

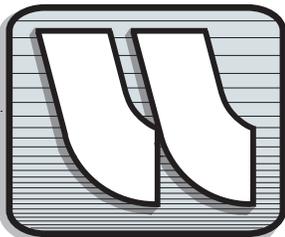
Draft Environment Assessment for

Lahaina No. 3 Force Main Replacement and Wahikuli Pedestrian Trail

Wahikuli-Kaanapali, Maui, Hawaii
Contract Number C4425
Project No. WW09-01

Prepared For: County of Maui
Department of Environmental
Management
Wastewater Reclamation Division

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PREFACE

The County of Maui, Department of Environmental Management (DEM), Wastewater Reclamation Division (WWRD), proposes to construct a replacement 20-inch force main between the original Lahaina Pump Station No. 3 (abandoned 1997) located approximately 1100 feet north of the intersection of Honoapiilani Highway and Fleming Road, and an existing sewer manhole in the Honoapiilani Highway Right-of-Way (ROW) approximately 350 feet north of a golf cart bridge across Honoapiilani Highway at the Kaanapali Golf Course near the first hole green. This single 20-inch C905 Polyvinyl Chloride (PVC) pipe will replace the existing 20-inch diameter ductile iron force main which was constructed in late 1976. The replacement 20-inch C905 PVC force main will generally follow the route of the existing force main over a length of approximately 6500± feet, except that it will be deliberately realigned to minimize traffic disruptions during construction along Honoapiilani Highway.

As part of this project a walking trail will also be designed and constructed for the Department of Parks & Recreation, over portions of the force main route disturbed by the trenching and installation. It will consist of a 6 foot wide concrete pathway that will extend from the existing walking path created by community group Lahaina Bypass Now, with portions deviating from the route of the force main to avoid parking lot areas and provide pedestrians with a pathway closer to the shoreline at outcroppings.

Pursuant to Chapter 343, Hawaii Revised Statutes; and, Chapter 200 of Title 11, Hawaii Administrative Rules; this Environmental Assessment documents the project's technical characteristics, environmental impacts and alternatives, and advances findings and conclusions relative to the project.

COUNTY OF MAUI
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT LAHAINA NO. 3 FORCE
MAIN REPLACEMENT

PROPOSING AGENCY: County of Maui, Department of Environmental Management.

ACCEPTING AGENCY: County of Maui, Department of Environmental Management

ANTICIPATED DETERMINATION: Finding of No Significant Impact (FONSI)

PROJECT DESCRIPTION: The County of Maui, Department of Environmental Management, Wastewater Reclamation Division (DEM-WWRD), proposes to construct a 20-inch force main between the original Lahaina Pump Station No. 3 (abandoned 1997) located approximately 1100 feet north of the intersection of Honoapiilani Highway and Fleming Road, and an existing sewer manhole in the Honoapiilani Highway Right-of-Way (ROW) approximately 350 feet north of a golf cart bridge across Honoapiilani Highway at the Kaanapali Golf Course near the first hole green.

The Department of Parks & Recreation is also participating in this project in proposing to provide a walking trail over portions of the force main route disturbed by the trenching and installation. Portions of the walking trail are expected to deviate from the route of the force main to avoid parking lot areas and allow pedestrians to get closer to the shoreline at outcroppings.

The project involves funding by the County of Maui Department of Environmental Management. The project may also receive funding from the State Revolving Fund (SRF) program.

The DEM-WWRD has prepared this Draft Environmental Assessment (EA) pursuant to Chapter 343, Hawaii Revised Statutes. In the Draft EA, three (3) Alternatives were considered: (1) Alternative “1”: the “Honoapiilani Highway Makai Route” alternative; (2) Alternative “2”: the “Honoapiilani Highway Mauka Route” alternative; and (3) Alternative “3”: the “No-Build” alternative.

PROJECT SUMMARY:

Wastewater generated from Lahaina on the Island of Maui (see Exhibit G for the Lahaina Sewer Drainage Area) is directed into the existing Lahaina Pump Station No. 3 Replacement located in the County Park approximately 1000 feet south of the Fleming Road-Honoapiilani Highway intersection. The Lahaina Pump Station No. 3 then conveys wastewater northward to Lahaina Pump Station No. 2 in Kaanapali, which conveys wastewater to Lahaina Pump Station No. 1 in Honokowai. From there wastewater is conveyed to the Lahaina Wastewater Reclamation Facility in Honokowai on the mauka side of Honoapiilani Highway. The locations of the Lahaina Pump Station No. 3 Replacement, Lahaina Wastewater Reclamation Facility and the approximate route of the existing force main are shown on Figure 1.

Note that the portion of the 20-inch force main between the original Pump Station No. 3 and the existing Pump Station No. 3 will not be replaced as this portion was built in 1997 when the original Pump Station No. 3 was abandoned.

The Lahaina Wastewater Reclamation Facility was completed in 1975.

Since 1975, the area served by the Lahaina Pump Station No. 3 Replacement has experienced substantial growth. Furthermore, since this is the only means of conveying wastewater from the Lahaina service area to the Lahaina Wastewater Reclamation Facility, any break or malfunction of this system could be catastrophic. Exhibit G displays the extent of the Lahaina Pump Station No. 3 Drainage Area.

This project will replace a portion of the existing 20-inch No. 3 ductile iron force main with a new 20-inch Polyvinyl Chloride (PVC) pipe with either welded (heat fused) joints or conventional bell and spigot joints. The replacement 20-inch PVC force main will generally follow parallel to the route of the existing segment of force main over a length of approximately 6500± feet, along either the mauka or makai side of Honoapiilani Highway. Much of the existing force main is located under the pavement of the existing Honoapiilani Highway after it was widened from 2 traffic lanes to 4 traffic lanes. The existing force main will be left in place for back-up or to temporarily boost capacity in an emergency.

Based on the EA and supporting analyses, the DEM anticipates a Finding of No Significant Impact (FONSI).

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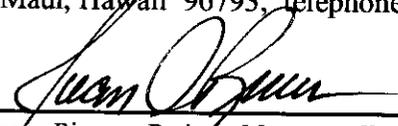
Since 1975, the area served by the Lahaina Pump Station No. 3 Replacement has experienced substantial growth. Furthermore, since this is the only means of conveying wastewater from the Lahaina service area to the Lahaina Wastewater Reclamation Facility, any break or malfunction of this system could be catastrophic. Exhibit G displays the extent of the Lahaina Pump Station No. 3 Drainage Area.

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Based on the EA and supporting analyses, the DEM anticipates a Finding of No Significant Impact (FONSI).

FOR FURTHER INFORMATION, CONTACT: Mr. Juan Rivera, Project Manager, Wastewater Reclamation Division of the Department of Environmental Management, County of Maui, One Main Plaza, Suite 610, 2200 Main Street, Wailuku, Maui, Hawaii 96793; telephone: (808) 270-7268.

8/25/2009
Date



Juan Rivera, Project Manager, Wastewater Reclamation
Division, Department of Environmental Management

I. PROJECT OVERVIEW:

A. APPLICANT:

The applicant is the Department of Environmental Management, Wastewater Reclamation Division, County of Maui (hereinafter referred to as DEM-WWRD).

B. LOCATION:

The applicant is proposing to construct a 20-inch force main between the original Lahaina Pump Station No. 3 located approximately 1100 feet north of the intersection of Honoapiilani Highway and Fleming Road, and an existing sewer manhole in the Honoapiilani Highway Right-of-Way (ROW) approximately 350 feet north of a golf cart bridge across Honoapiilani Highway at the Kaanapali Golf Course near the first hole green (see Figures 2 and 3). The existing 20-inch force main falls within a 10-foot wide easement within the rights-of-way along Honoapiilani Highway.

As construction of the proposed 20-inch force main replacement may severely impact traffic on these roadways, two (2) different routes were initially considered that generally follow the alignment of the existing 20-inch force main, one of which follows parallel to the existing easements makai of Honoapiilani Highway. and another which follows parallel to the existing easements mauka of Honoapiilani Highway. The mauka alignment traverses existing public and private properties to avoid severe disruptions to existing traffic patterns. Details of these routes are given in Section II of this Report.

C. LAND OWNERSHIP:

The routes of the proposed project extends over portions of State and County roadway rights-of-way, utility easements and both public and private Tax Map Key (TMK) parcels. Detailed inventories of the TMK parcels and their existing owners of record for each alternative route are listed in Section II, "ALTERNATIVE ANALYSIS" of this Report.

D. EXISTING LAND USE:

In general, due to the required length of the proposed force main replacement, the existing and two (2) proposed Alternative Routes traverse one or more of the following West Maui Community Plan Land Use Categories:

- “Ag” Agricultural
- “OS” Open Space
- “P” Public/Quasi-Public
- “PK” Park

as well as County and State roadway rights-of-way.

Most of the TMK parcels are primarily Park, Open Space or Public/Quasi Public.

E. PROJECT NEED:

As mentioned above, the existing Lahaina No. 3 force main was constructed in 1977, following the completion of the Lahaina Wastewater Reclamation Facility in 1975. The existing force main is the only means of conveying wastewater from Lahaina town (Puamana to Wahikuli) to the Lahaina Wastewater Reclamation Facility (see Exhibit G). Therefore, any break or malfunction of this 32+ year old force main could be catastrophic to traffic patterns, health, and the coastal environment.

In fact, ***a spill has already occurred in just this segment of the force main line***. Appendix C includes the Spill Report for the Lahaina No. 3 Force Main for the major spill that occurred on February 8, 2007. The Spill Report dated February 14, 2007 (see Appendix C) states:

“On February 8, 2007 approximately 687,500 gallons of wastewater was spilled from a break in a 21 inch force main between Wastewater Pump Stations #2 and #3 in Lahaina. The exact cause for the failure in the force main is unknown but could include; 1) scouring from grit within the pipe, 2) failure due to Hydrogen Sulfide gas, or 3) failure due to a manufacturer’s defect of the pipe. The spill flowed into an existing natural drainage ditch, and to the ocean.”

Photographs showing the location and repair of the spill are included in the Spill Report documents in Appendix C.

The County's "West Maui Master Plan for Wastewater Collection, Treatment and Disposal" prepared by Brown and Caldwell in 1990 estimated that peak wet-weather flow into the Lahaina Wastewater Reclamation Facility (in 1989) was 12.5 million gallons per day (MGD). The ultimate design flow was projected to be 17.04 MGD from both the Lahaina and Kapalua collection areas. Per 2008 statistics, the Lahaina Pump Station No. 3 Replacement provides an Average Daily Wastewater Flow equal to 1.380 MGD, but has a capacity to deliver up to 11.37 MGD which is below the theoretical capacity of 15 MGD due to impeller wear.

The current West Maui Community Plan (1996), Part II, "Description of the Region and its Problems and Opportunities", Section B.1, "Problems", identifies the following as one of the major problems of the area (only relevant points listed for brevity):

"INFRASTRUCTURE. Inadequate infrastructure and the failure of existing infrastructural systems are seen as major problems for the region. Infrastructural improvements need to be constructed prior to the issuance of building permits in order to prevent the lag time needed for infrastructure to catch up with development. Water resources should be conserved and new sources need to be developed. The closing of the region's only landfill presents a potential challenge to efficient solid waste management. There is a need to develop a public transportation system and to support the development of more bikeways"

Section B.2, "Opportunities", states the following:

"NATURAL ENVIRONMENT. The natural environment is a major asset of the region – the open spaces and stretches of shoreline between the south boundary of the district and Puamana and from Kapalua to Nakalele Point, the expansive landscape of agricultural and natural open space areas against the backdrop of the West Maui Mountains, the warm climate, abundant water resources, nice sandy beaches, and clean ocean environment. The natural environment of the Lahaina"

region characterizes much of what is special about West Maui as a place to live and visit.

The marine and nearshore environment and open space areas are important assets of the region that should be protected and preserved for the long-term. Also reuse of treated effluent and the reduction in sedimentation of nearshore waters must be pursued to protect and enhance the region's land, water and marine environments."

Part III of the West Maui Community Plan, "POLICY RECOMMENDATIONS, IMPLEMENTING ACTIONS AND STANDARDS FOR THE WEST MAUI REGION", Section A., "Intended Effects of the West Maui Community Plan", states:

"Population projections, while subject to a host of variables and external factors, provide a useful benchmark for conceptualizing growth in a region and providing a measure of the effectiveness of the West Maui Community Plan and future strategies to direct and manage growth. Population forecasts were utilized to provide some insight into long-term trends and likely future land use demands."

"For the year 2010, the population forecasts projected a West Maui resident population of 22,633 if growth is unconstrained, and a resident population of 21,149 if growth is constrained. Additionally, the forecasts projected an average visitor census of 37,734 if growth is unconstrained, and a visitor census of 31,775 if growth is constrained."

Also in Part III, Section B., "Goals, Objectives, Policies and Implementing Actions", infrastructural improvements are involved as part of the "Objectives and Policies" in a number of areas, for example:

"LAND USE - Objectives and Policies for the West Maui Region in General

- 1. Protect and enhance the quality of the marine environment."***

“ENVIRONMENT - Objectives and Policies

10. *Encourage park, golf course, landscape and agricultural uses of treated effluent. Plan for wastewater reuse in the design of new parks, golf courses and open spaces.”*

“HOUSING - Objectives and Policies

4. *Plan, design and construct off-site public infrastructure improvements (i.e., water, roads, sewer, drainage, police and fire protection and solid waste) in anticipation of residential developments defined in the Community Plan and consistent with the directed and managed growth plan required by the County General Plan.”*

“HOUSING - Implementing Actions

4. *Formulate or amend functional plans and studies to further implement recommendations of the Community Plan. These would include police and fire protection, water development, housing, local and regional circulation, drainage, solid waste, sewage disposal and treatment and other special plans and studies as required.”*

“URBAN DESIGN - Objectives and Policies for the West Maui Region in general

3. *Improve pedestrian and bicycle access within the region*
4. *Establish, expand and maintain parks, public facilities and public shoreline areas outside of Lahaina town.”*

“INFRASTRUCTURE - Water and Utilities

9. *Promote conservation of potable water through the use of treated wastewater effluent for irrigation.”*

“INFRASTRUCTURE - Liquid and Solid Waste

1. ***Reuse the treated effluent from the County’s wastewater treatment system for irrigation and other suitable purposes in a manner that is environmentally sound***

3. ***Improve sewage treatment services for Lahaina and provide services to residential expansion areas in the following manner:***
 - a. ***Improve facilities, operations and processing at the existing plant to reduce odors and leakage.***

 - b. ***Recycle wastewater***

 - d. ***Extend sewage treatment service to populated areas not currently serviced”***

Clearly, the intent of the most recent “West Maui Community Plan” is that wastewater system improvements are made where necessary. The proposed project will implement some of the major objectives of the West Maui Community.

F. PROPOSED ACTION:

Anticipated improvements include the following:

- (1) Replacement of the existing 20-inch ductile iron force main with a new 20-inch PVC pipe force main connecting the original Lahaina Pump Station No. 3 (abandoned 1997) to an existing sewer manhole in the Honoapiilani Highway ROW approximately 350 feet north of a golf cart bridge across Honoapiilani Highway at the Kaanapali Golf Course near the first hole green. The pipe routes considered generally follow the route of the existing 20-inch force main except that it will be deliberately realigned or offset to minimize roadway closure of Honoapiilani Highway, and all other potential roadway crossings.

- (2) Construction of a permanent 6 foot wide concrete pathway that will benefit the public by significantly improving safe and convenient pedestrian access to the shoreline and pristine waters of the Wahikuli-Kaanapali Beach area.

- (3) Reduced risks of possible health hazards and environmental contamination near the shoreline from Wahikuli Wayside Park to the south end of the Kaanapali Resort area in the event of a break or malfunction in the existing 32+ year old force main.
- (4) Increased capacity for conveyance of wastewater due to the lower friction in PVC pipe.
- (5) Acquisition of additional utility easements outside the busy roadway rights-of-way for Honoapiilani Highway.

II. ALTERNATIVES ANALYSIS:

A. ALTERNATIVE “1”:

Alternative “1” represents the Proposed Action. This Alternative is also referred to as the ***Honoapiilani Highway Makai Route (a.k.a. Route “A”)***. The construction strategy applied here is to construct a new replacement force main parallel to the existing force main so as to have it constructed, tested and in-place between the original Lahaina Pump Station No. 3 and a sewer manhole in the Honoapiilani Highway ROW approximately 350 feet north of a golf cart bridge while the existing force main remains operational. Switch-over to the replacement force main can then be achieved with negligible down-time.

Route “A” is an alternative alignment which generally follows parallel to the existing force main route, but on the makai side of Honoapiilani Highway to minimize traffic disruptions. Specifically, Route “A” begins at the original Lahaina Pump Station No. 3, then takes the following path (see Figure 3):

- (1) crosses northward across the full length of a parcel owned by the County of Maui also known as the Wahikuli Wayside Park (TMK: 4-5-21:07)
- (2) continues northward over another parcel owned by the County of Maui also known as Hanakaoo Park (TMK:4-4-13:07)
- (3) continues northward across the roadway entrance to Hanakaoo Park then across a remnant between the access road to Hanakaoo Park owned by the County of Maui and Hanakaoo Cemetery owned by the County of Maui per Executive Order 0134-2 (TMK: 4-4-13:10)
- (4) continues northward across Hanakaoo Cemetery owned by the County of Maui per Executive Order 0134-2 (TMK: 4-4-13:09)
- (5) continues northward across a portion of a private parcel owned by the Royal Kaanapali Holdings LLC which is part of the Kaanapali Golf Course near the first hole green then beneath a golf cart bridge which crosses Honoapiilani Highway

- (6) continues northward to connect to an existing sewer manhole in the pavement of the Honoapiilani Highway ROW

With Route “A”, disruption of traffic would be minimized by having the force main offset from the existing roadway rights-of-way except where it may be necessary to cross the paved edges of the roadway. This may happen where space limitations due to the close proximity of the existing shoreline require that the proposed force main runs beneath the existing Honoapiilani Highway pavement.

As portions of Route “A” will be within the 40 feet shoreline setback zone, a Shoreline Certification Survey, Shoreline Certification Report and a Shoreline Setback Variance Application will be submitted to the Planning Department.

This route, although less disruptive to the public with respect to traffic, will require easements across all of the public and private parcels not directly owned by the County of Maui. Exhibit “A” lists the properties affected by Route “A”.

Some portions of the force main installed using Cut and Cover Trenching techniques are expected to have to be installed below the water table to avoid existing utilities. However, dewatering will be avoided as much as possible.

Note that the makai route will enable the construction of much of the permanent concrete walking trail, thus improving the infrastructure for the benefit of the public, whereas the mauka route will not.

B. ALTERNATIVE “2”:

Alternative “2” represents the “Must Cross the Highway” Action. This Alternative is also referred to as the ***Honoapiilani Highway Mauka Route (a.k.a. Route “B”)***. This route will be used if the Route “A” alternative proves to be infeasible. Route “B”, by necessity, will require crossing the full width of Honoapiilani Highway twice, either by trenching, or by Horizontal Directional Drilling techniques if the soil conditions beneath Honoapiilani Highway make it feasible to do so.

Route “B” is an alternative alignment which will also generally follow parallel to the existing force main route, except that it will have to cross Honoapiilani Highway twice. Specifically, Route “B” begins at the original Lahaina Pump Station No. 3, then takes the following path (see Figure 3):

- (1) crosses northward across approximately 1600 feet of a parcel owned by the County of Maui also known as the Wahikuli Wayside Park (TMK: 4-5-21:07)
- (2) crosses eastward the length of all four (4) lanes of Honoapiilani Highway to the western boundary of a parcel owned by the State of Hawaii which is a remnant between the highway and the Sugar Cane Train track lot (TMK: 4-5-21:15)
- (3) continues northward across the undeveloped remnant between the highway and the Sugar Cane Train track lot
- (4) crosses northward across a parcel owned by the County of Maui (TMK: 4-5-21:10) over which an access roadway to the Lahaina Civic Center and Lahaina Post Offices exists
- (5) continues northward across the parcel owned by the State of Hawaii on which the Lahaina U. S. Post Office exists per General Lease 4599 (TMK: 4-5-21:14)
- (6) continues northward across the parcel owned by the State of Hawaii on which the Lahaina Civic Center, Lahaina Police and Fire Departments are located (TMK: 4-5-21:16)
- (7) crosses a second access road to the Lahaina Police and Fire Departments (TMK: 4-5-21:16)
- (8) continues northward across an undeveloped parcel owned by the Hawaii Housing Finance and Development Corporation (TMK: 4-5-21:19)
- (9) continues northward across an undeveloped private parcel owned by Kaanapali Development Corp. dba Kaanapali Land Management Corp. (TMK: 4-4-06:70)
- (10) continues northward across a portion of a private parcel owned by Royal Kaanapali Holdings LLC which is part of the Kaanapali Golf Course near the second hole fairway (TMK: 4-4-06:28)

- (11) crosses beneath a golf cart bridge linking the first and second holes across Honoapiilani Highway on the Kaanapali Golf Course (TMK: 4-4-06:28)
- (12) crosses westward the length of all four (4) lanes of Honoapiilani Highway to the existing sewer manhole in the pavement of the Honoapiilani Highway ROW

With Route “B”, disruption of traffic will be unavoidable since Honoapiilani Highway would have to be crossed over the full width of the four (4) lane highway twice. This route will be used only if the Route “A” alternative proves to be infeasible, for example:

- (1) Space restrictions between the shoreline and the Honoapiilani Highway ROW prohibit the proposed force main from remaining out of the paved roadway travel lanes for a length that would create more traffic disruption than crossing the highway twice
- (2) Beach erosion rate is deemed to be too high for long term operation of this portion of the force main. Exhibits “C” and “D” provide beach erosion rate maps for Kaanapali and Wahikuli
- (3) Soil condition is such that it precludes routing the proposed force main makai of Honoapiilani Highway
- (4) Utilities or drainage obstructions on the makai side of Honoapiilani Highway dictate that Route “B” is the “path of least resistance”
- (5) Problems with dewatering the trenches so close to the shoreline make it virtually impossible to construct the force main on the makai side of Honoapiilani Highway

This route will also require easements across all of the public and private parcels not directly owned by the County of Maui. Exhibit “B” lists the properties affected by Route “B”.

The Honoapiilani Highway crossings will likely have to be done in the daytime when traffic is much higher than at night. Night work is unlikely in this residential area due to noise concerns. It is anticipated that night work here will require a Noise Variance from the Department of Health (DOH).

Also, as mentioned earlier, the makai route (Route “A”) will enable the construction of much of the permanent concrete walking trail, thus improving the infrastructure for the benefit of the public, whereas the mauka route (Route “B”) will not.

C. ALTERNATIVE “3”:

Alternative “3” represents the “No-Build” alternative. This Alternative leaves the West Maui region with the current risk that in the event of a break or malfunction of this 32+ year old force main, wastewater generated may flow into the ocean near Wahikuli Wayside Park or the Kaanapali Resort.(see Exhibit G).

In fact, *a spill has already occurred in just this segment of the force main line.* Appendix C includes the Spill Report for the Lahaina No. 3 Force Main for the major spill that occurred on February 8, 2007. The Spill Report dated February 14, 2007 (see Appendix C) states:

“On February 8, 2007 approximately 687,500 gallons of wastewater was spilled from a break in a 21 inch force main between Wastewater Pump Stations #2 and #3 in Lahaina. The exact cause for the failure in the force main is unknown but could include; 1) scouring from grit within the pipe, 2) failure due to Hydrogen Sulfide gas, or 3) failure due to a manufacturer’s defect of the pipe. The spill flowed into an existing natural drainage ditch, and to the ocean.”

Photographs showing the location and repair of the spill are included in the Spill Report documents in Appendix C.

Finally, it *completely contradicts* the Project Needs and the stated “Goals, Objectives and Policies” of the latest West Maui Community Plan, including economic, physical infrastructure, and health and safety concerns.

As spills have already occurred, not doing anything will result in the likelihood of more spills, causing additional costs to the County in the form of emergency repairs and DOH

finer plus other inconveniences such as traffic delays, beach closings and loss of revenue to local businesses.

For these reasons, Alternative “3” was eliminated in favor of Alternative “1”.

Comparison Summary of Alternatives “1”, “2” and “3”

Alternative “1” - Route “A” (Makai of Honoapiilani Highway)

Pros

- (1) Enables completion of Wahikuli Pedestrian Trail for the Department of Parks & Recreation (approximately 4300+ ft of concrete trail)
- (2) Minimizes disruption of traffic on Honoapiilani Highway as no 4-lane crossing is required
- (3) Soil conditions are more favorable to trenching on the makai side
- (4) Fewer utility crossings (MECO power poles and underground conduits, Hawaiian Telcom underground conduits, Oceanic Time Warner Cable underground conduits, Sandwich Isles Communications underground fiber optic conduits are located primarily on the mauka side of Honoapiilani Highway)

Cons

- (1) May be subject to long term beach erosion effects
- (2) Within Tsunami Inundation Zone
- (3) May require use of Ground Penetrating Radar or other means to probe the 400 ft long corridor between Honoapiilani Highway and Hanakaoo Cemetery marked headstones for possible unmarked burials
- (4) Requires temporary closures of access roads and portions of parking areas at Wahikuli Wayside and Hanakaoo Parks

Alternative “2” - Route “B” (Mauka of Honoapiilani Highway)

Pros

- (1) Less subject to long term beach erosion effects

Cons

- (1) Requires crossing 4-lane Honoapiilani Highway twice which will severely affect traffic
- (2) Requires crossing of one (1) roadway entrance to parking lots and portions of parking lot stalls in Wahikuli Wayside Park
- (3) Requires additional crossing of two (2) direct access roads to Lahaina Post Office, Lahaina Fire Department, and Lahaina Police Department
- (4) Contributes a shorter length (1400 ft of 4300 ft) toward completing the Wahikuli Pedestrian Trail for the Department of Parks & Recreation
- (5) Will require the Department of Parks & Recreation to prepare a separate SMA application and Shoreline Certification to construct this trail at a later date)
- (6) Soil conditions on the mauka side will require excavation for trenches in rock and boulder stockpiles
- (7) More utility crossings (as compared to the makai route) both parallel and perpendicular to the highway (MECO power poles and underground conduits, Hawaiian Telcom underground conduits, Oceanic Time Warner Cable underground conduits, Sandwich Isles Communications underground fiber optic conduits are located primarily on the mauka side of Honoapiilani Highway)
- (8) Within Tsunami Inundation Zone

Alternative “3” - “No-Build” Alternative

Pros

- (1) No disruption of traffic (except for possible emergency repairs and spill cleanups on existing force main as noted below)

Cons

- (1) Does not mitigate the risk of sewage spills on the existing force main such as the February 8, 2007 spill referenced in Appendix C of this Report
- (2) Additional spills will cause additional costs to the County in the form of emergency repairs, DOH fines, traffic delays, beach closings and loss of revenue to local businesses
- (3) Contributes nothing (0 ft of 4300+ ft) towards completing the Wahikuli Pedestrian Trail for the Department of Parks & Recreation
- (4) Will require the Department of Parks & Recreation to pay te entire costs for separate SMA application, Shoreline Certification, and design and construction of this trail at a later date
- (5) Existing force main is also within the Tsunami Inundation Zone

III. DESCRIPTION OF THE EXISTING ENVIRONMENT:

A. PHYSICAL ENVIRONMENT:

1. Surrounding Environment

The proposed Lahaina No. 3 Force Main Replacement project will span between the original Lahaina Pump Station No. 3 (abandoned 1997) located approximately 1100 feet north of the intersection of Honoapiilani Highway and Fleming Road, and an existing sewer manhole in the Honoapiilani ROW approximately 350 feet north of a golf cart bridge across Honoapiilani Highway at the Kaanapali Golf Course near the first hole green. Figure 2 provides a Project Location Map showing the general location of the project on the Island of Maui, while Figure 3 provides a more detailed view of the project site.

Two (2) different alignments were proposed and evaluated. These were described in detail in the “Alternatives Analysis” Section of this Draft Environmental Assessment (EA) Report. Depending on the alignment eventually selected, the lines may be installed either mauka or makai of Honoapiilani Highway between the two end points.

The project may therefore traverse one or more parcels on which the following landmarks exist (organized within the following West Maui Community Plan Land Use Categories):

a. “OS” Open Space

Wahikuli Wayside Park
Former cane fields

b. “P” Public/Quasi Public

Remnant between road to Hanakaoo Park and Hanakaoo Cemetery
Hanakaoo Cemetery
Remnant between Honoapiilani Highway and Sugar Cane Train Track Lot
Road to Lahaina Civic Center, Post Office and Tennis Courts

Lahaina U. S. Post Office
Lahaina Civic Center

c. “PK” Park

Lahaina Wastewater Pump Station #3 (abandoned 1997)
Wahikuli Wayside Park
Hanakao Park
Kaanapali Golf Course

d. “AG” Agricultural

Parcel between Honoapiilani Highway and Police/Fire access road
Former cane fields

as well as the following County and State roadway rights-of-way.

Honoapiilani Highway
Access road to Hanakao Park
Access road to the Lahaina Post Office and Lahaina Civic Center
Second access road to Lahaina Police and Fire Departments

2. Climate

Located at or near sea level, the Wahikuli-Kaanapali area has a mean annual temperature of 77° F with a typical diurnal (daily) range of 10° - 15° F experienced locally. The annual variation in mean monthly temperatures is only about 9° F statewide. Air temperature in Hawaii has a muted annual cycle because of the small season-to-season changes in solar radiation and the ocean’s moderating influence. Differences in temperature from place to place are mainly due to elevation (Atlas of Hawaii, Third Edition, 1998).

According to the Maui County Data Book 2007, the daily average high temperature in Lahaina is 84.9° F, while the daily average low temperature is 69.4° F.

Per the Atlas of Hawaii, Third Edition (1998), the annual rainfall amount in Lahaina is approximately 15± inches. According to the Maui County Data Book 2007, the

precipitation in Lahaina in the wettest month is 3.15 inches in January, while the precipitation for the driest month is 0.08 inches in June.

3. Topography and Soils

The Lahaina region, from Honokohau on the north to Olowalu on the south, stretches for about 18 miles along the shore of West Maui. Numerous sand beaches lie along the Lahaina shoreline. The northern and southern ends of this coast are characterized by “palis,” or seacliffs; at the northern end, a series of scenic bays highlights the visual qualities of the shoreline environment.

From the shoreline, the land rises eastward gradually to the West Maui Mountains. The region’s highest point, Puu Kukui at 5,788 ft above sea level, lies approximately 6 miles inland (eastward) of the shore. The gradually sloping areas are generally under pineapple cultivation and were formerly under sugar cultivation, forming a green backdrop to Lahaina’s shoreline communities. Streams and gulches carry runoff across the developed shoreline.

Exhibit “I” shows a Topographic-Contour Map of the Wahikuli Area. The location of gulches near the Project Limits are shown together with the TMK parcels in the surrounding Lahaina to Kaanapali area up to the top of the West Maui Mountains.

Soil Test Borings are scheduled to be done by Fewell Geotechnical Engineers. Exhibit “F” shows that the proposed mauka or makai force main route will traverse soil types PtA, WcC, WdB, and EaA soil types.

PtA is Pulehu cobbly clay loam, 0 to 3 percent slopes. This soil is similar to Pulehu clay loam except that it is cobbly. This soil is used for sugarcane. Permeability is moderate, runoff is slow and the erosion hazard is no more than slight.

WcC is Wahikuli stony silty clay, 7 to 15 percent slopes. This soil is similar to Wahikuli silty clay, 3 to 7 percent slopes, except that there are enough stones on the surface to hinder cultivation. Runoff is slow to medium, and the erosion hazard is slight to moderate. This soil is used mostly for sugarcane.

WdB is Wahikuli very stony silty clay, 3 to 7 percent slopes. This soil is similar to Wahikuli silty clay, 3 to 7 percent slopes, except that as much as 3 percent of the surface is covered by stones. This soil is used mostly for sugarcane.

EaA is Ewa silty clay loam, 0 to 3 percent slopes. On this soil, runoff is very slow and the erosion hazard is no more than slight. This soil is used for sugarcane and pasture.

4. Flood and Tsunami Hazard

The project site is at or near sea level in close proximity to the shoreline. This is consistent with Panel Number 150003 0161C of the Flood Insurance Rate Map (effective date August 3, 1998, prepared by the U. S. Federal Emergency Management Agency, Federal Insurance Administration), which shows that the project site is largely within Flood Zone C, except for a small area near the Lahaina Post Office, which is in Zone A, and downstream of Hahakea Gulch near Hanakao Park, which is in Zone A3 and B (see Exhibit “E”). However, as the force main pipe will be buried below the existing ground surface, it should not be affected by flood waters.

Based on the Tsunami Zones posted on the Hawaii GIS website, both the proposed Routes “A” and “B” straddling Honoapiilani Highway are inside the Tsunami inundation limits (see Figure 4).

5. Flora and Fauna

As the project site is immediately adjacent to the Honoapiilani Highway, no indigenous flora or fauna remain.

6. Wetlands

The nearest wetlands are outside the project limits (see Exhibit “H” for the locations of the nearest wetlands to the project site).

7. Archaeological Resources

An Archaeological Assessment Survey was performed by Scientific Consultant Services (see Appendix A, “Archaeological Assessment Study Report”).

8. Air Quality

There are no point source of emissions within miles of the project limits. The major nonpoint sources are the heavy volumes of traffic on Honoapiilani Highway, especially during peak rush hours in the morning and evening. However, given the close proximity of the project site to the waters of Lahaina and Kaanapali, prevailing trade winds blowing from the northeast should quickly disperse any airborne pollutants out to sea.

9. Noise Characteristics

Traffic noise from Honoapiilani Highway are the predominant sources of noise along the proposed force main alignments. In the short term, there will be increased noise due to construction during trenching, pipe installation and backfilling.

10. Scenic and Open Space Resources

The subject property will be located underground either immediately mauka or makai of Honoapiilani Highway so it will not block scenic and open space resources.

B. COMMUNITY SETTING:

1. Community Character

The West Maui region is located on the western shore of the West Maui Mountains. West Maui has beautiful beaches and scenic vistas that make it a favored tourist destination. Resort development is concentrated in the leeward areas, especially the West Maui Coast extending from Lahaina through Kaanapali to Kapalua.

Lahaina encompasses a diverse mix of land uses, including residential, business, light industrial, recreational and agricultural uses. The town of Lahaina, located approximately 1.5 miles south of the original Lahaina Pump Station No. 3, is the commercial center of West Maui. The town contains several shopping centers and retail business areas, and serves as a hub for the region's residential housing.

2. Population

Per the Maui County Data Book 2007, the resident population of the County of Maui was estimated to be 141,320 in 2006. The de facto population, which includes all persons physically present in the area, regardless of usual place of residence and visitors, was estimated to be 183,882 on July 1, 2006.

Per the Maui County Data Book 2007, the resident population in the Lahaina District increased from 10,284 on April 1, 1980 to 17,967 on April 1, 2000.

3. Economy

The economy of Maui County is heavily dependent upon the visitor industry. Per the Maui County Data Book 2007, the total number of visitors in 2006, including international and domestic visitors was 2,567,136.

The dependency on the visitor industry is especially evident in West Maui, which is one of the State's major resort destination areas. The Kaanapali area include a number of hotels, including the Maui Marriott resort, Hyatt Regency Maui, the Westin Maui, and the Sheraton Maui. The foundation for the region's visitor strength lies in the availability of vacation rentals, world-class resorts, and recreational facilities throughout West Maui.

4. Police and Fire Protection

The Maui Police Department (MPD) consists of five (5) patrol divisions and includes 410 employees. These divisions provide police services through its Hana, Lahaina, Lanai, Molokai and Wailuku districts. On Maui, the MPD includes 373 administrative, patrol and support personnel.

The closest Fire Station to the project site is the Lahaina Fire Station at the Lahaina Civic Center, which is located in the vicinity of the project site.

5. Medical Facilities

Maui Memorial Medical Center, the only major medical facility on the island, services Maui County. Acute, general and emergency care services are provided by the 231-bed facility which is located in Wailuku.

6. Recreational Facilities

Recreational facilities in the West Maui area include the Lahaina Civic Center, Papalaua Beach Park, Ukumehame Beach Park, Launiupoko Wayside Park, Baby Beach (Puunoa), Puamana Beach Park, Wahikuli Wayside Park, Hanakaoa Beach Park (Canoe Beach), Kaanapali Beach, Dig Me Beach, Black Rock, Kahekili Beach Park, Honokawai Beach Park, Pokahu Park, Kaanapali Golf Course (2), Plantation Golf Course, Kapalua Bay Villas Golf Course, numerous County and resort tennis courts and aquatic sports, most notably surfing along the entire West Maui shoreline from Ukumehame to Honolua Bay.

7. Schools

West Maui hosts a number of elementary, intermediate and high schools, including the following:

King Kamehameha III Elementary
Lahaina Intermediate
Lahainaluna High
Maui Preparatory Academy
Princess Nahi'ena'ena Elementary
Sacred Hearts School

8. Solid Waste

Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis. Residential solid waste collected by County crews are disposed at the County's 55-acre Central Maui Landfill located four miles southeast

of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

C. INFRASTRUCTURE

1. Roadway System

The only major thoroughfare leading into/out of the West Maui area is Honoapiilani Highway. (Refer to Section III.A.1 for a list of roadways that may be affected by the project).

Long-range plans call for the construction of the proposed Lahaina Bypass which will parallel Honoapiilani Highway and will provide a second major thoroughfare leading into/out of the West Maui area. However, this project is only in its Draft Environmental Impact Statement process, which is not targeted for completion until 2013.

2. Water

The location of all waterlines and easements within the private and public parcels which may be traversed by the proposed force main have been identified based on available information provided by the Department of Water Supply.

3. Drainage

The location of all drainageways and culverts within the private and public parcels which may be traversed by the proposed force main have been identified based on available information provided by the Department of Public Works.

4. Wastewater System

The location of all sewer lines within the private and public parcels which may be traversed by the proposed force main have been identified based on available information provided by the Wastewater Reclamation Division of DEM.

5. Electrical, Telephone and Cable TV Systems

The location of all electrical, telephone and cable TV lines and easements within the private and public parcels which may be traversed by the proposed force main were provided by Maui Electric Company, Hawaiian Telcom, Sandwich Isles Communications (fiber optic lines) and Oceanic Time Warner Cable.

