ALAN M. ARAKAWA
Mayor

GEORGE Y. TENGAN
Director

ERIC H. YAMASHIGE, P.E., L.S.
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauiwater.org

September 8, 2005

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

Dear Ms. Salmonson:

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR PROPOSED KAMOLE WEIR WATER TREATMENT FACILITY CLEARWELL RESERVOIR, TMK (2) 2-5-04: 39 (POR.), MAKAWAO, MAUI, HAWAII

The County of Maui, Department of Water Supply, has reviewed the comments received during the 30-day public comment period which began on June 23, 2005. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the September 23, 2005 OEQC Environmental Notice.

We have enclosed a completed OEQC Publication form and four (4) copies of the Final Environmental Assessment. The project summary will be submitted to your office by email.

Please call Matthew Slepin of Munekiyo and Hiraga, Inc. at (808) 244-2015 if you have any questions.

Sincerely,

George Y. Tengan
Director

GT/LW/tn
enclosures: OEQC Publication Form
Final EA (4 copies)
C:\Larrys files\KAMWTP\Clearwell.2003\OEQC FEA transm.ltr.wpd

2005-09-23 MA FONSI KAMOLE WEIR WATER TREATMENT FACILITY CLEARWELL RESERVOIR

Final Environmental Assessment

PROPOSED KAMOLE WEIR WATER TREATMENT FACILITY CLEARWELL RESERVOIR

Prepared for:

County of Maui,
Department of Water Supply

September 2005

MUNEKIYO & HIRAGA, INC.

Final

Environmental Assessment

PROPOSED KAMOLE WEIR WATER TREATMENT FACILITY CLEARWELL RESERVOIR

Prepared for:

County of Maui,
Department of Water Supply

September 2005

MUNEKIYO & HIRAGA, INC.

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Preface

The County of Maui, Department of Water Supply, proposes the phased construction of a new 6.0 million gallon clearwell reservoir for the Kamole Weir Water Treatment Facility in Haliimaile, Maui, Hawaii, on lands identified as TMK (2) 2-5-04:por. 39. The proposed action includes the subdivision and acquisition of lands by the County of Maui on which the reservoir will be located. As the proposed project involves the use of County funds, this Environmental Assessment (EA) has been prepared pursuant to Chapter 343, Hawaii Revised Statutes, and Chapter 200 of Title 11, Hawaii Administrative Rules, Environmental Impact Statement Rules. The EA documents the project's technical characteristics and environmental impacts, and advances findings and conclusions relative to the significance of the project.

Executive Summary

Project Name:	Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
Type of Document:	Final Environmental Assessment
Legal Authority:	Chapter 343, Hawaii Revised Statutes
Agency Determination:	Finding Of No Significant Impact
Applicable Environmental Assessment review "trigger":	Use of County Funds
Location:	Maui Island Haliimaile, Makawao District TMK (2) 2-5-04:por. 39
Proposing Agency:	County Of Maui Department of Water Supply 200 South High Street Wailuku, Hawaii 96793 Contact: Larry Winter Phone: (808) 270-7835
Determination Agency:	County Of Maui Department of Water Supply 200 South High Street Wailuku, Hawaii 96793
Consultant:	Munekiyo & Hiraga, Inc. 305 High Street Wailuku, Hawaii 96793 Contact: Michael T. Munekiyo Phone: (808) 244-2015
Project Summary:	The applicant is proposing to replace the existing 0.3 million gallon clearwell reservoir at the Kamole Weir Water Treatment Facility (WTF) with one, divided 6.0 million gallon reservoir, constructed in two (2) phases. The proposed action also includes the eventual subdivision and acquisition of the new reservoir site and construction of corollary structures, such as fencing around the tanks, and a perimeter road.

Chapter I

Project Overview

I. PROJECT OVERVIEW

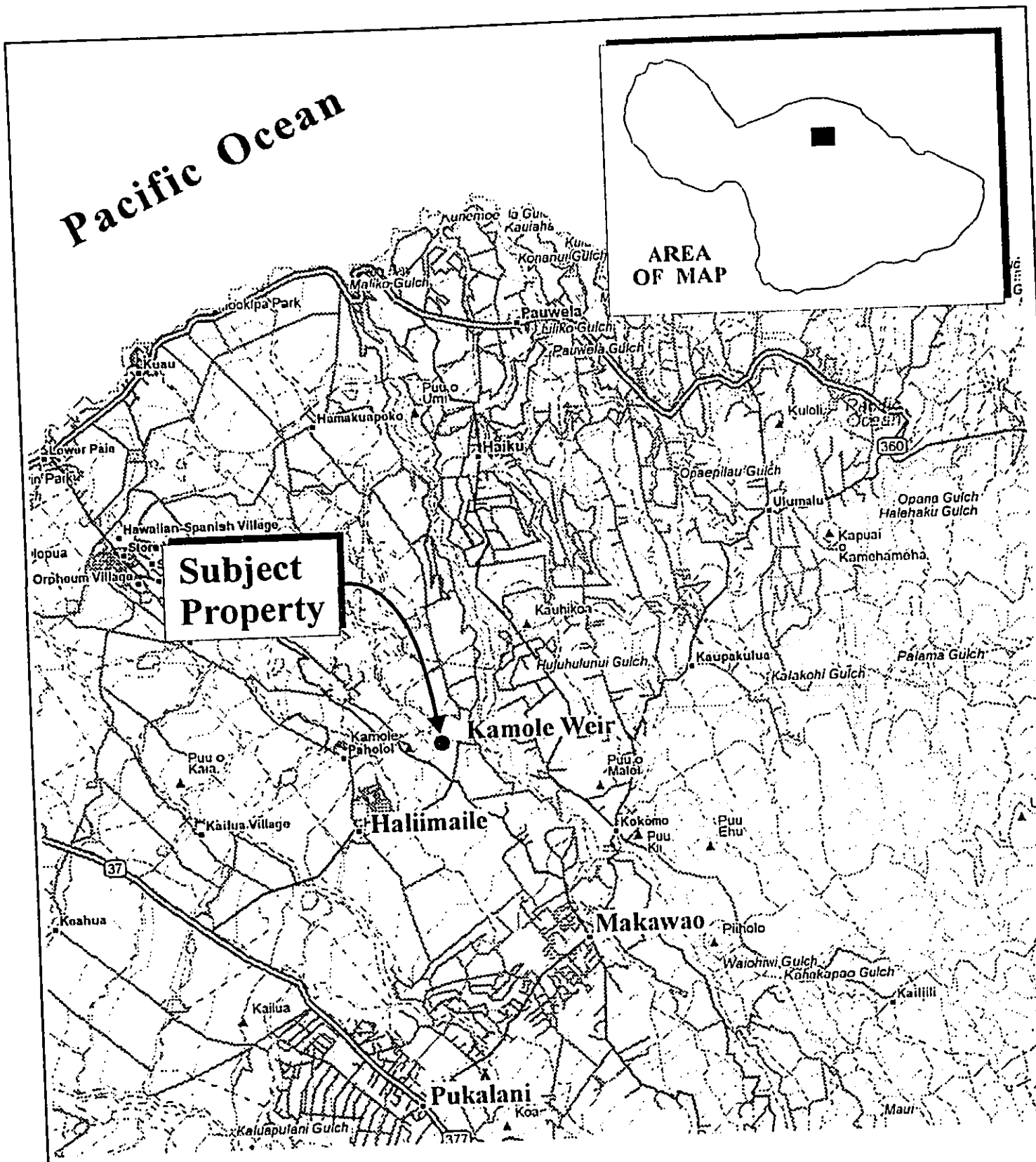
A. PROPERTY LOCATION, EXISTING USE, AND LAND OWNERSHIP

The County of Maui, Department of Water Supply (DWS) proposes the development of an additional clearwell reservoir adjacent to the existing site of the Kamole Weir Water Treatment Facility (WTF). The existing WTF is identified by Tax Map Key (TMK) (2) 2-5-04:80. The project site is immediately adjacent and identified as an approximately 2.4-acre portion of TMK (2) 2-5-04:39, located in the Makawao District of Maui County. See Figure 1. The DWS intends the eventual subdivision and acquisition of the project site, which is currently owned by A&B Properties. Upon completion of construction, the proposed project will be operationally integrated with the existing WTF.

The subject property is fixed within an area currently used for pineapple, cultivation, approximately 0.5 mile north of the Haliimaile Road and Baldwin Avenue intersection. Surrounding properties are characterized by rural residential homes and agricultural land uses. The proposed site is accessed via an unimproved road that connects the existing facilities to Baldwin Avenue. See Appendix "A", Site Photographs.

Beyond the stretch of pineapple fields surrounding the project site, the existing WTF is located in proximity to rural residential properties to the north and south. Neighboring towns include Pa'ia at 4.0 miles north, Haliimaile nearly one mile west, Haiku at 3.0 miles to the east and Makawao Town, approximately 2.0 miles south. See Figure 2.

The existing WTF has a capacity of 7 MGD, with water pumped from flocculation tanks to a microfiltration system for treatment. Filtered water is then disinfected by chlorine and conveyed by gravity to an existing 0.3



Source: 2002 DeLorme, 3-D Topo Quad

NOT TO SCALE

Figure 1 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
Regional Location Map

Prepared for: County of Maui, Dept. of Water Supply

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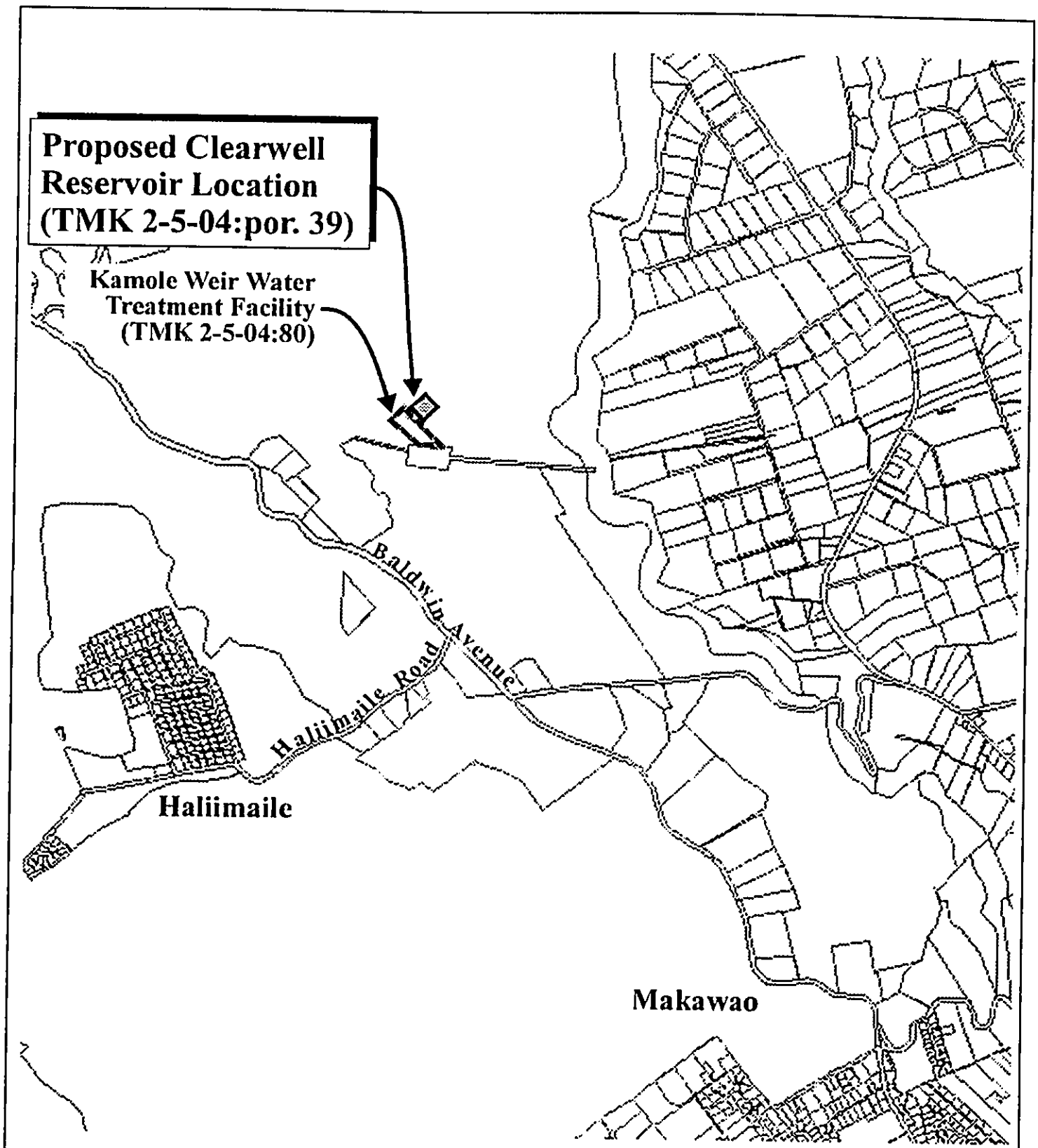

Source: Arc Map

Figure 2 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
Site Location Map

NOT TO SCALE

Prepared for: County of Maui, Dept. of Water Supply

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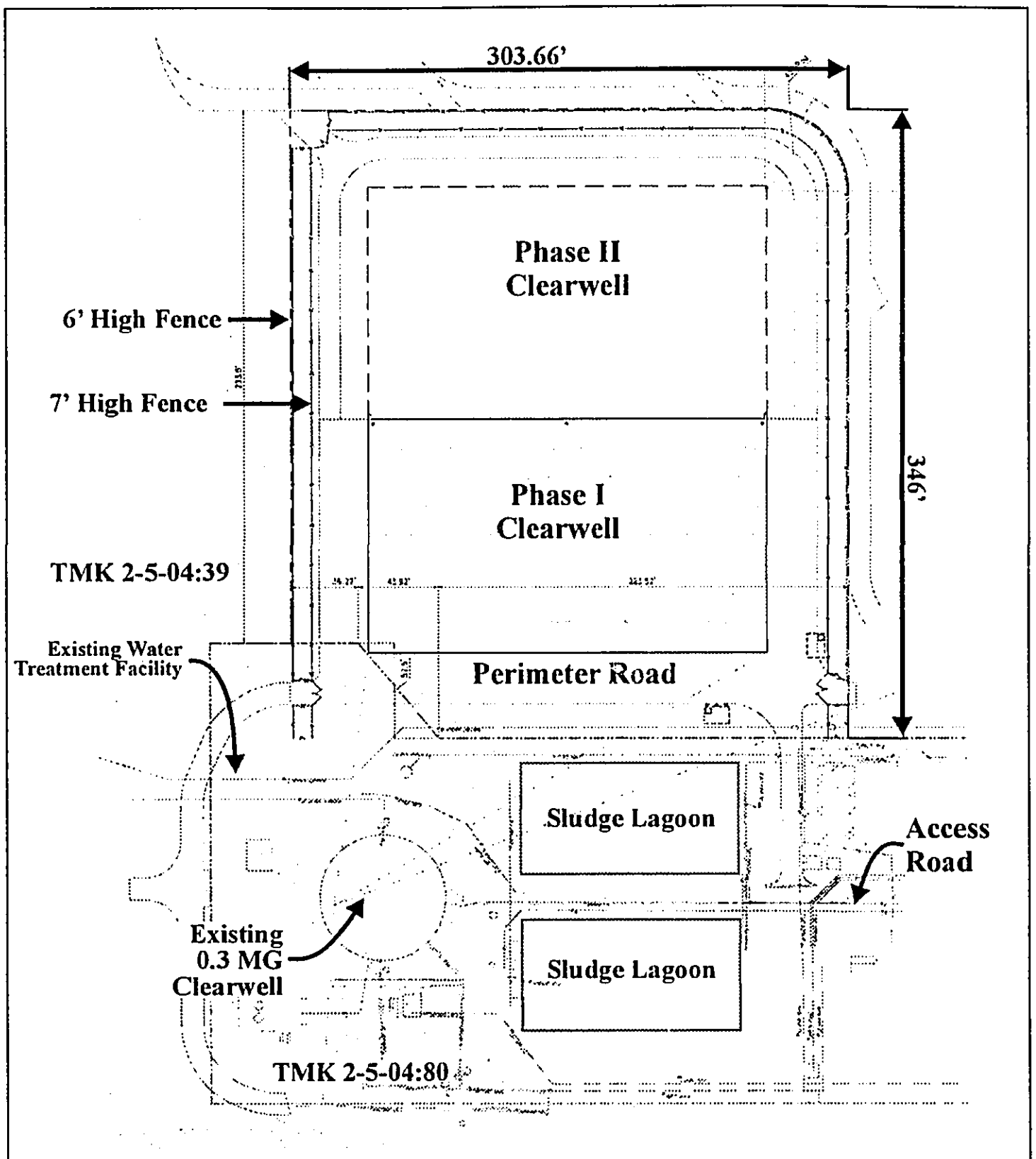
million gallon (mg) clearwell. The 0.3 mg reservoir currently in operation services the water demands of Upcountry residences. Existing booster pumps lift the treated water from the clearwell and allocate it to system storage tanks.

The subject property is located within the State "Agricultural" District. The property is designated for "Agricultural" uses by the Makawao-Pukalani-Kula Community Plan and is zoned for "Agricultural" district uses by Maui County zoning.

B. ***PROPOSED ACTION***

The proposed project would involve the phased construction of a new, divided clearwell reservoir for water treatment purposes at the existing Kamole Weir WTF. See Figure 3. This reservoir would have a storage capacity of 6.0 million gallons (mg) at final build-out and would replace the existing 0.3 mg reservoir. This older reservoir, located within the property limits of the WTF, would then be converted to a storage reservoir for DWS's Maunaolu Area Water Supply System. The reservoir will be constructed in a two-phase process, with the area set aside for the second reservoir denoted as reserved for "Phase II Clearwell". Refer to Appendix "B" for preliminary development plans.

The new 6.0 mg clearwell reservoir will be of concrete construction, having a rectangular configuration of approximately 124 feet by 215 feet. This structure would be secured with fencing and physically integrated into the existing WTF plant site. The County of Maui further proposes the subdivision and acquisition of the new reservoir site, as it will ultimately become an integral component of the WTF.



Source: Okahara & Associates, Inc.

Figure 3 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir Site Plan

NOT TO SCALE

Prepared for: County of Maui, Dept. Of Water Supply

MUNEKIYO & HIRAGA, INC.

C. *PROJECT JUSTIFICATION*

The proposed project would facilitate the Kamole Weir WTF's ability to supply potable water to Upcountry Maui by increasing the facility's flexibility of production. This will better allow the WTF to meet Federal requirements for water processing. Operationally, the clearwell reservoir provides the required contact time between the chlorine and filtered water after it leaves the microfiltration system. This contact period is required by drinking water regulations, making the clearwell an essential component of the treatment system. The new reservoir will not increase the WTF's production capacity.

The existing treatment plant receives raw water from an intake at the Kamole Weir Forebay, which is an extension of the *Wailoa Ditch*. The water flows from the Forebay to a wet well (old flocculation tanks). Water from the wet well is then pumped to the microfiltration system where it is treated. Microfiltration is used to remove suspended solids, biomass and microorganisms from surface water. After microfiltration, the water is treated with chlorine and conveyed by gravity to the clearwell. The clearwell contact time is the final stage of the treatment process. Water from the clearwell is pumped to DWS's Pookela Storage Reservoir or gravity-fed to the Maunaolu distribution system for distribution to DWS customers.

D. *PROJECT FUNDING AND IMPLEMENTATION TIME SCHEDULE*

The estimated cost of the proposed project is $6.0 million. Construction on the project is anticipated to begin upon completion of all appropriate permits. The project's anticipated construction period is approximately one (1) year. Based on these timeframes, the project is expected to be operational by 2007.

This project may be funded by Federal funds through the State of Hawaii's Drinking Water State Revolving Fund (DWSRF) program, which would constitute a federal action and will require the project to meet all of the Hawaii DWSRF program requirements. Refer to Appendix "C".

E. *REGULATORY PROCESSING REQUIREMENTS*

Inasmuch as County of Maui funds will be used for project development, this environmental assessment has been prepared in accordance with Chapter 343, Hawaii Revised Statutes.

The subject property is classified "Agricultural" by the State Land Use Commission and is zoned "Agricultural" by the County of Maui. A Land Use Commission Special Use Permit (SUP) for the existing WTF was issued by the Maui Planning Commission on July 6, 1982. The Department of Water Supply intends to amend the SUP to include the new clearwell reservoir.

Chapter II

Description of the Physical Environment

II. DESCRIPTION OF THE PHYSICAL ENVIRONMENT

A. PHYSICAL SETTING

1. Climate

Climate in the Makawao-Haliimaile region is generally equable the entire year. Average annual rainfall is approximately between 40 and 50 inches per year, with most rainfall occurring between October and April. The Makawao-Haliimaile area, like that of the rest of the island, enjoys low day-to-day and month-to-month variability. Average annual temperature is approximately 71 degrees Fahrenheit. Northeasterly winds persist throughout much of the year.

Rather than seasonal climate, Hawaii and its island communities experience not four (4), but two (2) changes each year. The early Hawaiians named the warm season, where the sun is almost directly overhead, *kau*. The season of cooler temperatures, or *ho'oilo*, includes a low sun, variable winds and an increase in rainfall.

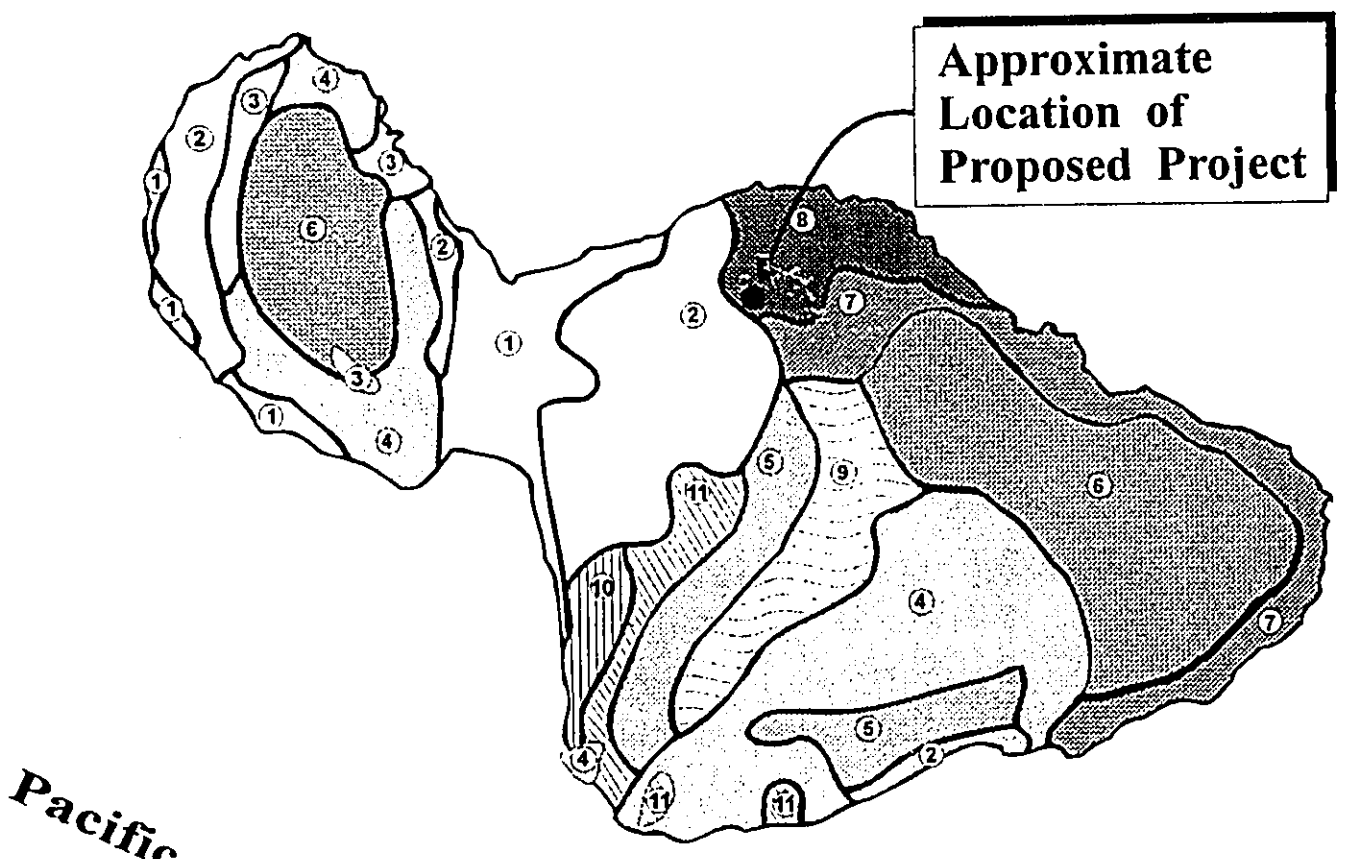
2. Topography and Soil Characteristics

The project site is located on the north-facing foothills of Haleakala, at approximately 1,100 feet above mean sea level (MSL). The project site is located near the Hamakua Ditch, which supplies water for nearby sugar cane cultivation, and the Wailoa Ditch, which delivers raw water directly to the WTF. Beyond the adjacent ditches, there are no other streams, wetlands or bodies of water of significance situated on the site.

Underlying the site and surrounding lands are soils belonging to the Pauwela-Haiku association. See Figure 4. This soil runs deep on

LEGEND

- (1) Pulehu-Ewa-Jaucas association
- (2) Waiakoa-Keahua-Molokai association
- (3) Honolua-Olelo association
- (4) Rock land-Rough mountainous land association
- (5) Puu Pa-Kula-Pane association
- (6) Hydrandepts-Tropaquods association
- (7) Hana-Makaalae-Kailua association
- (8) Pauwela-Haiku association
- (9) Launaia-Kaipoipoi-Olinda association
- (10) Keawakapu-Makena association
- (11) Kamaole-Oanapuka association



Source: USDA Soil Conservation Service

Figure 4 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
Soil Association Map

NOT TO SCALE

Prepared for: County of Maui, Dept. of Water Supply

MUNEKIYO & HIRAGA, INC.

low uplands and is found on the north-facing slopes of east Maui. Gently sloping to moderately steep, these soils are well drained, with fine-textured subsoil. These soils are commonly used for pineapple, pasture, homesites and water supply.

The soil at the proposed site is classified as Hamakuapoko series, involving both Hamakuapoko silt clay, 3 to 7 percent slopes (HIB) and Hamakuapoko silty clay, 7 to 15 percent slopes (HIC) soils. See Figure 5. These soils lie beneath smooth slopes in the lower uplands. Permeability is rapid for both soils. Runoff for HIB soil is slow and erosion hazard slight. HIC soil entails medium runoff and moderate erosion hazard. With these soils, roots can penetrate to a depth of four feet or more, ideal for pineapple cultivation.

In 1977, the State Department of Agriculture established a classification system to identify Agricultural Lands of Importance to the State of Hawaii (ALISH), based primarily, but not exclusively, on their soil characteristics. The three (3) classes of ALISH lands are: "Prime", "Unique", and "Other", with the remaining, non-classified lands placed into the "Unclassified" category. When utilized with modern farming methods, "Prime" agricultural lands have a soil quality, growing season and moisture supply needed to produce sustained crop yields economically, while "Unique" agricultural lands possess a combination of soil quality, location growing season, and moisture supply to produce sustained high yields of a specific crop. "Other Important Agricultural Land" includes those that have not been rated "Prime" or "Unique". As reflected by the ALISH map for the Makawao-Haliimaile region, the project site includes lands placed in the "Prime" agricultural land category. See Figure 6.

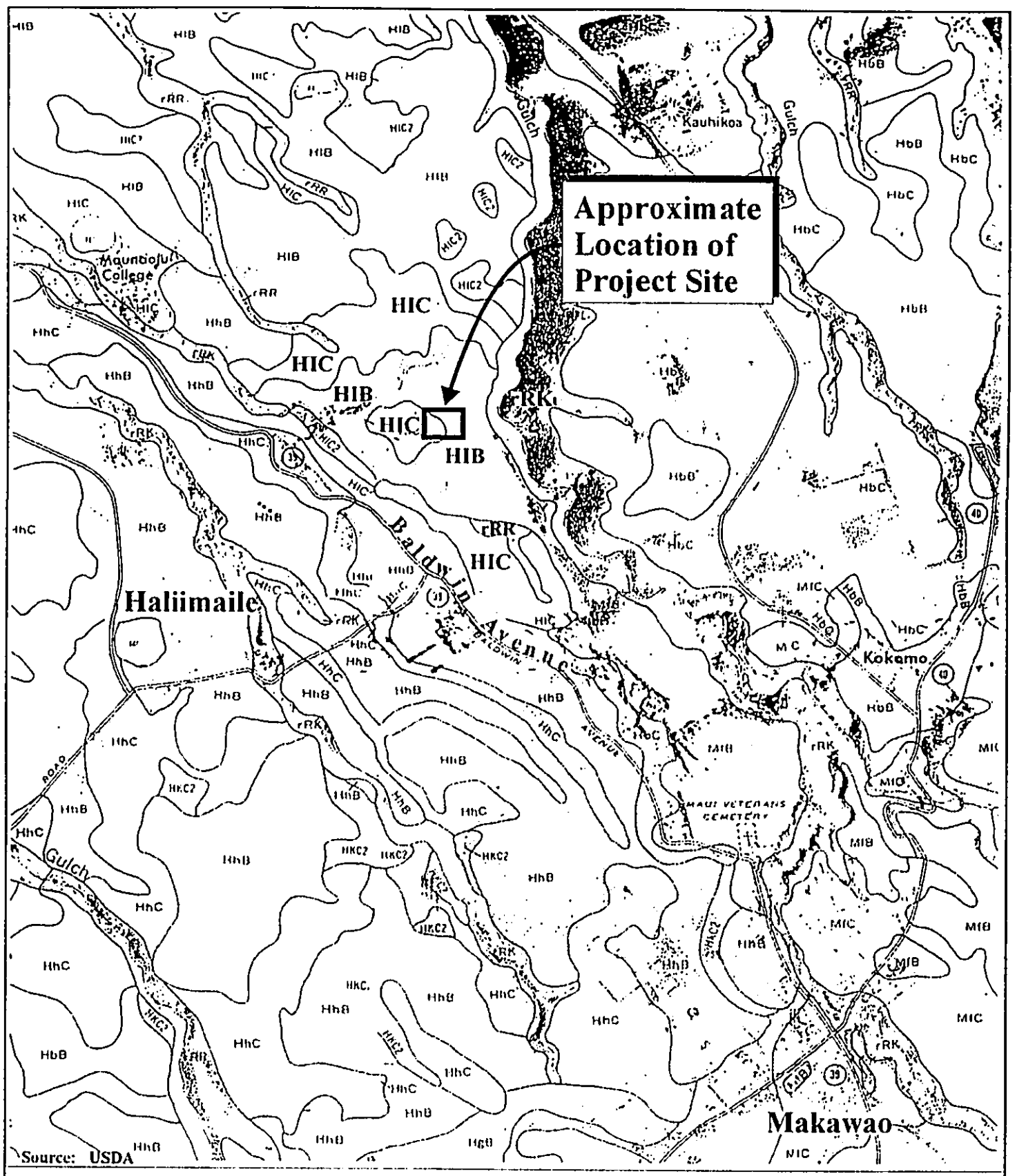


Figure 5 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir

Soil Classification Map

0 1000 Feet

500 2000

Prepared for: County of Maui, Dept. of Water Supply

MUNEKIYO & HIRAGA, INC.

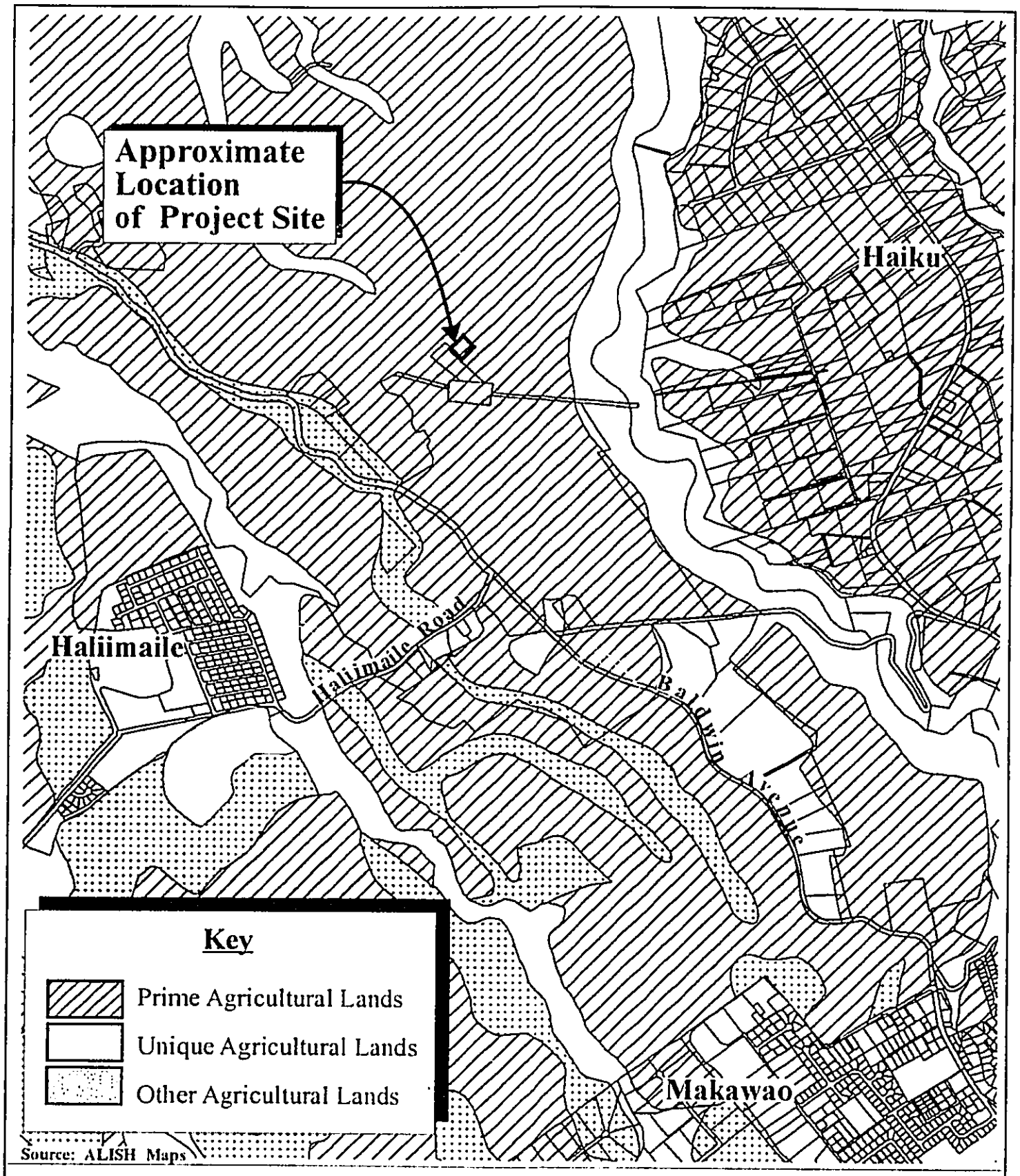


Figure 6 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
ALISH Map

NOT TO SCALE

Prepared for: County of Maui, Dept. of Water Supply

MUNEKIYO & HIRAGA, INC.

3. ***Flood Hazard***

The proposed project is designated by the Flood Insurance Rate Map as Zone C, an area of minimal flooding. See Figure 7.

4. ***Flora and Fauna***

Plant life at the project site consists primarily of pineapple fields. Scrub vegetation on the outer periphery surrounding the pineapple fields includes plant life such as common grasses and weeds.

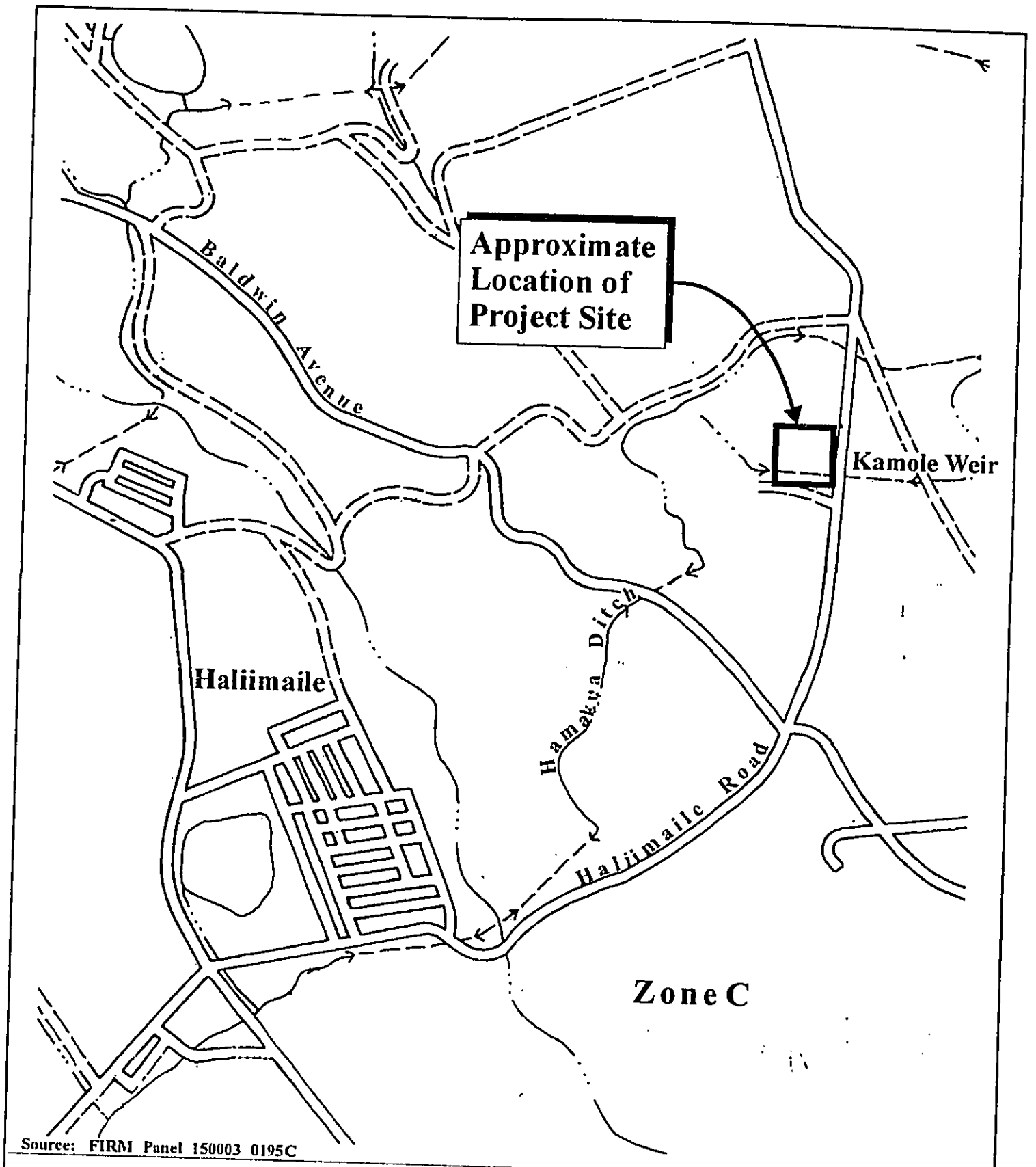
The rural nature of the region finds a number of fauna such as mongoose, chickens, rats, dogs and cats. Avifauna in the region typically include mynas, francolins, sparrows and cardinals.

5. ***Archaeological Resources***

There have been no previous archaeological investigations of the project site or near the vicinity. In this regard, an archaeological assessment for the project site was conducted by Xamanek Researches. See Appendix "D". There have been several archaeological sites identified further makai of the project, near to the shore. This coastal area has a relatively high potential for significant historical deposits and human burials. The project site, however, is located upcountry, approximately 4.0 miles from the shoreline and has been in continuous agricultural production for over a century. There are no known significant historical or cultural resources within the project site.

6. ***Air Quality and Noise***

There are no point sources of airborne emissions in the immediate vicinity of the project site. The air quality of the Upcountry, Makawao region is considered good, with existing airborne



Source: FIRM Panel 150003 0195C

Figure 7 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
Flood Insurance Rate Map

NOT TO SCALE

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pollutants attributed primarily to automobile exhaust from the region's roadways, agricultural activities occurring on surrounding sugar cane and pineapple fields, and the diesel generator at the WTF.

Surrounding noise levels in the region are characteristic of its rural atmosphere and are considered relatively low. In addition to those noises generated by the WTF, background noise levels are attributed to natural (e.g., wind) conditions, agricultural operations and traffic from Baldwin Avenue.

7. *Visual Resources*

The Kamole Weir WTF is located in the midst of pineapple fields, which forms the major visual resource of the area. Located on the slopes of Haleakala in East Maui, the project site is also afforded views of the ocean to the north (makai), while the central isthmus and the West Maui Mountains are visible to the west. Haleakala itself is visible to the south (mauka).

B. *COMMUNITY SETTING*

1. *Land Use and Community Character*

The Makawao region is a sprawling agricultural, rural and suburban district on the northeastern slope of Haleakala. Pineapple cultivation, smaller independent farming and cattle ranching are the predominant agricultural activities within the region. Makawao Town reflects its agricultural roots, developing more slowly than neighboring upcountry towns. The region serves a rural residential function for people working within other regions of the island.

The village of Haliimaile also reflects agricultural roots, with Maui

Pineapple Company's baseyard facilities anchoring the village center. Older plantation-era homes form the residential core of the village.

The subject property is located approximately 0.5 mile to the north of Baldwin Avenue-Haliimaile Road intersection.

The project site lies in an area generally characterized by rural residences and pineapple fields. Agricultural fields stretch north from the subject property to Paia. Lands to the immediate east, south and west are also in agricultural use, with low-density residential uses further away.

2. *Population*

The population of the County of Maui has exhibited relatively strong growth over the past decade with the 2000 population at 128,241, a 27.6 percent increase over the 1990 population of 100,504 (SMS, June 2002). Growth in the County is expected to continue, with the resident population for the year 2010 projected to be 151,269 (SMS, June 2002).

Just as the County's population is estimated to grow, the resident population of the Makawao-Pukalani-Kula Community Plan region has also increased. In 2002, the population of the Makawao-Pukalani-Kula region was 21,571 (SMS, June 2002). The resident population in the region is projected to increase to 25,237 in the year 2010 (SMS, June 2002).

3. *Economy*

Agriculture and tourism are vital components of Maui's economy. The cultivation of pineapple and sugar cane and the tourist industry

provides for much of the Island's economic stability.

The Makawao region provides the backdrop for ranching of cattle and other farm animals by various individuals. There are a number of farms in Kula, higher up the slopes of Haleakala, where individuals grow products such as cabbage, onion, tomatoes, corn, persimmon, carnation and protea. Pineapple is cultivated on fields surrounding Haliimaile and the project site. Sugar cane cultivation takes place on lower elevation lands extending to the central isthmus.

C. *PUBLIC SERVICES*

1. *Police and Fire Protection*

The County of Maui's Police Department is headquartered at its Wailuku Station. The Department consists of several patrol, investigative and administrative divisions. The Department's Upcountry Patrol covers the Makawao-Pukalani-Kula region. The nearest police substation is located at the Eddie Tam Gymnasium in Makawao, approximately 2 miles southeast of the project site.

Presently, fire prevention, suppression and protection for the region is offered by the County's Department of Fire Control, Makawao and Paia Stations. The Makawao Station is located on Makawao Avenue, approximately 2.5 miles to the southeast of the project site. The Paia Station is located along Hana Highway, approximately 4 miles north of the subject property.

2. *Medical Facilities*

Maui Memorial Medical Center, the only major medical facility on the island, services the Haliimaile-Makawao-Haiku-Paia region.

Acute, general and emergency care services are provided by the 196-bed facility which is located in Wailuku. Medical/dental offices are located in Pukalani and Makawao to serve the Upcountry region's residents. An emergency ambulance and air evacuation station is also located in Makawao.

3. ***Solid Waste***

With the closure of the Makawao Landfill, all solid wastes generated in the Upcountry region are transported to the Central Maui Landfill in Puunene. There is a construction-waste site located in Maalaea, but outside of Hana, the Central Maui Landfill is the only general disposal site on the island of Maui.

