i, United States Department of Agriculture, Soil Conservation Service, 1973.

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APPENDIX A

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**PUBLIC CONSULTATION**

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

October 2, 2007

Mr. Chester Koga  
R. M. Towill Corporation  
420 Waiakamilo Road, Suite 411  
Honolulu, Hawaii 96817

Dear Mr. Koga:

Thank you for the opportunity to review the Draft Environmental Assessment report for the proposed Waimea Water Treatment Plant Sludge Drying Beds in Kamuela, Hawaii. 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 A. Kane, Chairman  
Hawaiian Homes Commission

c: Department of Water Supply, County of Hawaii

2024 North King Street  
Suite 200  
Honolulu Hawaii 96819-3470  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

November 28, 2007

Mr. Micah A. Kane  
Chairman  
Hawaiian Homes Commission  
Department of Hawaiian Home Lands  
P.O. Box 1879  
Honolulu, Hawaii 96805

Dear Chairman Kane:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply, County of Hawaii, thank you for your letter dated October 2, 2007, concerning the subject Draft Environmental Assessment (DEA).

We acknowledge that the Department of Hawaiian Home Lands has no comments on the proposed project.

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

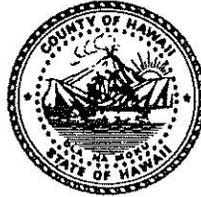
Sincerely,

A handwritten signature in black ink that reads "Chester Koga". The signature is written in a cursive, flowing style.

Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii

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

October 4, 2007

Mr. Chester Koga  
R.M. Towill Corporation  
420 Waikamilo Road, Ste. 411  
Honolulu, Hawaii 96817-4950

Dear Mr. Koga:

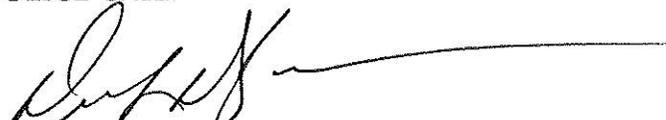
SUBJECT: Draft Environmental Assessment For Waimea Water Treatment Plant  
Sludge Drying Beds, Kamuela, South, Kohala District, Hawaii  
Tax Map Key: (3) 6-5-001:Parcel 003

Staff has reviewed your Draft Environmental Assessment for the above-mentioned project for the Department of Water Supply and has no comments or objections to offer at this time.

Please contact Captain James Sanborn, Commander of the South Kohala District, at (808) 887-3080 should you have any questions.

Sincerely,

LAWRENCE K. MAHUNA  
POLICE CHIEF



DEREK D. PACHECO  
ASSISTANT CHIEF  
AREA II OPERATIONS

JNS:dmv

2024 North King Street  
Suite 200  
Honolulu Hawaii 96819-3470  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

November 28, 2007

Mr. Lawrence K. Mahuna  
Police Chief  
Police Department  
County of Hawaii  
349 Kapiolani Street  
Hilo, Hawaii 96720

Dear Chief Mahuna:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply, County of Hawaii, thank you for your letter dated October 10, 2007, concerning the subject Draft Environmental Assessment (EA).

We acknowledge that the Police Department has no comments or objections to offer at this time.

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink that reads "Chester Koga". The signature is written in a cursive, flowing style.

Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii

Harry Kim  
Mayor



Darryl J. Oliveira  
Fire Chief

Glen P.I. Honda  
Deputy Fire Chief

County of Hawai'i  
HAWAII FIRE DEPARTMENT  
25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720  
(808) 981-8394 • Fax (808) 981-2037

October 10, 2007

Mr. Chester Koga  
R.M. Towill Corporation  
420 Waikamilo Road  
Suite 411  
Honolulu, Hawaii 96817-4950

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT  
COUNTY OF HAWAII, DEPARTMENT OF WATER SUPPLY  
WAIMEA WATER TREATMENT PLANT SLUDGE DRYING BEDS  
TAX MAP KEY: (3)6-5-001:Parcel 3 Kamuela, South Kohala, Hawaii

---

We have no comments to offer at this time in reference to the above-mentioned draft Environmental Assessment.

Handwritten signature of Darryl Oliveira.

DARRYL OLIVEIRA  
Fire Chief

PBW:lpc



2024 North King Street  
Suite 200  
Honolulu Hawaii 96819-3470  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

November 28, 2007

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

Dear Chief Oliveira:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply, County of Hawaii, thank you for your letter dated October 10, 2007, concerning the subject Draft Environmental Assessment (EA).

We acknowledge that the Fire Department has no comments to offer at this time.

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink that reads "Chester Koga". The signature is written in a cursive, flowing style.

Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii

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 96720-4224  
(808) 961-8288 • FAX (808) 961-8742

October 10, 2007

Mr. Chester Koga, Planning Project Coordinator  
R.M. Towill Corporation  
420 Waiakamilo Road, Suite 411  
Honolulu, HI 96817-4950

Dear Mr. Koga:

**SUBJECT: Draft Environmental Assessment  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii  
Tax Map Key: (3) 6-5-001: Parcel 003**

---

We are in receipt of the subject Draft Environmental Assessment (DEA), which we received on October 3, 2007. The DEA was prepared for the proposed construction of a solar sludge drying facility to support the existing water treatment center in Kamuela in the South Kohala District of Hawai'i.

After reviewing the document, we have the following comments for your information:

1. Chapter 6.5 designates the proposed facility has been as a Utility Substation, as authorized under section 25-4-11 of Hawai'i County Zoning Code (p.59). Therefore, this project is subject to Plan Approval. Pursuant to County of Hawai'i Zoning Code, Section 25-2-71 (c):

*Plan approval shall be required in all applicable districts prior to the construction or establishment of the following improvements and uses:*

*(5) Utility substations, as authorized under section 25-4-11.*

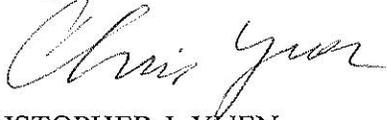
2. Chapter 9.1, Section 12 (p.68) refers to the proposed facility as a *residence*, please re-word.

We have no additional comments to offer regarding the Draft Environmental Assessment for this project.

Mr. Chester Koga, Planning Project Coordinator  
R.M. Towill Corporation  
Page 2  
October 10, 2007

Thank you for the opportunity to comment on the Draft Environmental Assessment.  
Should you have questions, please contact Christian Kay of my staff at 961-8288  
extension 254.

Sincerely,

A handwritten signature in cursive script that reads "Chris Yuen".

CHRISTOPHER J. YUEN  
Planning Director

CRK:cd

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November 28, 2007

Mr. Christopher J. Yuen  
Planning Director  
Planning Department  
County of Hawaii  
101 Pauahi Street, Suite 3  
Hilo, Hawaii 96720

Dear Mr. Yuen:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply, County of Hawaii, thank you for your letter dated October 10, 2007, concerning the subject Draft Environmental Assessment (EA).