6. Oil and Gas Systems

There are no oil and gas systems in the area straddling Honoapiilani Highway.

IV. POTENTIAL IMPACTS AND MITIGATION MEASURES:

A. IMPACTS TO THE PHYSICAL ENVIRONMENT:

1. Surrounding Uses

Once completed, the proposed 20" force main should not affect any public or private property owner. No adverse impacts are anticipated.

2. Flora, Fauna and Wetland Considerations

As the project site is immediately adjacent to the 4-lane Honoapiilani Highway, there are no indigenous flora or fauna to be threatened, so no adverse impacts are anticipated. Wetlands are outside the project limits.

3. Archaeological Resources

As mentioned in Section III(A)7 above, an Archaeological Assessment Study was performed by Scientific Consultant Services, Inc. (see Appendix A, "Archaeological Assessment Study Report").

In that Study, the authors concluded:

"In sum, no new sites, features or cultural materials were documented during the archaeological field inspection of the corridor for a proposed 20" force sewer main along Honoapiilani Highway from the Wahikuli Pump Station to an existing sewer main in southern Kaanapali. Though no sites were encountered, additional archaeological investigations are recommended, specifically in the portion of the corridor that extends through an area adjacent to the eastern portion of Hanakaoo Cemetery. The additional research is suggested to include subsurface testing within the proposed footprint of the force main. Despite there being no headstones directly in the corridor, previous archaeological research has shown that previously unknown and unmarked graves are extant outside the formal boundaries of the cemetery."

“It is our estimation, based on this assessment, that the proposed undertaking would not have an adverse impact on any of the six modern or historic drainage gulches or historic surface sites. Excavation for the proposed sewer main will extend along the makai side of Honoapiilani Highway and therefore it is likely that sand deposits and possibly human remains will be encountered. In addition, as excavation is to extend through the mauka portion of Hanakaoo Cemetery, there is a high likelihood that human remains will be encountered”

The authors made the following recommendations:

“Due to the possibility of inadvertently encountering human burials within the undisturbed deposits, Archaeological Monitoring is recommended during any subsurface excavations within the project area corridor. In addition, Inventory Survey-level testing should be accomplished along the proposed route area adjacent to the cemetery. Manual sampling within the footprint of the proposed corridor, at the base of the berm, some 20 feet from the cemetery property, will determine the presence/absence of the cemetery beyond its known boundary. Test units will be manually excavated at small intervals within the footprint of the proposed line. This Inventory Survey work should precede any work in the corridor.”

Archaeological monitoring if required by the SHPD, will be performed during construction.

4. Air Quality

Air quality impacts attributed to the project will include dust generated by short-term construction-related activities. Sitework, such as Cut and Cover trenching and pavement 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. In the long term, the force main itself will not increase airborne pollutants from increased automobile traffic in any way.

5. Noise

Short-term noise impacts associated with construction activities along the project corridor may occur. However, construction activities will be restricted to normal daylight working hours, from Monday through Friday, excluding holidays, unless there is a need to do night work or non-peak hour work at critical intersections. Night work in the vicinity of the residential areas will likely require a Noise Variance from the State Department of Health (DOH). Long term automobile traffic is not expected to increase due to the construction of the force main.

6. Scenic and Open Space Resources

The proposed project involves installing a subsurface pipeline, and, once completed, will not obstruct any existing views.

B. IMPACTS TO COMMUNITY SETTING

1. Land Use and Community Character

Since the project involves an underground wastewater line replacement, it will have no impact on the land use or community character.

2. Population

On a short-term basis, the project will support construction and construction-related employment. The wastewater system itself will not create long term employment, nor provide long-term residential housing. It will, however, improve the wastewater capacities for the existing and anticipated future residential subdivisions and properties within the service area of the existing Lahaina Wastewater Treatment Facility.

3. Police, Fire and Medical Services

The proposed action will not increase demands placed upon police, fire and medical services.

4. Recreation

The proposed wastewater replacement project is not expected to affect recreational facilities in any adverse way. However, construction of the makai route (Route “A”) will enable the permanent concrete pedestrian walking trail to be constructed to provide added benefit to the public.

5. Solid Waste

Once completed, this project will not of itself generate solid waste during operation.

During the Cut-and-Cover trenching operations, the excavated material will need to be stored temporarily at points along the route. However, any excavated material will then be replaced back into the trench as the pipe installation continues along the route.

In order to minimize possible pollution or runoff caused by the excavated material, according to Hawaii Standard Specifications for Road and Bridge Construction - 2005, Section 625.03, “Construction” - (A) “Open Trench Excavation for Sewer Pipes”,

“Pile the excavated material next to the trench, or haul and store to site acceptable to the Engineer. Obstructing movement of vehicular traffic and pedestrian walkways will not be allowed. Maintain access to existing driveway, fire hydrants and meters.”

“Excavating more than 300 feet ahead of installed pipe will not be allowed. Trench left unfilled more than 300 feet behind installed pipe will not be allowed.”

Filter rock berms with filter fabric will be constructed around the work area to contain the water borne silt to within the work area. BMPs will be installed around existing storm drains within the construction zone.

Dewatering procedures will be used only where necessary, in which case the Contractor will arrange with the owner for the disposal of seepage water through private property. The water will be routed through desiltation facilities before being discharged into existing drainage systems.

C. IMPACTS TO INFRASTRUCTURE

1. Roadways

The proposed force main replacement will not increase traffic except during the transportation of construction equipment during the Construction period. All roadway rights-of-way used to install the new wastewater force main will be left at their present condition or better.

2. Water

The proposed project will not increase the consumption of (potable) water.

As a precautionary measure, the Department of Water Supply has provided maps showing the locations of all known waterlines for the private and public parcels that may be traversed by the proposed force main so as to route around them.

3. Wastewater

The proposed project will not increase the generation of wastewater, but will improve the capacity for conveying wastewater between the site of the original Lahaina Pump Station No. 3 and an existing sewer manhole in the Honoapiilani Highway ROW approximately 350 feet north of a golf cart bridge across Honoapiilani Highway at the Kaanapali Golf Course near the first hole green.

The existing force main will remain operational and will serve as a backup or to add capacity during surges.

As a precautionary measure, the Department of Environmental Management has provided maps showing the locations of all known sewer lines for the private and public parcels that may be traversed by the proposed force main so as to route around them.

4. Drainage

Existing drainage systems will not be adversely affected by the proposed force main replacement project.

As a precautionary measure, the State Department of Transportation has provided maps showing the locations of all known storm drains and culverts which exist on the private and public parcels bordering Honoapiilani Highway that may be traversed by the proposed force main so as to route around them.

5. Electrical, Telephone and Cable TV Systems

Completion of the proposed force main will not increase subscribership to electrical, telephone or cable TV systems.

As a precautionary measure, the Maui Electric Company, Hawaiian Telcom, Sandwich Isles Communications and Oceanic Time Warner Cable, respectively have provided maps showing the locations of all known electrical power lines, phone lines, fiber optic lines and cable TV lines and easements which exist on the private and public parcels that may be traversed by the proposed force main so as to route around them.

6. Oil and Gas Systems

Completion of the proposed force main will not increase consumption of oil or gas.

There are no known oil and gas systems within the project limits.

V. RELATIONSHIPS TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS:

A. STATE LAND USE DISTRICTS:

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes the four major land use districts in which all lands in the State are placed. These districts are designated “Urban”, “Rural”, “Agricultural” and “Conservation”. The State Land Use district designation for the parcels which may be traversed by the proposed Route “A” force main replacement project is entirely “Urban” (see Exhibit “A”). The State Land Use district designation for the parcels which may be traversed by the proposed Route “B” is largely “Urban” with two parcels being “Urban/Agricultural” and one parcel being “Agricultural”. The proposed action involves the construction of a replacement wastewater force main, which is a permitted use within lands with the “Urban” and “Agricultural” designation.

B. MAUI COUNTY GENERAL PLAN

The Maui County General Plan (1990 Update) sets forth broad objectives and policies to help guide the long range development of the County. As stated in the Maui County Charter (1999):

“The General Plan shall recognize and state the major problems and opportunities concerning the needs and development of the County and the social, economic and environmental effects of such development and shall set forth the desired sequence, patterns and characteristics of future development.”

The proposed action is in keeping with the following General Plan objectives and policies:

“C. LIQUID AND SOLID WASTE

Objective:

- 1. To provide efficient, safe and environmentally sound systems for the disposal and reuse of liquid and solid wastes.*

Policies:

- a. *Explore new waste disposal methods that are safe, economical, environmentally sound, and aesthetically pleasing, and that minimize the disposal of wastes in landfills.*
- b. *Establish programs for the development of waste disposal systems which anticipate planned growth.*
- c. *Establish comprehensive environmental and public health standards for the treatment, disposal and/or reuse of liquid and solid waste.*
- d. *Develop comprehensive and publicly acceptable methods of recycling solid and liquid waste.*
- e. *Encourage and promote public awareness to reduce, reuse, recycle and compost waste materials”*

C. WEST MAUI COMMUNITY PLAN

Refer to Section I.E “Project Need” in this Draft Environmental Assessment for detailed **Goals** and **Objectives** in the West Maui Community Plan which are relevant to the proposed project. This Project is clearly consistent with the goals and objectives of this Community Plan. A list of the West Maui Community Plan Land Use Categories which may be traversed by the force main are listed in Section III.A.1 above.

D. ZONING

The Maui County Zoning designation for the proposed force main replacement is not applicable as it is a subsurface line which will be part of the infrastructure.

E. COUNTY OF MAUI SPECIAL MANAGEMENT AREA

The project is within the Special Management Area. A separate SMA permit application will be submitted. As the proposed force main will be close to the shoreline a Shoreline Setback Variance application will be submitted.

VI. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED:

The proposed development will result in some unavoidable construction-related impacts as described in Chapter IV, 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 emissions discharged by construction equipment. Significant traffic impacts during construction are likely should Route “B” (Mauka Route) be chosen..

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

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES:

The proposed project will result in the loss of subsurface coral, basalt gravel, cobbles and boulders displaced by the new 20" PVC pipe line. All existing improvements (e.g., sidewalks, landscaping, pavement, etc.) disturbed during trenching and material staging will be restored or replaced. Further, portions of the force main excavated in undeveloped areas will be reconstructed as part of the Wahikuli Pedestrian Trail.

No other irreversible and irretrievable commitments of resources have been identified in connection with the proposed action.

VIII. STATE REVOLVING FUND CROSS-CUTTER REGULATIONS AND COMPLIANCE FORMS

In anticipation that this Project may receive funding from the State Revolving Fund (SRF) program, the relevant Federal Regulations and Compliance Forms have been included in Appendix D.

**IX. LIST OF PERMITS AND APPROVALS [FEDERAL, STATE, COUNTY]
[REQUIRED UNDER CHAPTER 200, HAR]**

- (1) Special Management Area Use Permit
- (2) Work-in-County Right-of-Way Permit
- (3) Shoreline Certification
- (4) Shoreline Setback Variance Permit
- (5) Department of Health NPDES Permit (Construction Dewatering)
- (6) Work-in-State Right-of-Way Permit
- (7) Department of Health Noise Variance Permit (for night work)

X. FINDINGS AND CONCLUSIONS:

The proposed Project involves the construction of a 20" PVC replacement wastewater force main and construction of a walking trail over portions of the force main route disturbed by the trenching and installation. Portions of the walking trail are expected to deviate from the route of the force main to avoid parking lot areas and allow pedestrians to get closer to the shoreline at outcroppings.

Every phase of the proposed action, expected consequences, both primary and secondary, and the cumulative as well as the short-term and long-term effects of the action have been evaluated herein in accordance with the "Significance Criteria" of Section 11-200-12 of the Hawaii Administrative Rules. Based on the analysis, the proposed project will not result in any significant adverse impacts. Discussion of project conformance to the criteria is given below:

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

There are no known habitats of rare, endangered or threatened species of flora and fauna within the project limits.

Scientific Consultant Services, who provided the Archaeological Assessment attached in Appendix A, was also retained to provide a Cultural Resources Assessment. Their subsequent report is attached in Appendix B, "A Cultural Impact Assessment of Lahaina No. 3 Force Main Replacement Project, Lahaina District, Maui Island, Hawaii", August 2009. In their conclusions, they stated the following:

"No responses were received from any of the above listed organizations or news periodical announcements. Analysis of the potential effect of the project on cultural resources, practices or beliefs, its potential to isolate cultural resources, practices or beliefs from their setting, and the potential of the project to introduce elements which may alter the setting in which cultural practices take place is a requirement of the OEQC (Noo. 10, 1997). To our knowledge the project area has not been used for traditional cultural purposes within recent times.

Based on no additional suggestions or information from the contacted organizations, newspapers, and negative results of the archival research, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by development activities. Because there were no cultural activities identified within the project area, there are no adverse effects.”

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

The project will not curtail the beneficial uses of the environment. In fact, the proposed Wahikuli Pedestrian Trail will benefit the public by significantly improving safe and convenient access to the shoreline and waters of the Wahikuli-Kaanapali Beach areas.

3. *The Proposed Action Does not Conflict with the State’s Long-Term Environmental Policies or Goals or Guidelines 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 conformance with the following policies and guidelines:

Environmental Policy:

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

Guidelines:

(2) *Land, water, mineral, visual air and other natural resources*

(b) *Promote irrigation and waste water management practices which conserve and fully utilize vital water resources;*

(c) *Promote the recycling of waste water;*

4. *The Economic or Social Welfare of the Community or State Would not be Substantially Affected*

The project would directly benefit the local economy during the construction phase.

5. *The Proposed Action does not Affect Public Health*

No adverse impacts to the public's health and welfare are anticipated. In fact, construction of this project will reduce the risk of major sewage spills into the ocean (similar to the February 8, 2007 spill, referenced in Appendix "C").

In the long term, the project should have a direct beneficial effect of providing higher wastewater conveyance capacities and improve the redundancy of the wastewater system.

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

No major population changes are anticipated as a result of the proposed project. The project is not anticipated to have adverse impacts upon medical, police and fire protection services as well as other public service systems.

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

No substantial degradation of environmental quality is anticipated as a result of the project. As stated before in Section IV, "Potential Impacts and Mitigation Measures", Subsection B, "Impacts to Community Setting", (5) "Solid Waste", the Contractor will be required to follow the Hawaii Standard Specifications for Road

and Bridge Construction - 2005, Section 625.03, "Construction Requirements" - (A)
"Open Trench Excavation for Sewer Pipes",

"Pile the excavated material next to the trench, or haul and store to site acceptable to the Engineer. Obstructing movement of vehicular traffic and pedestrian walkways will not be allowed. Maintain access to existing driveway, fire hydrants and meters."

"Excavating more than 300 feet ahead of installed pipe will not be allowed. Trench left unfilled more than 300 feet behind installed pipe will not be allowed."

Dewatering procedures will be used only where necessary, in which case the Contractor will arrange with the owner for the disposal of seepage water through private property. Dewatering, if required, will be temporary during the Construction Phase only.

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 and should have no cumulative impacts on the environment.

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 or avifauna or their habitats on the subject property.

10. *Air Quality, Water Quality or Ambient Noise Levels would not be Detrimentially 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 equipment. Construction will be limited to daylight working hours unless traffic conditions warrant working at night.

In the long term, the project will not have an impact on air quality or 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 FEMA FIRM Panel Number 1500030161C shows that the project area is largely located in Zone C, areas of minimal flooding, except for a small area near the Lahaina Post Office, which is in Zone A, and downstream of Hahakea Gulch near Hanakaoo Park, which is in Zone A3 and B (see Exhibit “E”).

Both Routes “A” and “B” are in the Tsunami inundation zone (see Figure 4). However, since the force main pipe line is a subsurface system which will be installed below existing grade, this requirement is not applicable.

- 12. *The Proposed Project would not Substantially Affect Scenic Vistas and Viewplanes Identified by County or State Plans or Studies***

The completed force main will be subsurface, and will not affect the views to any existing open spaces. The pedestrian walkway will be constructed at grade and will not affect view planes.

- 13. *The Project would not Require Substantial Energy Consumption***

The force main pipe line will not consume any energy of itself. In fact, the new PVC force main has a lower friction resistance than the existing pipe which may result in lower energy consumption at the Lahaina Pump Station No. 3.

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

XI. AGENCIES AND COMPANIES CONTACTED FOR PREPARATION OF THE ENVIRONMENTAL ASSESSMENT:

The following agencies and organizations were contacted during the Environmental Assessment review process:

1. State of Hawaii
Department of Transportation
Highways Division
650 Palapala Drive
Kahului, Hawaii 96732

2. Department of Environmental Management
Wastewater Reclamation Division
One Main Plaza, Suite 610
2200 Main Street
Wailuku, Hawaii 96793

2. Department of Water Supply
200 S. High Street
Wailuku, Hawaii 96793

4. Department of Parks & Recreation
700 Hali'a Nakoia Street, Unit 2
Wailuku, Hawaii 96793

5. Maui Electric Company, Ltd.
210 W. Kamehameha Avenue
Kahului, Hawaii 96732

6. Hawaiian Telcom
60 S. Church Street
Wailuku, Hawaii 96793

7. Department of Land and Natural Resources
State Historic Preservation District
1151 Punchbowl Street
Honolulu, Hawaii 96813

8. State of Hawaii
Department of Health
54 High Street
Wailuku, Hawaii 96793
9. Oceanic Time Warner Cable
350 Hoohana Street
Kahului, Hawaii 96732
10. Sandwich Isles Communications
Pauahi Tower, 27th Floor
1003 Bishop Street
Honolulu, Hawaii 96813
11. Department of Planning
One Main Plaza, Suite 619
2200 Main Street
Wailuku, Hawaii 96793
12. Department of Public Works
200 S. High Street
Wailuku, Hawaii 96793
13. Department of Land and Natural Resources
Office of Conservation and Coastal Lands
1151 Punchbowl Street
Honolulu, Hawaii 96813
14. Department of Business, Economic Development & Tourism
Office of Planning
250 S. Hotel Street
Honolulu, Hawaii 96813
15. Department of Health
Environmental Planning Office
1250 Punchbowl Street
Honolulu, Hawaii 96813

16. Others named in the “A Cultural Impact Assessment of Lahaina No. 3 Force Main Replacement Project in Lahaina District, Maui Island, Hawaii”, Scientific Consultant Services, Inc., August 2009 (see Appendix B)

XII. COMMENTS RECEIVED DURING PUBLIC COMMENT PERIOD AND APPLICABLE RESPONSES:

Comments are in response to early consultation requests and not to this Draft EA. Comments to this Draft EA will be contained in the Final EA.

The Wastewater Reclamation Division met with Mr. Joseph Prutch of the Planning Department on August 20, 2009. Mr. Prutch commented that the SMA Use Permit Application Package could be submitted simultaneously with the Draft EA Report to the reviewing agencies who should be made aware that a Shoreline Survey leading to a Shoreline Certification approval followed by a Shoreline Setback Variance application to the Planning Commission.

The Department of Environmental Management Wastewater Reclamation Division was also contacted to provide all known existing sewer utilities in the area. WWRD stated that this project will require a "Site Specific Spill Prevention and Control Plan" (SSSPC) from the General Contractor during the construction phase of this project.

The State of Hawaii Department of Transportation, Highways Division was contacted to obtain as-built drawings of the section of Honoapiilani Highway affected by this project. No other comments at this time.

The Department of Water Supply was contacted to confirm the location of the existing 18" water transmission line beneath the Honoapiilani Highway Right-of-Way. No other comments at this time.

The Department of Parks & Recreation was contacted to determine the location of the proposed Wahikuli Pedestrian Trail within the project limits. No other comments at this time.

Maui Electric Company was contacted to determine the location of existing underground conduits within the project limits. No other comments at this time.

Hawaiian Telcom was contacted to determine the location of existing underground cables within the project limits. No other comments at this time.

The Department of Land and Natural Resources, State Historic Preservation District was contacted by SCS Archaeology for the Archaeological Assessment Study, Cultural Impact Assessment Study and the Archaeological Monitoring Plan. No other comments at this time.

Oceanic Time Warner Cable was contacted to determine the location of existing underground conduits for its cable television network. No other comments at this time.

Sandwich Isles Communications was contacted to determine the location of their existing underground fiber optic cable lines. No other comments at this time.

The following individuals and groups were contacted to inform them of the proposed project as part of the Cultural Impact Assessment Study. No comments were received to the letters issued by SCS Archaeology:

- (1) Thelma Shimaoka, Maui Branch, Office of Hawaiian Affairs
- (2) Na Kapuna Maui
- (3) Hawaiian Civic Club, Lahaina Branch
- (4) Kimokea Kapahulehua
- (5) Ke-eaumoku and U'i Kapu
- (6) Central Maui Hawaiian Civic Club
- (7) County of Maui Cultural Resources Commission
- (8) Hinano Rodrigues, SHPD Island Historian
- (9) Kamika Kepa'a, Native Hawaiian Preservation Council

The following agencies will be issued CDs with pdf files or hardcopies of both the Draft EA Report and the SMA Use Permit Application package:

Federal Agencies

- (1) U. S. Fish & Wildlife Services

- (2) U. S. Department of Agriculture, NRCS, Maui
- (3) U. S. Army Corps of Engineers

State Agencies

- (1) Department of Business, Economic Development & Tourism
- (2) Department of Hawaiian Homelands
- (3) Department of Health, Honolulu
- (4) Department of Health, Maui
- (5) Department of Land and Natural Resources, Maui
- (6) Department of Land and Natural Resources - Office of Conservation & Coastal Lands
- (7) Department of Transportation, Maui Branch
- (8) Department of Transportation, Statewide Planning Office
- (9) Office of Environmental Quality Control (Draft EA only)
- (10) Office of Planning

County Agencies

- (1) Department of Environmental Management, Wastewater Reclamation Division
- (2) Department of Parks & Recreation
- (3) Department of Public Works
- (4) Department of Water Supply

- (5) Department of Fire and Public Safety
- (6) Maui Police Department
- (7) Department of Planning, Zoning Administration and Enforcement Division
- (8) Lahaina Public Library (Draft EA only)

Other

- (1) Hawaiian Telcom
- (2) Maui Electric Company
- (3) University of Hawaii, Environmental Center
- (4) University of Hawaii, Sea Grant College Program

REFERENCES

- “West Maui Community Plan”, 1996
- County of Maui Office of Economic Development, “Maui County Data Book”, December, 2007
- University of Hawaii at Hilo, Department of Geography, “Atlas of Hawaii”, Third Edition, 1998
- Brown and Caldwell, “West Maui Master Plan for Wastewater Collection, Treatment and Disposal”, June, 1990
- Scientific Consultant Services, Inc., “Archaeological Field Inspection and Literature Review for the Proposed Lahaina No. 3 Force Main Replacement Project in Lahaina, Wahikuli and Hanaka’o’o Ahupua’a, Lahaina District, Island of Maui, Hawaii”, July, 2009
- Scientific Consultant Services, “A Cultural Impact Assessment of Lahaina No. 3 Force Main Replacement Project in Lahaina District, Maui Island, Hawaii”, August 2009

APPENDICES

APPENDIX A

Archaeological Assessment Study Report

**ARCHAEOLOGICAL FIELD INSPECTION
AND LITERATURE REVIEW FOR
THE PROPOSED LĀHAINĀ NO. 3 FORCE MAIN
REPLACEMENT PROJECT IN LĀHAINĀ, WAHIKULI AND
HANAKĀ`Ō`Ō AHUPUA`A, LĀHAINĀ DISTRICT,
ISLAND OF MAUI, HAWAII
[TMK (2) 4-4-13 (por), 4-5-21 (por)]**

Prepared by:
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July 2009

Prepared for:
Warren S. Unemori Engineering, Inc.
2145 Wells Street, Ste. 403
Wailuku, HI

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INTRODUCTION

At the request of Warren S. Unemori Engineering, Scientific Consultant Services, Inc. (SCS) conducted an Archaeological Field Inspection and Archival Research for the Proposed Lahaina No. 3 Force Main Replacement in Lāhainā, Wahikuli and Hanakā`ō`ō Ahupua`a, Wailuku District, Island of Maui, Hawai`i [TMK: (2 4-4-13 (por), 4-5-21 (por))] (Figures 1 and 2). The proposed construction activities include the replacement of the existing sewer line with a new line located along the *makai* (seaward) side of Honoapi`ilani Highway.

The replacement sewer main corridor will extend from the Wahikuli Pump Station on the north end of Lāhainā town to an existing 27-inch gravity line on the south end of Ka`anapali. The lands involved are owned by the County of Maui, with the exception of the northernmost extent, which is owned by Ka`anapali Holdings LLC. In total, the proposed replacement will require the excavation of approximately 6900 linear feet (2100 m) of trench.

This report includes a review and summary of general settlement patterns in Lāhainā district, mythological accounts within Lāhainā District, historical background research, including Land Commission Award (LCA) documentation, previous archaeological research along the project corridor, and a summary of findings from the field inspection.

The purpose of the field inspection is to determine the presence or absence of historic properties and to assess the potential for the presence of subsurface cultural deposits. To address the potential for any subsurface sites, a review of previous archaeological investigations and historic accounts was undertaken that could give estimates on potential site types that could be encountered during ground disturbing activities.

In sum, no new sites, features or cultural materials were documented during the archaeological field inspection of the corridor for a proposed 20" force sewer main along Honoapi`ilani Highway. Though no sites were encountered, the corridor that extends through an area adjacent to the eastern portion of Hanakā`ō`ō Cemetery. Despite there being no headstones directly in the corridor, previous archaeological research has shown that previously unknown and unmarked graves are extant outside the formal boundaries of the cemetery, thus suggesting the need for additional archaeological investigation, including subsurface testing.

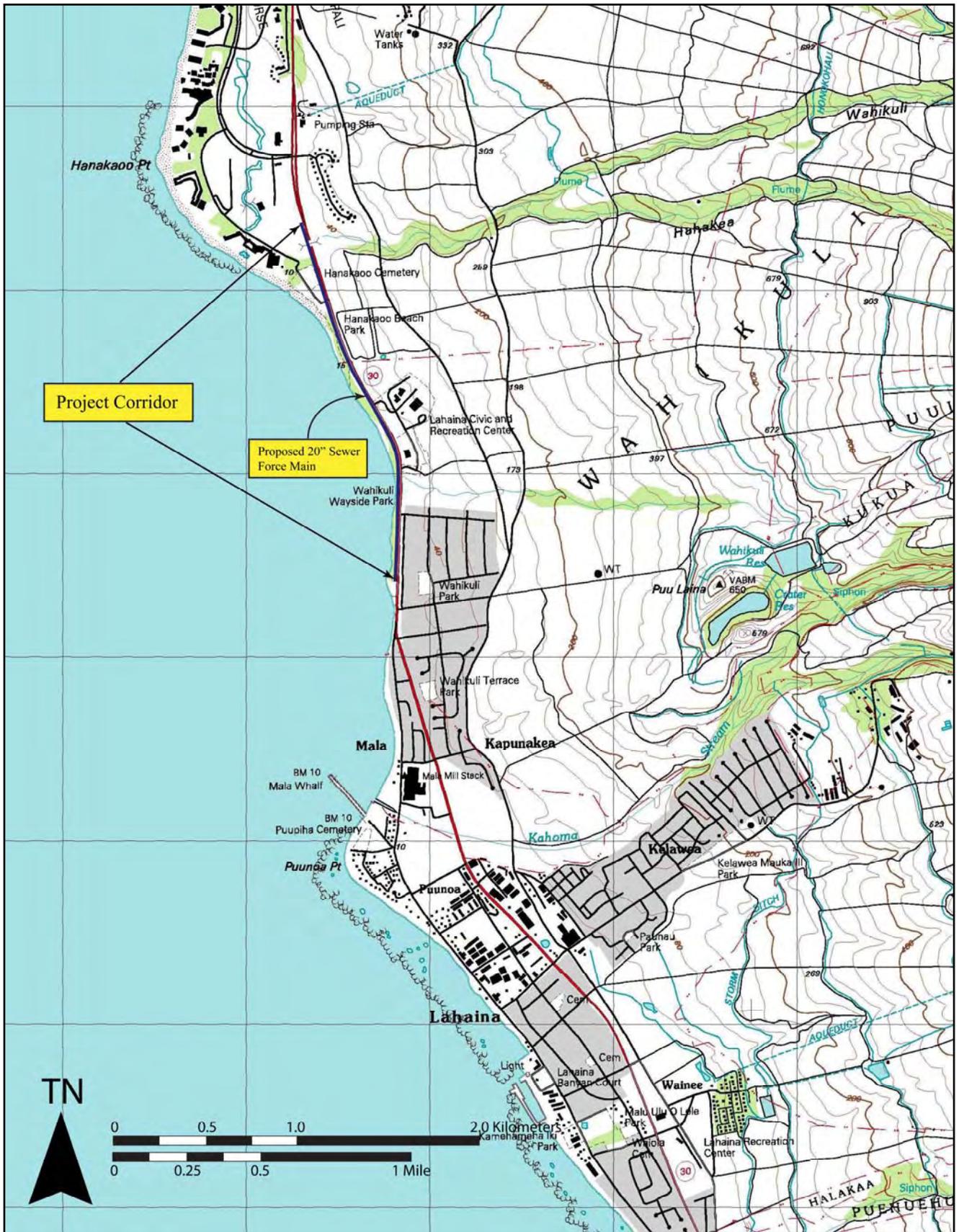


Figure 1: Portion of USGS Topographic Map Showing the Location of the Project Area.

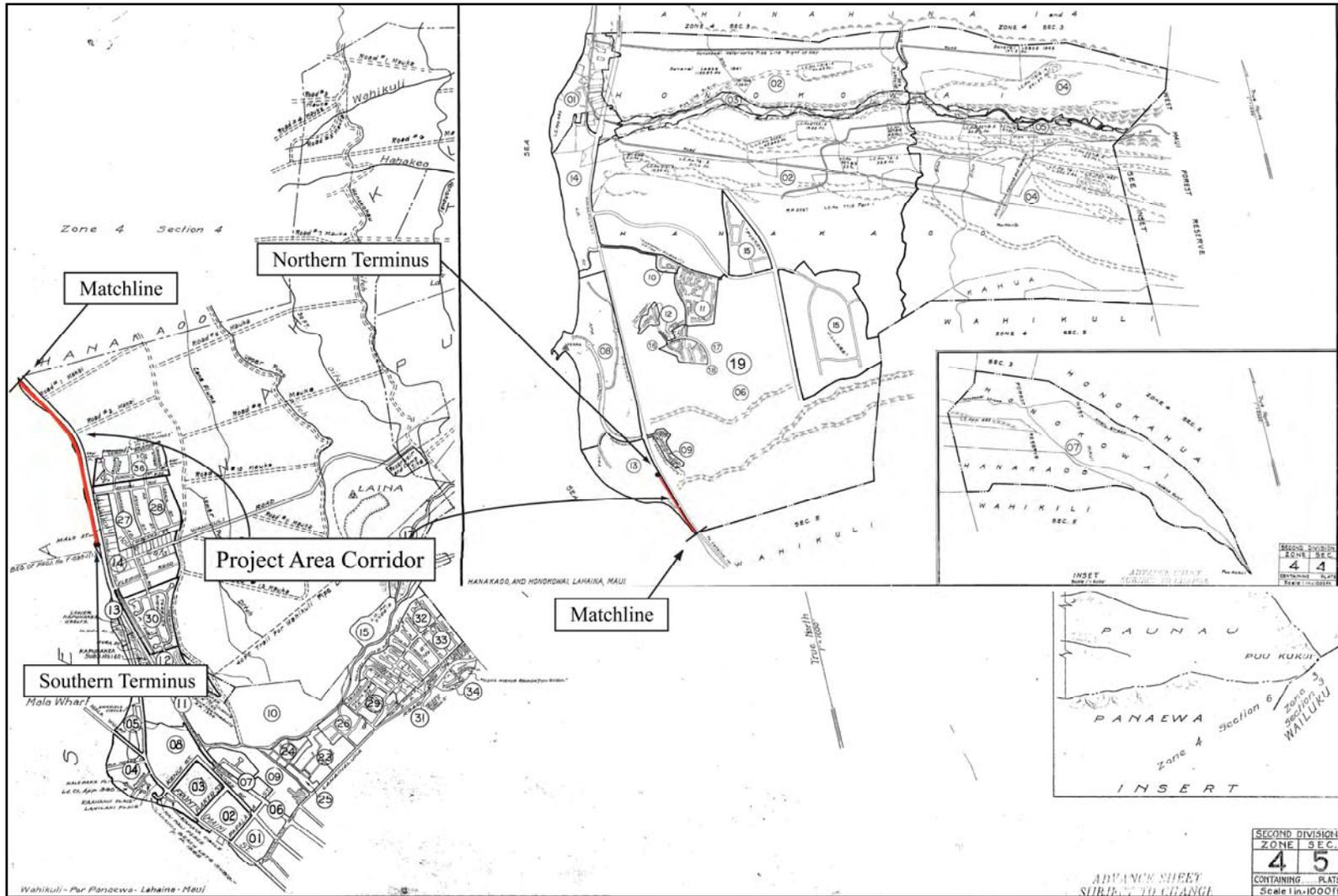


Figure 2: TMK (2) 4-4 and 4-5 Location of Project Area.

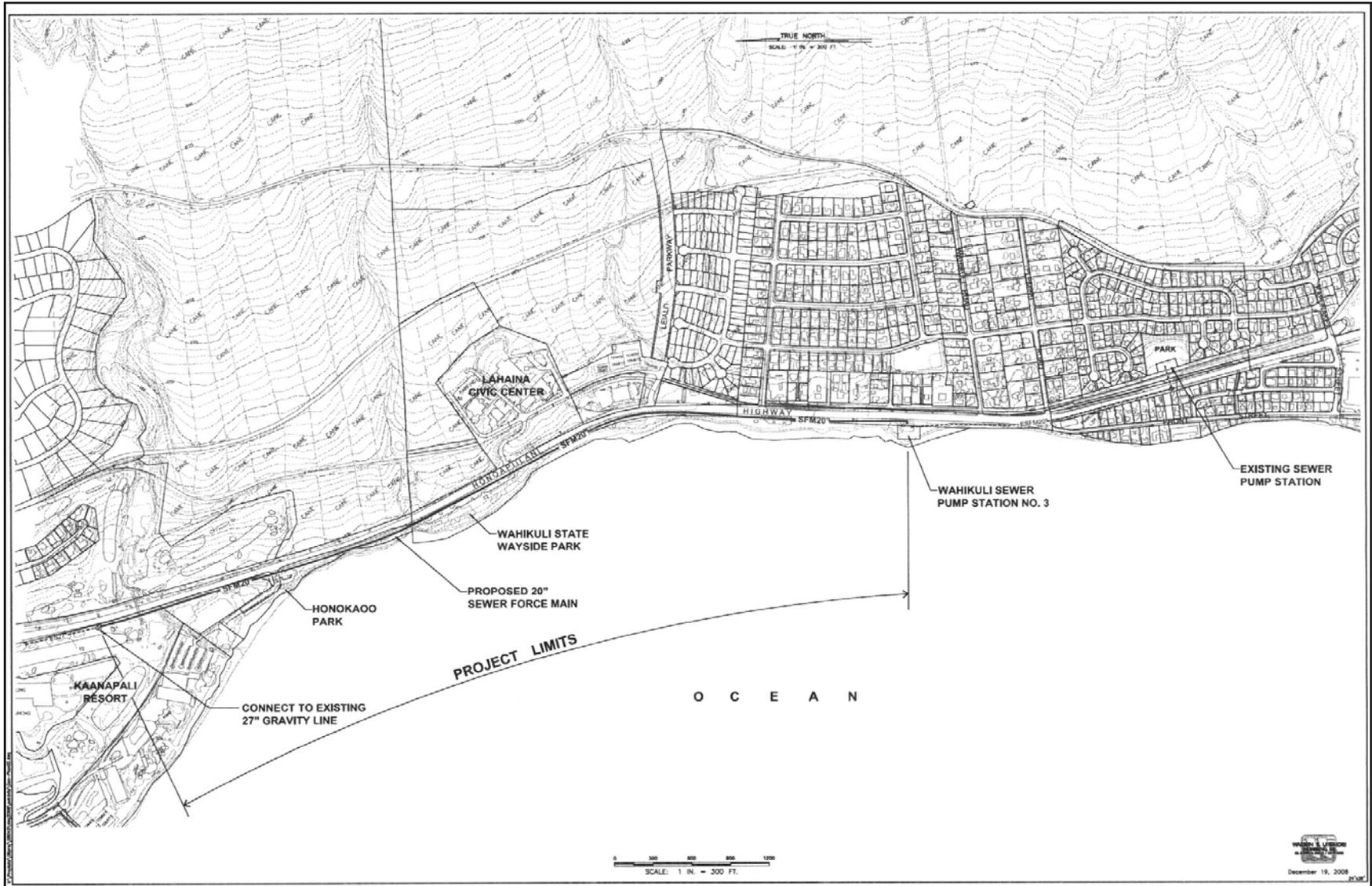


Figure 3: Map of Project Area Showing Location of Proposed Sewer Force Main (Map Courtesy of Client)

ENVIRONMENTAL SETTING

PROJECT AREA LOCATION

The project area consists of a 6,900-foot corridor situated along the northwest coast of Maui, in the Lāhainā District and extends from Wahikuli Beach Park to an existing sewer main on the south end of Ka`anapali. The corridor extends through the *makai* portions of Wahikuli and Hanakā`ō`ō Ahupua`a, with elevations ranging from 10-25 feet A.M.S.L. The majority of the corridor is within 100 feet of the coastline, with the exception of the northern portion, which is approximately 1,300 feet inland.

RAINFALL

The annual rainfall for the coastal region where the project area is located averages 15 inches (Armstrong 1983:56). Rainfall tends to increase during the winter months and is accompanied by lower air temperatures while in the summer months rainfall tends to decrease and is accompanied by higher temperatures.