4. ***Schools***

The State of Hawai'i, Department of Education, operates six (6) public schools in Upcountry Maui. They are Makawao Elementary School, Kalama Intermediate School, Pukalani Elementary School, Kula Elementary School, Paia Elementary School and King Kekaulike High School.

The region is also served by the privately operated Montessori Preschool, Doris Todd, Haleakala Waldorf School, Seabury Hall, and the Maui Campus of Kamehameha Schools.

The Maui Community College, a branch of the University of Hawaii, serves as the island's primary educational institution at the collegiate level.

5. ***Recreational Facilities***

Upcountry Maui is served by numerous recreational facilities

offering diverse opportunities for the region's residents. These facilities include the County's Eddie Tam Park/Gym, Paia's Alfred Boteilho Sr. Gym, Rainbow Park and Pukalani Recreation Center.

D. *INFRASTRUCTURE*

1. *Roadways*

The existing roadway system in the project area includes several roadways.

Haleakala Highway is the principal roadway linking the Upcountry region with Central Maui. Between Hana Highway and the Pukalani Bypass, this State highway consists of two (2) lanes in the southbound direction and one (1) lane in the northbound direction. Extending from the northern junction of the Pukalani Bypass to Hana Highway, contra-flow operations during morning or AM peak hour traffic provide two (2) northbound lanes and one (1) southbound lane. Between its intersection with the Pukalani Bypass and Kula Highway (a.k.a., Five Trees), Haleakala Highway functions as a two-lane roadway while continuing on toward Haleakala Crater. The State Department of Transportation (DOT) is currently in the process of widening Haleakala Highway to four (4) lanes from Hana Highway to the Old Haleakala Highway. Completion of the widening project is anticipated to occur within the 2005 to 2006 time frame. Once the highway widening is complete, the AM contraflow operation will be discontinued.

Baldwin Avenue is a two-lane, rural, arterial, County-owned roadway that connects the Makawao area with Hana Highway and Paia. Approximately 6.5 miles long, Baldwin Avenue originates in Makawao and snakes down the gentle sloping of Haleakala, in an east to west direction. Baldwin Avenue has a posted speed limit of 30 mph.

Haliimaile Road is a rural, two-lane, County-owned roadway connecting Haleakala Highway to Baldwin Avenue. The 2.5 mile stretch of road passes through Haliimaile Town.

2. *Water*

The Kamole Weir WTF is part of the Department of Water Supply's

Kula Area Water Supply System. The treatment facility components described in Chapter I allows the Department of Water Supply to provide safe and reliable domestic water service to upcountry residents. The proposed new clearwell reservoir improvements are intended to further improve treatment capability in keeping with current water quality standards and specifications.

3. ***Wastewater***

There are no County wastewater treatment facilities serving the Makawao-Upcountry area. Other than a private wastewater treatment plant, which serves Pukalani Terrace residents, wastewater disposal in the region is accommodated via cesspools or individual wastewater treatment systems such as septic tanks and leach fields.

4. ***Drainage***

Drainage calculations were performed for the proposed project by Okahara and Associates. See Appendix "E". Runoff from the new clearwell site will maintain its current drainage pattern. Runoff for the project site, averaging 2.86 cubic feet per second (cfs) as a whole currently flows in a southwest to northeast direction and enters Hamakua Ditch at the northern end of the site.

5. ***Electrical and Telephone Services***

The distribution system for electrical and telephone services in the project area consists of overhead lines placed on utility poles running adjacent to the Hamakua Ditch and are provided by Maui Electric Company and Hawaiian Telcom, respectively.

Chapter III

Potential Impacts and Mitigation Measures

III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. IMPACTS TO THE PHYSICAL ENVIRONMENT

1. Flora and Fauna

The project site is embedded within pineapple fields and is adjacent to the Kamole Weir WTF. There are no known rare, threatened or endangered species of flora and fauna within the project site. The removal of existing vegetation is not considered an adverse impact to this component of the environment.

Similarly, there are no known rare, endangered or threatened species of avifauna and wildlife in the project site. Construction of improvements within the property is not anticipated to adversely impact the area's fauna and avifauna population.

2. Archaeological Resources

An archaeological assessment was prepared on behalf of the proposed project in November, 2004. Refer to Appendix "D". The assessment comprised both a pedestrian surface inspection and a subsurface investigation of twelve (12) shovel tests.

The archaeological assessment revealed no intact cultural layers. As the project site has been under continuous agricultural use for over a century, and the ground heavily disturbed, this is not surprising. One (1) indigenous artifact, a tool fragment, was uncovered.

Using the Rules Governing Procedures for Historic Preservation Review, the following significance criteria are used for archaeological sites:

Criterion A:
Associated with events that have made an important contribution to the broad patterns of Hawaiian history.

Criterion B:
Associated with the lives of persons important in the past.

Criterion C:
Embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; or possess high artistic value.

Criterion D:
Has yielded, or is likely to yield, important information for research on prehistory or history.

Criterion E:
Has an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events, or oral accounts.

Site can be considered no longer significant when they meet only Criterion D and sufficient information has been collected from them during archaeological investigation.

Kamole Weir meets Criteria A (as part of the plantation water distribution system), C (as an excellent example of a plantation-era rock and mortar water weir), and D (for information content). The presence of the artifact indicates that Native Hawaiians may have been in residence in the general area at some point. Further, there have been at least two (2) documented cases of unmarked, human burials discovered in upcountry areas that had been agriculturally disturbed. Thus, precautionary monitoring will be undertaken to mitigate any potential disturbances during ground-altering activities. It is noted that neither the Wailoa Ditch nor the Hamakua Ditch will

be affected by the proposed construction.

3. ***Cultural Impact Considerations***

a. ***Geopolitical Division***

Prior to Western contact in Hawaii, land was divided into units called *ahupua'a*. Ideally, each *ahupua'a* was self-sufficient, running from *mauka*, the mountain, to *makai*, the ocean (MacKenzie). These divisions served as both cultural and settlement systems as traditional Hawaiian life was tied intimately to the land. Hunting, gathering, cultivation, and habitation took place within three (3) zones which characterized the *ahupua'a:* the *Mauka* Zone, the Agricultural Zone, and the Coastal Zone. The *Mauka* Zone provided access to a variety of trees, plants, and herbs for various needs, customs and practices. Planting of yams, sweet potato, sugar cane. taro, and other foods took place in the Agricultural Zone where gradual slopes of land allowed terraces to be constructed for more efficient irrigation. The Coastal Zone and low-lying areas were where most of the *kauhale*, group of houses, were found, as well as temples, fishing shrines, and fishponds (Minerbi).

Western contact brought changes to the Hawaiian land system along with the introduction of private ownership of land, a concept foreign to the native Hawaiians. A Board of Land Commissioners was established in 1845 to uphold or reject all private land claims of both foreigners and Hawaiians. The Commission adopted rules pertaining to the proof of claims, right of tenants, and commutation to the government in attempts to achieve the goal of totally

partitioning undivided lands. All lands not claimed by February of 1848 were to be forfeited to the government (MacKenzie).

Following the enactment of these rules, the *Mahele* division of 1848 divided all lands of Hawaii between the king and chiefs. Two (2) years later the *Kuleana* act completed the *Mahele* process by authorizing the Land Commission to award fee simple titles to native tenants for their land. These *kuleana* parcels, also known as Land Commission Awards (LCA), were generally among the richest and most fertile in the islands and came from king, government, or chief's land. All claims and awards were numbered and recorded in the *Mahele* Book (MacKenzie). In addition, government lands were sold as "Royal Patent Grants" or "Grants" in order to meet the increasing costs of government. These grants differed from LCAs, as it was not necessary for the recipients to obtain an award for their land from the Land Commission (Chinen).

b. ***Traditional and Customary Rights***

The traditional and customary rights of native Hawaiians can be broken down into access rights, gathering rights, burial rights, and religious rights.

Access

Native Hawaiians generally share the same access rights as the general public. However, they have the unique access rights to *kuleana* parcels and between *ahupua'a*. Access to *kuleana* parcels may involve access along ancient trails or

expanded access not limited to any route. Additionally, the *Kuleana* Act granted unobstructed access within the *ahupua'a* to obtain items necessary to make the *kuleana* parcel productive. Access rights between *ahupua'a* involve access along ancient or well established trails (MacKenzie).

Gathering

In terms of gathering rights, the Hawaii Supreme Court has upheld gathering rights within an *ahupua'a* for firewood, house-timber, *aho* cord, thatch, and *ki*-leaf under three (3) conditions. The tenant must physically reside within the *ahupua'a*, the right to gather can only be exercised upon undeveloped lands within the *ahupua'a*, and the right must be exercised only for the purpose of practicing native Hawaiian customs and traditions (MacKenzie).

Burial

According to traditional Hawaiian burial beliefs, following death, the *'uhane*, or spirit, must remain near the *na iwi*, or bones. Burial sites are chosen by Hawaiians for symbolic purposes in places for safekeeping. Often bones were hidden in caves, cliffs, sand dunes, or deposited in the ocean. Today, federal and state laws protect both unmarked and marked burial sites. Island burial Councils assist the State Historic Preservation Division with inventory and identification of unmarked Hawaiian burial sites and determine the preservation or relocation of native Hawaiian burial sites (MacKenzie).

Religious

Hawaiian religion and beliefs were intimately tied to the land. While some practices and traditions were lost over the years, basic Hawaiian religious concepts remain. The terms *"aloha 'aina,"* love the land and *"malama 'aina,"* care for and protect the land, convey the unity of humans, nature, and the gods in Hawaiian philosophy (Minerbi). Furthermore, Hawaiians honored and worshiped *aumakua,* deities, and *akua*, gods. There were numerous *akua* of farming, fishing, tapa making, dancing, sports, and any other activity of Hawaiian life. The concept of *mana* or sacred attachment to places, people, or things also remains as a significant aspect of Hawaiian religion (MacKenzie).

c. ***Historical Context***

The project site lies in the Hamakuapoko *ahupua'a*, which is noted as a place of numerous landing sites during the initial migrations into Maui, as well as of many battles fought during pre-contact times. In the 19th century, ownership of the Hamakuapoko lands were transferred several times: first, to the Board of Education, then to Oahu College (which later became Punahou School), then to the Haiku Sugar Company. Further transfers of land followed during the 20th century. The project area has remained in agricultural production throughout.

d. ***Cultural Assessment Interviews***

To obtain a wider array of cultural perspectives, interviews were held with individuals with knowledge of and familiarity with the project area and its history. These interviews are

presented below:

i. ***Frank Gouveia***

Mr. Gouveia was born in Kokomo, Maui in 1915, one of fourteen children. His father worked for Hawaiian Pine at the time. Their family then moved to Olinda where Mr. Gouveia's father farmed corn and potatoes. After that, his father became the manager of the Puunene Dairy which was a part of HC&S. Finally, the family moved to the Haliimaile plantation camp in the 1920's where Mr. Gouveia still resides.

Just below Haliimaile was the Pahole Camp, which no longer exists. Pahole was a sugar cane plantation camp which included a sugar mill. Thus, the entire area was given over to commercial agriculture of one sort or another. Korean Camp was located at the entrance to Haliimaile, next to Maui Land and Pineapple Company's (MLP's) garage. Other pineapple camps were located at Haiku and Kaupakalua.

Mr. Gouveia attended Makawao School and left Maui High School to begin working at MLP in Haliimaile in 1932 and worked there for 46 years, except for some five years spent in the Army during World War II. (He served with the 298th Infantry and rose from the rank of private to sergeant.) He began working for MLP as a water boy, the lowest position. In those days, the water boy carried two (2), large bags of water on poles across his back and filled them in the irrigation ditches. He then carried the bags across the fields to give water to the field workers. Sometimes, very little water would be left by the time the last worker had his drink. So the water bags had to be refilled as soon as it was emptied. He recalled, "the water had all kinds of stuff in it, worms, wrigglers, but everyone drank it and we all lived". (In this connection, he remembered the utility of the Bull Durham tobacco bags which were used on household faucets as a water filter. The water came from a ditch and the tobacco filtered out the materials which came through the domestic water system.) Mr. Gouveia explained

that the water boy's job also included "carrying the *kau kau* tins to follow the field workers".

From water boy, Mr. Gouveia worked his way up in the company: first to the shop, then being in charge of building and grounds maintenance. Finally, he moved to the truck department, where he was in charge of transportation. The work day began at 5:00 am and lasted until 4:00 pm. But, he noted that it was only a Monday through Friday work week and that MLP was, all in all, quite good to its employees.

Mr. Gouveia recalled that the site of the Kamole Weir and surrounding environs was pasture land for the Grove Ranch when he was very young, but was planted in pineapple fields while he was still a child. He stated that for as long as he remembers, there was no cultural practices associated with the property. It has been ranch pasture land and then pineapple field for his entire lifetime.

ii. ***Garrett Hew***

Mr. Hew is the Manager of East Maui Irrigation Company (EMI) and HC&S Paia Farm Manager. He was born on Maui and worked for Maui Land and Pine while attending Maui High School. He then attended Oregon State University, earning a degree in horticulture and taking business coursework as well. He returned to Maui in 1978 and operated the family farm located in Kula. In 1983, he went to work for HC&S as Supervisor in the Irrigation Department, and joined East Maui Irrigation Company in 1985. Mr. Hew worked his way up from Supervisor to his current position, which he has held for a number of years. He recently became the Manager of the 8,200-acre Paia Farm as well.

In his years with EMI, Mr. Hew worked with a number of other employees who had been with the company for many years. In his current position, Mr. Hew has the benefit of the long-time employee's experience/knowledge and company records plus personal knowledge of all parts of the EMI ditch

system. Thus, he has acquired a great deal of knowledge about the early days of the irrigation operations and the changes in operation over the years.

Mr. Hew recalls that average daily water flow was once recorded by mechanical devices located at various sites along the ditch system, which spun out rolls of graphed paper. The hydrologists would go to the ditches, remove the graphs of paper, and return to the office to calculate the flow from the graph. These devices were eventually replaced with new ones that could transmit the data back to the office by means of miles of copper wires, spanning the miles of four-wheel drive jeep roads. Now, electronic devices automatically calculate and transmit the data.

The ditches themselves were dug out by hand and oriented by means that Mr. Hew regards as especially impressive given the lack of sophisticated instrumentation. Barrels of concrete were hauled up the mountain by mule. Though the EMI ditch system (approximately 75 miles), is smaller in terms of length than others on the mainland, Mr. Hew notes that it crosses rougher terrain and steeper grades as well. The original ditches were forced to follow the grade with only short tunnels to go through steep ridges. Dynamite was used to dig the tunnels and carts, which ran on railroad ties, took out material. A perpendicular tunnel or cross cut tunnel was constructed at various locations to help facilitate the removal of material from the main tunnel.

In 1876 the old Hamakua ditch was completed as the first ditch in the irrigation system. This is not the ditch in the vicinity of the project area. In 1904, the New Hamakua ditch was dug as a mostly open channel ditch. This ditch presented problems most likely associated with the siphoning system and a new ditch, mostly tunnel, and was eventually constructed. This new ditch was the Wailoa ditch, completed in 1923. Sections of the New Hamakua ditch upstream of Kamole Forebay were abandoned, but the section that supplies HC&S with water for sugar cane cultivation is still in use. The Wailoa ditch goes back

some 24 miles from Kamole and still brings the water to the Kamole Weir WTF for treatment. The Wailoa ditch has a capacity of 195 million gallons a day (mgd), while the section of the New Hamakua still in use has approximately half that capacity.

Mr. Hew regards the EMI system as amazing and designed with foresight. He contrasts it favorably with those on neighbor islands. He notes that such a system could not be replicated today and thus he feels strongly that it should be maintained.

He also notes that having worked in this area, in one capacity or another, since he was 15; he has not observed any cultural practices within the vicinity of the project site. It has been planted in pineapple and crossed by irrigation ditches for as long as he can recall.

e. ***Cultural Assessment Conclusion***

Based on the findings set forth by the archaeological report and informant interviews, the proposed clearwell reservoir improvements are not anticipated to have an adverse impact on cultural resources and practices. It is noted, however, that precautionary archaeological monitoring will be undertaken during ground-altering activities.

4. ***Air Quality and Noise***

Air quality impacts attributed to the project will include dust generated by short-term construction-related activities. Site work such as clearing, grubbing and grading, and utilities and roadway construction for example, will generate air-borne particulates. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize wind-blown emissions.

There are no negative long-term air quality impacts anticipated

from the proposed project.

Ambient noise conditions will also be temporarily impacted by construction activities. Heavy construction equipment, such as bulldozers, front-end loaders, and materials-carrying trucks and trailers, would be the dominant source of noise during the construction period. All construction activities are anticipated to be limited to daylight working hours and will comply with the provisions of Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control".

For the long term, the project is not anticipated to significantly impact ambient noise conditions in the vicinity.

5. ***Scenic and Open Space Resources***

The proposed clearwell reservoir is not anticipated to result in any adverse effects on views from lowland areas or higher elevations.

B. *IMPACTS TO COMMUNITY SETTING*

1. *Surrounding Uses*

The project site is located in an area of existing low-density residential and agricultural land uses. The subject property and lands in the vicinity are designated for agricultural uses by the Makawao-Pukalani-Kula Community Plan and Maui County zoning. The use of the subject property for the Maui County Department of Water Supply is in consonance with the adjacent water treatment facilities and its community plan and zoning designations. The proposed clearwell improvements are not anticipated to have any significant adverse impact on surrounding lands and uses.

2. ***Population and Local Economy***

On a short-term basis, the project will support construction and construction-related employment. Over the long term, the additional clearwell reservoir will ensure the safe and reliable provision of domestic water for area residents and businesses. A direct economic benefit of the project then is community stabilization through provision of required supporting infrastructure.

The proposed action is not considered a new population generator.

3. ***Agriculture***

As previously noted, the subject property lies within the State Agricultural district and is designated for agricultural uses by the Makawao-Pukalani-Kula Community Plan and Maui County zoning. The proposed project will involve the use of an approximately 2.4-acre parcel. The acreage encompassed by the subject property represents less than one one-thousandth of one percent of the approximately 246,000 acres of State Agricultural district lands on the island of Maui. The use of the subject property for the proposed Department of Water Supply project is not anticipated to have any significant adverse effect on the inventory of lands available for agricultural cultivation, nor is it expected to affect the inventory of land for diversified agricultural use.

4. ***Police, Fire and Medical Services***

The proposed project is not anticipated to affect service capabilities of police, fire, and emergency medical operations. The project will not extend existing service area limits for emergency services.

5. ***Recreational and Educational Services***

The proposed action will not generate new population which would place new demands on educational or recreational systems and facilities. Accordingly, there are no adverse impacts to these public service parameters anticipated.

6. ***Solid Waste***

A solid waste management plan will be developed in coordination with the Solid Waste Division of the County Department of Public Works and Environmental Management for the disposal of clearing, grubbing, demolition-related material from the site during construction.

Once completed, the project will be served by a private refuse collection company. Solid waste generated by the project will be disposed at the County's Central Maui Landfill. There are no significant adverse impacts to the landfill capacity anticipated from the proposed action.

C. *IMPACTS TO INFRASTRUCTURE*

1. ***Roadways***

The proposed clearwell reservoir will not alter staffing requirements at the WTF. Construction vehicles will be confined to the private access roads in general. Traffic operations on adjacent public roadways are not anticipated to be significantly impacted in an adverse manner by construction vehicle traffic to and from the project site.

2. ***Water and Wastewater***

As staffing requirements resulting from the proposed action is

anticipated to remain unchanged, domestic water demand and wastewater generation is not expected to be affected. As previously described, the proposed improvements are intended to upgrade the chlorine contact capabilities of the Kamole Weir WTF.

3. ***Drainage***

Runoff from the site will be increased due to the construction of the clearwell reservoir and surrounding perimeter road. The existing drainage patterns, flowing from southwest to northeast, will remain the same.

Drainage calculations were performed for the proposed project by Okahara and Associates. Refer to Appendix "E". The construction of the first clearwell reservoir will increase runoff from 2.86 cubic feet per second (cfs) to 11.75 cfs. The construction of the second reservoir will increase runoff to 16.15 cfs. This increase is due to the large, impervious area created by the roofs of the reservoir and the asphalt, perimeter road. The increase in runoff will be conveyed to the adjacent Hamakua Ditch, maintaining the current pattern of runoff flow. The increase in discharge can be accommodated by the ditch.

4. ***Electrical and Telephone***

Existing electrical and telephone service to the subject property is provided by Maui Electric Company and Hawaiian Telcom, respectively. Power is currently available to the existing WTF. There will be no discernable increase in demand for electrical and telephone services as a result of the project.

D. *CUMULATIVE AND SECONDARY IMPACTS*

Cumulative impacts are defined as the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions.

The proposed project is not part of a larger action, nor would it occur within the context of such actions. There are no direct community growth impacts resulting from or occurring with the project. There are no other public works projects anticipated within the project context.

Secondary impacts are those which have the potential to occur later in time or are farther in distance, but are still reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of the project.

Secondary impacts from highway projects can occur, for example, because they can induce development by removing one of the impediments to growth-transportation access.

There are no foreseeable secondary impacts associated with the proposed project. The new reservoir will improve treatment capabilities at the Kamole Weir WTF and is not a generating component for population. Nor will it place additional burden upon infrastructure or the environment.

Chapter IV

Relationship to Government Plans, Policies and Controls

IV. RELATIONSHIP TO GOVERNMENT PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

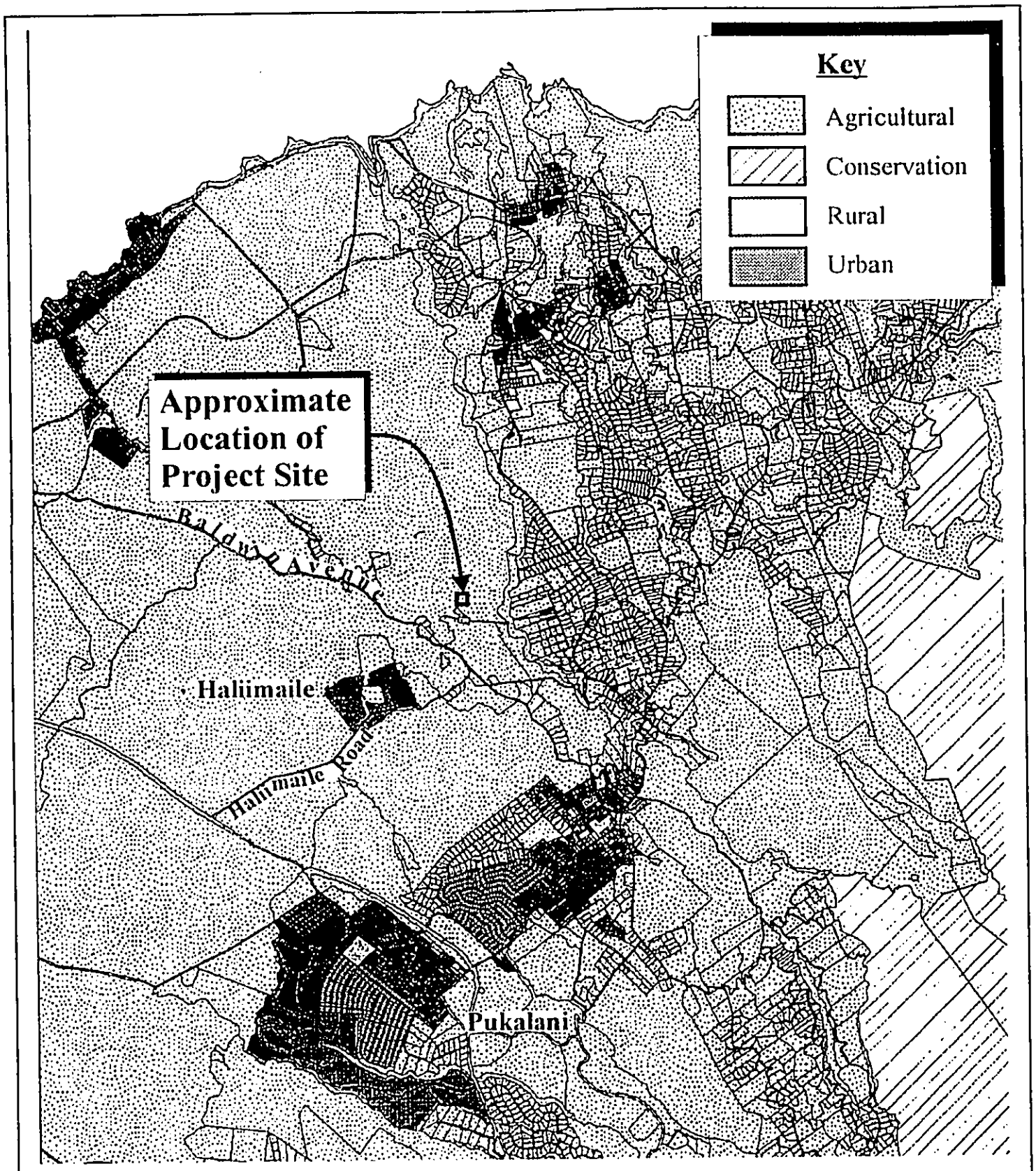
The State Land Use Law, Chapter 205, Hawai'i Revised Statutes (HRS), is intended to preserve, protect, and encourage the development of lands in the State for uses which are best suited to the public health and welfare for Hawaii's people. All lands in the State are classified into four (4) land use districts by the State Land Use Commission: "Urban", "Agricultural", "Conservation", and "Rural".

The subject property is situated within the State "Agricultural" district. See Figure 8. As "treatment plants" are not listed as a permissible use on Agriculture lands as set forth by Section 205-4.5, Hawaii Revised Statutes, the applicant sought and received a Special Use Permit (SUP) from the State Land Use Commission in order to construct the Kamole Weir WTF. Accordingly, the Department of Water Supply is seeking to amend the original SUP to include the proposed reservoir.

Pursuant to Section 15-15-95, Hawaii Land Use Commission Rules, certain "unusual and reasonable" uses may be permitted within the Agricultural District. The operation of the existing Kamole Weir WTF together with the new clearwell reservoir is consistent with the guidelines for determining an "unusual and reasonable" use as follows:

Guideline: The use shall not be contrary to the objective sought to be accomplished by Chapters 205 and 205A, HRS, and the rules of the Commission.

Response: The general intent of the State Land Use law is "to preserve, protect, and encourage the development of land in the State for those uses to which they are best suited in the interest of the public health and



Source: State Land Use Commission

Figure 8 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
State Land Use District Classifications

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welfare of the State of Hawaii." The Kamole Weir WTF provides vital, potable water to the residents of upcountry Maui. Federal regulatory requirements for water treatment have changed over the past two (2) decades and the new clearwell reservoir will allow the upcountry residents to have water that has been processed to the level demanded by the federal government. In addition, compliance with all State and County regulatory requirements will be rendered in implementing the WTF to include the new reservoir.

Guideline: The desired use would not adversely affect surrounding property.

Response: *The proposed new reservoir will be located immediately* adjacent to the existing WTF and surrounded by compatible agricultural land uses. The nearest residence is approximately 0.5 mile to the west. The removal of 2.4 acres of land from agricultural use is not anticipated to adversely impact agricultural productivity parameters on an island wide basis. Adverse impacts to surrounding properties are not anticipated as a result of the proposed action.

Guideline: The use would not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage and school improvements, and police and fire protection.

Response: The expanded WTF will require a secondary access road for the new clearwell reservoir. As this will be a private road, the proposed project will not require any improvements to any of the above-mentioned systems.

Guideline: Unusual conditions, trends, and needs have arisen since the district boundaries and rules were established.

Response: Federal regulatory requirements for water treatment have

increased in the 22 years since the original SUP was granted to the Kamole Weir WTF. In order to meet those requirements, additional clearwell capacity is required. In locating the proposed new clearwell reservoir immediately adjacent to the existing WTF, the Department of Water Supply seeks to address current technical needs through a design which minimizes impacts to the surrounding environs.

Guideline: The land upon which the proposed use is sought is unsuited for the uses permitted within the district.

Response:

The lands proposed for the new clearwell reservoir are in active agricultural use at present. However, the approximately 2.4 acres represent a very small fraction of the available agricultural lands. Furthermore, as the subject property is immediately adjacent to the WTF, its incorporation into the Kamole Weir WTF would present no significant adverse impact to the Agricultural district.

B. *MAUI COUNTY GENERAL PLAN*

The Maui County General Plan (1990 Update) sets forth broad objectives and policies to help the long-range development of the County. As stated in the Maui County charter:

> *The general plan shall indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain the opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density, land use maps, land use regulations, transportation systems, public and community facility*

locations, water and sewage systems, visitor destinations, urban design, and other matters related to development.

The proposed action is consonant with the following General Plan objectives and policies.

LAND USE

Objective:

To use the land within the County for the social and economic benefit of all the County's residents.

Policy:

Mitigate environmental conflicts and enhance scenic amenities, without having a negative impact on environmental resources.

WATER

Objective:

To provide an adequate supply of potable and irrigation water to meet the needs of Maui County's residents.

Policy:

Meet or exceed Federal quality standards for potable water supply.

Objective:

To make more efficient use of our ground, surface, and recycled water sources.

Policy:

Maximize use of existing water sources by maximizing storage capabilities.

PUBLIC UTILITIES AND FACILITIES

Objective:

To anticipate and provide public utilities which will meet community needs in a timely manner.

Policy:

Maintain all power and utility systems so as to meet public health and safety standards.

Objective:

To improve the quality and availability of public facilities throughout Maui County.

Policy:

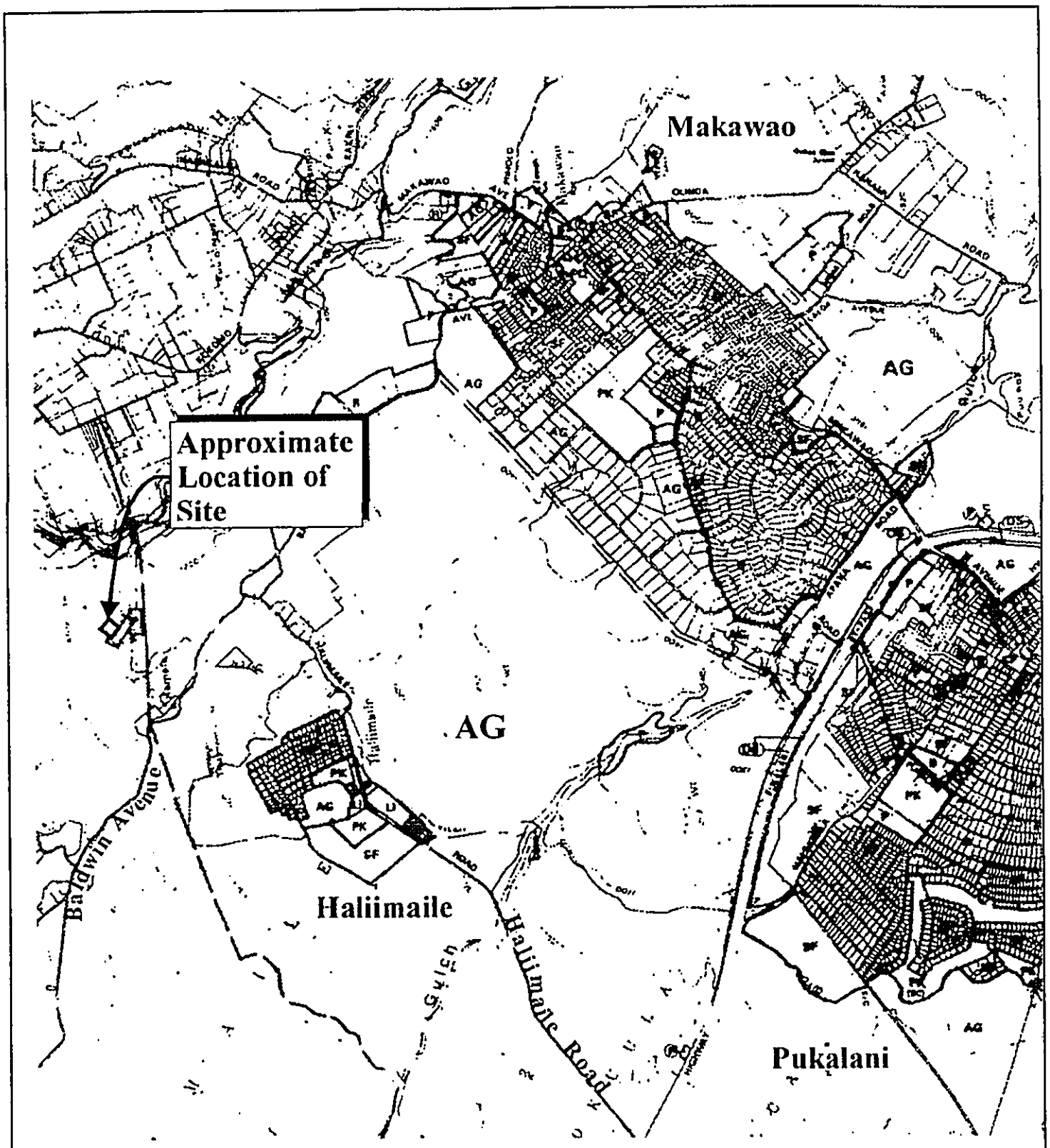
Seek improvement in the maintenance and operation of public facilities.

C. *MAKAWAO-PUKALANI-KULA COMMUNITY PLAN*

The project site is located within the Makawao-Pukalani-Kula Community Plan region, one (1) of nine (9) community plan regions established in the County of Maui. Planning for each region is guided by the respective community plans, which are designed to implement the Maui County General Plan. Each community plan sets forth desired land use patterns, as well as goals, objectives, policies and implementing actions for development within the region.

The site for the new clearwell reservoir is situated in the Makawao-Pukalani-Kula Community Plan region and is designated "Agricultural" by the community plan's land use map. The existing Kamole Weir WTF is designated Public/Quasi-Public. See Figure 9.

From a community plan perspective, the proposed project is consonant



Source: Makawao-Pukalani-Kula Community Plan Map

Figure 9 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
Makawao-Pukalani-Kula Community Plan

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with the following goals, objectives and policies of the community plan.

Goal:

- The timely and environmentally sensitive development and maintenance of infrastructure systems which protect and enhance the safety and health of Upcountry's residents and visitors, including the provision of domestic water, utility and waste disposal services, and effective transportation systems which meet the needs of residents and visitors while marinating the region's rural character.

Objectives and Policies:

- Encourage a flexible and comprehensive water management approach that recognizes the various collection and delivery improvements as one cohesive system.

- Encourage the development of extra storage capacity by the Department of Water Supply, commercial developers, and individual farmers to help alleviate the inadequate water supply.

D. ZONING

The site for the new clearwell reservoir is zoned for agricultural land uses by Maui County zoning. Performance standards and permitted uses for lands within the County's "Agricultural District" are promulgated by Chapter 19.30A of the Maui County Code (MCC). A Special Use Permit (SUP) was received for the construction of the original WTF pursuant to Section 19.04.040, MCC, to allow for a water treatment facility on lands designated for Agriculture. The applicant is seeking to have the SUP amended to cover the proposed project area and clearwell improvements.

E. COASTAL ZONE MANAGEMENT OBJECTIVES AND POLICIES

The Hawai'i Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, HRS, establishes objectives and policies for the preservation, protection and restoration of natural resources of Hawaii's

coastal zone.

As set forth in Chapter 205A, HRS, this section addresses the project's relationship to applicable coastal zone management considerations.

1. ***Recreational Resources***

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

a. Improve coordination and funding of coastal recreational planning and management; and

b. Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;

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

(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;

(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;

(v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;

(vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;

(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and

(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 46-6, HRS.

Response: The proposed action is not anticipated to impact *coastal recreational opportunities or affect existing public access to* the shoreline. The project is intended to provide needed increase in chlorine contact treatment capacity of the Kamole Weir WTF to meet Federal regulatory requirements. The project is not a direct generator of, nor does it create a demand for, regional recreational resources.

2. ***Historical/Cultural Resources***

Objective: Protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

Policies:

a. Identify and analyze significant archeological resources;
b. Maximize information retention through preservation of remains and artifacts or salvage operations; and
c. Support state goals for protection, restoration, interpretation, and display of historic resources.

Response: An Archaeological Assessment was prepared for the proposed project in November 2004. See Appendix "D". The

DWS will undertake precautionary monitoring during ground-altering activities to mitigate any potential disturbances from the project. Should human remains be inadvertently discovered during earth moving activities, work shall cease at once in the immediate area of the find, and the find shall be protected from further disturbance. The SHPD shall also be immediately notified and procedures for the treatment of inadvertently discovered human remains shall be followed pursuant to Chapter 6E, HRS. The historic Hamakua Ditch and Wailoa Ditch will not be affected by the proposed action.

3. ***Scenic and Open Space Resources***

Objectives: Protect, preserve and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

a. Identify valued scenic resources in the coastal zone management area;
b. Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
c. Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and
d. Encourage those developments that are not coastal dependent to locate in inland areas.

Response: The proposed improvements will be designed and landscaped in accordance with applicable regulatory standards to ensure visual compatibility with the surrounding land uses. The proposed action is not contrary to the objectives and policies for scenic and open space resources.

4. ***Coastal Ecosystem***

Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

a. Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;
b. Improve the technical basis for natural resource management;
c. Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;
d. Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
e. Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Response: The proposed action is not expected to adversely impact coastal ecosystems.

In addition, appropriate erosion control measures will be implemented to minimize the effects of stormwater runoff during construction of the project and to ensure that coastal ecosystems are not adversely impacted.

5. ***Economic Use***

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

a. Concentrate coastal dependent development in appropriate areas;

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

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

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

   (ii) Adverse environmental effects are minimized; and

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

Response: The proposed project provides a public facility that is important to the local economy. The proposed action is not coastal dependent and is not contrary to the objective and policies for economic use.

6. ***Coastal Hazards***

Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence and pollution.

Policies:

a. Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

b. Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint pollution hazards;

c. Ensure that developments comply with requirements of the

Federal Flood Insurance Program; and

d. Prevent coastal flooding from inland projects.

Response: The project site falls within Zone C, an area of minimal flooding. Drainage improvements will be designed in accordance with the Drainage Standards of the County of Maui to ensure that the project will not adversely affect downstream and adjoining properties from the effects of flooding and erosion.

7. ***Managing Development***

Objective: Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies:

a. Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

b. Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and

c. Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.

Response: This Environmental Assessment has been prepared for public review in compliance with Chapter 343, HRS, and Chapter 200 of Title 11, Administrative Rules, *Environmental Impact Statement Rules*.

In addition, all aspects of development will be conducted in accordance with applicable State and County requirements. Opportunity for review of the proposed action is offered through the

various regulatory permit processes.

8. ***Public Participation***

Objective: Stimulate public awareness, education, and participation in coastal management.

Policies:

a. Promote public involvement in coastal zone management processes;
b. Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and
c. Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Response: Opportunities for public awareness, education, and participation in coastal management are provided through the Chapter 343, HRS, environmental review process.

9. ***Beach Protection***

Objective: Protect beaches for public use and recreation.

Policies:

a. Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;
b. Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and
c. Minimize the construction of public erosion-protection structures seaward of the shoreline.

Response: At its closest point, the subject property is located

approximately 4.0 miles from the shoreline. The proposed action will not impact shoreline processes.

10. ***Marine Resources***

Objective:

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

Policies:

a. Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;
b. Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;
c. Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;
d. Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and
e. Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Response: Best Management Practices (BMP's) will be incorporated during construction to support the policies of effective management of marine resources.

It is noted that the project site is not located within the boundaries of the County of Maui's Special Management Area.

F. *COMPLIANCE WITH THE STATE OF HAWAII'S DRINKING WATER STATE REVOLVING FUND PROGRAM REQUIREMENTS*

This project may be funded by Federal funds through the State of Hawaii's Drinking Water State Revolving Fund (DWSRF) program. The U.S. Congress established the DWSRF program as a new Section 1452 of the Safe Drinking Water Act (SDWA), 33 U.S.C. 300j-12, by the SWDA Amendments of 1996, Public Law 104-182. The DWSRF was established to help prevent contamination through source water protection and enhanced water system management. The proposed project is consistent with the overall program intent to prevent potential contamination. This document includes all of the environmental information required for compliance with the DWSRF program. See Appendix "C".

G. *CROSS-CUTTING FEDERAL AUTHORITIES*

The following subsections address the proposed project's relationship to other Federal "cross-cutting" authorities.

1. *Archaeological and Historic Preservation Act (16 USC 461) and National Historic Preservation Act (16 USC 470)*

As discussed in Chapter III, Section 2 above, an Archaeological Assessment was prepared for the proposed project. No intact cultural deposits were discovered in the project site. However, precautionary monitoring has been advised and will be undertaken during ground-altering activities.

This EA has been prepared after consultation with the Department of Land and Natural Resources, State Historic Preservation Division. A copy of the Draft EA was provided to them for review and comment.

2. ***Clean Air Act (42 USC 7401)***

As discussed in Chapter 2, Section A.6 and Chapter III, Section A.4 above, air quality at the site is good. The only anticipated impacts are short-term impacts associated with construction activities. There are no long-term impacts associated with the operation of the Kamole Weir WTF.

This EA has been prepared after consultation with the State Department of Health. A copy of the Draft EA was provided to them for review and comment.

3. ***Coastal Zone Management Act (16 USC 1451)***

Section E above addresses the project's relationship to the Hawaii Coastal Zone Management Program. The proposed project is not located within the County of Maui's Special Management Area and is not anticipated to have any adverse impact upon coastal resources.

This EA has been prepared after consultation with the State Department of Business, Economic Development, and Tourism, which oversees the Office of Coastal Zone Management. A copy of the Draft EA was provided to them for review and comment.

4. ***Endangered Species Act (16 USC 1531)***

The Endangered Species Act, as amended, provides broad protection for species of flora and fauna that are listed as rare, endangered, or threatened. This Act mandates that federal agencies seek to conserve such species and use their authorities in furtherance of the Act's purpose.

As discussed in Chapter II, Section A.4 and Chapter III, Section A.1, there are no known rare, endangered, or threatened species of flora or fauna in the vicinity of the project site or anticipated to be impacted by the project.

This EA has been prepared after consultation with the U.S. Fish and Wildlife Service and the State Department of Land and Natural Resources. A copy of the Draft EA was provided to them for review and comment.

5. ***Environmental Justice (Executive Order 12898)***

Executive Order 12898 calls upon federal agencies to attempt to identify and address disproportionately high and adverse human health or environmental effects of programs, policies, or actions upon minority and low-income populations.

Chapter III discusses the anticipated impacts of the proposed project. No human health or environmental effects are anticipated for all segments of the population. The project will improve human health by keeping the Kamole Weir WTF in accord with federal drinking water safety standards.

6. ***Farmland Protection Policy Act (7 USC 4201)***

The Farmland Protection Act is intended to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, while assuring that federal programs are administered in such a way as to be compatible with other programs and policies concerning farmland protection.

As discussed in Chapter II, Section A.2 and Chapter III, Section B.3, the subject property lies within the State Agricultural district and is used for agricultural production. It is, however, adjacent to the existing water treatment facility and represents less than one percent of the approximately 246,000 acres of State Agricultural district lands on the island of Maui. Adverse impacts to agricultural productivity is not anticipated as a result of the proposed action.

This EA has been prepared after consultation with the Natural Resources Conservation Service, which has the leadership in administering the Farmland Protection Policy Act. A copy of the Draft EA was provided to them for review and comment.

7. ***Fish and Wildlife Coordination Act (16 USC 661)***

The Fish and Wildlife Coordination Act, as amended, authorizes the Secretaries of Agriculture and Commerce to require consultation with the U.S. Fish and Wildlife Service and the State agency responsible for fish and wildlife, when any body of water is proposed to be impacted by any agency under a federal permit or license. Consultation is to be undertaken to prevent any adverse impact to wildlife resources.

As discussed in Chapter II, Section A.4 and Chapter III, Section A.1, there are no known rare, endangered, or threatened species of flora or fauna in the vicinity of the project site or anticipated to be impacted by the project. The proposed new clearwell reservoir will not result in any impacts to any bodies of water or fish or wildlife populations.

This EA has been prepared after consultation with the U.S. Fish

and Wildlife Service and the State Department of Land and Natural Resources. A copy of the Draft EA was provided to them for review and comment.

8. ***Floodplain Management (Executive Order 11988, As Amended By Executive Order 12148)***

As discussed in Chapter II, Section A.3, the subject property lies well outside of any floodplain, on lands designated as Zone C by the Flood Insurance Rate Map. The project is consistent with all applicable regulations and guidance relating to floodplain management.

9. ***Safe Drinking Water Act (40 CFR Part 149, Subpart A)***

The Safe Water Drinking Act (SDWA) is the principal, federal law that ensures the quality of drinking water. Under this act, the Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees those who implement said standards. All public water systems are required to meet these water quality standards.