We offer the following in response to your comments (comments have been *italicized* for reference):

1. *Chapter 6.5 designated the proposed facility has been as a Utility Substation, as authorized under section 25-4-11 of the Hawai'i County Code (p.59). Therefore, this project is subject to Plan Approval. Pursuant to County of Hawai'i Zoning Code, Section 25-2-71 (c):*

*Plan approval shall be required in all applicable districts prior to the construction or establishment of the following improvements and uses:*

- (5) Utility substations as authorized under section 25.4-11.*

Construction plan drawings for the proposed project will be submitted to the appropriate County agencies for review and approval.

2. *Chapter 9.1, Section 12 (p.68) refers to the proposed facility as a residence, please re-word.*

The erroneous reference of the proposed facility as a residence has been corrected.

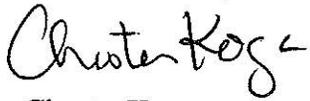
Mr. Christopher J. Yuen

11/28/2007

Page 2 of 2

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink that reads "Chester Koga". The signature is written in a cursive style with a long horizontal stroke at the end.

Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii



**STATE OF HAWAII**  
**OFFICE OF HAWAIIAN AFFAIRS**  
711 KAPI'OLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813

HRD07/3232

October 15, 2007

Keith Okamoto, Project Manager  
County of Hawai'i, Department of Water Supply  
345 Kekūanaō'a Street, Suite 20  
Hilo Hawai'i 96720

**RE: Draft Environmental Assessment, Waimea Water Treatment Plant,  
Sludge Drying Beds, Kamuela, Hawai'i ; TMK: 3-6-5-001:003.**

Dear Mr. Okamoto,

The Office of Hawaiian Affairs (OHA) is in receipt of the above referenced request for comments concerning the Draft Environmental Assessment (DEA) for the Waimea Water Treatment Plant and Sludge Drying Beds in Kamuela, Hawai'i. OHA has the following comments.

OHA generally understands the necessity of this project. We agree with the applicant in that, should this project go forward, the drying facility at Waimea is preferred. OHA stresses, however, that we are supportive of the use of a covered sludge drying bed only. A sludge drying bed housed inside the solar drying building will not impact the efficacy of the project and will mitigate the negative impacts of rainfall.<sup>1</sup>

OHA does note that Section 1.4.2, which is not the preferred alternative, states that, "Hauling activities will occur 3 times a week resulting in 156 trips annually (compared to 12 trips annually for the Waimea option)." However, in the next section, 1.4.3 Preferred Alternative, the DEA states "The drying beds would have two compartments to allow for alternating use." This means that each bed would have to be emptied approximately every two and a half months or 28 trips annually, not 12 as stated before. While OHA agrees with the applicant in the choice of alternatives, we recognize this arrangement of

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<sup>1</sup> OHA understands that a covered facility in Waimea is larger (20,000 square feet versus the 9,600 for the covered West Hawai'i option), but the difference is made up for in the difference of number of trips annually to remove the sludge (28 for Waimea versus 156 for West Hawai'i).

facts as misleading. OHA would appreciate for the applicant to state in Section 1.4.2 the actual required trips annually for both beds in the Waimea option.

OHA does appreciate that on page 41 of the DEA it states that, "in the unlikely event that archaeological or cultural remains are unearthed, work will be halted and SHPD (State Historic Preservation Division) notified to determine an appropriate course of action." We rely on these words to turn these intentions into action should such a situation arise.

Articles IX and XII of the State Constitution, other state laws, and the courts of the State require government agencies to promote and preserve cultural beliefs, practices and resources of Native Hawaiians. Chapter 343 of the Hawai'i Revised Statutes, also requires an Environmental Assessment of cultural resources on determining the significance of a proposed project. OHA notes with some disappointment that Section 3.7 of this DEA (the cultural assessment) is based on a 1985 archeological survey. Further, no attempt has been demonstrated to identify the scope and extent of cultural resources in the project area and the extent to which those resources will be affected by the proposed project.

OHA is the "principal public agency in this State responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians." Hawai'i Revised Statutes (HRS) § 10-3(3). It is our duty to "[a]ssess[] the policies and practices of other agencies impacting on native Hawaiians and Hawaiians, and conduct advocacy efforts for native Hawaiians and Hawaiians." HRS § 10-3(4). Therefore, OHA suggests doing a more thorough cultural assessment. We have included the contact information of our Hawai'i Island Community Resource Coordinator to assist you in this. However, please do bear in mind that OHA is not the starting and stopping point for a cultural assessment, as there are many Native Hawaiians and practitioners that are not in contact with us.

Further, OHA stresses that merely because an area has been developed before, that does not mean that cultural resources do not exist there. The many recent cases of iwi kūpuna being uncovered in projects located in urban Honolulu bear witness to this.

In addition, the DEA mentions that the project area is dominated primarily with introduced plants and grasses. As such, OHA would also like to suggest that the project area be landscaped with native or indigenous species. Any invasive species should also be removed. Doing so would not only serve as practical water-saving landscaping practices, but also serve to further the traditional Hawaiian concept of mālama 'āina and create a more Hawaiian sense of place.

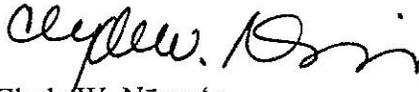
Finally, the lands which this project would impact are ceded lands, as are all submerged lands. As such, we request that they be treated with the respect due to them, as they are

Keith Okamoto  
Project Manager  
October 15, 2007  
Page 3

part of the 1.8 million acres of land that belong to the Hawaiian monarchy and were transferred to the state when Hawai'i became a U.S. state. In addition, OHA urges that future documents refer to this parcel as ceded lands so that their special status is known to others and to facilitate their continued registry and the creation and maintenance of an accurate ceded lands inventory.

Thank you for the opportunity to comment, and OHA looks forward to further commenting on this relevant project. If you have any questions or concerns, please contact Grant Arnold at (808) 594-0263 or [granta@oha.org](mailto:granta@oha.org).