SOILS

According to Macdonald, *et al.* (1986:383–384), this particular coastal section of West Maui was formed by the Lahaina Volcanic Series, four recent eruptions in the Lāhainā area. “The largest of these eruptions took place on the alluvial fan of Kahoma and Kahoma Stream, 2.5 kilometers [1.6 miles] northeast of Lahaina...” (Macdonald, *et al.* 1986:384-385). The intensity of these eruptions formed the cinder cone Pu`u Laina (1 mile east of the project area corridor), blocked the mouth of Kahoma Valley, and rerouted Kahoma Stream. The soils in the project area were directly influenced by the volcanic activity and consist of Wahikuli very stony silty clay (WdB) and beach sand (BS). The Wahikuli Series is characterized by moderate permeability, slow runoff and was used primarily for sugarcane (Foote, *et al.* 1972:125-126).

VEGETATION

Vegetation in the project area corridor is dominated by monkey pod (*Pithecellobium saman*), coconut palms (*Cocos nucifera*), kiawe (*Prosopis pallida*), octopus tree (*Schefflera actinophylla*) and manicured grass. The corridor area primarily consists of a built environment. With the exception of a small drainage in the northern portion of the project area, the entire corridor is within landscaped beach park and golf course environs.

CULTURAL HISTORICAL CONTEXT

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. Pu`u Kukui, forming the west end of the island with an elevation of 1,764 m above mean sea level (5,790 feet), is composed of large, heavily eroded amphitheater valleys that contain well-developed permanent stream systems that watered fertile agricultural lands extending to the coast. The deep valleys of West Maui and their associated coastal regions have been witness to many battles in ancient times and were coveted productive landscapes.

PAST POLITICAL BOUNDARIES

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha`ōhia, during the time of the *ali`i* Kaka`alaneo (Beckwith 1940:383; Fornander places Kaka`alaneo at the end of the 15th century or the beginning of the 16th century [Fornander 1919-20, Vol. 6:248]). Land was considered the property of the king or *ali`i`ai moku* (the *ali`i* who eats the island/district), which he held in trust for the gods. The title of *ali`i`ai moku* ensured rights and responsibilities pertaining to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka`~inana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku*, *ahupua`a*, *`ili* or *`ili`āina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua`a*) which customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua`a* were therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *`ili`āina* or *`ili* were smaller land divisions next to importance to the *ahupua`a* and were administered by the chief who controlled the *ahupua`a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo`o`~ina* were narrow strips of land within an *`ili*. The land holding of a tenant or *hoa`~ina* residing in a *ahupua`a* was called a *kuleana* (Lucas 1995:61). The project area is located in the *ahupua`a* of Hanakaō`ō and Wahikuli, which translated means literally “the digging stick bay” and perhaps refers to the gardens known in the area and Wahikuli which translated means “noisy place” (Pukui *et al.*:74, 218).

TRADITIONAL SETTLEMENT PATTERNS

The Hawaiian economy was based on agricultural production and marine exploitation, as well collecting wild plants and birds. Extended household groups settled in various *ahupua`a*. During pre-Contact times, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugar cane, *Saccharum officinarum*) and *mai`a* (banana, *Musa* sp.), were also grown and, where appropriate, such crops as *`uala* (sweet potato, *Ipomoea batatas*) were produced. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on the leeward side of Maui was likely to have begun early in what is known as the Expansion Period (AD 1200-1400, Kirch 1985).

WAHI PANI (LEGENDARY PLACES)

Scattered amongst the agricultural and habitation sites were other places of cultural significance to the *kama`āina* of the district. At least eight *heiau* were recorded in the vicinity of the ancient village of Lāhainā, fishing *ko`a* (shrines) were present along the beach and on the slopes above the bays, and petroglyphs were inscribed in many places whose meanings have yet to be fully understood (Thrum 1908, 1916, 1917; Walker 1930:103). Pearl shell was gathered from Makaiwa Beach for the eyes of the *ki`i* (image, picture) and battles were fought along the coast (Sterling 1998:45). A portion of the paved trail built by Kihapi`ilani, son of the great chief Pi`ilani, was identified along the Kā`anapali coast (Sterling 1998).

Less than one kilometer north of the project area is Pu`u Keka`a, made famous by being the birthplace of the sons of chiefs and long associated with ghosts, strange occurrences, and the skeletons of defeated invaders (Fornander 1918–19, Vol. 5:542). In Fornander, S. Kaha stated:

Concerning the great amount of human bones at this place. On account of the great number of people at this place there are numerous skeletons [this was the vicinity of several bloody battles], as if thousands of people died there; it is there that the Lahainaluna students go to get skeletons for them when they are studying anatomy. The bones are plentiful there; they completely cover the sand.

This is a ghostly place. Some time a number of people came from Kaanapali (from the other side) going to Lahaina in the dark. When they came to Kekaa stones rolled down from the top of the hill

without any cause. Listening to it, it seemed as if the hill was tumbling down; the people going along were startled and they explained, Kekaa is ghostly! Kekaa is ghostly!” Certainly this is a strange thing for this hill to do [*ibid*].

It was also believed that Pu`u Ka`a was a *leina a ka`uhane*, or soul’s leap similar to O`ahu’s Ka`ena Point. Naha says:

It is said that when a person dies his spirit journeys to Kekaa; if he has a friend there who had previously died, that one would drive it away when the spirit is nearing Kekaa. Sometimes the spirit of a person would return and re-enter the body, and cause it to come to life again; that is what happened to those who are living again. Many souls came to this place Kekaa. It is called the Leina-a-ka-uhane, the leaping place of the soul... [*ibid*].

According to legend, the lands surrounding Pu`u Keka`a were once areas of intense cultivation and the capital and home of the Maui chief, Kaka`alaneo, when he ruled West Maui. Kaka`alaneo lived on the *pu`u* with his wife, a chiefess from Moloka`i.

Kekaa was the capitol of Maui when Kalaalaneo was reigning over West Maui... Many houses were constructed and people cultivated a great deal of potatoes, bananas, sugar cane, and things of a like nature. I have been told that the country from Kekaa to Hahakea and Wahikuli –that country now covered by cactus, in a northwesterly direction for Lahaina-was all cultivated. This chief [Kakaalaneo] also planted bread fruit and kukui trees down at Lahaina. Some of these trees southwest of the Lahaina fort, were called the bread fruit trees of Kauheana [Fornander 5:540–541].

Kaka`alaneo’s possessions included fishponds in Hana and a famous breadfruit grove he planted outside of Lāhainā (Handy and Handy 1972). His son, Ka`ulula`au, became famous for traveling around Lāna`i fighting ghosts (Sterling 1998). Maui, the demi-god himself, was associated with the hill:

At Kekaa lived Maui and Moemoe... The great desire of one [Moemoe] was to sleep. The other [Maui] desired to travel. When Moemoe slept, Maui was traveling, each according to his taste... [Moemoe] made up his mind... to search for his friend, Maui. A road on the northeast side of Kekaa was named after one of these men; it is called “Ke alanui kikeekee a Maui”-the zig zag pathway of Maui” [Fornander 1918-19, Vol. 5:540–544].

Another story concerning Pu`u Keka`a was related in “Tales from the Temples” (Thrum 1909). According to Thrum, Wahine-o-Manu`a was badly treated by her husband. She ran away to the temple of Haluluko`ako`a in the *ahupua`a* of Wahikuli. An owl-god guided her from the *heiau, mauka* of Pu`u Keka`a where she rested before escaping. The stone by which she rested is even today called Pōhaku-o-Wahine-o-Manu`a (the stone of the woman of Manu`a).

It is recorded that Pu`ū Keka`a was the burial place for Kekaulike’s oldest son, Kauhi`aimoku-a-kama who was defeated by his brother and uncle at the Battle of Koko-o-namoku further south at Makaiwa Beach (Sterling 1998). Kahekili succeeded his brother Kamehameha-Nui as ruler of Maui and to prove he was a true descendant of the gods, he leapt from the `Ū-ha-ne lele or Soul-Leaping Place of Maui. No ordinary man would dare to do this (*ibid.*). Kamakau records a burial site used by the *maka`āinana* of the district:

Waiuli...is a deep pit where the corpses of the common people were thrown...It is directly mauka of Honokohau, Honolua, and Honokahua, and for those from Lahaina to Kahakuloa, it was the common burial place. The body of anyone from those places who had died on Molokai was brought back to that place [Kamakau 1964:39].

Pu`u La`ina (1.6 kilometers east of the project area) is known for being the place where Pele first appeared and had an old heiau to Pele, but has been reduced to three mounds of rocks” (Jeanne Booth Johnson, Honolulu Advertiser, Mar. 1, 1959:12 in Sterling, 1998:43).

On the origins of Puu Laina, Fornander (5:532 cited in Sterling 1998:43) writes:

Formerly there was no hill there, but after Pele arrived, this hill was brought forth. But it was not given a name at that time; afterwards it was called Puulaina. This was the reason for so naming it: At that time a chief was living on the other side of the hill, and because he was tired of seeing it standing there obstructing his views, and preventing him from seeing the breadfruit grove of Lahaina, he ordered his men to go and construct a ti-leaf house on its top; and the hill was called Puulai [*Puulā`ī*]. And because it was sightly [*unsightly?*] to those viewing it from Lahaina it was called Puulaina [*lā`ī = ti leaf; laina = cane trash*].

LĀHAINĀ DISTRICT

In Hawai`i, much of the coastal lands were preferred for chiefly residence. Easily accessible resources such as offshore and onshore fish ponds, the sea with its fishing and surfing—known as the sports of kings, and some of the most extensive and fertile wet taro lands were located in the area (Kirch and Sahlins, 1992 Vol. 1:19). Inland resources necessary for subsistence, could easily be brought to the *ali`i* residences on the coast from nearby inland plantations. The majority of farming was situated in the lower portions of stream valleys where there were broader alluvial flat lands or on bends in the streams where alluvial terraces could be modified to take advantage of the stream flow. Dry land cultivation occurred in colluvial areas at the base of gulch walls or on flat slopes (Kirch 1985; Kirch and Sahlins 1992, Vol. 2:59). Lāhainā had the added advantage of a calm roadstead and close proximity to Lāna`i, and Moloka`i (Handy and Handy 1972).

Trails extended from the coast to the mountains, linking the two for both economic and social reasons. A trail known as the *alanui* or “King’s trail” built by Kihapī`ilani, extended along the coast passing through all the major communities between Lāhainā and Mākena,

After the conquest of Maui by Kamehameha I, Lāhainā became the capitol of the Hawaiian Kingdom until it moved to Honolulu in 1855.

Most of the *ahupua`a* on the coast have been overshadowed by the famous roadstead and village of Lāhainā. In addition, a high percentage of archaeological sites in the Lāhainā District have been impacted by early historic and modern day agricultural activities. Therefore, little is known about the settlement patterns outside of the city. However, ethnographic and historic literature, often our only link to the past, reveal that the lands around Lāhainā were rich agricultural areas irrigated by aqueducts originating in well-watered valleys with permanent occupation predominately on the coast. Handy and Handy have stated the space cultivated by the natives of Lāhainā at about “...three leagues [9 miles] in length, and one in its greatest breadth. Beyond this all is dry and barren; everything recalls the image of desolation” (1972:593). Crops cultivated included coconut, breadfruit, paper mulberry, banana, taro, sweet potato, sugar cane, and gourds.

Menzies, the naturalist and surgeon on board HMS Discovery during Captain George Vancouver’s 1793 tour, made these observations of the Lāhainā coast and village:

Here our conductors importuned us to dine, and a pig being killed and got ready, together with yams and sweet potatoes, we partook

of a hearty meal, after which we continued our journey, and soon entered the verge of the woods where we observed the rugged banks of a large rivulet that came out of the chasm cultivated and watered with great neatness and industry. Even the shelving cliffs of rock were planted with esculent roots, banked in and watered by aqueducts from the rivulet with as much art as if their level had been taken by the most ingenious engineer. We could not indeed but admire the laudable ingenuity of these people in cultivating their soil with so much economy. The indefatigable labor in making these little fields in so rugged a situation, the care and industry with which they were transplanted, watered and kept in order, surpassed anything of the kind we had ever seen before. It showed in a conspicuous manner the ingenuity of the inhabitants in modifying their husbandry to different situations of soil and exposure, and it was with no small degree of pleasure we here beheld their labor rewarded with productive crops [Menzies 1920:105].

March 17. On the forenoon of the 17th, I accompanied Captain Vancouver and a party of officers, with the two Niihau women, to see the village of Lahaina, which we found scattered along shore on a low tract of land that was neatly divided into little fields and laid out in the highest state of cultivation and improvement by being planted in the most regular manner with the different esculent roots and useful vegetables of the country, and watered at pleasure by aqueducts that ran here and there along the banks intersecting the fields, and in this manner branching through the greatest part of the plantation... [Menzies, 1920: 112]

Little had changed twenty-six years later when J. Arago visited Hawai`i with Captain Louis de Freycinet in 1819. He recorded:

The environs of Lahaina are like a garden. It would be difficult to find a soil more fertile, or a people who can turn it to greater advantage...various sorts of vegetables and plants...amongst which we distinguish the Caribee-cabbage, named here taro; double rows of banana, bread-fruit, cocoa-nut, palma-christi, and the paper-mulberry trees...[Arago cited in Handy and Handy 1972:493].

Rev. C.S. Stewart, a missionary in 1823 assigned to the Lāhainā station, also commented on the attractiveness of the environs:

The settlement is far more beautiful than any place we have yet seen on the Islands. The entire district stretching nearly three miles

along the seaside, is covered with luxuriant groves, not only of the cocoanut, the only tree we have before seen except on the tops of the mountains, but also of the breadfruit and the kou...while the banana plant, kappa and sugar-cane are abundant, and extend almost to the beach, on which a fine surf constantly rolls [Taylor 1928:42].

...The breadfruit trees stand as thickly as those of a regularly planted orchard, and beneath them are kalo patches and fishponds, 20 or 30 yards square, filled with stagnant water, and interspersed with kappa trees, groves of banana, rows of the sugar cane, and bunches of the potato and melon...It scarcely ever rains, not oftener, we are told, than half a dozen times during the year, and the land is watered entirely by conducting streams, which rush from the mountains, by artificial courses, on every plantation. Each farmer has a right, established by custom, to the water every fifth day [Taylor 1928:43].

THE GREAT MĀHELE

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on western law. While it is a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kame`eleihiwa 1992:169-70, 176; Kelly 1983:45, 1998:4; Daws 1962:111; Kuykendall 1938 Vol. I:145). The Great Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were thus made available and private ownership was instituted, the *maka`āinana* (commoners), if they had been made aware of the procedures, were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, *`okipū* (on O`ahu), stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kame`eleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16). The entire *ahupua`a* of Hanaka`ō`ō (LCA 7715) was awarded to Lot Kamehameha (Kamehameha V). Ka`anapali is the name of an ancient *kalana* that was obliterated by the Hawaiian Legislature in 1859 by combining its lands in a new Lāhainā District (Clark 1989:60-61). There were no LCAs in the vicinity of the present project area.

HISTORIC LAND USE

Lāhainā, long the port of choice and where commercial endeavors had succeeded the traditional economy, suffered with the demise of the whaling industry and the change in Capitol of the Hawaiian Kingdom to Honolulu. By the mid-1800s the Kā`anapali area was being converted from traditional agriculture to commercial sugar cane. As early as 1849, Judge A.W. Parsons operated a sugar mill in Lāhainā. Henry Dickenson began a sugar plantation in 1859 that was quickly followed by the Pioneer Mill Co. By 1883, Pioneer Mill Co. had assets in excess of \$50,000,000 (Simpich 1974). Pioneer Mill's railroad extended from the center of Lāhainā Village to a point north of the town of Pu`ukoli`i in Hanakā`ō`ō and was as close as 350 feet above mean sea level at its northern end (Condé 1975). Pioneer Mill Co. reorganized in 1900 at which time its cane fields were located along the coast for 10 miles with some areas extending back as far as two and one half miles:

The bulk of the crop is raised on lands that range from 10 feet to 700 feet elevation above sea level; the highest being cultivated at 1500 feet [Condé and Best 1973:254].

Sugar would be processed and bagged at the mill in Lāhainā and then taken by train to the landing at Pu`u Keka`a (Black Rock). Other buildings had been constructed there to aid in the plantations activities, such as oil and molasses tanks, as well as a pavilion and some beach cottages on the beach for the use of Pioneer Mill Company's personnel (Clark 1980:61). To add to the enjoyment, a quarter-mile track had been constructed on the tidal flats (previously the site of the Battle of Koko-o-na-moku) behind Hanakā`ō`ō for horse racing on holidays. The Kā`anapali Landing was abandoned before World War II and by 1957 plans were in motion for a multi-million dollar resort to be built around Pu`u Keka`a. The shift to tourism in the 1950s sent the plantations into decline, however, the development of golf courses, parks, hotels, condominiums, and shops have continued the popularity of the Kā`anapali region up to and including the present.

PREVIOUS ARCHAEOLOGICAL RESEARCH

Although much traditional agriculture was recorded for West Maui in conjunction with marine activities, the impact of cultivating historic cane and pineapple has greatly disturbed the archaeological record. Some remains are still evident inland within gulches where the cane did not reach. Archaeological studies conducted in the vicinity of the project area are described below and shown in Figure 4.

Numerous archaeological studies have been conducted in Lāhainā District beginning with Thrum (1908) and Walker (1916, 1917, and 1930) recording *heiau* and other religious features during island wide studies. Walker identified Halulukoakoa Heiau (Walker Site 11) near Mala Wharf and according to Thrum (1930) consisted of “A large heiau for human sacrifice of which but few fragments of walls remain” (W.M. Walker cited in Sterling, 1998:44). During the 1970s and 80s, however, archaeological research in West Maui, with Lāhainā and Kā`anapali in particular, accelerated due to an increase in urbanization and resort development.

The area on the south side of the mouth of Kahoma Stream (approximately 0.6 miles south of the southern terminus of the current study corridor) was the focus of numerous archaeological investigations during the 1970's and 1980's. Studies were conducted in association with the proposed flood control project for Kahoma Stream by Hommon (1973), Connolly (1974), Joerger and Kaschko (1979) and Ahlo and Morgenstein (1980).

More extensive analyses were documented at the mouth of Kahoma Stream near Mala Wharf by Sinoto (1975), Davis (1974) and Hammatt (1978). Numerous Hawaiian and Historic burials were located in the sandy beach dunes. Hammatt (1978) recorded a ditch that may have connected `Alamihi Fishpond and Kahoma Stream to the north and monitored the removal of 90 burials within a cultural deposit from the sand dune.

A 1982 reconnaissance at Hanaka`ō`ō Beach Park, previously known as “Sand Boxes”, documented the Hanakā`ō`ō grinding stones (Site 50-03-1204), the Hanaka`ō`ō Cemetery; also known as the “Japanese Graveyard” (Neller 1982:1), and rock crusher ruins as the only sites of historic/archaeological significance on the property (Neller, 1982). The area was well-known before the 1950s for nighttime pole casting for *ulua*, *awa*, *pāpio*, and *ōi`o*. *Limu* (seaweed) was gathered from the coastal area and local informants spoke of salt making, but the saltpans were not located.

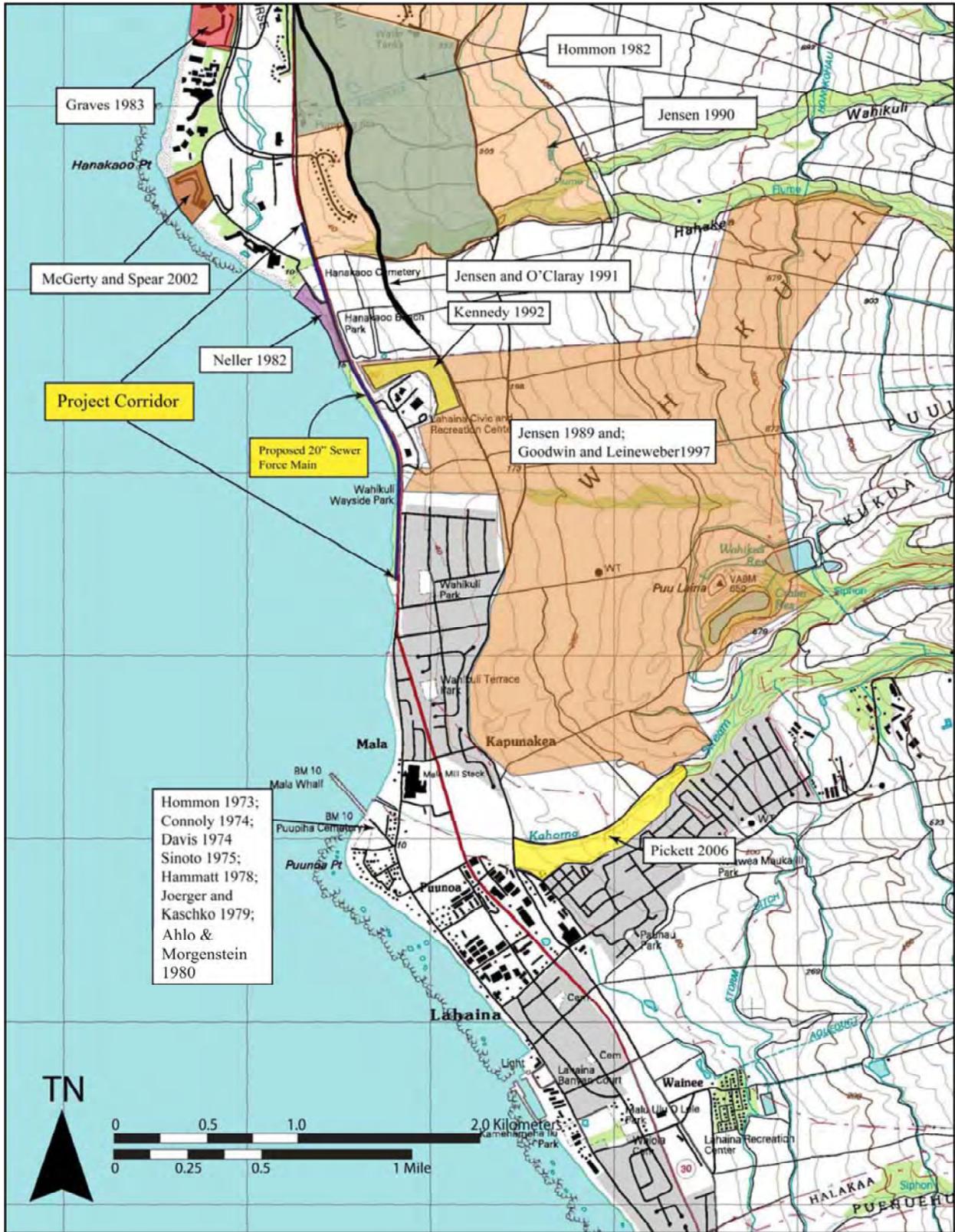


Figure 4: Portion of USGS Map Showing Locations of Previous Archaeological Research.

Hommon (1982) conducted a reconnaissance survey of North Beach *mauka* and South Beach *mauka* areas in Kā`anapali that included both a pedestrian survey of the project area and archival research. The South Beach Mauka survey area was located less than 1,300 feet northeast (*mauka*) of the current project area and in all ten sites were recorded. The sites includes scattered terrace complexes, wall segments and a road segment that generally reflected the known pre-Contact agricultural pursuits in Hanakā`ō`ō Ahupua`a.

In 1990, a second survey of 340 acres was conducted in the South Beach Mauka development in Kā`anapali (Jensen, 1990). The parcel was expanded from the previous survey by Hommon (1982) and abuts the current study area. In all, two new sites and seven previously identified sites were recorded. The newly recorded sites include a complex of agricultural terraces, a footpath, habitation features and a possible burial (Site -2489), and a complex of walled terraces, walled enclosures and remnants of agricultural terraces (Site -2490). Both new sites are located on the south branch of upper Hahakea Gulch and were interpreted as pre-Contact temporary habitations associated with extensive agricultural activities involving both sides of the gulch.

An inventory survey of 1,200 acres in North and South Beach resulted in the discovery of 12 new sites containing 44 component features. Sites possess single and multiple components. The range of feature types include overhangs and caves, platforms, walled enclosures, petroglyphs, graves, agricultural terraces, and a single historic agricultural access road alignment (Jensen 1989). Functional types are categorized as habitation, agriculture (prehistoric and historic), ceremonial, burial, and recreation.

An archaeological inventory survey along a seven mile-long corridor cross-cutting 10 *ahupua`a*, including Hanakā`ō`ō, extended through lands already extensively developed and intensively impacted by modern agricultural activities (Jensen 1991). However, the corridor passed through several natural drainages where four sites containing 28 component features were identified. Three of the sites were previously identified. Features include terraces, walled enclosures, walls, rock mounds, and a trail. Interpreted functions are habitation, agriculture, possible water storage, possible burial, and transportation. Six additional sites were identified outside the area of potential effect. No subsurface testing was conducted.

An archaeological inventory survey was conducted for the Lāhainā Bypass Highway New Connector Roads project (Jensen 1994). The study included a pedestrian field survey and backhoe trenching. No significant cultural materials were identified, primarily because of the

extensive disturbance within the project area. Another archaeological inventory survey of 260 inland acres yielded no new sites (Jensen and Mehalchick 1992).

An inventory survey was conducted along the lower cane haul road, crossing Hanakā`ō`ō Ahupua`a, in 1991 (Jensen and O'Claray 1991). Approximately 90 percent of the lands had been fully developed for agricultural use and were planted in sugar cane. No prehistoric or historic archaeological sites were identified within the areas of potential effect for the proposed construction. Six previously unidentified historic-era features relating to sugar cane irrigation were identified.

During a subsurface inventory survey at the Sheraton Maui (just north of the current project area), a total of 15 backhoe trenches were excavated in three specified areas to test for possible subsurface cultural deposits (Graves 1993). Stratigraphic deposits within the trenches varied from as few as five layers to as many as nine. Most layers appeared to be introduced fill. No prehistoric subsurface cultural deposits were identified within the project area.

A more recent monitoring project for the Sheraton-Maui resulted in nine random finds of human remains, seven primary burials, including casket burials, and remains of grave markers that had been part of a Japanese cemetery previously located on the site (Fredericksen 1996). Oral testimonies indicated that finds of human remains were common during the initial hotel construction in the 1960s as there was a cemetery on top of Pu`u Keka`a and another large Japanese cemetery to the south.

A 1997 archaeological and architectural inventory survey was conducted on 1,100 acres of the Leiali`i Villages on Pioneer Mill Company lands just north of Lāhainā town and abuts a small portion of the current study area (Goodwin and Leineweber, 1997). The investigation documented two Lāhainā municipal dumps, a cinder borrow pit and four domestic trash scatters. The historic era sites were given a single SIHP site number (50-50-03-4420).

In 2000, a burial site (Site 50-50-03-4985) was identified on the grounds of the Maui Marriott Ocean Club. The remains were identified during excavation for a pool in the middle portion of the hotel complex (Kirkendall 2002, pers. comm.).

In 2002, SCS conducted an archaeological inventory survey at the Maui Marriott Ocean Club (McGerty and Spear 2002). Four backhoe trenches were excavated, natural pockets of sand were observed but layers consisted mainly of imported fill. No cultural materials were identified.

Fredericksen (2003) conducted an archaeological inventory survey of 4,325 acres that included much of Jensen's 1989 South Beach Mauka project area. A total of 81 previously unidentified sites were located and included agricultural complexes consisting primarily of terraces, temporary and permanent habitation areas, petroglyph panel sites, possible ceremonial areas and shrines, possible burial features and plantation (historic) era sites. None of the sites were located in the current study area, but attest to the area's importance in pre-Contact agricultural pursuits.

A 2006 archaeological inventory survey was conducted along a modified portion of the Kahoma Stream drainage (Pickett, 2006). No surface sites or sub-surface deposits were encountered despite the excavation of 15 backhoe test trenches. It was clear that the entire parcel had been previously grubbed, graded and filled with extensive bulldozer push piles evident throughout the project area.

SCS conducted an archaeological inventory survey at the Hyatt Regency Resort of Ka'anapali (immediately west and northwest of the current study parcel) in 2006 and included the excavation of 18 backhoe trenches in three parcels (Paraso and Dega, 2006). No cultural materials were encountered, however, evidence of a disturbed cultural layer was observed.

In December, 2008, an inadvertent burial was discovered at Hanakā`ō`ō Beach Park by County of Maui workers. While no formal data on the burial or mitigation has been published to date, the project has been discussed at a minimum of three formal meetings of the Maui/Lana`i Islands Burial Council: December 10, 2008, January 29, 2009, and February 26, 2009. The agenda item is as follows: Human Skeletal Remains Inadvertently Discovered During Accessibility Improvements Project at Hanaka'o'o Beach Park Hanaka'o'o Ahupua'a, Lahaina District, Island of Maui, TMK: (2) 4-4-013: 007.

PROJECT AREA EXPECTATIONS

Based on archival research of previous archaeological work conducted in the area, the coastal areas around Lāhainā Village would have most likely be claimed by the ali`i for habitation, food production, fishing and gathering of other coastal resources, and recreation. The area was also likely used for religious purposes. Features associated with these activities may include enclosures, platforms, terraces, walls, burials, imu, midden, and portable artifacts associated with food gathering and production/preparation (e.g. poi pounders, fishing tool kits) and building construction (e.g. stone tools, lithic debris). Further inland, irrigated agricultural fields extended to the base of the mountains in addition, habitation complexes were constructed in certain sections of the two main gulches. Foot trails connected coastal to mauka regions allowing people and resources to move easily between the two.

In spite of the region's rich past, the project area itself has been experiencing development for over 40 years and the presence of surface features is highly unlikely. However, the potential for subsurface cultural materials, including burials, remains a possibility, especially in light of the project area corridor extending through the *mauka* portion of the Hanakā`ō`ō Cemetery.

METHODS

A Field Inspection of the corridor was conducted by SCS archaeologist David Perzinski, B.A. on July 1, 2009, under the direction of Michael Dega, Ph.D. In concert with archival studies, the goal was to visually inspect the entire corridor for known sites (archival) and area of potential sensitivity, in regards to excavation work during the project. The project area corridor is bounded to the south by Wahikuli Pump Station, to the east by Honoapi`ilani Highway, to the west by the coastline and to the north by the existing tie-in. The pedestrian survey began at the south end of the project area corridor at the Wahikuli Pump Station, just north and *makai* (west) of Wahikuli Road and extended to the south end of Ka`anapali, approximately 200 feet north of the golf cart overpass. The surveyed area was 25 feet wide and addressed the area likely to be impacted by excavation activities associated with the installation of the sewer main.

Pedestrian survey was conducted of the entire corridor (100%). The project area extends through Wahikuli and Hanakā`ō`ō Beach Parks. Due to the high visibility and lack of ground cover only one transect was necessary. When a feature was encountered it was photographed, measured and described with written observations. The feature was then placed on a project area map. No test trenches or shovel tests were conducted, though the surface sediments were noted.

Archival research included a review and summary of general settlement patterns in Lāhainā district, mythological accounts within Lāhainā District, historical background research, including Land Commission Award (LCA) documentation, and previous archaeological research along the project corridor.

RESULTS OF FIELDWORK

The pedestrian survey portion of the archaeological assessment was conducted on July 1, 2009 by David Perzinski, BA, under the overall direction of Michael Dega, PhD. No sites were encountered in the corridor. However, the Hanakā`ō`ō Cemetery is adjacent to the proposed sewer main alignment and it is unclear whether additional unmarked graves extend into the area of potential effect. Six drainage culverts, also occurring outside but near the corridor, were also documented and briefly described herein. The culverts were recorded as they provided SCS with structural datum points along the route.

Culvert #1 is located along the southern portion of the project area, adjacent to the Wahikuli pump station (Figures 5 and 6). The culvert measures 12 feet in length by 5 feet high and has a 48” pipe draining into the ocean. The culvert is constructed with basalt boulders and cement though no date of construction etching was observed. The culvert is *makai* of the proposed corridor and it is unlikely the proposed sewer will affect the culvert facing.



Figure 5: View East of Culvert #1 Face Adjacent to the Wahikuli Pump Station.

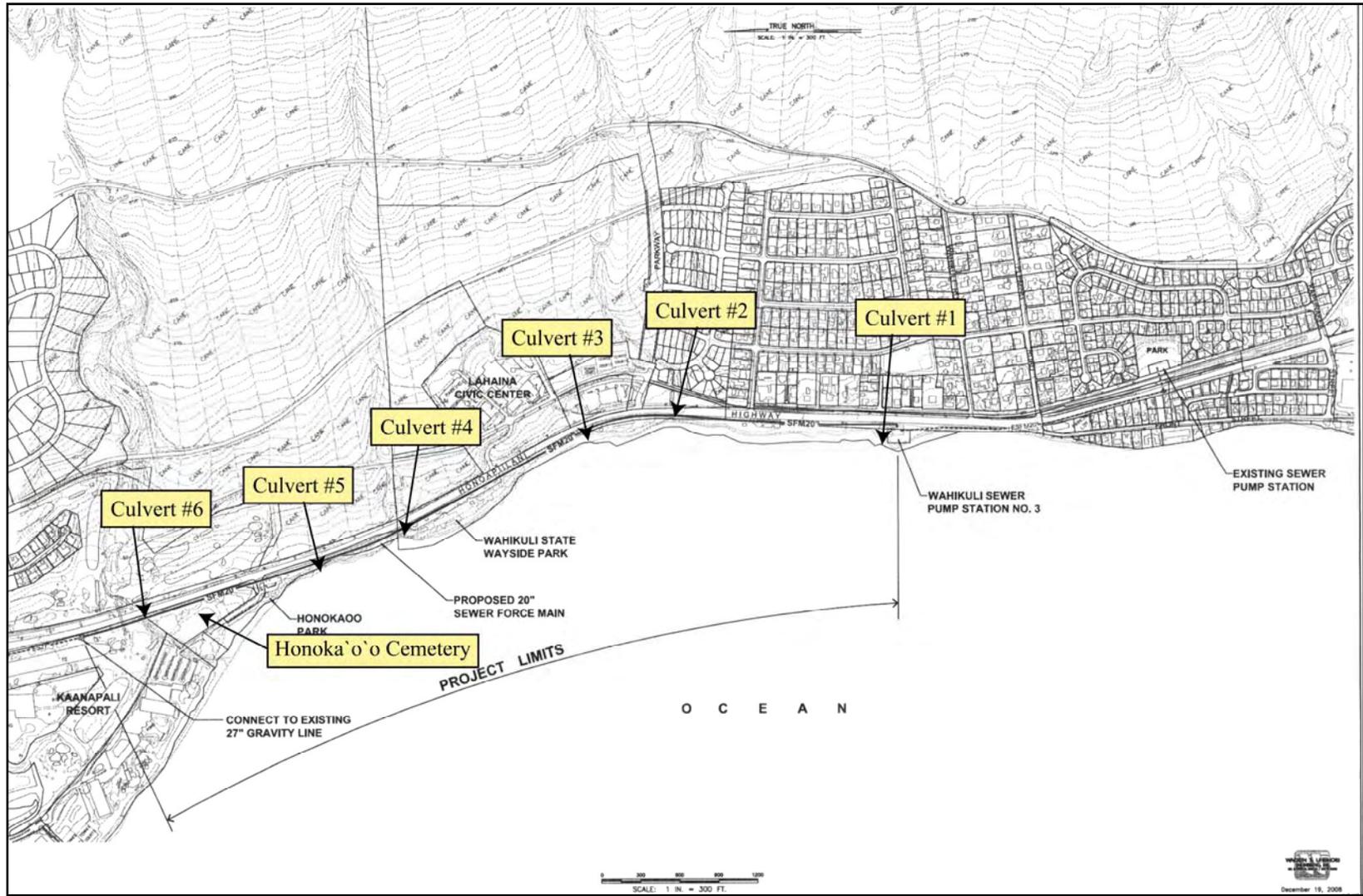


Figure 6: Project Area Map Showing Locations of Culverts A long Coastline.

Culvert #2 is located along the coastline just *makai* and south of Leialii Parkway in Wahikuli Beach Park (see Figures 6) (Figure 7). The culvert measures 26 feet in length by 6.4 feet high and has a three 48” pipe draining into the ocean. The culvert is constructed with basalt cobbles, boulders and cement though no date of construction etching was observed. A homeless person is currently using the culvert as a shelter. The culvert is *makai* of the proposed corridor and it is unlikely the proposed sewer will affect the culvert facing.



Figure 7: View Northeast of Culvert #2 at Wahikuli Beach Park.

Culvert #3 is located along the coastline, *makai* of the Lāhainā Civic Center (see Figure 6) (Figure 8). The culvert measures 9.5 feet in length by 4.3 feet high and has a 48” pipe draining into the ocean. The culvert is constructed with basalt boulders, cobbles and cement and has two wings constructed to help control the flow of water. The culvert is *makai* of the proposed corridor and it is unlikely the proposed sewer will affect the culvert facing.



Figure 8: View East of Culvert #3.

Culvert #4 is located along the northern end of Wahikuli Beach Park (see Figure 6) (Figure 9). The culvert measures 8 feet in length by 14 feet high and has a 3 feet by 4.7 feet pipe draining into the ocean. The culvert is constructed with basalt boulders and cobbles with concrete and has cut basalt boulders up to 2.3 feet across creating additional soil retention capabilities. At the base of the drain the cement is inscribed with “SPM Prond. May 31, 1946”. This culvert had clearly different construction materials and suggests that the other 5 features were constructed at a later date. The culvert is *makai* of the proposed corridor and it is unlikely the proposed sewer will affect the culvert facing..



Figure 9: View East of Culvert #4.

Culvert #5 is located along the coastline, at the southern end of Hanakā`ō`ō Beach Park, approximately 16 feet from the shoulder of the highway (see Figure 6) (Figure 10). The culvert measures 5.5 feet in length by 5.2 feet high and has a 48” pipe draining onto a basalt and cement slab, over a low cliff and into the ocean. The culvert is constructed with basalt boulders, cobbles and cement and has two wings measuring 10 feet in length to control the flow of water. No date of construction etching was observed though the construction looked relatively new (<20 years). The culvert is *makai* of the proposed corridor and it is unlikely the proposed sewer will affect the culvert facing.



Figure 10: View East of Culvert #5.

Culvert #6 is located just north of Hanakā`ō`ō Cemetery and on the southern extent of Ka`anapali Golf Course (see Figure 6) (Figure 11). The culvert is in gulch separating Hanakā`ō`ō Beach Park from the golf course and measures 30 feet in length by 10 feet high and has a 7.6 feet cement box culvert draining into the gulch. The culvert is constructed of a the cement box and is flanked by basalt boulder and cement walls. No date of construction etching was observed though it is suggested to be less than 25 years old.