As discussed in Chapter I, Section C, the purpose of the new clearwell reservoir is to allow the Kamole Weir Water Treatment Facility to meet federal water quality standards.

10. ***Protection of Wetlands (Executive Order 11990)***

There are no wetlands on or near to the project site. Neither are there any resources on the site vital to the wildlife that uses wetlands elsewhere on the island.

This EA has been prepared after consultation with the U.S. Fish

and Wildlife Service and the State Department of Land and Natural Resources. A copy of the Draft EA was provided to them for further review and comment.

11. ***Wild and Scenic Rivers Act (16 USC 1271)***

As discussed in 7 and 10 above, no bodies of water, including wild or scenic rivers, are to be impacted by the proposed project.

Chapter V

Summary of Adverse Environmental Effects Which Cannot Be Avoided

V. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The proposed development will result in unavoidable construction-related impacts as described in Chapter III, Potential Impacts and Mitigation Measures.

Potential effects include noise-generated impacts occurring from site preparation and construction activities. In addition, there may be temporary air quality impacts associated with dust generated from construction activities, and exhaust discharged by construction equipment. It should be noted, however, that these impacts are expected to be minimized through the implementation of the appropriate mitigative measures identified in Chapter III.

The proposed project is not anticipated to create any significant, long-term adverse environmental effects.

Chapter VI

Alternatives to the Proposed Action

VI. ALTERNATIVES TO THE PROPOSED ACTION

A. NO ACTION ALTERNATIVE

The "no action" alternative would involve the current 0.3 mgd clearwell remaining as the only reservoir and no replacement reservoirs constructed. This would result in the WTF's chlorine contact capacity being limited to current levels. This would seriously hamper the Department of Water Supply in its mission to provide safe water to the residents of Maui. Since the increase in storage capacity is needed to meet with Federal regulatory requirements, this alternative is not considered a viable alternative.

B. DEFERRED ACTION ALTERNATIVE

The "deferred action" alternative would have similar consequences as the "no action" alternative in that the water treatment objectives of the proposed project would be delayed and not immediately realized.

This alternative could result in higher development costs due to increases in labor and material costs or as a result of changes to infrastructure or the existing physical and socio-economic environment (i.e., window of opportunity costs). It would also result in the Kamole Weir WTF failing to meet new Federal regulatory requirements. Based on these reasons, the "deferred action" alternative was not deemed the preferable option.

C. DESIGN ALTERNATIVES

During the proposed project's planning phases, various design alternatives were considered. The leading candidate among the alternatives was the option to construct only the initial Phase I 3.0 mgd clearwell reservoir and not plan for a second phase. After detailed review, it was felt that this would be a short-sighted alternative and might well result in another reservoir being constructed relatively soon after. A

second alternative considered was to construct a single, undivided 5.0 mgd clearwell reservoir. Efficiency and long-range planning indicated that proposing one (1) 6.0 mg reservoir, to be constructed in a two-phase process, would be the preferable action.

DWS also considered using the existing Pookela facility for clearwell reservoir purposes. Complexities in the water system operations did not make this option feasible.

Chapter VII

Irreversible and Irretrievable Commitments of Resources

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The development of the proposed project is anticipated to result in the irreversible and irretrievable commitment of land and fiscal resources. Other resource commitments include energy, labor, and material resources. Impacts relating to the use of these resources should be weighed against the expected positive socio-economic benefits to be derived from the project versus the consequences of taking no action.

In addition, the proposed action is not anticipated to require a substantial commitment of government services or facilities. In general, the proposed action is not anticipated to place significant additional requirements on police, fire, medical, and social services.

Chapter VIII

Findings and Conclusions

VIII. FINDINGS AND CONCLUSIONS

The "Significance Criteria", Section 12 of Hawaii Administrative Rules Title 11, Chapter 200, "Environmental Impact Statement Rules", were reviewed and analyzed to determine whether the proposed project will have significant impacts to the environment. The following analysis is provided:

1. ***No Irrevocable Commitment to Loss or Destruction of any Natural or Cultural Resource Would Occur as a Result of the Proposed Project***

   The proposed action will not result in any significant, adverse environmental impacts. There are no known, rare, threatened or endangered species of flora, fauna, avifauna or important habitats located on the project site.

   There are no surface archaeological features at the project site. Precautionary monitoring will be undertaken during ground-altering activities. Should archaeological features, cultural artifacts or human burials be located during construction activities, work in the area of the find shall be promptly halted and the find protected form further disturbance. The SHPD will be immediately contacted to determine the significance of the find and establish appropriate mitigative measures, if necessary.

2. ***The Proposed Action Would Not Curtail the Range of Beneficial Uses of the Environment***

   The proposed action and the commitment of land resources would not curtail the range of beneficial uses of the environment. It will extend already existing facilities to meet Federal requirements while removing approximately 2.4 acres of agricultural land from production.

3. ***The Proposed Action Does Not Conflict With the State's Long-Term Environmental Policies or Goals as Expressed in Chapter 344, Hawaii Revised Statutes***

The State Environmental Policy and Guidelines are set forth in Chapter 344, Hawaii Revised Statutes. The proposed action is in consonance with the policies and guidelines.

4. ***The Economic or Social Welfare of the Community or State Would Not Be Substantially Affected***

The proposed action would have a direct beneficial effect on the local economy during construction. In the long term, the proposed project will provide replacement clearwell reservoir capacity in keeping with regulatory requirements.

5. ***The Proposed Action Does Not Affect Public Health***

No adverse impacts to the public's health and welfare are anticipated as a result of the proposed action. The proposed project will have a beneficial impact by allowing water treatment to meet Federal guidelines for processing.

6. ***No Substantial Secondary Impacts, Such as Population Changes or Effects on Public Facilities Are Anticipated***

No significant population changes are anticipated as a result of the proposed action.

The proposed action is not expected to adversely impact existing water and wastewater systems and facilities. Best Management Practices (BMP's) and appropriate erosion control measures will be utilized during the construction period. Drainage system improvements will be constructed in accordance with applicable regulatory design standards to ensure that surface runoff will not have an adverse effect on adjacent or

downstream properties. The proposed action is not expected to adversely affect public services such as police, fire, and emergency medical operations. No adverse impacts to educational, recreational, and solid waste collection and disposal facilities and resource are anticipated.

7. ***No Substantial Degradation of Environmental Quality is Anticipated***

During the construction phase of the project, there will be short-term air quality and noise impacts as a result of the project. In the long term, effects upon air quality and ambient noise levels should be minimal. The proposed action is not anticipated to significantly affect the open space and scenic character of the area.

No substantial degradation of environmental quality resulting from the action is anticipated.

8. ***The Proposed Action Does Not Involve a Commitment to Larger Actions, Nor Would Cumulative impacts Result in Considerable Effects On The Environment***

The proposed action does not involve a commitment to larger actions; the final 6.0 mg clearwell reservoir represents the entire project and no further expansion is foreseeable.

9. ***No Rare, Threatened or Endangered Species or Their Habitats Would Be Adversely Affected By the Proposed Action***

There are no rare, threatened or endangered species of flora, fauna, avifauna or important habitats within the project site. The project site is in active agricultural production.

10. ***Air Quality, Water Quality or Ambient Noise Levels Would Not Be Detrimentally Affected By The Proposed Project***

Construction activities will result in short-term air quality and noise

impacts. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize wind-blown emissions. Noise impacts will occur primarily from construction-related activities. It is anticipated that construction will be limited to daylight working hours. Water quality is not expected to be affected.

In the long term, the proposed action is not anticipated to have a significant impact on air and water quality or ambient noise levels.

11. ***The Proposed Project Would Not Affect Environmentally Sensitive Areas, Such as Flood Plains, Tsunami Zones, Erosion-prone Areas, Geologically Hazardous Lands, Estuaries, Fresh Waters or Coastal Waters***

The project site is not located within and would not affect environmentally sensitive areas. The project site is not subject to flooding or tsunami inundation. Soils of the project site are not erosion-prone. There are no geologically hazardous lands, estuaries, or coastal waters within or adjacent to the project site.

12. ***The Proposed Action Would Not Substantially Affect Scenic Vistas and Viewplanes Identified in County or State Plans or Studies***

The project site is not identified as a scenic vista or viewplane. The proposed action will not result in any significant, adverse effect on scenic corridors and coastal scenic and open space resources.

13. ***The Proposed Action Would Not Require Substantial Energy Consumption***

The proposed action will involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this use is not anticipated to result in a substantial consumption of energy resources. In the long term, the project will not require any

substantial or excessive demand for electricity within the context of the region's overall energy consumption.

Based on the foregoing findings, it is anticipated that the proposed action will not result in any significant adverse impacts.

Chapter IX

List of Permits and Approvals

IX. LIST OF PERMITS AND APPROVALS

The following permits and approvals will be required prior to the implementation of the project.

State of Hawaii

1. Community Noise Permit (as applicable)
2. NPDES Permit

County of Maui

1. Construction Permits
2. Amendment to State Land Use Commission Special Use Permit.

Chapter X

Parties Consulted During the Preparation of the Draft Environmental Assessment and Responses to Substantive Comments

X. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT AND RESPONSES TO SUBSTANTIVE COMMENTS

The following parties were consulted in connection with the preparation of the Draft Environmental Assessment. Responses to substantive comments are also included in this chapter.

1. Neal Fujiwara, Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793-2100

2. George Young, P.E.
Chief, Regulatory Branch
U.S. Department of the Army
U.S. Army Engineer District, Honolulu
Building 230
Fort Shafter, Hawaii 96858-5440

3. Paul Henson, Ph.D.
Field Supervisor
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122, Box 50088
Honolulu, Hawaii 96813

4. Ted Liu, Director
State of Hawaii
Department of Business, Economic Development & Tourism
P.O. Box 2359
Honolulu, Hawaii 96804

5. Mary Lou Kobayashi, Planning Program Administration
Office of Planning, State of Hawaii
P.O. Box 2359
Honolulu, Hawaii 96804

6. Patricia Hamamoto, Superintendent
State of Hawaii
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804

7. Denis Lau, Chief
Clean Water Branch
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawaii 96814

8. Herbert Matsubayashi
District Environmental Health Program Chief
State of Hawaii
Department of Health
54 High Street
Wailuku, Hawaii 96793

9. Peter T. Young, Chairperson
State of Hawaii
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

10. Melanie Chinen, Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawaii 96707

11. Rodney Haraga, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
(cc: Fred Cajigal, DOT, Maui)

13. Clyde Namu'o, Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

14. Carl Kaupalolo, Chief
County of Maui
Department of Fire Control
200 Dairy Road
Kahului, Hawaii 96732

15. Alice Lee, Director
County of Maui
Department of Housing and Human Concerns
200 S. High Street
Wailuku, Hawaii 96793

16. Michael W. Foley, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

17. *Glenn Correa, Director*
County of Maui
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawaii 96793

18. Thomas Phillips, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

19. Milton Arakawa, Director
County of Maui
Department of Public Works and Environmental Management
200 South High Street
Wailuku, Hawaii 96793

20. Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawaii 96732

APR 2 6 2004

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

REPLY TO
ATTENTION OF

April 22, 2004

Regulatory Branch

Mr. Michael T. Munekiyo
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Munekiyo:

This letter responds to your request for comments on the environmental assessment (EA) preparation notice for the County of Maui's proposed construction of a new Kamole Weir Clearwell Reservoir at the existing Kamole Weir Water Treatment Facility in Haliimaile, Maui, Hawaii (TMK 2-5-04: por. 80). We have reviewed the project information you provided with respect to the Corps' authority to issue Department of the Army (DA) permits under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

Based on the information you provided, it appears that there are no waters of the United States, including wetlands, within the project site. Based on this understanding, a DA permit is not required for this activity.

Should you have questions concerning this response, please contact Mr. Peter Galloway of my staff (telephone (808) 438-8416; fax (808) 438-4060). Written inquiries should cite File No. **200400270** and should be sent to: Regulatory Branch (CEPOH-EC-R/P. Galloway); U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440.

Sincerely,

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

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

George Young, Chief
Regulatory Branch
Department of the Army
U.S. Army Engineer District
Honolulu, Hawaii 96858

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)
(File No. 200400270)

Dear Mr. Young:

Thank you for your letter of April 22, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. We acknowledge that a Department of the Army permit will not be necessary for the project.

Thank you again for your response. A copy of the Draft Environmental Assessment will be provided to your office for review and comment.

Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara & Associates, Inc.
okahara/kamolewt/army.res

planning environment

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

APR 2 8 2004

[redacted]
LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

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

OFFICE OF THE SUPERINTENDENT

April 26, 2004

Mr. Michael T. Munekiyo, Project Manager
Munekiyo & Hiraga Inc.
305 High Street, Suite 104
Wailuku, Hawai`i 96793

Dear Mr. Munekiyo:

SUBJECT: Early Consultation for Kamole Weir Water Reservoir, Haliimaile, Maui

The Department of Education (DOE) is responding to your request for early consultation on the County of Maui's proposal to build a new water reservoir.

The DOE has no comment at this preliminary stage. If you have any questions, please call Rae M. Loui, Assistant Superintendent of the Office of Business Services, at 586-3444 or Heidi Meeker of the Facilities and Support Services Branch at 733-4862.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:jmb

cc: Rae M. Loui, OBS
Allen Ashitomi, CAS

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Patricia Hamamoto, Superintendent
State of Hawaii
Department of Education
PO Box 2360
Honolulu, Hawaii 96804

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Ms. Hamamoto:

Thank you for your letter of April 26, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. A copy of the Draft Environmental Assessment will be provided to your office for review and comment.

Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
okahara/kamolewt/doe.res

planning environment

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhinconline.com

APR 16 2004

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-04-078

April 14, 2004

Mr. Michael T. Munekiyo
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Munekiyo:

SUBJECT: Environmental Assessment Early Consultation Request for Proposed Kamole Weir Clearwell Reservoir, Maliimale, Maui, Hawaii
TMK: 2-5-004:80

Thank you for allowing us to review and comment on the subject document. We have the enclosed standard comments to offer. If you have any questions about the standard comments please contact Ryan Davenport at 586-4346.

Sincerely,

June F. Harrigan-Lum

JUNE F. HARRIGAN-LUM, MANAGER
Environmental Planning Office

Enclosures

c: CAB
EPO
SHWB
NRAIQ
CWB
WWB
HEER
SDWB

Standard Comments

Environmental Planning Office Dated 3/2/04

The Environmental Planning Office (EPO) is responsible for several surface water quality management programs mandated by the federal Clean Water Act or dictated by State policy . (http://www.state.hi.us/doh/eh/epo/wqm/wqm.htm). Among these responsibilities, EPO:

- maintains the *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)* (http://www.state.hi.us/doh/eh/epo/wqm/303dpcfinal.pdf);
- develops and establishes Total Maximum Daily Loads (TMDLs) for listed waters (suggesting how much existing pollutant loads should be reduced in order to attain water quality standards, please see http://www.epa.gov/owow/tmdl/intro.html);
- writes TMDL Implementation Plans describing how suggested pollutant load reductions can be achieved; and
- conducts assessments of stream habitat quality and biological integrity.

To facilitate TMDL development and planning, and to assist our assessment of the potential impact of proposed actions upon water quality, pollutant loading, and biological resources in receiving waters, we suggest that environmental review documents, permit applications, and related submittals include the following standard information and analyses:

Waterbody type and class

1. Identify the waterbody type and class, as defined in Hawaii Administrative Rules Chapter 11-54 (http://www.state.hi.us/doh/rules/11-54.pdf), of all potentially affected water bodies[1].

Existing water quality management actions

2. Identify any existing National Pollutant Discharge Elimination System (NPDES) permits and related connection permits (issued by permittees) that will govern the management of water that runs off or is discharged from the proposed project site or facility. Please include NPDES and other permit numbers; names of permittees, permitted facilities, and receiving waters (including waterbody type and class as in 1. above); diagrams showing drainage/discharge pathways and outfall locations; and note any permit conditions that may specifically apply to the proposed project.

3. Identify any planning documents, groups, and projects that include specific prescriptions for water quality management at the proposed project site and in the potentially affected waterbodies. Please note those prescriptions that may specifically apply to the proposed project.

Pending water quality management actions

4. Identify all potentially affected water bodies that appear on the current *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)* including the listed waterbody, geographic scope of listing, and pollutant(s) (See Table 7 at http://www.state.hi.us/doh/eh/epo/wqm/303dpcfinal.pdf).

5. If the proposed project involves potentially affected water bodies that appear on the current *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)*, identify and quantify expected changes in the following site and watershed conditions and characteristics:
   - surface permeability
   - hydrologic response of surface (timing, magnitude, and pathways)
   - receiving water hydrology
   - runoff and discharge constituents
   - pollutant concentrations and loads in receiving waters
   - aquatic habitat quality and the integrity of aquatic biota

Where TMDLs are already established they include pollutant load allocations for the surrounding lands and point source discharges. In these cases, we suggest that the submittal specify how the proposed project would contribute to achieving the applicable load reductions.

Where TMDLs are yet to be established and implemented, a first step in achieving TMDL objectives is to prevent any project-related increases in pollutant loads. This is generally accomplished through the proper application of suitable best management practices in all phases of the project and adherence to any applicable ordinances, standards, and permit conditions. In these cases we suggest that the submittal specify how the proposed project would contribute to
reducing the polluted discharge and runoff entering the receiving waters, including plans for
additional pollutant load reduction practices in future management of the surrounding lands and drainage/discharge systems.

Proposed Action and Alternatives Considered

We suggest that each submittal identify and analyze potential project impacts at a watershed scale by considering consider the potential contribution of the proposed project to cumulative, multi-project watershed effects on hydrology, water quality, and aquatic and riparian ecosystems.

We also suggest that each submittal broadly evaluate project alternatives by identifying more than one engineering solution for proposed projects. In particular, we suggest the

consideration of "alternative," "soft," and "green" engineering solutions for channel modifications that would provide a more environmentally friendly and aesthetically pleasing channel environment and minimize the destruction of natural landscapes.

If you have any questions about these comments or EPO programs, please contact Ryan Davenport at 586-4346.

[1]"Potentially affected waterbodies" means those in which proposed project activity would take place and any that could receive water discharged by the proposed project activity or water flowing down from the proposed project site. These waterbodies can be presented as a chain of receiving waters whose top link is at the project site upslope and whose bottom link is in the Pacific Ocean, and can be named according to conventions established by Chapter 11-54 and the *List of Impaired Waters in Hawaii Prepared under Clean Water Act §303(d)*. For example, a recent project proposed for Nuhelewai Stream, Oahu might potentially affect Nuhelewai Stream, Kapalama Canal, and Honolulu Harbor and Shore Areas.
[OTHER EXAMPLES OR DIAGRAM??]

Solid and Hazardous Waste Branch Dated 3/2/04

1)
The OSWM recommends the development of a solid waste management plan that encompasses all project phases including demolition, construction, and occupation/operation of the completed project.

Specific examples of elements that the plan should address include:

- The recycling of green-waste during clear and grub activities;
- Recycling construction and demolition wastes, if appropriate;
- The use of locally produced compost in landscaping;
- The use of recycled content building materials;
- The provision of recycling facilities in the design of the project.

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2)
The developer shall ensure that all solid waste generated during project construction is directed to a Department of Health permitted solid waste disposal or recycling facility.

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3)
The developer should consider providing space in the development for recycling activities. The provision of space for recycling bins for paper, glass, and food/wet waste would help to encourage the recycling of solid waste(s) generated by building occupants.

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4)
The discussion of solid waste issues contained in the document is restricted to activities within the completed project. The OSWM recommends the development of a solid waste management plan that encompasses all project phases, from construction (and or demolition) to occupation of the project.

Specific examples of plan elements include: the recycling of green-waste during clear and grub activities; maximizing the recycling of construction and demolition wastes; the use of locally produced compost in the landscaping of the project; and the provision of recycling facilities in the design of the project.

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5)
Hawaii Revised Statutes Chapter 103D-407 stipulates that all highway and road construction and improvement projects funded by the State or a county or roadways that are to be accepted by the State or a county as public roads shall utilize a minimum of ten per cent crushed glass aggregate as specified by the department of transportation in all base-course (treated or untreated) and sub-base when the glass is available to the quarry or contractor at a price no greater than that of the equivalent aggregate.

If you have any questions, please contact the Solid and Hazardous Waste Branch at (808) 586-4240.

Noise, Radiation & Indoor Air Quality Branch Dated 3/2/04

"Project activities shall comply with the Administrative Rules of the Department of Health:

- Chapter 11-39 Air Conditioning and Ventilating.
- Chapter 11-45 Radiation Control.
- Chapter 11-46 Community Noise Control.
- Chapter 11-501 Asbestos Requirements.
- Chapter 11-502 Asbestos-Containing Materials in Schools.
- Chapter 11-503 Fees for Asbestos Removal and Certification
- Chapter 11-504 Asbestos Abatement Certification Program

Should there be any questions, please contact Russell S. Takata, Environmental Health Program Manager, Noise, Radiation and Indoor Air Quality Branch, at 586-4701."

Clean Water Branch Dated 3/2/04

1. The Army Corps of Engineers should be contacted at (808) 438-9258 to identify whether a Federal license or permit (including a Department of Army permit) is required for this project. Pursuant to Section 401(a)(1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...."

2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following activities:

a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi).

b. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.**

c. Discharges of treated effluent from leaking underground storage tank remedial activities.

d. Discharges of once through cooling water less than one (1) million gallons per day.

e. Discharges of hydrotesting water.

f. Discharges of construction dewatering effluent.

g. Discharges of treated effluent from petroleum bulk stations and terminals.

h. Discharges of treated effluent from well drilling activities.

i. Discharges of treated effluent from recycled water distribution systems.

j. Discharges of storm water from a small municipal separate storm sewer system.

k. Discharges of circulation water from decorative ponds or tanks.

The CWB requires that a Notice of Intent (NOI) to be covered by a NPDES general permit for any of the above activities be submitted at least 30 days before the commencement of the respective activities. The NOI forms may be picked up at our office or downloaded from our website at http://www.state.hi.us/health/eh/cwb/forms/genl-index.html.

3. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters and/or coverage of the discharge(s) under the NPDES general permit(s) is not permissible (i.e. NPDES general permits do not cover discharges into Class 1 or Class AA receiving waters). An application for the NPDES permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at http://www.state.hi.us/health/eh/cwb/forms/indiv-index.html.

4. Hawaii Administrative Rules, Section 11-55-38, also requires the owner to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD.

Please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

If you have any questions, please contact the CWB at 586-4309.

Waste Water Branch Dated 3/2/04

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems". We do reserve the right to review the detailed wastewater plans for conformance to applicable rules.

Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at 586-4294.

Clean Air Branch Dated 3/2/04

Construction/Demolition Involving Asbestos:

Since the proposed project would entail renovation/demolition activities which may involve asbestos, the applicant should contact the Asbestos Abatement Office in the Noise, Radiation and Indoor Air Quality Branch at 586-5800.

Control of Fugitive Dust:

A significant potential for fugitive dust emissions exists during all phases of construction. Proposed construction activities will occur in proximity to **existing residences, businesses, public areas and thoroughfares**, thereby exacerbating potential dust problems. It is recommended that a dust control management plan be developed which identifies and addresses all activities that have a potential to generate fugitive dust. Implementation of adequate dust control measures during all phases of development and construction activities is warranted.

Construction activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust.

The contractor should provide adequate measures to control dust from the road areas and during the various phases of construction. These measures include, but are not limited to, the following:

a) Plan the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
b) Provide an adequate water source at the site prior to start-up of construction activities;
c) Landscape and provide rapid covering of bare areas, including slopes, starting from the initial grading phase;
d) Minimize dust from shoulders and access roads;

e) Provide adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
f) Control dust from debris being hauled away from the project site.

Hazard Evaluation and Emergency Response Office(HEER) Dated 3/2/04

1. A phase I Environmental Site Assessment (ESA) should be conducted for developments or redevelopments. If the investigation shows that a release of petroleum, hazardous substance, pollutants or contaminants occurred at the site, the site should be properly characterized through an approved Hawaii State Department of Health (DOH)/Hazard Evaluation and Emergency Response Office (HEER) soil and or groundwater sampling plan. If the site is found to be contaminated, then all removal and remedial actions to clean up hazardous substance or oil releases by past and present owners/tenants must comply with chapter 128D, Environmental Response Law, HRS, and Title 11, Chapter 451, HAR, *State Contingency Plan.*

2. All lands formerly in the production of sugarcane should be characterized for arsenic contamination, If arsenic is detected above the US EPA Region (preliminary remediation goal (PRG) for non-cancer effects, then a removal and or remedial plan must be submitted to the Hazard Evaluation and Emergency Response (HEER) Office of the State Department of Health for approval. The plan must comply with Chapter 128D, Environmental Response Law, HRS, and Title 11, Chapter 451, HAR, State Contingency Plan.

3. If the land has a history of previous releases of petroleum, hazardous substances, pollutants, or contaminants, we recommend that the applicant request a "no further action" (NFA) letter from the Hawaii State Department of Health (DOH)/ Hazard Evaluation and Emergency Response (HEER) Office prior to the approval of the land use change or permit approval.

Safe Drinking Water Branch Dated 3/11/04

The Safe Drinking Water Branch administers programs in the areas of: 1) public water systems; 2) underground injection control; and 3) groundwater protection. Our general comments on projects are as follows.

Public Water Systems

- Federal and state regulations define a public water system as a system that serves 25 or more individuals at least 60 days per year or has at least 15 service connections. All public water system owners and operators are required to comply with Hawaii Administrative Rules, Title 11, Chapter 20, titled Rules Relating to Potable Water Systems.

- All new public water systems are required to demonstrate and meet minimum capacity requirements prior to their establishment. This requirement involves demonstration that the system will have satisfactory technical, managerial and financial capacity to enable the system to comply with safe drinking water standards and requirements.

- Projects that propose development of new sources of potable water serving or proposed to serve a public water system must comply with the terms of Section 11-20-29 of Chapter 20. This section requires that all new public water system sources be approved by the Director of Health prior to its use. Such approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.

- The engineering report must identify all potential sources of contamination and evaluate alternative control measures which could be implemented to reduce or eliminate the potential for contamination, including treatment of the water source. In addition, water quality analyses for all regulated contaminants, performed by a laboratory certified by the State Laboratories Division of the state of Hawaii, must be submitted as part of the report to demonstrate compliance with all drinking water standards. Additional parameters may be required by the Director for this submittal or additional tests required upon his or her review of the information submitted.

- All sources of public water system sources must undergo a source water assessment which will delineate a source water protection area. This process is preliminary to the creation of a source water protection plan for that source and activities which will take place to protect the source of drinking water.

- Projects proposing to develop new public water systems or proposing substantial modifications to existing public water systems must receive approval by the Director of Health prior to construction of the proposed system or modification. These projects include treatment, storage and distribution systems of public water systems. The approval authority for projects owned and operated by a County Board or Department of Water or Water Supply has been delegated to them.

- All public water systems must be operated by certified distribution system and water treatment plant operators as defined by Hawaii Administrative Rules, Title 11, Chapter 11-25 titled; Rules Pertaining to Certification of Public Water System Operators.

- All projects which propose the use of dual water systems or the use of a non-potable water system in proximity to an existing potable water system to meet irrigation or other needs must be carefully design and operate these systems to prevent the cross-connection of these systems and prevent the possibility of backflow of water from the non-potable system to the potable system. The two systems must be clearly labeled and physically separated by air gaps or reduced pressure principle backflow prevention devices to avoid contaminating the potable water supply. In addition backflow devices must be tested periodically to assure their proper operation. Further, all non-potable spigots and irrigated areas

should be clearly labeled with warning signs to prevent the inadvertent consumption on non-potable water. Compliance with Hawaii Administrative Rules, Title 11, Chapter 11-21 titled; Cross-Connection and Backflow Control is also required.

- All projects which propose the establishment of a potentially contaminating activity (as identified in the Hawai`i Source Water Assessment Plan) within the source water protection area of an existing source of water for a public water supply should address this potential and activities that will be implemented to prevent or reduce the potential for contamination of the drinking water source.

- For further information concerning the application of capacity, new source approval, operator certification, source water assessment, backflow/cross-connection prevention or other public water system programs, please contact the Safe Drinking Water Branch at 586-4258.

Underground Injection Control (UIC)

- Injection wells used for the subsurface disposal of wastewater, sewage effluent, or surface runoff are subject to environmental regulation and permitting under Hawai`i Administrative Rules, Title 11, Chapter 11-23, titled Underground Injection Control (UIC). The Department of Health's approval must be first obtained before any injection well construction commences. A UIC permit must be issued before any injection well operation occurs.

- Authorization to use an injection well is granted when a UIC permit is issued to the injection well facility. The UIC permit contains discharge and operation limitations, monitoring and reporting requirements, and other facility management and operational conditions. A complete UIC permit application form is needed to apply for a UIC permit.
- A UIC permit can have a valid duration of up to five years. Permit renewal is needed to keep an expiring permit valid for another term.

For further information about the UIC permit and the Underground Injection Control Program, please contact the UIC staff of the Safe Drinking Water Branch at 586-4258.

Groundwater Protection Program

Projects that propose to develop a golf course are asked to use the Guidelines Applicable to Golf Courses in Hawai`i (Version 6) in order to address certain groundwater protection concerns, as well as other environmental concerns

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

June Harrigan-Lum, Manager
State of Hawaii
Department of Health
PO Box 3378
Honolulu, Hawaii 96801

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Ms. Harrigan-Lum:

Thank you for your letter of April 14, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. We acknowledge receipt of the standard comments. The Draft Environmental Assessment will address, as applicable, the Department of Health's planning and regulatory requirements as noted in the standard comments. A copy of the Draft Environmental Assessment will be provided to your office for review and comment.

Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara & Associates, Inc.
okahara/kamolewt/doh.res

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

LINDA LINGLE
GOVERNOR OF HAWAII

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

LORRIN W. PANG, M. D., M. P. H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2102

April 27, 2004

Mr. Michael Munekiyo
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai`i 96793

Dear Mr. Munekiyo:

Subject: **Environmental Assessment Early Consultation Request for Proposed Kamole Weir Clearwell Reservoir**
TMK: (2) 2-5-04:80 (Por.)

Thank you for the opportunity to participate in the early consultation process for the environmental assessment. The following comments are offered:

National Pollutant Discharge Elimination System (NPDES) permit coverage is required for this project. The Clean Water Branch should be contacted at 808 586-4309.

Should you have any questions, please call me at 984-8230.

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Herbert Matsubayashi
State of Hawaii
Department of Health
Maui District Health Office
54 High Street
Wailuku, Hawaii 96793

SUBJECT: *Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)*

Dear Mr. Matsubayashi:

Thank you for your letter of April 27, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. The applicant will be seeking a NPDES permit for this proposed action.

Thank you again for your response. A copy of the Draft Environmental Assessment will be provided to your office for review and comment. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
okahara/kamolewt/dohmaui.res

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LINDA LINGLE
GOVERNOR OF HAWAII

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

April 30, 2004

LOG NO: 2004.1377
DOC NO: 0404CD80

Michael T. Munekiyo
Munekiyo & Hiraga, Inc.
305 South High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Munekiyo,

SUBJECT: **Chapter 6E-8 Historic Preservation Review – Environmental Assessment Early Consultation Request for the Proposed Kamole Weir Clearwater Reservoir, Hali`imaile [County/DWS] Hamakuapoko Ahupua`a, Makawao District, Island of Maui**
TMK: (2) 2-5-004:080 (Por.)

Thank you for the opportunity to comment on the Environmental Assessment Early Consultation Request for the proposed Kamole Weir Clearwater Reservoir, Hali`imaile, which was received by our staff on April 11, 2004. Our review is based on reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was conducted of the subject property.

Based on the submitted document, we understand the proposed undertaking consists of the construction of an approximately 3.0 million gallon reservoir to be located on a 1.9 acre property.

A search of our records indicates an archaeological inventory survey has not been conducted of the subject property. This area in general is likely to have once been the location of pre-Contact farming, perhaps with scattered houses. Our records indicate the subject property was previously under commercial agriculture. Given that recent archaeological investigations in similar settings have identified historic sites beneath the till zone (including an unmarked cemetery, lithics and historic artifacts) we now believe that it is possible that historic sites and/or site remnants may be present in the subsurface deposits of the proposed project area.

Therefore, in order to determine the effect of the proposed undertaking on historic sites, we recommend that no action be taken on the proposed undertaking until an archaeological inventory survey has been conducted to determine whether significant historic sites are present. An acceptable report documenting the findings of the survey will need to be submitted to this office for review. If significant historic sites are identified, a mitigation plan may need to be developed, in consultation with this office, and executed.

If you have any questions, please call Cathleen A. Dagher at 692-8023.

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Administrator
State Historic Preservation Division

CD:jen

c: Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Resources Commission, Dept of Planning, 250 S. High Street, Wailuku, HI 96793

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

P. Holly McEldowney, Administrator
State of Hawaii
Department of Land and Natural Resources
Historic Preservation Division
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Mr. McEldowney:

Thank you for your letter of April 23, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por), Makawao, Maui. In response to your comments we note that Xamanek Researches has been contracted by the applicant to conduct an archaeological assessment for the project site. A copy of the assessment report will be included in the Draft Environmental Assessment (EA). Should any remains, physical or cultural, be found, work will be stopped and all appropriate measures taken.

Thank you again for your response. A copy of the Draft EA will be provided to your office for review and comment. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:lfm
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
okahara\kamoleWT\shpd.res.wpd

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305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

LINDA LINGLE
GOVERNOR

MAY 07 2004

RODNEY K. HARAGA
DIRECTOR

Deputy Director
BRUCE Y. MATSUI
LINDEN H. JOESTING
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.1123

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

April 29, 2004

Mr. Michael T. Munekiyo
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Munekiyo:

Subject: Proposed Kamole Weir Clearwell Reservoir
Environmental Assessment Early Consultation Request
TMK: 2-5-04: 80 (Por.)

In reply to your request for our review of the subject reservoir project, this is to advise you that the project should not have an impact on our State highway facilities.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Rodney Haraga, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Mr. Haraga:

Thank you for your letter of April 29, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. A copy of the Draft Environmental Assessment will be provided to your office for review and comment.

Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara & Associates
okahara/kamolewt/dot.res

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APR 2 8 2004

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD04/1357

April 23, 2004

Michael T. Munekiyo, A.I.C.P.
Project Manager
Munekiyo & Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

RE: Request for Pre-Assessment Consultation for Draft Environmental Assessment, Proposed Kamole Weir Clearwell Reservoir, Haliimaile, Maui, TMK: 2-5-004: 080 (portion)

Dear Michael T. Munekiyo,

The Office of Hawaiian Affairs is in receipt of your April 7, 2004, request for comments on the above project. We have no comments at this time, but look forward to reviewing and commenting upon the eventual Draft Environmental Assessment.

OHA is curious as to the magnitude of ground disturbance required for the project, how much impact will be had on the surrounding land, what equipment will be used, and whether a cultural overview of the area has been completed. We encourage you to contact our Community Resource Coordinator on Maui, Thelma Shimaoka for information on who to contact for pertinent, detailed background information on the area and its cultural heritage. She can be reached at:

140 Hoohana St., Ste. 206
Kahului, HI 97732
PH: 243-5219
FAX: 243-5016

The Environmental Assessment should include an archaeological inventory survey in the area of the proposed reservoir to ensure that it is sited so as not to disturb any cultural and historical

deposits and burials. OHA requests assurances from the developer that should this project go forward, and should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance or excavation, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions, please contact Heidi Guth at 594-1962 or e-mail her at heidig@oha.org.

Sincerely,

Clyde W. Namu'o
Administrator

CC: Thelma Shimaoka

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Clyde Namu'o, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapi'olani Boulevard, Suite 500
Honolulu, Hawaii 96813

SUBJECT: *Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)*

Dear Mr. Namu'o:

Thank you for your letter of April 23, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. In response to your comments we note that ground altering activities and impacts will be discussed in the Draft Environmental Assessment (EA). We are conducting both an archaeological assessment and a cultural assessment and are in the process of interviewing people with connections to the area. We will gladly make use of any and all resources available to us in this regard. Should any remains, physical or cultural, be found, work will be stopped and all appropriate measures taken.

Thank you again for your response. A copy of the Draft EA will be provided to your office for review and comment. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
okahara/kamolewt/oha.res

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APR 14 2004

ALAN M. ARAKAWA
MAYOR

CARL M. KAUPALOLO
CHIEF

NEAL A. BAL
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY

200 DAIRY ROAD
KAHULUI, MAUI, HAWAII 96732
(808) 270-7561
FAX (808) 270-7919

April 13, 2004

Munekiyo & Hiraga, Inc.
Michael T. Munekiyo, Project Manager
350 High Street, Suite 104
Wailuku, HI 96793

Subject: Kamole Weir Clearwell Reservoir, Haliimaile, Maui, Hawaii TMK (2)2-5-004:080

Dear Mr. Munekiyo,

I have reviewed your request to comment on the subject property. At this time, I would like to remind all involved of the following:

1. A permit from our Department is required to store flammable/combustible liquids >59 gal
2. A permit from our Department may be required to store/use hazardous materials

Thank you for allowing me the opportunity to comment on this subject. Please feel free to contact me if you have any questions at 270-7568.

Sincerely,

Valeriano F. Martin
Captain
Fire Prevention Bureau

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Valeriano Martin, Captain
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, HI 96732

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Mr. Martin:

Thank you for your letter of April 13, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK 2-5-004:039 (por.), Makawao, Maui. In response to your comments, we note that there is no anticipated use or storage of combustible, flammable, or hazardous materials at the reservoir. However, the necessary permits will be sought if required.

Thank you again for providing your input to the proposed action. A copy of the Draft Environmental Assessment will be provided to your office for review and comment. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara & Associates Inc.
okahara/kamolewt/mfd res

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

planning environment

DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

ALAN M. ARAKAWA
Mayor

ALICE L. LEE
Director

HERMAN T. ANDAYA
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165

April 12, 2004

Mr. Michael Munekiyo, A.I.C.P.
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Munekiyo:

SUBJECT: PROPOSED KAMAOLE WEIR CLEARWELL RESERVOIR
HALIIMAILE, MAUI, HAWAII
(TMK: 2-5-04:80 (POR.)

We have reviewed your April 7, 2004 early consultation letter and enclosure for the subject project and have no comment to offer.

Thank you for the opportunity to comment.

Very truly yours,

ALICE L. LEE
Director

ETO:hs

c: Housing Administrator

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Alice Lee, Director
County of Maui
Department of Housing and Human Concern
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Ms. Lee:

Thank you for your letter of April 12, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. A copy of the Draft Environmental Assessment will be provided to your office for review and comment.

Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
okahara/kamolewt/dhhc.res

planning environment

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ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

April 29, 2004

Mr. Michael Munekiyo, AICP
Munekiyo & Hiraga
305 High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Munekiyo:

RE: Preliminary Consultation Comments for the Draft Environmental Assessment prepared for the Proposed Kamole Weir Clearwell Reservoir located at TMK: 2-5-004: 080 (portion), Haliimaile, Island of Maui, Hawaii (LTR 2004/1259)

The Maui Planning Department (Department) is in receipt of your request for preliminary consultation comments pursuant to Title 11, Chapter 200, Section 9 of the Hawaii Administrative Rules (HAR). As indicated, the proposed action involves the construction of a new clearwell reservoir, measuring approximately 3.0 million gallons, at the existing Kamole Weir Water Treatment Facility. The proposed action will replace the existing 300,000 gallon reservoir which currently functions as the clearwell reservoir. The Department provides the following comments:

1. The land use designations for the properties are as follows:

   a. Existing Kamole Water Treatment Facility, TMK: 2-5-004: 080
      i. State Land Use - Agriculture
      ii. Paia-Haiku Community Plan - Agriculture
      iii. County Zoning - Agriculture

   b. Proposed 3.0 million gallon reservoir, TMK: 2-5-004: 039
      i. State Land Use - Agriculture
      ii. Paia-Haiku Community Plan - Agriculture
      iii. County Zoning - Agriculture

2. Provide a land use analysis for both parcels. Include within the analysis a discussion as to consistency with Chapter 205, HRS, and Chapter 19.30, MCC, for both parcels. Please note that *treatment plants* are not listed as a permissible use within the State Agricultural District per Section 205-4.5, HRS. In addition, water treatment facilities are defined as a *Major Utility Facility* per section 19.04.040, MCC, and are permitted within the County Agricultural District provided a county special use permit has been obtained.

Thank you for the opportunity to comment. Should you need additional clarification on these comments or the DEA process, please contact Ms. Kivette A. Caigoy, Environmental Planner, of my office at 270-7735.

Sincerely,

Michael W. Foley
Planning Director

MWF:KAC:do
c: Wayne Boteilho, Deputy Planning Director
Clayton Yoshida, AICP, Planning Program Administrator
Kivette Caigoy, Environmental Planner
General File
K:\WP_DOCS\PLANNING\EA\PreConComments\2004\1259_KamaoleWeirClearwell.wpd

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Michael Foley, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Mr. Foley:

Thank you for your letter of April 29 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. In response to your comments we note that the Draft Environmental Assessment (EA) will contain a land use analysis for both parcels. Compliance with State Land Use designation and County of Maui Zoning are discussed in this analysis. This issue will be addressed by a request for an amendment to the current Special Use Permit (SUP) for the facility. The SUP amendment request will be coordinated with the Department of Planning.

Thank you again for your response. A copy of the Draft EA will be provided to your office for review and comment. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
Attachment
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara & Associates Inc.
okahara/kamolewt/planning.res

planning environment

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhinconline.com

ALAN M. ARAKAWA
Mayor

GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

(808) 270-7230
Fax (808) 270-7934

APR 16 2004

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2, Wailuku, Hawaii 96793

April 13, 2004

Michael T. Munekiyo, A.I.C.P.
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Munekiyo:

SUBJECT: PROPOSED KAMOLE WEIR CLEARWELL RESERVOIR
HALIIMAILE, MAUI, HAWAII
TMK 2-5-04:80 (Por.)

We have reviewed the Environmental Assessment Early Consultation Request for the subject project and have no comments or objections to the proposed action.

Thank you for the opportunity to review and comment. Should there be any questions, please contact Mr. Patrick Matsui, Chief of Parks Planning and Development, at 270-7387.

Sincerely,

GLENN T. CORREA
Director

c: Patrick Matsui, Chief of Planning and Development

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Glenn Correa, Director
County of Maui
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawaii 96793

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Mr. Correa:

Thank you for your letter of April 13, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. A copy of the Draft Environmental Assessment will be provided to your office for review and comment.

Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara & Associates, Inc.
okahara/kamolewt/dpr.res

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APR 30 2004

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
tj
YOUR REFERENCE

POLICE DEPARTMENT
COUNTY OF MAUI

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

April 22, 2004

Mr. Michael Munekiyo, A.I.C.P.
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Munekiyo:

SUBJECT: Environmental Assessment Early Consultation Request for Proposed Kamole Weir Clearwell Reservoir, Haliimaile, Maui, Hawaii TMK 2-5-04:80 (Por.)

Thank you for your letter of April 7, 2004, requesting comments on the above subject.

We have reviewed the proposed summary and have enclosed our comments and recommendations. As always, thank you for giving us the opportunity to comment on this project.

Very truly yours,

Assistant Chief Sydney Kikuchi
for: Thomas M. Phillips
Chief of Police

Enclosure

c: Michael W. Foley, Dept. of Planning

COPY

TO : **THOMAS PHILLIPS, CHIEF OF POLICE, COUNTY OF MAUI**

VIA : **GEORGE FONTAINE, COMMANDER, WAILUKU PATROL DISTRICT**

FROM : **MITCHELL PELLAZAR, ADMINISTRATIVE SERGEANT, WAILUKU PATROL DISTRICT**

SUBJECT : **Environmental Assessment Early Consultation Request Kamaole Weir Clearwell Reservoir, Haliimaile, Maui, Hawaii (TMK 2-5-04:80 (Por.)**

This To-From is being submitted to the request for early consultation on the above-named project as an expansion of the current Department of Water Supply facility at Haliimaile.

Due to the joint cooperation of the Maui Police Department, Maui Fire Department, State Civil Defense, along with Maui Electric Company and the County of Maui Department of Water Supply, security assessments were conducted of the existing Department of Water Supply Reservoirs that were designated as "essential" for the County of Maui to operate. These site assessments were done in Nov. 2001 and re-assessed in Nov. 2003.

The current Haliimaile facility was determined to be one of several sites as "essential" however it was noted that there were security issues that needed to be addressed. It is therefore suggested that security of the support facility as well as the reservoir itself be considered and are listed below.