Sincerely,



Clyde W. Nāmu'o  
Administrator

C: Ruby McDonald, Community Resources Coordinator  
Office of Hawaiian Affairs, Kona Office  
75-5706 Hanama Place Suite 107  
Kailua-Kona, HI 96740

/ C: Chester Koga, Coordinator  
R.M Towill Corporation  
420 Waikamilo Road, Suite 411  
Honolulu, Hawai'i, 96817

2024 North King Street  
Suite 200  
Honolulu Hawaii 96819-3470  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

November 28, 2007

Clyde W. Nāmu'o, Administrator  
Office of Hawaiian Affairs  
State of Hawai'i  
711Kapi'olani Boulevard, Suite 500  
Honolulu, Hawaii 96813

Dear Mr. Nāmu'o:

Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii

On behalf of the Department of Water Supply, County of Hawaii, thank you for your letter dated October 15, 2007, concerning the subject Draft Environmental Assessment (DEA). We offer the following in response to your comments (as applicable, the comments have been *italicized* for reference):

- OHA generally understands the necessity of this project. We agree with the applicant in that, should this project go forward, the drying facility at Waimea is preferred. OHA stresses, however, that we are supportive of the use of a covered sludge drying bed only. A sludge drying bed housed inside the solar drying building will not impact the efficacy of the project and will mitigate the negative impacts of rainfall<sup>1</sup>. (<sup>1</sup> OHA understands that a covered facility in Waimea is larger (20,000 square feet versus the 9,600 for the covered West Hawai'i option), but the difference is made up for in the difference of number of trips annually to remove sludge (28 for Waimea versus 156 for west Hawai'i)).*

We acknowledge and appreciate OHA's support of our Preferred Alternative, which is to construct the (covered) solar drying facility at the Waimea WTP site.

Mr. Clyde W. Nāmu'o

November 28, 2007

Page 2 of 4

2. *OHA does note that Section 1.4.2, which is not the preferred alternative, states that "Hauling activities will occur 3 times a week resulting in 156 trips annually (compared to 12 trips annually for the Waimea option)." However, in the next section, 1.4.3 Preferred Alternative, the DEA states "The drying beds would have two compartments to allow for alternate use." This means that each bed would have to be emptied approximately every two and a half months or 28 trips annually, not the 12 as stated before. While OHA agrees with the applicant in the choice of alternatives, we recognize this arrangement of facts as misleading. OHA would appreciate for the applicant to state in Section 1.4.2 the actual required trips annually for both beds in the Waimea option.*

The subject statement that "Hauling activities will occur 3 times a week resulting in 156 trips annually (compared to 12 trips annually for the Waimea option)" has been revised to be consistent with the rest of the document. Approximately 28 truck trips will be needed annually to haul the dried sludge to the landfill.

3. *OHA does appreciate that on page 41 of the DEA it states that, "in the unlikely event that archaeological or cultural remains are unearthed, work will be halted and SHPD (State Historic Preservation Division) notified to determine an appropriate course of action." We rely on these words to turn these intentions into action should such a situation arise.*

*Articles IX and XII of the State Constitution, other state laws, and the courts of the State require government agencies to promote and preserve cultural beliefs, practices and resources of Native Hawaiians. Chapter 343 of the Hawaii Revised Statutes, also requires an Environmental Assessment of cultural resources on determining the significance of a proposed project. OHA notes with some disappointment that Section 3.7. of this DEA (the cultural assessment) is based on a 1985 archaeological survey. Further, no attempt has been demonstrated to identify the scope and extent of cultural resources in the project area and the extent to which those resources will be affected by the proposed project.*

*OHA is the "principal public agency in this State responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians." Hawai'i Revised Statutes (HRS) § 10-3(3). It is our duty to "[a]ssess the policies and practiced of other agencies impacting on native Hawaiian and Hawaiians, and conduct advocacy efforts for native Hawaiians and Hawaiians." HRS § 10-3(4). Therefore, OHA suggests doing a more thorough cultural assessment. We have included the contact information of our Hawai'i Island Community Resource Coordinator to assist you in this. However, please do bear in mind that OHA is not the starting point and stopping point for a cultural assessment, as there are many Native*

*Hawaiians and practitioners that are not in contact with us.*

*Further, OHA stresses that merely because an area has been developed before, that does not mean that cultural resources do not exist. The many cases of iwi kūpuna being uncovered in projects located in urban Honolulu bear witness to this.*

In accordance with HRS Chapter 6E – Historic Preservation, should archaeological or cultural resources be encountered during earthmoving activities associated with the proposed project, work in the immediate area will cease and the SHPD contacted for appropriate actions.

In regards to the cultural assessment, we initially reviewed information in the SHPD’s library for archaeological studies done at the proposed project site. The 1985 study done by William Bonk was the only one found.

We followed up on your suggestion to contact Ms. Ruby McDonald in your Kona Office to inquire about any archaeological studies and cultural practices associated with the proposed project site. Ms. McDonald did not know of any studies done at the site or anyone currently using the area for cultural or religious practices. We left our contact number with her in the event that she finds additional information relevant to the project.

We also contacted Mr. John Earls, the manager at the Waimea Water Treatment Plant (WTP), for information regarding potential cultural and/or religious practices at the WTP. Mr. Earls stated that he has been working at the WTP for the last 9 years and during this time, no one has approached him for permission to access the facility for cultural and/or religious purposes. No one has been observed at the site conducting cultural or religious activities.

We still believe that the proposed project is not anticipated to result in adverse impacts to historic and/or cultural resources. Mitigation measures are in place in the event that such resources are inadvertently encountered.

4. *In addition, the DEA mentions that the project area is dominated primarily with introduced plants and grasses. As such, OHA would also like to suggest that the project area be landscaped with native or indigenous species. Any invasive species should also be removed. Doing so would not only serve as practical water-saving landscaping practices, but also serve to further the traditional Hawaiian concept of mālama ‘āina and create a more Hawaiian sense of place.*

Landscaping for the proposed project will be limited to grassing of disturbed areas to prevent erosion. Should further landscaping be planned in the future, use of native plants will be encouraged.

Mr. Clyde W. Nāmu'o

November 28, 2007

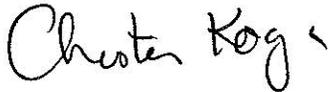
Page 4 of 4

5. *Finally, the lands which this project would impact are ceded lands, as are all submerged lands. As such, we request that they be treated with the respect due to them, as they are part of the 1.8 million acres of lands that belong to the Hawaiian monarchy and were transferred to the state when Hawai'i became a U.S. state. In addition, OHA urges that future documents refer to this parcel as ceded lands so that their special status is known to others and to facilitate their continued registry and the creation and maintenance of an accurate ceded lands inventory.*

A statement identifying the subject property as part of the ceded lands has been included in Section 1.1 of the Final EA.