Figure 11: View Southeast of Culvert #6.

HANAKĀ`Ō`Ō CEMETERY

Along the northern portion of the project area corridor is the Hanakā`ō`ō Cemetery, bounded by the Hyatt Regency Resort to the west (*makai*) a gulch to the north, Honoapi`ilani Highway to the east and Hanakā`ō`ō Beach Park to the south. The cemetery covers an area of approximately 2.5 acres and the marked graves extend to within 20 feet of the project area corridor (Figures 12 and 13).

As recently as October, 2008, a human burial was inadvertently encountered while construction crews were performing ADA compliance work at Hanakā`ō`ō Beach Park (MLIBC Meeting Minutes). The remains were exposed during trenching activities and were believed to represent a single infant of Hawaiian ancestry and was designated as SIHP No. 50-50-03-6576. These findings suggest that although the cemetery has an historic component, it is also likely that prior to the establishment of a formal cemetery, the pre-Contact and/or early post-Contact Hawaiian community used the area for the interment of remains, which was not marked like the current cemetery.



Figure 12: Aerial View Showing Hanakā`ō`ō Cemetery and Location of Proposed Corridor.

The cemetery and particularly, the beach area, have retained interest though time. J. Clark (1989: *The Beaches of Maui County*), notes that Hanaka'ō'ō means the "digging stick bay," but the origin of the name is now unknown. The beach fronting the park was once known to Maui residents as Sand Box Beach. Sand Box was also the name of a still-popular surfing break fronting the Hyatt Regency Maui. During the early 1900s Pioneer Mill constructed a rock crusher near Hanaka'ō'ō Cemetery, now situated within the park. The rock crusher had several large storage bins to hold the crushed material, including a box for sand. The sand box was kept filled with beach sand, which was bagged as needed for various construction projects. The rock crusher shut down operations in the 1920s, but the sand box remained on the beach for many years, giving the beach its once-popular name. Hanaka'ō'ō Beach Park is located between Wahikuli State Wayside Park and the Hyatt Regency Maui. The beach fronting the park is the beginning of the long stretch of sand that runs for a mile to Pu'u Keka'a or Black Rock in the center of Kā'anapali. In all, the area contains both prehistoric and historic-era burials, but the boundaries of the cemetery remains somewhat speculative.



Figure 13: View South from Northern Portion of Cemetery (note: proposed corridor is at base of slope).

SUMMARY AND RECOMMENDATIONS

Archival research, including a thorough review of previous archaeological studies in the proposed corridor, has shown that the area in which the project occurs has a considerable cultural history. The only surface structures and features /or artifacts encountered during the Field Inspection was the formally designated Hanakā`ō`ō Cemetery, which occurs outside the project area corridor. Un-marked graves associated with the cemetery may occur closer to the corridor. No other surface features occur in corridor area of potential effect. Six culverts, occurring outside the corridor, were identified and quickly documented though. Repeated instances of modern era clearing and grading along the corridor have extensively disturbed portions of the area, further making the likelihood of encountering any remaining surface features non-existent.

From the southern end of the corridor, at Wahikuli Pump Station, the project area corridor extends north along the western (*makai*) side of Honoapi`ilani Highway through Wahikuli Beach Park. The park is popular with tourists and locals alike and contains recent improvements including parking areas and landscaping. Past Wahikuli Beach Park, the corridor continues north through Hanakā`ō`ō Beach Park. The park occupies the coastal strip and like Wahikuli Beach Park, has been improved with landscaping and parking spaces. Through the two beach parks there were no surface sites within the area of potential effect.

At the northern end of Hanakā`ō`ō Beach Park, east (*mauka*) of the canoe sheds is Hanakā`ō`ō Cemetery. The cemetery covers an area of approximately 2.5 acres and extends from the west (*mauka*) side of the Hyatt Regency Resort access road to the base of the Honoapi`ilani Highway berm. The easternmost headstones and/or marked graves are approximately 20 feet from the base of the berm, the base of the berm demarcating the extent of the corridor. Immediately north of the cemetery, the corridor crosses a small gulch and extends into the southern portion of Ka`anapali Golf Course, just outside the western shoulder of the highway.

In sum, no new sites, features or cultural materials were documented during the archaeological field inspection of the corridor for a proposed 20" force sewer main along Honoapi`ilani Highway from the Wahikuli Pump Station to an existing sewer main in southern Ka`anapali. Though no sites were encountered, additional archaeological investigations are recommended, specifically in the portion of the corridor that extends through an area adjacent to the eastern portion of Hanakā`ō`ō Cemetery. The additional research is suggested to include subsurface testing within the proposed footprint of the force main. Despite there being no

headstones directly in the corridor, previous archaeological research has shown that previously unknown and unmarked graves are extant outside the formal boundaries of the cemetery.

It is our estimation, based on this assessment, that the proposed undertaking would not have an adverse impact on any of the six modern or historic drainage gulches or historic surface sites. Excavation for the proposed sewer main will extend along the *makai* side of Honoapi`ilani Highway and therefore it is likely that sand deposits and possibly human remains will be encountered. In addition, as excavation is to extend through the *mauka* portion of the Hanakā`ō`ō Cemetery, there is a high likelihood that human remains will be encountered.

RECOMMENDATIONS

Due to the possibility of inadvertently encountering human burials within the undisturbed deposits, Archaeological Monitoring is recommended during any subsurface excavations within the project area corridor. In addition, Inventory Survey-level testing should be accomplished along the proposed route area adjacent to the cemetery. Manual sampling within the footprint of the proposed corridor, at the base of the berm, some 20 feet from the cemetery proper, will determine the presence/absence of the cemetery beyond its known boundary. Test units will be manually excavated at small intervals within the footprint of the proposed line. This Inventory Survey work should precede any work in the corridor.

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APPENDIX B

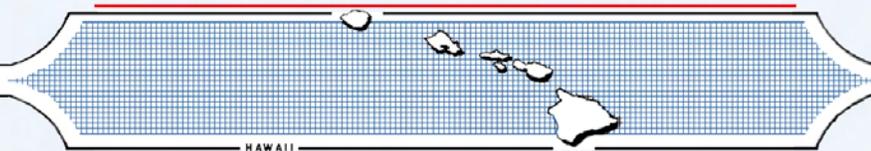
Cultural Practices Assessment Report

**A CULTURAL IMPACT ASSESSMENT OF
LAHAINA No. 3 FORCE MAIN REPLACEMENT PROJECT,
LAHAINA DISTRICT, MAUI ISLAND, HAWAII
[TMK 4-4-00 por. and 4-5-00 por.]**

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INTRODUCTION

Scientific Consultant Services, Inc. (SCS) has been contracted by Warren S. Unemori Engineering, Inc., to conduct a Cultural Impact Assessment of the Lahaina No. 3 Force Main Replacement Project, Lahaina District, Maui Island [TMK: 4-4-00 por. and 4-5-00 por.] (Figures 1, 2 and 3). The project proposes replacing of the 30 year old line for approximately 6500 feet.

The Constitution of the State of Hawai`i clearly states the duty of the State and its agencies is to preserve, protect, and prevent interference with the traditional and customary rights of native Hawaiians. Article XII, Section 7 requires the State to “protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua`a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778” (2000). In spite of the establishment of the foreign concept of private ownership and western-style government, Kamehameha III (Kauikeaouli) preserved the peoples traditional right to subsistence. As a result in 1850, the Hawaiian Government confirmed the traditional access rights to native Hawaiian *ahupua`a* tenants to gather specific natural resources for customary uses from undeveloped private property and waterways under the Hawaiian Revised Statutes (HRS) 7-1. In 1992, the State of Hawai`i Supreme Court, reaffirmed HRS 7-1 and expanded it to include, “native Hawaiian rights...may extend beyond the *ahupua`a* in which a native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner” (Pele Defense Fund v. Paty, 73 Haw.578, 1992).

In Section 1 of Act 50, enacted by the Legislature of the State of Hawai`i (2000) with House Bill 2895, it is stated that:

...there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii’s culture, and traditional and customary rights...[H.B. NO. 2895].

Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs and practices, and resources of native Hawaiians as well as other ethnic groups. Act 50 also requires state agencies and other developers to assess the effects of proposed land use or shore line developments on the “cultural practices of the community and State” as part of the HRS Chapter 343 environmental review process (2001).

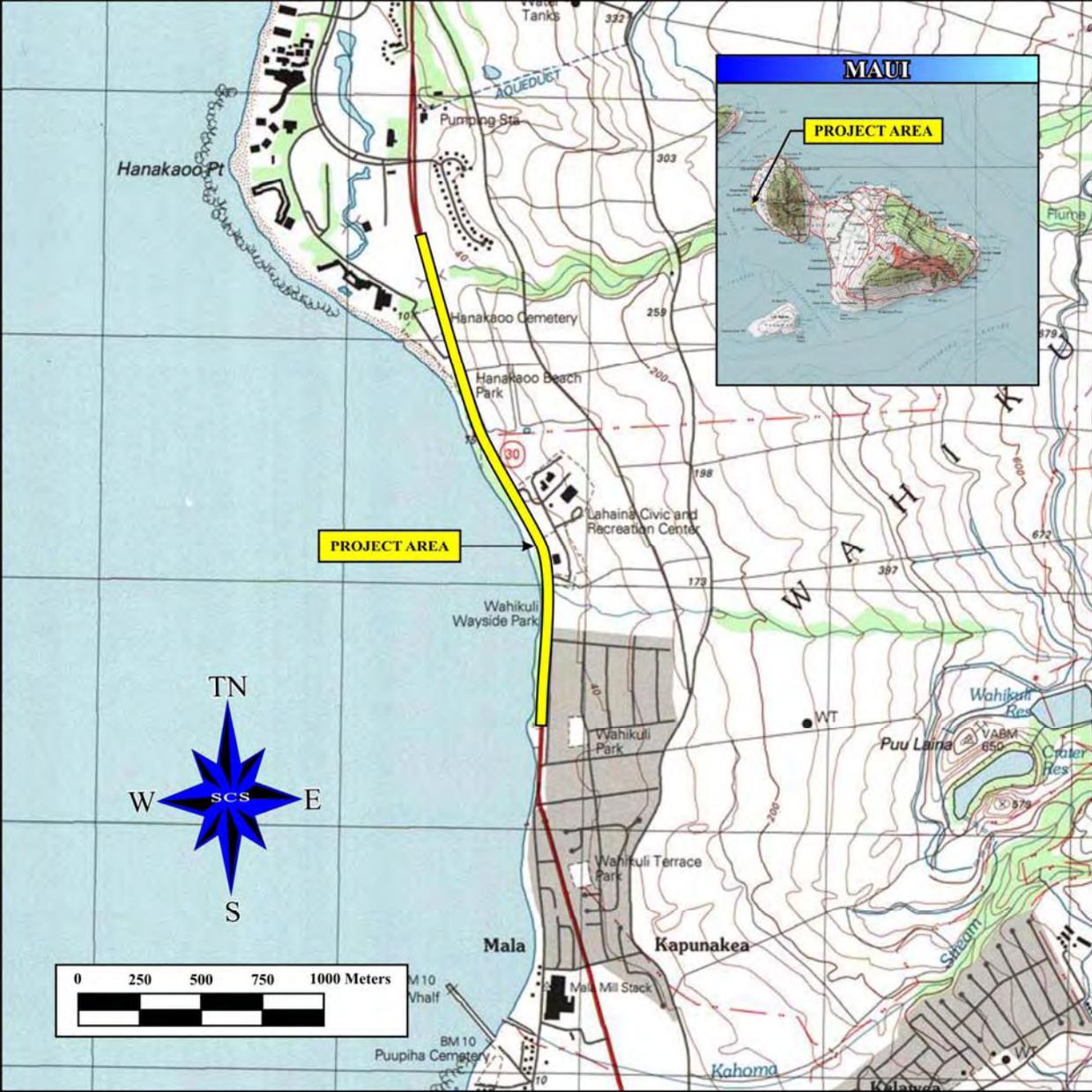


Figure 1: USGS Quadrangle Map Showing Project Area.

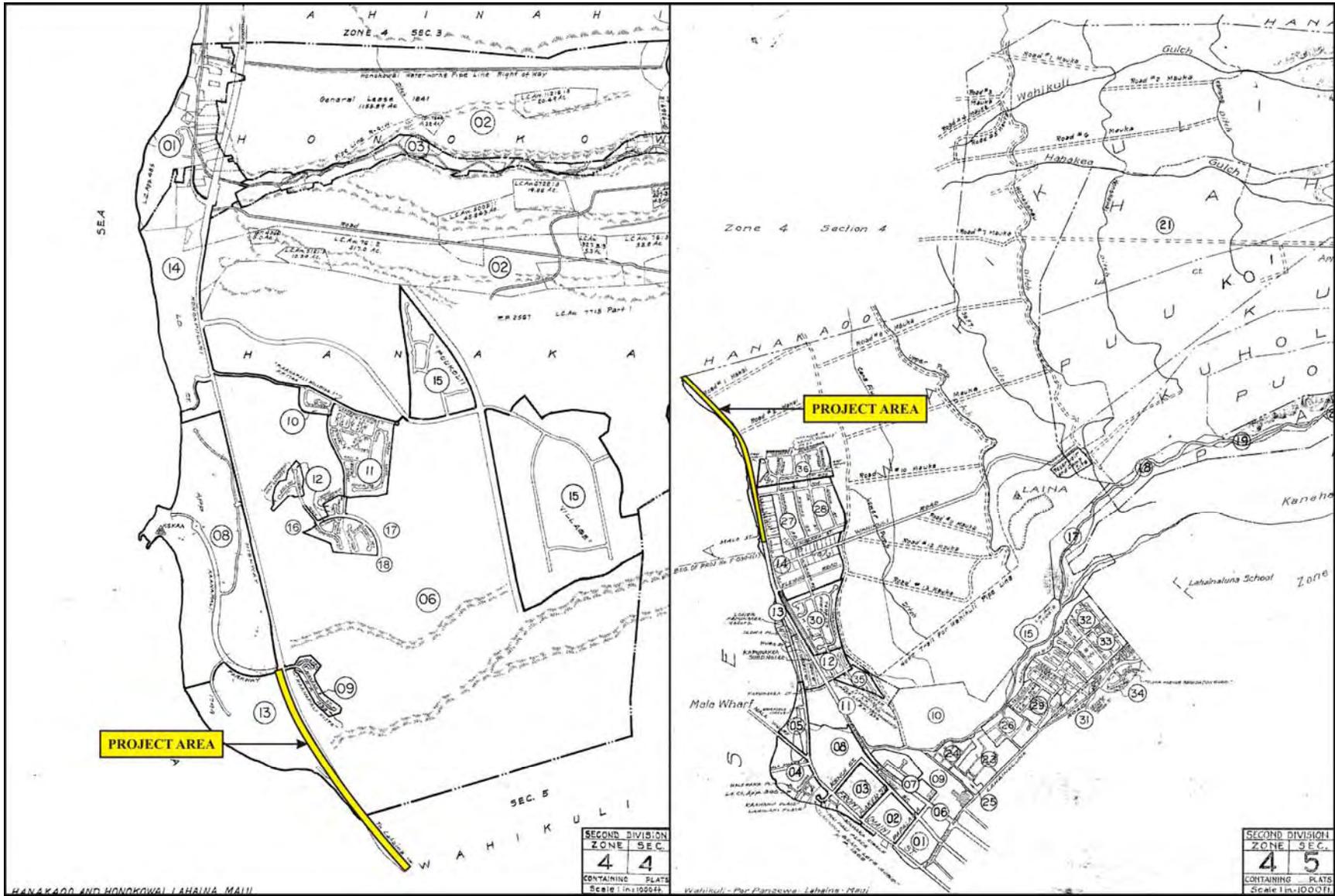
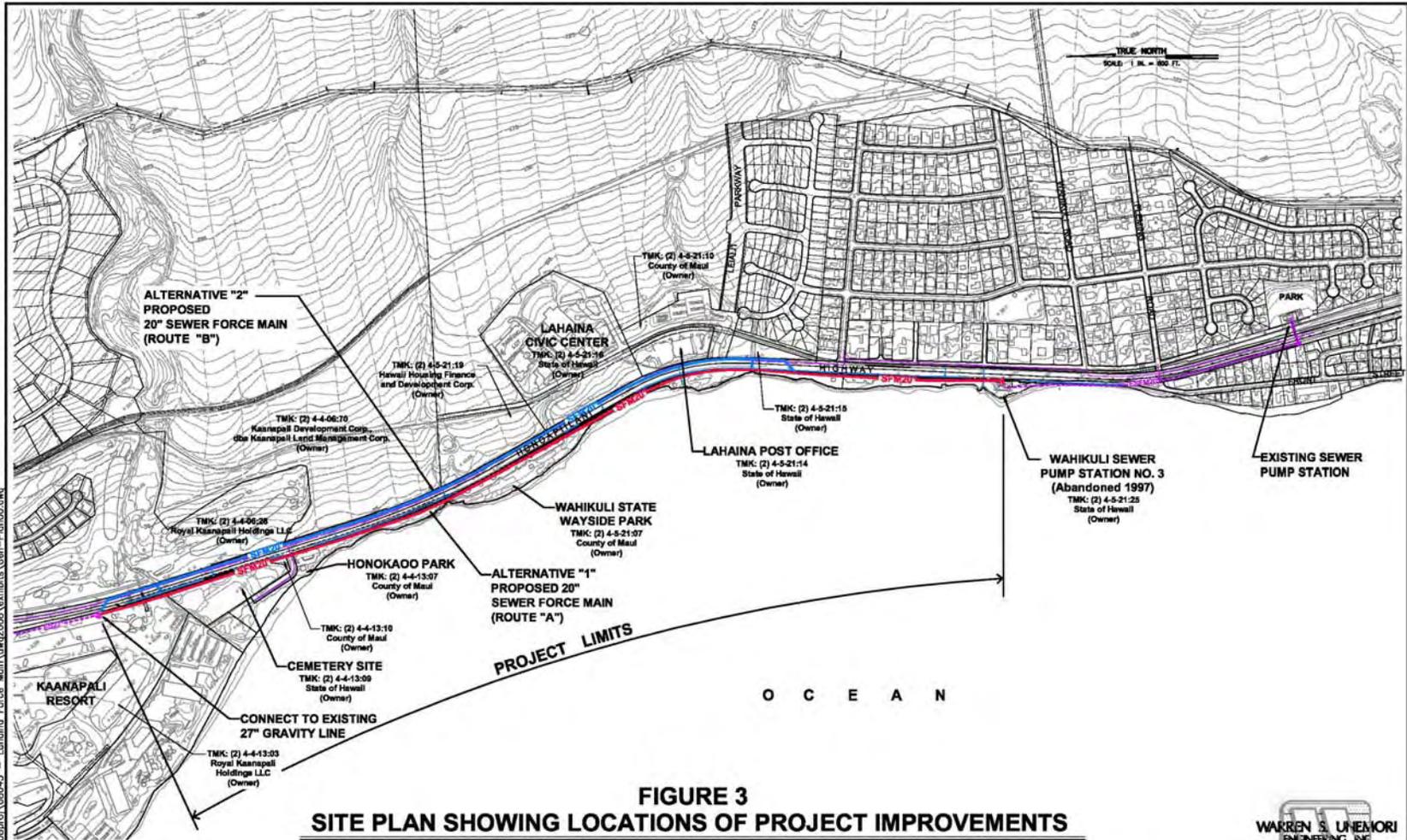


Figure 2: Tax Map Key [TMK] Showing Project Area.



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WARREN S. UNEMORI
 ENGINEERING, INC.
 CIVIL & ENVIRONMENTAL ENGINEERS
 June 26, 2009

Figure 3: Project Area Map.

It also re-defined the definition of “significant effect” to include “the sum of effects on the quality of the environment including actions impact a natural resource, limit the range of beneficial uses of the environment, that are contrary to the State’s environmental policies. . . or adversely affect the economic welfare, social welfare or cultural practices of the community and State” (H.B. 2895, Act 50, 2000). Cultural resources can include a broad range of often overlapping categories, including places, behaviors, values, beliefs, objects, records, stories, etc. (H.B. 2895, Act 40, 2000).

Thus, Act 50 requires that an assessment of cultural practices and the possible impacts of a proposed action be included in the Environmental Assessments and the Environmental Impact Statements, and to be taken into consideration during the planning process. The concept of geographical expansion is recognized by using, as an example, “the broad geographical area, e.g. district or *ahupua`a*” (OEQC 1997). It was decided that the process should identify ‘anthropological’ cultural practices, rather than ‘social’ cultural practices. For example, *limu* (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice.

Therefore, the purpose of a Cultural Impact Assessment is to identify the possibility of cultural activities and resources within a project area, or its vicinity, and then assessing the potential for impacts on these cultural resources. The CIA is not intended to be a document of in depth archival-historical land research or a record of oral family histories unless these records contain information about specific cultural resources that might be impacted by a proposed project.

According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both manmade and natural, which support such cultural beliefs.

The meaning of “traditional” was explained in *National Register Bulletin*:

Traditional” in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations’, usually orally or through practice. The traditional cultural significance of a historic property, then is significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices. . . . [Parker and King 1990:1]

METHODOLOGY

This Cultural Impact Assessment was prepared in accordance with the suggested methodology and content protocol in the Guidelines for Assessing Cultural Impacts (OEQC 1997). In outlining the “Cultural Impact Assessment Methodology”, the OEQC states that:

“...information may be obtained through scoping, community meetings, ethnographic interviews and oral histories...” (1997).

This report contains archival and documentary research, as well as communication with organizations having knowledge of the project area, its cultural resources, and its practices and beliefs. This Cultural Impact Assessment was prepared in accordance with the suggested methodology and content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997), when possible. The assessment concerning cultural impacts may address, but not be limited to, the following matters:

- (1) a discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained;
- (2) a description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken;
- (3) ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained;
- (4) biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the

- project area, as well as information concerning the persons submitting information or being interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area;
- (5) a discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken, as well as the particular perspective of the authors, if appropriate, any opposing views, and any other relevant constraints, limitations or biases;
 - (6) a discussion concerning the cultural resources, practices and beliefs identified, and for the resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site;
 - (7) a discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project;
 - (8) an explanation of confidential information that has been withheld from public disclosure in the assessment;
 - (9) a discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs;
 - (10) an analysis of the potential effect of any proposed physical alteration on cultural resources, practices, or beliefs; the potential of the proposed action to isolate cultural resources, practices, or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place, and;
 - (11) the inclusion of bibliography of references, and attached records of interviews which were allowed to be disclosed.

Based on the inclusion of the above information, assessments of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

ARCHIVAL RESEARCH

Archival research focused on a historical documentary study involving both published and unpublished sources. These included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps and land records such as Land Commission

Awards, Royal Patent Grants, and Boundary Commission records; historic accounts; and previous archaeological project reports.

INTERVIEW METHODOLOGY

Interviews are conducted in accordance with Federal and State laws, and guidelines, when knowledgeable individuals are able to identify cultural practices in, or in close proximity to the project area. If they have knowledge of traditional stories, practices and beliefs associated with a project area or if they know of historical properties within the project area, they are sought out for additional consultation and interviews. Individuals who have particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area are invited to share their relevant information concerning particular cultural resources. Often people are recommended for their expertise, and indeed, organizations, such as Hawaiian Civic Clubs, the Island Branch of Office of Hawaiian Affairs (OHA), historical societies, Island Trail clubs, and Planning Commissions are depended upon for their recommendations of suitable informants. These groups are invited to contribute their input, and suggest further avenues of inquiry, as well as specific individuals to interview. It should be stressed that this process does not include formal ethnographic interviews or oral histories as described in the OEQC's *Guidelines for Assessing Cultural Impacts* (1997). The assessments are intended to identify potential impacts to ongoing cultural practices or resources within a project area or in its close vicinity.

No interviews were conducted for the present project as there were no responses from any of the contacted organizations and/or individuals.

If knowledgeable individuals are identified, personal interviews are sometimes taped and then transcribed. These draft transcripts are returned to each of the participants for their review and comments. After corrections are made, each individual signs a release form, making the information available for this study. When telephone interviews occur, a summary of the information is usually sent for correction and approval, or dictated by the informant and then incorporated into the document. If no cultural resource information is forthcoming and no knowledgeable informants are suggested for further inquiry, interviews are not conducted.

Letters were sent to organizations whose jurisdiction included knowledge of the area. Consultation was sought from Thelma Shimaoka of the Maui Branch of the Office of Hawaiian Affairs; Nā Kapuna O Maui; Hawaiian Civic Club, Lahaina Branch; Kimokea Kapahulehua;

Ke`eaumoku and U`i Kapu; Central Maui Hawaiian Civic Club; the County of Maui Cultural Resources Commission; Hinano Rodrigues, SHPD Island Historian; and Kamika Kepa`a of the Native Hawaiian Preservation Council (Appendix A). In addition, a Cultural Impact Assessment Notice was published on July 12, 15, 16, 2009 in *The Honolulu Advertiser* and *The Maui News* , on July 12, 15, 16, 2009, and in the up coming OHA newspaper, *Na Wai Ola* (Appendix B). These notices requested information of cultural resources or activities in the area of the proposed project, gave the TMK number and where to respond with information. Based on the responses, an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

PROJECT AREA AND VICINITY

The replacement sewer main corridor will extend from the Wahikuli Pump Station on the north end of Lāhainā town to an existing 27-inch gravity line on the south end of Ka`anapali. The lands involved are owned by the County of Maui, with the exception of the northernmost extent, which is owned by Ka`anapali Holdings LLC. In total, the proposed replacement will require the excavation of approximately 6900 linear feet (2100 m) of trench.

CULTURAL HISTORICAL CONTEXT

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. Pu`u Kukui, forming the west end of the island (1,215m above mean sea level), is composed of large, heavily eroded amphitheater valleys that contain well-developed permanent stream systems that watered fertile agricultural lands extending to the coast. The deep valleys of West Maui and their associated coastal regions have been witness to many battles in ancient times and were coveted productive landscapes.

PAST POLITICAL BOUNDARIES

Traditionally, the division of Maui's lands into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha`ōhia, during the time of the *ali`i* Kaka`alaneo (Beckwith 1940:383; Fornander places Kaka`alaneo at the end of the 15th century or the beginning of the 16th century [Fornander 1919-20, Vol. 6:248]). Land was considered the property of the king or *ali`i`ai moku* (the *ali`i* who eats the island/district), which he held in trust for the gods. The title of *ali`i`ai moku* ensured rights and responsibilities pertaining to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs

received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka`ānana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku*, *ahupua`a*, *`ili* or *`ili`āina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua`a*) which customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua`a* were therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *`ili`āina* or *`ili* were smaller land divisions next to importance to the *ahupua`a* and were administered by the chief who controlled the *ahupua`a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo`o`āina* were narrow strips of land within an *`ili*. The land holding of a tenant or *hoa`āina* residing in a *ahupua`a* was called a *kuleana* (Lucas 1995:61). The project area is located in the *ahupua`a* of Hanakaō`ō, which translated means literally “the digging stick bay” and perhaps refers to the gardens known in the area (Pukui *et al.*:74).

TRADITIONAL SETTLEMENT PATTERNS

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua`a*. During pre-Contact times, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugar cane, *Saccharum officinarum*) and *mai`a* (banana, *Musa* sp.), were also grown and, where appropriate, such crops as *`uala* (sweet potato, *Ipomoea batatas*) were produced. This was the typical agricultural pattern seen during traditional times on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). Agricultural development on the leeward side of Maui was likely to have begun early in what is known as the Expansion Period (AD 1200-1400, Kirch 1985).

WAHI PANA (LEGENDARY PLACES)

Scattered amongst the agricultural and habitation sites were other places of cultural significance to the *kama`āina* of the district. At least eight *heiau* were recorded in the vicinity of the ancient village of Lāhainā (old pronunciation of Lahaina), fishing *ko`a* (shrine) were present along the beach and on the slopes above the bays, and petroglyphs were inscribed in many places

whose meanings have yet to be fully understood (Thrum 1908, 1916, 1917; Walker 1930:103). Pearl shell was gathered from Makaiwa Beach for the eyes of the *ki`i* (image, picture) and battles were fought along the coast (Sterling 1998:45). A portion of the paved trail built by Kihapi`ilani, son of the great chief Pi`ilani, was identified along the Kā`anapali coast (Sterling 1998).

To the north was Pu`u Keka`a, made famous by being the birthplace of the sons of chiefs and long associated with ghosts, strange occurrences, and the skeletons of defeated invaders (Fornander 1918–19, Vol. 5:542). In Fornander, S. Kaha stated:

Concerning the great amount of human bones at this place. On account of the great number of people at this place there are numerous skeletons [this was the vicinity of several bloody battles], as if thousands of people died there; it is there that the Lahainaluna students go to get skeletons for them when they are studying anatomy. The bones are plentiful there; they completely cover the sand.

This is a ghostly place. Some time a number of people came from Kaanapali (from the other side) going to Lahaina in the dark. When they came to Kekaa stones rolled down from the top of the hill without any cause. Listening to it, it seemed as if the hill was tumbling down; the people going along were startled and they explained, Kekaa is ghostly! Kekaa is ghostly!” Certainly this is a strange thing for this hill to do [*Ibid*].

It was also believed that Pu`u Ka`a was a *leina a ka`uhane*, or soul’s leap similar to O`ahu’s Ka`ena Point. Naha says:

It is said that when a person dies his spirit journeys to Kekaa; if he has a friend there who had previously died, that one would drive it away when the spirit is nearing Kekaa. Sometimes the spirit of a person would return and re-enter the body, and cause it to come to life again; that is what happened to those who are living again. Many souls came to this place Kekaa. It is called the Leina-a-ka-uhane, the leaping place of the soul... [*Ibid*].

According to legend, the lands surrounding Pu`u Keka`a were once areas of intense cultivation and the capital and home of the Maui chief, Kaka`alaneo, when he ruled West Maui. Kaka`alaneo lived on the *pu`u* with his wife, a chiefess from Moloka`i.

Kekaa was the capitol of Maui when Kalaalaneo was reigning over West Maui...Many houses were constructed and people cultivated a great deal of potatoes, bananas, sugar cane, and things of a like nature. I have been told that the country from Kekaa to Hahakea and Wahikuli –that country now covered by cactus, in a northwesterly direction for Lahaina-was all cultivated. This chief [Kakaalaneo] also planted bread fruit and kukui trees down at Lahaina. Some of these trees southwest of the Lahaina fort, were called the bread fruit trees of Kauheana [Fornander 5:540–541].

Kaka`alaneo's possessions included fishponds in Hana and a famous breadfruit grove he planted outside of Lāhainā (Handy and Handy 1972). His son, Ka`ulula`au, became famous for traveling around Lāna`i fighting ghosts (Sterling 1998). Maui, the demi-god himself, was associated with the hill:

At Kekaa lived Maui and Moemoe...The great desire of one [Moemoe] was to sleep. The other [Maui] desired to travel. When Moemoe slept, Maui was traveling, each according to his taste...[Moemoe] made up his mind...to search for his friend, Maui. A road on the northeast side of Kekaa was named after one of these men; it is called “Ke alanui kikeekee a Maui”-the zig zag pathway of Maui” [Fornander 1918-19, Vol. 5:540–544].

It is recorded that Pu`ū Keka`a was the burial place for Kekaulike's oldest son, Kauhi`aimoku-a-kama who was defeated by his brother and Uncle at the Battle of Koko-o-na-moku further south at Makaiwa Beach (Sterling 1998). Kahekili succeeded his brother Kamehameha-Nui as ruler of Maui and to prove he was a true descendant of the gods, he leapt from the `Ū-ha-ne lele or Soul-Leaping Place of Maui. No ordinary man would dare to do this (*Ibid.*).

LĀHAINĀ DISTRICT SETTLEMENT PATTERNS

In Hawai`i, much of the coastal lands were preferred for chiefly residence. Easily accessible resources such as offshore and onshore fish ponds, the sea with its fishing and surfing—known as the sports of kings, and some of the most extensive and fertile wet taro lands were located in the area (Kirch and Sahlins, 1992 Vol. 1:19). Inland resources necessary for subsistence, could easily be brought to the *ali`i* residences on the coast from nearby inland plantations. The majority of farming was situated in the lower portions of stream valleys where there were broader alluvial flat lands or on bends in the streams where alluvial terraces could be

modified to take advantage of the stream flow. Dry land cultivation occurred in colluvial areas at the base of gulch walls or on flat slopes (Kirch 1985; Kirch and Sahlins 1992, Vol. 2:59). Lāhainā had the added advantage of a calm roadstead and close proximity to Lāna`i, and Moloka`i (Handy and Handy 1972).

Trails extended from the coast to the mountains, linking the two for both economic and social reasons. A trail known as the *alanui* or “King’s trail” built by Kihapi`ilani, extended along the coast passing through all the major communities between Lāhainā and Mākena. After the conquest of Maui by Kamehameha I, Lāhainā became the capitol of the Hawaiian Kingdom until it moved to Honolulu in 1855.

From early times, Lāhainā was favored by the *ali`i*. Kahekili, who became ruler of Maui in the 1700s, maintained his home and royal court here until his death in 1794. After laying waste to Lāhainā in the process of subjugating Maui, Kamehameha I proceeded to O`ahu, where he finally united all the islands (except Kaua`i) under his rule. He later returned and established residence and his seat of government in Lāhainā, constructing the first brick house in the town a short way north of the project area. During Kamehameha’s time, Lāhainā thrived as a center for the lucrative sandalwood trade. His son, Liholiho, and his wife resided in Lāhainā until they sailed to England in 1823 never to return alive to their kingdom. Kamehameha III (Kauikeaouli) built a new royal residence, a complex of fine, thatched-roofed houses, for his entourage called Pākalā. In addition, he began to construct a palace of coral rock, two stories high, known as Hale Piula, close to the sea.

Whaling ships began coming to Hawai`i by the hundreds in the 1820s. The peak year of 1859 brought 549 whaling ships to the roadstead. Lāhainā became saturated with sailors, whalers, deserters, and other unsavory types as well as western businessmen. Soon missionaries followed to set straight, both sailor and Hawaiian, and to impose their foreign standards on the population, whether they wanted it or not. The golden age of whaling was between 1843 and 1860, when Lāhainā underwent a building frenzy initiated by those hoping to buy and sell and make their fortune. Kamehameha III built a private residential complex on the Moku`ula, a tiny island located in a freshwater fishpond near the project area. The death of his sister, Nāhe`ena`ena, affected the king deeply. He had her body and that of their mother brought to Moku`ula where they were laid to rest in a specially constructed mausoleum and where he was to

reside for the next eight years. In 1845, the court moved to O`ahu, as the port of Honolulu had become the commercial center of the kingdom.

Ethnographic and historic literature, often our only link to the past, reveals that the land around Lāhainā was rich in agricultural areas irrigated by aqueducts originating in well-watered valleys with permanent occupation predominately on the coast. Handy and Handy have stated the space cultivated by the natives of Lāhainā at about "...three leagues [9 miles] in length, and one in its greatest breadth. Beyond this all is dry and barren; everything recalls the image of desolation" (1972:593). Crops cultivated included coconut, breadfruit, paper mulberry, banana, taro, sweet potato, sugar cane, and gourds.

Menzies, the naturalist and surgeon on board HMS Discovery during Captain George Vancouver's 1793 tour, made these observations of the Lāhainā coast and village:

[We]...soon entered the verge of the woods where we observed the rugged banks of a large rivulet that came out of the chasm cultivated and watered with great neatness and industry. Even the shelving cliffs of rock were planted with esculent roots, banked in and watered by aqueducts from the rivulet with as much art as if their level had been taken by the most ingenious engineer...[Menzies 1920:105].

...to see the village of Lahaina, which we could see scattered along shore on a low tract of land that was nearly divided into little fields and laid out in the highest state of cultivation and improvement by being planted in the most regulated manner with the different esculent roots and useful vegetables of the country, and watered at pleasure by aqueducts that ran here and there along the banks intersecting the fields, and in this manner branching through the greatest part of the plantation [Menzies 1920:112].

Little had changed twenty-six years later when J. Arago visited Hawai`i with Captain Louis de Freycinet in 1819. He recorded:

The environs of Lahaina are like a garden. It would be difficult to find a soil more fertile, or a people who can turn it to greater advantage...various sorts of vegetables and plants...amongst

which we distinguish the Caribee-cabbage, named here taro; double rows of banana, bread-fruit, cocoa-nut, palma-christi, and the paper-mulberry trees...[Arago cited in Handy and Handy 1972:493].

Rev. C.S. Stewart, a missionary in 1823 assigned to the Lāhainā station, also commented on the attractiveness of the environs:

The settlement is far more beautiful than any place we have yet seen on the Islands. The entire district stretching nearly three miles along the seaside, is covered with luxuriant groves, not only of the cocoanut, the only tree we have before seen except on the tops of the mountains, but also of the breadfruit and the kou...while the banana plant, kappa and sugar-cane are abundant, and extend almost to the beach, on which a fine surf constantly rolls [Taylor 1928:42].

...The breadfruit trees stand as thickly as those of a regularly planted orchard, and beneath them are kalo patches and fishponds, 20 or 30 yards square, filled with stagnant water, and interspersed with kappa trees, groves of banana, rows of the sugar cane, and bunches of the potato and melon...It scarcely ever rains, not oftener, we are told, than half a dozen times during the year, and the land is watered entirely by conducting streams, which rush from the mountains, by artificial courses, on every plantation. Each farmer has a right, established by custom, to the water every fifth day [Taylor 1928:43].

THE GREAT MĀHELE

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on western law. While it is a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III was forced to establish laws changing the traditional Hawaiian economy to that of a market economy (Kame`eleihiwa 1992:169-70, 176; Kelly 1983:45, 1998:4; Daws 1962:111; Kuykendall 1938 Vol. I:145). The Great Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were thus made available and private ownership was instituted, the *maka`āinana* (commoners), if they had been made aware of the procedures, were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, `okipū

(on O`ahu), stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kame`eleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16).