1. The placement of buildings in relation to the access roadways. The direction secondary doors face, as well as the placement of these doors on the building.

2. Roadway configured to limit the speed of vehicles entering into and within the facility to deter or eliminate a high speed crash of security gates or through building security doors.

3. The security for the reservoir itself should also try to eliminate or deter contaminants from being thrown, driven or propelled into the water supply, through landscaping (natural or man-made) and security fencing.

A security consultant can also be contacted to offer security measures against property damage (terrorist acts) to equipment and building facility.

Submitted for consideration.

Mitchell Pellazar E-8468
Administrative Sergeant - Wailuku Patrol
04/21/04 - 1000 hours

GOOD SUGGESTION

4/21/04

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Thomas M. Phillips, Chief
Department of Police
55 Mahalani Street
Wailuku, Hawaii 96793

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Chief Phillips:

Thank you for your comments of April 4, 2004 regarding the subject proposal. The Department of Water Supply (DWS) appreciates the coordination assistance provided in conducting security assessments for various DWS facilities.

With respect to the proposed Kamole Water Treatment Facility clearwell reservoirs, the DWS will take into consideration required security measures to ensure that security assessment objectives are achieved.

Your continued input to the design of the project will therefore be appreciated. A copy of the Draft Environmental Assessment will be provided to your office for review.

Thank you again for your comments.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara & Associates, Inc.
okahara/kamolewt/mpd.res

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04/2352

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

MILTON M. ARAKAWA, A.I.C.P.
Deputy Director

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

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division

June 28, 2004

MEMO TO: MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM: for GILBERT S. COLOMA-AGARAN, DIRECTOR OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT

SUBJECT: EARLY CONSULTATION
KAMOLE WEIR CLEARWELL RESERVOIR
TMK: (2) 2-5-004:080 (POR)

We reviewed the subject application and have the following comments:

1. Submit Solid Waste Management Plan for disposal/composting of cleared and grubbed material.

2. Describe the potential downstream impacts should there be a release of a large amount of water from this reservoir.

3. Comply with the requirements of Title 18 (Subdivision Ordinance) of the Maui County Code.

4. Comply with the requirements of Chapter 20.08 (Soil Erosion and Sedimentation Control) of the Maui County Code. Best Management Practices (BMP) shall be implemented to the maximum extent practicable to prevent pollutants including dust and sediment from discharging off the project site.

If you have any questions regarding this memorandum, please call Milton Arakawa at 270-7845.

GSCA:MA:sw
S:\LUCA\CZM\Draft Comments\25004080_Kamole_Weir_Clearwell_Reservoir_ec_bs.wpd

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

May 19, 2005

Gilbert Coloma-Agaran, Director
County of Maui
Department of Public Works and
Environmental Management
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Makawao, Maui, TMK (2) 2-5-004:039 (por.)

Dear Mr. Coloma-Agaran:

Thank you for your letter of June 28, 2004, responding to our request for early consultation comments for the proposed reservoir at TMK (2) 2-5-004:039 (por.), Makawao, Maui. In response to your comments we note the following:

1. We acknowledge the recommendation to submit a solid waste management plan for the disposal and composting of cleared and grubbed material.

2. The Draft Environmental Assessment (EA) will discuss provisions for release of water from the reservoir.

3. The project shall comply with the requirements of Title 18 of the Maui County Code.

4. The project shall also comply with the requirements of Chapter 20.08 of the Maui County Code. Best Management Practices shall be implemented to the maximum extent possible in order to minimize adverse construction impacts, such as dust and sediment discharge from the project site.

planning environment

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Thank you again for response. A copy of the Draft EA will be provided to your office for review and comment. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
okahara/kamolewt/dpwem.res

Chapter XI

Parties Consulted During the Preparation of the Final Environmental Assessment and Responses to Substantive Comments

XI. PARTIES CONSULTED DURING THE PREPARATION OF THE FINAL ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

A Draft Environmental Assessment for the proposed clearwell reservoir was filed and published in the Office of Environmental Quality Control's The Environmental Notice on June 23, 2005. During the 30-day public comment period, agencies were provided the opportunity to comment on the proposed action. This section incorporates the comments received during the 30-day comment period between June 23, 2005 and July 23, 2005. Responses to the substantive comments are also incorporated herein.

JUN 28 2005

United States Department of Agriculture

USDA

NRCS Natural Resources Conservation Service

Our People...Our Islands...In Harmony

210 Imi Kala Street, Suite #209, Wailuku, HI 96793-2100

June 27, 2005

Munekiyo & Hiraga Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793
Attention: Matthew Slepin

Regarding: Draft Environmental Assessment for the Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
TMK (2) 2-5-04:39(por.)

Dear Mr. Slepin,

Thank you for the opportunity to review the draft environmental assessment for the Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir. At this time, I have no comments or recommendations. If there are any questions, please feel free to call me at (808) 244-3100 extension 115

Sincerely,

Diana L. Perry
Civil Engineer

Cc: Ranae Ganske-Cerizo, District Conservationist, NRCS

AUG 0 1 2005

LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

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

OFFICE OF THE SUPERINTENDENT

July 29, 2005

Mr. Matthew Slepin
Munekiyo & Hiraga Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepin:

Subject: Draft Environmental Assessment for
Kamaole Weir Water Treatment Facility and Reservoir
Haliimaile, Maui, TMK: 2-5-04: por. 39

The Department of Education (DOE) has reviewed the Draft Environmental Assessment (DEA) for the County of Maui's proposal to build a new water reservoir.

The DOE has no comment on the DEA. If you have any questions, please call Rae Loui, Assistant Superintendent of the Office of Business Services, at 586-3444 or Heidi Meeker of the Facilities Development Branch at 733-4862.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:hy

cc: Rae Loui, Asst. Supt., OBS
Kenneth Nomura, CAS, Baldwin/Kekaulike/Maui Complex Area

MAY - - 2005

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
EMD/SDWB

May 9, 2005

Mr. Matthew Slepin, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepin:

SUBJECT: COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED KAMOLE WEIR WATER TREATMENT FACILITY CLEARWELL RESERVOIR, MARCH 2005

We have reviewed the Draft - Draft Environmental Assessment (EA) for the Kamole Weir Water Treatment Facility Clearwell Reservoir project, dated March 2005, as it pertains to the Drinking Water State Revolving Fund (DWSRF) requirements.

The Draft EA does adequately address the environmental review items that are required for DWSRF projects. This includes an appropriate review of the Federal Cross Cutters, consultation with applicable agencies, a notice in the document that federal monies may be used, and the completed DWSRF Environmental Assessment Checklist and Certification.

In any of the public notice documents that you may be issuing, including an announcement in the Office of Environmental Quality Control's, "The Environmental Notice," please remember to include a comment that federal funds may be used for this project.

Please send a copy of the Draft and Final Environmental Assessment and findings and determination to this office when completed

If you have any questions or comments, please contact Denise Dang of the Safe Drinking Water Branch, at 586-4258.

Sincerely,

WILLIAM WONG, P.E., CHIEF
Safe Drinking Water Branch
Environmental Management Division

DD:slm

c: 1. Mr. George Tengan, Maui DWS
2. Mr. Larry Winter, Maui DWS
3. Mr. Mark Yoshimura, Okahara & Associates
677 Ala Moana Boulevard, Suite 703
Honolulu, HI 96813
4. Wastewater Branch

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

September 8, 2005

William Wong, Chief
State of Hawaii
Department of Health
Safe Drinking Water Branch
919 Ala Moana Boulevard
Honolulu, Hawaii 96814

SUBJECT: Kamole Weir Clearwater Reservoir, Haliimaile, Maui, TMK (2)2-5-04:39(por.)

Dear Mr. Wong:

Thank you for your letter of May 9, 2005, providing comments on the Draft Environmental Assessment (EA) for the proposed reservoir at TMK (2) 2-5-04:39 (por.), Haliimaile, Maui. In response to your comments, we note that appropriate notice will be given concerning the possible use of federal funds for this project. We also note that a copy of the Draft EA was provided to your office for review and comment and a copy of the Final EA will also be provided to you.

Thank you again for your comments. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:lfm
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
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305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

JUL 18 2005

LINDA LINGLE
GOVERNOR OF HAWAII

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

LORRIN W. PANG, M. D., M. P.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2102

July 15, 2005

Mr. Matthew Slepin
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai'i 96793

Dear Mr. Slepin:

Subject: **Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir**
TMK: (2) 2-5-04:39 (por.)

Thank you for the opportunity to comment on the Draft Environmental Assessment for the proposed clearwell reservoir for the Department of Water Supply. We have no objections to the project provided all of the appropriate Department of Health permits are obtained.

Should you have any questions, please call me at 984-8230.

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

c: George Tengan

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

September 7, 2005

Herbert Matsubayashi, District Environmental
Health Program Chief
State of Hawaii
Department of Health
Maui District Health Office
54 High Street
Wailuku, Hawaii 96793

SUBJECT: Kamole Weir Clearwater Reservoir, Haliimaile, Maui
TMK (2) 2-5-04:39 (por.)

Dear Mr. Matsubayashi:

Thank you for your letter of July 15, 2005, providing comments on the Draft Environmental Assessment for the proposed reservoir at TMK (2) 2-5-04:39 (por.), Haliimaile, Maui. As may be required, applicable Department of Health permits will be secured.

Thank you again for your comments. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
F:\DATA\Okahara\KamoleWT\dohdea.res.wpd

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhinconline.com

planning environment government

AUG 0 2 2005

LINDA LINGLE
GOVERNOR

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.1830

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

July 27, 2005

Mr. Matthew Slepin
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepin:

Subject: Kamole Weir Water Treatment Facility Clearwell Reservoir
Draft Environmental Assessment (DEA)
TMK: (2) 2-5-04: 39 (por.)

In reply to the request from the Maui County Department of Water Supply for our review of the subject environmental assessment, this is to advise you that the project will not have an impact on our State highway facilities.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

c: George Y. Tengan, Department of Water Supply

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

July 21, 2005

Mr. George Tengan, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawaii 96793

Dear Mr. Tengan:

Subject: Draft Environmental Assessment for the Kamole Weir Water Treatment Facility Clearwell Reservoir, Maui

Thank you for the opportunity to review the subject document. We have the following comments.

1. Please identify and consult with the site landowner.

2. Please consult with nearby residents and community groups.

3. Please describe the impact of withdrawing more water to fill the much larger reservoir on the water levels of Wailoa Ditch and its feeder streams.

Should you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,

Genevieve Salmonson

Genevieve Salmonson
Director

c: Munekiyo and Hiraga

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

September 7, 2005

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

SUBJECT: Kamole Weir Clearwater Reservoir, Haliimaile, Maui
TMK (2) 2-5-04:39 (por.)

Dear Ms. Salmonson:

Thank you for your letter of July 21, 2005, providing comments on the Draft Environmental Assessment for the proposed reservoir at TMK (2) 2-5-04:39 (por.), Haliimaile, Maui. In response to your comments, we note the following:

1. The County of Maui, Department of Water Supply (applicant) is coordinating with the present landowner and has been authorized to pursue the proposed action. As discussed in the Draft Environmental Assessment (EA), the applicant intends to acquire and resubdivide the lands underneath the new clearwell reservoir.

2. The project site will be integrated with the existing Kamole Weir Water Treatment Facility, which is surrounded by pineapple fields in active use. There are no residences in the immediate vicinity. Further, the proposed project is considered an operational modification which would not affect water supply, resource or withdrawal parameters. In this context, community awareness through the Chapter 343, HRS process was deemed appropriate by the Department.

3. As discussed above, the proposed reservoir will not expand the facility's production of potable water nor will it withdraw more water from the ditches which feed it. The new reservoir will serve to increase chlorine contact capacity to better match the microfiltration system capacity of the water treatment process. There are thus no anticipated impacts to water levels or supply.

305 High Street, Suite 104 • Wailuku, Hawaii 96793 • ph: (808)244-2015 • fax: (808)244-8729 • planning@mhinconline.com

Thank you again for your comments. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
F:\DATA\Okahara\KamoleWT\oeqcdea.res.wpd

JUL 13 2005

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD05/1357B

July 11, 2005

Matthew Slepin
Munekiyo and Haraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

RE: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir, Hāli'imaile, Maui, TMK (2) 2-5-04:39 (por).

Dear Mr. Slepin,

The Office of Hawaiian Affairs (OHA) is in receipt of your June 20, 2005 request for comment on the above listed proposed project, TMK (2) 2-5-04:39 (por). OHA offers the following comments:

OHA recommends that an Archaeological Monitoring Plan be drafted in support of the proposed project. The plan can address the need for "on-site" and "on-call" monitoring as appropriate to mitigate the potential effect to native Hawaiian historic properties.

OHA also asks that native plants be incorporated into future landscaping plans to promote a native ecosystem.

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck at (808) 594-0239 or jessey@oha.org.

'O wau iho nō,

Clyde W. Nāmu'o
Administrator

CC: Thelma Shimaoka
OHA Community Affairs Coordinator (Maui)
140 Hoohana St., Ste. 206
Kahului, HI 96732

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

September 7, 2005

Clyde Namu`o, Administrator
State of Hawai`I
Office of Hawaiian Affairs
711 Kapi`olani Boulevard, Suite 104
Honolulu, Hawai`I 96813

SUBJECT: Kamole Weir Clearwater Reservoir, Hali`imaile, Maui, TMK (2)2-5-04:39(por.)

Dear Mr. Namu`o:

Thank you for your letter of July 11, 2005, providing comments on the Draft Environmental Assessment for the proposed reservoir at TMK (2) 2-5-04:39 (por.), Haliimaile, Maui. In response to your comments, we note the following:

1. An archaeological monitoring plan will be prepared for ground-altering activities associated with the new clearwell. This plan will be submitted to the State Historic Preservation Division for approval.

2. There are no landscaping plans associated with the proposed project.

3. Should any cultural or traditional deposits be uncovered during project implementation, all ground-altering activities will be halted and the appropriate agencies contacted.

Thank you again for your comments. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:lfm
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
F:\DATA\Okahara\KamoleWTV\OHAdea res.wpd

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

March 3, 2005

Mr. Erik Fredericksen
Xamanek Researches
P.O. Box 880131
Pukalani, Hawai'i 96788

LOG NO: 2005.0399
DOC NO: 0502MK04

Dear Mr. Fredericksen:

SUBJECT: **Historic Preservation Review - 6E-42 - Archaeological Assessment Report Prepared for the County of Maui Department of Water Supply Environmental Assessment Early Consultation Request for the Proposed Kamole Weir Clearwater Reservoir [County/DWS] Hamakuapoko Ahupua'a, Makawao District, Island of Maui TMK (2) 2-5-04: Por. 80**

Thank you for the opportunity to review this report which our staff received on December 3, 2004 (Fredericksen 2004, *An Archaeological Assessment Report for a Portion of Land in Hali'imalie, Hamakuapoko Ahupua'a, Makawao District, Island of Maui [TMK 2-5-04: Portion of 80]*...Xamanek Researches ms). We have previously provided comments on this project.

The background section acceptably establishes the Ahupua'a settlement pattern and predicts the likely site pattern in the project area. The historical information provided summarizes the history of the post-contact period land uses. The summary of previous archaeological work in the area provides a baseline for the current work.

The survey has adequately covered the project area documenting no historic properties on the 2 acre parcel. Subsurface testing (12 shovel tests) were also negative for evidence of cultural deposits and were utilized to sample the stratigraphy on the parcel. The tests excavated to a depth of between 38 and 80 cmbs at which point bedrock was encountered. One polished adze fragment was identified within the previously disturbed plow zone on the parcel. The Hamakua Ditch and several components of the ditch system are located on adjacent parcels.

We concur with the mitigation recommendation that precautionary archaeological monitoring is warranted. Although no subsurface cultural deposits were encountered, the presence of the indigenous artifact indicates of traditional Hawaiian use of the area in the pre-contact era. The scope of this monitoring program should be developed in consultation with SHPD, as it remains to be determined the extent to which monitoring will be necessary. We anticipate discussions regarding this scope.

We find this report to be acceptable. As always, if you disagree with our comments or have questions, please contact Dr. Melissa Kirkendall (Maui/Lana'i SHPD 243-5169) as soon as possible to resolve these concerns.

Aloha,

Nathan Napoka

for MELANIE A. CHINEN
State Historic Preservation Division

MK:jen

c: Bert Ratte, DPWEM, County of Maui
Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Maui Cultural Resources Commission, Dept. of Plng, 250 S. High St, Wailuku, HI 96793

DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

JUL 01 2005

ALAN M. ARAKAWA
Mayor

ALICE L. LEE
Director

HERMAN T. ANDAYA
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165

June 27, 2005

Mr. Matthew Slepin, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepin:

SUBJECT: PROPOSED KAMAOLE WEIR WATER TREATMENT FACILITY CLEARWELL RESERVOIR
TMK: (2) 2-5-04:039 (POR.)

We have reviewed the draft Environmental Assessment for the subject project and have no comment to offer.

Thank you for the opportunity to comment. We are returning the draft Environmental Assessment for your use.

Very truly yours,

ALICE L. LEE
Director

ETO:hs

Enclosure

c: Housing Administrator

JUN 29 2005

ALAN M. ARAKAWA
Mayor

GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

(808) 270-7230
Fax (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2 , Wailuku, Hawaii 96793

June 24, 2005

Mr. Matthew Slepin
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepin:

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
TMK (2)2-5-04:39(por.)

We have reviewed the Draft Environmental Assessment (EA) and have no comments or objections at this time.

Thank you for the opportunity to review and comment. Should you have an questions, please feel free to contact Mr. Patrick Matsui, Chief of Planning and Development at 270-7387.

Sincerely,

GLENN T. CORREA
Director

c: George Y. Tengan, Director of Department of Water Supply
Mark Yoshimura, Okahara & Associates, Inc.
Patrick Matsui, Chief of Planning and Development

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

AUG 0 1 2005

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 28, 2005

Mr. Matt Slepin
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepin:

RE: Draft Environmental Assessment for the Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir located at TMK: 2-5-004: 039 (portion), Haliimaile, Island of Maui, Hawaii (LTR 2005/1744)

The Maui Planning Department (Department) is submitting these comments on the Draft Environmental Assessment (EA) for the proposed Kamole Weir Water Treatment Facility Clearwell Reservoir located at TMK: 2-5-004: 039 (portion), Haliimaile, Island of Maui, Hawaii.

The proposed action includes the replacement of the existing 0.3 million gallon clearwell reservoir at the Kamole Weir Water Treatment Facility (WTF) with one, divided 6.0 million gallon reservoir, constructed in two (2) phases. Further, the proposed action includes the future subdivision and acquisition of the new reservoir site and construction of corollary structures (i.e., fencing around the tanks, and a perimeter road).

The Department provides the following comments:

1. To expand on the preconsultation comments of the Fire Department, discuss the types and quantities of regulated, hazardous, and/or toxic substances that will be stored on the property for processing/treatment activities. Discuss management procedures to mitigate any potential releases of these substances to the surrounding environment.

2. Provide further discussion as to the impacts to down gradient properties should a large release of water occur from the site.

Although the 30-day public comment period has expired, the Department respectfully requests the foregoing comments be addressed in the Final EA. Should you require further clarification, please contact Ms. Kivette Caigoy, Environmental Planner, at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar
c: Wayne Boteilho, Deputy Planning Director
Kivette Caigoy, Environmental Planner
DWS
OEQC
TMK File
General File
K:\WP_DOCS\PLANNING\EA\DEAComments\2005\1744_KamoleWeirWaterFacility.wpd

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

September 7, 2005

Michael W. Foley, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

SUBJECT: Kamole Weir Clearwater Reservoir, Haliimaile, Maui
TMK (2) 2-5-04:39 (por.)

Dear Mr. Foley:

Thank you for your letter of July 11, 2005, providing comments on the Draft Environmental Assessment for the proposed reservoir at TMK (2) 2-5-04:39 (por.), Haliimaile, Maui. In response to your comments we note the following:

1. The Kamole Weir Water Treatment Facility (WTF) uses chlorine in the treatment process to produce potable water. The chlorine is stored in cylinders with approximately 2,500 pounds on site at any one time. It should be noted that neither the amount of chlorine stored nor that is used at the WTF will be affected by the proposed new clearwell. The Department of Water Supply maintains an emergency response plan in case of chlorine accidents.

2. There should be no large or sudden release of water from the tank. The only water that will be released during operations will be from the overflow line or from draining of the tank. These releases should be very small. The tank drain will mainly be used to drain any water remaining from the cleaning of the tank. The other release from the drain line will be from the draining of the potable water in the tank to allow for the cleaning of the tank. This release will be minimal because the water level in the tank will be allowed to drop down to a very low level before switching to the other half of the tank, at which point the remaining water will be drained. There should not be any release from the overflow line. In the unlikely event of a malfunction of the level sensors in the tank, water released from the tank will be directed through a drain line to the East Maui Irrigation/HC&S, CRM lined ditch on the southwest side of the treatment plant to be returned to the agricultural irrigation system. Through this mitigative measure, impacts to properties down gradient of the treatment plant will be

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prevented. We note that there has never been an unexpected release of water from the existing clearwell.

Thank you again for your comments. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
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ALAN M. ARAKAWA
Mayor

MILTON M. ARAKAWA, A.I.C.P.
Director

MICHAEL M. MIYAMOTO
Deputy Director

RALPH M. NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT
DEVELOPMENT SERVICES ADMINISTRATION
250 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

August 1, 2005

Mr. Matthew Slepin
MUNEKIYO & HIRAGA, INC.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: DRAFT ENVIRONMENTAL IMPACT STATEMENT
PROPOSED KAMOLE WEIR SATER TREATMENT FACILITY
CLEARWELL
TMK (2) 2-5-004:039

Dear Mr. Slepin:

We reviewed the subject application and have no comments to offer at this time.

Please call Michael Miyamoto at 270-7845 if you have any questions regarding this letter.

Sincerely,

Milton M. Arakawa, A.I.C.P.
Director of Public Works
and Environmental Management

da S:\LUCA\CZM\Kamole Weir_Wtr_Trtmt_Fac_25004039_da.wpd

JUL 25 2005

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
YOUR REFERENCE ti

POLICE DEPARTMENT
COUNTY OF MAUI

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

July 19, 2005

Mr. Matthew Slepin
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Slepin:

SUBJECT: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
TMK (2) 2-5-04:39 (por.)

We have received a request dated June 20, 2005, from the County of Maui, Water Department on the above subject.

After reviewing the information submitted for this project, we have enclosed our comments and recommendations. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

Acting Assistant Chief Milton Matsuoka
for: Thomas M. Phillips
Chief of Police

c: Michael Foley, Planning Department
George Tengan, Water Department

Enclosure

COPY

TO : THOMAS PHILLIPS, CHIEF OF POLICE, COUNTY OF MAUI

VIA : JAMES BELL, ACTING CAPTAIN, WAILUKU PATROL

FROM : MITCHELL PELLAZAR, SERGEANT, WAILUKU PATROL

SUBJECT : PROPOSED KAMOLE WEIR WATER TREATMENT FACILITY
CLEARWELL RESERVOIR = TMK (2) 2-5-04:39(POR.)

This To-From is being submitted in regards to comments on the above-mentioned project.

Due to the isolated location of the project within a actively harvested Pineapple Field in the Haliimaile area, traffic impact should be minimal. Traffic is not anticipated to be adversely affected on Baldwin Avenue or Haliimaile Road during the construction phase or once the project is completed.

In review of comments that I submitted on report dated: 04/21/04

To clarify on my comments, some of the items mentioned on my report may not be able to be rectified without great expense. The intent of the comments was submitted for future planning considerations for security purposes on the property as well as on future building projects.

1. "The placement of buildings in relation to the access roadways. The direction secondary doors face, as well as the placement of these doors on the building."

It would be impossible to move the buildings, however reconfiguring the Main entry point into the site my improve the security of the facility. It was noted on some of the buildings that secondary entrances could not be seen by other employees on the property. Making these doorways ideal places for break-in's It is understood that some of these doors are intended as fire-escape, however the security of the building needs to also be kept in mind.

2. "Roadway configured to limit the speed of vehicles entering into the facility and within the facility to deter high speed crashes of the security gates or through building security doors.

The strategic placement of barriers (i.e "jersey barriers", concrete or poles) to create a "S"-turn type driveway into the property to limit or reduce the speed of any vehicle entering the property. This would deter or prevent any high speed crashes of the security gates or into the buildings itself.

3. "The security for the reservoir itself should also try and eliminate or deter contaminates from being thrown, driven or propelled into the water supply, through landscaping (natural or man-made) and security fencing.

Again, the strategic placement of natural and man-made landscaping around the perimeter of the facility to deter or prevent a breech in security or from any type of toxic contaminates from being introduced into the water supply by being thrown, driven or propelled.

A reputable security company that has previous experience with building and water or electrical power plant security or military locations, and not just electrical alarm systems, should be consulted for ideas to address the above issues for this location or for future building projects.

Submitted for your perusal.

Sgt. Mitchell Pellazar E-8468
Wailuku Patrol - Administrative Sergeant
07/19/05 - 0900 hours

THIS SERVES AS CLARIFICATION FOR THE PURPOSE OF PLANNING CONSIDERATIONS FOR SECURITY PURPOSES ONLY. SERGEANT PELLAZAR'S OBSERVATIONS AND ASSESSMENTS ARE THOSE SHARED BY OTHERS IN THE LAW ENFORCEMENT AND SECURITY PROFESSION. I SUGGEST THAT THIS MEMORANDUM BE SAVED AND UTILIZED ~~FOR~~ AS FUTURE REFERENCE IN PLANNING.

A/CAPT [illegible] EBI
7/19/05 AT 0920 HOURS.

MOTINEE A/C [illegible]
07/19/05

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

September 7, 2005

Thomas Philips, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

SUBJECT: Kamole Weir Clearwater Reservoir, Haliimaile, Maui,
TMK (2) 2-5-04:39 (por.)

Dear Chief Philips:

Thank you for your letter of July 19, 2005, providing comments on the Draft Environmental Assessment for the proposed reservoir at TMK (2) 2-5-04:39 (por.), Haliimaile, Maui. We acknowledge your clarification that your earlier comments, dated April 4, 2004, were offered for future planning purposes and appreciate the suggestions. We note that the new reservoir will be secured by two (2) fences.

Thank you again for your comments. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
F:\DATA\Okahara\KamoleWT\mpddea.res.wpd

305 High Street, Suite 104 · Wailuku, Hawaii 96793 · ph: (808)244-2015 · fax: (808)244-8729 · planning@mhinconline.com

Maui Electric Company, Ltd. • 210 West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461

JUL 07 2005

July 5, 2005

Mr. Matthew Slepin
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepin,

Subject: Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir –
Draft Environmental Assessment
Haliimaile, Makawao District, Maui, Hawaii
TMK: (2) 2-5-004:039

Thank you for allowing us to comment on the documents for the subject project, which was received on June 22, 2005.

In reviewing our records and the information received, Maui Electric Company (MECO) has no objections to the proposed project at this time. However, we encourage the owner's electrical consultant to meet with us as soon as practical or submit drawings to confirm the project's new electrical demand requirements and evaluate the impact on our existing facilities.

If you have any questions or concerns, please call Ray Okazaki at 871-2340.

Sincerely,

Neal Shinyama
Manager, Engineering

NS/ro:lh

cc: George Tengan, Director – Department of Water Supply

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO

September 7, 2005

Neal Shinyama, Manager – Engineering
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawaii 96733

SUBJECT: Kamole Weir Clearwater Reservoir, Haliimaile, Maui
TMK (2) 2-5-04:39 (por.)

Dear Mr. Shinyama:

Thank you for your letter of July 5, 2005, providing comments on the Draft Environmental Assessment for the proposed reservoir at TMK (2) 2-5-04:39 (por.), Haliimaile, Maui. While the new clearwell is not anticipated to place significant new demands upon the electrical system, early design coordination will be initiated with MECO to ensure that electrical systems are properly planned and implemented.

Thank you again for your comments. Please feel free to contact me at 244-2015 should you have any questions.

Very truly yours,

Matthew Slepin, Planner

MS:tn
cc: Larry Winter, Department of Water Supply
Mark Yoshimura, Okahara and Associates
F:\DATA\Okahara\KamoleWT\mecodea.res.wpd

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References

References

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Appendices

Appendix A

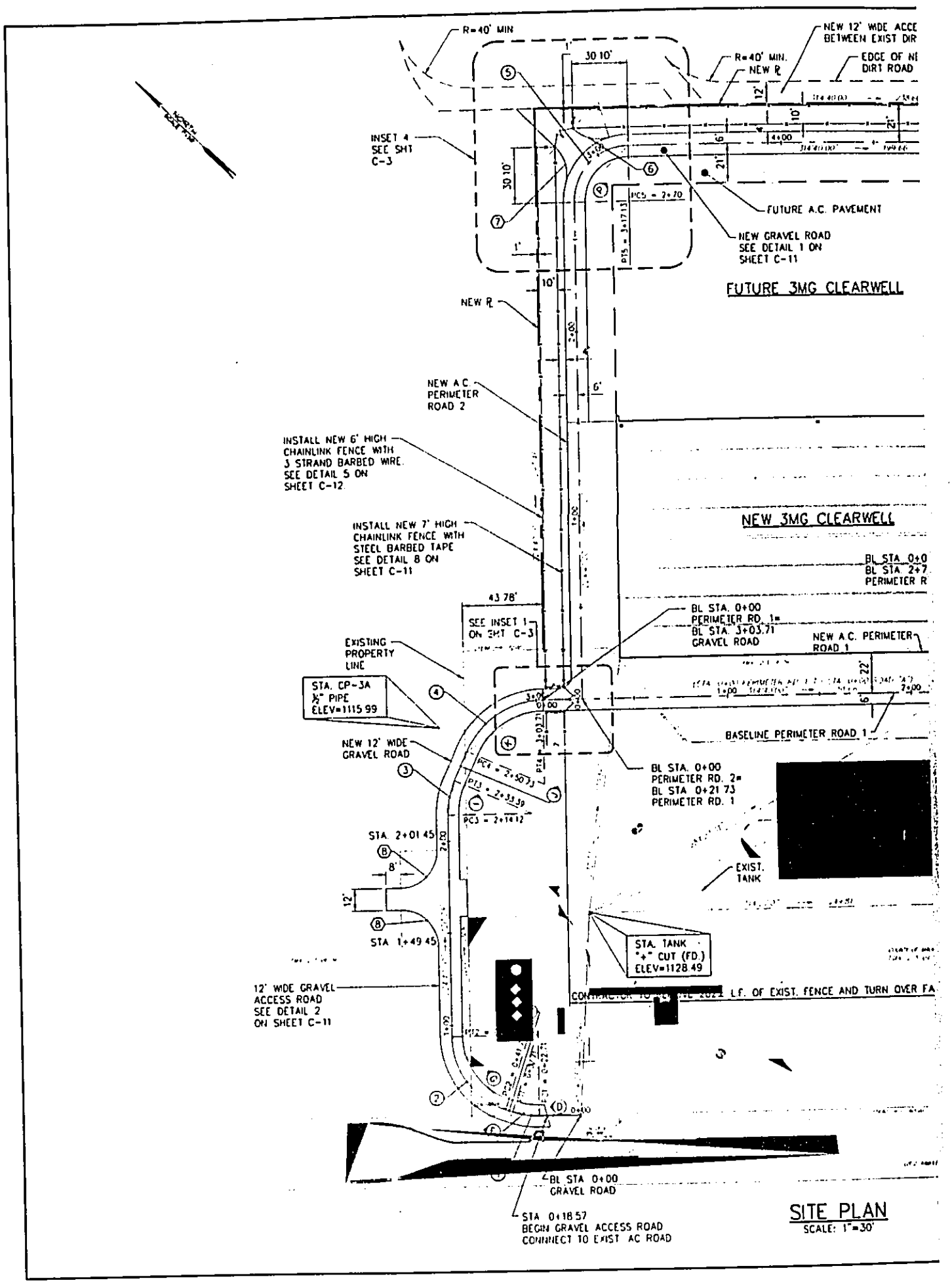
Site Photographs

Proposed Site for New CWR

Existing Kamole WTF with
Proposed CWR Site to Left

Appendix B

Preliminary Development Plans


R=40' MIN
30 10'
INSET 4
SEE SHT
C-3
NEW R
NEW A.C.
PERIMETER
ROAD 2
INSTALL NEW 6' HIGH
CHAINLINK FENCE WITH
3 STRAND BARBED WIRE.
SEE DETAIL 5 ON
SHEET C-12.
INSTALL NEW 7' HIGH
CHAINLINK FENCE WITH
STEEL BARBED TAPE
SEE DETAIL 8 ON
SHEET C-11
43 78'
SEE INSET 1
ON SHT C-3
EXISTING
PROPERTY
LINE
STA. CP-3A
½" PIPE
ELEV=1115 99
NEW 12' WIDE
GRAVEL ROAD
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STA 1+49 45
12' WIDE GRAVEL
ACCESS ROAD
SEE DETAIL 2
ON SHEET C-11
R=40' MIN.
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BETWEEN EXIST DIR
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DIRT ROAD
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NEW GRAVEL ROAD
SEE DETAIL 1 ON
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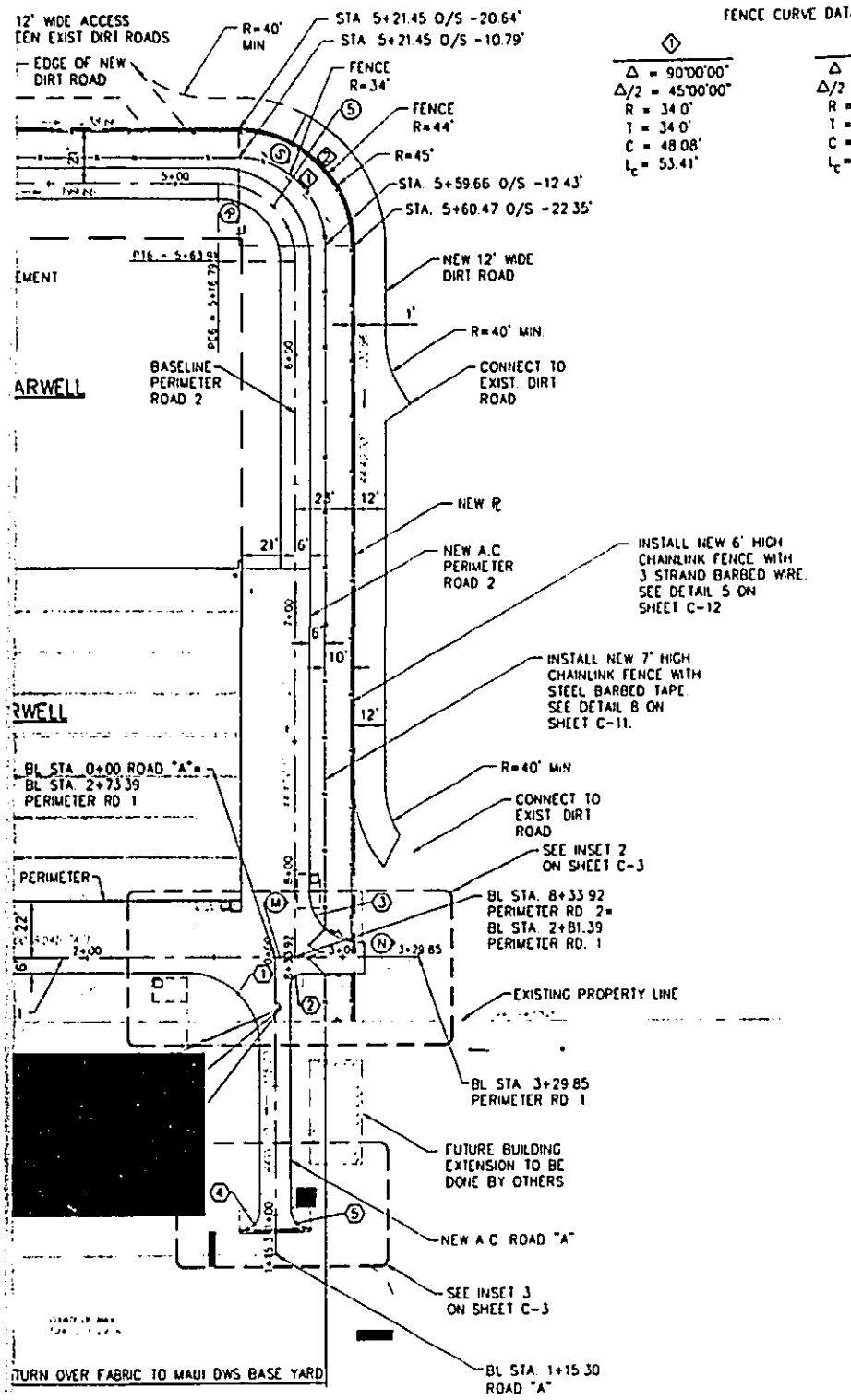
BL STA. 3+03.71
GRAVEL ROAD
NEW A.C. PERIMETER
ROAD 1
BASELINE PERIMETER ROAD 1
BL STA. 0+00
PERIMETER RD. 2=
BL STA. 0+21 73
PERIMETER RD. 1
EXIST.
TANK
STA. TANK
"+" CUT (FD.)
ELEV=1128 49
L.F. OF EXIST. FENCE AND TURN OVER FA
BL STA 0+00
GRAVEL ROAD
STA 0+18 57
BEGIN GRAVEL ACCESS ROAD
CONNECT TO EXIST AC ROAD
SITE PLAN
SCALE: 1"=30'



FENCE CURVE DATA

①	②
Δ = 90°00'00"	Δ = 90°00'00"
Δ/2 = 45°00'00"	Δ/2 = 45°00'00"
R = 34.0'	R = 44.0'
T = 34.0'	T = 44.0'
C = 48.08'	C = 62.23"
L_c = 53.41'	L_c = 69.12'

℄ CURVE DATA

○	Δ	Δ/2	R	T	C	L_c
1	18°40'36"	9°20'18"	46.0'	7.56'	14.93'	14.99'
2	71°19'24"	35°39'42"	42.0'	30.14'	48.97'	52.28'
3	24°00'00"	12°00'00"	46.0'	9.78'	19.13'	19.27'
4	66°00'00"	33°00'00"	46.0'	29.87'	50.11'	52.99'
5	90°00'00"	45°00'00"	30.0'	30.0'	42.43'	47.12'

EDGE OF PAVEMENT GRAVEL RETURN CURVE DATA

○	Δ	Δ/2	R	T	C	L_c
1	90°00'00"	45°00'00"	28.0'	28.0'	39.60'	43.98'
2	90°00'00"	45°00'00"	5.0'	5.0'	7.07'	7.85'
3	90°00'00"	45°00'00"	20.0'	20.0'	28.28'	31.42'
4	88°37'32"	44°18'46"	8.0'	7.81'	11.18'	12.37'
5	91°22'28"	45°41'14"	8.0'	8.19'	11.45'	12.76'
6	62°38'50"	31°19'25"	20.0'	12.17'	20.79'	21.87'
7	61°10'28"	30°35'14"	20.0'	11.82'	20.35'	21.35'
8	90°00'00"	45°00'00"	20.0'	20.0'	28.28'	31.42'

LINE DATA

○	AZIMUTH	DISTANCE
D	134°33'23"	22.79'
E	144°13'15"	14.86'
F	153°20'36"	4.05'
G	189°00'18"	48.97'
I	236°40'00"	19.13'
J	248°40'00"	17.34'
K	281°40'00"	50.11'
M	314°40'00"	8.0'
N	314°40'00"	48.46'
P	269°40'00"	42.43'
R	359°40'00"	42.43'
S	359°40'00"	63.64'

LEGEND

- EXISTING CRM CHANNEL
- NEW A.C PAVEMENT
- NEW GRAVEL ACCESS ROAD
- NEW DIRT ROAD
- NEW PROPERTY LINE
- EXISTING PROPERTY LINE
- CHAINLINK FENCE
- BOLLARD

APPROVED

MARK T. YOSHIMURA LICENSED PROFESSIONAL ENGINEER No. 6419-C HAWAII, U.S.A.