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,



Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii

LINDA LINGLE  
GOVERNOR OF HAWAII



LAURENCE K. LAU  
ACTING DIRECTOR

**STATE OF HAWAII  
DEPARTMENT OF HEALTH  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL**

235 SOUTH BERETANIA STREET  
LEIOPAPA A KAMEHAMEHA, SUITE 702  
HONOLULU, HAWAII 96813  
Telephone (808) 586-4185  
Facsimile (808) 586-4186  
Electronic Mail: [OEQC@doh.hawaii.gov](mailto:OEQC@doh.hawaii.gov)

October 16, 2007

Milton D. Pavao, Manager  
Department of Water Supply  
County of Hawai'i  
354 Kekūanaō'a Street, Suite 20  
Hilo, Hawai'i 96720

Subject: Draft Environmental Assessment (EA) for Waimea Water Treatment Plant Sludge Drying Beds, TMK: (3) 6-5-001:003, Kamuela, South Kohala District, Island of Hawai'i

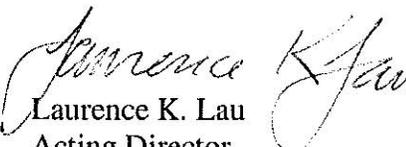
Dear Mr. Pavao:

Thank you for the opportunity to review and offer comments on the subject document.

On page 31, please provide more details on required grading at the site(s), erosion control, and stormwater management during and after construction of the proposed project.

Please call Herman Tuiolosega at (808) 586-4185 if you have any questions.

Sincerely,

  
Laurence K. Lau  
Acting Director

Copy: Mr. Chester Koga, R.M. Towill Corporation

2024 North King Street  
Suite 200  
Honolulu Hawaii 96819-3470  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

November 28, 2007

Mr. Laurence K. Lau  
Acting Director  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

Dear Director Lau:

**Draft Environmental Assessment  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply (DWS), County of Hawaii, thank you for your letter dated October 2, 2007, concerning the subject Draft Environmental Assessment (DEA).

We offer the following in response to your comment (comment has been *italicized* for reference):

- 1. On page 31, please provide more details on required grading at the site(s), erosion control, and stormwater management during and after construction of the proposed project.*

The proposed project will involve grading, excavation and backfill activities to prepare the site for development. Earthwork will consist of minor grading and trenching to level the site for the drying beds and install the force main. Soil from disturbed areas could potentially be washed into Waikoloa Stream located at the western boundary of the subject property during a severe storm event. However, the potential for release of sediments in storm water runoff from disturbed areas and temporary stockpile sites will be addressed through a County-required Grading Plan and a National Pollutant Discharge Elimination System (NPDES) permit for discharges associated with construction storm water that will be filed for this project. The Grading Plan and NPDES permit applications require the use of Best Management Practices (BMPs) to prevent or mitigate the potential for impacts to State waters as a result of storm water runoff from the construction site. BMPs will be implemented as required by law.

Excavated soils, estimated to be approximately 2,900 cubic yards, will be used on-site for fill material. Imported fill will be limited to clean and uncontaminated material for backfill purposes. Any excess fill material will either be used at other DWS project sites or disposed of at an approved waste facility.

Mr. Laurence K. Lau

11/28/2007

Page 2 of 2

Typical BMP measures that would be applied to the subject project to address NPDES construction storm water requirements have been included in Section 3.1 of the EA.

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,

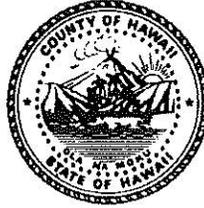
A handwritten signature in black ink that reads "Chester Koga". The signature is written in a cursive, slightly slanted style.

Chester Koga

Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii

Harry Kim  
Mayor



Bruce C. McClure  
Director

Jiro A. Sumada  
Deputy Director

**County of Hawai'i**  
**DEPARTMENT OF PUBLIC WORKS**  
Aupuni Center  
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224  
(808) 961-8321 · Fax (808) 961-8630  
www.co.hawaii.hi.us

October 18, 2007

Chester Koga, Planning Project Coordinator  
R. M. Towill Corporation  
420 Waiakamilo Road, Ste. 411  
Honolulu, Hi. 96817-4950

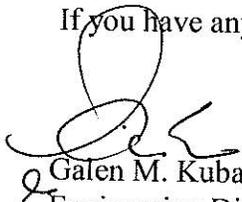
Subject: Draft Environmental Assessment  
Waimea Water Treatment Plant Sludge Drying Beds  
Kamuela, South Kohala District, Island of Hawaii  
TMK: [3] 6-5-001: 003

We reviewed the subject Draft Environmental Assessment and have the following comment:

We are not able to determine by the figures provided, where the proposed project is occurring within the overall parcel.

We appreciate that selecting to place the drying beds on the same property as the water treatment plant will reduce the number of trips that would be necessary to truck to an offsite drying facility.

If you have any questions, please contact Kiran Emler of our Kona office at 327-3530.

  
Galen M. Kuba, Division Chief  
Engineering Division

KE

c: ENG - HILO/KONA  
Planning Director  
Kieth Okamoto, Project Manager, DWS

2024 North King Street  
Suite 200  
Honolulu Hawaii 96819-3470  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

November 28, 2007

Mr. Galen M. Kuba  
Division Chief  
Engineering Division  
Department of Public Works  
County of Hawaii  
101 Pauahi Street, Suite 7  
Hilo, Hawaii 96720-4224

Dear Mr. Kuba:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply, County of Hawaii, thank you for your letter dated October 18, 2007, concerning the subject Draft Environmental Assessment (EA).

We offer the following in response to your comments (comments have been *italicized* for reference):

1. *We are not able to determine by the figures provided, where the proposed project is occurring within the overall parcel.*

The proposed solar drying beds will be located across the access road and to the north of the 8.5 million gallon raw water reservoir. See attached Figure 1 – Project Location map.

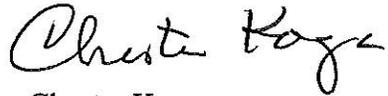
2. *We appreciate that selecting to place the drying beds on the same property as the water treatment plant will reduce the number of trips that would be necessary to truck to an offsite drying facility.*

We acknowledge your agreement on the preferred alternative to construct the proposed solar drying beds at the WTP facility.