HISTORIC LAND USE

Lāhainā, long the port of choice and where commercial endeavors had succeeded the traditional economy, suffered with the demise of the whaling industry and the change in Capitol of the Hawaiian Kingdom to Honolulu. By the mid-1800s the Kā`anapali area was being converted from traditional agriculture to commercial sugar cane. As early as 1849, Judge A.W. Parsons operated a sugar mill in Lāhainā. Henry Dickenson began a sugar plantation in 1859 that was quickly followed by the Pioneer Mill Co. By 1883, Pioneer Mill Co. had assets in excess of \$50,000,000 (Simpich 1974). Pioneer Mill's railroad extended from the center of Lāhainā Village to a point north of the town of Pu`ukoli`i in Hanaka`ō`ō and was as close as 350 feet above mean sea level at its northern end (Condé 1975). Pioneer Mill Co. reorganized in 1900 at which time its cane fields were located along the coast for 10 miles with some areas extending back as far as two and one half miles:

The bulk of the crop is raised on lands that range from 10 feet to 700 feet elevation above sea level; the highest being cultivated at 1500 feet [Condé and Best 1973:254].

Sugar was processed and bagged at the mill in Lāhainā and then taken by train to the landing at Pu`u Keka`a (Black Rock). Other buildings had been constructed there to aid in the plantations activities, such as oil and molasses tanks, as well as a pavilion and some beach cottages on the beach for the use of Pioneer Mill Company's personnel (Clark 1980:61). To add to the enjoyment, a quarter-mile track had been constructed on the tidal flats (previously the site of the Battle of Koko-o-na-moku) behind Hanaka`ō`ō for horse racing on holidays. The Kā`anapali Landing was abandoned before World War II and by 1957 plans were in motion for a multi-million dollar resort to be built around Pu`u Keka`a. The shift to tourism in the 1950s sent the plantations into decline, however, the development of golf courses, hotels, condominiums, and shops have continued the popularity of Lahaina up to and including the present.

SUMMARY

The “level of effort undertaken” to identify potential effect by a project to cultural resources, places or beliefs (OEQC 1997) has not been officially defined and is left up to the investigator. A good faith effort can mean contacting agencies by letter, interviewing people who know of cultural resources and activities that may be affected by the project or who know its history, conducting research identifying sensitive areas and previous land use, holding meetings in which the public is invited to testify, notifying the community through the media, and other appropriate strategies based on the type of project being proposed and its impact potential. Sending inquiring letters to organizations concerning development of a piece of property that has already been totally impacted by previous activity and is located in an already developed industrial area may be a “good faith effort”. However, when many factors need to be considered, such as in coastal or mountain development, a good faith effort might mean an entirely different level of research activity.

In the case of the present parcel, letters were sent to organizations whose jurisdiction included knowledge of the area. Consultation was sought from Thelma Shimaoka of the Maui Branch of the Office of Hawaiian Affairs; Nā Kapuna O Maui; Hawaiian Civic Club, Lahaina Branch; Kimokea Kapahulehua; Ke`eaumoku and U`i Kapu; Central Maui Hawaiian Civic Club; the County of Maui Cultural Resources Commission; Hinano Rodrigues, SHPD Island Historian; and Kamika Kepa`a of the Native Hawaiian Preservation Council. In addition, a Cultural Impact Assessment Notice was published on July 12, 15, 16, 2009 in *The Honolulu Advertiser* and *The Maui News*, on July 12, 15, 16, 2009, and in the up coming OHA newspaper, *Na Wai Ola*. These notices requested information of cultural resources or activities in the area of the proposed project, gave the TMK number and where to respond with information.

Historical and cultural source materials were extensively used and can be found listed in the References Cited portion of the report. Such scholars as Ūi, Kamakau, Beckwith, Chinen, Kame`eleihiwa, Fornander, Kuykendall, Kelly, Handy and Handy, Puku`i and Elbert, Thrum, Sterling, and Cordy have contributed, and continue to contribute to our knowledge and understanding of Hawai`i, past and present. The works of these and other authors were consulted and incorporated in the report where appropriate. Land use document research was supplied by the Waihona `Aina 2009 Data base.

In addition, archaeological reports specific to the project vicinity were reviewed. The impact of cultivating historic cane and pineapple has greatly disturbed the archaeological record. Some remains are still evident inland within gulches where the cane did not reach.

Numerous archaeological studies have been conducted in Lāhainā District beginning with Thrum (1908, 1916, and 1917) and Walker (1930) recording *heiau* and other religious features during island wide studies. Walker identified Halulukoakoa Heiau (Walker Site 11) near Mala Wharf and according to Thrum (1930) consisted of “A large heiau for human sacrifice of which but few fragments of walls remain” (W.M. Walker cited in Sterling, 1998:44). During the 1970s and 80s, however, archaeological research in West Maui, with Lāhainā and Kā`anapali in particular, accelerated due to an increase in urbanization and resort development.

The area on the south side of the mouth of Kahoma Stream (approximately 0.6 miles south of the southern terminus of the current study corridor) was the focus of numerous archaeological investigations during the 1970's and 1980's. Studies were conducted in association with the proposed flood control project for Kahoma Stream by Hommon (1973), Connolly (1974), Joerger and Kaschko (1979) and Ahlo and Morgenstein (1980).

More extensive analyses were documented at the mouth of Kahoma Stream near Mala Wharf by Sinoto (1975), Davis (1974) and Hammatt (1978). Numerous Hawaiian and Historic burials were located in the sandy beach dunes. Hammatt (1978) recorded a ditch that may have connected `Alamihi Fishpond and Kahoma Stream to the north and monitored the removal of 90 burials within a cultural deposit from the sand dune.

A 1982 reconnaissance at Hanaka`ō`ō Beach Park, previously known as “Sand Boxes”, documented the Hanakā`ō`ō grinding stones (Site 50-03-1204), the Hanaka`ō`ō Cemetery; also known as the “Japanese Graveyard” (Neller 1982:1), and rock crusher ruins as the only sites of historic/archaeological significance on the property (Neller, 1982). The area was well-known before the 1950s for nighttime pole casting for `ulua, *awa*, *pāpio*, and `ōi`o. *Limu* (seaweed) was gathered from the coastal area and local informants spoke of salt making, but the salt pans were not located.

Hommon (1982) conducted a reconnaissance survey of North Beach *mauka* and South Beach *mauka* areas in Kā`anapali that included both a pedestrian survey of the project area and archival research. The South Beach Mauka survey area was located less than 1,300 feet northeast

(*mauka*) of the current project area and in all ten sites were recorded. The sites includes scattered terrace complexes, wall segments and a road segment that generally reflected the known pre-Contact agricultural pursuits in Hanakā`ō`ō Ahupua`a.

In 1990, a second survey of 340 acres was conducted in the South Beach Mauka development in Kā`anapali (Jensen, 1990). The parcel was expanded from the previous survey by Hommon (1982) and abuts the current study area. In all, two new sites and seven previously identified sites were recorded. The newly recorded sites include a complex of agricultural terraces, a footpath, habitation features and a possible burial (Site -2489), and a complex of walled terraces, walled enclosures and remnants of agricultural terraces (Site -2490). Both new sites are located on the south branch of upper Hahakea Gulch and were interpreted as pre-Contact temporary habitations associated with extensive agricultural activities involving both sides of the gulch.

An inventory survey of 1,200 acres in North and South Beach resulted in the discovery of 12 new sites containing 44 component features. Sites possess single and multiple components. The range of feature types include overhangs and caves, platforms, walled enclosures, petroglyphs, graves, agricultural terraces, and a single historic agricultural access road alignment (Jensen 1989). Functional types are categorized as habitation, agriculture (prehistoric and historic), ceremonial, burial, and recreation.

An archaeological inventory survey along a seven mile-long corridor cross-cutting 10 *ahupua`a*, including Hanakā`ō`ō, extended through lands already extensively developed and intensively impacted by modern agricultural activities (Jensen 1991). However, the corridor passed through several natural drainages where four sites containing 28 component features were identified. Three of the sites were previously identified. Features include terraces, walled enclosures, walls, rock mounds, and a trail. Interpreted functions are habitation, agriculture, possible water storage, possible burial, and transportation. Six additional sites were identified outside the area of potential effect. No subsurface testing was conducted.

An archaeological inventory survey was conducted for the Lāhainā Bypass Highway New Connector Roads project (Jensen 1994). The study included a pedestrian field survey and backhoe trenching. No significant cultural materials were identified, primarily because of the extensive disturbance within the project area. Another archaeological inventory survey of 260 inland acres yielded no new sites (Jensen and Mehalchick 1992).

An inventory survey was conducted along the lower cane haul road, crossing Hanakā`ō`ō Ahupua`a, in 1991 (Jensen and O'Claray 1991). Approximately 90 percent of the lands had been fully developed for agricultural use and were planted in sugar cane. No prehistoric or historic archaeological sites were identified within the areas of potential effect for the proposed construction. Six previously unidentified historic-era features relating to sugar cane irrigation were identified.

During a subsurface inventory survey at the Sheraton Maui (just north of the current project area), a total of 15 backhoe trenches were excavated in three specified areas to test for possible subsurface cultural deposits (Graves 1993). Stratigraphic deposits within the trenches varied from as few as five layers to as many as nine. Most layers appeared to be introduced fill. No prehistoric subsurface cultural deposits were identified within the project area.

A more recent monitoring project for the Sheraton-Maui resulted in nine random finds of human remains, seven primary burials, including casket burials, and remains of grave markers that had been part of a Japanese cemetery previously located on the site (Fredericksen 1996). Oral testimonies indicated that finds of human remains were common during the initial hotel construction in the 1960s as there was a cemetery on top of Pu`u Keka`a and another large Japanese cemetery to the south.

In 2000, a burial site (Site 50-50-03-4985) was identified on the grounds of the Maui Marriott Ocean Club. The remains were identified during excavation for a pool in the middle portion of the hotel complex (Kirkendall 2002, pers. comm.).

In 2002, SCS conducted an archaeological inventory survey at the Maui Marriott Ocean Club (McGerty and Spear 2002). Four backhoe trenches were excavated, natural pockets of sand were observed but layers consisted mainly of imported fill. No cultural materials were identified.

Fredericksen (2003) conducted an archaeological inventory survey of 4,325 acres that included much of Jensen's 1989 South Beach Mauka project area. A total of 81 previously unidentified sites were located and included agricultural complexes consisting primarily of terraces, temporary and permanent habitation areas, petroglyph panel sites, possible ceremonial areas and shrines, possible burial features and plantation (historic) era sites. None of the sites

were located in the current study area, but attest to the areas importance in pre-Contact agricultural pursuits.

A 2006 archaeological inventory survey was conducted along a modified portion of the Kahoma Stream drainage (Pickett, 2006). No surface sites or sub-surface deposits were encountered despite the excavation of 15 backhoe test trenches. It was clear that the entire parcel had been previously grubbed, graded and filled with extensive bulldozer push piles evident throughout the project area.

Archaeology deals with material remains, and although cultural beliefs are often reflected through some sort of architecture, like *heiau*, or *ko`a*, there are many examples of cultural associations still important to the community with no physical structures to mark their significance. One such place, *Ulukukui O Lanikāula*, located on Moloka`i, is considered an extremely sacred spot. Another might be Kīlauea and Halema`uma`u, home of Pele. These places have become important sites supporting a traditional belief system still held by the many peoples of Hawai`i. They contain no identified archaeological features, however they are highly meaningful "...because of [their] association with cultural practices or beliefs of a living community . . ." (King 2003:3).

CIA INQUIRY RESPONSE

No responses were received from any of the above listed organizations or news periodical announcements. Analysis of the potential effect of the project on cultural resources, practices or beliefs, its potential to isolate cultural resources, practices or beliefs from their setting, and the potential of the project to introduce elements which may alter the setting in which cultural practices take place is a requirement of the OEQC (No. 10, 1997). To our knowledge, the project area has not been used for traditional cultural purposes within recent times.

CULTURAL ASSESSMEMNT

Based on, no additional suggestions or information from the contacted organizations, newspapers, and negative results of the archival research, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by development activities. Because there were no cultural activities identified within the project area, there are no adverse effects.

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APPENDIX A: LETTER INQUIRIES
(enclosures not included)

SCIENTIFIC CONSULTANT SERVICES, Inc.



711 Kapiolani Blvd., Suite 975 Honolulu, Hawai'i 96813

Patty Nishiyama
Nā Kupuna O Maui
320 Kaeo Place
Lahaina, Hawaii 96761

July 6, 2009

Dear Ms. Nishiyama:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs... The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural which support such cultural beliefs...

We are asking you for any information that might contribute to the knowledge of traditional activities, or traditional rights that might be impacted by development of the property. The assessment results are dependent on the response and contributions made by individuals and organizations such as yours. Enclosed are maps showing the proposed project area. Please contact me at our SCS Honolulu office at (808) 597-1182; my cell phone, 225-2355; or home, (808) 637-9539, with any information or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

Leann McGerty,
Senior Archaeologist
Enclosure (2)

Ph: 808-597-1182 / SCS... SERVING ALL YOUR *ARCHAEOLOGICAL* NEEDS / Fax: 808-597-1193

Neighbor Island Offices • Hawai'i Island • Maui • Kaua'i

SCIENTIFIC CONSULTANT SERVICES, Inc.



711 Kapiolani Blvd., Suite 975 Honolulu, Hawai'i 96813

Central Maui
Hawaiian Civic Club
310 Ka'ahumanu Ave.
Kahului, Maui 96732

July 6, 2009

Dear Members:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

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SCIENTIFIC CONSULTANT SERVICES, Inc.



711 Kapiolani Blvd., Suite 975 Honolulu, Hawai'i 96813

Kamika Kepa`a
Native Hawaiian Preservation Council
606 Kalo Place
Lahaina, HI 96761

July 6, 2009

Dear Mr. Kepa`a:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

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SCIENTIFIC CONSULTANT SERVICES, Inc.



711 Kapiolani Blvd., Suite 975 Honolulu, Hawai'i 96813

Ke'eumoku and U'i Kapu
Kuleana Kuikahi, LLC.
P.O. Box 11524
Lahaina, Maui 96791

July 6, 2009

Dear Mr. and Ms. Kapu:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

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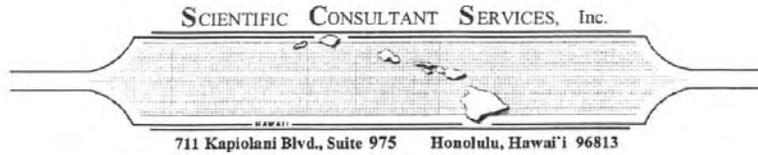
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Sincerely yours,

Leann McGerty,
Senior Archaeologist
Enclosure (2)

Ph: 808-597-1182 / SCS... SERVING ALL YOUR ARCHAEOLOGICAL NEEDS / Fax: 808-597-1193

Neighbor Island Offices • Hawai'i Island • Maui • Kaua'i



Thelma Shimaoka
c/o Office of Hawaiian Affairs
140 Hoohana St.
Suite 206
Kahului, HI 96732

July 6, 2009

Dear Ms. Shimaoka:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

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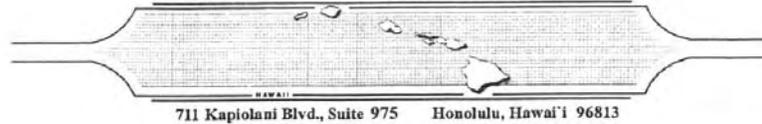
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Neighbor Island Offices • Hawai'i Island • Maui • Kaua'i

SCIENTIFIC CONSULTANT SERVICES, Inc.



Kimokeo Kapahulehua
c/o `Ao`ao O Nā Loko I a O Maui
P.O. Box 1574
Kīhei, HI 96731

July 6, 2009

Dear Mr. Kapahulehua:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

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Sincerely yours,

Leann McGerty,
Senior Archaeologist
Enclosure (2)

SCIENTIFIC CONSULTANT SERVICES, Inc.



711 Kapiolani Blvd., Suite 975 Honolulu, Hawai'i 96813

Holouamoku Ralar
Hawaiian Civic Club, Lahaina Chapter
P.O. Box 10965
Lahaina, Hawai'i 96761

July 6, 2009

Dear Holouamoku:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

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Sincerely yours,

Leann McGerty,
Senior Archaeologist
Enclosure (2)

Ph: 808-597-1182 SCS... SERVING ALL YOUR *ARCHAEOLOGICAL* NEEDS Fax: 808-597-1193

Neighbor Island Offices • Hawai'i Island • Maui • Kaua'i

SCIENTIFIC CONSULTANT SERVICES, Inc.



711 Kapiolani Blvd., Suite 975 Honolulu, Hawai'i 96813

County of Maui
Department of Planning
Cultural Resources Commission
250 S. High Street
Wailuku, HI 96793

July 6, 2009

Dear Sir or Madam:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

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Senior Archaeologist
Enclosure (2)

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SCIENTIFIC CONSULTANT SERVICES, Inc.



711 Kapiolani Blvd., Suite 975 Honolulu, Hawai'i 96813

Hinano Rodrigues, Cultural Historian
DLNR Maui Office
130 Mahalani Street
Wailuku, HI 96791

July 6, 2009

Dear Hinano:

Scientific Consultant Services, Inc. (SCS) has been contracted by Alan Unemori Engineering, Inc., to conduct a Cultural Impact Assessment (CIA) of a 9000 foot long wastewater replacement project in Lahaina, Maui (TMK:4-4-00 por., 4-5-00 por.). According to documents supplied by Alan Unemori Engineering, Inc., the project proposes the replacement of a thirty year old wastewater drainage. SCS has been asked to assess the probability of impacting cultural values and rights within the project area and its vicinity. According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

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Enclosure (2)

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Neighbor Island Offices • Hawai'i Island • Maui • Kaua'i

APPENDIX B: PUBLIC NOTIFICATIONS AFFIDAVITS

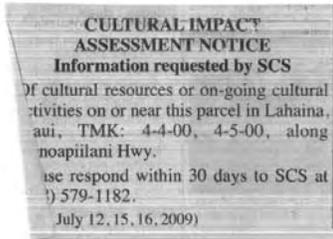
AFFIDAVIT OF PUBLICATION

STATE OF HAWAII, }
County of Maui. } ss.

1057

_____ Rhonda M. Kurohara _____ being duly sworn
deposes and says, that she is in _____ Advertising Sales _____ of
the Maui Publishing Co., Ltd., publishers of THE MAUI NEWS, a
newspaper published in Wailuku, County of Maui, State of Hawaii;
that the ordered publication as to _____
_____ CULTURAL IMPACT ASSESSMENT NOTICE _____

_____ of which the annexed is a true and correct printed notice, was
published 3 times in THE MAUI NEWS, aforesaid, commencing
on the 12th day of July, 2009, and ending
on the 16th day of July, 2009, (both days
inclusive), to-wit: on _____
_____ July 12, 15, 16, 2009 _____



and that affiant is not a party to or in any way interested in the above
entitled matter.

_____ *Rhonda M. Kurohara* _____

This 1 page _____ Cultural Impact _____, dated
_____ July 12, 15, 16, _____ 2009,
was subscribed and sworn to before me this 16th day of
_____ July _____, 2009, in the Second Circuit of the State of Hawaii,
by _____ Rhonda M. Kurohara _____.

_____ *Leila Ann L. Leong* _____
Notary Public, Second Judicial
Circuit, State of Hawaii
LEILA ANN L. LEONG
My commission expires 11-23-11



1057

IN THE MATTER OF
CULTURAL IMPACT ASSESSMENT NOTICE

CULTURAL IMPACT ASSESSMENT NOTICE:
Information requested by SCS of cultural resources or ongoing cultural activities on or near this parcel in Lahaina, Maui, TMK: 4-4-00, 4-5-00, along Honoapiilani Hwy. Please respond within 30 days to SCS at (808) 597-1182. (Hon. Adv.: July 12, 15, 16, 2009)(A700704)

AFFIDAVIT OF PUBLICATION

STATE OF HAWAII
City and County of Honolulu

ss.

Jane Kawasaki being duly sworn deposes and says that she is a clerk, duly authorized to execute this affidavit of THE HONOLULU ADVERTISER, a division of GANNETT PACIFIC CORPORATION, that said newspaper is a newspaper of general circulation in the State of Hawaii, and that the attached notice is a true notice as was published in the aforereferenced newspaper as follows

- 07/12/2009 The Honolulu Advertiser
- 07/15/2009 The Honolulu Advertiser
- 07/16/2009 The Honolulu Advertiser

and that affiant is not a party to or in any way interested in the above entitled matter.

Jane Kawasaki

Subscribed and sworn to before me this 16th day of July A.D. 2009



Jeanette T. Ching
Notary Public of the First Judicial Circuit
State of Hawaii
My commission expires June 16, 2010

This one (1) - page Affidavit of Publication dated July 16, 2009 was subscribed and sworn to on the 17th day of July 2009 in the First Judicial Circuit of Hawaii, by Jeanette T. Ching
Jeanette T. Ching
Notary Public



APPENDIX C

WWRD Lahaina No. 3 Force Main February 8, 2007 Spill Report

CHARMAINE TAVARES
Mayor

MILTON M. ARAKAWA
Director

MICHAEL M. MIYAMOTO
Deputy Director



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

DAVID TAYLOR, P.E.
Wastewater Reclamation Division

CARY YAMASHITA, P.E.
Engineering Division

TRACY TAKAMINE, P.E.
Solid Waste Division

BRIAN HASHIRO, P.E.
Highways Division

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

February 14, 2007

Mr. Laurence Lau, Deputy Director
Hawaii State Department of Health
Environmental Health Administration
P.O. Box 3378
Honolulu, HI 96801

Dear Mr. Lau:

SUBJECT: WASTEWATER OVERFLOW - LAHAINA

The County of Maui experienced a raw wastewater overflow of approximately 687,500 gallons on February 8, 2007. The overflow started at approximately 6:30 p.m. and was stopped by 2:15 a.m. on February 9, 2007.

The overflow was caused by a break in a 21-inch force main between Lahaina Pump Stations #2 and #3 in Lahaina. The spill flowed to an existing natural drainage ditch, and to the ocean.

Your office was notified, signs were posted, and bacteriological analyses were conducted.

Should you have any questions, please feel free to call David Taylor of our Wastewater Reclamation Division at 270-7421.

Sincerely,

A handwritten signature in black ink that reads "Milton M. Arakawa".

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

WW07012

cc: Roland Asakura, DOH - Maui
Denis Lau, DOH - Oahu
Dan Meer, EPA
Michael Ratte



**County of Maui
Information Office**
200 South High Street
Wailuku, Hawai'i 96793-2155
Phone: (808) 270-7859
Fax: (808) 270-7870

NEWS RELEASE

February 9, 2007

Contact: David Taylor, Wastewater Reclamation Division Chief
Department of Public Works & Environmental Management
Phone (808) 270-7421

Wastewater Overflow Occurs In Lahaina

WAILUKU, Maui, Hawaii – The County of Maui's Department of Public Works and Environmental Management reported that a wastewater overflow of several hundred thousand gallons occurred on February 8, 2007 in Lahaina at approximately 7:00 p.m. The overflow was caused by a deteriorated section of a force main on the makai side of Honoapiilani Highway between Fleming Road and the Lahaina Civic Center.

The wastewater flowed a short distance from a rupture in a high pressure sewer line from Lahaina Pump Station #3 to the ocean at Wahikuli Park. Repairs necessitated closure of the makai lane of Honoapiilani Highway from 10:00 p.m. last night until 6:00 a.m. this morning.

The State Department of Health was notified, signs were posted, and bacteriological analyses were conducted. The force main was temporarily patched and permanent repair is underway.

###



Wastewater Reclamation Division

480 Welakahao Road • Kihei, HI 96753 • 879-6109 • 879-6369 fax

RECEIVED
2007 FEB 14 PM 1:58
WASTEWATER RECLAMATION DIVISION
COUNTY OF MAUI

February 14, 2007

MEMO TO: DAVID TAYLOR, WASTEWATER RECLAMATION DIVISION CHIEF

**F R O M: MICHAEL RATTE, WWRD OPERATIONS PROGRAM
SUPERINTENDENT**

SUBJECT: SPILL REPORT – FORCE MAIN BREAK WAHIKULU PARK, LAHAINA

On February 8, 2007 approximately 687,500 gallons of wastewater was spilled from a break in a 21 inch force main between Wastewater Pump Stations #2 and #3 in Lahaina. The exact cause for the failure in the force main is unknown but could include; 1) scouring from grit within the pipe, 2) failure due to Hydrogen Sulfide gas, or 3) failure due to a manufacture's defect of the pipe. The spill flowed to an existing natural drainage ditch, and to the ocean.

The break was exposed by the WWRD Collections Section using a back-hoe and vacuum truck. Collections then installed a 20" by 20" stainless steel patch over the hole in the force main stopping the release. A private contractor (Goodfellows Bothers, Inc) was retained to excavate 10 feet on either side of the break, build a re-bar form around the force main repair, and pour 5000 psi concrete – incasing the repair. Ten (10) yards of concrete were used. The excavated site was back filled with F3 fill and the original soil from the site. The County of Maui has returned the site to its original condition. The spill area was sanitized with pine oil. Laboratory samples of the spill site were taken, signs were posted and D.O.H. was notified.

This should be considered a County spill, since the spill was caused by a failure in a County owned and operated force main.

Should you have any questions, please call me.

BMP

cc: F. Asiu
A. Fernandez
B. Pierce

WASTEWATER RECLAMATION DIVISION

OVERFLOW REPORT

REPORT#: _____

1 Facility Name: Lahaina WWRD Force Main

2a Date/Time overflow started: unknown

2b If Date/Time overflow started not known, Date/Time reported: 2/8/2007 @ 1830 hours

3 Time spill stopped & Duration of overflow (hours and minutes): 0215 hrs on 2/9/2007 - 430 min total

4 Location of overflow: Wahikulu Beach Park, Lahaina, Maui.

5 Origination point: 21 inch force main, 10 feet below ground surface.

6 Describe cause of overflow:
The 21 inch force main experienced a structural failure. The force main was worn out from the inside. The specific cause of the failure is unknown but could include; 1) scouring from grit within the pipe, 2) failure due to Hydrogen Sulfide gas, or 3) failure due to a manufacture's defect of the pipe. The force main was/is scheduled to be replaced in 2011 as part of a County Wide Collection System Upgrade.

7 Where overflow went: 100 % of overflow went to the ocean

8 Rain Event: Yes Rain Intensity: Heavy Moderate Light
 No

SPILL AREA CLEAN UP:

1 Standing water removed? Yes No Reason: _____

2a Spill area disinfected? Yes No Reason: _____

2b Type of disinfectant? Pine Oil
 Hypochlorite
 Pitchlor
 Other _____

LABORATORY INFORMATION:

1 Sampling conducted by Lab? Yes No

2 Warning signs posted? Yes No

CALCULATIONS FOR QUANTITY OF OVERFLOW

Calculated by: Bradley Pierce, Technical Support Engineer WWRD, Grade IV Operator

Quantity of Overflow: 687,500 gallons

Quantity to *Waterway: 687,500 gallons

If into *Waterway, indicate volume reaching waterway, who calculated and how calculated.
 *Waterway = Streams, irrigation or drainage ditches, storm drains, ponds, Pacific Ocean, etc.

METHOD OF CALCULATIONS:

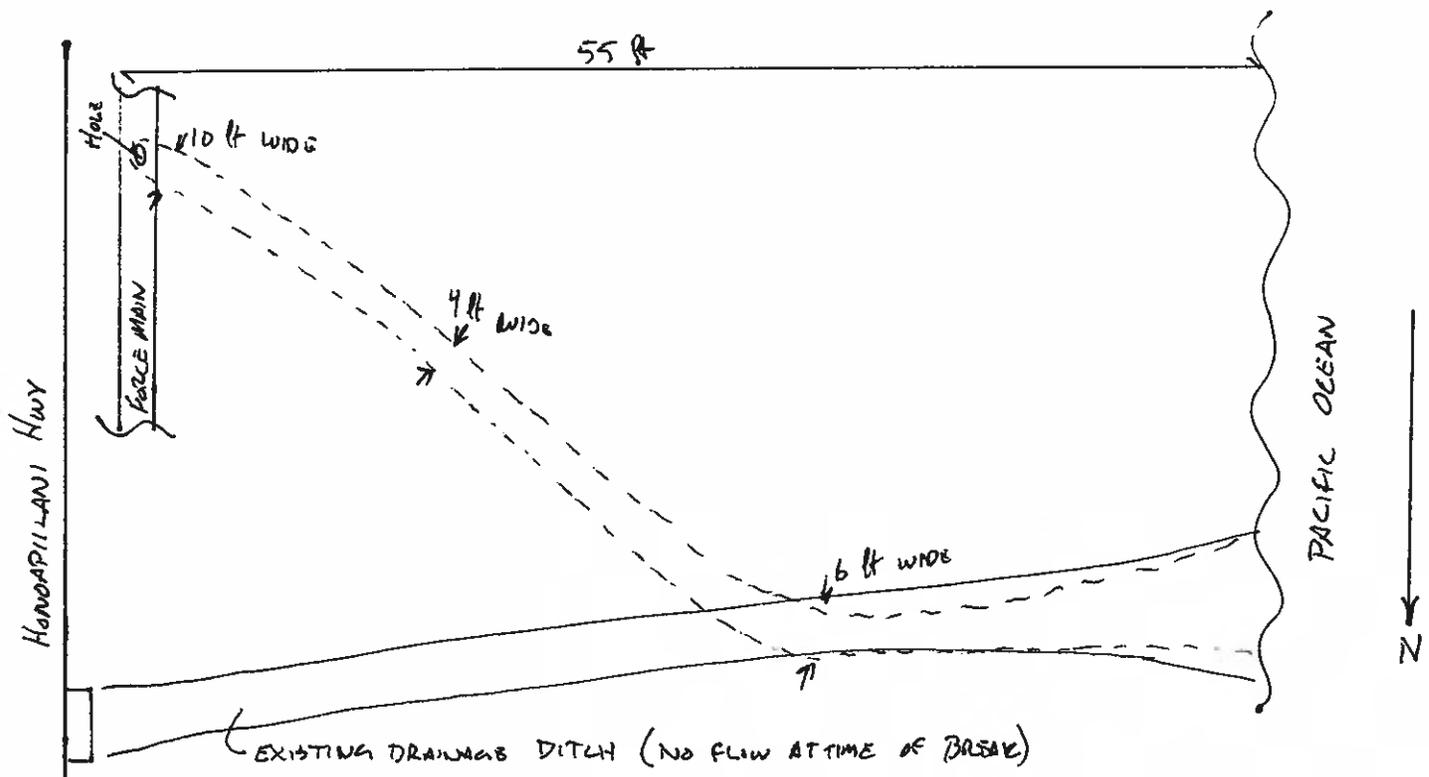
- Length' X Width' x Depth' = Cubic Feet X 7.5 = Gallons
- Pump Run Time (Minutes) X Pumping Rate (Gal/Min) = Gallons
- Other: _____

ATTACHMENTS:

- Maps
- Drawings
- Photos

SKETCH AND CALCULATIONS:

1830 hrs to 2030 hrs (120 minutes) @ 3.6 MGD (2500 gal/min) = 300,000 gal
 2030 hrs to 2340 hrs (190 minutes) @ 1.8 MGD (1250 gal/min) = 237,500 gal
 0015 hrs to 0215 hrs (120 minutes) @ 1.8 MGD (1250 gal/min) = 150,000 gal
687,500 gal



Submitted by: Bradley Pierce

Section: WWRD

WASTEWATER RECLAMATION DIVISION

LESSONS LEARNED REPORT

REPORT #: _____

1 Facility Name: Lahaina WWRD Force Main

2 Date/Time of spill: 1830 hours

3 Location of spill: The south end of Wahikuli Beach Park, Lahaina, Maui. It is approximately 150 yards north of old S.P.S. #3.

4 Describe in detail what caused spill to occur:

The 21 inch iron force main had a structural failure – exact cause in unknown but could include; 1) scouring from grit within the pipe, 2) failure due to Hydrogen Sulfide gas, or 3) failure due to a manufacture’s defect of the pipe. The force main was installed in 1978. It was scheduled to be replaced in 2011. When the failure was excavated the force main was surrounded by a layer of sand, and outside of the sand, a layer of pea gravel.

5 Provide information as to how the problem was resolved and what actions were taken or will be taken to prevent this from reoccurring:

The force main is part of a County wide assessment completed in August, 2006 and was slated to be replaced in 2011. The break was exposed by the County using a back-hoe and vacuum truck. The County installed a 20” by 20” stainless steel patch over the hole in the force main stopping the release. A private contractor was retained to excavated 10 feet on either side of the break, build a re-bar form around the force main repair, and pour 5000 psi concrete – incasing the repair. Ten (10) yards of concrete were used. The excavated site was back filled with F3 fill and the original soil from the site. The county of Maui has returned the site to its original condition.

6 Has this section been placed on the Periodic Inspection/Flush schedule (Collections Systems only):

Date: _____ Frequency: n/a

Reason: Not done because this section of pipe is a force main and continually charged

Yes

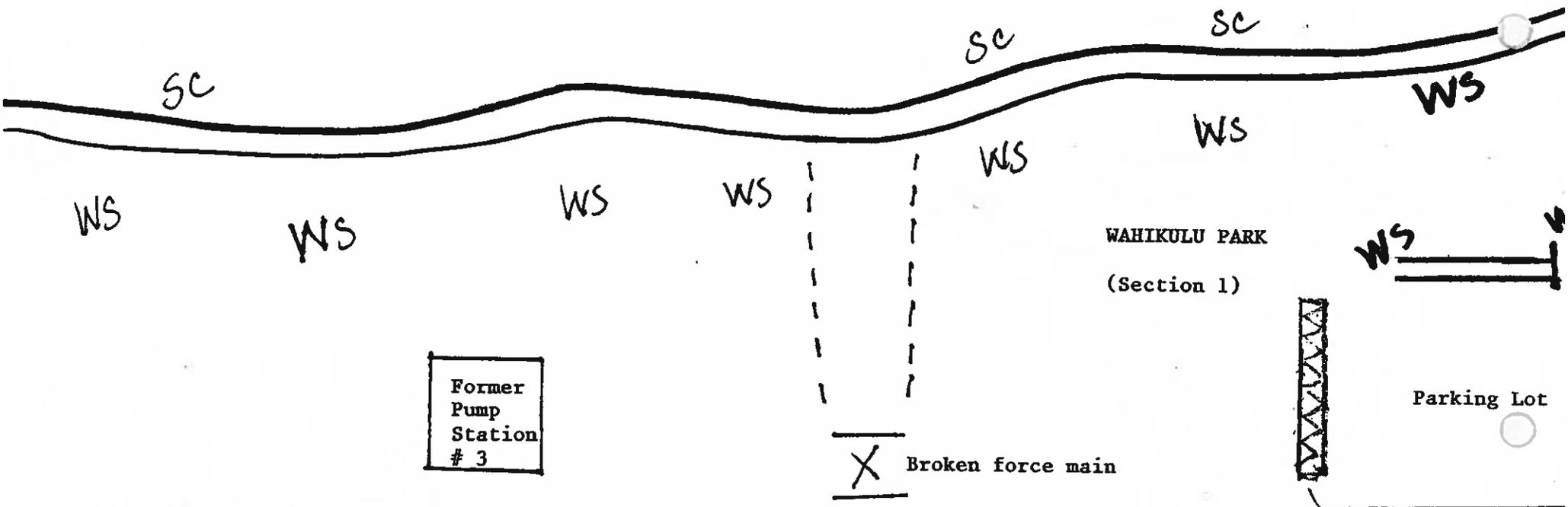
No

WS = Warning Sign

SC = Sample Collection

* SC - Shoreline near
Canoe Restaurant
(Not shown)

PACIFIC OCEAN



HONOAPIILANI HWY

HONOAPIILANI HWY

SUBDIVISION

PACIFIC OCEAN

SC

SC

SC

WS

WS

Storm
Drain

Park
Bathroom

WAHIKULU PARK
(Section 2)

WS



HONOAPIILANI HWY

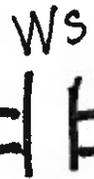
HONOAPIILANI HWY

SUBDIVISION

PACIFIC OCEAN

SC

WAHIKULU PARK
(Section 3)



WS

Parking Lot



HONOAPIILANI HWY

HONOAPIILANI HWY

LAHAINA CIVIC CENTER

**WWRD COLLECTION SYSTEM
SERVICE RESPONSE FORM**

REPORT #: CS- 07-017

EMERGENCY CALL OUT

DATE: 2/8/2007
 TIME OF CALL: 1930
ADDRESS INFORMATION:
 CALLER NAME: SHANE DUNSBERY
 OWNER: COUNTY OF MAUI
 ADDRESS: LAH. 3 FORCE MAIN - WAHIKULI PARK (WAILUKU SIDE)
 CITY: WAHIKULI
 PHONE #: 268-8711
 TMK #: MAP ATTACHED
 SEGMENT ID#: LAHAINA 3 FORCE MAIN

TIMES:

LEAVE BASE YARD: 1930
 ARRIVED: _____
 DEPARTED: _____
 JOB COMPLETED: 10-Feb

COMPLAINT:

M/H O.F. DEPRESSION
 C/O O.F. WATER DEPT
 ODOR OTHER
 VERMIN

DETAILS OF CALL: BROKEN FORCE MAIN

SPILL INFORMATION:

SPILLAGE OCCURRED:
 YES NO START: _____ STOP: _____
 COUNTY QTY: 307,500
 PRIVATE QTY: _____
 WATERWAY ENTERED:
 YES NO * SEE REPORT SUBMITTED BY ADMIN.

PROPERTY DAMAGE:
 YES NO
 SPILL REPORT ATTACHED

PERSONNEL: FA KS PB JS KH RA KN MF WM
 WK CM MG BC AT MK JD V V

EQUIPMENT: 1104,1082,1178/1223,1212,1270,1084,934,1097,
 TRAILER, BACKHOE.
 MATERIALS: _____

FIELD OBSERVATIONS:

DESCRIPTION OF FINDINGS:
 WATER COMING OUT OF GROUND, APPEARS TO BE BROKEN FORCE MAIN.

CAUSE OF THE PROBLEM:
 TOP AREA OF PIPE (19" X 15") CORRODED.