EXP. DATE APR 2006

REVISIONS

OKAHARA & ASSOCIATES, INC.
ENGINEERING CONSULTANTS

DEPARTMENT OF WATER SUPPLY
MAUI COUNTY
WAILUKU, MAUI, HAWAII

KAMOLE WEIR WTF CLEARWELL STORAGE TANK REPLACEMENT

SITE PLAN

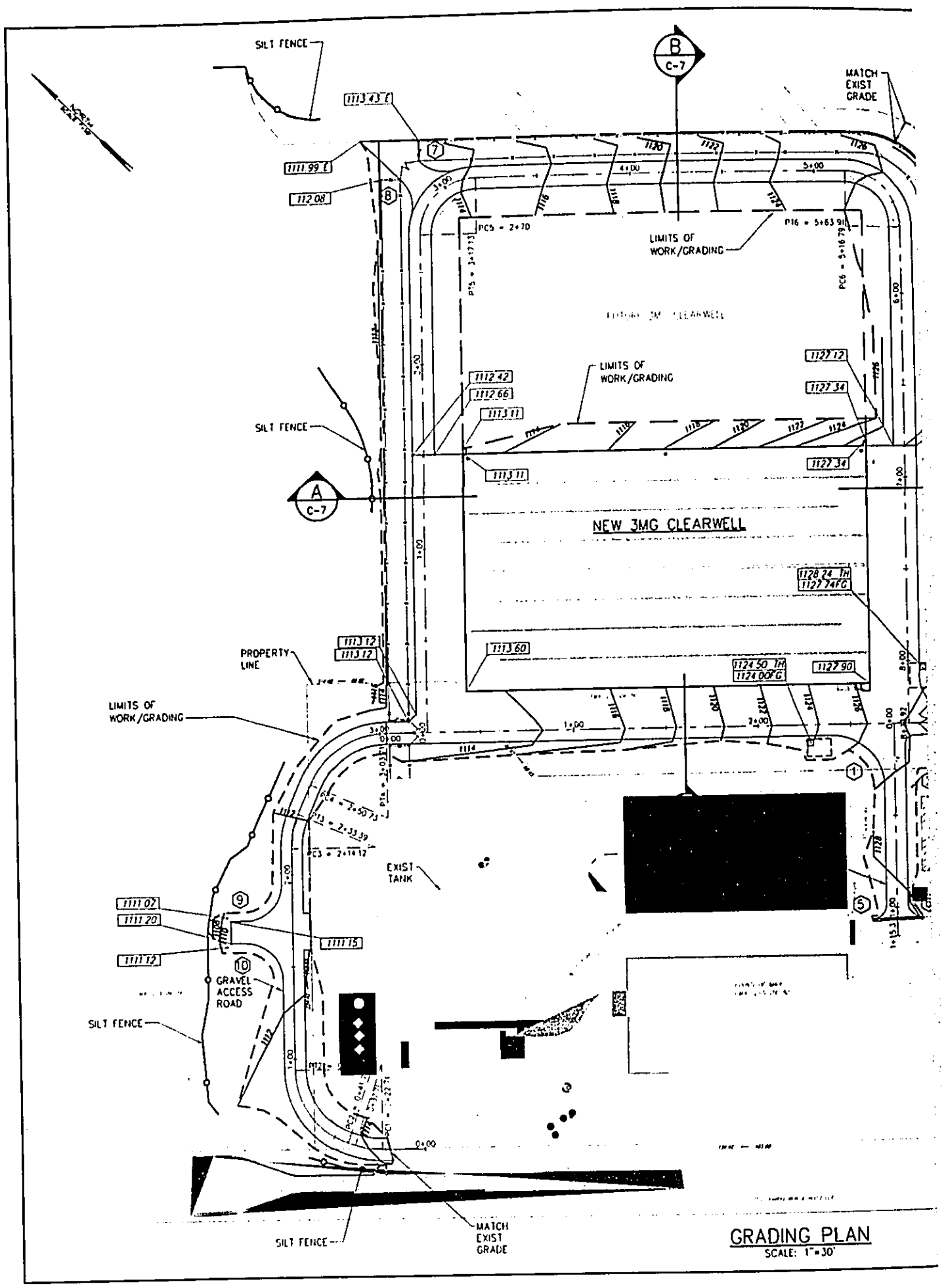
C-2

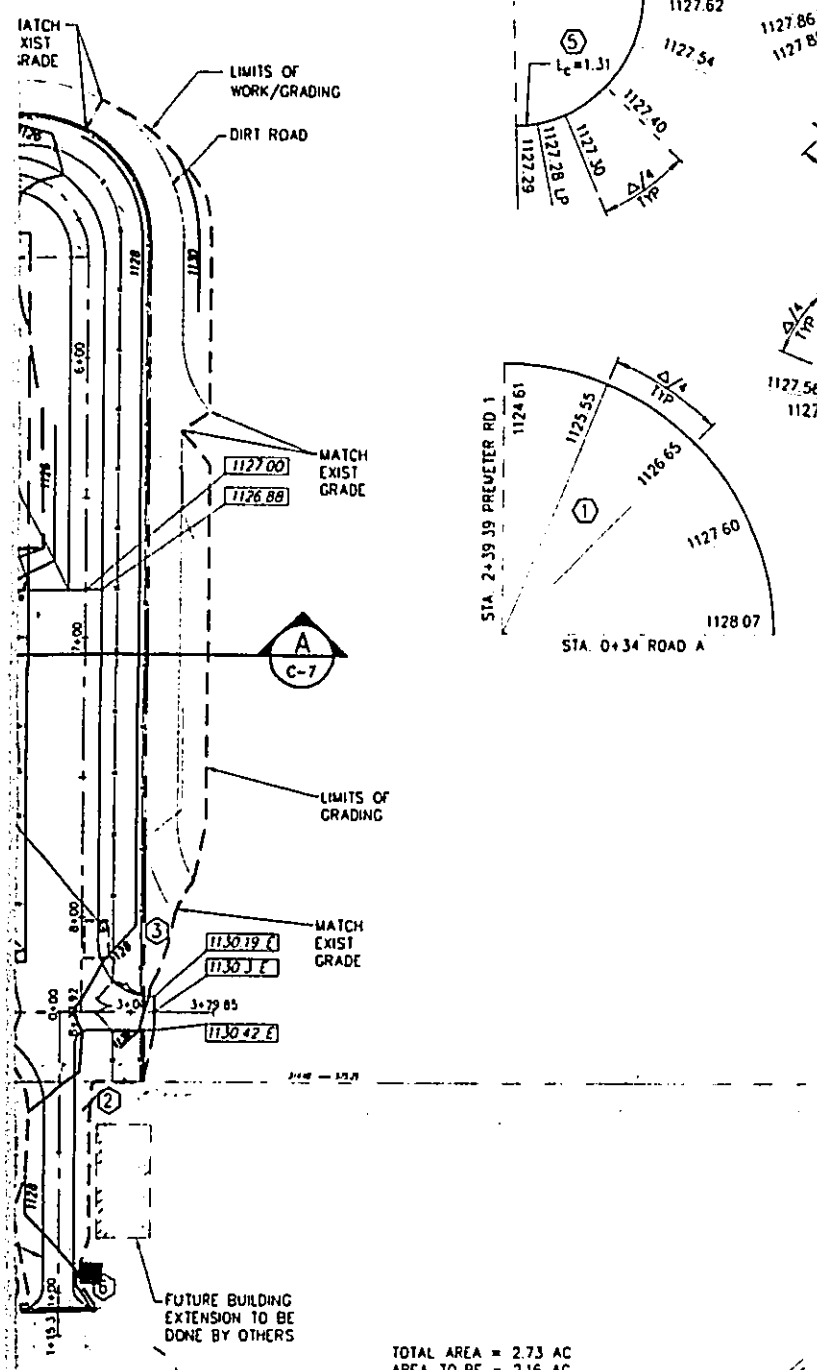
APPROVED

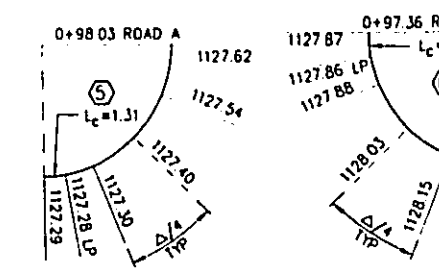
JOB NO 03-10

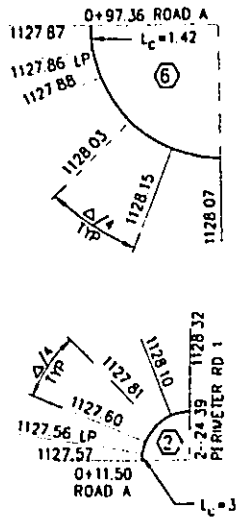
DATE MARCH 1, 2005

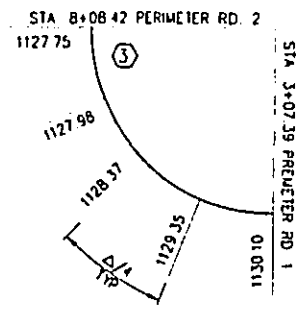
SHEET 1 OF __ SHEETS

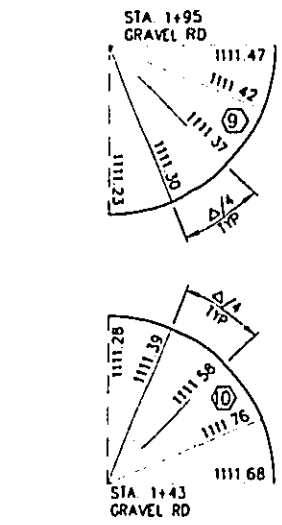

SILT FENCE
1113.43 E
1111.99 E
112.08
MATCH EXIST GRADE
LIMITS OF WORK/GRADING
PC5 = 2+70
PT5 = 3+17.73
PC6 = 5+10.79
PI6 = 5+63.91
1112.42
1112.66
1113.11
SILT FENCE
LIMITS OF WORK/GRADING
1127.72
1127.34
1127.34
NEW 3MG CLEARWELL
1128.24 TH
1127.74 FG
1127.90
1113.60
1124.50 TH
1124.00 FG
PROPERTY LINE
1113.12
1113.12
LIMITS OF WORK/GRADING
EXIST TANK
1111.02
1111.20
1111.12
1111.15
GRAVEL ACCESS ROAD
SILT FENCE
SILT FENCE
MATCH EXIST GRADE
GRADING PLAN
SCALE: 1"=30'

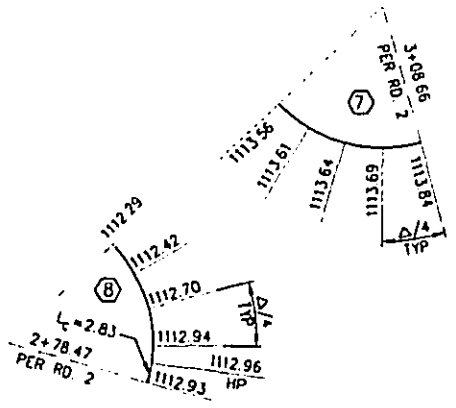












EDGE OF PAVEMENT/GRAVEL RETURN GRADES

LEGEND

E	EXISTING
FG	FINISH GRADE
TH	TOP HATCH
1113	PROPOSED CONTOUR
1113.27	PROPOSED FINISH GRADE SPOT ELEVATION
	EXISTING CONTOUR
	EXISTING SPOT ELEVATION
	SILT FENCE
	LIMITS OF GRADING

TOTAL AREA = 2.73 AC
AREA TO BE = 2.16 AC

GRADED
CUT = 5,702 CY
FILL = 1,028 CY

GRAPHIC SCALE: 1" = 30'

APPROVED

MARK T. YOSHIMURA LICENSED PROFESSIONAL ENGINEER No. 6419-C HAWAII, U.S.A.

EXP. DATE APR 2006

REVISIONS

OKAHARA & ASSOCIATES, INC.
ENGINEERING CONSULTANTS

DEPARTMENT OF WATER SUPPLY
MAUI COUNTY
WAILUKU, MAUI HAWAII

KAMOLE WEIR WTF CLEARWELL STORAGE TANK REPLACEMENT

GRADING PLAN

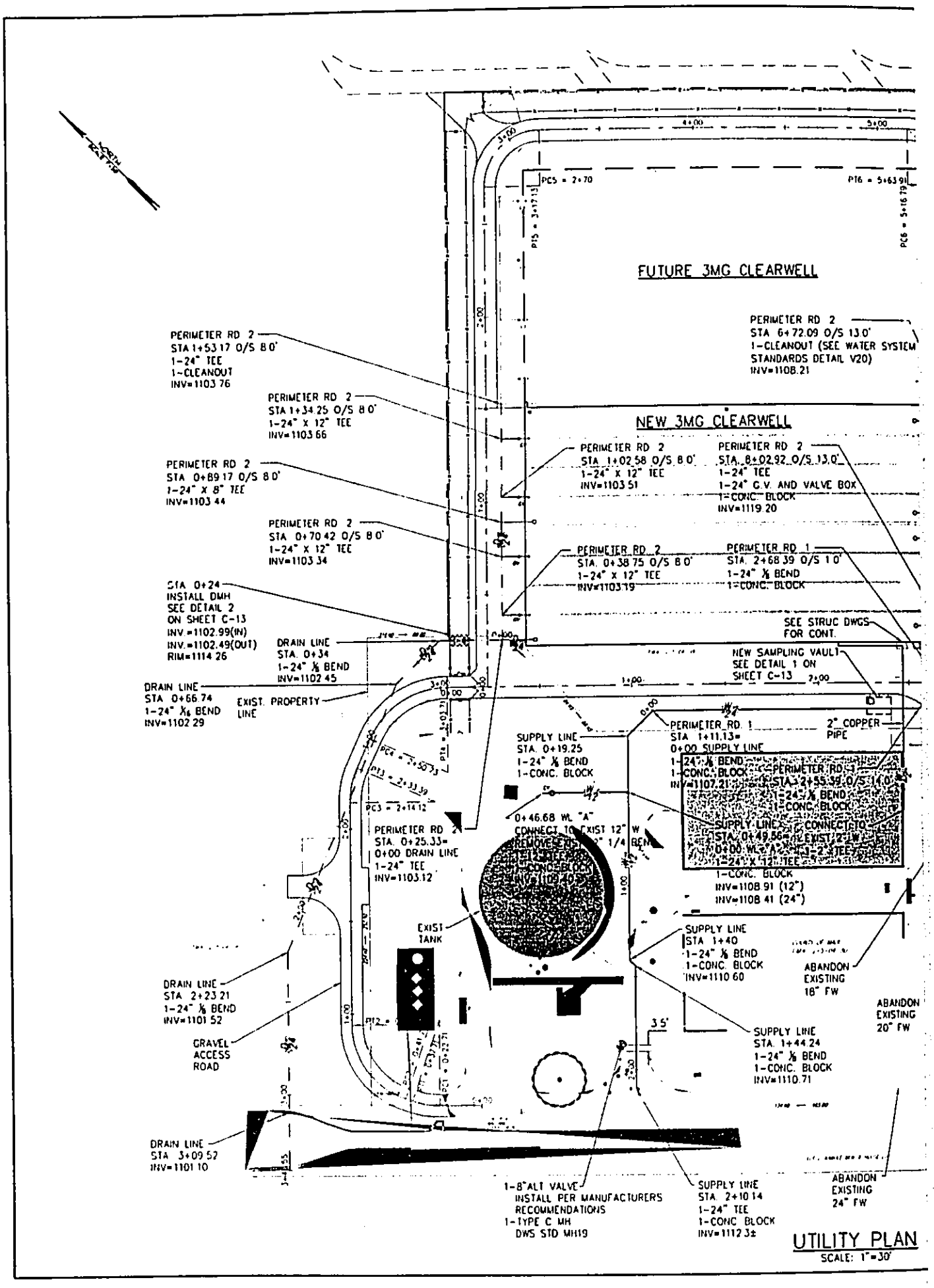
C-4

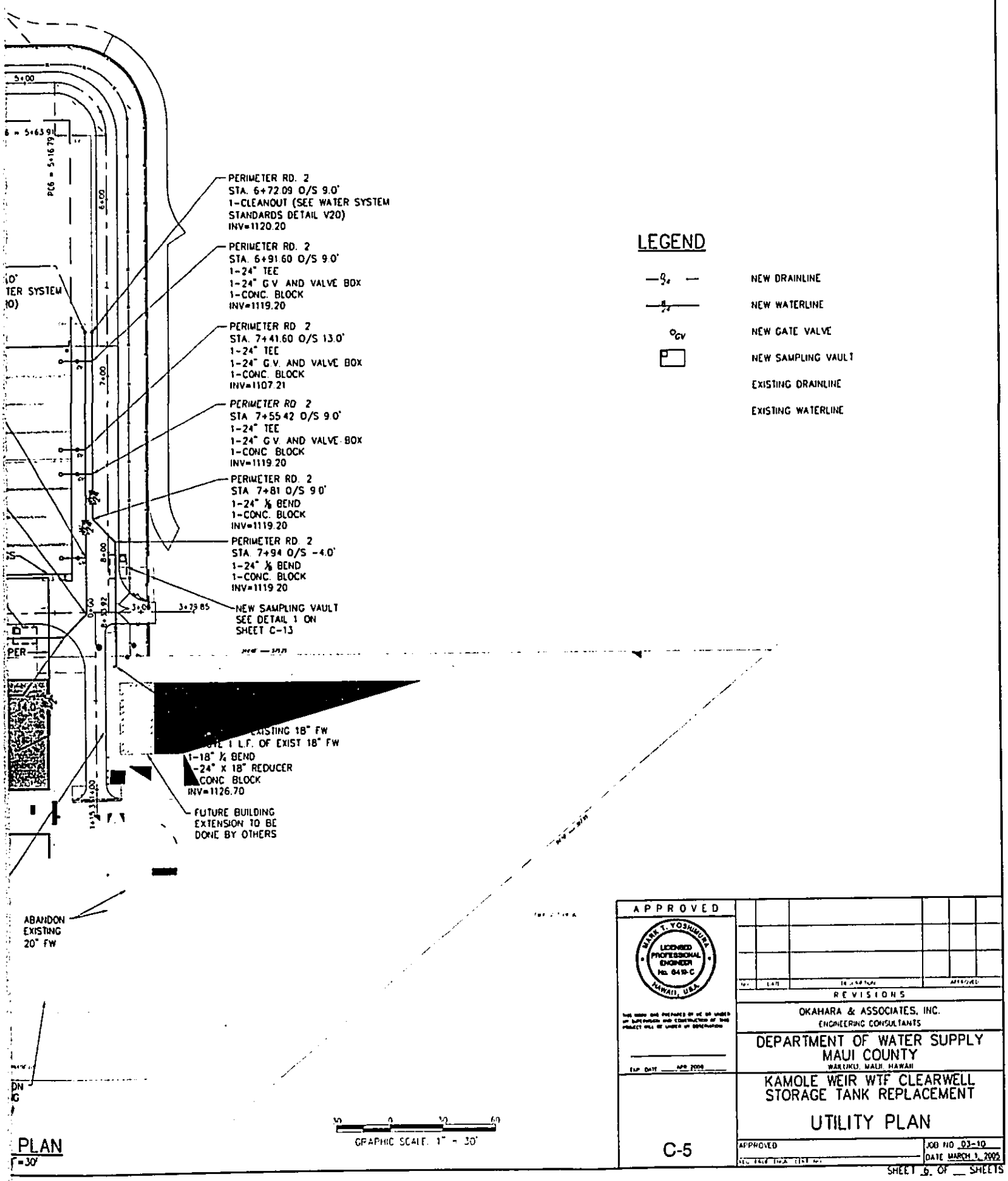
APPROVED

JOB NO. 03-10

DATE MARCH 1, 2005

SHEET 5 OF __ SHEETS


FUTURE 3MG CLEARWELL
NEW 3MG CLEARWELL
PERIMETER RD 2
STA 1+53 17 O/S 8 0'
1-24" TEE
1-CLEANOUT
INV=1103 76
PERIMETER RD 2
STA 1+34 25 O/S 8 0'
1-24" X 12" TEE
INV=1103 66
PERIMETER RD 2
STA 0+89 17 O/S 8 0'
1-24" X 8" TEE
INV=1103 44
PERIMETER RD 2
STA 0+70 42 O/S 8 0'
1-24" X 12" TEE
INV=1103 34
STA 0+24
INSTALL DMH
SEE DETAIL 2
ON SHEET C-13
INV.=1102.99(IN)
INV.=1102.49(OUT)
RIM=1114 26
DRAIN LINE
STA 0+66.74
1-24" ⅛ BEND
INV=1102 29
EXIST. PROPERTY LINE
DRAIN LINE
STA. 0+34
1-24" ⅛ BEND
INV=1102 45
PERIMETER RD 2
STA 6+72.09 O/S 13.0'
1-CLEANOUT (SEE WATER SYSTEM STANDARDS DETAIL V20)
INV=1108.21
PERIMETER RD 2
STA 1+02.58 O/S 8.0'
1-24" X 12" TEE
INV=1103 51
PERIMETER RD 2
STA. 8+02.92 O/S 13.0'
1-24" TEE
1-24" G.V. AND VALVE BOX
1-CONC. BLOCK
INV=1119.20
PERIMETER RD 2
STA. 0+38 75 O/S 8.0'
1-24" X 12" TEE
INV=1103.19
PERIMETER RD 1
STA. 2+68 39 O/S 1.0'
1-24" ⅛ BEND
1-CONC. BLOCK
SEE STRUC DWGS FOR CONT.
NEW SAMPLING VAULT
SEE DETAIL 1 ON
SHEET C-13
SUPPLY LINE
STA. 0+19.25
1-24" ⅛ BEND
1-CONC. BLOCK
PERIMETER RD 1
STA 1+11.13=
0+00 SUPPLY LINE
1-24" ⅛ BEND
1-CONC. BLOCK
INV=1107.21
2" COPPER PIPE
PERIMETER RD 1
STA. 2+55.99 O/S 14.0'
1-24" ⅛ BEND
1-CONC. BLOCK
SUPPLY LINE
STA. 0+49.56=
0+00 W.L. "A"
1-24" X 12" TEE
1-CONC. BLOCK
INV=1108.91 (12")
INV=1108.41 (24")
CONNECT TO EXIST 2" W
EXIST 2" W
PERIMETER RD 2
STA. 0+25.33=
0+00 DRAIN LINE
1-24" TEE
INV=1103.12
0+46.68 W.L. "A"
CONNECT TO EXIST 12" W
REMOVE EXIST 12" ⅛ BEND
EXIST TANK
CONC. BLOCK
INV=1109.40
EXIST TANK
SUPPLY LINE
STA 1+40
1-24" ⅛ BEND
1-CONC. BLOCK
INV=1110 60
ABANDON EXISTING 18" FW
ABANDON EXISTING 20" FW
SUPPLY LINE
STA. 1+44.24
1-24" ⅛ BEND
1-CONC. BLOCK
INV=1110.71
DRAIN LINE
STA 2+23 21
1-24" ⅛ BEND
INV=1101 52
GRAVEL ACCESS ROAD
DRAIN LINE
STA 3+09 52
INV=1101 10
1-8" ALT VALVE
INSTALL PER MANUFACTURERS RECOMMENDATIONS
1-TYPE C MH
DWS STD MH19
SUPPLY LINE
STA. 2+10 14
1-24" TEE
1-CONC BLOCK
INV=1112 3±
ABANDON EXISTING 24" FW
UTILITY PLAN
SCALE: 1"=30'



APPROVED

MARK T. YOSHIMURA
LICENSED PROFESSIONAL ENGINEER
No. 6419-C
HAWAII, U.S.A.

EXP. DATE APR. 2006

NO.	DATE	REVISIONS	APPROVED

OKAHARA & ASSOCIATES, INC.
ENGINEERING CONSULTANTS

DEPARTMENT OF WATER SUPPLY
MAUI COUNTY
WAILUKU, MAUI, HAWAII

KAMOLE WEIR WTF CLEARWELL STORAGE TANK REPLACEMENT

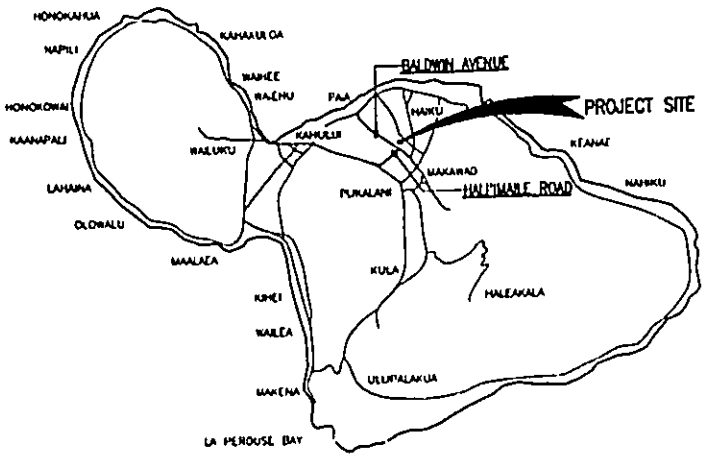
UTILITY PLAN

C-5

APPROVED

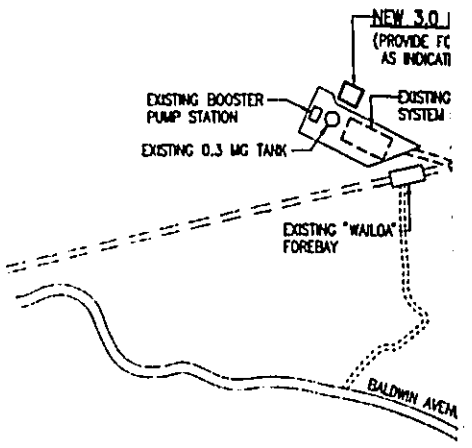
JOB NO. 03-10
DATE MARCH 1, 2005

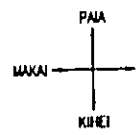
SHEET 6 OF __ SHEETS



NORTH

ISLAND OF MAUI





ELECTRICAL PLAN – LOCATION

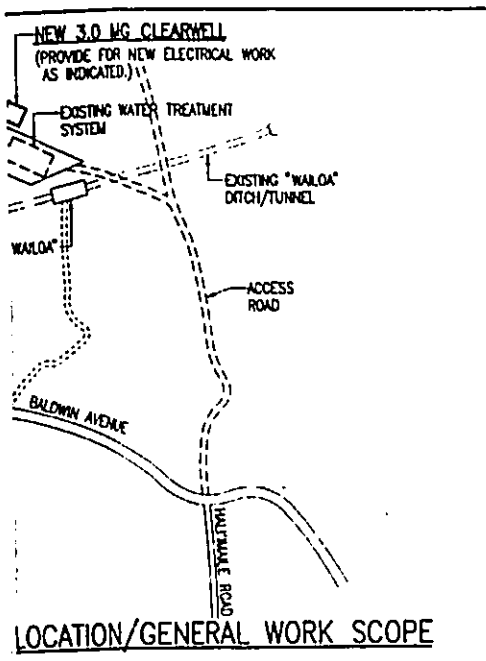
NOT TO SCALE

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
ADJ	ADJUSTABLE
__AF	AMPERE FRAME
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ALM	ALARM
AM	AMMETER OR AMPLITUDE MODULATION
ANN	ANNUNCIATOR
AS	AMMETER SWITCH
__AT	AMPERE TRIP
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
AT	AMPERE TRANSDUCER
AFF	ABOVE FINISH FLOOR
BOF	BOTTOM OF FIXTURE
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
CMBRVSTR	COMBINATION REDUCED - VOLTAGE STARTER
CMBSTR	COMBINATION STARTER
CO	CONDUIT ONLY
COMM	COMMUNICATIONS
CPT	CONTROL POWER TRANSFORMER
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CU	COPPER
CV	CONTROL VALVE
CMU	CONCRETE MASONRY UNIT
D	DEEP
DC	DIRECT CURRENT
DIST	DISTRIBUTION
(E)	EXISTING
E, ELEC	ELECTRIC, ELECTRICAL
EF	EXHAUST FAN
EL	ELEVATION, EVENING LIGHTS
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EO	ELECTRICALLY OPERATED
EP	ELECTRICAL PRIMARY
EQPT	EQUIPMENT
ES	ELECTRICAL SECONDARY
ESPB	EMERGENCY STOP PUSH BUTTON
ETM	ELAPSED TIME METER
FBO	FURNISHED BY OWNER OR OTHERS
FLA	FULL LOAD AMPERES
FLUOR	FLUORESCENT
FMC	FLEXIBLE METAL CONDUIT
FREQ	FREQUENCY
FS	FLOW SWITCH
FSK	FREQUENCY SHIFT KEYING
FSS	FUSED SAFETY SWITCH
FLS	FLOAT SWITCH
G, GND	GROUND
GFIC	GROUND FAULT INTERRUPTING CAPABILITY
H	HORIZONTAL OR HIGH
HPF	HIGH POWER FACTORY
HZ	HERTZ
HDGAF	HOT DIPPED GALVANIZED AFTER FABRICATION
IBC	INSTALLED BY CONTRACTOR
IBO	INSTALLED BY OWNER OR OTHERS
IL	INDICATING LIGHT
INTLK	INTERLOCK
IG	ISOLATED GROUND
JBX	JUNCTION BOX
KV	KILO-VOLT
KVA	KILO-VOLT AMPERE
KW	KILO-WATT
KWH	KILO-WATT HOUR
L	LIGHTS, LIGHTING, LONG, LENGTH
LOCTR	LOADCENTER
LOC	LOCAL
LOR	LOCK-OUT RELAY.
LPU	LINE PROTECTION UNIT
LTFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LS	LIMIT SWITCH
MA	MILLIAMPERE
MAN	MANUAL
MCM	THOUSAND CIRCULAR MILS
MECO	MAUI ELECTRIC COMPANY
MO	MANUALLY OPERATED
MPR	MOTOR PROTECTION RELAY
N	NEUTRAL
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFSS	NON-FUSED SAFETY SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHTS
N.O.	NORMALLY OPEN
NP	NAMEPLATE
OH	OVERHEAD
OL	OVERLOAD
OV	OVERVOLTAGE
PB	PUSHBUTTON
PBS	PUSHBUTTON STATION
PBX	PULLBOX
PCC	PULL CORD CONTROLLED
PF	POWER FACTOR
PFFB	PROVISIONS FOR FUTURE BREAKER
PH	PHASE
PM	POWER MONITOR
PNL	PANEL
PNLBD	PANELBOARD
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
R	RECEPTACLE
RCDR	RECORDER
RCVR	RECEIVER
RMC	RIGID METAL CONDUIT (STEEL)
RNMC	RIGID NON-METALLIC CONDUIT (SCH 40 PVC UNLESS OTHERWISE INDICATED)
RPR	REVERSE POWER RELAY
RP/SPR	REVERSE PHASE/SINGLE PHASE RELAY
RVM	RECORDING VOLTMETER
RVSTR	REDUCED-VOLTAGE STARTER
RMS	ROOT-MEAN-SQUARED
RTU	REMOTE TERMINAL UNIT
RH	RHEOSTAT
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SF	SUPPLY FAN
SS	SELECTOR SWITCH
STR	STARTER
SV	SOLENOID VALVE
SYM	SYMMETRICAL
SYN	SYNCHRONIZE, SYNCHRO SCOPE
SD	SERVICE DROP
STP	SHIELDED TWISTED PAIR
T, TEL	TELEPHONE
TACH	TACHOMETER
TB	TERMINAL BOARD
TCADE	TELEPHONE CABLE ABOVE GROUND EXPOSED
TCAE	TELEPHONE CABLE ABOVE GROUND ENCLOSED
TD	TIME DELAY
TOADE	TELEPHONE OUTLET ABOVE GROUND EXPOSED
TOAE	TELEPHONE OUTLET ABOVE GROUND ENCLOSED
TRCVR	TRANSCEIVER
TS	TEMPERATURE SWITCH
TXMTR	TRANSMITTER
(TYP)	TYPICAL
THK	THICK
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
U/C	UNDERCOUNTER
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UPS	UNINTERRUPTIBLE POWER SUPPLY
UV	UNDERVOLTAGE
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
VARHM	VAR-HOUR METER
VARM	VAR METER
VART	VAR TRANSDUCER
VM	VOLTMETER
VMR	VOLTMETER RECTIFIER
VS	VOLTMETER SWITCH
VT	VOLTAGE TRANSFORMER
W	WATT
WH	WATT-HOUR
WHM	WATT-HOUR METER
WM	WATTMETER
WP	WEATHERPROOF
WT	WATT TRANSDUCER
_W.x_H.x_L.	WIREWAY
XDUCER	TRANSDUCER
XFMR	TRANSFORMER
XMTR	TRANSMITTER

CONDUCTOR COLOR CODE:

BK	BLACK	Y	YELLOW
W	WHITE	BR	BROWN
R	RED	PK	PINK
G	GREEN	GY	GRAY
O	ORANGE	PU	PURPLE
BL	BLUE	BK1	BLACK



LOCATION/GENERAL WORK SCOPE

TB	TERMINAL BLOCK
TCADE	TIME CLOSING AFTER DE-ENERGIZATION
TCAE	TIME CLOSING AFTER ENERGIZATION
TD	TIME DELAY
TOADE	TIME OPENING AFTER DE-ENERGIZATION
TOAE	TIME OPENING AFTER ENERGIZATION
TRCVR	TONE RECEIVER
TS	TEMPERATURE SWITCH
TXMTR	TONE TRANSMITTER
(TYP)	TYPICAL
THK	THICK
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
U/C	UNDER COUNTER
UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORIES, INC.
UPS	UNINTERRUPTIBLE POWER SUPPLY
UV	UNDERVOLTAGE
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS, VERTICAL
VARHM	VAR-HOUR METER
VARM	VAR METER
VART	VAR TRANSDUCER
VM	VOLTMETER
VMR	VOLTAGE MONITORING RELAY
VS	VOLTMETER SWITCH
VT	VOLT TRANSDUCER
W	WIRE(S), WIDE, WATTS
WH	WEATHERHEAD
WHM	WATT-HOUR METER
WM	WATT METER
WP	WEATHERPROOF
WT	WATT TRANSDUCER
W.xH.xL.	W.=WIDE, H.=HIGH, L.=LONG OR LENGTH
XDUCER	TRANSDUCER
XFMR	TRANSFORMER
XMTR	TRANSMITTER

COLOR CODE:

Y	YELLOW
BR	BROWN
PK	PINK
GY	GRAY
PU	PURPLE
BK1	BLACK-ONE

ELECTRICAL PLAN SYMBOLS

- ◇ • – EQUIPMENT AS IDENTIFIED
- PANELBOARD OR LOADCENTER AS IDENTIFIED
- MOTOR CONTROLLER – COMBINATION OR STARTER ONLY AS IDENTIFIED
- DISCONNECT SWITCH, FUSED OR NON-FUSED AS IDENTIFIED
- T – TRANSFORMER
- UNDERGROUND SERVICE DUCTLINE. REFER DETAIL INDICATOR WHERE SHOWN
- EMBEDDED CONDUIT, BELOW FLOOR SLAB, EXTERIOR FINAL GRADE
- EXPOSED CONDUIT, WHERE USED, HASH LINES INDICATE QTY OF WIRES
- FLEXIBLE METAL CONDUIT, LIQUIDTIGHT WHERE REQUIRED OR INDICATED
- A1 – CIRCUITING INDICATOR. HASH LINES = QTY. OF CONDUCTORS, A-PNLBD, 1-CIR. NO., (HOMERUN/HOMERUN GROUPINGS ARRANGED BY CONTRACTOR)
- * (Z) – CIRCUIT INDICATOR, Z = CIRCUIT DATA, * = CIRCUIT NUMBER
- * 2"C. – CIRCUIT SCHEDULE INDICATOR, 2"C. = CONDUIT SIZE, * = CIRCUIT NUMBER
- WIRING AND ELECTRICAL ITEMS AS IDENTIFIED TO *BE DISCONNECTED/REMOVED/RELOCATED AS* INDICATED
- —ET,ED,ES,T,V,SD— UTILITY LINES, OVERHEAD, AS IDENTIFIED, ET – ELECTRIC TRANSMISSION, ED – ELECTRIC DISTRIBUTION, ES – ELECTRIC SECONDARY, T – TELEPHONE, V – CATV, SD – SERVICE DROP
- UTILITY POLE
- 3 WALL; FLOOR; CEILING – DUPLEX RECEPTACLE OUTLET, 125 VOLT, SINGLE PHASE (3 = PANELBOARD CIRCUIT NUMBER)
- SPECIAL USE RECEPTACLE OUTLET, RATING AND USE AS INDICATED.
- S_a S_2 S_3 S_4 – LIGHTING SWITCH OUTLET (a = CONTROLLED LIGHTING FIXTURE(S)). S-SINGLE POLE, S2-DOUBLE POLE SINGLE THROW, S3-SINGLE POLE DOUBLE THROW, S4-DOUBLE POLE DOUBLE THROW
- $(*)_{3a}$ – LIGHTING FIXTURE/OUTLETS, CEILING MOUNTED, INCANDESCENT, FLUORESCENT, OR HID, SURFACE OR RECESSED AS INDICATED. (a = SWITCH IDENT., 3 = CIR. NO.) (* = TYPE IDENT BY NUMBER)
- (*) – LIGHTING FIXTURE/OUTLET, CEILING MOUNTED, FLUORESCENT, EXPOSED LAMP (* = TYPE IDENT BY NUMBER)
- (*) – LIGHTING FIXTURE/OUTLET, CEILING MOUNTED, FLUORESCENT, ENCLOSED LAMP, SURFACE OR RECESSED, AS INDICATED. (* = TYPE IDENT BY NUMBER)
- TELEPHONE OUTLET, PER ONE-LINE DIAGRAM
- J* – EQUIPMENT OR OTHER ELECTRICAL CONNECTION AS INDICATED
- M – MOTOR CONNECTION
- □* – CONTROL DEVICE OR ITEM CONNECTION AS IDENTIFIED

GENERAL NOTES:

1. ALL ELECTRICAL ITEMS INDICATED ON THE DRAWINGS ARE NEW AND SHALL BE PROVIDED BY THE CONTRACTOR UNLESS INDICATED AS "EXISTING", OR AS OTHERWISE NOTED.
2. ALL CONDUIT ROUTINGS AND EQUIPMENT LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL ROUTE, LOCATE CONDUITS, AND MOUNT EQUIPMENTS TO SUIT FIELD CONDITIONS, AVOIDING INTERFERENCES WITH ELECTRICAL EQUIPMENT, PIPING, STRUCTURAL STEEL, AND OTHER BUILDING ELEMENTS AND ELECTRICAL ITEMS.
3. CONTRACTOR SHALL INDICATE THE FINAL CONDUIT ROUTINGS AND EQUIPMENT LOCATIONS ON THE "AS-BUILT" DRAWINGS WHERE THEY DIFFER FROM THAT SHOWN ON THE DRAWINGS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO INSURE THE INSTALLATION OF ALL WORK WITHIN THE AVAILABLE SPACE.
5. CONTRACTOR SHALL CHECK AND MAINTAIN ORIGINAL PHASE ROTATION AND PHASE RELATIONSHIPS ON ALL CIRCUITS.
6. CONTRACTOR SHALL INVESTIGATE AND TONE AREA BEFORE DIGGING OR EXCAVATING.
7. ALL ELECTRICAL EQUIPMENT SHALL BE NEW AND WARRANTED BY THE MANUFACTURER.
8. EXISTING CONDITIONS, MATERIALS, SIZES, LOCATIONS, AND DIMENSIONS SHOWN ON THESE DRAWINGS REPRESENT THE BEST AVAILABLE INFORMATION OBTAINED FROM EXISTING DRAWINGS AND FIELD INVESTIGATION. PRIOR TO ORDERING MATERIALS AND EQUIPMENT, THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, MATERIALS, SIZES, LOCATIONS, AND DIMENSIONS THAT AFFECT THE WORK OF THIS PROJECT. NOTIFY THE ENGINEER OF ALL QUESTIONS IN WRITING AND RESOLVE ALL CONTRACTOR'S QUESTIONS AND CONCERNS PRIOR TO PROCUREMENT AND BEFORE START OF CONSTRUCTION.
9. ALL ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, AND FEDERAL, STATE, AND COUNTY GOVERNMENT STANDARDS, REGULATIONS, AND ORDINANCES.
10. EXISTING UNDERGROUND WATER, SEWER, DRAINAGE, GAS, ETC. LINES ARE NOT INDICATED OR KNOWN. CONTRACTOR SHALL PROVIDE FOR THE REQUIRED MAN-HOURS TO INVESTIGATE AND TONE ALL AFFECTED AREAS PRIOR TO DIGGING OR EXCAVATING. CONTRACTOR SHALL PROVIDE ALL NECESSARY MEANS TO LOCATE ALL EXISTING BURIED ITEMS INTERFERING WITH NEW WORK. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED BURIED ITEM TO THE SATISFACTION AND ACCEPTANCE OF THE ENGINEER. TOPOGRAPHIC SURVEY NOT USED OR AVAILABLE TO INDICATE ABOVE GROUND FEATURES SUCH AS FENCES, SHRUBS, BUSHES, TREES, PLANTS ETC. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE WORKING CONDITIONS AND PROVIDE THE REQUIRED MAN-HOURS TO REMOVE AND REPLACE AND/OR REPAIR ANY AND ALL EXISTING ABOVE GROUND FEATURES AFFECTED BY THE NEW WORK. REPLACEMENT/REPAIR SHALL MATCH EXISTING CONDITIONS AND SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER.
11. ALL EXPOSED CONDUITS AND FITTINGS, AND METAL PORTIONS OF EQUIPMENT ENCLOSURE SHALL BE FIELD PAINTED FOR CORROSION PROTECTION.
12. ALL EQUIPMENT SHALL BE PROPERLY MOUNTED, ANCHORED, AND SUPPORTED BY APPROVED METHODS FOR SEISMIC RESTRAINT OF 1.0G FORCES.
13. ALL RACEWAYS/CONDUITS CROSSING EXPANSION JOINTS SHALL HAVE APPROVED TYPE FITTINGS AS REQUIRED FOR THE APPLICATION.

DEFINITIONS

PROVIDE – FURNISH AND INSTALL.
REPLACE – REMOVE AND PROVIDE NEW.
RELOCATE – DISCONNECT, REMOVE, STORE, RE-INSTALL, RE-CONNECT, AND PLACE INTO CORRECT OPERATION ALL WITHOUT CAUSING ANY DAMAGE TO AFFECTED ITEMS.
WIRING – ALL CONDUITS, RACEWAYS, CONDUCTORS, FITTINGS, PULLBOXES, JUNCTION BOXES, OUTLET BOXES, DEVICES, AND OTHER MATERIALS OR ITEMS AS NECESSARY FOR A COMPLETED AND OPERATIONAL ELECTRICAL CIRCUIT OR SYSTEM; OR THAT WHICH COMPRISES AN ELECTRICAL CIRCUIT OR SYSTEM.
OUTLET – IN ADDITION TO DEFINITION IN THE NEC, OUTLET SHALL MEAN THE REQUIRED OUTLET BOXES, CONDUCTORS, TERMINATIONS, WIRING DEVICES, AND COVER PLATES, TO PROVIDE FOR THE INTENDED USE, APPLICATION, OR UTILIZATION EQUIPMENT.

PROPRIETARY NOTE

APPROVED

WALLACE T. OKI – LICENSED PROFESSIONAL ENGINEER 3538-E – HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

NO	DATE	DESCRIPTION	APPROVED

REVISIONS

OKAHARA & ASSOCIATES, INC.
ENGINEERING CONSULTANTS

DEPARTMENT OF WATER SUPPLY
MAUI COUNTY
KAHULUI, MAUI, HAWAII

KAMOLE WEIR WTF CLEARWELL STORAGE TANK REPLACEMENT

ELECTRICAL PLAN – LOCATION/GENERAL WORK SCOPE

E-1

APPROVED
W.O. AND ENGR. CERT NO.