Mr. Galen M. Kuba  
11/28/2007  
Page 2 of 2

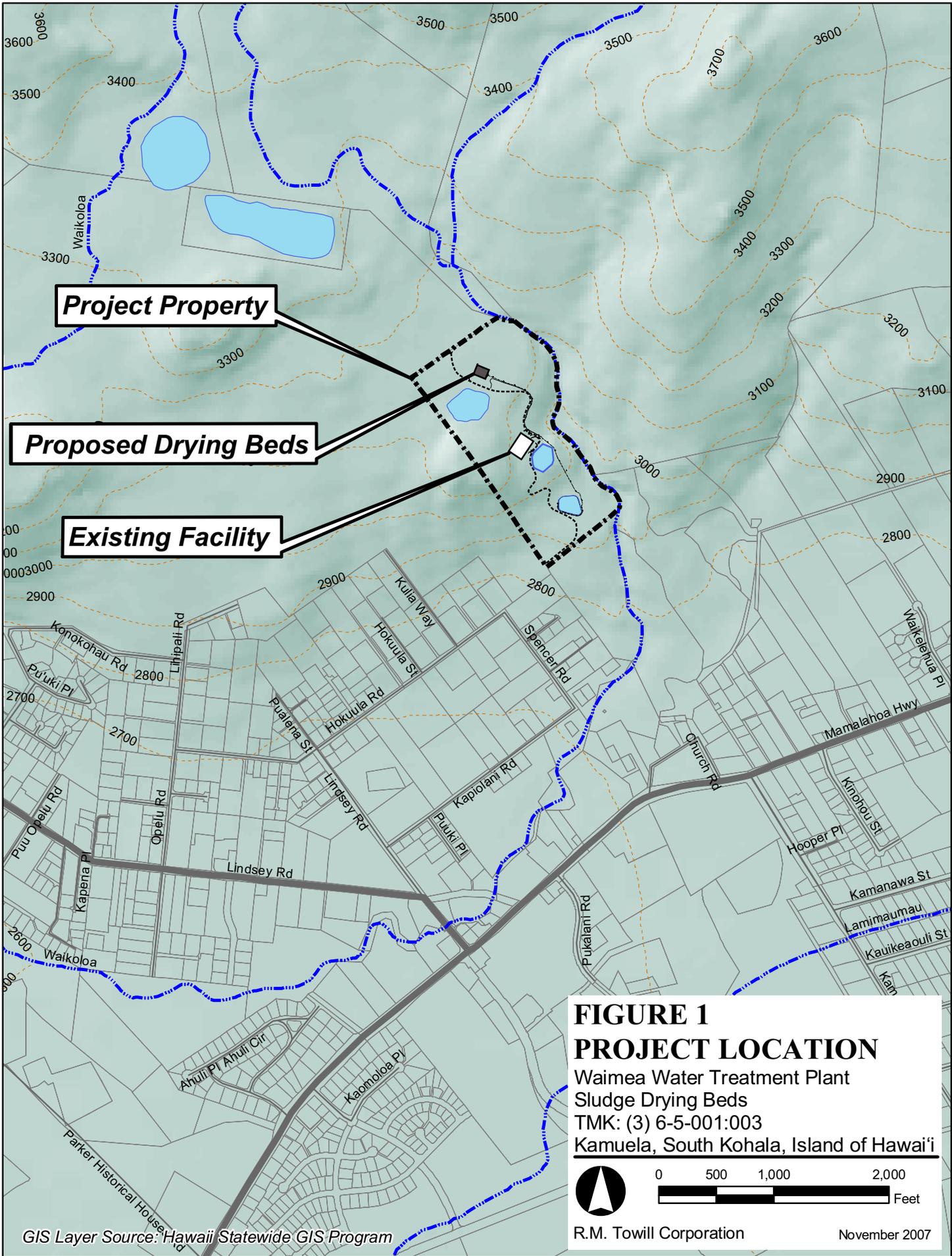
We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink that reads "Chester Koga". The signature is written in a cursive style with a large initial "C" and a long, sweeping underline.

Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii



**Project Property**

**Proposed Drying Beds**

**Existing Facility**

**FIGURE 1  
PROJECT LOCATION**

Waimea Water Treatment Plant  
Sludge Drying Beds  
TMK: (3) 6-5-001:003  
Kamuela, South Kohala, Island of Hawaii



R.M. Towill Corporation

November 2007

GIS Layer Source: Hawaii Statewide GIS Program

LINDA LINGLE  
GOVERNOR OF HAWAII



LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

October 19, 2007

R.M. Towill Corporation  
420 Waiakamilo Road Suite 411  
Honolulu, Hawaii 96817

Attention: Mr. Chester Koga

Gentlemen:

Subject: Draft Environmental Assessment for Waimea Water Treatment Plant  
Sludge Drying Beds, Kamuela, Hawaii Tax Map Key: (3) 6-5-1:3

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

Other than the comments from Engineering Division, Land Division – Hawaii District, Commission on Water Resource Management, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Russell Y. Tsuji".

*for* Russell Y. Tsuji  
Administrator



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

September 25, 2007

MEMORANDUM

- TO:* **DLNR Agencies:**
- Div. of Aquatic Resources
  - Div. of Boating & Ocean Recreation
  - Engineering Division
  - Div. of Forestry & Wildlife
  - Div. of State Parks
  - Commission on Water Resource Management
  - Office of Conservation & Coastal Lands
  - Land Division – Hawaii District

*TO:*  
**FROM:** Russell Y. Tsuji  
**SUBJECT:** Drat Environmental Assessment for Waimea Water Treatment Plant Sludge Drying Beds  
**LOCATION:** Kamuela, Hawaii, Tax Map Key: (3) 6-5-1:3  
**APPLICANT:** R.M. Towill Corporation on behalf of the Department of Water Supply, County of Hawaii

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by October 15, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: Edwin T. Saboda  
 Date: 10/16/07

RECEIVED  
 07 SEP 27 P3:18  
 COMMISSION ON WATER RESOURCE MANAGEMENT  
 RECEIVED  
 LAND DIVISION  
 2007 SEP 27 11:17 A 839  
 DEPARTMENT OF LAND AND NATURAL RESOURCES  
 STATE OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

RECEIVED  
LAND DIVISION

2007 SEP 28 10:25L

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

September 25, 2007

MEMORANDUM

TO: **DLNR Agencies:**  
 Div. of Aquatic Resources  
 Div. of Boating & Ocean Recreation  
 Engineering Division  
 Div. of Forestry & Wildlife  
 Div. of State Parks  
 Commission on Water Resource Management  
 Office of Conservation & Coastal Lands  
 Land Division – Hawaii District

07 SEP 27 PM 02:01 ENGINEERING

FROM: Russell Y. Tsuji  
SUBJECT: Drat Environmental Assessment for Waimea Water Treatment Plant Sludge Drying Beds  
LOCATION: Kamuela, Hawaii, Tax Map Key: (3) 6-5-1:3  
APPLICANT: R.M. Towill Corporation on behalf of the Department of Water Supply, County of Hawaii

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by October 15, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed: *C. L. Tsuji*  
Date: 9/28/07

DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION

LD/RYT

Ref.: DEAWaimeaWaterTreatment Plant  
Hawaii.360

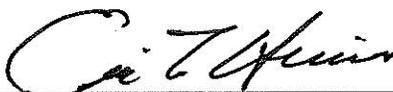
COMMENTS

- (X) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The Flood Insurance Program does not have any regulations for developments within Zone X.
- ( ) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone.
- ( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is \_\_\_\_.
- ( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- ( ) Mr. Robert Sumitomo at (808) 768-8097 or Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
- ( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.
- ( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
- ( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.
  
- ( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
- ( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.
  
- ( ) Additional Comments: \_\_\_\_\_  
\_\_\_\_\_
  
- ( ) Other: \_\_\_\_\_  
\_\_\_\_\_

Should you have any questions, please call Ms. Suzie Agraan of the Planning Branch at 587-0258.

Signed:   
ERIC T. HIRANO, CHIEF ENGINEER  
Date: 9/28/07



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

September 25, 2007

RECEIVED  
LAND DIVISION  
2007 OCT -3 A 9:01  
DEPT. OF LAND &  
NATURAL RESOURCES  
STATE OF HAWAII

RECEIVED  
LAND DIVISION  
HILO, HAWAII  
2007 SEP 28 1 A 10:02

MEMORANDUM

- TO: **DLNR Agencies:**
- Div. of Aquatic Resources
  - Div. of Boating & Ocean Recreation
  - Engineering Division
  - Div. of Forestry & Wildlife
  - Div. of State Parks
  - Commission on Water Resource Management
  - Office of Conservation & Coastal Lands
  - Land Division – Hawaii District

FROM: Russell Y. Tsuji

SUBJECT: Draft Environmental Assessment for Waimea Water Treatment Plant Sludge Drying Beds

LOCATION: Kamuela, Hawaii, Tax Map Key: (3) 6-5-1:3

APPLICANT: R.M. Towill Corporation on behalf of the Department of Water Supply, County of Hawaii

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by October 15, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:   
Date: 10/2/07



**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION**

75 Aupuni Street, Room 204  
Hilo, Hawaii 96720  
PHONE: (808) 974-6203  
FAX: (808) 974-6222

October 2, 2007

**TO:** Russell T. Tsuji, Administrator  
DLNR-Land Division

**FROM:**   
Gordon Heit, Land Agent  
Hawaii District Land Office

**SUSPENSE DATE:** March 11, 2007

**SUBJECT:** Request for Comments, Draft Environmental Assessment for County of Hawaii, Department of Water Supply, Sludge Drying Beds, South Kohala, Hawaii, TMK: 3<sup>rd</sup>/6-5-01:03.

HDLO staff has reviewed the County of Hawaii's request for a draft EA and has comments pertaining to the above-mentioned property.

The property is currently encumbered under Executive Order No. 2511 issued to the Department of Water Supply in 1970 for Reservoir Site and Related Purposes. The Draft EA appears to be consistent with the allowed use under EO 2511 and therefore HDLO staff has no objections.



November 28, 2007

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

Dear Mr. Tsuji:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of the Department of Water Supply, County of Hawaii, thank you for your letter dated October 19, 2007, concerning the subject Draft Environmental Assessment (DEA). We offer the following in response to the comments of your various divisions (as applicable, the comments have been *italicized* for reference):

1. Commission on Water Resource Management Comments

*We have no comments.*

We acknowledge the Commission on Water Resource Management has no comments regarding the proposed project.

2. Engineering Division Comments

*We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone X. The Flood Insurance Program does not have any regulations for developments within Zone X.*

We acknowledge your confirmation that the project according to the Flood Insurance Rate Map (FIRM), is located within Zone X and that the Flood Insurance Program does not have any regulations for developments within Zone X.

3. Land Division – Hawaii District Comments

*HLDO staff has reviewed the County of Hawaii's request for a draft EA and has comments pertaining to the above-mentioned property.*

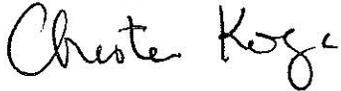
*The property is currently encumbered under Executive Order No. 2511 issued to the department of Water Supply in 1970 for Reservoir Site and Related Purposes. The Draft EA appears to be consistent with the allowed use under EO 2511 and therefore HDLO staff has no objections.*

Mr. Russell Y. Tsuji  
November 28, 2007  
Page 2 of 2

We acknowledge your comment that the property is currently encumbered under Executive Order No. 2511 issued to the Department of Water Supply in 1970 for Reservoir Site and Related Purposes. The Draft EA appears to be consistent with the allowed use under EO 2511 and therefore HDLO staff has no objections.

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Chester Koga".

Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii

LINDA LINGLE  
GOVERNOR OF HAWAII



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

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

In reply, please refer to:  
EPO-06-190

October 23, 2007

Mr. Chester Koga  
R. M. Towill Corporation  
420 Waiakamilo Road, Suite 411  
Honolulu, Hawaii 96817

Dear Mr. Koga:

SUBJECT: Draft Environmental Assessment for Waimea Water Treatment Plant Sludge  
Drying Beds  
Kamuela, South Kohala District, Island of Hawaii, Hawaii  
TMK: (3) 6-5-001: 003

Thank you for allowing us to review and comment on the subject document. The document was routed to the various branches of the Environmental Health Administration. We have no comments at this time. 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](http://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 586-4346.

Sincerely,

KELVIN H. SUNADA, MANAGER  
Environmental Planning Office

c: EPO  
EH-Hawaii

2024 North King Street  
Suite 200  
Honolulu Hawaii 96819-3470  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

November 28, 2007

Mr. Kelvin H. Sunada  
Manager  
Environmental Planning Office  
Department of Health  
State of Hawaii  
P.O. Box 3378  
Honolulu, Hawaii 96801-3378

Dear Mr. Sunada:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply, County of Hawaii, thank you for your letter dated October 2, 2007, concerning the subject Draft Environmental Assessment (DEA).

We acknowledge that the Department of Health has no comments at this time on the proposed project and offer the following in response to your comments.

- 1. We strongly recommend that you review all of the Standard Comments on our website: <http://www.hawaii.gov/health/environmental/env-planning/landuse/landuse.html> . Any comments applicable to this application should be adhered to.*

We have noted your recommendation to review all of the Standard Comments on your website and that any comments applicable to this project should be adhered to.

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink that reads "Chester Koga". The signature is written in a cursive, flowing style.

Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122, Box 50088  
Honolulu, Hawaii 96850

In Reply Refer To:  
2008-TA-0013  
2008-FA-0001

OCT 23 2007

Mr. Chester Koga  
R.M. Towill Corporation  
420 Waiakamilo Road, Suite 411  
Honolulu, Hawaii 96817

Subject: Comments on Draft Environmental Assessment for the Waimea Water Treatment Plant Sludge Drying Beds [TMK: (3) 6-5-001:003], Kamuela, Hawaii

Dear Mr. Koga:

This letter is in response to your draft Environmental Assessment (EA) dated September 2007, which we received on September 24, 2007. The draft EA is being prepared for the proposed development of Waimea Water Treatment Plant sludge drying beds facilities (proposed project). These facilities will consist of construction of 9,240 square feet (sf) sludge drying beds, a 216-sf control center building, installation of approximately 2,000 feet of six-inch force main, and future expansion. The proposed project will be located in Kamuela, South Kohala district on the island of Hawaii.

We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program and the Hawaii Geographic Analysis Program. The biological resources section of the draft EA states that rare, threatened or endangered plant or animal species or significant habitats are not located on the property where the proposed facility will be constructed. However, the federally threatened Newell's shearwater (*Puffinus auricularis newelli*) and the federally endangered Hawaiian hawk (*Buteo solitarius*), Hawaiian hoary bat (*Lasurus cinereus semotus*) and Hawaiian duck (*Anas wyvilliana*) have been observed in the project vicinity and should be discussed in your draft EA.

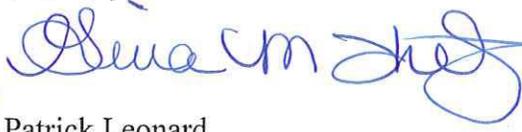
We offer the following comments to assist you in your determination of effects to listed species pursuant to section 7 of the Endangered Species Act of 1973, as amended [16 U.S.C. 1531-1544]. Alternative 1 would be to locate the proposed project at a landfill facility and create open (uncovered) sludge beds, which could serve as an attraction for listed waterbirds. Uncovered, open water attracts migratory and listed waterbirds to areas that they would normally avoid. This type of attraction may result in increased predation pressure from non-native predators such as mongoose, rats and feral dogs and cats. Attraction to a site that has increased predation leads to failed nesting attempts and adult mortality. Failed nesting and adult mortality creates what is referred to as a "population sink" and can result in declines of local waterbird populations.

TAKE PRIDE<sup>®</sup>  
IN AMERICA 

The Preferred Alternative identified in the draft EA is to located the proposed facilities at the Waimea Water Treatment Plant. The sludge drying beds will be covered. Because there would not be open water, the waterbirds would not be attracted to the project site and therefore, the preferred alternative would not likely act as a nuisance attractant for listed waterbirds and migratory waterfowl.

We are in support of the preferred alternative in the draft EA. If you have questions regarding this letter or federally protected species, please contact Aaron Nadig, Fish and Wildlife Biologist (phone: 808-792-9466; fax: 808-792-9581).

Sincerely,



PL Patrick Leonard  
Field Supervisor

Cc: Keith Okamoto, Department of Water Supply



November 28, 2007

Mr. Patrick Leonard  
Field Supervisor  
Fish and Wildlife Service  
United States Department of Interior  
300 Ala Moana Boulevard, Room 3-122  
Box 50088  
Honolulu, Hawaii 96850

Dear Mr. Leonard:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply, County of Hawaii, thank you for your letter dated October 23, 2007, concerning the subject Draft Environmental Assessment (EA).

We offer the following in response to your comments (comments have been *italicized* for reference):

1. *We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program and the Hawaii Geographic Analysis Program. The biological resources section of the draft Ea states that rare, threatened or endangered plant or animal species or significant habitats are not located on the property where the proposed facility will be constructed. However, the federally threatened Newell's shearwater (*Puffinus auricularis newelli*) and the federally endangered Hawaiian hawk (*Buteo solitarius*), Hawaiian hoary bat (*Lasirus cinereus semotus*) and Hawaiian duck (*Anas wyvilliana*) have been observed in the project vicinity and should be discussed in your draft EA.*

The Newell's shearwater, the Hawaiian hoary bat, the Hawaiian duck, and the Hawaiian hawk have been added as threatened or endangered species that have been observed in the project vicinity.

2. *We offer the following comments to assist you in your determination of effects to listed species pursuant to section 7 of the Endangered Species Act of 1973, as amended [16 U.S.C. 1531-1544]. Alternative 1 would be to locate the proposed*

Mr. Patrick Leonard

11/28/2007

Page 2 of 2

*project at a landfill facility and create open (uncovered) sludge beds, which could serve as an attraction for listed waterbirds. Uncovered, open water attraction may result in increased predation pressure from non-native predators such as mongoose, rats and feral dogs and cats. Attraction to a site that has increased predation leads to failed nesting attempts and adult mortality. Failed nesting and adult mortality creates what is referred to as a "population sink" and can result in declines of local waterbird populations.*

*The Preferred Alternative identified in the draft EA is to located the proposed facilities at the Waimea Water Treatment Plant. The sludge drying beds will be covered. Because there would not be open water, the waterbirds would not be attracted to the project site and therefore, the preferred alternative would not likely act as a nuisance attractant for listed waterbirds and migratory waterfowl.*

*We are in support of the preferred alternative in the draft EA.*

Thank you for the above comment. Section 3.6 of the EA has been revised based on your comments and the following statement has been added:

*"The proposed facility will be covered and therefore will not attract migratory and listed waterbirds that could result in increased predation pressures from non-native predators."*

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

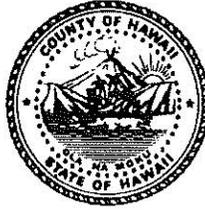
Sincerely,



Chester Koga  
Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii

Harry Kim  
Mayor



Bobby Jean Leithead-Todd  
Director

Nelson Ho  
Deputy Director

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

October 24, 2007

Mr. Chester Koga  
Planning Project Coordinator  
R.M. TOWILL CORPORATION  
420 Waiakamilo Road, Suite 411  
Honolulu, HI 96817

Re: Draft Environmental Assessment  
Waimea Water Treatment Plant Sludge Drying Beds  
Kamuela, South Kohala District, Hawai'i  
TMK: (3) 6-5-001: Parcel 003

Dear Mr. Koga,

Our department offers the enclosed comments on the subject Draft EA.

Thank you for allowing us to review and comment on the subject Environmental Assessment.

Sincerely,

Bobby Jean Leithead-Todd  
DIRECTOR

enclosure

10011A



## WASTEWATER DIVISION

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
108 RAILROAD AVENUE - HILO, HAWAII 96720  
(808) 961-8338 - FAX (808) 961-8644

---

October 16, 2007

TO: Bobby Jean Leithead-Todd, Director

FROM: Bert Saito, Interim Chief 

RE: Draft EA for Waimea Water Treatment Plant Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii  
TMK: 6-5-001: 003

For the interim period, before startup of the proposed drying beds, the EA states that "wet sludge" is being hauled to an undisclosed disposal facility. Is this facility the County operated Kealakehe Wastewater Treatment Plant? Currently, Kealakehe WWTP effluent quality is deteriorating due to the high levels of accumulated sludge within its aerated lagoons. A project to pump this sludge from the lagoons may not occur until late 2008 or early 2009. If the disposal facility is Kealakehe WWTP, we request that another disposal facility be explored for the interim period before startup of the proposed drying beds.

420 Waiakamilo Road  
Suite 411  
Honolulu Hawaii 96817-4950  
Telephone 808 842 1133  
Fax 808 842 1937  
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION  
SINCE 1930

Planning  
Engineering  
Environmental Services  
Photogrammetry  
Surveying  
Construction Management

Draft Environmental Assessment for  
Waimea Water Treatment Plant Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii  
Tax Map Key: (3) 6-5-001: Parcel 003

The attached copy of the Draft Environmental Assessment is provided for your information and/or comment and has been prepared pursuant to the EIS law (Hawaii Revised Statutes, Chapter 343).

Proposing Agency or Applicant Name, Address, Contact Person & Phone:

Department of Water Supply  
County of Hawaii  
345 Kekuanaoa St., Suite 20  
Hilo, HI 96720  
Contact Person: Keith Okamoto, Project Manager  
Phone: 961-8070

Determination Agency Name, Address, Contact Person & Phone:

Department of Water Supply  
County of Hawaii  
345 Kekuanaoa St., Suite 20  
Hilo, HI 96720  
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Consultant Name, Address, Contact Person & Phone:

R. M. Towill Corporation  
420 Waiakamilo Road, Suite 411, Honolulu, Hawai'i 96817  
Contact Person: Chester Koga, Planning Project Coordinator  
Phone: 842-1133

Public Comment Deadline: October 23, 2007

Any questions may be directed to Chester Koga, (808) 842-1133. Thank you.



that will reduce, minimize or eliminate adverse impacts. A Finding of No Significant Impact (FONSI) is anticipated by the DWS.

### 1.3 PURPOSE AND NEED FOR THE PROJECT

Originally built in the 1970s, the Waimea Water Treatment Plant (WTP) is a conventional water treatment plant serving Waimea town and nearby surrounding areas. The facility currently produces 2.0 million gallons per day (mgd) of potable water and has a potential capacity of 4.0 mgd (see Figure 3, Existing Facility). Sludge residue resulting from the water filtration process is discharged into an open 2.76 million gallon capacity concrete reservoir. The capacity of the reservoir to store the sludge is nearly exhausted, therefore prompting the need for this proposed facility improvement.

The purpose of this project is to address the long-term plan for sludge handling and disposal at the WTP facility. The proposed solar drying facility will be used to dewater and dry the WTP's sludge residue resulting in a more effective disposal process. Currently, wet sludge is being removed from the WTP facility and hauled to a disposal facility once a week in an effort to prevent the overflow of the sludge reservoir.

### 1.4 ALTERNATIVES TO THE PROPOSED ACTION

The available options for disposing of sludge include disposal to an existing landfill or used for land application. However, State regulations governing the use of sludge from WTP for land application have not been formally implemented. Institutional requirements for setting up an initial program will likely be time consuming and require additional resources, therefore the option of utilizing the sludge for land applications is eliminated. Sludge disposal will be through the use of the County's West Hawai'i Landfill located at Pu'uanahulu, approximately 15 miles away.

#### 1.4.2 ALTERNATIVE 1: DRYING FACILITY AT THE WEST HAWAI'I LANDFILL

This alternative involves construction of the sludge drying facility (either covered or uncovered) at the West Hawai'i Landfill. Thickened sludge at the Waimea WTP is loaded onto a 2,500 gallon sludge hauling truck and hauled to the sludge drying facility at West Hawai'i Landfill. Hauling activities will occur 3 times a week resulting in 156 trips annually (compared to 12 trips annually for the Waimea option). Sludge removal is required every 10.5 months for the covered bed option and 2.5 months for the uncovered bed option at the landfill facility (as compared to 5.1 months for the Waimea option).

While the construction of the sludge drying beds at the landfill site would involve a smaller facility (in the covered option) or a larger but cheaper facility (in the uncovered option), looking at the long-term operation and maintenance of the WTP facility, this alternative would entail significantly higher hauling costs (as thinner under-watered sludge would be hauled). This option would also have a greater impact to traffic conditions as it will require hauling of sludge 3 times a week (156 trips annually).

#### 1.4.3 PREFERRED ALTERNATIVE: DRYING FACILITY AT THE WAIMEA WTP

This alternative involves construction of the sludge drying facility at the existing Waimea WTP. Sludge to be dried would be pumped by self priming pumps to the sludge drying beds. Due to the large size of the existing sludge reservoir (which is to be used for thickening), discharge can be on a batch basis coincident with the removal of sludge. The sludge drying beds would have two compartments to allow for alternating use. Once dried to a predetermined level, the sludge is hauled to the landfill. For a 2.0 mgd process flow rate, sludge will need to be removed and hauled to the landfill every 5.1 months for each drying bed. This would require approximately 6 trips for a 10-cubic yard capacity dump truck every 2.5 months or approximately 28 truck trips annually.

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November 28, 2007

Ms. Bobby Jean Leithead-Todd  
Director  
Department of Environmental Management  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Director Leithead-Todd:

**Draft Environmental Assessment for  
Waimea Water Treatment Plan Sludge Drying Beds  
Kamuela, South Kohala District, Hawaii**

On behalf of Department of Water Supply, County of Hawaii, thank you for your letter dated October 24, 2007, concerning the subject Draft Environmental Assessment (EA).

We offer the following in response to the comments of your Wastewater Division (your comments have been *italicized* for reference):

- 1. For the interim period, before startup of the proposed drying beds, the EA states that "wet sludge" is being hauled to an undisclosed disposal facility. Is this facility the County operated Kealakehe Wastewater Treatment Plant? Currently, Kealakehe WWTP effluent quality is deteriorating due to high levels of accumulated sludge within its aerated lagoons. A project to pump this sludge from the lagoons may not occur until late 2008 or early 2009. If the disposal facility is Kealakehe WWTP, we request that another disposal facility be explored for the interim period before startup of the proposed sludge drying beds.*

The wet sludge from the Waimea Water Treatment Plant is currently being hauled once a week to the Parker Ranch Wastewater Treatment Plant. The Draft EA states this in Section 2.1 – Existing Conditions on page 21. No sludge from the subject facility is sent to the Kealakehe WWTP.

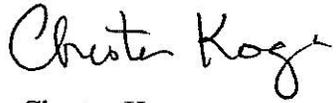
Ms. Bobby Jean Leithead-Todd

11/28/2007

Page 2 of 2

We appreciate your review of the subject document. Should you have any further comments do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink that reads "Chester Koga". The signature is written in a cursive style with a large initial 'C' and a long, sweeping tail on the 'g'.

Chester Koga

Planning Project Coordinator

cc: Department of Water Supply, County of Hawaii