ACTION TAKEN:
 EXPOSED AREA, PLACED REPAIR CLAMP OVER BROKEN AREA. CONTRACTED GOOD FELLOW BROTHERS TO COMPLETE REPAIR OF DAMAGED AREA. CLEANED AREA, BROUGHT IN FILL TO COVER MUDDY AREA. AS OF 2/12/07 AREA TOO SATURATED TO BACKFILL, WILL COMPLETE AT A LATER DATE WHEN AREA DRIES UP.

FOLLOW UP REQUIREMENTS:

YES NO
 TYPE: BACK FILL
 WO#: _____
 DATE ASSIGNED: _____
 ASSIGNED TO: _____
 DATE COMPLETED: _____
 COMMENTS: _____

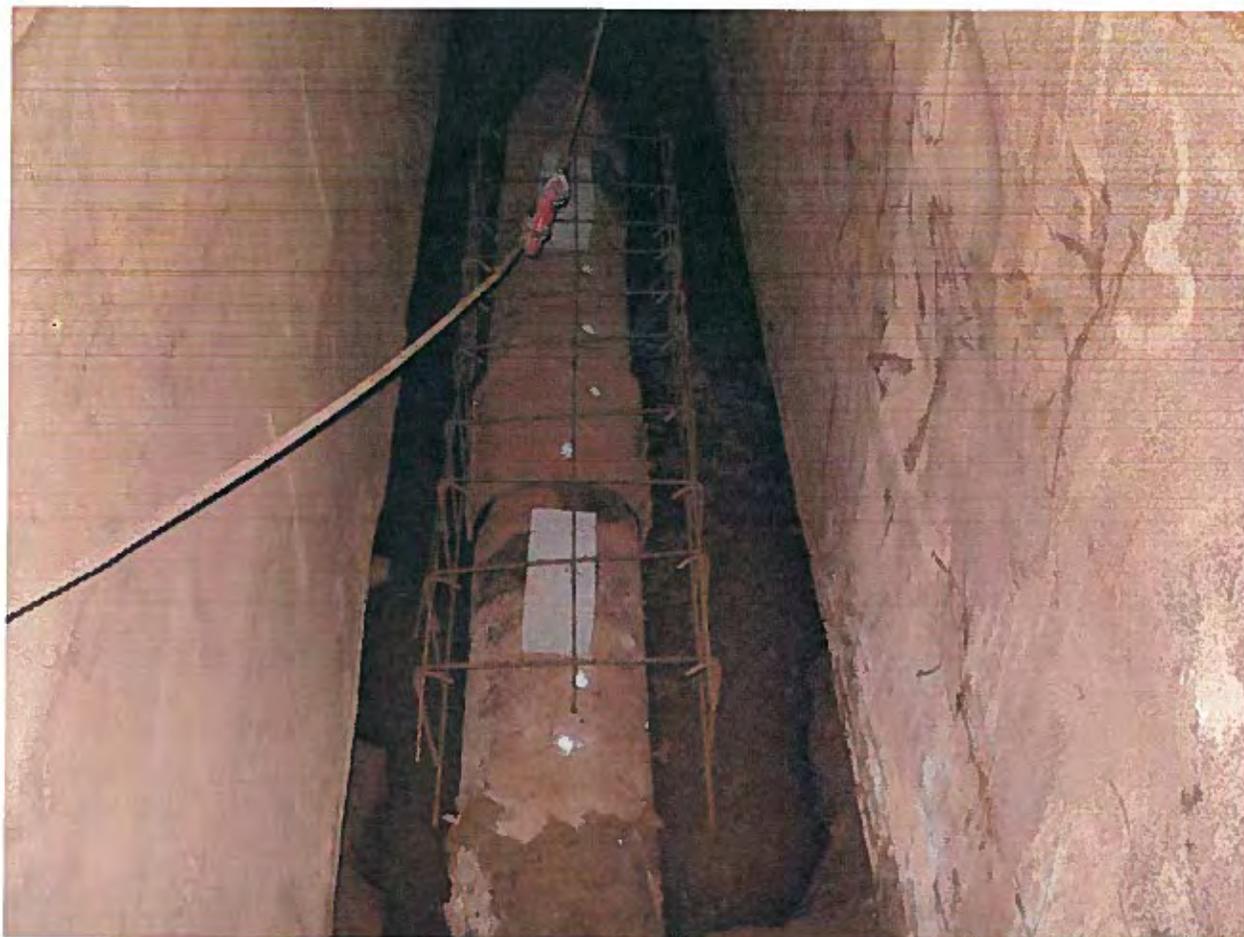
REPORT BY: FRANCIS ASIU DATE: 2/10/2007
 REVIEWED BY: FA KS PB JS DATE: 2/10/2007
 LOGGED IN BY: FA KS PB JS DATE: 2/12/2007

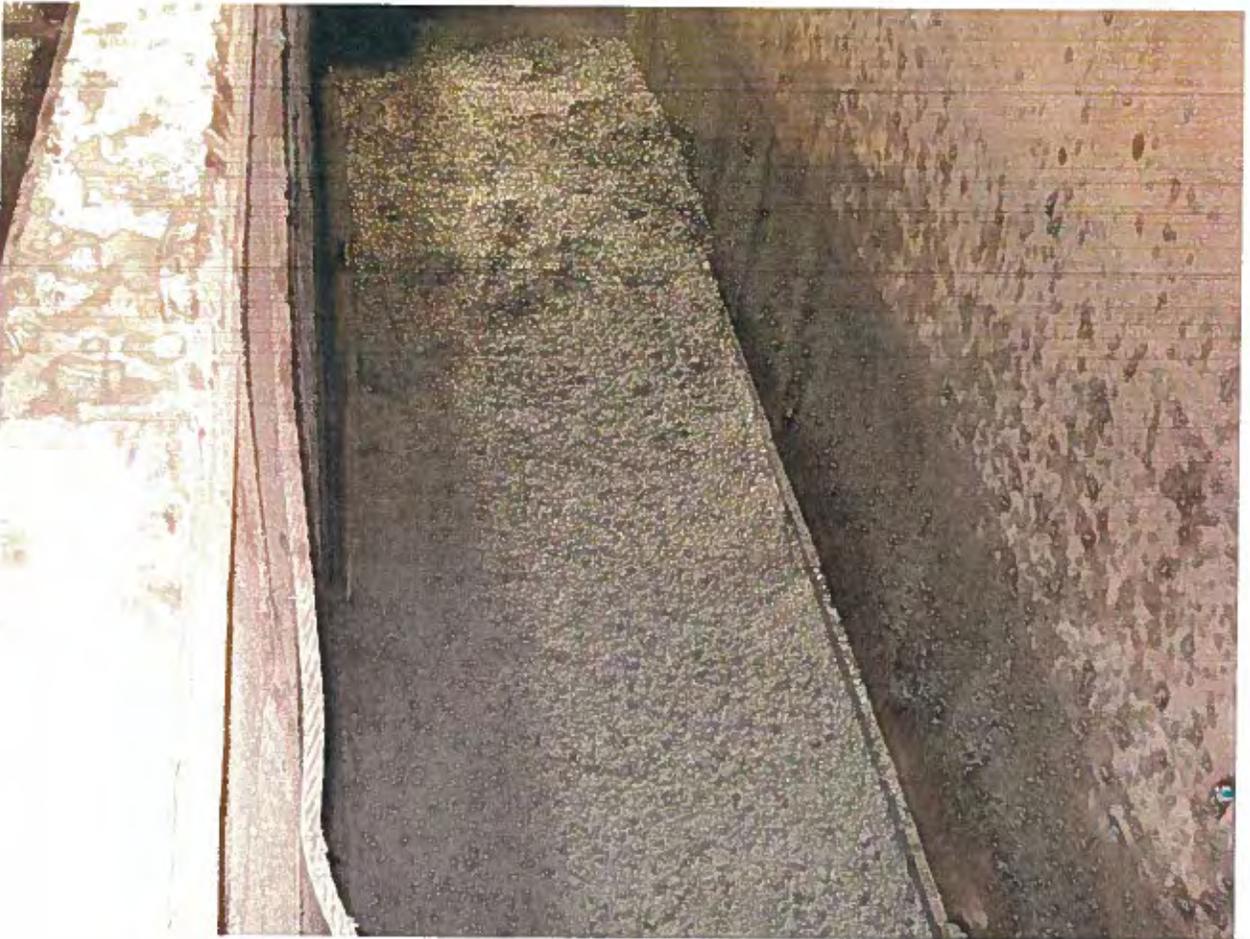












APPENDIX D

State Revolving Fund Cross-Cutter Regulations and Compliance Forms

"CWSRF BOILERPLATE"

FEDERAL REQUIREMENTS

FOR

CONSULTANTS AND CONTRACTORS



AUGUST 2008

"CWSRF BOILERPLATE"

FEDERAL REQUIREMENTS

FOR

CONSULTANTS AND CONTRACTORS

To the Consultant, Contractor or Sub-contractor of a CWSRF loan funded project:

All CWSRF projects must comply with all the federal regulations listed herein which have been determined as applying to the SRF loan program.

A. CROSS-CUTTER REGULATIONS

1. ENVIRONMENTAL AUTHORITIES:

a. ARCHEOLOGICAL AND HISTORIC PRESERVATION ACT OF 1974,
16 USC 469a-1

Should the contractor discover potential archaeological or historical resources during construction, all work in the area of the find shall stop and the construction management consultant shall be called in to evaluate the situation and make recommendations to the State Historic Preservation Officer, Department of Land and Natural Resources, State of Hawaii. The Historic Preservation Officer will determine what will be necessary for construction to proceed.

2. SOCIAL POLICY AUTHORITIES:

a. AGE DISCRIMINATION ACT OF 1975, 42 USC 6102

No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

b. CIVIL RIGHTS ACT OF 1964, TITLE VI, 42 USC 2000d

No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

- c. EQUAL EMPLOYMENT OPPORTUNITY, EXECUTIVE ORDER 11246, AS AMENDED

The contractor, subcontractor, or consultant for any SRF project shall maintain a policy of non-discrimination in the treatment of employees, shall make this policy known to employees, and shall recruit, hire and train employees without regard to race, color, sex, religion and national origin.

- d. SECTION 13 OF THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, 33 USC 1251

No person in the United States shall, on the grounds of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal assistance under... the federal Water Pollution Control Act...

- e. REHABILITATION ACT OF 1973, 29 USC 794

No otherwise qualified handicapped individual in the United States shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

- f. MINORITY BUSINESS ENTERPRISE DEVELOPMENT, EXECUTIVE ORDER 12432

This executive order sets forth in more detail the responsibilities of Federal agencies for the monitoring, maintaining of data and reporting on the use of minority enterprises.

- g. NATIONAL PROGRAM FOR MINORITY BUSINESS ENTERPRISE, EXECUTIVE ORDER 11625

This Executive Order directs Federal agencies to promote and encourage the use of minority business enterprises in projects utilizing federal funds.

- h. NATIONAL WOMEN'S BUSINESS ENTERPRISE POLICY AND NATIONAL PROGRAM FOR WOMEN'S BUSINESS ENTERPRISE, EXECUTIVE ORDER 12138

This Executive Order directs each department or agency empowered to extend Federal financial assistance to any program or activity to issue regulations requiring the recipient of such assistance to take appropriate affirmative action in support of women's business enterprises and to prohibit actions or policies which

discriminate against women's business enterprises on the grounds of sex.

- i. SMALL BUSINESS ADMINISTRATION REAUTHORIZATION AND AMENDMENT ACT OF 1998, PUB. L. 100-590, SECTION 129

This Amendment directs Federal agencies to promote and encourage the use of small business enterprises in projects utilizing federal funds.

- j. DEPARTMENT OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT, AND AGENCIES APPROPRIATIONS ACT, 1993, PUB. L. 102-389

The Administrator of the Environmental Protection Agency shall, hereafter to the fullest extent possible, ensure that at least 8 per centum of Federal funding for prime and subcontracts awarded in support of authorized programs, including grants, loans and contracts for wastewater treatment and for leaking underground storage tanks, be made available to businesses or other organizations owned or controlled by socially and economically disadvantaged individuals (within the meaning of Section 8(a)(5) and (6) of the Small Business Act (15 U.S.C. 637(a)(5) and (6)), including historically black colleges and universities. For purposes of this section, economically and socially disadvantaged individuals shall be deemed to include women...

- k. DISADVANTAGED BUSINESS ENTERPRISE RULE, 2008, 40 CFR Part 33

Prior to the award of a consultant or construction contract, the Contractor or Consultant shall fully comply with 40 CFR Part 33, entitled "Participation by Disadvantaged Business Enterprises in Procurement Under Environmental Protection Agency (EPA Financial Assistance Agreements)". The Consultant or Contractor shall notify the County prior to termination of a Disadvantaged Business Enterprise (DBE) subconsultant or subcontractor for convenience by the Contractor. In addition, the Consultant or Contractor shall employ the six good faith efforts listed in 40 CFR 33.301 when soliciting a replacement subconsultant or subcontractor.

The Consultant or Contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Consultant or Contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the Consultant or Contractor to

carry out these requirements is a material breach of this contract, which may result in the termination of this contract or other legally available remedies.

3. MISCELLANEOUS AUTHORITIES:

a. DEBARMENT AND SUSPENSION, EXECUTIVE ORDER 12549

Prior to the award of a construction or consultant contract, the Contractor or Consultant shall fully comply with Subpart C of 40 CFR Part 32, entitled "Responsibilities of Participants Regarding Transactions" and ensure that any lower tier covered transaction and subsequent lower tier transaction, includes a term or condition requiring compliance with Subpart C. The Contractor shall certify that his subcontractors and suppliers are not on the Excluded Parties List when the bid proposals are submitted. The Consultant shall certify that his sub-consultants are not on the Excluded Parties List. The Contractor or Consultant acknowledges that failing to disclose the information required under 40 CFR 32.335 may result in the delay or negation of payment, or pursuance of legal remedies, including suspension and debarment. The Contractor or Consultant may access the Excluded Parties List System at <http://epls.arnet.gov>.

B. REQUIRED FEDERAL FORMS:

1. The following EPA forms with original pen and ink signature are required to be submitted by the Consultant or Contractor to the recipient (County) for each CWSRF project:

- a. EPA Form 5700-52A (MBE/WBE Utilization Under Federal Grants, Cooperative Agreements, and Other Federal Financial Assistance)
- b. EPA Form 6100-4 (Disadvantaged Business Enterprise Program - DBE Subcontractor Utilization Form) to be completed by the Consultant or Contractor and submitted with bid or proposal package.
- c. EPA Form 6100-3 (Disadvantaged Business Enterprise Program - DBE Subcontractor Performance Form) to be completed by all DBE subconsultants or subcontractors and submitted with bid or proposal package.

In addition, the following EPA form shall be provided by the Consultant or Contractor to each Disadvantaged Business Enterprise subcontractor for each CWSRF project:

- a. EPA Form 6100-2 (Disadvantaged Business Enterprise Program - DBE Subcontractor Participation Form), which may be completed by each DBE subconsultant or

subcontractor and submitted to:

Mr. Joe Ochab, Region IX MBE/WBE Coordinator
U.S. Environmental Protection Agency
Region IX (WTR-6)
75 Hawthorne Street
San Francisco, CA 94105

**U.S. ENVIRONMENTAL PROTECTION AGENCY
 MBE/WBE UTILIZATION UNDER FEDERAL GRANTS, COOPERATIVE
 AGREEMENTS, AND INTERAGENCY AGREEMENTS**

PART 1. (Reports are required even if no procurements are made during the reporting period.)

1A. FEDERAL FISCAL YEAR 200_____	1B. REPORTING PERIOD (Check ALL appropriate boxes) <input checked="" type="checkbox"/> 1 st (Oct-Dec) <input checked="" type="checkbox"/> 2 nd (Jan-Mar) <input checked="" type="checkbox"/> 3 rd (Apr-Jun) <input checked="" type="checkbox"/> 4 th (Jul-Sep) <input checked="" type="checkbox"/> Annual <input checked="" type="checkbox"/> Check if this is the last report for the project (Project completed).				
1C. REVISION OF A PRIOR REPORT? Y or N Year: _____ Quarter: _____	BRIEFLY DESCRIBE THE REVISIONS YOU ARE MAKING:				
2A. EPA FINANCIAL ASSISTANCE OFFICE ADDRESS (ATTN: DBE Coordinator)		3A. RECIPIENT NAME AND ADDRESS			
2B. EPA DBE COORDINATOR Name: E-mail:	2C. PHONE: Fax:	3B. RECIPIENT REPORTING CONTACT: Name: E-mail:	3C. PHONE: Fax:		
4A. FINANCIAL ASSISTANCE AGREEMENT ID NUMBER (SRF State Recipients, refer to Instructions for Completion of blocks 4A, 5A and 5C.)		4B. FEDERAL FINANCIAL ASSISTANCE PROGRAM TITLE or CFDA NUMBER:			
5A. TOTAL ASSISTANCE AGREEMENT AMOUNT (SRF State Recipients, refer to Instructions for Completion of blocks 4A, 5A and 5C.) EPA Share: \$ _____ Recipient Share: \$ _____		5B. If NO procurement and NO accomplishments were made this reporting period, check and skip to Block No. 7. (<u>Procurements</u> are all expenditures through contract, order, purchase, lease or barter of supplies, equipment, construction, or services needed to complete Federal assistance programs. <u>Accomplishments</u> , in this context, are procurements made with MBEs and/or WBEs. <div style="text-align: center;">9</div>			
5C. Total Procurement and MBE/WBE Accomplishments This Reporting Period (Only include amount not reported in any prior reporting period)					
Were sub-awards issued under this assistance agreement? Yes ___ No ___ Were contracts issued under this assistance agreement ? Yes ___ No ___					
Total Procurement Amount \$ _____ (Include total dollar values awarded by recipient, sub-recipients and SRF loan recipients.)					
Actual MBE/WBE Procurement Accomplished: (Include total dollar values awarded by recipient, sub-recipients, SRF loan recipients and Prime Contractors.)					
	<u>Construction</u>	<u>Equipment</u>	<u>Services</u>	<u>Supplies</u>	<u>Total</u>
\$MBE:	_____	_____	_____	_____	_____
\$WBE:	_____	_____	_____	_____	_____
6. COMMENTS: (If no MBE/WBE procurements were accomplished during the reporting period, please explain what steps you are taking to achieve the MBE/WBE Program requirements specified in the terms and conditions of the Assistance Agreement.)					
7. NAME OF RECIPIENT'S AUTHORIZED REPRESENTATIVE		TITLE			
8. SIGNATURE OF RECIPIENT'S AUTHORIZED REPRESENTATIVE		DATE			

Instructions:

A. General Instructions:

MBE/WBE utilization is based on Executive Orders 11625, 12138, 12432, P.L. 102-389 and EPA Regulations Part 30 and 31. EPA Form 5700-52A must be completed by recipients of Federal grants, cooperative agreements, or other Federal financial assistance which involve procurement of supplies, equipment, construction or services to accomplish Federal assistance programs.

Recipients are required to report 30 days after the end of each federal fiscal quarter or annually, per the terms and conditions of the financial assistance agreement.

Submission dates are January 30, April 30, July 30, and October 30. The submission date for annual reports is October 30. MBE/WBE program requirements, including reporting, are material terms and conditions of the financial assistance agreement.

B. Definitions:

Procurement is the acquisition through contract, order, purchase, lease or barter of supplies, equipment, construction or services needed to accomplish Federal assistance programs.

A *contract* is a written agreement between an EPA recipient and another party (also considered "prime contracts") and any lower tier agreement (also considered "subcontracts") for equipment, services, supplies, or construction necessary to complete the project. This definition excludes written agreements with another public agency. This definition includes personal and professional services, agreements with consultants, and purchase orders.

A *minority business enterprise* (MBE) is a business concern that is (1) at least 51 percent owned by one or more minority individuals, or, in the case of a publicly owned business, at least 51 percent of the stock is owned by one or more minority individuals; and (2) whose daily business operations are managed and directed by one or more of the minority owners.

U.S. citizenship is required. Recipients shall presume that minority individuals include Black Americans, Hispanic Americans, Native Americans, Asian Pacific Americans, or other groups whose members are found to be disadvantaged by the Small Business Act or by the Secretary of Commerce under section 5 of Executive order 11625. The reporting contact at EPA can provide additional information.

A *woman business enterprise* (WBE) is a business concern that is, (1) at least 51 percent owned by one or

more women, or, in the case of a publicly owned business, at least 51 percent of the stock is owned by one or more women and (2) whose daily business operations are managed and directed by one or more of the women owners.

Business firms which are 51 percent owned by minorities or women, but are in fact managed and operated by non-minority individuals do not qualify for meeting MBE/WBE procurement goals. U.S. Citizenship is required.

The following affirmative steps for utilizing MBEs and WBEs must be documented. Such documentation is subject to EPA review upon request:

1. Include of MBEs/WBEs on solicitation lists.
2. Assure that MBEs/WBEs are solicited once they are identified.
3. Divide total requirements into smaller tasks to permit maximum MBE/WBE participation, where feasible.
4. Establish delivery schedules which will encourage MBE/WBE participation, where feasible.
5. Encourage use of the services of the U.S. Department of Commerce's Minority Business Development Agency (MBDA) and the U.S. Small Business Administration to identify MBEs/WBEs.
6. Require that each party to a subgrant, subagreement, or contract award take the affirmative steps outlined here.

C. Instructions for Part I:

- 1a. Specify Federal fiscal year this report covers. The Federal fiscal year runs from October 1st through September 30th (**e.g. November 29, 2005 falls within Federal fiscal year 2006**)
- 1b. Check applicable reporting box, quarterly or annually. Also indicate if this is the last report for the project.
- 1c. Indicate if this is a revision to a previous year or quarter, and provide a brief description of the revision you are making.
- 2a-c. Please refer to your financial assistance agreement for the mailing address of the EPA financial assistance office for your agreement.

The "EPA DBE Reporting Contact" is the DBE Coordinator for the EPA Region from which your financial assistance agreement was originated. For a list of DBE Coordinators please refer to the EPA OSDBU website at www.epa.gov/osdbu. Click on "Regional Contacts" for the name of your coordinator.

- 3a-c. Identify the agency, state authority, university or other organization which is the recipient of the Federal financial assistance and the person to contact concerning this report.
- 4a. Provide the Assistance Agreement or Interagency Agreement number assigned by EPA. A separate report must be submitted for each Assistance Agreement or Interagency Agreement.

***For SRF recipients:** In box 4a list numbers for ALL open Assistance Agreements. SRF recipients will report activity for all Agreements on one form.

- 4b. Refer back to Assistance Agreement document for this information.

- 5a. Provide the total amount of the Assistance Agreement which includes Federal funds plus recipient matching funds and funds from other sources.

***For SRF recipients only:** SRF recipients will not enter an amount in 5a. Please leave 5a blank.

- 5b. Self-explanatory.

- 5c. State whether or not sub-awards and/or subcontracts have been issued under the assistance agreement by indicating "yes" or "no".

Provide the total dollar amount of all contracts/procurements awarded this reporting period by the recipient and all sub-recipients, and SRF loan recipients. For example: Actual dollars for procurement from the procuring office; actual contracts let from the contracts office; actual goods, services, supplies, etc., from other sources including the central purchasing/procurement centers).

Where requested, also provide the total dollar amount of all MBE/WBE procurement awarded during this reporting period by the recipient, sub-recipients, SRF loan recipients, and prime contractors in the categories of construction, equipment, services and supplies. These amounts include the Federal, State and local shares in the procurement awards.

***For SRF recipients only:** In 5c please enter the total procurement amount for the quarter under all of your SRF Assistance Agreements. The figure reported in this section is **not** directly tied to an individual Assistance Agreement identification number. **(SRF state recipients report state procurements in this section)**

6. If there were no MBE/WBE accomplishments this reporting period, please briefly explain what steps you are taking in furtherance of the MBE/WBE requirements specified in the terms and conditions of the Assistance Agreement.
7. Name and title of official administrator or designated reporting official.
8. Signature and month, day year report submitted.

D. Instructions for Part II:

For each MBE/WBE procurement made under this assistance agreement during the reporting period, provide the following information:

1. Check whether this procurement was made by the recipient, sub-recipient/SRF loan recipient, or the prime contractor.
2. Check either the MBE or WBE column. If a firm is both an MBE and WBE, the recipient may choose to count the entire procurement towards EITHER its MBE or WBE accomplishments. The recipient may also divide the total amount of the procurement (using any ratio it so chooses) and count those divided amounts toward its MBE and WBE accomplishments. If the recipient chooses to divide the procurement amount and count portions toward its MBE and WBE accomplishments, please state the appropriate amounts under the MBE and WBE columns on the form. **The combined MBE and WBE amounts for that MBE/WBE contractor must not exceed the "Value of the Procurement" reported in column #3**
3. Dollar value of procurement.
4. Date of award, shown as month, day, year. Date of award is defined as the date the contract or procurement was awarded, **not** the date the contractor received payment under the awarded contract or procurement, unless payment occurred on the date of award. **(Where direct purchasing is the procurement method, the**

date of award is the date the purchase was made)

5. Using codes at the bottom of the form, identify type of product or service acquired through this procurement (eg., enter 1 if construction, 2 if supplies, etc).
6. Name, address, and telephone number of MBE/WBE firm.

**This data is requested to comply with provisions mandated by: statute or regulations (40 CFR Part 30 and 31); OMB Circulars; or added by EPA to ensure sound and effective assistance management. Accurate, complete data are required to obtain funding, while no pledge of confidentiality is provided.

The public reporting and recording burden for this collection of information is estimated to average 1 hour per response annually. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclosure or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (2136), 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460. Include the OMB Control number in any correspondence. Do not send the completed form to this address.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

**Disadvantaged Business Enterprise Program
DBE Subcontractor Utilization Form**

BID/PROPOSAL NO.	PROJECT NAME
NAME OF PRIME BIDDER/PROPOSER	E-MAIL ADDRESS
ADDRESS	
TELEPHONE NO.	FAX NO.

The following subcontractors¹ will be used on this project:			
COMPANY NAME, ADDRESS, PHONE NUMBER, AND E-MAIL ADDRESS	TYPE OF WORK TO BE PERFORMED	ESTIMATE D DOLLAR AMOUNT	CURRENTLY CERTIFIED AS AN MBE OR WBE?

I certify under penalty of perjury that the forgoing statements are true and correct. In the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302(c).

Signature of Prime Contractor

Date

Print Name

Title

¹Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Disadvantaged Business Enterprise Program DBE Subcontractor Utilization Form

The public reporting and recordkeeping burden for this collection of information is estimated to average fifteen (15) minutes. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed EPA DBE Subcontractor Utilization Form to this address.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

**Disadvantaged Business Enterprise Program
DBE Subcontractor Performance Form**

NAME OF SUBCONTRACTOR ¹		PROJECT NAME
ADDRESS		BID/PROPOSAL NO.
TELEPHONE NO.		E-MAIL ADDRESS
PRIME CONTRACTOR NAME		
CONTRACT ITEM NO.	ITEM OF WORK OR DESCRIPTION OF SERVICES BID TO PRIME	PRICE OF WORK SUBMITTED TO PRIME CONTRACTOR
<p>Currently certified as an MBE or WBE under EPA's DBE Program? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Signature of Prime Contractor _____ Date _____ Print Name _____ Title _____</p> <p>Signature of Subcontractor _____ Date _____ Print Name _____ Title _____</p>		

¹Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Disadvantaged Business Enterprise Program DBE Subcontractor Performance Form

The public reporting and recordkeeping burden for this collection of information is estimated to average fifteen (15) minutes. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed EPA DBE Subcontractor Performance Form to this address.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

**Disadvantaged Business Enterprise Program
DBE Subcontractor Participation Form**

NAME OF SUBCONTRACTOR¹	PROJECT NAME
ADDRESS	CONTRACT NO.
TELEPHONE NO.	EMAIL ADDRESS
PRIME CONTRACTOR NAME	

Please use the space below to report any concerns regarding the above EPA-funded project (e.g., reason for termination by prime contractor, late payment, etc.).

CONTRACT ITEM NO.	ITEM OF WORK OR DESCRIPTION OF SERVICES RECEIVED FROM THE PRIME CONTRACTOR	AMOUNT SUBCONTRACTOR WAS PAID BY PRIME CONTRACTOR

<hr/> Subcontractor Signature	<hr/> Title/Date
-------------------------------	------------------

¹Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.



Environmental
Protection Agency

OMB Control No: 2090-0030
Approved: 05/01/2008
Approval Expires: 01/31/2011

Disadvantaged Business Enterprise Program DBE Subcontractor Participation Form

The public reporting and recordkeeping burden for this collection of information is estimated to average fifteen (15) minutes. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed EPA DBE Subcontractor Participation Form to this address.

encouraging potential assistance recipients to begin the planning and design phase of project construction, and in some cases, actually solicit bids on the plans and designs. Projects that have solicited bids are in most cases considered to be in a ready-to-proceed category as among projects listed on State IUPs. Under the exceptional emphasis on expeditious construction of ARRA's SRF language quoted above, States will generally give the highest priority for ARRA SRF funding to eligible projects that clearly qualify to be in a ready-to-proceed category. This statutory language also confirms the appropriateness of proactive steps States had taken to encourage SRF projects' readiness for expeditious construction. Moreover, the ARRA SRF language cited in EPA's nationwide waiver for refinanced projects specified October 1, 2008 as the opening of the window within which initiation of relevant action can properly be considered done "in anticipation of ARRA" (74 FR 15722).

To be included under this waiver, potential assistance recipients must show a verifiable basis on which they believed it was reasonable and prudent to solicit bids for these projects prior to concluding an assistance agreement with the State SRF. Such verification will show some objective basis under which these actions were reasonably and prudently undertaken in specific anticipation of ARRA funding, or any other source of timely funding. Such action may include an affirmative communication from a funding source, such as a binding commitment, high placement on a priority list, or other indicative and verifiable communication from an SRF or other government funding source, or regarding any affirmative steps taken to secure private bond financing from an appropriate industry entity. Any such objective verification would show that bid solicitations were undertaken reasonably and prudently, in order to fulfill Congress' intent in passing ARRA and in particular to create jobs and spur economic recovery "by commencing activities and expenditures as expeditiously as possible" (See ARRA Section 3(b)).

The imposition of ARRA's Buy American requirements on projects eligible for SRF assistance whose assistance applicants had solicited bids on or after October 1, 2008 and prior to February 17, 2009, the date when those requirements were imposed, would require the time-consuming rebidding of those projects and potentially a redesign. Specifically, those projects that can show a reasonable and prudent

basis to solicit bids prior to the passage of the ARRA would be harmed by the imposition of these requirements post bid solicitation. This imposition would particularly conflict with the intentions and objectives of the bases on which those projects reasonably and prudently solicited bids for project construction prior to the passage of the ARRA: based on an affirmative communication by a State SRF program, or in order to meet requirements set forth or identified by a financing agency or source of funds in order to ensure receipt of financing for the project. This would clearly frustrate Congress' expressed intent for expeditious construction of projects supported by the State Revolving Funds or that had otherwise made themselves ready to proceed, and may imperil portions of States' ARRA funding if it renders them unable to meet ARRA's stringent time requirements for the entirety of their SRF appropriations. These projects are most likely to proceed to construction in a relatively short period of time, thereby creating jobs and stimulating the economy.

ARRA Section 1605(b)(1) authorized the Administrator to waive the requirements of Section 1605(a) in any case or category of cases in which she finds that applying subsection (a) would be inconsistent with the public interest. Therefore, for the foregoing reasons, applying Buy America requirements to projects that reasonably and prudently solicited bids prior to the passage of ARRA in specific anticipation of ARRA funding, or any other source of timely funding, would be inconsistent with the public interest.

Authority: Public Law 111-5, section 1605.

Dated: May 22, 2009.

Michael Shapiro,

Acting Assistant Administrator for Water.

[FR Doc. E9-12793 Filed 6-1-09; 8:45 am]

BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL-8911-8]

Notice of Nationwide Waiver of Section 1605 (Buy American Requirement) of American Recovery and Reinvestment Act of 2009 (ARRA) for de minimis Incidental Components of Projects Financed Through the Clean or Drinking Water State Revolving Funds Using Assistance Provided Under ARRA

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: The EPA is hereby granting a nationwide waiver of the Buy American requirements of ARRA Section 1605 under the authority of Section 1605(b)(1) (public interest waiver) for *de minimis* incidental components of eligible water infrastructure projects funded by ARRA. This action permits the use of non-domestic iron, steel, and manufactured goods when they occur in *de minimis* incidental components of such projects funded by ARRA that may otherwise be prohibited under section 1605(a).

DATES: *Effective Date:* May 22, 2009.

FOR FURTHER INFORMATION CONTACT:

Jordan Dorfman, Attorney-Advisor, Office of Wastewater Management, (202) 564-0614, or Philip Metzger, Attorney-Advisor, Office of Ground Water and Drinking Water, (202) 564-3776, Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460.

SUPPLEMENTARY INFORMATION: In accordance with ARRA Section 1605(c), the EPA hereby provides notice that it is granting a nationwide waiver of the requirements of section 1605(a) of Public Law 111-5, Buy American requirements, allowing the use of non-domestic iron, steel, and manufactured goods when they occur in *de minimis* incidental components of eligible projects for which a Clean or Drinking Water State Revolving Fund (SRF) has concluded or will conclude an assistance agreement using ARRA funds, where such components comprise no more than 5 percent of the total cost of the materials used in and incorporated into a project.

Among the General Provisions of the American Recovery and Reinvestment Act of 2009 (ARRA), Section 1605(a) requires that "all of the iron, steel, and manufactured goods used in" a public works project built with ARRA funds must be produced in the United States, unless the head of the respective Federal department or agency determines it necessary to waive this requirement based on findings set forth in Section 1605(b). In addition, expeditious construction of SRF projects is made a high priority by a provision in the ARRA Title VII appropriations heading for the SRFs, which states "[t]hat the Administrator shall reallocate funds * * * where projects are not under contract or construction within 12 months of" ARRA enactment (February 17, 2010). The finding relevant to this waiver is that "applying [ARRA's Buy American requirement] would be inconsistent with the public interest" (1605(b)(1)).

In implementing ARRA section 1605, EPA must ensure that the section's requirements are applied consistent with congressional intent in adopting this section and in the broader context of the purposes, objectives, and other provisions of ARRA applicable to projects funded under the Clean and Drinking Water State Revolving Funds (SRF), particularly considering the SRFs' 12 month "contract or construction" requirement.

Further, also in the context of ARRA's SRF "contract or construction" deadline, Congress' overarching directive to

[t]he President and the heads of Federal departments and agencies [is that they] shall manage and expend the funds made available in this Act so as to achieve the purposes [of this Act], including commencing expenditures and activities as quickly as possible consistent with prudent management. [ARRA Section 3(b)]

Water infrastructure projects typically contain a relatively small number of high-cost components incorporated into the project that are iron, steel, and manufactured goods, such as pipe, tanks, pumps, motors, instrumentation and control equipment, treatment process equipment, and relevant materials to build structures for such facilities as treatment plants, pumping stations, pipe networks, etc. In bid solicitations for a project, these high-cost components are generally clearly described via project specific technical specifications. For these major components, utility owners and their contractors are generally familiar with the conditions of availability, the approximate cost, and the country of manufacture of available components.

Every water infrastructure project also involves the use of literally thousands of miscellaneous, generally low-cost components that are essential for but incidental to the construction, and are incorporated into the physical structure of the project, such as nuts, bolts, other fasteners, tubing, gaskets, etc. These incidental components are subject to the Buy American requirement of ARRA Section 1605(a), as stated above.

In contrast with the situation applicable to major components with regard to country of manufacture, availability, and procurement process, the situation applicable to these incidental components is one where the country of manufacture and the availability of alternatives are not readily or reasonably identifiable prior to procurement in the normal course of business. Particular under the time constraints outlined above, it would be laborious, likely unproductive as to feasible alternatives, and

disproportionate to the costs and time involved for an owner or their contractor to pursue such inquiries.

EPA undertook multiple inquiries to identify the approximate scope of these *de minimis* incidental components within water infrastructure projects. EPA consulted informally with many major associations representing equipment manufacturers and suppliers, construction contractors, consulting engineers, and water and wastewater utilities, and a contractor performed targeted interviews with several well-established water infrastructure contractors and firms who work in a variety of project sizes, and regional and demographic settings. The contractor asked the following questions:

- What percentage of total project costs were consumables or incidental costs?
- What percentage of materials costs were consumables or incidental costs?
- Did these percentages vary by type of project (drinking water vs. wastewater; treatment plant vs. pipe)?

The responses were consistent across the variety of settings and project types, and indicated that the percentage of total costs for drinking water or wastewater infrastructure projects comprised by these incidental components is generally not in excess of 5 percent of the total cost of the materials used in and incorporated into a project. In drafting this waiver, EPA has considered the *de minimis* proportion of project costs generally represented by each individual type of these incidental components within the hundreds or thousands of types of such components comprising those percentages, the fact that these types of incidental components are obtained by contractors in many different ways from many different sources, and the disproportionate cost and delay that would be imposed on projects if EPA did not issue this waiver.

Under such specific circumstances associated with these particular types of incidental components, EPA has found that it would be inconsistent with the public interest—and particularly with ARRA's directives to ensure expeditious SRF construction consistent with prudent management, as cited above—to require that the national origins of these components be identified in compliance with Section 1605(a). Accordingly, EPA is hereby issuing a national waiver from the requirements of ARRA Section 1605(a) for the incidental components described above as a *de minimis* factor in the project, where such components comprise no more than 5 percent of the total cost of the materials used in and incorporated into a project.

Assistance recipients who wish to use this waiver should in consultation with their contractors determine the items to be covered by this waiver, must retain relevant documentation as to those items in their project files, and must summarize in reports to the State the types and/or categories of items to which this waiver is applied, the total cost of incidental components covered by the waiver for each type or category, and the calculations by which they determined the total cost of materials used in and incorporated into the project.

Therefore, for the foregoing reasons, imposing ARRA's Buy American requirements for the category of *de minimis* incidental components described herein is not in the public interest. This supplementary information constitutes the "detailed written justification" required by Section 1605(c) for waivers "based on a finding under subsection (b)."

Authority: Pub. L. 111–5, section 1605.

Dated: May 22, 2009.

Michael H. Shapiro,

Acting Assistant Administrator for Water.