JOB NO. 03-10
DATE: 7-28-2004

SHEET __ OF __ SHEETS

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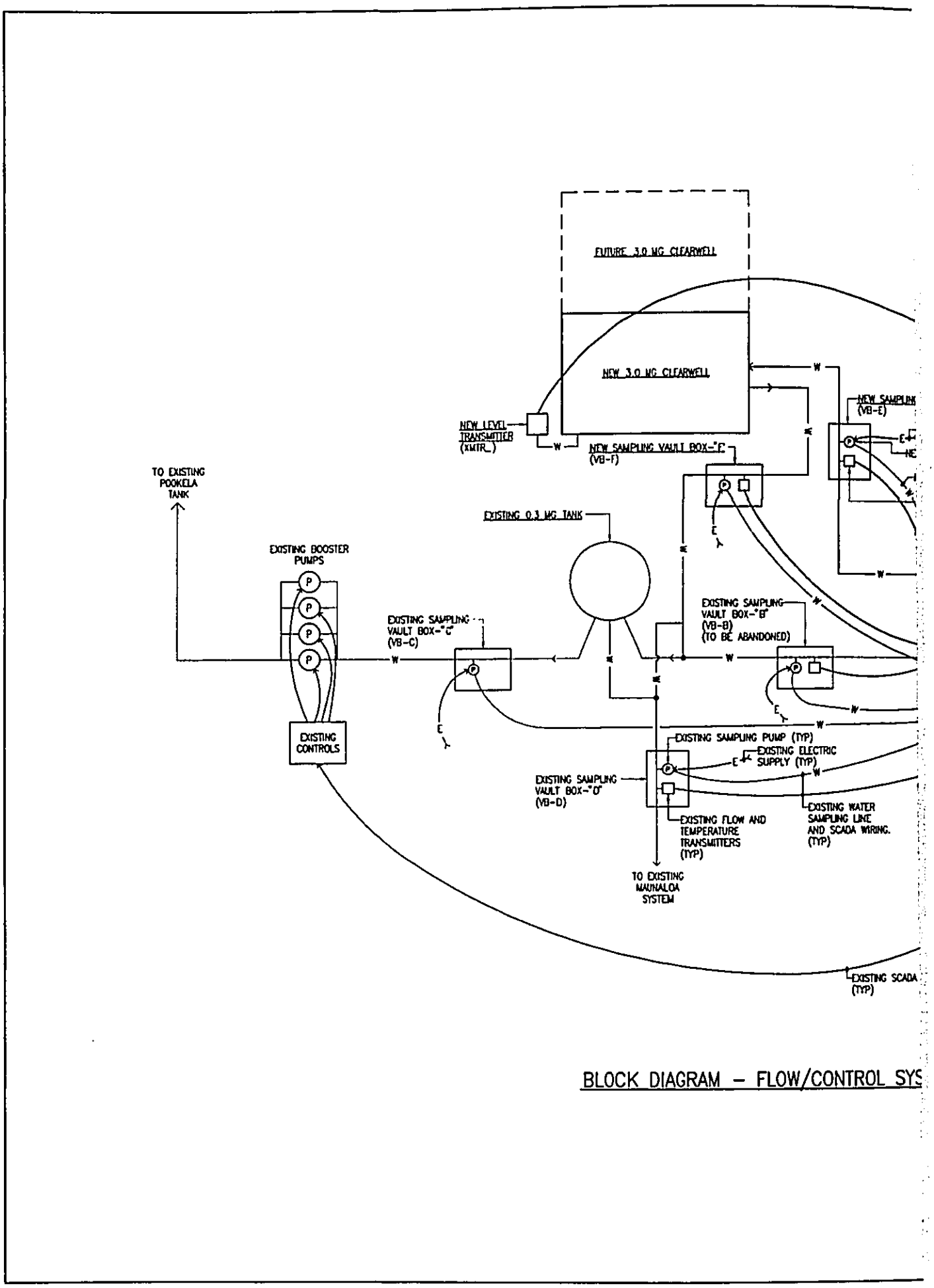
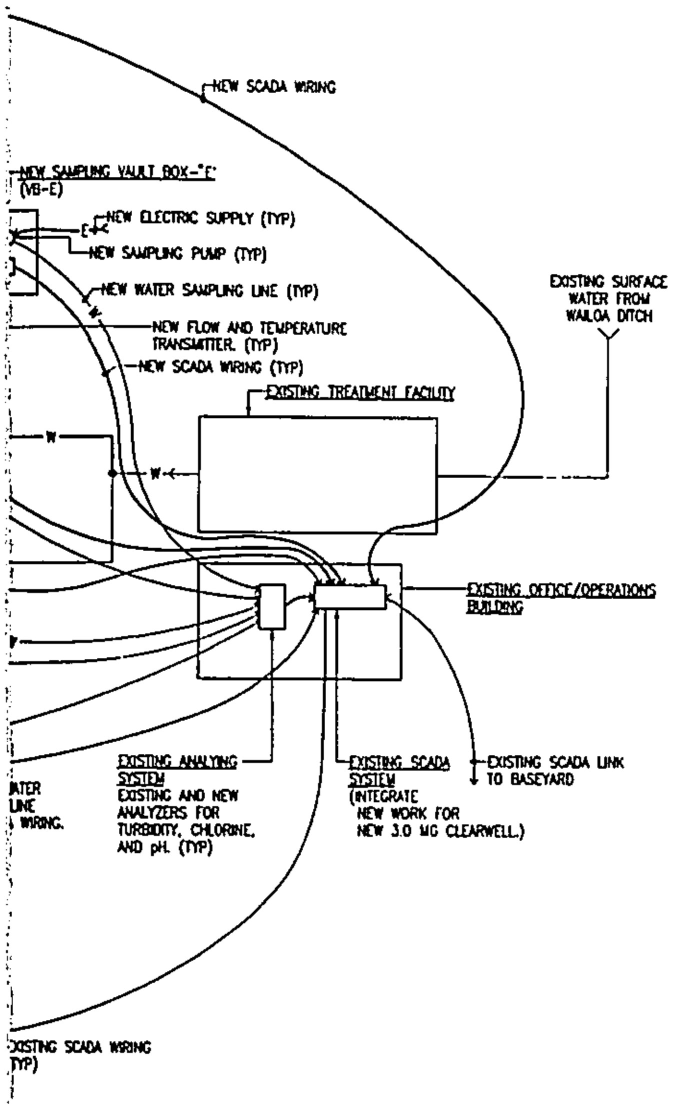


BLOCK DIAGRAM – FLOW/CONTROL SYS



ROL SYSTEM

APPROVED				
	NO	DATE	DESCRIPTION	APPROVED
	REVISIONS			

WALLACE T. OKI
LICENSED PROFESSIONAL ENGINEER
3530-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

OKAHARA & ASSOCIATES, INC.
ENGINEERING CONSULTANTS

DEPARTMENT OF WATER SUPPLY
MAUI COUNTY
KAHULUI, MAUI, HAWAII

KAMOLE WEIR WTF CLEARWELL
STORAGE TANK REPLACEMENT

BLOCK DIAGRAM – FLOW/CONTROL SYSTEM

APPROVED

E-2

JOB NO. 03-10
DATE: 7-14-2005

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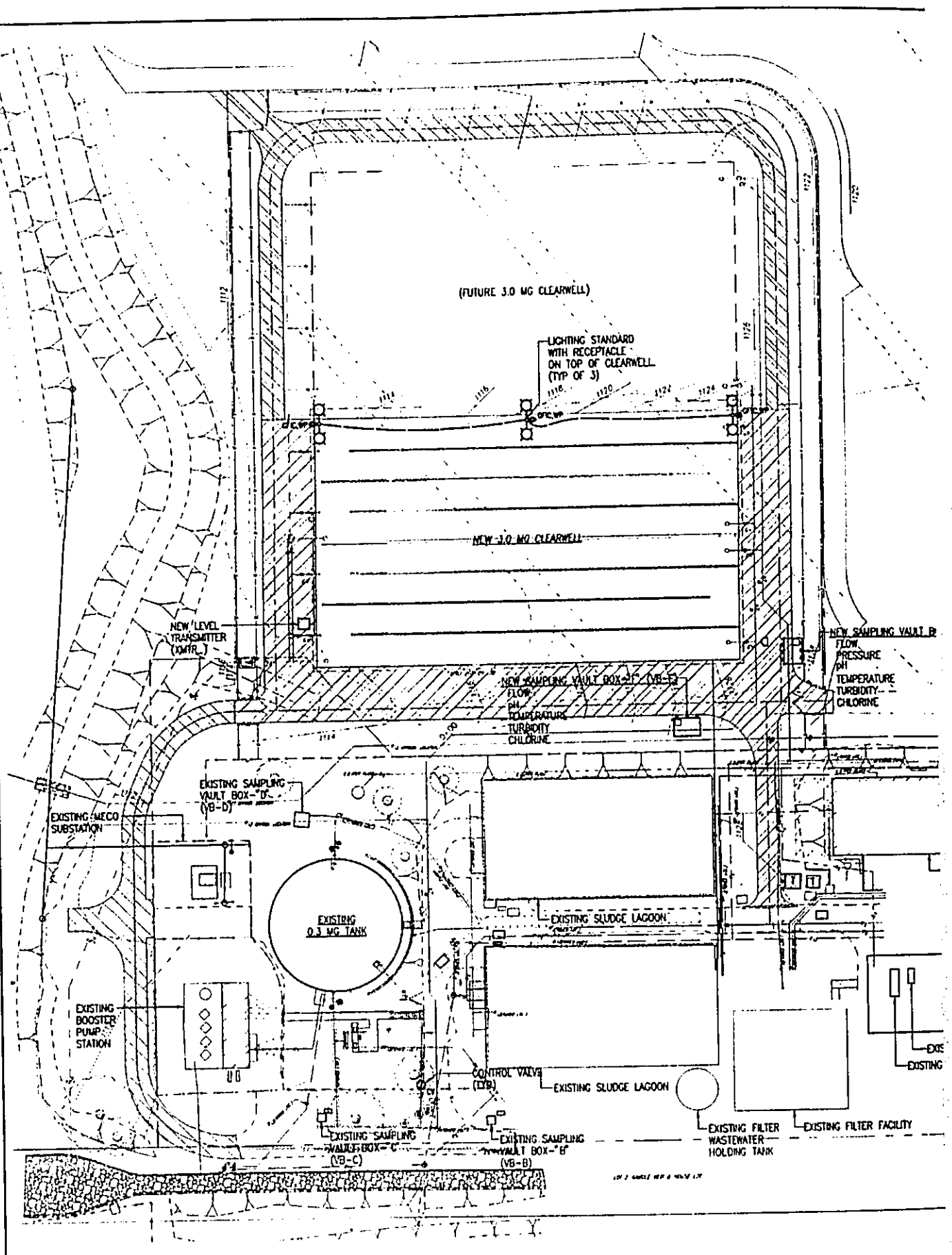
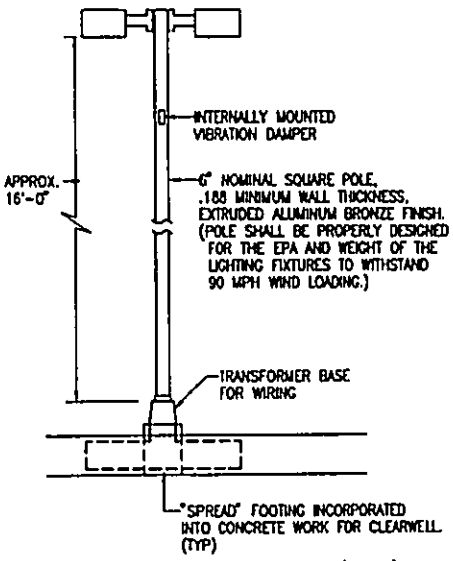


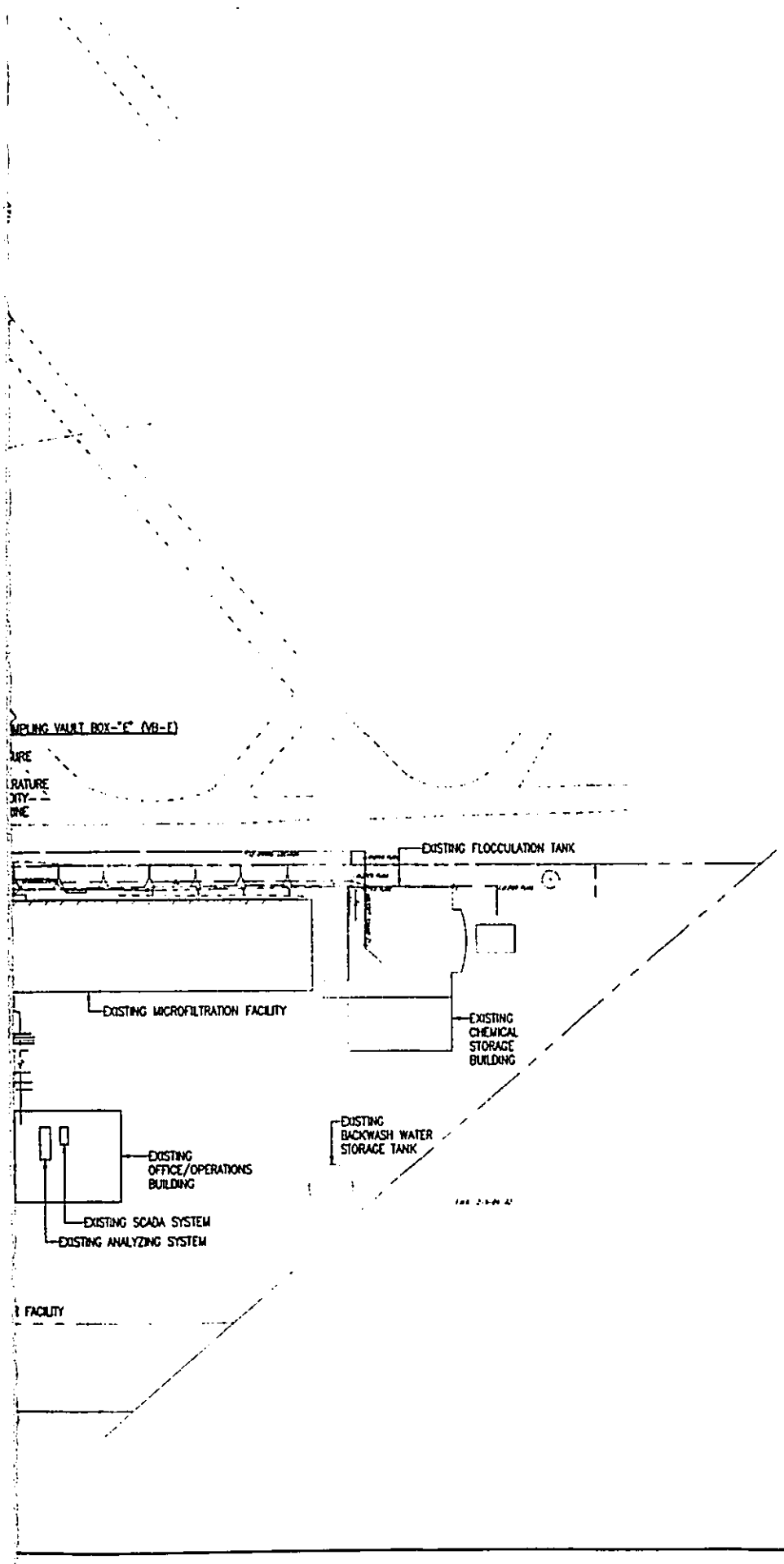
ELECTRICAL PLAN – SITE/LOCATION/DISTRIBUTION

1" = 30'



GENERAL ARRANGEMENT (TYP)-
LIGHTING STANDARD

NOT TO SCALE



APPROVED

WALLACE T. OKI LICENSED PROFESSIONAL ENGINEER 3530-E HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

NO	DATE	DESCRIPTION	APPROVED

REVISIONS

OKAHARA & ASSOCIATES, INC.
ENGINEERING CONSULTANTS

DEPARTMENT OF WATER SUPPLY
MAUI COUNTY
KAHULUI, MAUI, HAWAII

KAMOLE WEIR WTF CLEARWELL STORAGE TANK REPLACEMENT

ELECTRICAL PLAN - SITE/LOCATION/DISTRIBUTION

E-3

APPROVED

JOB NO. 03-10
DATE: 2-14-2005

SHEET __ OF __ SHEETS

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Appendix C

Drinking Water State Revolving Fund (DWSRF) Criteria

SAFE DRINKING WATER BRANCH
HAWAII DEPARTMENT OF HEALTH

ENVIRONMENTAL ASSESSMENT
CHECKLIST AND CERTIFICATION
(To be completed by the Applicant)

PROJECT NAME: Kamole Weir Water Treatment Facility Clearwell Reservoir

PROJECT NUMBER: PN 03-10 (Applicant) DW 213-0003 (State)

	YES	NO
ENVIR. ASSESSMENT SUBMITTED:	X	
PRIOR DECISION DOC'T SUBMITTED:		X
Document:		
A. OEQC CRITERIA ADDRESSED:		
(1) ID of applicant:	X	
(2) ID of approv agency:	X	
(3) Agencies consulted:	X	
(4) Descrip. of proj. char:	X	
(5) Descrip. of envir:	X	
(6) Impacts and alternatives:	X	
(7) Mitigation measures:	X	
(8) Determination:	X	
(9) Findings and reasons:	X	
B. SERP CRITERIA ADDRESSED:		
1. Population projections current:	X	
2. "No-action" alternative:	X	

3. Impacts analysis addresses: a. prim & sec impacts:	X	
b. social parameters:	X	
c. cumulative impacts:	X	
d. other projects:	X	
e. sensitive issues:	X	
C. CROSS CUTTERS ADDRESSED: 1. Arch & Hist Pres Act:	X	
2. Clean Air Act:	X	
3. Coastal Barrier Resources Act:	X	
4. Coastal Zone Mang. Act:	X	
5. Endangered Spec Act:	X	
6. Environmental Justice:	X	
7. Floodplain Management EO:	X	
8. Protection of Wetlands EO:	X	
9. Farmland Protect Policy Act:	X	
10. Fish and Wildlife Coor Act:	X	
11. Natl Historic Pres Act:	X	
12. Safe Drinking Water Act:	X	
13. Wild and Scenic Rivers Act:	X	

CERTIFICATION: (Applicant certifies that it has conducted a current assessment of the environmental impacts of the proposed project, and has disclosed, in the Environmental Assessment Documents referred to in this checklist, all known significant environmental impacts of the proposed project.)

Signature	Director Title	3/4/05 Date

Appendix D

Archaeological Assessment

AN ARCHAEOLOGICAL ASSESSMENT REPORT FOR A PORTION OF LAND IN HALI'IMAILE, HAMAKUAPOKO *AHUPUA'A*, MAKAWAO DISTRICT, ISLAND OF MAUI
(TMK: 2-5-04: Portion of 39)

Prepared on behalf of:

The County of Maui
Department of Water supply,
Wailuku, Maui

Prepared by:

Xamanek Researches
Pukalani, Maui

Erik Fredericksen
Demaris Fredericksen

November 30 2004

ABSTRACT

Xamanek Researches conducted an archaeological inventory survey on a c. 2-acre portion of pineapple land in Hali'imaile, Maui (TMK: TMK: 2-5-04: Portion of 39). This survey was carried out in late April of 2004 for the proposed Department of Water Supply (DWS) project, known as the Kamole Weir Clearwell Reservoir, Maui. The study area is located adjacent to and north of the existing DWS Kamole water treatment facility. The archaeological assessment survey was conducted on behalf of County of Maui Department of Water Supply. Per discussions with Dr. Melissa Kirkendall, this survey, which did not locate any intact sites on the project area, is hereafter referred to as an archaeological assessment.

There was no evidence of an intact cultural deposit encountered during subsurface testing on the gently sloping project area. Test results indicate that the upper c. 50-70 cm of the study area has been impacted by commercial pineapple cultivation over a number of decades. A total of 12 shovel probes were excavated to sterile subsoil (Layer II) with weathered bedrock fragments. Tested portions of the plow zone (Layer I), a brown (7.5 YR 4/3) silty clay loam, did not yield any intact evidence of a cultural layer. However, one fragment of a ground and polish adze, was recovered during subsurface testing. In addition, two previously unrecorded sites were documented off of the study area for informational purposes only.

Kamole Weir **(SIHP NO not yet assigned)** and Wailoa Ditch **(SIHP NO not yet assigned)** and Hamakua Ditch **(SIHP NO not yet assigned)** are all part of the plantation-era water delivery system. These three sites retain their significance assessments under Federal and State Historic Preservation Criterion "a" because they are part of the plantation water distribution system, and under Criterion "d" for their information content. In addition, Kamole Weir also qualifies for significance under Criterion "c" because it is an excellent example of a plantation era rock and mortar water weir.

While there was no intact cultural layer located during testing on the study area, it is important to note that this assessment survey sampled only a limited portion of the project area, because it was fully planted with pineapple at the time of our study. The presence of the ground and polished adze (Artifact 1) in the plow zone suggests that additional material culture remains and/or site remnants could lie within unsampled portions of the study area. Given that the planned project will require substantial amounts of earthmoving activities, precautionary monitoring appears warranted, because human burials have been located in other similar locales in the upcountry area.

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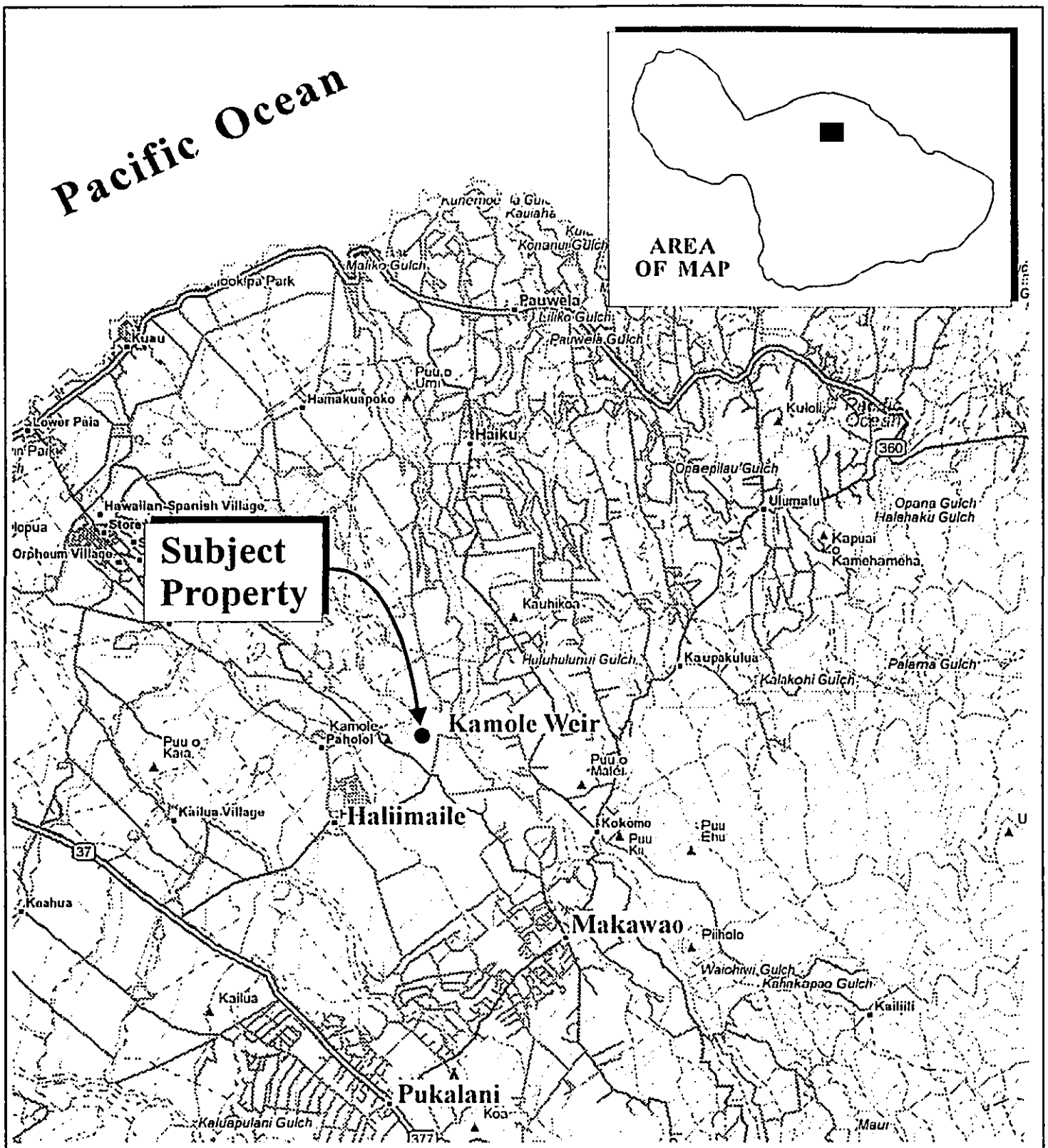


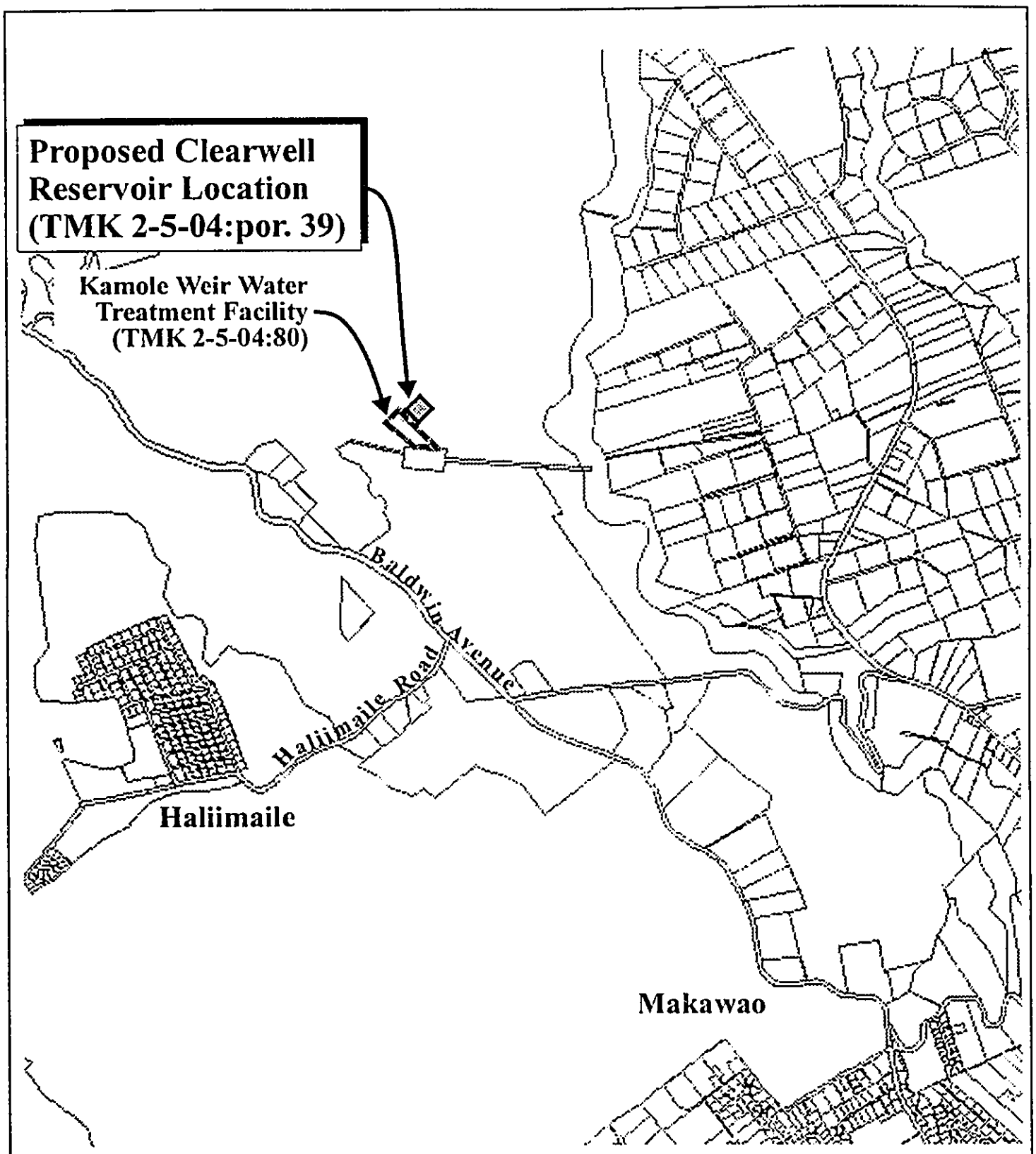
Source: 2002 DeLorme, 3-D Topo Quad

Figure 1 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
Regional Location Map

NOT TO SCALE

Prepared for: County of Maui, Dept. of Water Supply

MUNEKIYO & HIRAGA, INC.



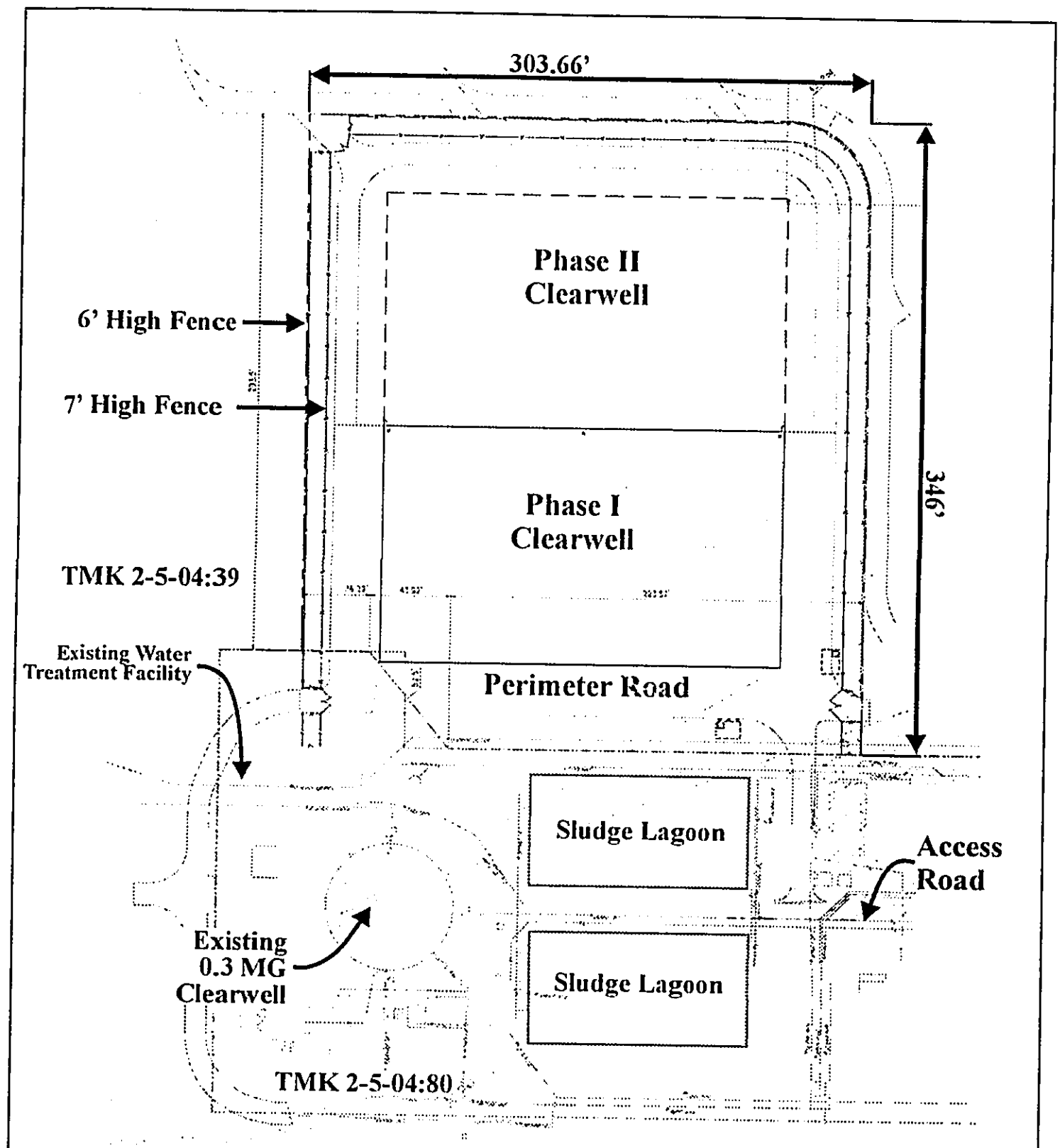
Source: Arc Map

Figure 2 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir
Site Location Map

NOT TO SCALE

Prepared for: County of Maui, Dept. of Water Supply

MUNEKIYO & HIRAGA, INC.



Source: Okahara & Associates, Inc.

Figure 3 Proposed Kamole Weir Water Treatment Facility Clearwell Reservoir Site Plan

NOT TO SCALE

Prepared for: County of Maui, Dept. Of Water Supply

MUNEKIYO & HIRAGA, INC.

INTRODUCTION

Mr. Michael Munekiyo of Munekiyo and Hiraga, Inc. (MHI) contacted Xamanek Researches during the summer of 2003 about an archaeological survey for a planned Department of Water Supply (DWS) project, known as the Kamole Weir Clearwell Reservoir, in a portion of pineapple land in Hali`imaile, Maui (TMK: 2-5-04: Portion of 39). The proposed project would include the construction of a divided 6 million gallon reservoir for the adjacent DWS facility at Kamole Weir. The study area was to consist of c. 2 acres of land that was in pineapple production. Given the location of the project area and the fact that known historic properties were present in the general area, an archaeological inventory survey was deemed appropriate.[1]

We prepared a proposal for the necessary scope of work for this project, and submitted our proposal to MHI for review. Okahara and Associates, Inc., overall project consultant, subsequently contracted us to undertake the archaeological inventory survey.

The project area lies in Hamakuapoko *ahupua`a*, Makawao District, Maui (Maps 1, 2 and 3). The field portion of this archaeological study was carried out during late April of 2004. The following report presents the results of this archaeological project, which under the new SHPD rules is an archaeological assessment, because no significant sites were located within the project area.

STUDY AREA

As previously noted, the c. 2 acre study area lies in Hamakuapoko *ahupua`a*, Makawao District, along the slopes of Haleakala (TMK: 2-5-04: Portion of 39). The entire project area lies north of Baldwin Avenue, and the bulk of it was planted in pineapple at the time of our survey. Pineapple has been grown for decades and continues

[1] The SHPD subsequently confirmed this in a 30 April 2004 comment letter requiring archaeological inventory level investigation (SHPD DOC NO: 0404CD80).

to be cultivated beyond the Kamole Weir Clearwell Reservoir project area.[2] The project area has been impacted by previous field clearing, planting and harvesting activities.

The northern and eastern sides of the study area bordered by pineapple fields, while the southern portion abuts the existing DWS water treatment plant, and the western boundary is formed by the Hamakua Ditch.

The Kamole Weir lies to the south of the project area (Photograph 1). This rock and mortar-lined chute is fed water via the Wailoa Ditch.[3] It is estimated that the Kamole Weir was put into service in the early 1920s. Ditch water is presently diverted from this weir to the adjacent County of Maui Department of Water Supply water treatment facility, where it is treated to potable water standards. In addition, water is also diverted through Penstock pipe for hydroelectric generation purposes by HC&S Company, Ltd. The remaining water empties into Hamakua Ditch[4] and is transported down slope towards Hali`imaile and Pa`ia.

Natural History

Soil type in the study area is identified as Pulehu silt loam (PpA) which is similar to Pulehu clay loam but with fewer stones. It occurs on nearly flat land, and is ideal for pineapple and sugarcane production (Foote, et al., p.116).

The gently sloping project area lies an estimated 1100 feet AMSL. Estimated annual precipitation on this portion of East Maui is about 40 inches, and rainfall generally occurs during the winter months. The average temperature ranges from the mid-seventies to the mid-eighties, and is relatively constant throughout much of the year.

Vegetation noted in the project area at the time of our survey was dominated by non-native plant species. Dominant vegetation observed along the fringes of the study area consisted of various non-native grasses and succulent weeds, and some oleander windbreak. As previously noted, the bulk of the study area is actively cultivated in pineapple (Ananas comosus). There were no native plant species noted during the pedestrian inspection of the surface.

---

[2] The field area contained pineapple plants that had been harvested once, and appeared to be a few months away from the second harvest.

[3] The Wailoa Ditch is a mostly unlined dirt irrigation ditch that was put into service in the late 1890s. Kamole Weir was put into service in the early part of the 20th century.

[4] The Hamakua Ditch is consists of both unlined dirt and concrete lined sections of irrigation ditch that was put into service in the late 1890s

Background Information

Hamakuapoko is noted as a place in which there were numerous landing sites, and a place where many battles were fought in precontact times. The western coastline area in Pa`ia is characterized by sandy beaches, coral reefs, and sand dunes. It is mentioned in Hawaiian legends as a place where *ali`i* came to surf and enjoy water activities in peaceful times.

The study area is well inland (*mauka*) of the coast, on the northern side of Baldwin Avenue. The study parcel is located on TMK: 2-5-04: Portion of 39. It is part of Parcel 39, which is located in a large agricultural land area, owned by A & B Properties, Inc. and operated by Maui Pineapple Company, Ltd.

In 1853, the Privy Council to the Board of Education resolved "*that in accordance with Section first of the late School Act to provide for the better support and greater efficiency of the Public Schools, the following lands be and are hereby appropriated for the general purpose of Education, to be disposed of as provided in said Act. On the island of Maui, HAMAKUAPOKO, (Whole, with other lands)*" [from a copy of Haiku Sugar Company abstract, A & B Properties archives]. In January 1860, this land was sold by the Board of Education to the Trustees of Oahu College (later known as Punahou) for the sum of $1.00. The land area was c. 5628 acres. The Trustees of Oahu College sold the land to Haiku Sugar Company in May of 1861 for $5750. Castle[5] and Cooke[6] invested in a steam-powered mill for Haiku Sugar Company, which had been established in 1858, and the first crop of 260 tons was harvested in 1862.

In 1878 Alexander and Baldwin acquired another sugar company—Pa`ia Plantation—which, along with the Haiku Sugar Company, was incorporated into the A & B partnership in 1879. As time passed, it became unprofitable to run two mills, and a new one was built in Pa`ia in 1905, and was leased to Maui Agricultural Company. This company was incorporated into Hawaiian Commercial and Sugar Company in 1948, as post-war modernization began.

Two railroad spur lines were located *makai* of the study area. One led to Well #16, where water for the locomotives and the animals and field workers was taken on. Another was the line that ran from the lime plant in lower Pa`ia to the mill in upper Pa`ia. Concerning the railroad, Mr. Henry F. Bonnell wrote (Best, 1977, p. 233):

---

[5] Samuel N. Castle was treasurer of Oahu College, and authorized the sale to Haiku Sugar Company.
[6] Amos Cooke had purchased stock in the Haiku Sugar Company in 1858, a company that intended to develop a plantation and mill at Haiku. Richard Armstrong conceived this idea. Both men were missionaries, and took advantage of generous land offerings from Kamehameha III.

"....the Maui Agricultural Company., of Pa`ia, Maui, which maintained one of the best equipped railroad shops in the Islands. The rolling stock on this plantation consisted of 950 cane cars, several box cars, flat cars, portable track cars, water and molasses tank cars, as well as cars for hauling mudpress, from the mill to the fields. The repairs for the five steam locomotives was accomplished in the plantation machine shop.

The plantation railway was used for many purposes other than hauling cane. It transported refined sugar from the mill to the plantation store and staple goods, such as rice from the store to the branch camps. Hydrated lime, used in processing raw sugar, was hauled from the kiln, at the beach in lower Pa`ia, along with sand for the locomotives."

At the time the new Pa`ia mill was built (1905-06), an agreement was made with the Kahului Railroad to extend its main line tracks to a point adjacent to the new mill, thus allowing the raw sugar to be taken more economically to Kahului Harbor for exportation (Dean, pp. 99-100).

Expected Findings

With the introduction of commercial pineapple and sugarcane cultivation in the mid to late 1800s, and the importation of foreign labor to work in the plantation system, the character of upcountry Maui changed. The plantations acquired either by purchase or lease, large amounts of land, further displacing the native Hawaiian people. The acquisition of stream water for pineapple and sugarcane cultivation essentially dried up any remaining *kalo* fields by the end of the 19th century. Afterwards a pattern of dispersed villages and camps for plantation workers emerged. *Kuleana* land grants changed ownership as plantation workers became affluent enough to purchase land from Hawaiians who were willing to sell. Commercial development became a driving force that would continue and intensify through the 20th century.

Based on our background research and the lack of Land Commission Awards in the general project area, the expected findings could include possible precontact subsurface habitation and/or agricultural site remnants, possibly containing associated human burials. Given the level of previous pineapple cultivation over the past 100 years, we expected that all surface portions of the study area had been impacted. Therefore, the extent of commercial agricultural disturbance connected with pineapple production would likely preclude any precontact or post-contact surface features other than those associated with the plantation era.

PREVIOUS ARCHAEOLOGICAL WORK

Previous archaeological work

There has not been any previous archaeological work carried out in the vicinity of the project area. Previously identified sites that have been located in the general area have been recorded on the Pa`ia Quadrangle by the SHPD (Figure 1). These sites are described in Table 1 below. Some sites were identified in connection with the sewer line construction in the 1980s in Spreckelsville (Clark and Toenjes, 1987), while others were noted during the 1973 statewide inventory of historic sites.

Table 1
Coastal sites in Hamakuapoko *ahupua`a makai* of project area

Site #	Site type	Remarks
1063	Petroglyphs	Hamakuapoko petroglyphs
1064	Burials	Kalahau Burial Complex
1174	Burials	Baldwin beach burials
1253	Habitation and burial	Pa`ia House and Grave complex. Well-preserved house outline, with rectangular pit. Surface artifacts include grindstone, basalt flakes. Food midden is also present around periphery.
1255	Platform	Ho`okipa platform. Badly eroded terraces (2) without surface artifacts or midden evident.
1271	Burial	Ho`okipa burial. Outline of burial pit in parking area.
1265	Burials	Hamakuapoko Burial Complex
1779-1782	Burials and habitation	Located during monitoring of the Spreckelsville Sewer line project
4482	Historic	World War II Pill Box in Pa`ia

Expected Findings

The coastal area, due to its location and precontact importance, is an area with a relatively high potential for significant cultural deposits, and human burials, which has been borne out by archaeological findings. However, the study property is in an area that has been under sugarcane cultivation for well over a century, and the likelihood of significant findings is slight.

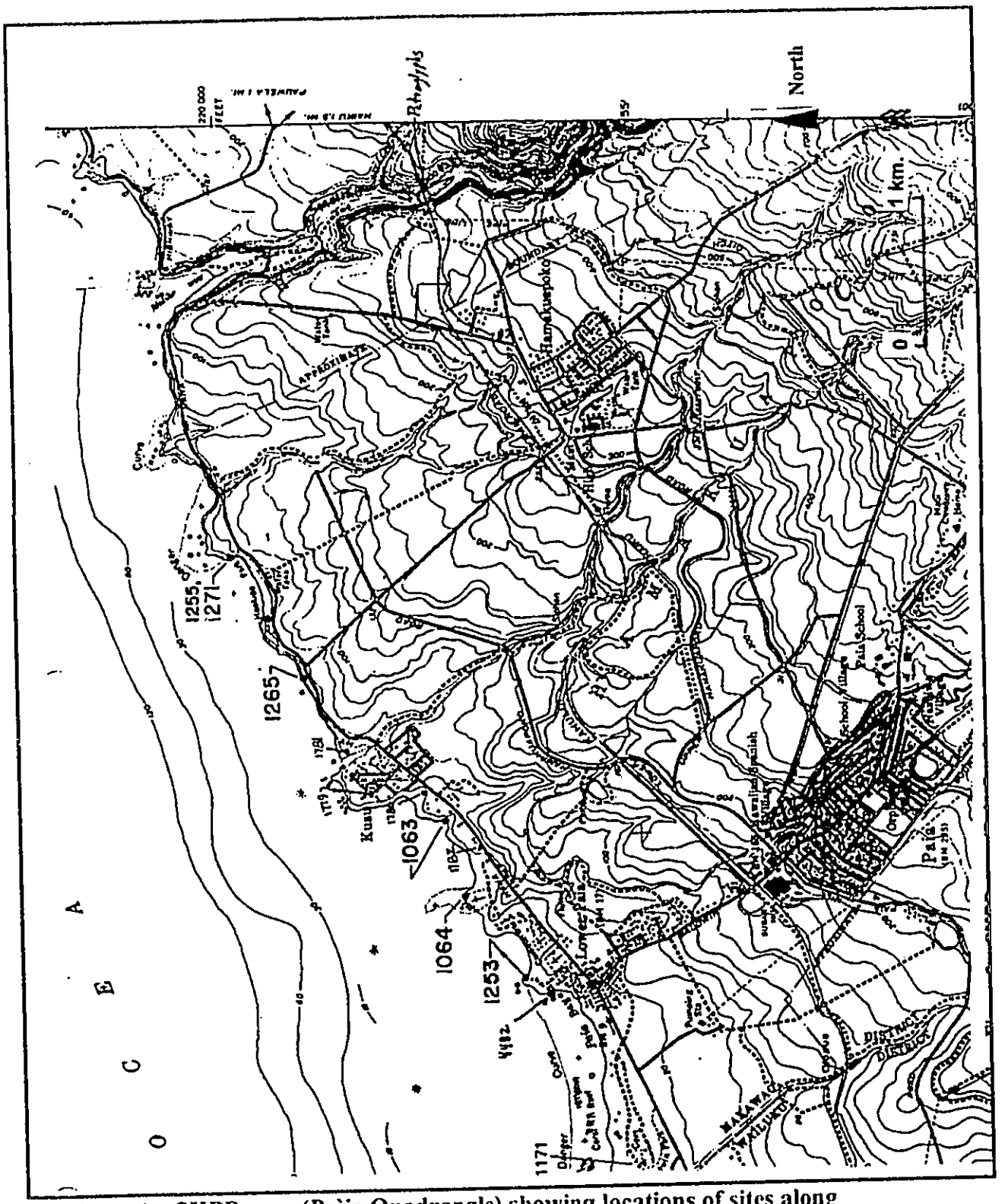


Figure 1 – SHPD map (Pa`ia Quadrangle) showing locations of sites along Hamakuapoko Coastline.

ARCHAEOLOGICAL METHODS

Fieldwork for this archaeological assessment survey was conducted during the last week of April, with additional work undertaken in June 2004. Erik Fredericksen conducted the surface walkover, and Hugh Coflin carried out subsurface investigation of portions of the project area. Given that the area was actively utilized for pineapple cultivation, it was necessary to carry out manual testing.[7] Erik Fredericksen was the project director, and Walter and Demaris Fredericksen were the senior advisors for this study. Demaris Fredericksen also helped compile portions of this report.

As noted above, the survey of the archaeological assessment was carried out in two phases—a pedestrian surface inspection, followed by subsurface investigation. The walkover portion of the survey was restricted to accessible portions of the pineapple fields and the field roads.

Subsurface investigation was composed of 12 shovel tests (STs 1-12) that were c. 50 cm square by up to 1 meter in depth. All excavated soil was screened through $1/8^{th}$ inch mesh hardware cloth on the project area, and material culture remains were collected in the field for subsequent laboratory analysis. Mapping was compiled with metric survey tapes and hand-bearing compasses. Written notes were kept in the field, and photographs were taken in a digital format. No cultural materials were transported off-island and standard laboratory procedures and methods were utilized.

ARCHAEOLOGICAL RESULTS

As previously noted in this report, the project area is located adjacent to and north of the County of Maui Department of Water Supply Kamole Weir water treatment facility. Subsurface testing consisted of 12 shovel test units (ST). There were no

[7] We had originally planned to utilize a backhoe for testing. However, the only available areas were field roads and backhoe testing would have caused potential problems for plantation harvest vehicles, because of possible compaction/settling problems.

subsurface cultural layers encountered during the course of our survey. Results are presented below.

Discussion of Results

There was no evidence of an intact cultural layer encountered during subsurface investigation on tested portions of the project area. Based on the results of our limited subsurface testing, it appears that sampled portions of the study area haves been heavily impacted by earth moving activities associated with commercial pineapple cultivation. The plow zone (Layer I) in tested areas appeared to be as much as 70 cm in thickness. Material interpreted as weathered bedrock was encountered in all shovel tests and was as shallow as 38 cmbs. While there was no evidence of an intact cultural layer found during subsurface testing, one indigenous artifact was located in Layer I of ST 8 (discussed below). Table 2 below presents a summary of subsurface test results. There were two similar strata located during subsurface testing in the project area (Appendix A—Figures 1-6).

Study area stratigraphy

As previously noted above, two common soil layers were encountered during subsurface testing for the archaeological assessment (see Figures 2-7 in Appendix A). Layer I was composed of brown (7.5 YR 4/3) silty clay. This compact soil contained between 10% and 50% sub-angular basalt pebbles by volume. Much of this layer had been previously disturbed by pineapple cultivation. In general, the plow zone contained shredded black plastic sheet mulch and pieces of irrigation tubing scattered throughout. One indigenous artifact, an adz fragment, was located in Layer I (plow zone) of Shovel Test 8 (Figure 5, Photograph 8).

Layer II consisted of reddish brown (5 YR 4/3) silty clay. This lower stratum was very compact soil and contained between 10% and 70% (by volume) pieces weathered of bedrock. This subsoil layer was sterile in tested locations.