[FR Doc. E9–12792 Filed 6–1–09; 8:45 am]

BILLING CODE 6560–50–P

FEDERAL COMMUNICATIONS COMMISSION

Notice of Public Information Collection(s) Being Reviewed by the Federal Communications Commission for Extension Under Delegated Authority, Comments Requested

May 26, 2009.

SUMMARY: The Federal Communications Commission, as part of its continuing effort to reduce paperwork burden invites the general public and other Federal agencies to take this opportunity to comment on the following information collection(s), as required by the Paperwork Reduction Act of 1995, 44 U.S.C. 3501–3520. An agency may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act (PRA) that does not display a valid control number. Comments are requested concerning (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimate; (c) ways to enhance



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
WATER

ARRA 09-1

04/28/2009

MEMORANDUM

SUBJECT: Implementation of Buy American provisions of P.L. 111-5, the "American Recovery and Reinvestment Act of 2009"

FROM: James A. Hanlon, Director
Office of Wastewater Management (4201M)
Cynthia C. Dougherty, Director
Office of Ground Water and Drinking Water (4601M)

TO: Water Management Division Directors
Regions I - X

P.L. 111-5, the "American Recovery and Reinvestment Act of 2009" (ARRA), provides significant levels of funding for States to finance high priority infrastructure projects needed to ensure clean water and safe drinking water. The Act also includes "Buy American" provisions in section 1605 that require Clean Water State Revolving Loan Fund (CWSRF) and Drinking Water State Revolving Loan Fund (DWSRF) assistance recipients of these ARRA funds to use domestic iron, steel and manufactured goods that are produced in the United States.

EPA's foremost expectation is that assistance recipients will use American iron, steel and manufactured goods throughout their ARRA-funded projects. Section 1605 also, however, sets forth certain circumstances under which a federal agency may determine to waive Buy American requirements. In addition, Section 1605 requires the Buy American requirements to be applied consistent with U.S. obligations under international agreements. That means that where a procurement is covered by an international agreement, the Buy American requirement would not be applied to the countries that are subject to the relevant agreement(s). The approach described below explains how EPA will implement these provisions.

The legislative history and Congressional intent expressed in the record for the ARRA make clear that the priority of Congress is to provide capital funding to projects as quickly as possible to create jobs and stimulate both local and national economies. In addition, the ARRA also includes other specific requirements like the Buy American

provision of section 1605 and the requirement that all water infrastructure projects be under contract or under construction by February 17, 2010. EPA's intention in developing the approach described here is to effectively and efficiently implement this full range of ARRA requirements.

Implementation

A waiver may be provided if EPA determines that (1) applying these requirements would be inconsistent with the public interest; (2) iron, steel, and the relevant manufactured goods are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron, steel, and manufactured goods produced in the United States will increase the cost of the overall project by more than 25 percent. This requirement has been included as a grant condition in all EPA capitalization grants, and will be a condition in all loan and grant agreements provided by States to local recipients.

On April 23, 2009, the Office of Management and Budget (OMB) issued Interim Final Guidance for several aspects of ARRA, including the Buy American Requirement under Section 1605. The full text of this Guidance is at <http://edocket.access.gpo.gov/2009/pdf/E9-9073.pdf>. Definitions herein have incorporated the relevant text from the OMB Guidance, and the term and condition specified in the OMB Guidance at 176.140 (page 18454) will be incorporated as an award term of ARRA grants from EPA.

In order to implement the Buy American provisions of the ARRA, EPA has developed an approach to allow for effective and efficient implementation to allow projects to proceed in a timely manner. The framework described below will allow assistance recipients to apply for waivers directly to EPA. Pursuant to the ARRA, EPA has the responsibility to make findings and determinations as to the issuance of waivers to the Buy American provisions.

With regard to the requirement to adhere to U.S. obligations under international agreements, based on discussions with OMB officials and OMB's "Updated Implementation Guidance," this provision only applies to direct procurement by the entities listed in the appendix of OMB's Interim Final Guidance or the Federal government, and does not apply to procurement initiated by local entities (SRF assistance recipients), unless they are listed in the appendix.

Definitions

The following terms are critical to the interpretation and implementation of the Buy American provisions of the ARRA and apply to the process described in this memorandum:

Steel: An alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements. Production in the United States of the iron or steel used

in the project requires that all manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives. These requirements do not apply to iron or steel used as components or subcomponents of manufactured goods used in the project. (This and the following definition was drawn from the OMB Guidance of April 3, 2009, at 176.70(a)(2)(ii) and 176.140(a).)

Manufactured Good: “Manufactured good” means a good brought to the construction site for incorporation into the building or work that has been--

- (1) Processed into a specific form and shape; or
- (2) Combined with other raw material to create a material that has different properties than the properties of the individual raw materials.

There is no requirement with regard to the origin of components or subcomponents in manufactured goods, as long as the manufacture of the goods occurs in the United States.

Reasonably Available Quantity: The quantity of iron, steel, or the relevant manufactured good is available or will be available at the time needed and place needed, and in the proper form or specification as specified in the project plans and design.

Satisfactory Quality: The quality of iron, steel, or the relevant manufactured good as specified in the project plans and designs.

Assistance Recipient: A borrower or grantee that receives funding from a State CWSRF or DWSRF program.

Step-By-Step Waiver Process

Application by Assistance Recipient

Each local entity that receives ARRA water infrastructure financial assistance is required by section 1605 of the ARRA to use American made iron, steel, and manufactured goods in the construction of its project. However, if it is one of the entities listed in the appendix to Appendix 9 of the OMB Updated Implementing Guidance, it must allow for the use of iron, steel, or manufactured goods from a country covered by a relevant international agreement. If that is not possible, or if the recipient falls under one of the categories below, the recipient may request a waiver. Until a waiver is granted by EPA, the Buy American requirements stand, except as noted above with respect to countries covered by international agreements.

The waiver process begins with the SRF assistance recipient. In order to fulfill the requirements of the ARRA, the assistance recipient must in good faith design the project (where applicable) and solicit bids for construction with American made iron, steel, and manufactured goods. It is essential that the assistance recipient include the ARRA’s Buy American terms in any request for proposals or solicitations for bids, and in

all contracts (see Appendix 3 for sample contract language). The assistance recipient may seek a waiver at any point before, during, or after the bid process if one or a combination of three conditions is met:

1. Iron, steel, and manufactured goods are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;
2. Inclusion of iron, steel, and manufactured goods produced in the United States will increase the cost of the overall project by more than 25 percent; or
3. Applying the Buy American requirements of ARRA would be inconsistent with the public interest.

EPA believes that most waivers will likely come forward at two points in a project: first, based on the design where the assistance recipient identifies key materials (iron and steel) or equipment (manufactured goods) that are not produced in sufficient quantities domestically, or, second, after evaluation by prospective bidders and their consultation with suppliers determines that iron, steel, or manufactured goods as required by the design are not produced in sufficient quantities domestically. An assistance recipient could potentially request waivers at either or both points in the project. It is also possible to request a waiver after bids are opened or after construction has initiated. EPA strongly recommends, if a waiver is necessary, initiating the request before construction has initiated.

Consistent with the direction of the OMB Guidance at §176.120, EPA will expect that requests submitted after the signing of the construction contract will include an explanation of why the request was submitted at that late date. Late submissions that are based on the grounds of lack of reasonably foreseeable circumstances that led to the request, where sufficiently documented, will be considered as if timely submitted.

Late requests that are based on grounds that the assistance recipient would be reasonably expected to foresee will, before consideration of the underlying waiver request, be subject to a balancing. This balancing will consider whether the public interest in expeditious construction under ARRA does or does not outweigh the need for full, timely, and good faith compliance with the Buy American provision according to the grounds set forth in ARRA and in applicable federal guidance and information.

Proper and sufficient documentation must be provided by the assistance recipient. A checklist detailing the types of information required for a waiver to be processed is attached as Appendix 1.

Additionally, it is strongly encouraged that assistance recipients hold pre-bid conferences with potential bidders. A pre-bid conference can help to identify iron, steel, and manufactured goods needed to complete the project as described in the plans and specifications that may not be available from domestic sources and the need to seek a waiver prior to bid, and can help inform the recipient on compliance options.

In order to apply for a project waiver, the assistance recipient should email the request in the form of a Word document (.doc) to the Regional waiver email address listed in the chart below. Please include all of the information as shown in the checklist in Appendix 1. The Regional office will send a copy to the State contact.

Chart 1

If the assistance recipient is located in...	Send the waiver request to...
Region 1: ME, NH, VT, MA, RI, CT	region1waiver@epa.gov
Region 2: NY, NJ, PR, VI	region2waiver@epa.gov
Region 3: PA, MD, DE, VA, WV, DC	region3waiver@epa.gov
Region 4: NC, SC, KY, TN, AL, MS, GA, FL	region4waiver@epa.gov
Region 5: OH, IN, MI, MN, WI, IL	region5waiver@epa.gov
Region 6: TX, OK, AR, LA, NM	region6waiver@epa.gov
Region 7: IA, KS, NE, MO	region7waiver@epa.gov
Region 8: CO, WY, UT, SD, ND, MT	region8waiver@epa.gov
Region 9: CA, NV, AZ, HI, GU, AS, NMT	region9waiver@epa.gov
Region 10: WA, OR, ID, AK	region10waiver@epa.gov

Participation by State Program

Section 1605 does not authorize a formal role for the States in the waiver process. However, any State may at its discretion undertake functions that can make important contributions to advance the speed, efficiency, and effectiveness of the waiver process.

One such potential contribution State SRF programs may offer is an initial screening of waiver requests, to assess the sufficiency of the information provided by the assistance recipient in order to advance or facilitate review by the EPA Region. To assist the State in this assessment, EPA has provided a checklist (Appendix 1) that provides a framework for examining the documentation presented in support of the waiver request.

A key consideration for States in their decision as to how to participate in the waiver process is that EPA envisions a short time frame for this process – no more than 3 business days may elapse from filing of the waiver application to correspondence from the State to the Region. States wishing to participate actively in the assessment of waiver requests should consult closely with the Regional office to ensure this participation is managed within the overall time frame for the process.

Evaluation by EPA Regional Offices

After receiving an application for waiver of the Buy American provisions, the Regional office must use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver. The checklist provides information to Regions with

regard to a waiver on the basis of unavailability of a product or material, or of substantial cost increases.

In the event that the Regional office in consultation with the Office of Regional Counsel (ORC) finds that adequate documentation and justification has been submitted, the Regional Administrator may grant a waiver to the assistance recipient. In any event, the Region should notify the assistance recipient that a waiver request has been approved or denied no later than 2 weeks from the date of receipt of a complete waiver request. Granting such a waiver is a 5-step process:

1. Evaluation – After receiving an application for waiver of the Buy American provisions, the Regional office must use the checklist in Appendix 2 to determine whether the application properly and adequately documents and justifies the statutory basis cited for the waiver – that it is quantitatively and qualitatively sufficient – and to determine whether or not to grant the waiver.
2. Coordination – No later than 3 days prior to the submission of a notification of a proposed waiver approval to the Assistant Administrator for the Office of Administration and Resources Management (OARM) for concurrence, the Region must notify the Cross-Agency Coordination Working Group described below that a waiver review is complete, along with a copy of the proposed notification.
3. Concurrence – Prior to approving a project waiver, the Regional Administrator must obtain the concurrence of the Assistant Administrator for OARM, as required by the Administrator’s March 31, 2009 delegation of approval authority for exceptions (waivers) to the requirements of ARRA section 1605(a). Please send waivers for concurrence to oarmwaivers@epa.gov.
4. Signature of waiver approval by the Regional Administrator – As soon as the waiver is signed and dated, the Region must notify the State and assistance recipient. This should take place no later than 2 weeks after the receipt of a complete waiver request from an assistance recipient.
5. Publication by Regional office of notification of issuance of waiver in the Federal Register (Appendix 4 contains a draft Federal Register notice).

When notification of the issuance of a waiver is published in the Federal Register, the Regional office should send appropriate information to Headquarters for a link to the Federal Register notice to be posted on EPA’s Recovery.gov website.

Cross-Agency Coordination Working Group

EPA will establish a national coordination working group composed of representatives from our Offices in the two SRF programs, and from the Regions. This group will have two principal functions:

1. To provide oversight of the national waiver process through consultation, quality control, and direction as necessary to clarify and resolve policy issues raised on waiver requests.
2. To identify the potential for appropriate national or (U.S. geographical) regional, categorical waivers to be issued based on similar circumstances identified in the detailed justifications for a waiver or waivers. Such categorical waivers may be based on one or a combination of the grounds for a waiver specified in ARRA section 1605(b), as may be appropriate to the detailed justifications available or developed.

Special Circumstances

Under certain special circumstances, EPA may grant a waiver of the Buy American provisions under the authority to waive such provisions if application of such provisions would be inconsistent with the public interest. A determination to grant a waiver of the Buy American provisions based solely on inconsistency with the public interest (as authorized under ARRA section 1605(b)(1)) must be made with EPA Office of Water consultation due to the possible national implications of such a waiver, except in any particular categories of “public interest” cases for which EPA has defined in national information, policy, or guidance the applicable conditions and the specific elements of the individual justification that must be provided. For the Regional office to consider these types of waiver requests, it must find that the conditions defined in the national information, policy, or guidance, and that the elements, in scope and detail, of the information provided to justify the request, are both present as required. If these are both present, the Regional office can then determine whether the justification offered is sufficient, within the terms set forth in the applicable information, policy, or guidance, to grant the waiver. This application will be sent to the same email address as mentioned above in Chart 1, however the requester should indicate in the subject line that the request is for a public interest waiver.

EPA has issued a national “public interest” waiver, signed by Acting Assistant Administrator Michael Shapiro on April 1, 2009, for eligible projects for which a Clean or Drinking Water State Revolving Fund (SRF) has concluded or will conclude an assistance agreement using ARRA funds to refinance a debt incurred on or after October 1, 2008, and before February 17, 2009. The waiver was based on the SRF appropriations provision in ARRA Title VII authorizing refinancing of such debts: “The imposition of ARRA's Buy American requirements on [such] projects would in all cases entail time-consuming delay and thus displace the "shovel ready" status of these projects[, and] would frustrate Congress' specific and explicit intent to allow for the use of ARRA funds to refinance those projects through the SRFs, as well as for expeditious construction generally.”

National Waivers

EPA reserves the right to issue national waivers that may apply to particular classes of assistance recipients, particular classes of projects, or particular categories of iron, steel, or manufactured goods. As stated in the discussion of the “Cross-Agency Coordination Working Group,” above, EPA may develop national or (U.S. geographic) regional categorical waivers through the identification by that Working Group of similar circumstances in the detailed justifications presented to one or more Regions in a waiver request or requests. EPA may issue a national waiver based on policy decisions regarding the public’s interest or a determination that a particular item is not produced domestically in reasonably available quantities or of a sufficient quality. In such cases, EPA may determine it is necessary to issue a national waiver. All national waivers will be issued by EPA Headquarters.

Split Funding

Based on their intended use plans many States intend to fund projects with “split” funding, from ARRA and the base SRF program. Based on the ARRA language in section 1605, which requires that American iron, steel, and manufactured goods be used in any project receiving ARRA funding, EPA has concluded that any project that is funded in whole or in part with ARRA funds, must comply with the Buy American provisions. A “project” consists of all construction necessary to complete the building or work regardless of the number of contracts or assistance agreements involved so long as all contracts and assistance agreements awarded are closely related in purpose, time and place. This precludes the intentional splitting of ARRA projects into separate and smaller contracts or assistance agreements to avoid Buy American coverage on some portion of a larger project, particularly where the activities are integrally and proximately related to the whole. However, there are many situations in which major construction activities are clearly undertaken in segregable phases that are distinct in purpose, time, or place, in which case, separate contracts or assistance agreement for ARRA and base funding would carry separate requirements.

If you have any questions concerning the contents of this memorandum, you may contact us, or have your staff contact George Ames, Chief, State Revolving Fund Branch, Municipal Support Division, at (202) 564-0661, or Charles Job, Chief, Infrastructure Branch, Drinking Water Protection Division, at (202) 564-3941.

Attachments

Appendix 1: Information Checklist for Waiver Request

The purpose of this checklist is to ensure that all appropriate and necessary information is submitted to EPA. Please review this checklist carefully and provide all required information to EPA. This checklist is for informational purposes only and does not need to be included as part of a waiver application.

Items	✓	Notes
<p>General</p> <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> — Description of the foreign and domestic construction materials — Unit of measure — Quantity — Price — Time of delivery or availability — Location of the construction project — Name and address of the proposed supplier — A detailed justification for the use of foreign construction materials • Waiver request was submitted according to the instructions in the memorandum • Assistance recipient made a good faith effort to solicit bids for domestic construction materials/manufactured goods, as demonstrated by language in requests for proposals, contracts, and communications with the prime contractor 		
<p>Cost</p> <ul style="list-style-type: none"> • Waiver request includes the following information: <ul style="list-style-type: none"> — Price Comparison Worksheet shown in Table 1 — Relevant excerpts from the bid documents used by the contractors to complete the Price Comparison Worksheet — Supporting documentation indicating that the contractor made a reasonable survey of the market, such as a description of the process for identifying suppliers and a list of contacted suppliers 		
<p>Availability</p> <ul style="list-style-type: none"> • Waiver request includes the following supporting documentation necessary to demonstrate the availability, quantity, and/or quality of the materials for which the waiver is requested: <ul style="list-style-type: none"> — Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/delivery date for construction materials — Documentation of the assistance recipient's efforts to find available domestic sources, such as a description of the process for identifying suppliers and a list of contacted suppliers. — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials • Waiver request includes a statement from the prime contractor confirming the non-availability of the domestic construction materials for which the waiver is sought • Has the State received other waiver requests for the materials described in this waiver request, for comparable projects? 		

Table 1: Foreign and Domestic Construction Materials Price Comparison Worksheet

Instructions: To be completed by the prime contractor. In column a), enter all iron, steel, and manufactured goods required to build the project as designed. In column b) enter the cost estimate for each component as supplied by domestic sources. In column c) enter the cost estimate for each component for which waivers are requested, as supplied by foreign sources.

(a) Material	Unit of Measure	Quantity	(b) Price – Domestic Material*	(c) Price – Foreign Material*
			(d) Total Domestic Project Cost:	(e) Total Foreign Project Cost:

*Include all delivery costs to the construction site

Appendix 2: Regional Review Checklist for Waiver Request

Instructions: To be completed by the EPA Regional Office. Review all waiver requests using the questions in the checklist, and mark the appropriate box as Yes, No or N/A. Marks that fall inside the shaded boxes may be grounds for denying the waiver. If none of your review markings fall into a shaded box, the waiver is eligible for approval if it indicates that one or more of the following conditions applies to the domestic construction material for which the waiver is sought:

1. The iron, steel, and the relevant manufactured goods are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality.
2. The inclusion of iron, steel, and manufactured goods produced in the United States will increase the cost of the overall project by more than 25 percent.

Review Items	Yes	No	N/A	Comments
Cost				
<ul style="list-style-type: none"> • Does the waiver request include the following information? <ul style="list-style-type: none"> — Price Comparison Worksheet shown in Table 1 — Relevant excerpts from the bid documents from foreign and domestic sources used to complete the Price Comparison Worksheet — A sufficient number of bid documents or pricing information from domestic sources to constitute a reasonable survey of the market • Does the Total Domestic Project Cost indicated in column (d) of the Price Comparison Worksheet exceed the Total Foreign Project Cost indicated in column (e) by more than 25% of the value in column (e)? 				
Availability				
<ul style="list-style-type: none"> • Does the waiver request include supporting documentation sufficient to show the availability, quantity, and/or quality of the iron, steel, and manufactured goods for which the waiver is requested? <ul style="list-style-type: none"> — Supplier information or other documentation indicating availability/delivery date for construction materials — Project schedule — Relevant excerpts from project plans, specifications, and permits indicating the required quantity and quality of construction materials • Does supporting documentation provide sufficient evidence that the contractors made a reasonable effort to locate domestic suppliers of materials, such as a description of the process for identifying suppliers and a list of contacted suppliers? • Based on the materials delivery/availability date indicated in the supporting documentation, will the materials be unavailable when they are needed according to the project schedule? (By item, list schedule date and domestic delivery quote date or other relevant information) • Is the Region aware of any other evidence indicating the non-availability of the materials for which the waiver is requested? Examples include: <ul style="list-style-type: none"> — Multiple waiver requests for the materials described in this waiver request, for comparable projects in the same State — Multiple waiver requests for the materials described in this waiver request, for comparable projects in other States — Correspondence with construction trade associations indicating the non-availability of the construction materials • Are the available domestic construction materials indicated in the bid documents of inadequate quality compared those required by the project plans, specifications, and/or permits? 				

Table 1: Foreign and Domestic Construction Materials Price Comparison Worksheet

Instructions: To be completed by the prime contractor. In column a), enter all iron, steel, and manufactured goods required to build the project as designed. In column b) enter the cost estimate for each component as supplied by domestic sources. In column c) enter the cost estimate for each construction material/manufactured good for which waivers are requested, as supplied by foreign sources.

(a) Material	Unit of Measure	Quantity	(b) Price – Domestic Material*	(c) Price – Foreign Material*
			(d) Total Domestic Project Cost:	(e) Total Foreign Project Cost:

*Include all delivery costs to the construction site

Appendix 3: Sample Buy American Contract Language

THIS IS AN EXAMPLE OF WHAT COULD BE INCLUDED IN ALL CONTRACTS THAT MAY USE ARRA FUNDS. EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THIS CLAUSE WITH RESPECT TO STATE OR LOCAL LAW. IT IS IMPERATIVE THAT ANY PARTY INSERTING THIS CLAUSE INTO A CONTRACT VERIFY THAT IT IS LEGAL AND ENFORCEABLE ACCORDING TO STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES:

The Contractor acknowledges to and for the benefit of the City of _____ (“Purchaser”) and the _____ (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the federal American Recovery and Reinvestment Act of 2009 (ARRA) (or are being made available for a project being funded with monies made available by the federal ARRA) and such law contains provisions commonly known as “Buy American;” that requires all of the iron, steel, and manufactured goods used in the project be produced in the United States (“Buy American Requirements”) including iron, steel, and manufactured goods provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the Buy American Requirements, (b) all of the iron, steel, and manufactured goods used in the project will be and/or have been produced in the United States in a manner that complies with the Buy American Requirements, unless a waiver of the requirements is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the Buy American Requirements, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

Appendix 4: Draft Federal Register Notice

ENVIRONMENTAL PROTECTION AGENCY

Region ____

ACTION: Notice of waiver of Section 1605 (Buy America requirement) of American Recovery and Reinvestment Act of 2009 (ARRA) for _____ under the Section 1605 waiver authority based on the conclusion that [applying these requirements would be inconsistent with the public interest] [iron, steel, and the relevant manufactured goods are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality] or [inclusion of iron, steel, and manufactured goods produced in the United States will increase the cost of the overall project by more than 25 percent] [pick one]

SUMMARY: The EPA is hereby granting a waiver of the Buy America requirements of ARRA Section 1605 under the authority of Section [1605(b)(1) (public interest waiver)] [1605(b)(2) (quantity and quality waiver)] [1605(b)(3) (cost waiver)] [pick one] for _____. This action permits the use of [iron, steel, or manufactured good for which the waiver is provided] in [the project].

EFFECTIVE DATE: _____.

FOR FURTHER INFORMATION CONTACT: _____, Office of _____ (XXX) XXX-XXXX or _____, Office of _____ (XXX) XXX-XXXX, Environmental Protection Agency, [address].

SUPPLEMENTARY INFORMATION: In accordance with ARRA Section 1605(c), the EPA hereby provides notice that it is granting a waiver of the requirements of section 1605(a) of P.L. 111-5, Buy America requirements, for [project name and description].

The basis for the nationwide waiver is: [describe the basis, analysis undertaken, and a detailed description of the findings the lead to the decision to grant a waiver]

Authority: P.L. 111-5, section 1605.

Issued on: [date]. _____, Regional Administrator, U.S. Environmental Protection Agency, Region ____ [FR Doc. 09-XXXX Filed 3-2X-09] BILLING CODE XXXX-XX-X.

Appendix 5: Sample Certification

FOLLOWING IS A SAMPLE CERTIFICATION THAT AN ASSISTANCE RECIPIENT MAY REQUIRE FROM A CONTRACTOR OR BIDDER. THIS IS ONLY A SAMPLE AND MAY BE USED AT THE DISCRETION OF THE ASSISTANCE RECIPIENT TO ENSURE COMPLIANCE WITH SECTION 1605 OF THE ARRA:

1. **Identification of American-made Iron, Steel, and Manufactured Goods:** Consistent with the terms of the Purchaser's bid solicitation and the provisions of ARRA Section 1605, the Bidder certifies that this bid reflects the Bidder's best, good faith effort to identify domestic sources of iron, steel, and manufactured goods for every component contained in the bid solicitation where such American-made components are available on the schedule and consistent with the deadlines prescribed in or required by the bid solicitation.
2. **Verification of U.S. Production:** The Bidder certifies that all components contained in the bid solicitation that are American-made have been so identified, and if this bid is accepted, the Bidder agrees that it will provide reasonable, sufficient, and timely verification to the Purchaser of the U.S. production of each component so identified.
3. **Documentation Regarding Non- American-made Iron, Steel, or Manufactured Goods:** The Bidder certifies that for any component or components that are not American-made and are so identified in this bid, the Bidder has included in or attached to this bid one or both of the following, as applicable:
 - a. Identification of and citation to a categorical waiver published by the U.S. Environmental Protection Agency in the Federal Register that is applicable to such component or components, and an analysis that supports its applicability to the component or components;
 - b. Verifiable documentation sufficient to the Purchaser, as required in the bid solicitation or otherwise, that the Bidder has sought to secure American-made components but has determined that such components are not available on the schedule and consistent with the deadlines prescribed in the bid solicitation, with assurance adequate for the Bidder under the applicable conditions stated in the bid solicitation or otherwise.
4. **Information and Detailed Justification Regarding Non- American-made Iron, Steel, or Manufactured Goods:** The Bidder certifies that for any such component or components that are not so available, the Bidder has also provided in or attached to this bid information, including but not limited to the verifiable documentation and a full description of the bidder's efforts to secure any such American-made component or components, that the Bidder believes are sufficient to provide and as far as possible constitute the detailed justification required for a waiver under section 1605 with respect to such component or components. The Bidder further agrees that, if this bid is accepted, it will assist the Purchaser in amending, supplementing, or further supporting such information as required by the Purchaser to

request and, as applicable, implement the terms of a waiver with respect to any such component or components.

FIGURES

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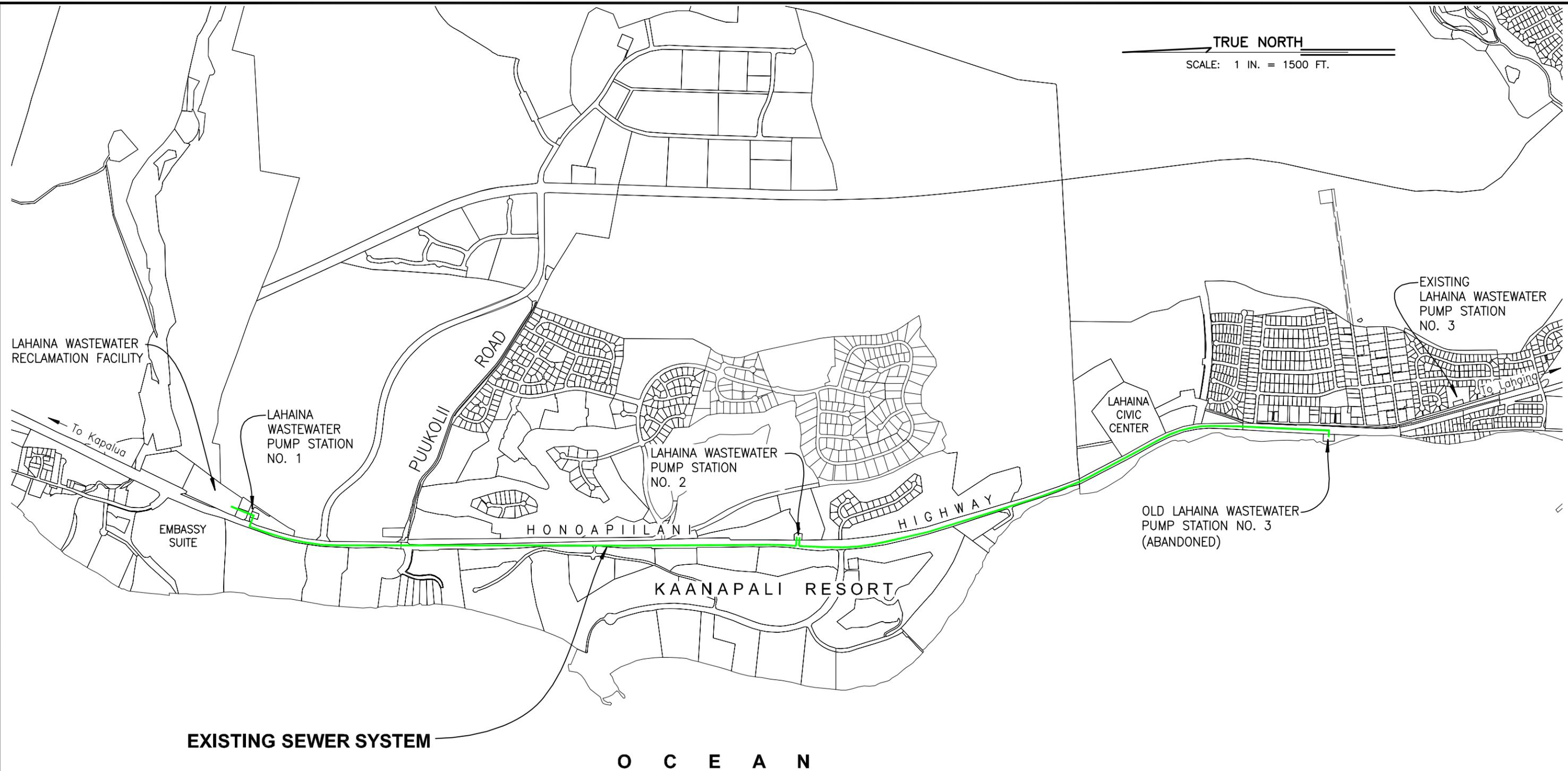
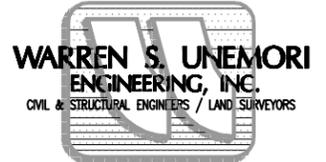
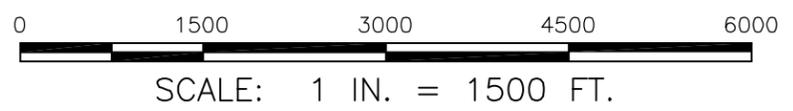
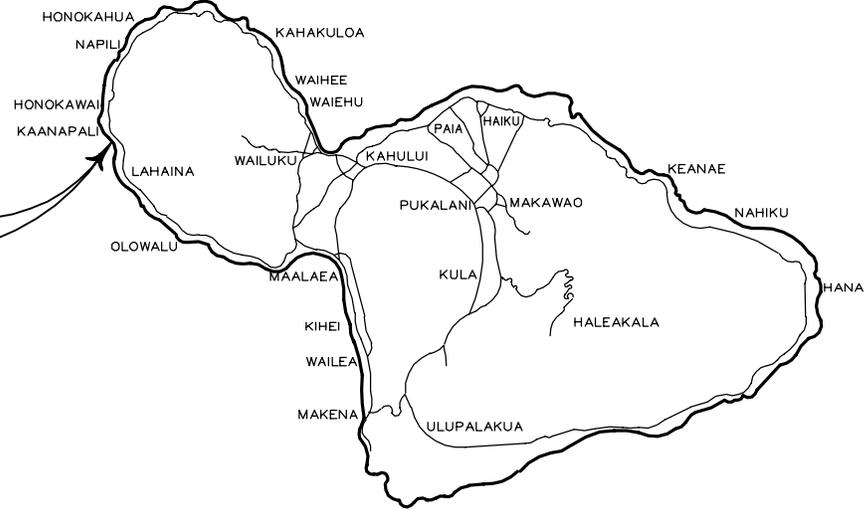


FIGURE 1
LOCATION OF LAHAINA PUMP STATIONS NOS. 1, 2, 3
AND LAHAINA WASTEWATER TREATMENT FACILITY

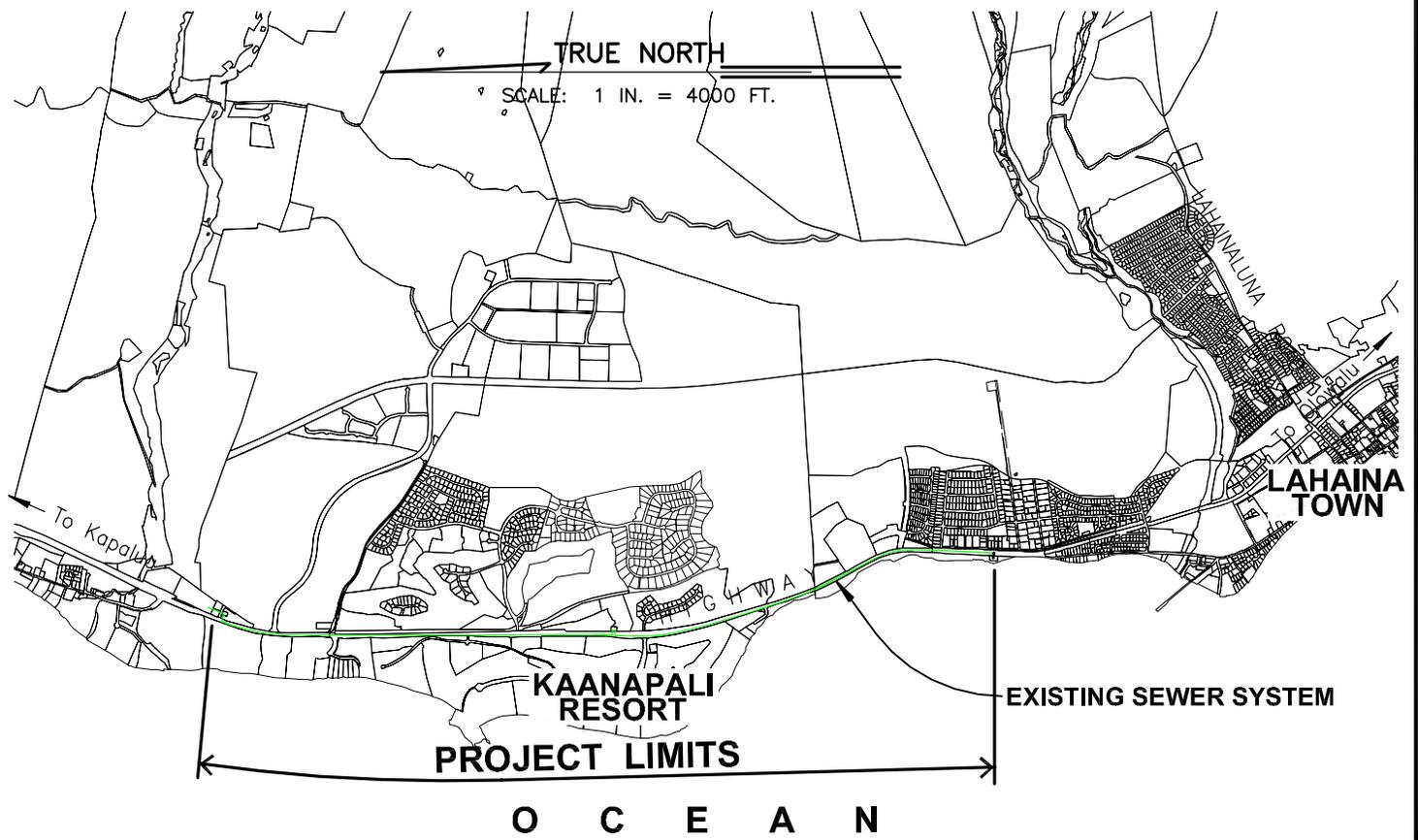


July 16, 2009

**PROJECT
SITE**



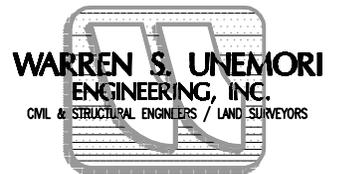
ISLAND OF MAUI
NOT TO SCALE



**FIGURE 2
PROJECT LOCATION MAP**



SCALE: 1 IN. = 4000 FT.



July 16, 2009

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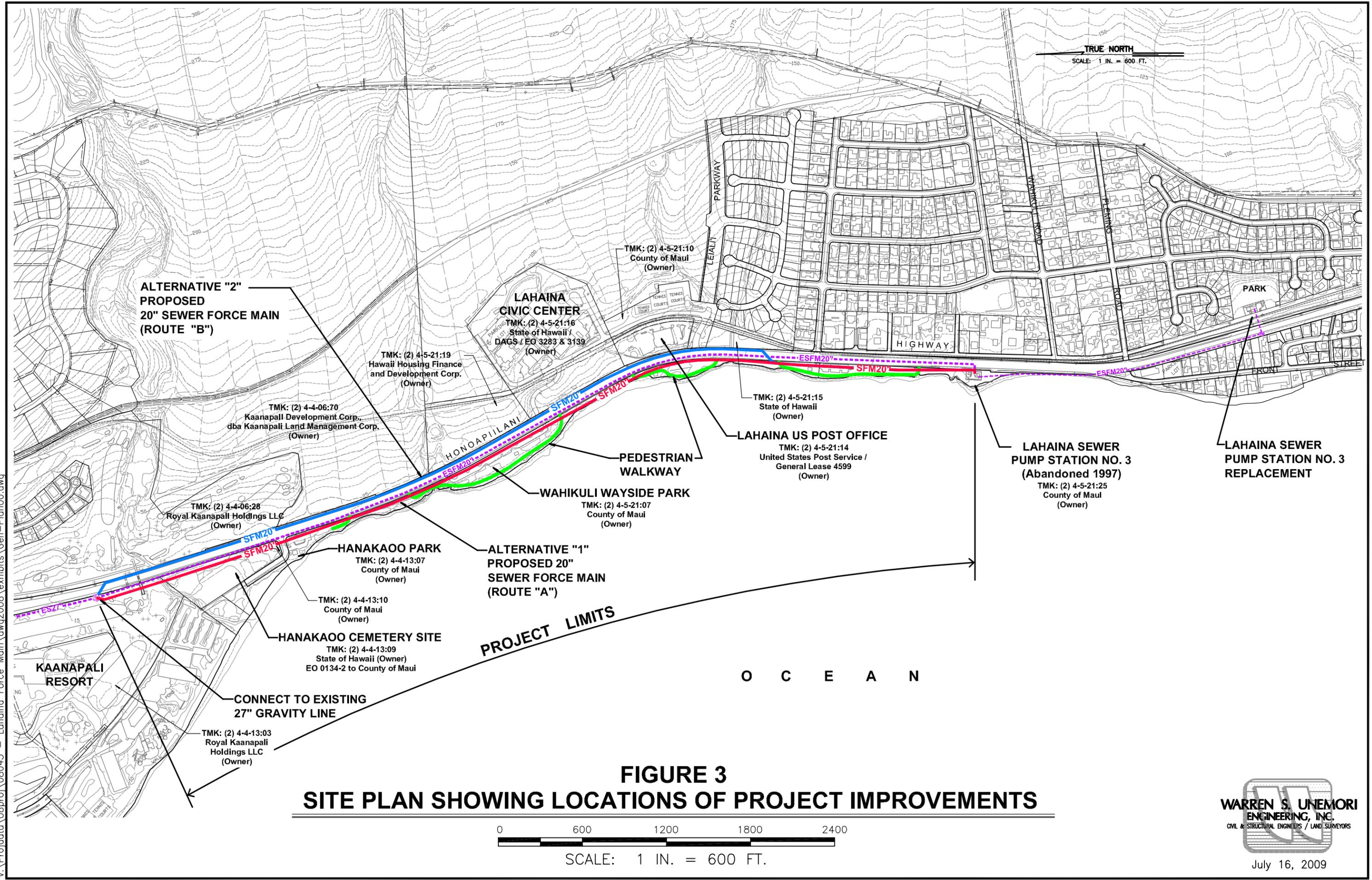
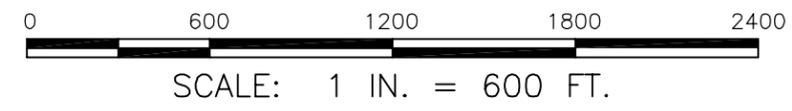


FIGURE 3
SITE PLAN SHOWING LOCATIONS OF PROJECT IMPROVEMENTS



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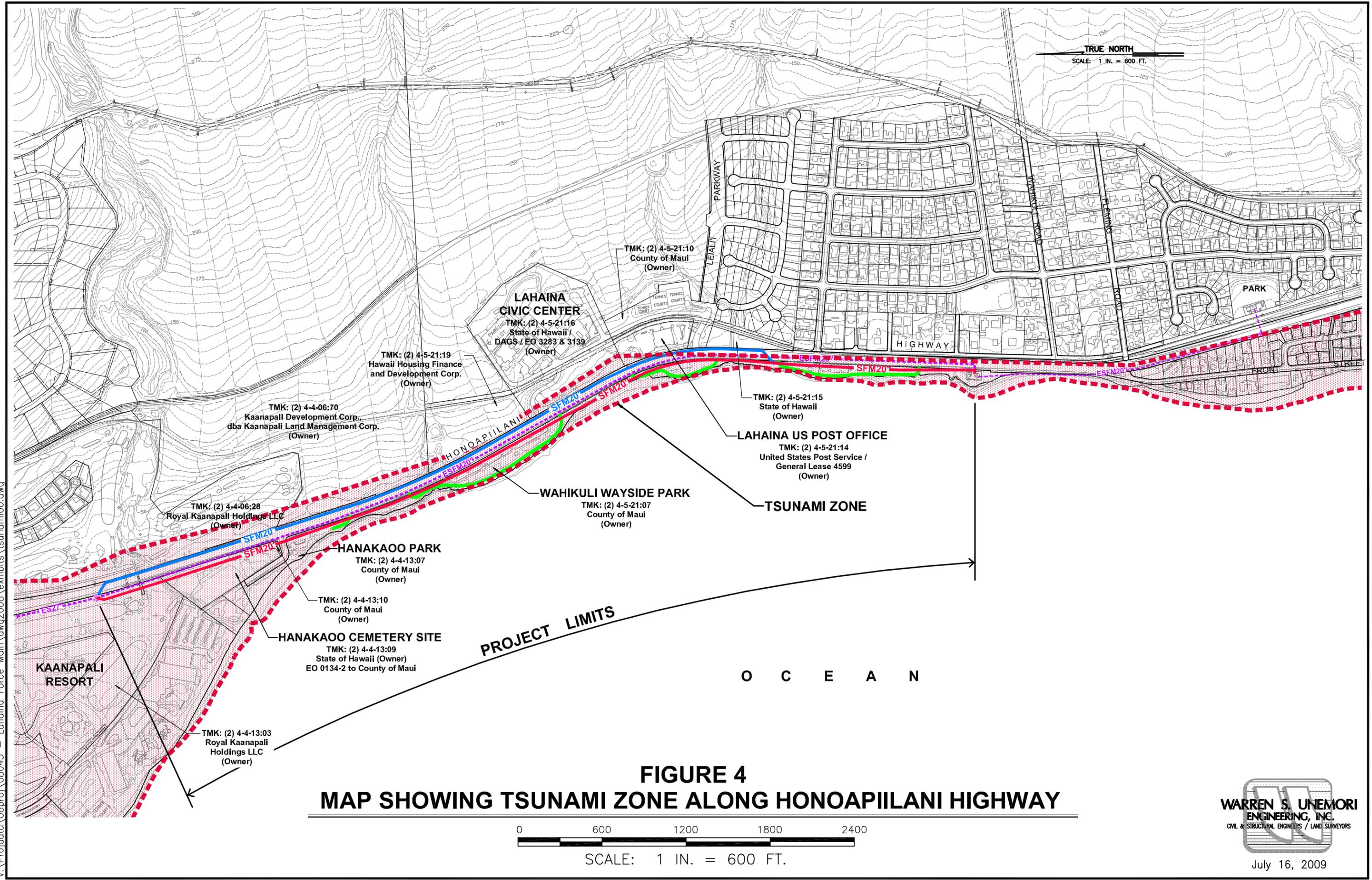
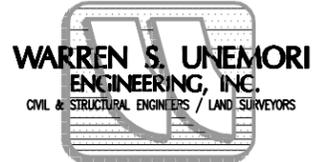


FIGURE 4
MAP SHOWING TSUNAMI ZONE ALONG HONOAPIILANI HIGHWAY

0 600 1200 1800 2400
 SCALE: 1 IN. = 600 FT.



WARREN S. UNEMORI
ENGINEERING, INC.
 CIVIL & STRUCTURAL ENGINEERS / LAND SURVEYORS

July 16, 2009

EXHIBITS

Exhibit A - Lahaina Force Main No. 3 - Route "A" Summary Owner/Land Use/Zoning of TMK Parcels

TMK	Area	Description	Owner	State Land Use Designation	Community Plan	County Zoning	Location wrt Highway
4-5-21:25	10,486 sq. ft.	Lahaina Sewage Pump Station #3 (abandoned)	State of Hawaii	Urban	Park	AG	makai
4-5-21:07	8.02 acs	Wahikuli State Wayside Park	County of Maui	Urban	Park;OS	AG	makai
4-4-13:07	3.689 acs	Hanakaoo Park	County of Maui	Urban	Park	AG	makai
4-4-13:10	0.153 acs	Remnant between road to Hanakaoo Park and Cemetery	County of Maui	Urban	P/QP-Public/Quasi-Public	AG	makai
4-4-13:09	3.60 acs	Cemetery Site	State of Hawaii	Urban	P/QP-Public/Quasi-Public	AG	makai
4-4-13:03	34.386 acs	Amfac Property Investment (Kaanapali Golf Course)	Royal Kaanapali Holdings LLC	Urban	Park	PK-4 County's PK-4 Golf Course Park	makai

Exhibit B - Lahaina Force Main No. 3 - Route "B" Summary Owner/Land Use/Zoning of TMK Parcels

TMK	Area	Description	Owner	State Land Use Designation	Community Plan	County Zoning	Location wrt Highway
4-5-21:25	10,486 sq. ft.	Lahaina Sewage Pump Station #3 (abandoned)	State of Hawaii	Urban	Park	AG	makai
4-5-21:07	8.02 acs	Wahikuli State Wayside Park	County of Maui	Urban	Park;OS	AG	makai
4-5-21:15	1.063 acs	Remnant between Highway and Sugar Cane Train Track lot	State of Hawaii	Urban/AG	P/QP-Public/Quasi-Public	AG	mauka
4-5-21:10	3.849 acs	Road to Lahaina Civic Center, Post Office and Tennis Courts	County of Maui	Urban	P/QP-Public/Quasi-Public	AG	mauka
4-5-21:14	2.415 acs	Lahaina U. S. Post Office	State of Hawaii	Urban	P/QP-Public/Quasi-Public	AG	mauka
4-5-21:16	16.782 acs	Lahaina Civic Center	State of Hawaii	AG	P/QP-Public/Quasi-Public	AG	mauka
4-5-21:19	3.518 acs	Parcel between Highway and Police/Fire Access Road	Housing Finance and Development Corp	Urban	AG	AG	mauka
4-4-06:70	520.043 acs	Former cane fields	Kaanapali Development Corp	AG/Urban	AG;OS	AG	mauka
4-4-06:28	47.189 acs	Amfac Property Investment (Kaanapali Golf Course)	Royal Kaanapali Holdings LLC	Urban/AG	Park	PK-4 County's PK-4 Golf Course Park	mauka

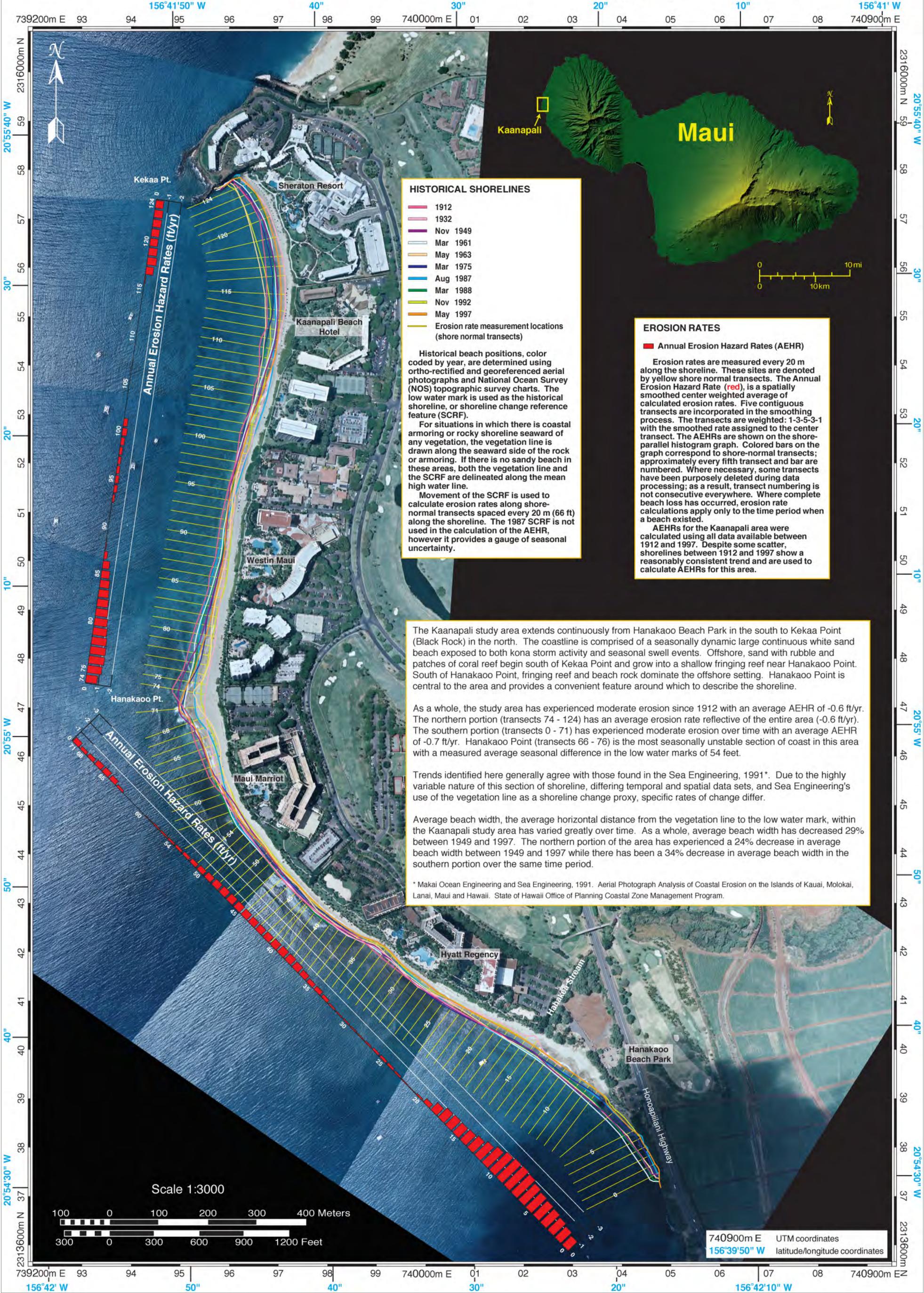
Kaanapali, Maui, Hawaii

Smoothed Erosion Rates



Produced for the County of Maui by:
Coastal Geology Group
Department of Geology and Geophysics
School of Ocean and Earth Science and Technology
University of Hawaii at Manoa
1680 East - West Road
Honolulu, Hawaii 96822

Published under
Contract No. G0605.



HISTORICAL SHORELINES

- 1912
- 1932
- Nov 1949
- Mar 1961
- May 1963
- Mar 1975
- Aug 1987
- Mar 1988
- Nov 1992
- May 1997
- Erosion rate measurement locations (shore normal transects)

Historical beach positions, color coded by year, are determined using ortho-rectified and georeferenced aerial photographs and National Ocean Survey (NOS) topographic survey charts. The low water mark is used as the historical shoreline, or shoreline change reference feature (SCRF).

For situations in which there is coastal armoring or rocky shoreline seaward of any vegetation, the vegetation line is drawn along the seaward side of the rock or armoring. If there is no sandy beach in these areas, both the vegetation line and the SCRF are delineated along the mean high water line.

Movement of the SCRF is used to calculate erosion rates along shore-normal transects spaced every 20 m (66 ft) along the shoreline. The 1987 SCRF is not used in the calculation of the AEHR, however it provides a gauge of seasonal uncertainty.

EROSION RATES

Annual Erosion Hazard Rates (AEHR)

Erosion rates are measured every 20 m along the shoreline. These sites are denoted by yellow shore normal transects. The Annual Erosion Hazard Rate (red), is a spatially smoothed center weighted average of calculated erosion rates. Five contiguous transects are incorporated in the smoothing process. The transects are weighted: 1-3-5-3-1 with the smoothed rate assigned to the center transect. The AEHRs are shown on the shore-parallel histogram graph. Colored bars on the graph correspond to shore-normal transects; approximately every fifth transect and bar are numbered. Where necessary, some transects have been purposely deleted during data processing; as a result, transect numbering is not consecutive everywhere. Where complete beach loss has occurred, erosion rate calculations apply only to the time period when a beach existed.

AEHRs for the Kaanapali area were calculated using all data available between 1912 and 1997. Despite some scatter, shorelines between 1912 and 1997 show a reasonably consistent trend and are used to calculate AEHRs for this area.

The Kaanapali study area extends continuously from Hanakao Beach Park in the south to Kekaa Point (Black Rock) in the north. The coastline is comprised of a seasonally dynamic large continuous white sand beach exposed to both kona storm activity and seasonal swell events. Offshore, sand with rubble and patches of coral reef begin south of Kekaa Point and grow into a shallow fringing reef near Hanakao Point. South of Hanakao Point, fringing reef and beach rock dominate the offshore setting. Hanakao Point is central to the area and provides a convenient feature around which to describe the shoreline.

As a whole, the study area has experienced moderate erosion since 1912 with an average AEHR of -0.6 ft/yr. The northern portion (transects 74 - 124) has an average erosion rate reflective of the entire area (-0.6 ft/yr). The southern portion (transects 0 - 71) has experienced moderate erosion over time with an average AEHR of -0.7 ft/yr. Hanakao Point (transects 66 - 76) is the most seasonally unstable section of coast in this area with a measured average seasonal difference in the low water marks of 54 feet.

Trends identified here generally agree with those found in the Sea Engineering, 1991*. Due to the highly variable nature of this section of shoreline, differing temporal and spatial data sets, and Sea Engineering's use of the vegetation line as a shoreline change proxy, specific rates of change differ.

Average beach width, the average horizontal distance from the vegetation line to the low water mark, within the Kaanapali study area has varied greatly over time. As a whole, average beach width has decreased 29% between 1949 and 1997. The northern portion of the area has experienced a 24% decrease in average beach width between 1949 and 1997 while there has been a 34% decrease in average beach width in the southern portion over the same time period.

* Makai Ocean Engineering and Sea Engineering, 1991. Aerial Photograph Analysis of Coastal Erosion on the Islands of Kauai, Molokai, Lanai, Maui and Hawaii. State of Hawaii Office of Planning Coastal Zone Management Program.

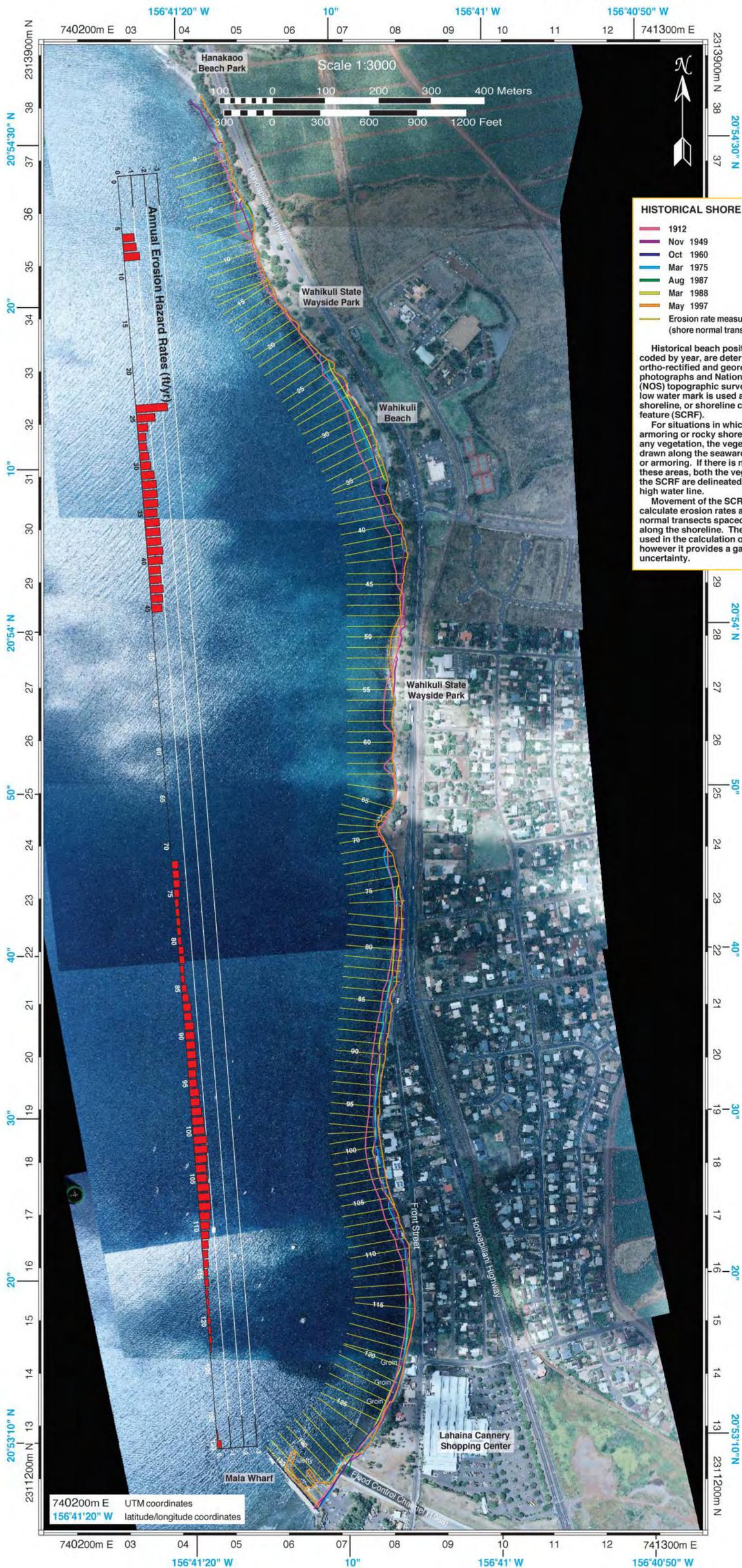
Scale 1:3000



740900m E UTM coordinates
156°39'50" W latitude/longitude coordinates

Wahikuli, Maui, Hawaii

Smoothed Erosion Rates



Produced for the County of Maui by:
 Coastal Geology Group
 Department of Geology and Geophysics
 School of Ocean and Earth Science and Technology
 University of Hawaii at Manoa
 1680 East - West Road
 Honolulu, Hawaii 96822

Published under
 Contract No. G0605.

HISTORICAL SHORELINES

- 1912
- Nov 1949
- Oct 1960
- Mar 1975
- Aug 1987
- Mar 1988
- May 1997
- Erosion rate measurement locations (shore normal transects)

Historical beach positions, color coded by year, are determined using ortho-rectified and georeferenced aerial photographs and National Ocean Survey (NOS) topographic survey charts. The low water mark is used as the historical shoreline, or shoreline change reference feature (SCRF).

For situations in which there is coastal armoring or rocky shoreline seaward of any vegetation, the vegetation line is drawn along the seaward side of the rock or armoring. If there is no sandy beach in these areas, both the vegetation line and the SCRF are delineated along the mean high water line.

Movement of the SCRF is used to calculate erosion rates along shore-normal transects spaced every 20 m (66 ft) along the shoreline. The 1987 SCRF is not used in the calculation of the AEHR, however it provides a gauge of seasonal uncertainty.

EROSION RATES

- Annual Erosion Hazard Rates (AEHR)

Erosion rates are measured every 20 m along the shoreline. These sites are denoted by yellow shore normal transects. The Annual Erosion Hazard Rate (red), is a spatially smoothed center weighted average of calculated erosion rates. Five contiguous transects are incorporated in the smoothing process. The transects are weighted: 1-3-5-3-1 with the smoothed rate assigned to the center transect. The AEHRs are shown on the shore-parallel histogram graph. Colored bars on the graph correspond to shore-normal transects; approximately every fifth transect and bar are numbered. Where necessary, some transects have been purposely deleted during data processing; as a result, transect numbering is not consecutive everywhere. Where complete beach loss has occurred, erosion rate calculations apply only to the time period when a beach existed.

AEHRs for the Wahikuli area were calculated using all data available between 1912 and 1997. Despite some scatter, shorelines between 1912 and 1997 show a reasonably consistent trend and are used to calculate AEHRs for this area.

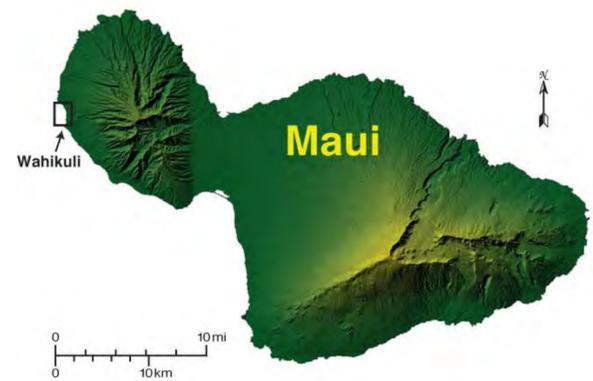
The Wahikuli study area is located between Hanakaao Beach Park to the north and Mala Wharf in the south. The northern portion of the area (transects 0 - 68) is dominated by hardened shoreline with sand beaches interspersed. The southern area (transects 69 - 133) is characterized by narrow cobble beaches and hardened shoreline. Wahikuli beach (transects 24 - 36) is the only significant sandy pocket beach in the study area. Much of this area has been altered by vertical armoring, small groins and jetties or revetment construction.

As a whole, the area has experienced moderate erosion over time with an average AEHR of -0.7 ft/yr. The northern portion (transect 0 - 68) of the area includes Wahikuli State Wayside Park and Wahikuli beach. This section of shoreline has experienced moderate erosion with an average AEHR of -1.0 ft/yr. The shoreline at Wahikuli State Wayside Park appears to have been significantly altered. The 1912 shoreline in much of Wahikuli State Park suggests major alterations took place sometime between 1912 and 1949, presumably to expand the park seaward. The southern portion (transects 69 - 133) has experienced light to moderate erosion over time with an average AEHR of -0.5 ft/yr.

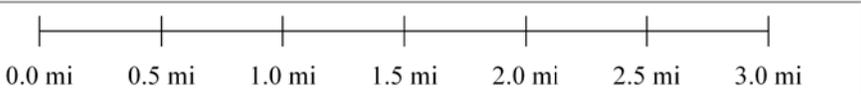
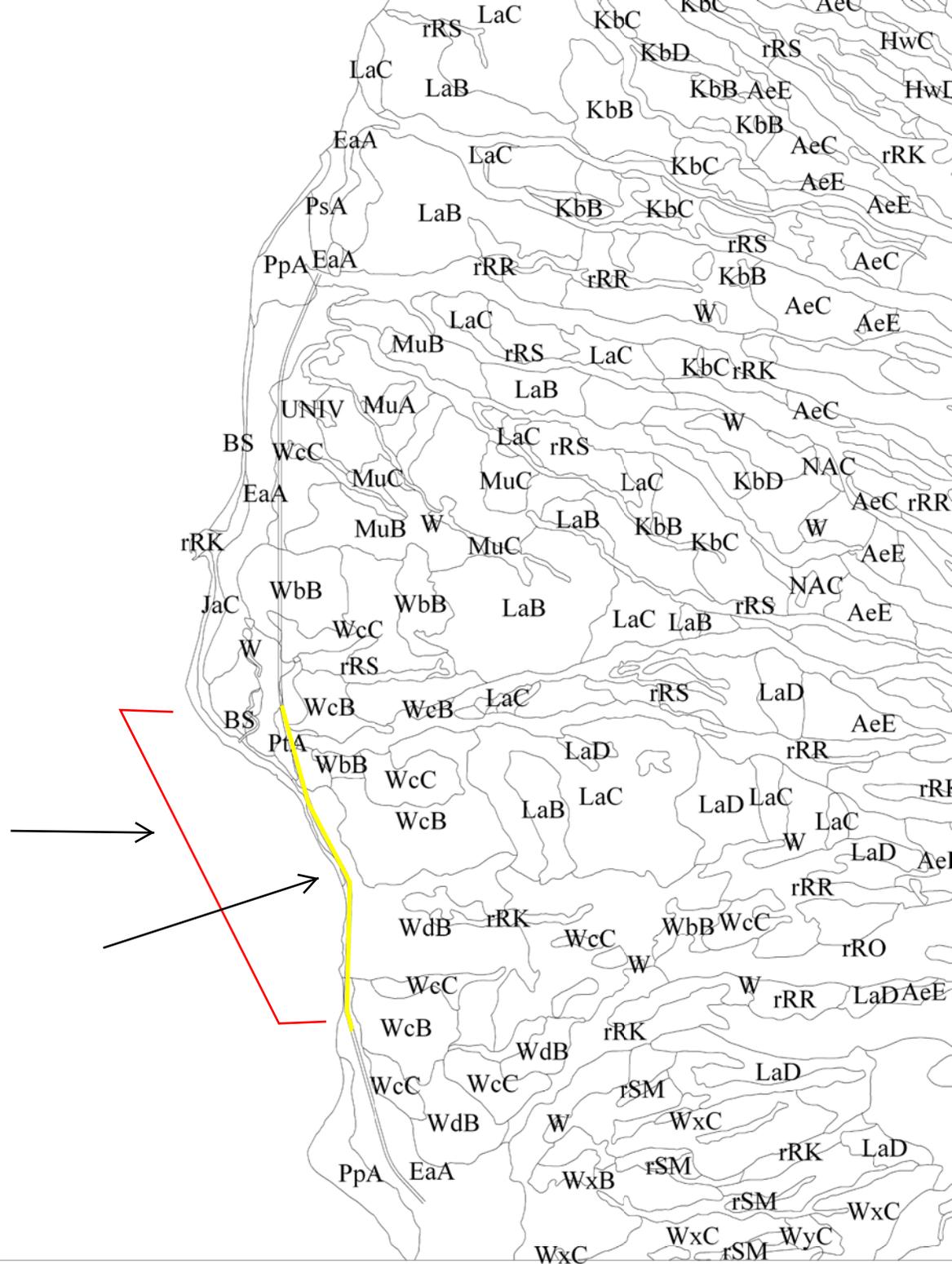
Trends identified here generally agree with those found in Sea Engineering, 1991*. For Wahikuli beach, Sea Engineering identified a trend of light accretion while this study has identified a trend of erosion. The difference may be attributed to this study's use of an extended temporal data set (1912 - 1997), higher resolution sampling interval (20m) and Sea Engineering's use of the vegetation line as the SCRF.

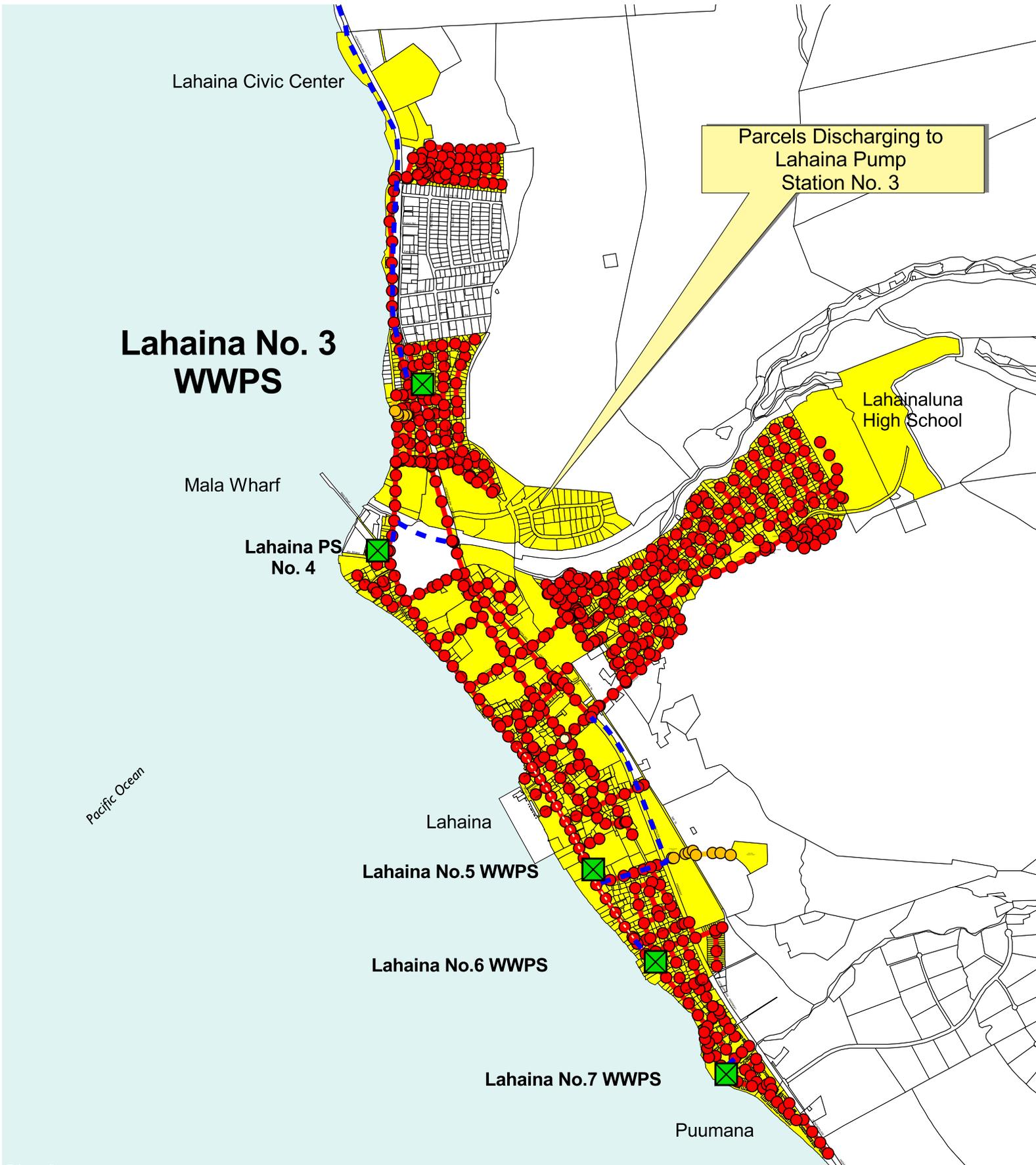
Average beach width, the average horizontal distance from the vegetation line to the low water mark, within the Wahikuli area has decreased 22% between 1949 and 1997. Average beach width in the northern portion of the area has decreased 42% between 1949 and 1997 while average beach width in the southern portion of the area has decreased 23% for the same period.

* Makai Ocean Engineering and Sea Engineering, 1991. Aerial Photograph Analysis of Coastal Erosion on the Islands of Kauai, Molokai, Lanai, Maui and Hawaii. State of Hawaii Office of Planning Coastal Zone Management Program.



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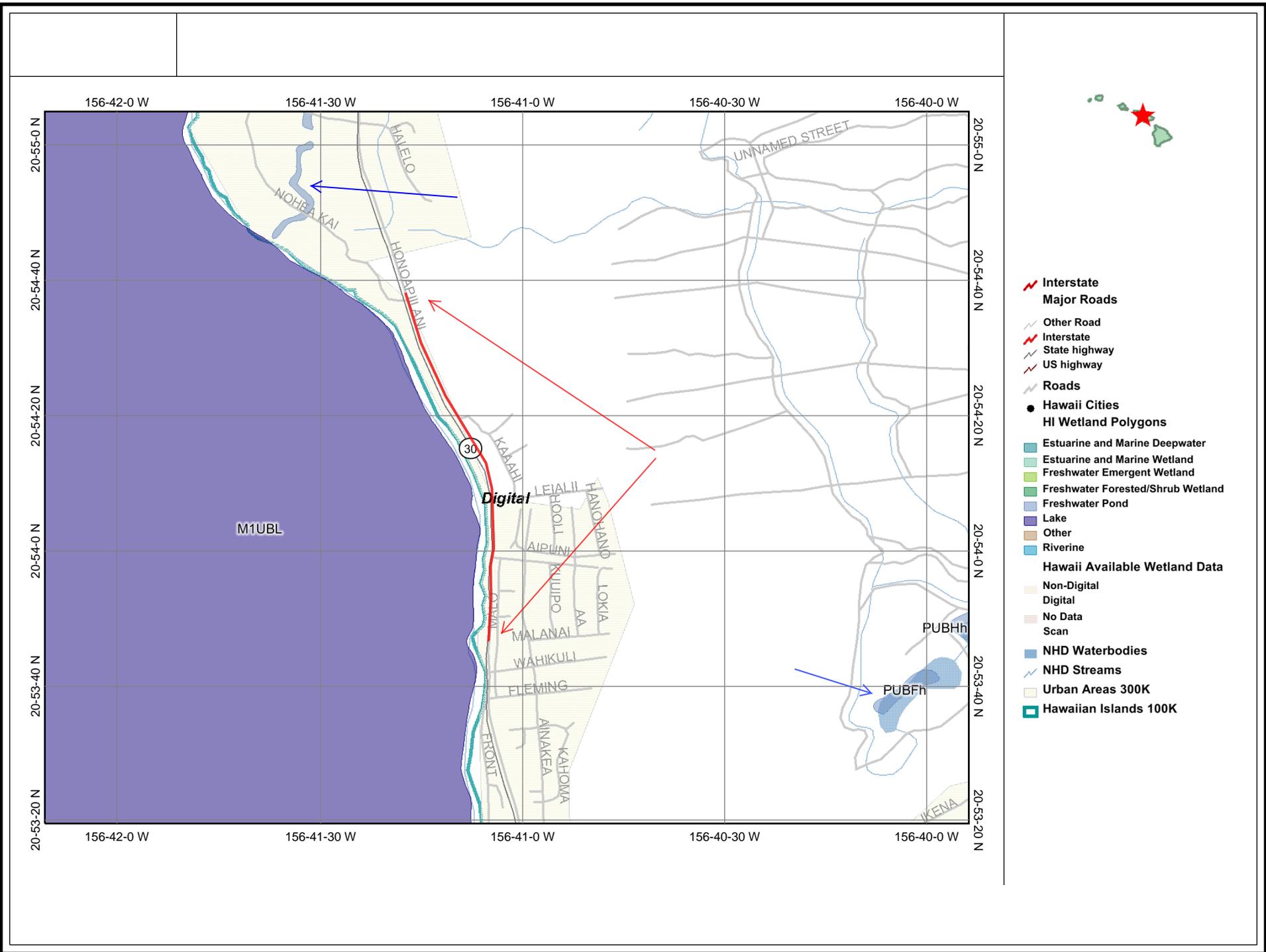




- Private County
- Pump Station
 - Manhole
 - Sewer
 - Force main
 - WWRF
 - Recycled Water
 - Air Relief Valve

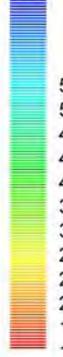
Lahaina Pump Station No. 3 Drainage Area





- Interstate
- Major Roads
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Hawaii Cities
- HI Wetland Polygons**
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Hawaii Available Wetland Data**
- Non-Digital
- Digital
- No Data
- Scan
- NHD Waterbodies
- NHD Streams
- Urban Areas 300K
- Hawaiian Islands 100K

DEM



5620
5220
4820
4420
4020
3620
3220
2820
2420
2020
1620
1220
820
420
20