Indigenous artifact

As noted above, one formed artifact was recovered from Layer I of ST 8 (Artifact 1). This ground and polished adz fragment measures 29.45 mm in length by 18.88 mm in width by a maximum of 6.42 mm in thickness (Photographs 9 and 10). It is fashioned from dense, dark gray (7.5 YR 4/1) basalt. The recovered fragment appears to represent over half of this finely made tool. While this artifact possesses some use wear along its cutting edge, it appears possible that it may have broken because of its thin construction. Given the small size and the fine finish of this adz, it does not appear to represent an agricultural tool. Rather, it appears that it would more likely have been utilized for detailed work such as carving. This artifact was located between 20-25 cm of the existing surface.

TABLE 2
SUMMARY OF SHOVEL TEST RESULTS

S.T.	Depth x Width[8]	Stratigraphy	Cmbs[9]	Remarks[10]
1	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/50% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/ 60-70 % weathered bedrock inclusion	0-20 20-38	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock
2	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/10% rock inclusion Layer II: reddish brown (5 YR 4/3), compact, silty clay w/50 % weathered bedrock inclusion	0-58 58-80	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at rock/possible weathered bedrock
3	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/20% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/50-60% weathered bedrock inclusion	0-57 57-78	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock
4	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/15% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/40% weathered bedrock inclusion	0-63 63-75	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock
5	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/10% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/ 20% weathered bedrock inclusion	0-69 69-84	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at rock/possible bedrock
6	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/10% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/ 10-20% weathered bedrock inclusion	0-62 62-77	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock

[8] Dimensions in centimeters
[9] Cmbs = centimeters below surface
[10] Note: all Layer I in shovel tests is interpreted as the plow zone.

Table 2 cont.

7	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/10% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/ 20% weathered bedrock inclusion	0-48 48-72	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock
8	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/15% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/ 20% weathered bedrock inclusion	0-71 71-83	Layer I: found adze fragment (20-25 cmbs) and black agricultural plastic mulch pieces Layer II: sterile, end at weathered bedrock
9	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/10% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/ 25% weathered bedrock inclusion	0-49 49-60	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock
10	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/10% rock inclusion Layer II: reddish brown (5 YR 4/3), compact clay w/ 30 - 40% weathered bedrock inclusion	0-56 56-71	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock
11	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/10% rock inclusion Layer II: reddish brown (5 YR 4/4), compact clay w/ 20% weathered bedrock inclusion	0-73 73-85	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock
12	50 x 50	Layer I: brown (7.5 YR 4/3), compact, silty clay w/10% rock inclusion Layer II: reddish brown (5 YR 4/4), compact clay w/ 20% weathered bedrock inclusion	0-70 70-82	Layer I: found several pieces of black agricultural plastic mulch Layer II: sterile, end at weathered bedrock

SUMMARY AND CONCLUSIONS

The pedestrian portion of the archaeological assessment did not locate any surface structural remains. A total of 12 shovel tests were used to sample the c. 2-acre project area. As mentioned earlier in this report, there were no recognizable precontact or post-contact cultural layers found during our survey. While the subsurface testing phase did

not identify any intact cultural layer, one formed artifact was located between 20-25 cmbs in Layer I of ST 8. This ground and polished adz is quite small and finely fashioned, and does not appear to represent an agricultural tool. Rather, it likely represents a finish tool, perhaps for detailed work such as carving. Subsurface results indicate that the project area has been heavily impacted by land altering activities associated with commercial pineapple cultivation. The plow zone (Layer I) in tested locales varied in depth from 50 to 70 cm in thickness.

One plantation-era site, the Hamakua Ditch, lies just off the project area to the northwest, and has been included in this assessment report for informational purposes only.[11] The lack of any intact or remnant cultural layers in sampled portions of the project area, while not anticipated, is not surprising, since post-contact commercial pineapple cultivation and associated field clearing activities appear to have extensively altered both the surface and subsurface nature of the study area.

Although the study area has been impacted by commercial pineapple cultivation, it is interesting to note that one indigenous artifact—the adz fragment—was located in the previously disturbed plow zone (Layer I). This tool was recovered from one of our 12 shovel test units that were placed in the access roads on the study area. Given the constraints of our subsurface sampling methodology, the presence of this finely formed tool strongly suggests that Native Hawaiians were formerly in this general area. It is also noteworthy that this artifact was even found, given that it was not possible to test much of the proposed project area.

Site Significance Evaluations

The following significance evaluations are based on the Rules Governing Procedures for Historic Preservation Review (DLNR 1996; Chapter 275). According to these rules, a site must possess integrity of location, design, setting, materials, workmanship, feeling and association and shall meet one or more of the following criteria:

Criterion "a"—Be associated with events that have made an important contribution to the broad patterns of our history;

Criterion "b"—Be associated with the lives of persons important in our past;

Criterion "c"—Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;

[11] This plantation-era site will not be impacted by the overall DWS project.

Criterion "d"—Have yielded, or is likely to yield, important information for research on prehistory or history;

Criterion "e"—Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts.

Sites can be considered no longer significant when they qualify only under Criterion "d" and sufficient information has been collected from them during inventory survey level investigation. As previously noted, there were no significant subsurface cultural layers noted during the archaeological assessment of the study area. However, it is important to note that an adjacent plantation-era earthen ditch, which is part of the Hamakua Ditch system, borders the study area. While this site is not directly located on the project area, it is nevertheless noted for informational purposes and has been designated **SIHP NO (to be assigned).** This site qualifies for importance under Federal and State historic preservation division guidelines Criterion "a" because it is part of the plantation era water delivery system, and Criterion "d" because of its information content. This site continues to retain its significance under both Criteria "a" and "d". Wailoa Ditch and Kamole Weir also retain their significance assessments under Federal and State Historic Preservation Criterion "a" because they are part of the plantation water distribution system, and under Criterion "d" for their information content. In addition, Kamole Weir also qualifies for significance under Criterion "c" because it is an excellent example of a plantation era rock and mortar water weir.

Mitigation Recommendations

While there were there were no remnant cultural layers encountered during this project, the presence of an indigenous artifact in the plow zone suggests that Native Hawaiians were formerly in the general area. The proposed project will consist of extensive subsurface excavation associated with the construction of at least one reservoir. Given the presence of the indigenous artifact and the fact that it was not possible to sample more of the project area, precautionary monitoring is recommended for this DWS project. In the event that the proposed project expands and will impact the portion of Hamakua Ditch that borders the northwestern portion of the project area, the State Historic Preservation Division shall be contacted. Appropriate mitigation measures will then be determined.

There have been at least two documented instances in the upcountry area where unmarked human burials have been located in agriculturally disturbed areas.[12] An

[12] Unmarked burials have also been located in Olowalu and in Lahaina in old sugarcane field lands.

unmarked, partially intact burial (Site 50-50-05-3520) was encountered during grading activities associated with a residential development in an old pineapple field in Pukalani in c. 1994 (Ms. Theresa Donham, personal communication, December 1994).[13] More recently, a partially *in situ* human burial, designated Site 50-50-04-5501, was located in 2004 during the installation of a water line in Pi'iholo in a pineapple field area (Ms. Lisa Rotunno-Hazuka, personal communication, June 2004).[14] The presence of these finds as well as other unmarked burials in areas previously disturbed by commercial agricultural activities indicates that pineapple and sugarcane cultivation do not necessarily remove all traces of precontact Native Hawaiian activities.

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[13] The Pukalani burial was disinterred by then SHPD Maui staff archaeologist Ms. Theresa Donham.
[14] The Pi'iholo burial has been preserved in place with the assistance of Charles Kauluwehi Maxwell Sr., Chair, Maui/Lana`i Islands Burial Council.

APPENDIX A—FIGURES 2-7

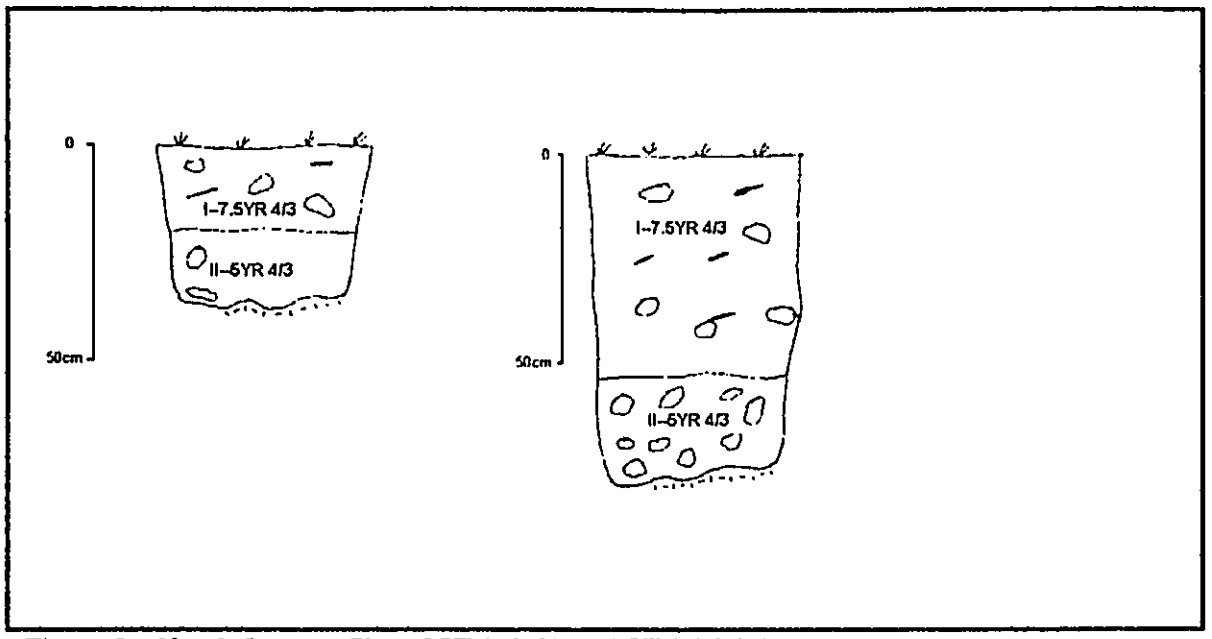


Figure 2—North face profiles of ST 1 (left) and ST 2 (right).

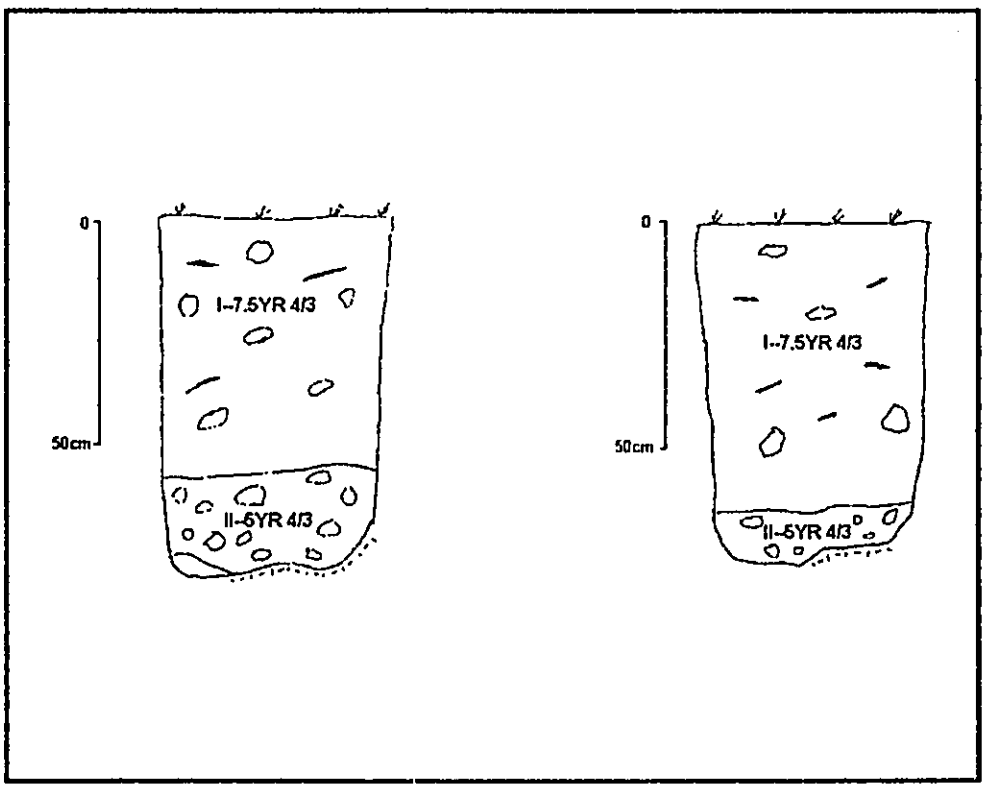


Figure 3—North face profiles of ST 3 (l) and ST 4 (r).

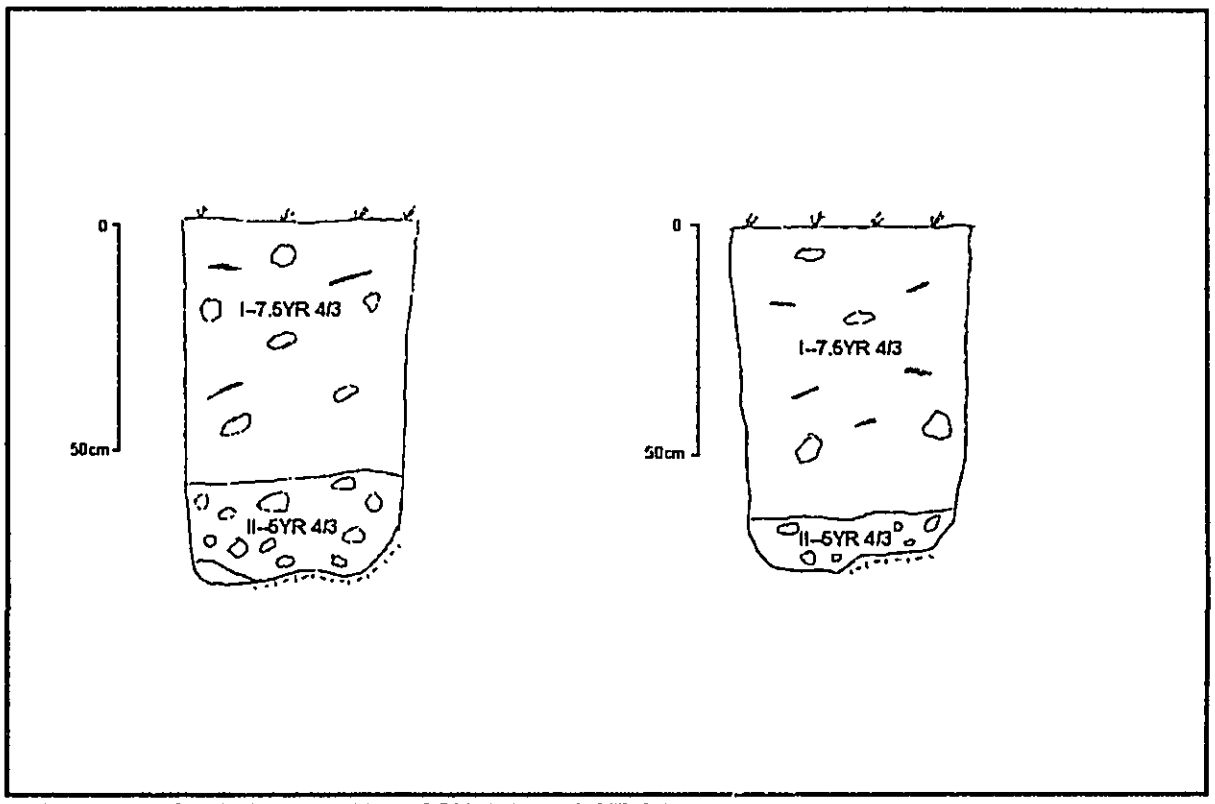


Figure 4—North face profiles of ST 5 (l) and ST 6 (r).

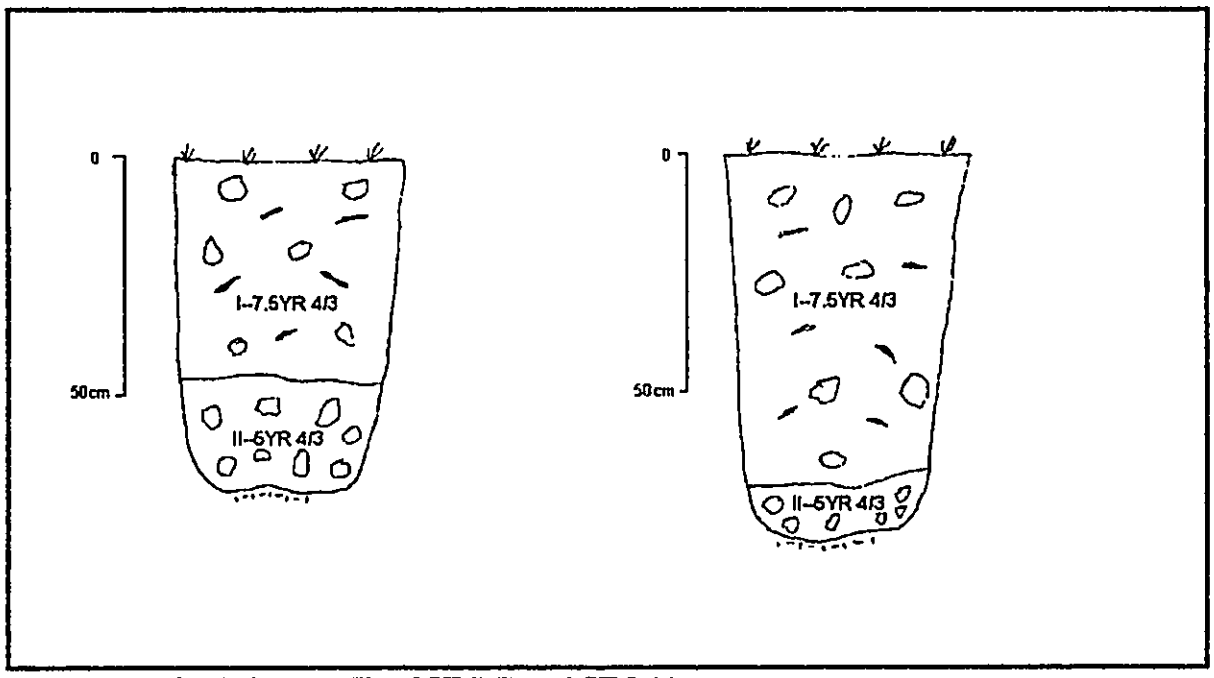


Figure 5—North face profile of ST 7 (l) and ST 8 (r).

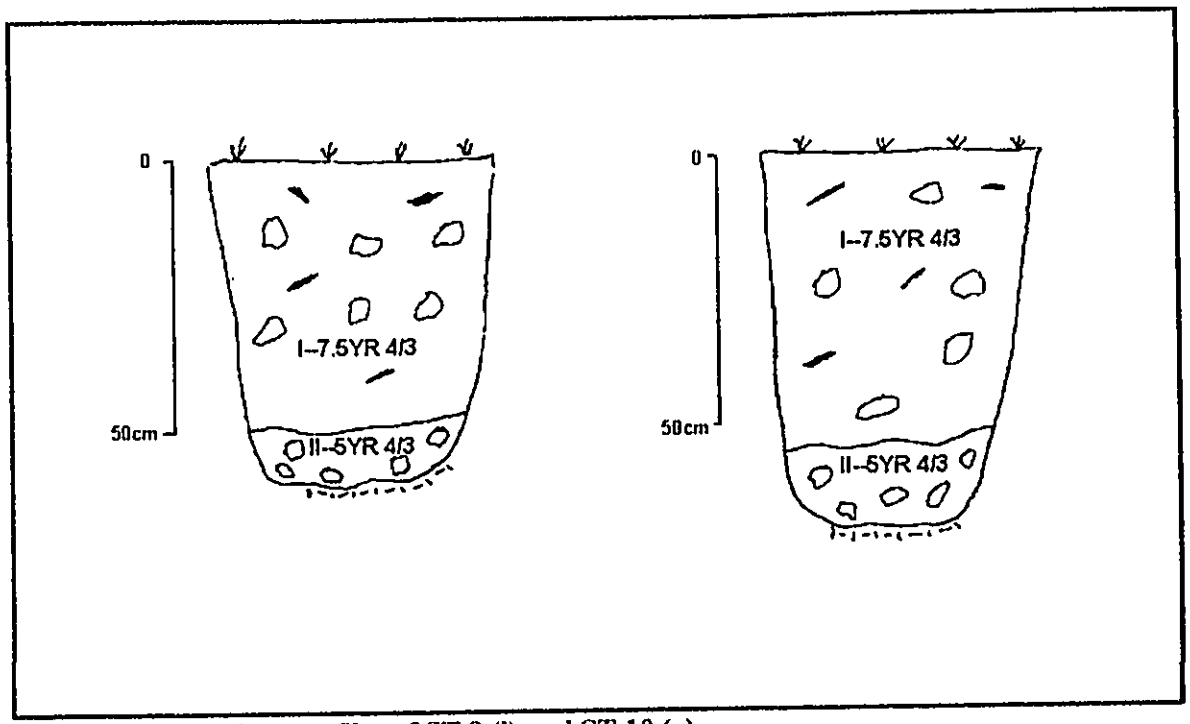


Figure 6—North face profiles of ST 9 (l) and ST 10 (r).

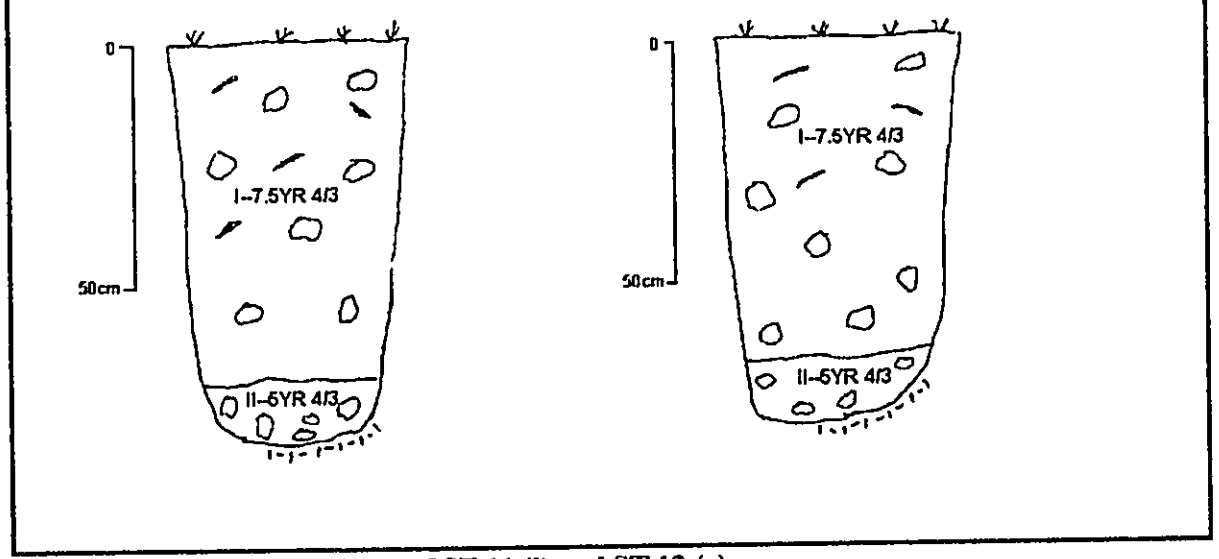
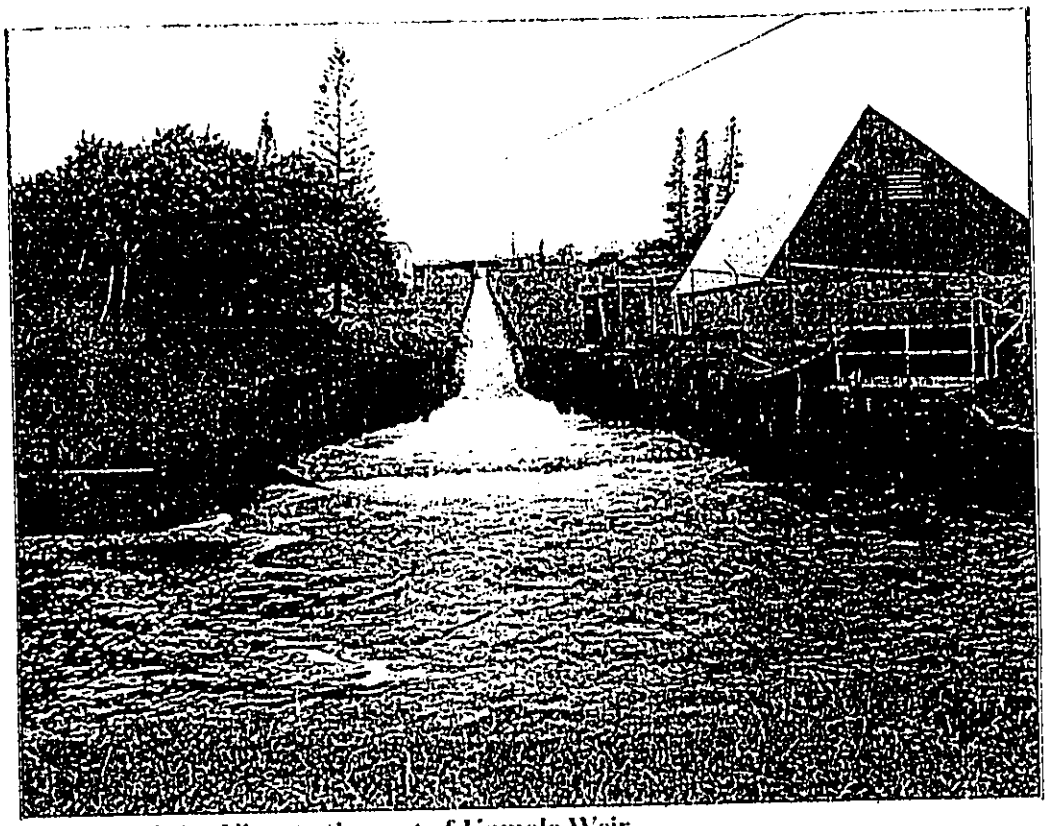
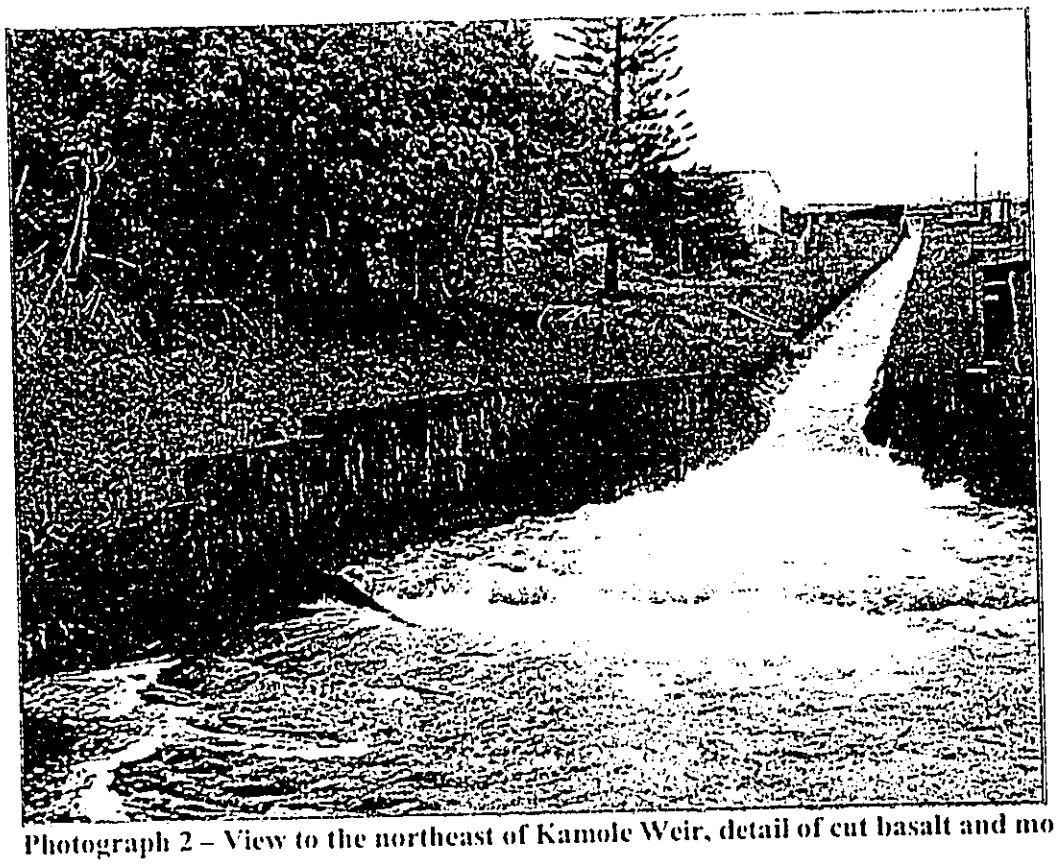


Figure 7—North face profiles of ST 11 (l) and ST 12 (r).

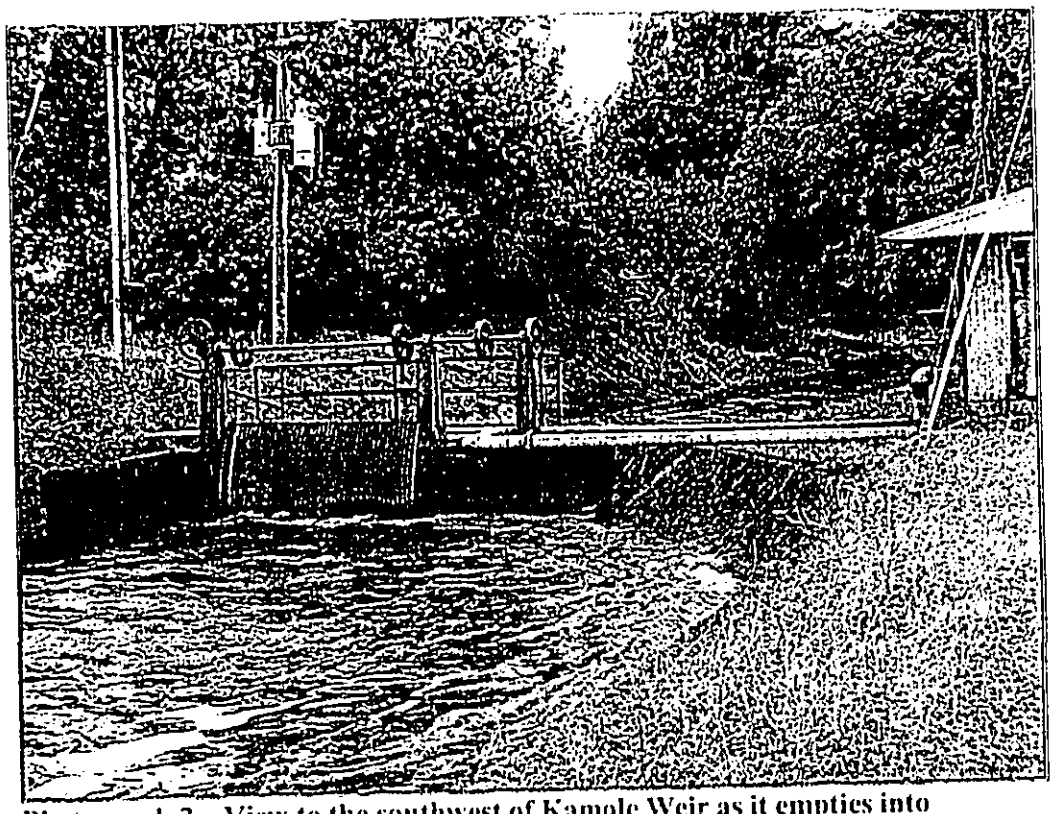
APPENDIX B—PHOTOGRAPHS 1-10



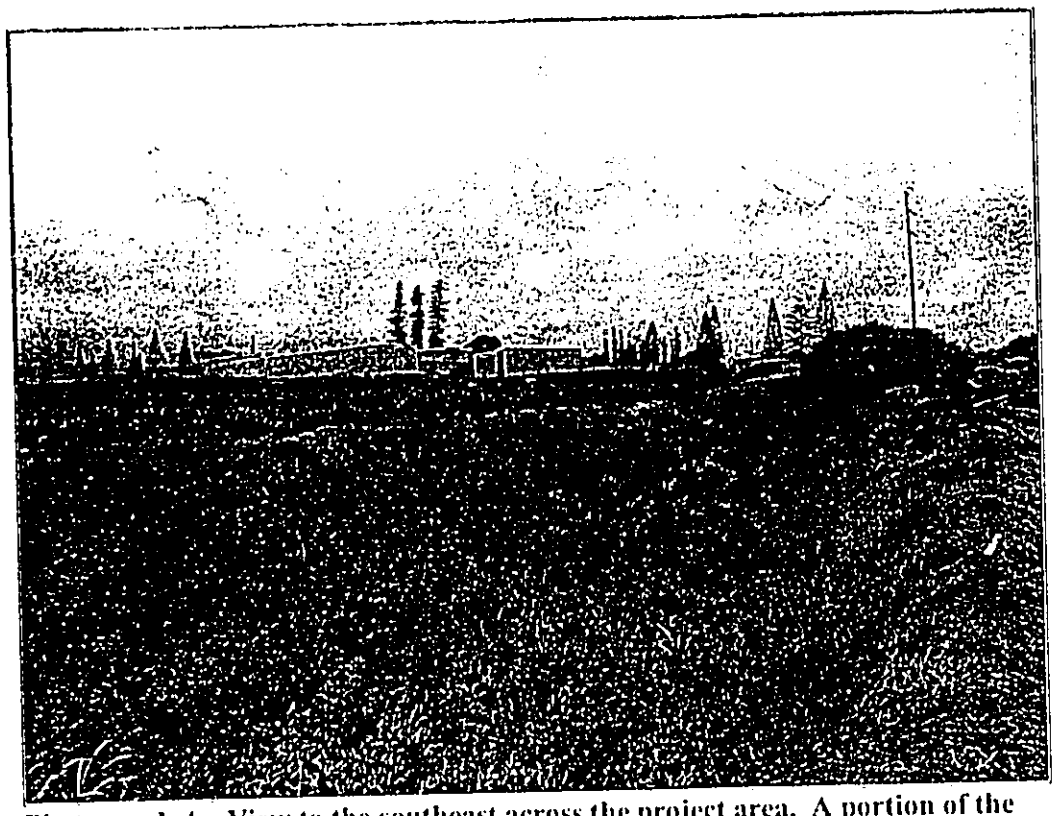
Photograph 1 – View to the east of Kamole Weir.



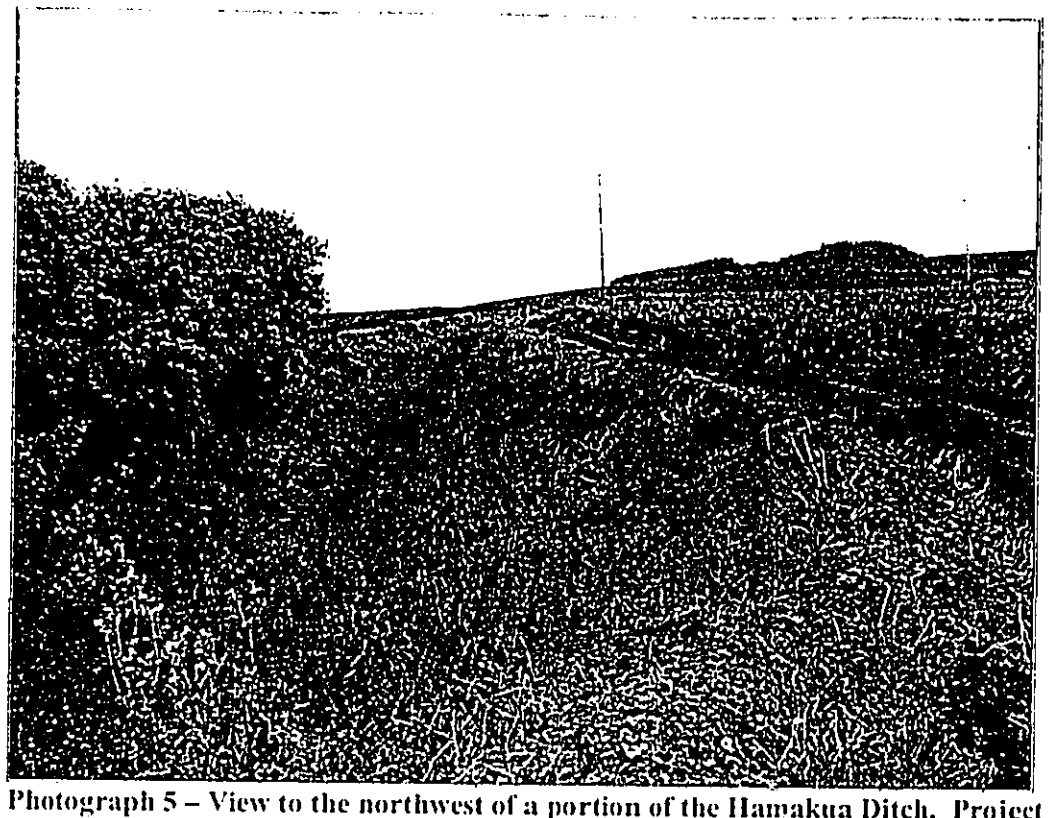
Photograph 2 – View to the northeast of Kamole Weir, detail of cut basalt and mortar.



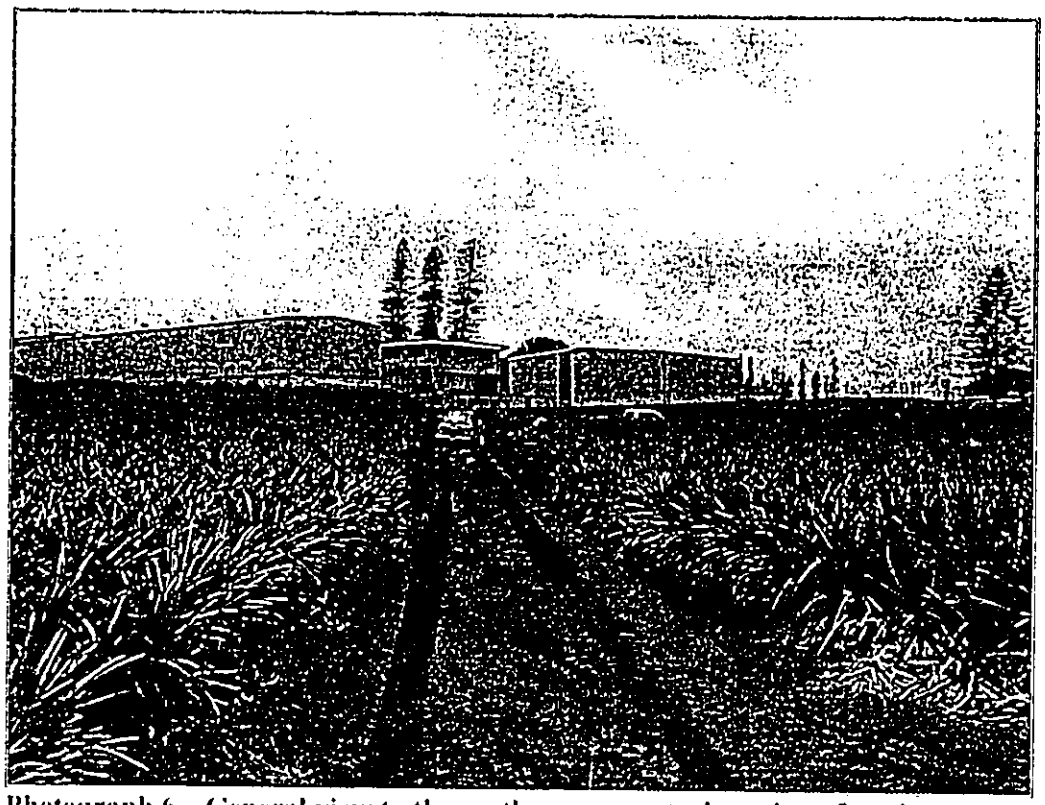
Photograph 3 – View to the southwest of Kamole Weir as it empties into Hamakua Ditch.



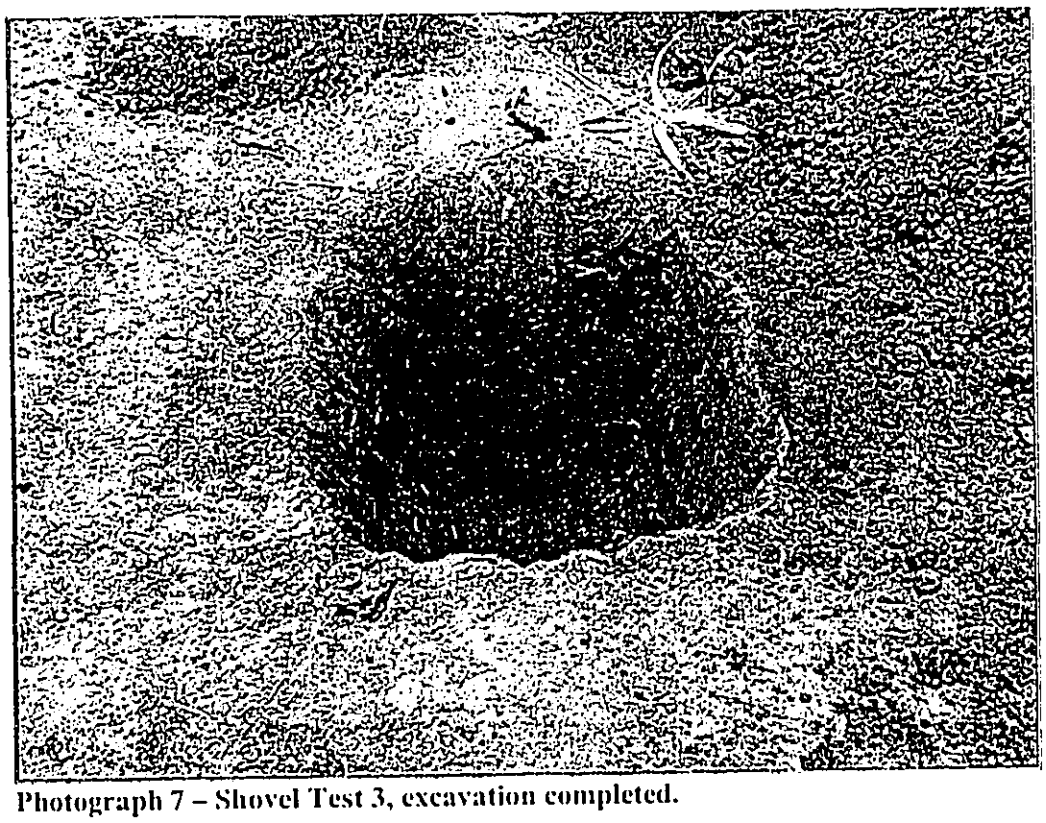
Photograph 4 – View to the southeast across the project area. A portion of the Hamakua Ditch is in the foreground.



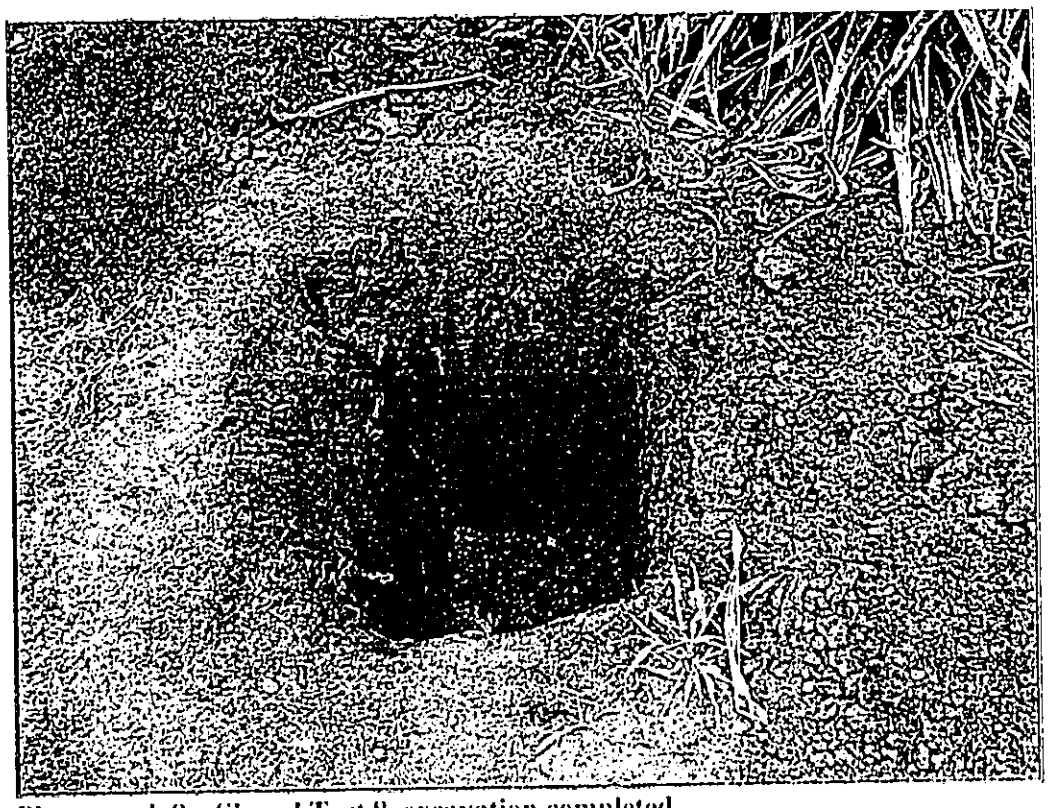
Photograph 5 – View to the northwest of a portion of the Hamakua Ditch. Project area is at right in photograph.



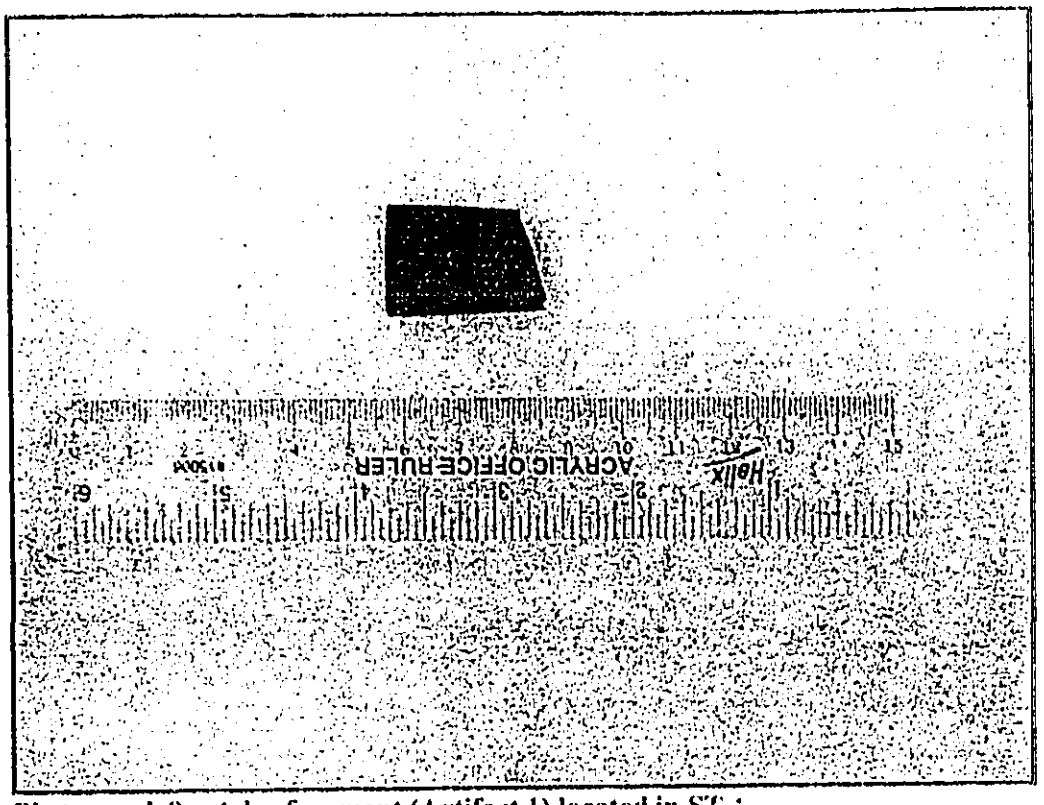
Photograph 6 – General view to the south across central portion of project area. County of Maui Kamole Treatment Station is in background.



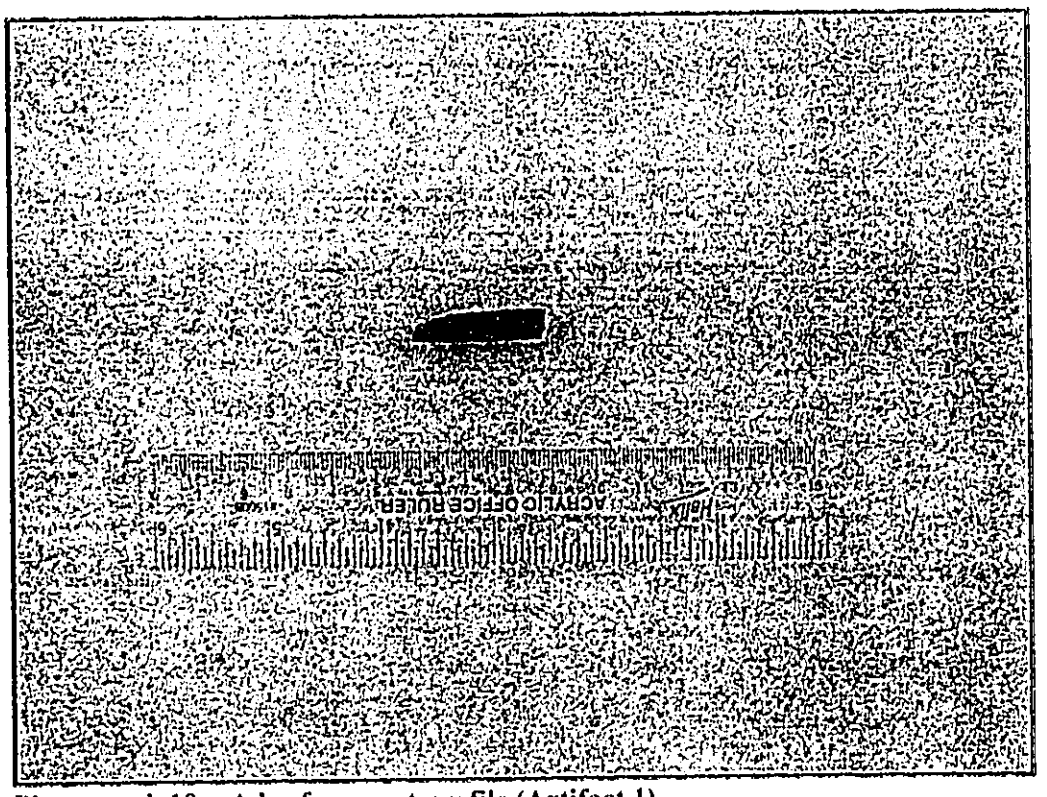
Photograph 7 – Shovel Test 3, excavation completed.



Photograph 8 – Shovel Test 8, excavation completed.



Photograph 9 – Adze fragment (Artifact 1) located in ST 1.



Photograph 10 – Adze fragment profile (Artifact 1).

Appendix E

Preliminary Drainage Report

RUNOFF CALCULATIONS

Tm=RECURRENCE INTERVAL=10-YRS

Q=CIA
- Q=FLOW RATE (CFS)
- C=RUNOFF COEFFICIENT
- I= 1-HOUR RAINFAL (IN)
- A=DRAINAGE AREA (ACRES)

RUNOFF - EXISTING CONDITION

DRAINAGE AREA 1 (PINEAPPLE FILED)

A= 2.795 AC

C (TABLE 1)

INFILTRATION	MEDIUM	0.07
RELIEF	FLAT	0
VEGETAL COVER	HIGH	0
VDEVELOPMENT TYPE	AGRICULTURAL	0.15
	C=	0.22

10-YR 24-HR RAINFALL (PLATE 4) 2.4 IN

Tc= 16.2 (PLATE 1)

I= 4.32 IN/HR (PLATE 2)

Q= 2.66 CFS

DRAINAGE AREA 2 (GRASSED AREA)

A= 0.165 AC

C (TABLE 1)

INFILTRATION	MEDIUM	0.07
RELIEF	FLAT	0
VEGETAL COVER	HIGH	0
VDEVELOPMENT TYPE	AGRICULTURAL	0.15
	C=	0.22

10-YR 24-HR RAINFALL (PLATE 4) 2.4 IN

Tc= 9.2 (PLATE 1)

I= 5.5 IN/HR (PLATE 2)

Q= 0.20 CFS

TOTAL RUNOFF FOR EXISTING SITE = 2.86 CFS

RUNOFF - DEVELOPED CONDITION - 1 - 3MG CLEARWELL

DRAINAGE AREA 1 (NEW CLEARWELL SITE)

A= 2.795 AC TOTAL ACERAGE

A= 1.023 AC IMPERVIOUS AREA
A= 1.611 AC GRASSED AREA
A= 0.161 AC GRAVEL ROAD

C	(TABLE 1)			
	INFILTRATION	MEDIUM	0.07	
	RELIEF	FLAT	0	
	VEGETAL COVER	HIGH	0	
	VDEVELOPMENT TYPE	AGRICULTURAL	0.15	
		C=	0.22	GRASSED AREA

C	(TABLE 1)			
	INFILTRATION	NEGLIGIBLE	0.2	
	RELIEF	FLAT	0	
	VEGETAL COVER	NONE	0.07	
	VDEVELOPMENT TYPE	IND/BUSINESS	0.55	
		C=	0.82	IMPERVIOUS AREA

C	(TABLE 1)			
	INFILTRATION	MEDIUM	0.07	
	RELIEF	FLAT	0	
	VEGETAL COVER	NONE	0.07	
	VDEVELOPMENT TYPE	IND/BUSINESS	0.55	
		C=	0.69	GRAVEL ROAD

$$C = \frac{0.22 \times 1.61 + 0.82 \times 1.02 + 0.69 \times 0.16}{2.795} = 0.47$$

10-YR 24-HR RAINFALL (PLATE 4) 2.4 IN

Tc= 5.5 (PLATE 1)

I= 8.7 IN/HR (PLATE 2)

Q= 11.35 CFS

DRAINAGE AREA 2 (NEW GRAVEL ACCESS ROAD))

A= 0.165 AC

C (TABLE 1)

INFILTRATION	MEDIUM	0.07
RELIEF	ROLLING	0.03
VEGETAL COVER	NONE	0.07
VDEVELOPMENT TYPE	AGRICULTURAL	0.15
	C=	0.32

10-YR 24-HR RAINFALL (PLATE 4) 2.4 IN

Tc= 6.2

I= 7.7 IN/HR (PLATE 2)

Q= 0.41 CFS

TOTAL RUNOFF - EXISTING CONDITION = 2.86 CFS

TOTAL RUNOFF - DEVELOPED CONDITION (1 - 3 MG CLEARWELL) = 11.75 CFS

INCREASE IN RUNOFF DUE TO NEW CONSTRUCTION= 8.90 CFS

RUNOFF - DEVELOPED CONDITION - 2 - 3MG CLEARWELL

DRAINAGE AREA 1 (NEW CLEARWELL SITE)

A= 2.795 AC TOTAL ACERAGE

A= 1.991 AC IMPERVIOUS AREA
A= 0.804 AC GRASSED AREA

C (TABLE 1)

INFILTRATION	MEDIUM	0.07	
RELIEF	FLAT	0	
VEGETAL COVER	HIGH	0	
VDEVELOPMENT TYPE	AGRICULTURAL	0.15	
	C=	0.22	GRASSED AREA

C (TABLE 1)

INFILTRATION	NEGLIGIBLE	0.2	
RELIEF	FLAT	0	
VEGETAL COVER	NONE	0.07	
VDEVELOPMENT TYPE	IND/BUSINESS	0.55	
	C=	0.82	IMPERVIOUS AREA

$$C = \frac{0.22 \times 0.8 + 0.82 \times 1.99}{2.795} \qquad 0.65$$

10-YR 24-HR RAINFALL (PLATE 4) 2.4 IN

Tc= 5.5 (PLATE 1)

I= 8.7 IN/HR (PLATE 2)

Q= 15.74 CFS

DRAINAGE AREA 2 (NEW GRAVEL ACCESS ROAD))

A= 0.165 AC

C (TABLE 1)

INFILTRATION	MEDIUM	0.07
RELIEF	ROLLING	0.03
VEGETAL COVER	NONE	0.07
VDEVELOPMENT TYPE	AGRICULTURAL	0.15
	C=	0.32

10-YR 24-HR RAINFALL (PLATE 4) 2.4 IN

Tc= 6.2

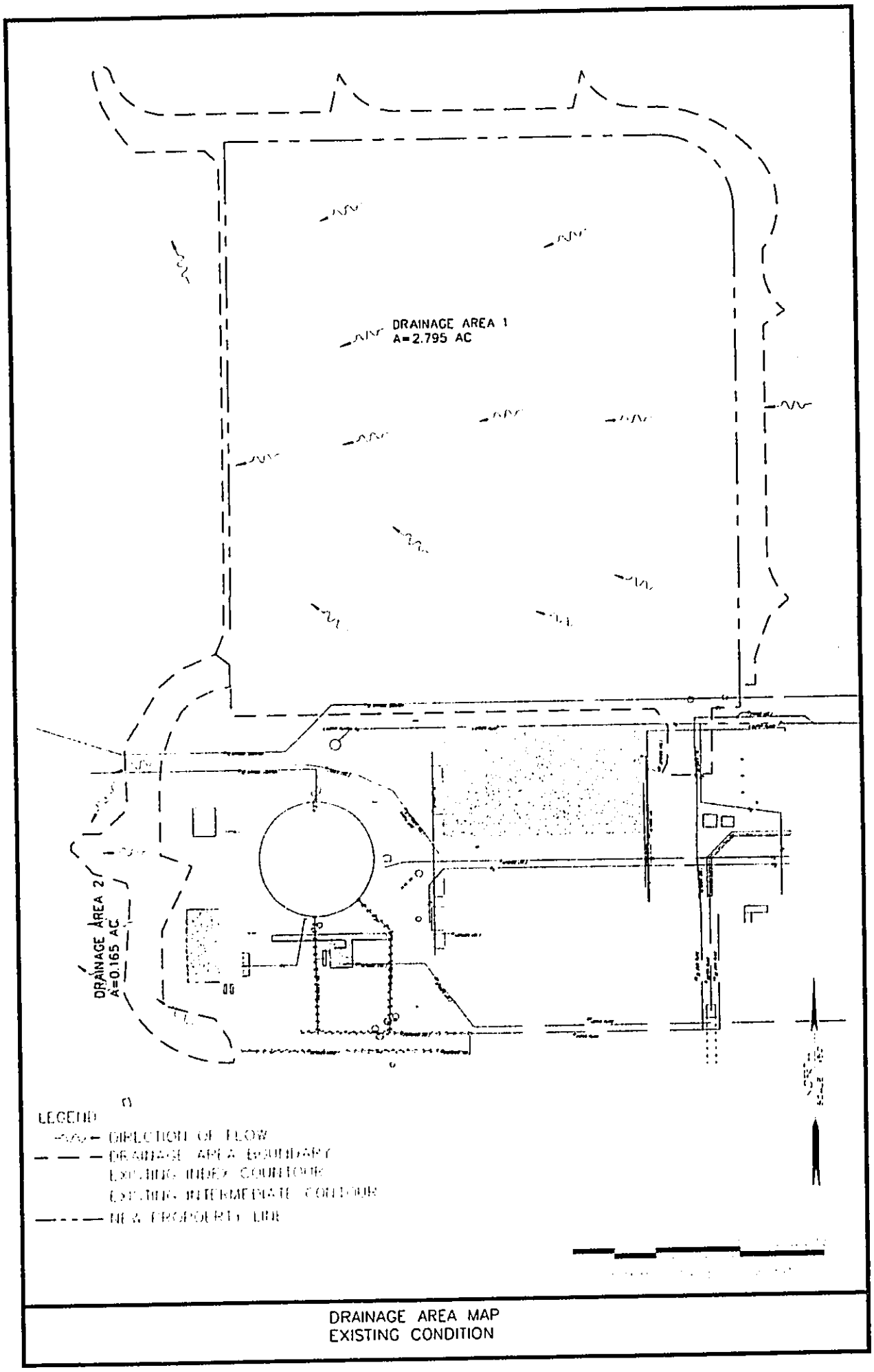
I= 7.7 IN/HR (PLATE 2)

Q= 0.41 CFS

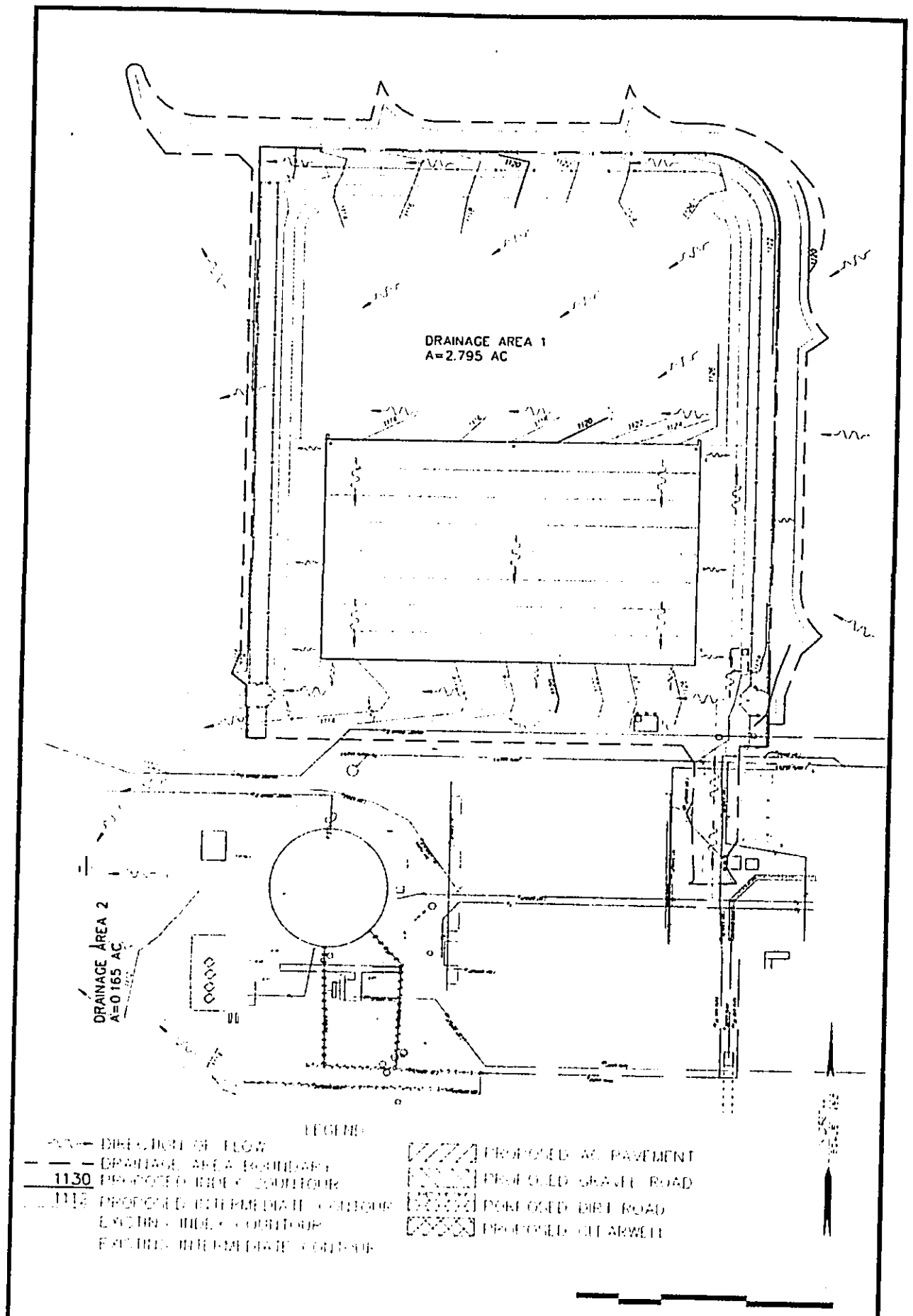
TOTAL RUNOFF - EXISTING CONDITION = 2.86 CFS

TOTAL RUNOFF - DEVELOPED CONDITION (1 - 3 MG CLEARWELL) = 16.15 CFS

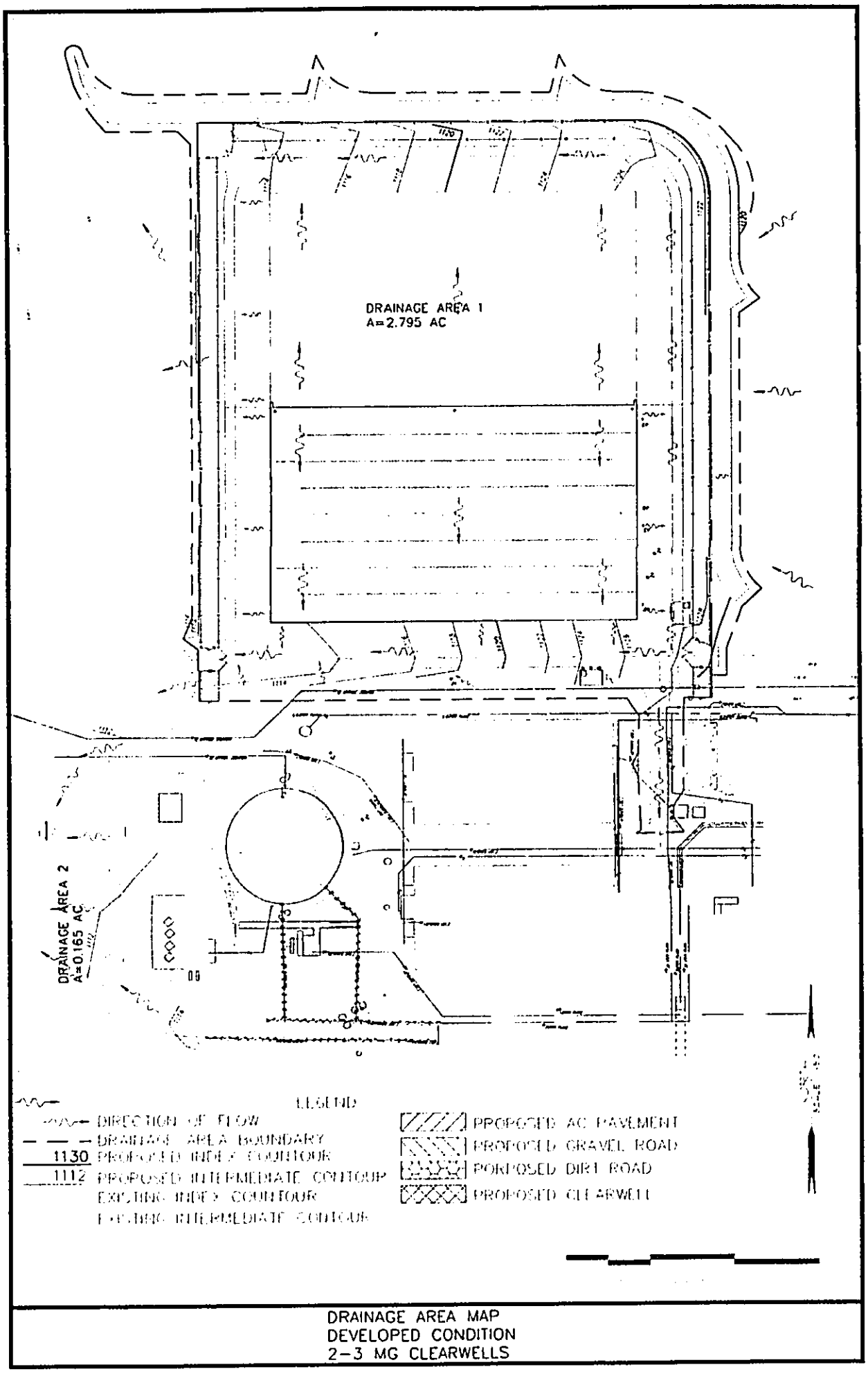
INCREASE IN RUNOFF DUE TO NEW CONSTRUCTION= 13.29 CFS



DRAINAGE AREA MAP
EXISTING CONDITION



DRAINAGE AREA MAP
DEVELOPED CONDITION
1-3 MG CLEARWELL



DRAINAGE AREA MAP
DEVELOPED CONDITION
2-3 MG CLEARWELLS

Table 1

GUIDE FOR THE DETERMINATION OF RUNOFF COEFFICIENTS FOR BUILT-UP AREAS*

WATERSHED CHARACTERISTICS	EXTREME	HIGH	MODERATE	LOW
INFILTRATION	NEGLIGIBLE 0.20	SLOW 0.14	MEDIUM 0.07	HIGH 0.0
RELIEF	STEEP (> 25%) 0.08	HILLY (15 - 25%) 0.06	ROLLING (5 - 15%) 0.03	FLAT (0 - 5%) 0.0
VEGETAL COVER	NONE 0.07	POOR (< 10%) 0.05	GOOD (10 - 50%) 0.03	HIGH (50 - 90%) 0.0
DEVELOPMENT TYPE	INDUSTRIAL & BUSINESS 0.55	HOTEL - APARTMENT 0.45	RESIDENTIAL 0.40	AGRICULTURAL 0.15

NOTE: The design coefficient "c" must result from a total of the values for all four watershed characteristics of the site.

Table 2

RUNOFF COEFFICIENTS

Type of Drainage Area	Runoff Coefficient C
Parks, cemeteries	0.25
Playgrounds	0.35
Railroad yard areas	0.40
Unimproved areas	0.30
Streets:	
Asphaltic	0.95
Concrete	0.95
Brick	0.85
Driveway and walks	0.85
Roofs	0.95
Lawns:	
Sandy soil, flat, 2%	0.10
Sandy soil, avg., 2-7%	0.15
Sandy soil, steep, 7%	0.20
Heavy soil, flat, 2%	0.17
Heavy soil, avg., 2-7%	0.22
Heavy soil, steep, 7%	0.35

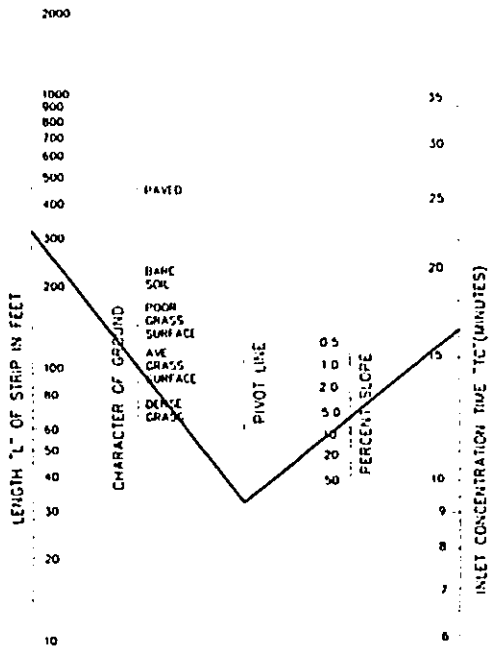
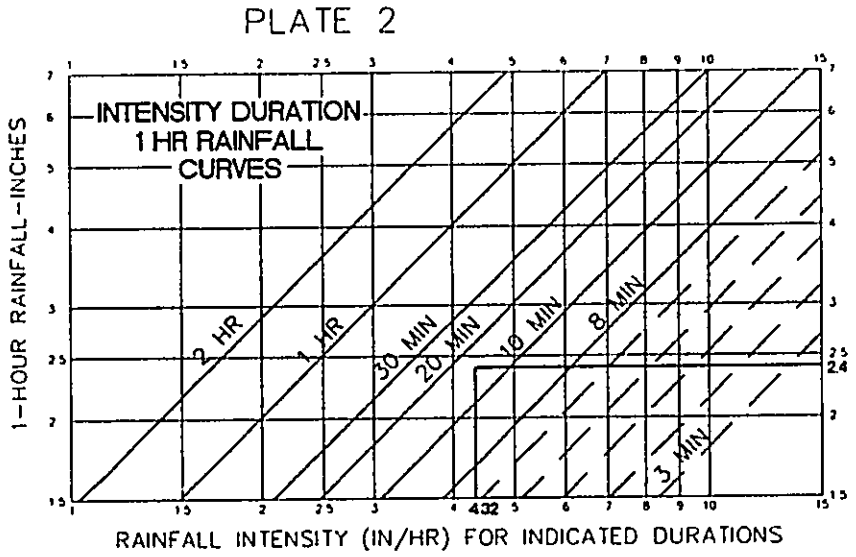


PLATE 1

OVERLAND FLOW CHART

PLATE 2



DRAINAGE AREA 1 – EXISTING CONDITION

PLATE 1 & 2
DRAINAGE AREA 1
EXISTING CONDITION

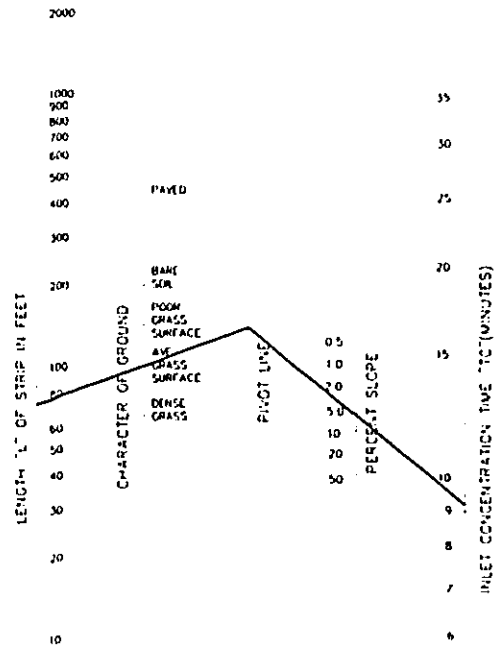
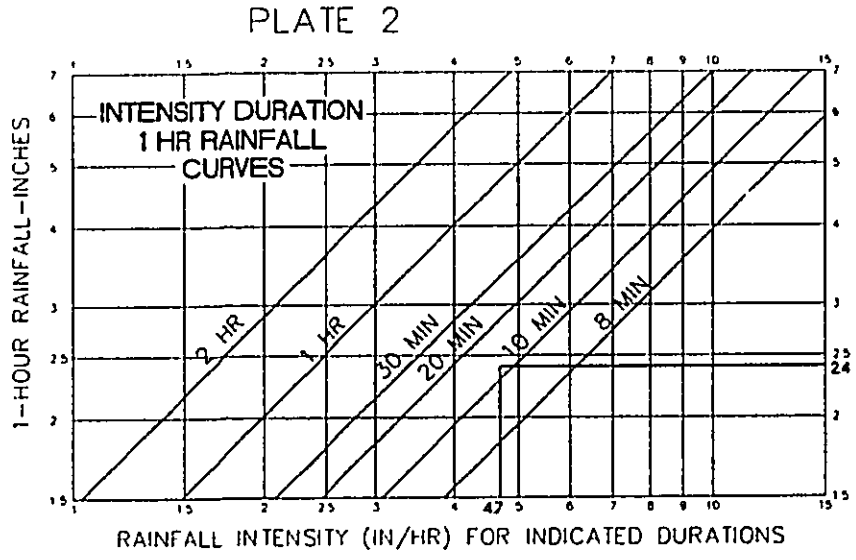


PLATE 1

OVERLAND
FLOW
CHART

PLATE 2



DRAINAGE AREA 2 – EXISTING CONDITION

PLATE 1 & 2
DRAINAGE AREA 1
DEVELOPED CONDITION

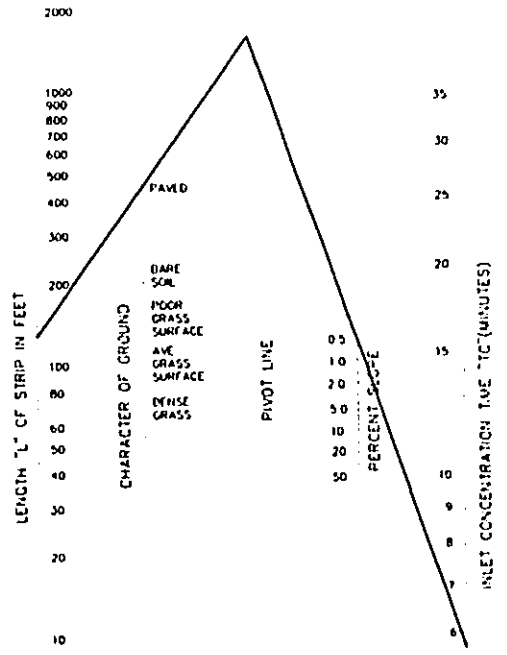
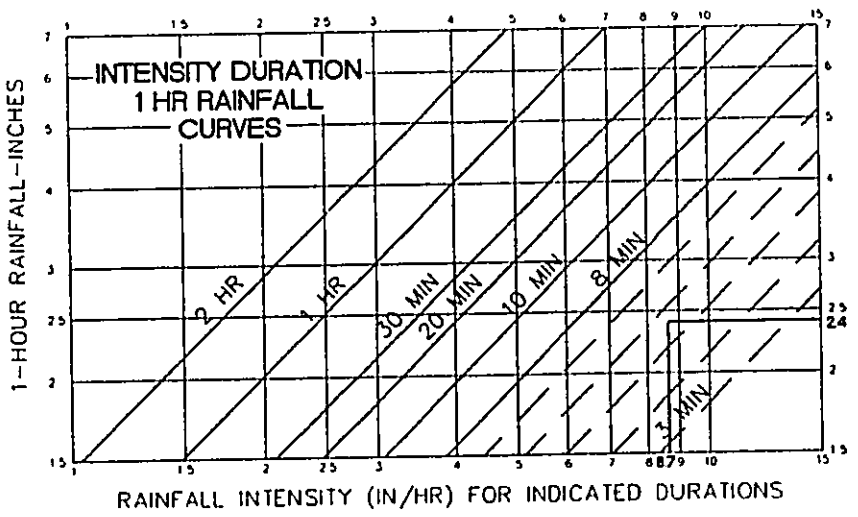


PLATE 1

OVERLAND
FLOW
CHART

PLATE 2



DRAINAGE AREA 1 – DEVELOPED CONDITION

PLATE 1 & 2
DRAINAGE AREA 2
EXISTING CONDITION

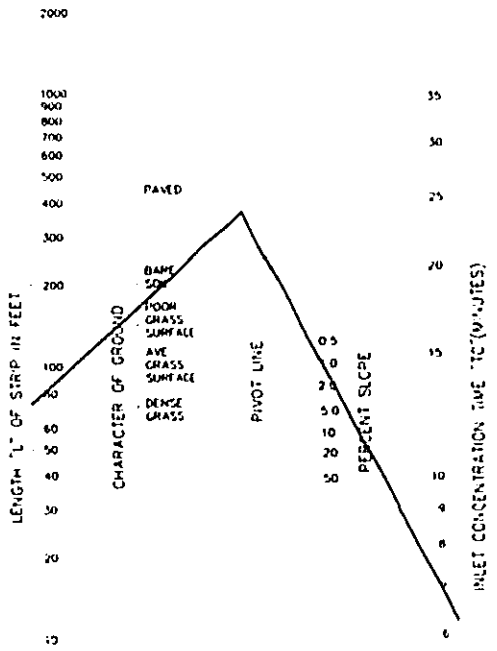
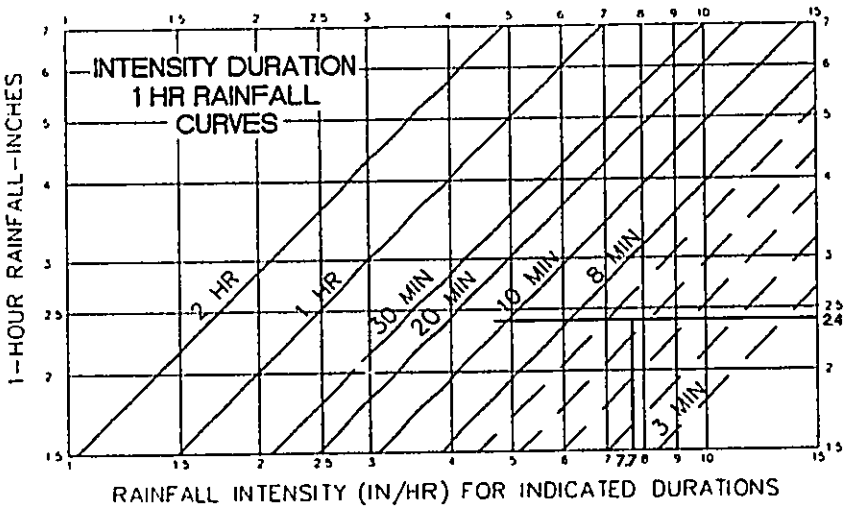


PLATE 1

OVERLAND FLOW CHART

PLATE 2



DRAINAGE AREA 2 – DEVELOPED CONDITION

PLATE 1 & 2
DRAINAGE AREA 2
DEVELOPED CONDITION

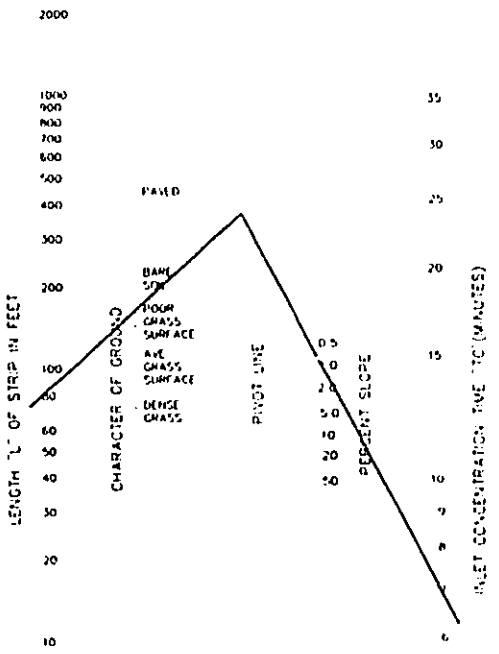
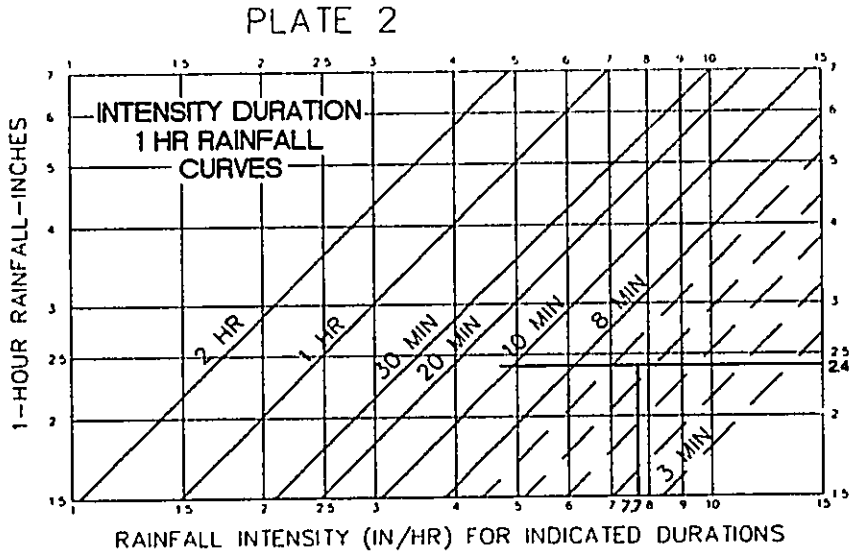


PLATE 1

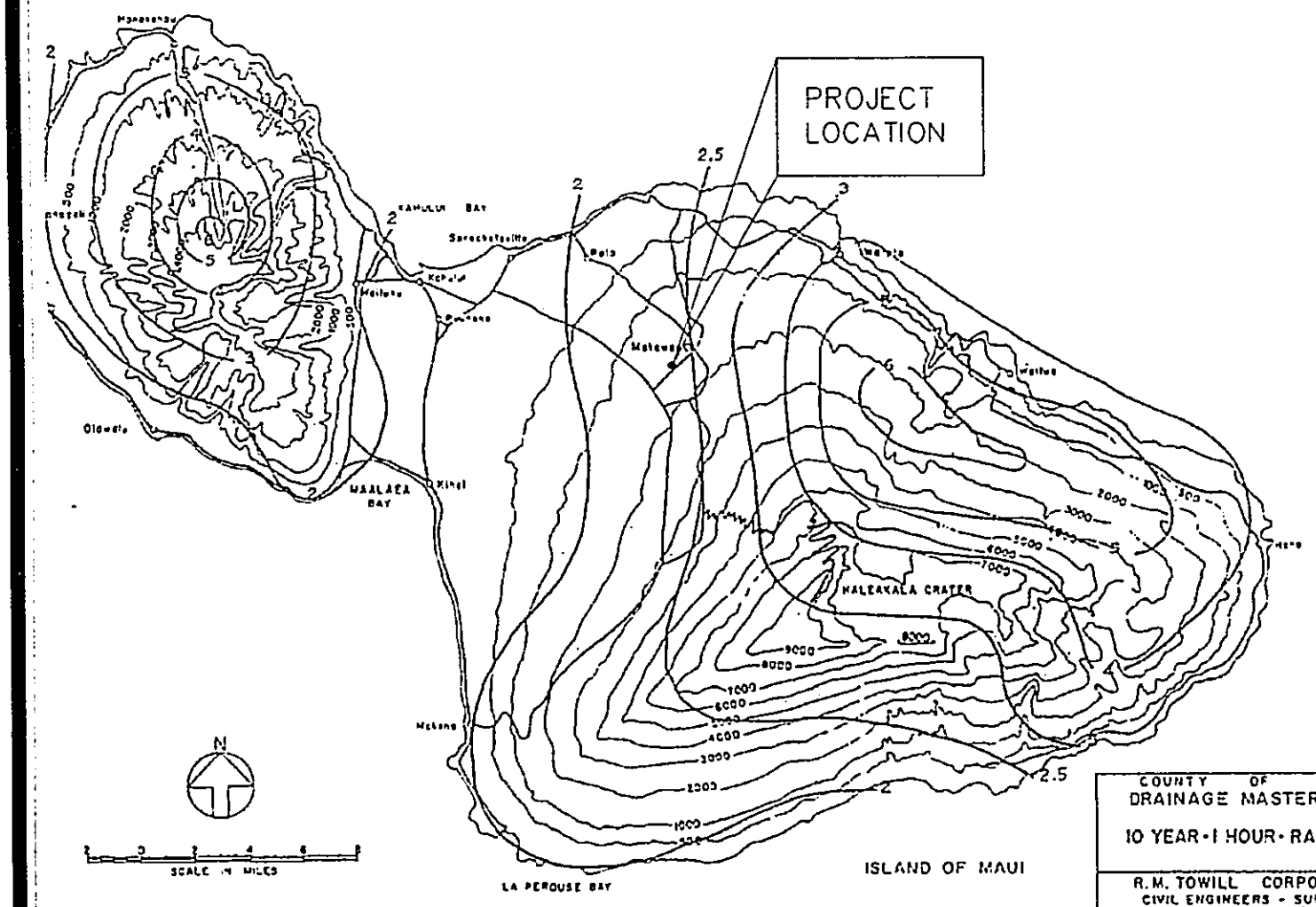
OVERLAND
FLOW
CHART

PLATE 2



DRAINAGE AREA 2 - DEVELOPED CONDITION

PLATE 1 & 2
DRAINAGE AREA 2
DEVELOPED CONDITION



COUNTY OF MAUI
DRAINAGE MASTER PLAN
10 YEAR-1 HOUR-RAINFALL

R.M. TOWILL CORPORATION
CIVIL ENGINEERS - SURVEYORS

PLATE 4

PLATE 4
10-YR 1-HR RAINFALL

2005-09-23 HA FONSI GADLER FAMILY SINGLE-FAMILY RESIDENCE, PUNA

FINAL ENVIRONMENTAL ASSESSMENT

SINGLE-FAMILY RESIDENCE & RELATED IMPROVEMENTS

Lot 7, Portion of R.P. Grant No. 1533 to Kekoa
at Keonepoko Iki, District of Puna, Hawaii
TMK: (3) 1-5-09:40

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Gadler Family Trust

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September, 2005

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING