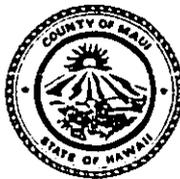


ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING RECEIVED

October 15, 2003

'03 OCT 21 P3:22

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

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

Dear Ms. Salmonson:

RE: Final Environmental Assessment (FEA) for the Parking Lot and
Related Improvements at TMK: 4-6-07:01, por. of 02, and 36,
Lahaina, Maui, Hawaii

At its regular meeting on October 14, 2003, the Maui Planning Commission accepted the final environmental assessment for the subject project, and determined a Finding of No Significant Impact (FONSI). Please publish the FONSI for this project in the November 8, 2003 Office of Environmental Quality Control (OEQC) Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the final EA. The project summary was sent with the draft EA. If you have any questions, please call Ms. Colleen Suyama, Staff Planner, of our office at 270-7735.

Sincerely,

Handwritten signature of Michael W. Foley in black ink.

MICHAEL W. FOLEY
Planning Director

MWF:CMS:lar
Enclosures

c: Wayne Boteilho, Deputy Planning Director
Clayton Yoshida, AICP, Planning Program Administrator
Colleen Suyama, Staff Planner
Mich Hirano, Munekiyo & Hiraga, Inc.
Project File
General File
(K:\WP_DOCS\PLANNING\EA\2003\0002_MokuulaParkingLot\OEQCPublishFinalEA.wpd)

NOV 8 2003

FILE COPY

2003-11-08-MA-FEA-Shaw Street Parking
Lot

Final
Environmental Assessment

**PROPOSED PARKING LOT AND
RELATED IMPROVEMENTS AT
TMK 4-6-07:01, POR. 02 AND 36**

Prepared for:

October 2003

Friends of Moku`ula, Inc. and
The Accepting Authority
Maui Planning Commission


MUNEKIYO & HIRAGA, INC.

Final
Environmental Assessment

**PROPOSED PARKING LOT AND
RELATED IMPROVEMENTS AT
TMK 4-6-07:01, POR. 02 AND 36**

Prepared for:

October 2003

**Friends of Moku`ula, Inc. and
The Accepting Authority
Maui Planning Commission**


MUNEKIYO & HIRAGA, INC.

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kca/mokuulau/final/ea

Preface

The applicant, Friends of Moku'ula, Inc., proposes to construct an 84-stall parking lot and ancillary facilities and a 1,800 square foot traditional Native Hawaiian building on Shaw Street in Lahaina, Maui. The subject property is identified by TMK 4-6-07:01, por. 02 and 36. Since the proposed improvements involve State and County lands, as well as an action within the limits of the Lahaina National Historic Landmark District, an Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawaii Revised Statutes and Chapter 200 of Title 11, Hawaii Administrative Rules, Environmental Impact Rules. It should also be noted that since the subject property is located within the limits of the Special Management Area (SMA) for the island of Maui, an application for a SMA Use Permit has been filed for consideration by the Maui Planning Commission. In addition, since the subject property is located within the Lahaina Historic District No. 1, an application for a Historic District Approval has been prepared for review by the Maui County Cultural Resources Commission.

Chapter 1

Project Overview

I. PROJECT OVERVIEW

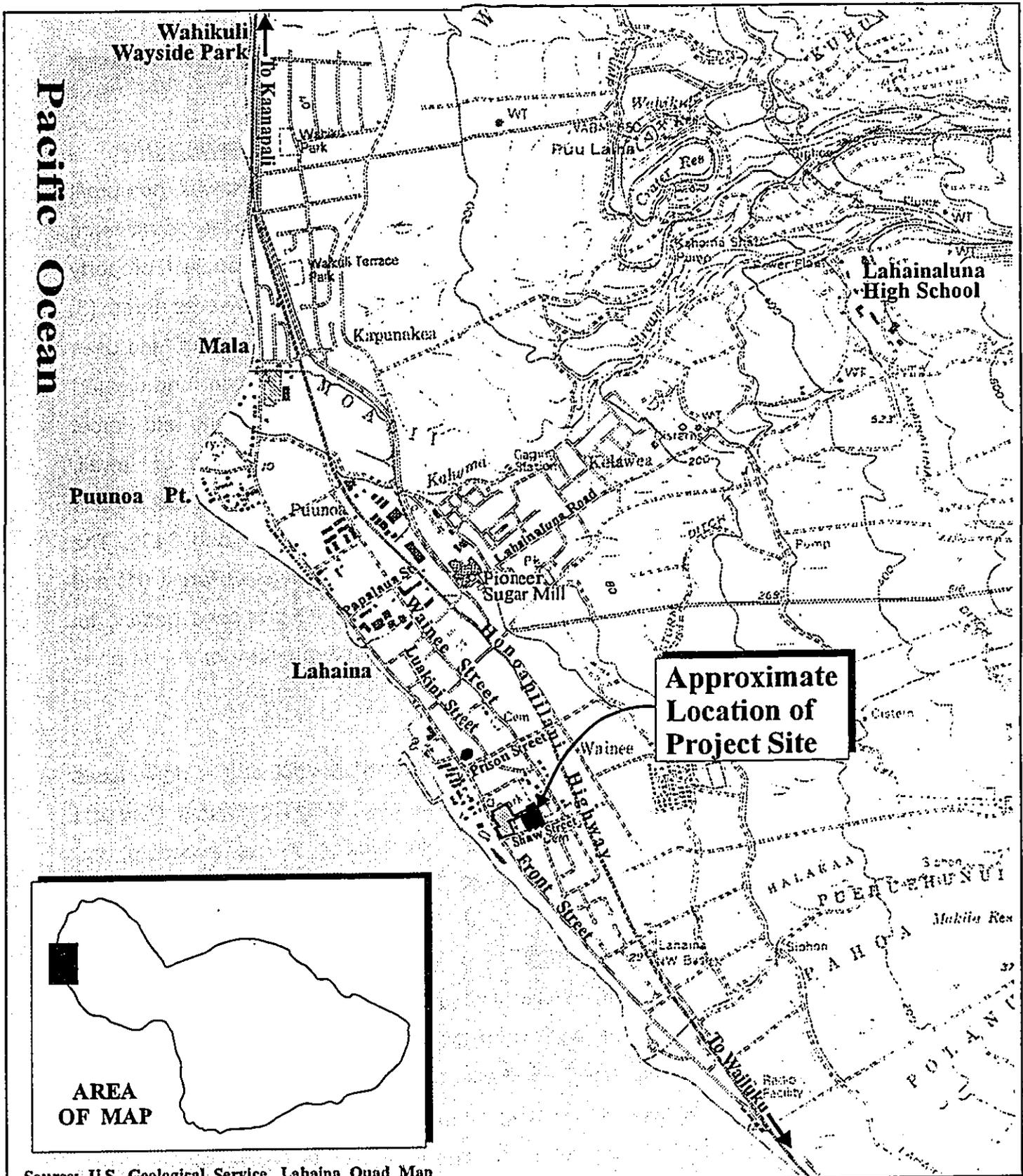
A. PROJECT LOCATION, EXISTING USE AND LAND OWNERSHIP

The applicant, Friends of Moku'ula, Inc. (FOM), a Hawaii non-profit corporation, proposes to construct a parking lot and ancillary facilities on Shaw Street in Lahaina, Maui. See Figure 1. The subject property covers a total area of approximately 4.7 acres and involves three (3) parcels identified by TMK 4-6-07:01, por. 02 and 36. Existing land uses on the subject property are as follows: Parcel 01 is vacant and cleared land; portion of Parcel 02 is located on Malu-ulu-o-Lele Park; and Parcel 36 is a public parking lot. All parcels are owned by the State of Hawaii. The County of Maui has control and management over the subject parcels by way of Governor's Executive Order Nos. 52, 2889 and 3430. The parcels have been granted to the FOM through a lease (Parcel 01) and License to Occupy (Parcels por. 02 and 36). The proposed parking lot and related improvements affect the north eastern extent of the property only. See Figure 2.

The subject property is in the State "Urban" District and is designated "Park" and "Historic District No. 1" by the West Maui Community Plan and Maui County zoning, respectively. In addition to the foregoing, the property falls within the limits of the County's Special Management Area.

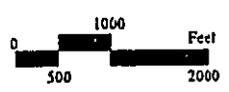
B. PROPOSED DEVELOPMENT

The proposed project involves construction of a 84-stall parking lot and ancillary facilities, as well as a 1,800 square foot traditional Native Hawaiian building (Hale Halawai) and an accessory building (Hale Pohaku) housing a cooking house and washroom facilities of approximately 900 square feet. The proposed improvements will also include an observation deck, site landscaping and sidewalk improvements along Shaw Street. See Figure 3, Figure 4 and Figure 5.



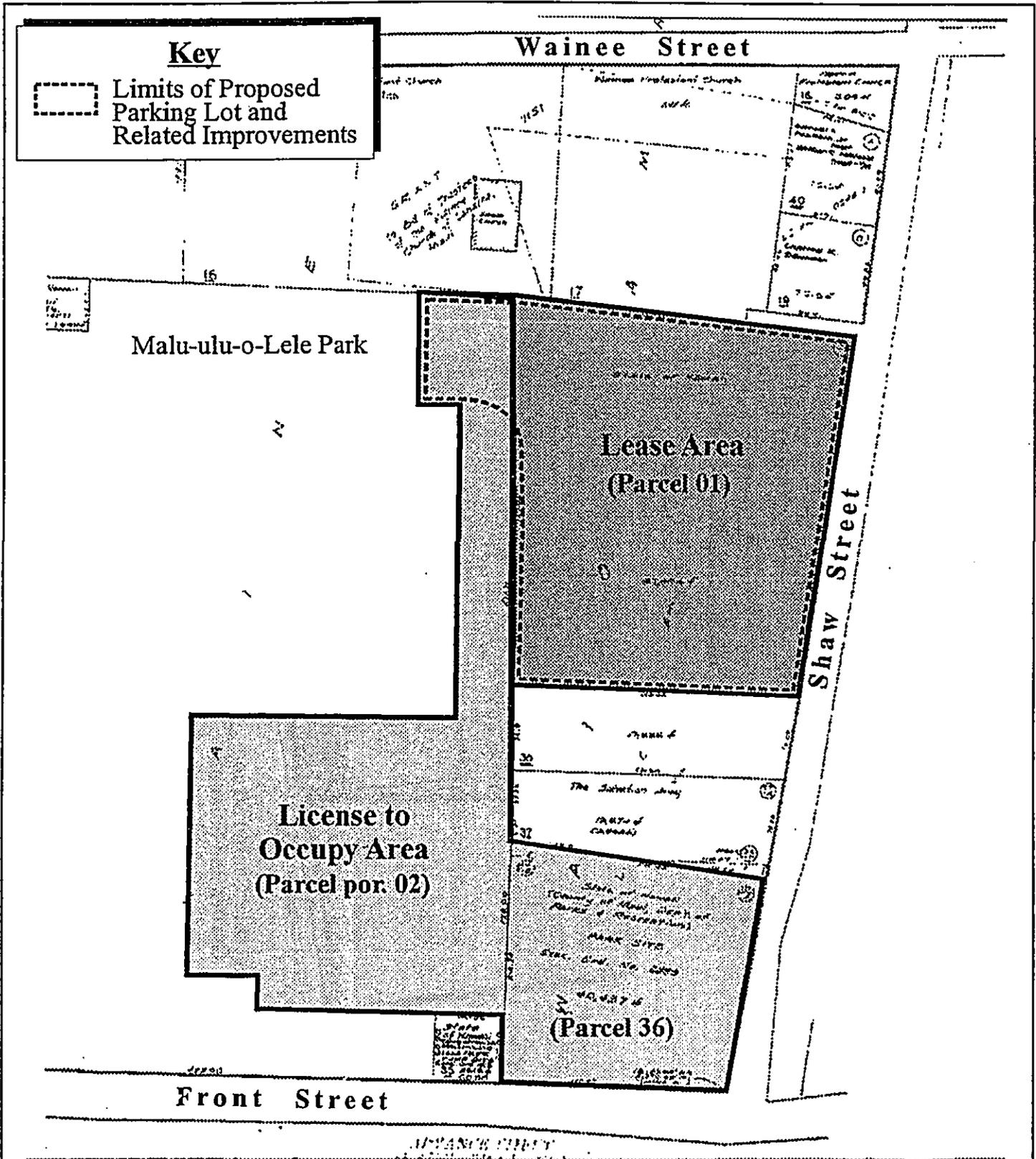
Source: U.S. Geological Service, Lahaina Quad Map

Figure 1 Proposed Parking Lot and Related Improvements at TMK 4-6-07:01, por. 02 and 36
Regional Location Map



MUNEKIYO & HIRAGA, INC.

Prepared for: Friends of Moku'ula, Inc. and Accepting Authority,
 County of Maui, Department of Planning



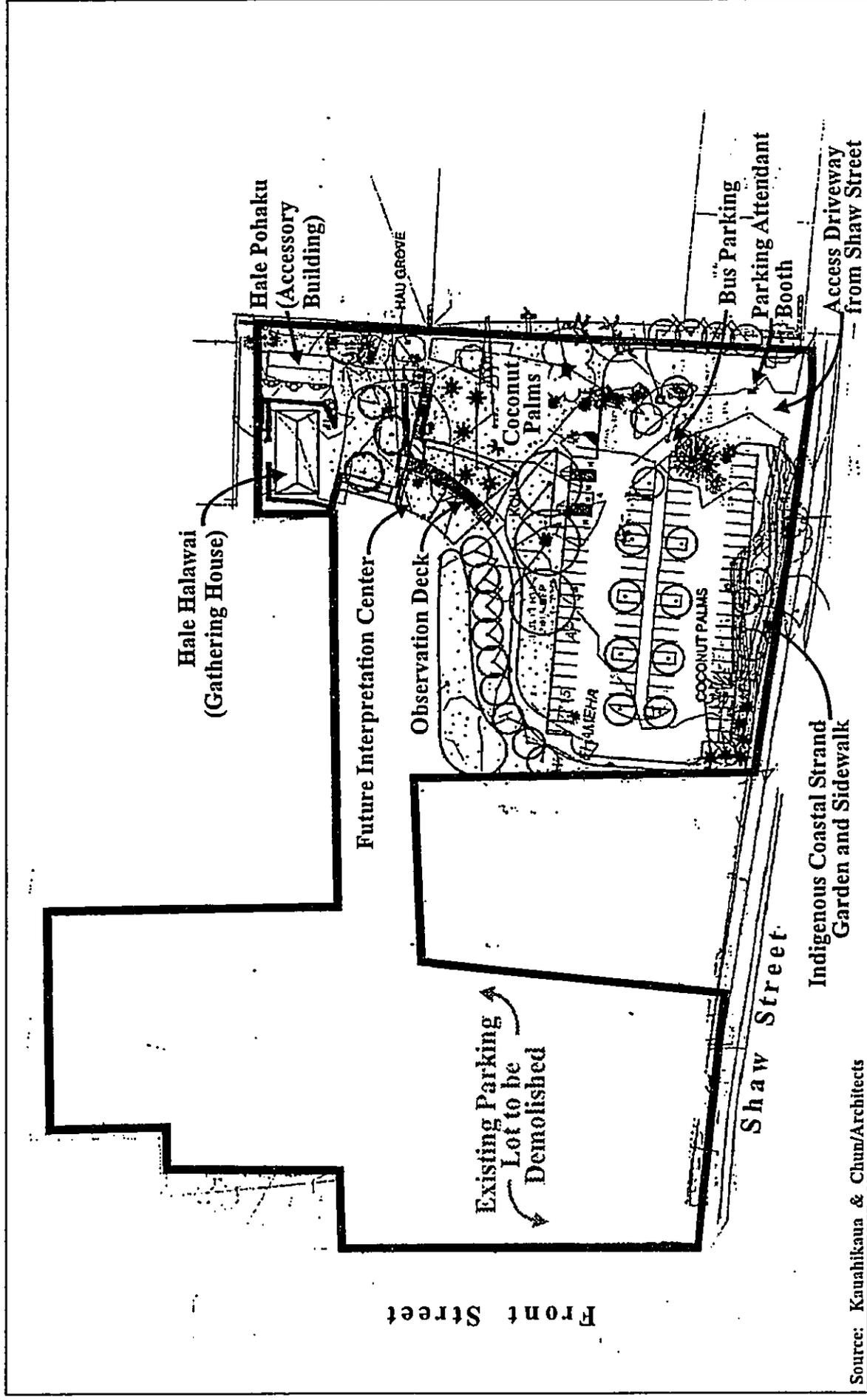
Source: County of Maui

Figure 2 Proposed Parking Lot and Related Improvements at TMK 4-6-07:01, NOT TO SCALE
 por. 02 and 36
 Lease and License Areas



Prepared for: Friends of Moku'ula, Inc. and Accepting Authority,
 County of Maui, Department of Planning

MUNEKIYO & HIRAGA, INC.



Source: Kauhikaua & Chun/Architects

Figure 3 Proposed Parking Lot and Related Improvements NOT TO SCALE

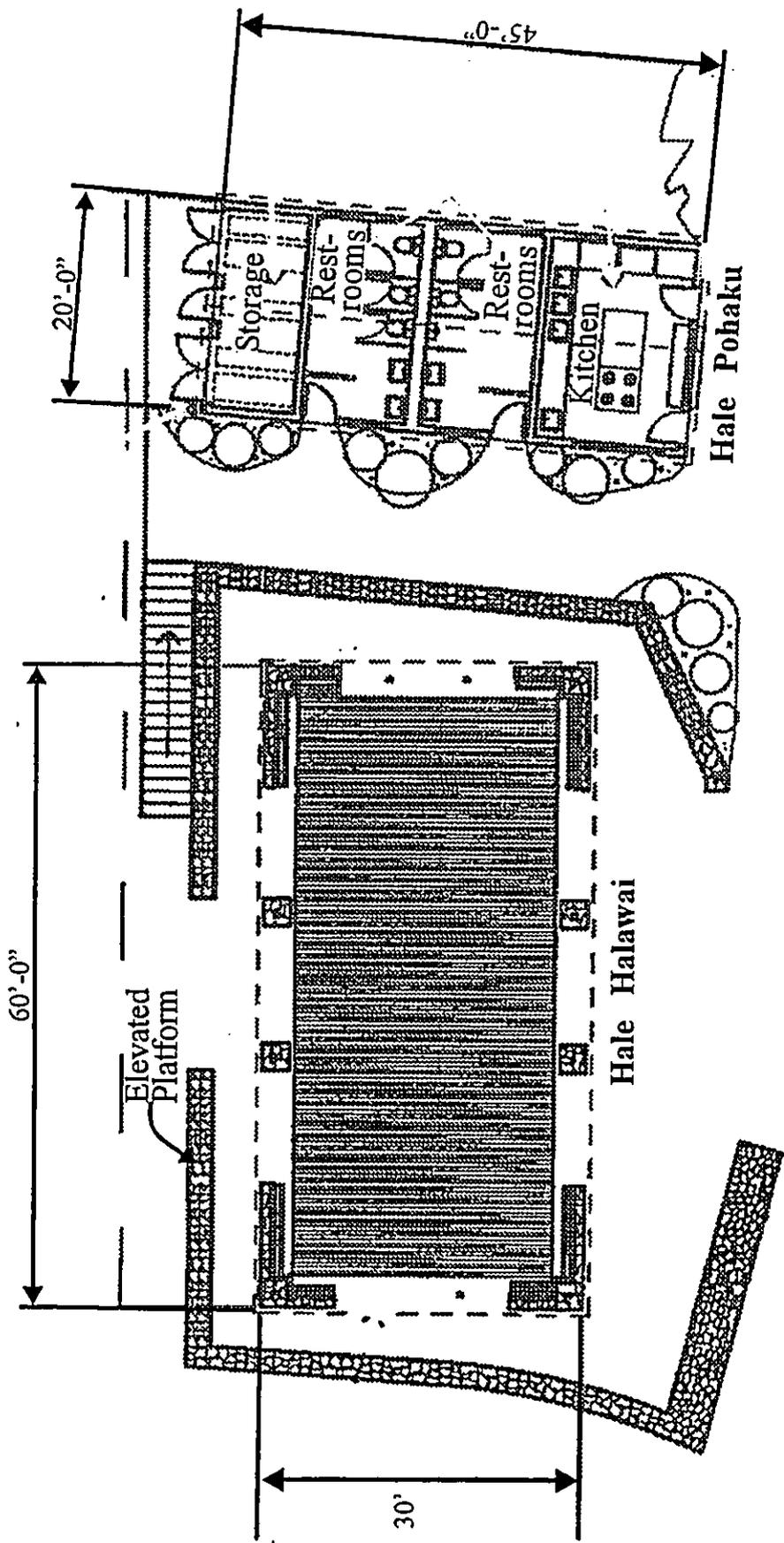
at TMK 4-6-07:01, por. 02 and 36

Site Plan



Prepared for: Friends of Moku'ula, Inc. and Accepting Authority,
County of Maui, Department of Planning





Source: Kaunahikaua & Chum/Architects

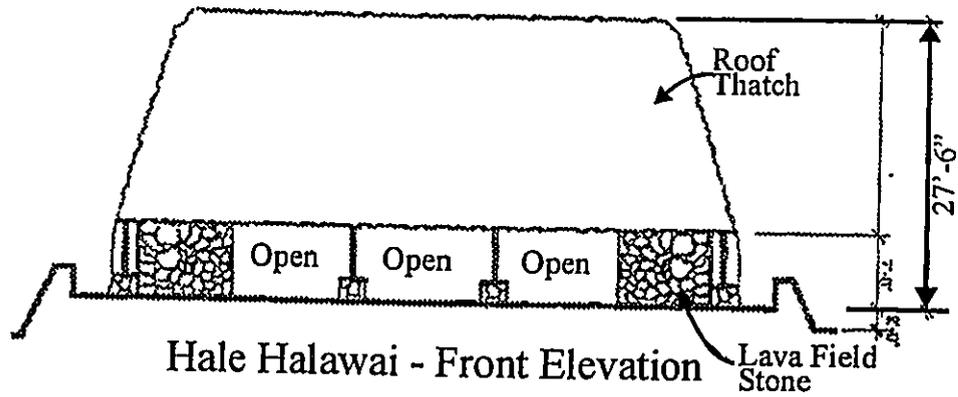
Figure 4 Proposed Parking Lot and Related Improvements NOT TO SCALE
 at TMK 4-6-07:01, por. 02 and 36
 Building Floor Plans



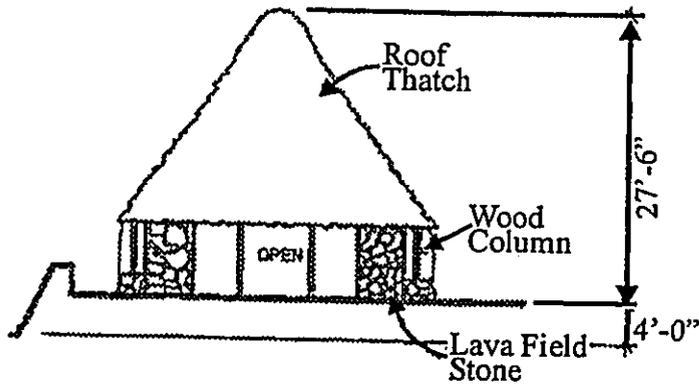
Prepared for: Friends of Moku'ula, Inc. and Accepting Authority,
 County of Maui, Department of Planning



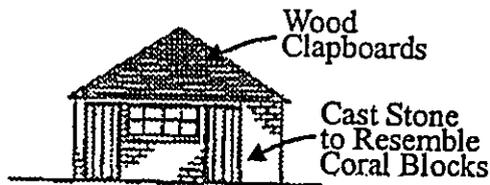
MUNEKIYO HIRAGA, INC.



Hale Halawai - Front Elevation



Hale Halawai - Side Elevation



Hale Pohaku - Front Elevation



Hale Pohaku - Side Elevation

Source: Kauhikaua & Chun/Architects

Figure 5 Proposed Parking Lot and Related Improvements at TMK 4-6-07:01, por. 02 and 36 Building Elevations NOT TO SCALE



Prepared for: Friends of Moku'ula, Inc. and Accepting Authority,
County of Maui, Department of Planning

MUNEKIYO & HIRAGA, INC.

To foster and maintain the historic architectural character and ambience of Lahaina Town, the proposed project will be designed in accordance with the design guidelines for Historic District Nos. 1 and 2 (which are both within Lahaina), as set forth by The Architectural Style Book for Lahaina that was adopted by the County of Maui, Historic Commission in October 1969. In addition, the proposed Native Hawaiian building will be designed in accordance with Maui County Code Chapter 16.26.3600 relating to indigenous architecture and to meet the County Building Code.

The proposed project will replace an existing 74-stall public parking facility on the corner of Front and Shaw Streets which has been built over the historic Moku'ula site, the royal residence of King Kamehameha III. Upon completion of the new parking lot, the existing parking lot will be demolished and recovered for archaeological information. However, due to insufficient project details at this time regarding the scope of archaeological methodology and availability of project funding, the demolition and archaeological recovery of the existing parking lot will be implemented as a separate phase of work.

The estimated cost of the project is approximately \$1,250,000.00. The project will be developed in a single phase, with construction expected to commence upon the receipt of all applicable regulatory permits and approvals. The estimated construction time frame for the project is approximately 12 months.

C. PROPOSED OPERATIONS

The FOM proposes to operate and manage the 84-stall (including two (2) bus stalls) parking facility in compliance with Maui County Code Chapter 10.76.055. FOM will charge for parking. The parking lot will be available for parking between the hours of 4:00 a.m. and 2:00 a.m. The facility will

be monitored and checked no less than four (4) times per day to ensure security, safety, and proper operation. The facility will be cleaned at the beginning of each day. The proceeds from the parking fee will be used to support cultural-educational programs the FOM will be carrying out at the site. The traditional Native Hawaiian building (Hale Halawai) will be used in traditional ways to perform cultural practices, as well as to conduct classes and programs. The FOM presently runs programs on native cultural practices and rock wall making. The FOM may rent Hale Halawai for special occasions.

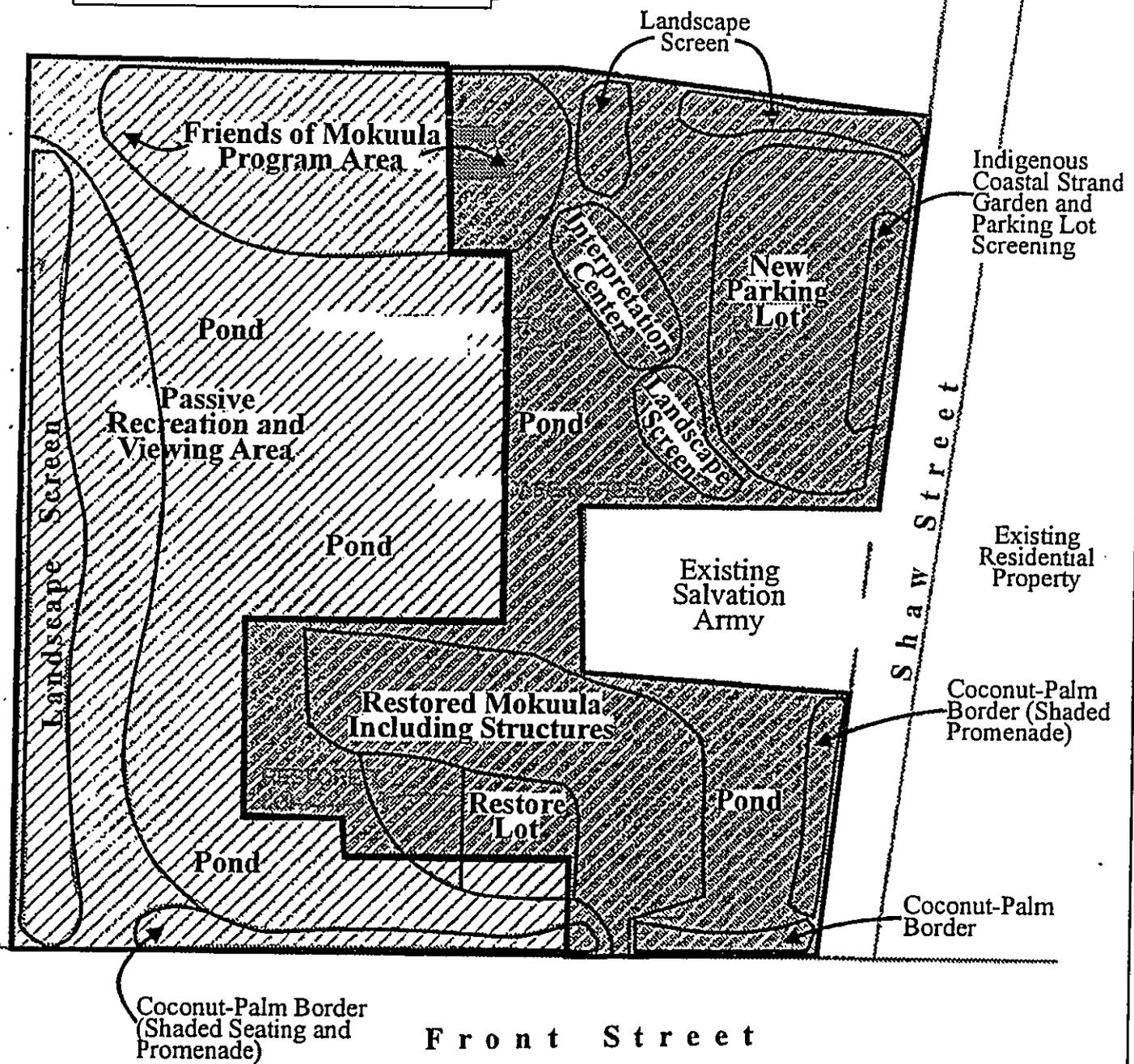
The observation deck will be open to the public for the purpose of viewing the archaeological recovery programs. The deck will be elevated to provide a visual vantage point.

D. PROPOSED PROJECT IN RELATION TO THE RESTORATION OF MOKU'ULA

The total royal compound of King Kamehameha III includes Moku'ula island, a fishpond, and Loko o Mokuhinia. The proposed project site represents approximately one-third of the total royal compound area. Therefore, the proposed project has been designed in the context of the future reclamation of the historical site. A conceptual plan of the restored Moku'ula site has been prepared for this purpose. See Figure 6.

The future reclamation of the royal compound, however, will be based upon further archaeological investigation and more detailed site specific information and feasibility assessment. As mentioned previously, the archaeological recovery of cultural resources associated with Moku'ula island, which is under the existing parking lot, will be undertaken as a separate phase of work when the methodology, scope of work and funding are more clearly established. The feasibility and project details

KEY	
Lease and License Area	
Remaining Maui County Lands (Malu-ulu-o-Lele Park)	



74

Source: Kaahikaua & Chun/Architects

Figure 6 Proposed Parking Lot and Related Improvements at TMK 4-6-07:01, por. 02 and 36 NOT TO SCALE
Moku'ula Conceptual Development Plan



Prepared for: Accepting Authority, County of Maui, Department of Planning and Friends of Moku'ula, Inc.



involved with the reclamation of the fishpond and Loko o Mokuhinia will be carried out by the U.S. Army Corps of Engineers during the fiscal year 2003. When the overall scope of work defining the reclamation of the royal compound and recreation of the fishpond and Loko o Mokuhinia is established, further environmental assessment will need to be carried out to assess the potential impacts of the project.

Pursuant to Chapter 343, Hawaii Revised Statutes (HRS), this Environmental Assessment (EA) has been prepared for the proposed parking lot and related improvements since the subject property is owned by the State of Hawaii, involves the use of County of Maui funds and is located within the boundaries of the Lahaina National Historic Landmark District, an area listed on the National Register of Historic Places.

In addition, since the project site is located within the limits of the County's Special Management Area (SMA), as well as Historic District No. 1, applications for a SMA Use Permit and Historic District Approval have been prepared for review by the Maui Planning Commission and Maui County Cultural Resources Commission, respectively.

Chapter II

***Description of
Existing Environment***

II. DESCRIPTION OF EXISTING ENVIRONMENT

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Use

The project site is located at the southern fringe of Lahaina Town's business/commercial district on the mauka (east) side of Front Street.

The Salvation Army property on the north side of Shaw Street is located between the existing parking lot and the proposed parking lot. There are two (2) residential buildings on the Salvation Army property which are used for administrative purposes. Land uses to the south of the project site across Shaw Street include single-family residences, and to the west across Front Street include the commercial complex at 505 Front Street and the adjacent Lahaina Shores resort. To the north and west of the project site, land uses include Malu-ulu-o-Lele Park, an ocean park, single-family residences, the Episcopal Church of Hawaii and Kamehameha III Elementary School. Land uses to the east and north of the project site include Wainee Church, Lahaina Hongwanji Mission, single-family residences and the West Maui Cultural Center.

2. Recent Land Use History

According to historical documentation of the project area, the island of Moku'ula was located in a freshwater, spring-fed fishpond that formed naturally behind a long-beach berm. The fishpond and surrounding waters were known as Loko o Mokuhinia and covered an area of approximately 11 to 17 acres which included the present boundaries of Malu-ulu-o-Lele Park (portion of Parcel 02) and the location of the proposed parking lot (Parcel 01). Moku'ula was a favored place for the ali'i of Maui and reached its prominence in the

Hawaiian kingdom as the royal residence of King Kamehameha III from approximately 1828 when the young king returned to Maui to 1845 when the royal court officially moved back to Oahu. In the late nineteenth century, upland water diversion channels were developed to irrigate the vast fields of sugarcane which began to spread on the slopes above Lahaina Town. These diversion channels disrupted the flow of water into Loko o Mokuhinia and eventually it became stagnant and over time, neglected. The pond turned into swamp land and was considered to be a health hazard. In around 1914, the swamp was filled. By Executive Order No. 52 in 1918, the filled swamp land (parcel por. 02) was assumed by the Republic of Hawaii for park purposes. Executive Order Nos. 2889 and 3430 transferred the management and control to the County of Maui and also expanded the area to include parcels 36 and 01, respectively.

3. **Climate**

Like most areas of Hawaii, Lahaina's climate is relatively uniform year-round. Lahaina's tropical latitude, its position relative to storm tracts and the Pacific anticyclone, and the surrounding ocean combine to produce this stable climate. Variations in climate among different regions, then, is largely left to local terrain.

In Lahaina, August is historically the warmest month with an average high temperature of approximately 88 degrees Fahrenheit and average low temperature of 70 degrees Fahrenheit. January is normally the coolest month of the year with an average high temperature of 80 degrees Fahrenheit and an average low temperature of approximately 62 degrees Fahrenheit.

Rainfall at Lahaina is highly seasonal, with most precipitation occurring from November to April when winter storms hit the area. Precipitation data for 1997 shows that on average, January was the wettest month, with 10.01 inches of rainfall, while May, August, September and October were the driest with no rainfall at all. Total precipitation for the year was 16.68 inches, and average monthly rainfall was 1.39 inches (Maui County Data Book, 2000).

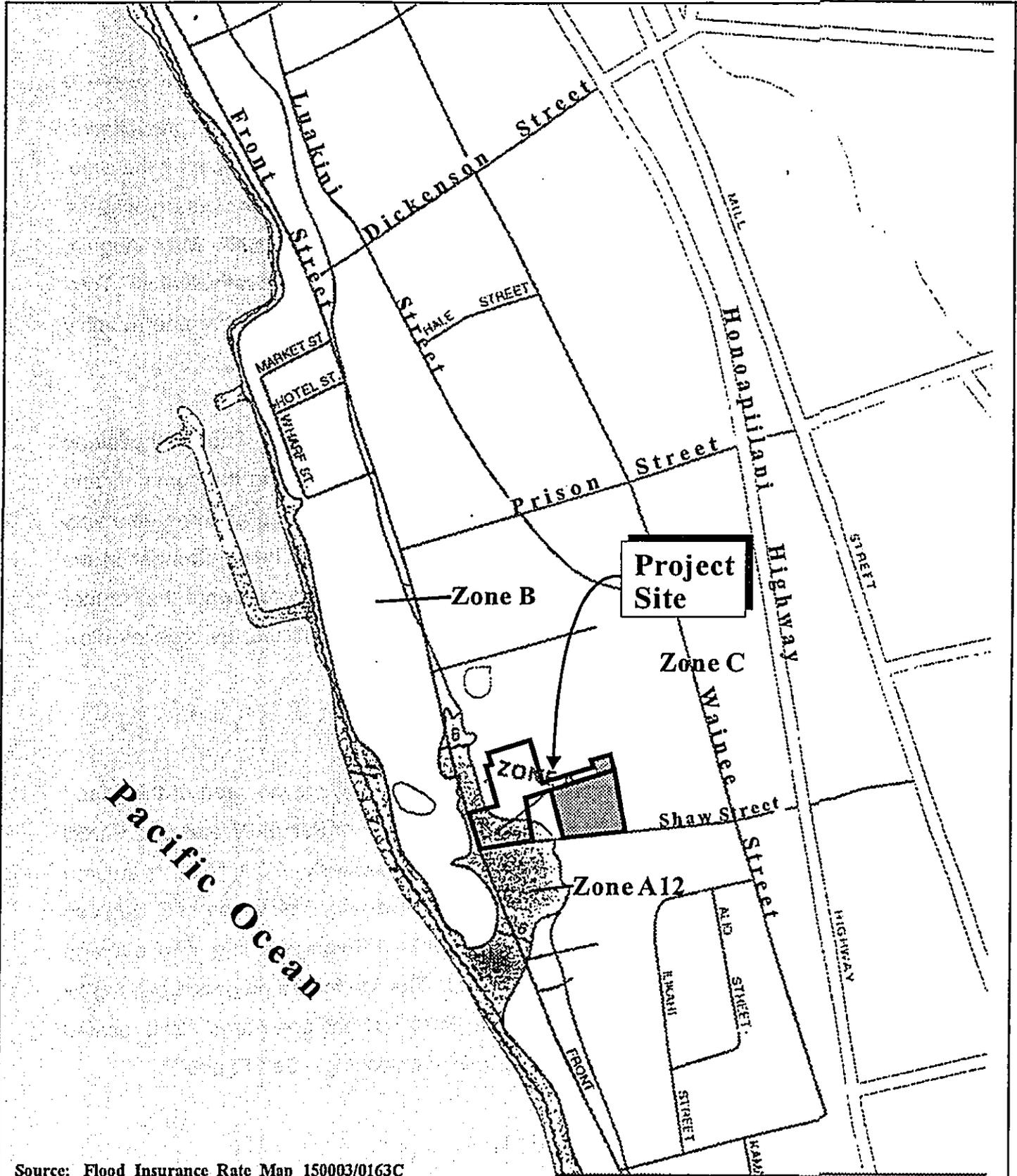
The winds in the region are also seasonal. The northeasterly tradewind occurs 90 percent of the time during the summer, and just 50 percent of the time in the winter. Wind patterns also vary on a daily basis, with tradewinds generally being stronger in the afternoon. During the day, winds blow onshore toward the warmer land mass. In the evening, the reverse occurs, as breezes blow toward the relatively warm ocean.

4. **Flood and Tsunami Zone**

The Flood Insurance Rate map (FIRM) for this area of the island designates the southwestern portion of Parcel 36 and por. Parcel 02 within Zones "A12" and "B", respectively. Zone "A12" is an area within the 100-year flood with a base flood elevation of 6 feet, and Zone "B" is an area subject to 100-year flooding with average depths less than one (1) foot. The site for the proposed parking lot and related improvements (Parcel 01 and por. Parcel 02) is located in Zone "C", an area of minimal flooding. See Figure 7.

5. **Topography and Soils**

The average elevation of the project site is approximately 5 feet above mean sea level (amsl). The project site appears nearly level with the exception of a southeast portion of the site which rises to



Source: Flood Insurance Rate Map 150003/0163C

Figure 7 Proposed Parking Lot and Related Improvements at TMK 4-6-07:01, por. 02 and 36
Flood Insurance Rate Map



Prepared for: Friends of Moku'ula, Inc. and Accepting Authority,
County of Maui, Department of Planning

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an elevation of approximately 8.4 feet amsl and a 2-foot berm along Shaw Street on Parcel 01.

Soils at the project site belong to the Pulehu-Ewa-Jaucas association. See Figure 8. Ewa silty clay loam (EaA) is the soil type specific to the site. See Figure 9. Ewa silty clay loam is characterized by slopes of 0 to 3 percent, very slow runoff, moderate permeability, and no more than slight erosion hazard.

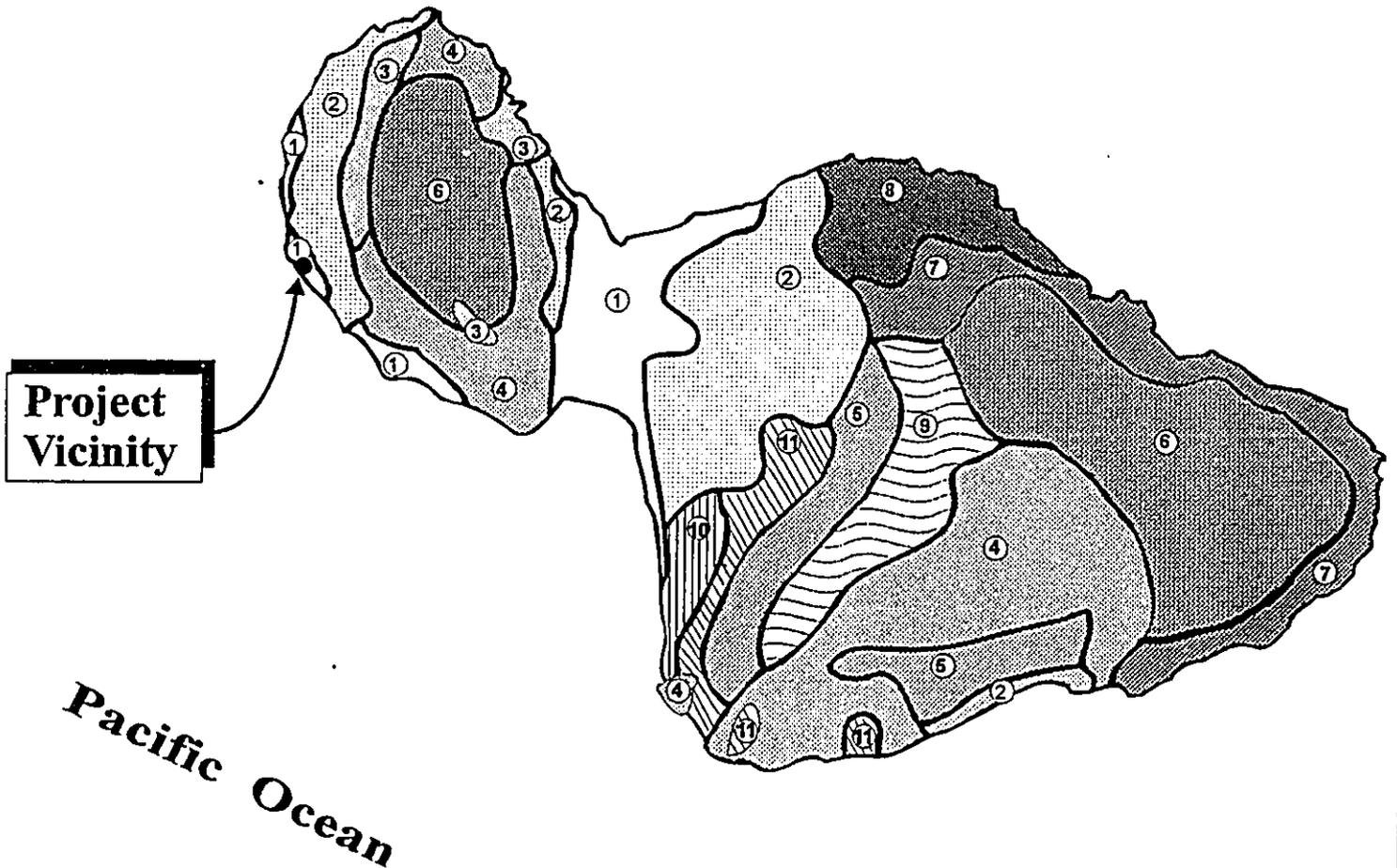
6. **Flora and Fauna**

A botanical resources assessment was carried out on the subject site by Char & Associates in May 2002. See Appendix "A". Parcel 01 has been cleared in places and a narrow band of Kiawe trees is found along the perimeter. There are also several monkeypod trees, a very large Chinese fan palm and a large Chinese banyan tree on this parcel. The portion of the project site located on the park is primarily covered with Bermuda grass. Parcel 36 is paved with asphalt and supports a few trees along its perimeter which includes Kiawe, sea grape, milo and hau trees. There are no threatened or endangered species of flora found on the subject property.

Animal life which may be found in this area is typical of the urbanized regions of West Maui. Domestic mammals found in the area include dogs and cats. Avifauna commonly found in this area include the common mynah, Japanese white-eye, spotted dove, barred dove and house finch. There are no known rare, endangered or threatened species of fauna or avifauna found in the vicinity of the project site. There are no streams or currently functional wetlands located within or in close proximity to the

LEGEND

- | | |
|---|--|
| <p>① Pulchu-Ewa-Jaucas association</p> <p>② Waiakoa-Keahua-Molokai association</p> <p>③ Honolua-Olelo association</p> <p>④ Rock land-Rough mountainous land association</p> <p>⑤ Puu Pa-Kula-Pane association</p> <p>⑥ Hydrandepts-Tropaquods association</p> | <p>⑦ Hana-Makaalae-Kailua association</p> <p>⑧ Pauwela-Haiku association</p> <p>⑨ Launaia-Kuipoipoi-Olinda association</p> <p>⑩ Keawakapu-Makena association</p> <p>⑪ Kamaole-Oanapuka association</p> |
|---|--|



Map Source: USDA Soil Conservation Service

**Figure 8 Proposed Parking Lot and Related
Improvements at TMK 4-6-07:01,
por. 02 and 36
Soil Association Map**

NOT TO SCALE



Prepared for: Friends of Moku'ula, Inc. and Accepting Authority,
County of Maui, Department of Planning

MUNEKIYO & HIRAGA, INC.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

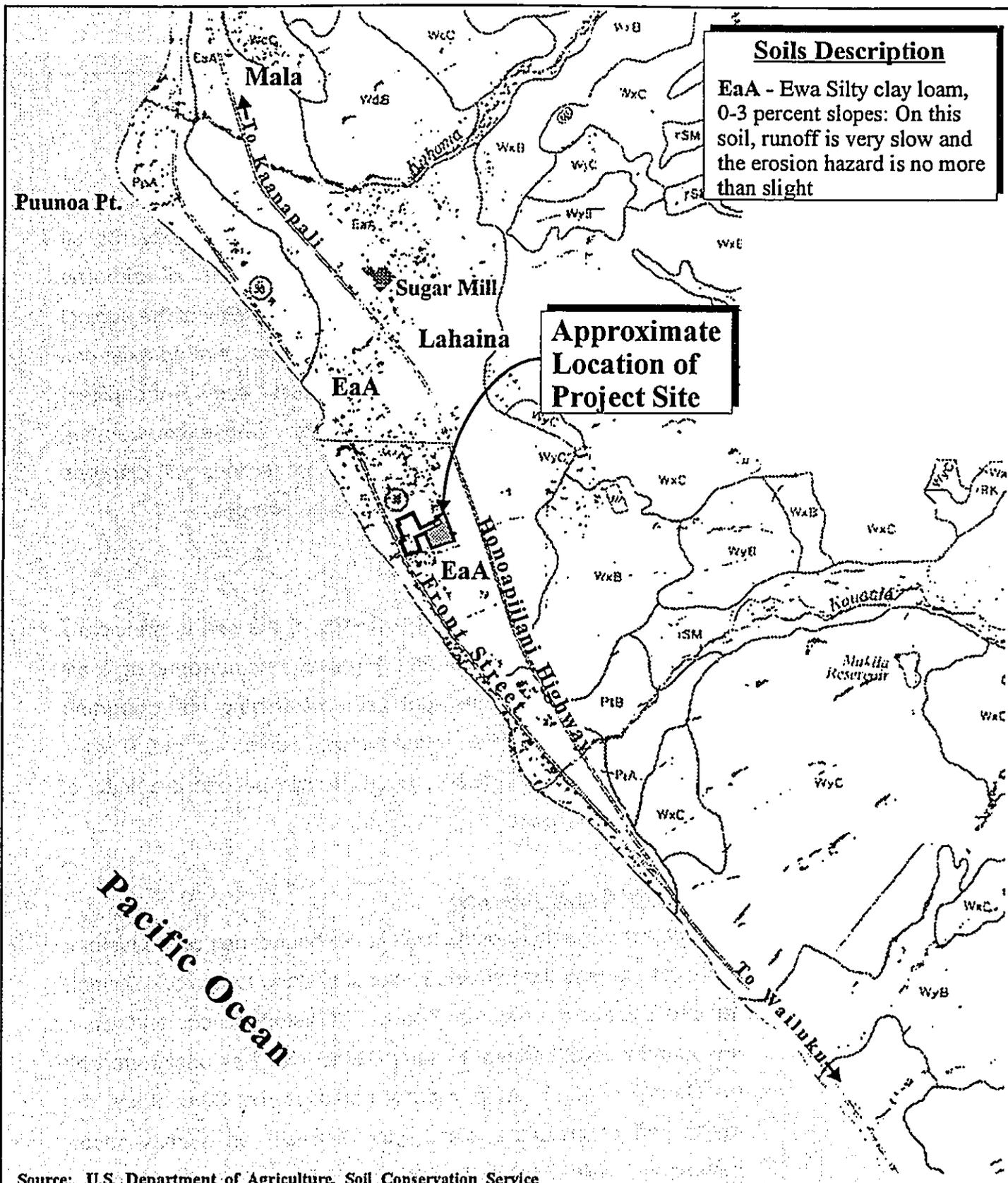


Figure 9 Proposed Parking Lot and Related Improvements at TMK 4-6-07:01, por. 02 and 36
 Soil Classification Map

Prepared for: Friends of Moku'ula, Inc. and Accepting Authority,
 County of Maui, Department of Planning

MUNEKIYO & HIRAGA, INC.

subject property.

7. **Air Quality**

The Lahaina region in general does not experience adverse air quality conditions. There are no point sources of airborne emissions in the immediate vicinity and the air quality at the subject property is considered good. Airborne pollutants that do exist can largely be attributed to vehicular exhaust from Honoapiilani Highway and other surrounding roadways. These sources are intermittent, however, and the prevailing tradewinds will disperse particulates generated by these temporary sources.

8. **Noise**

Existing background noise in the vicinity of the site is principally attributed to traffic on Honoapiilani Highway and surrounding local roadways. In addition, the flight paths of arriving and departing aircraft at the Kapalua-West Maui Airport, located about 6.0 miles to the north of the project site, place the site beyond the limits of aircraft noise exposure.

9. **Archaeological Resources**

The subject property is located within the boundaries of the historic Moku'ula site and the Lahaina National Historic Landmark District, an area listed on the National Register of Historic places and within the boundaries of Lahaina Historic District No. 1 as designated by the County of Maui. As previously noted, Parcel 36 contains the major part of Moku'ula island lying beneath an asphalt-paved parking lot, while Parcels 01 and por. 02 formerly were within the boundaries of the fishpond and Loko o Mokuhinia, the freshwater pond surrounding Moku'ula island. During the early 1990's, the

Bishop Museum conducted archaeological excavations at TMK: 4-6-07:36 and por. 02 (the existing parking lot and a portion of the Malu-ulu-o-Lele Park, respectively). The main portions of the boundaries of Moku'ula island and fishpond were established during this work. In 1998, Xamanek Researches conducted an archaeological inventory survey for an unrelated project on TMK 4-6-07:01 (proposed parking lot). No historic sites were identified during this survey.

10. Scenic and Open Space Resources

The subject property is not located within a scenic view corridor. Scenic resources in the vicinity of the property include the West Maui Mountains, which are to the east of the project site, as well as the Pacific Ocean and the offshore island of Lanai, which are to the west of the site. Open space resources in the region are also characterized by the West Maui Mountains, as well as the vast expanse of present and former agricultural lands that lie between the mountains and existing urbanized areas near the coastline.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Regional Setting

The majority of lands in West Maui are either State designated "Conservation" or "Agricultural". Generally, "Conservation" lands occupy the higher elevations, while the "Agricultural" district spans the foothills of the West Maui Mountains.

"Urban" designated lands occupy the lower elevations along the coast and include the communities of Kahana-Napili-Kapalua and Kaanapali. These resort communities include several hotels and visitor-oriented condominiums. Lahaina, meanwhile, is more typical

of a residential community. Single-family, business, light industrial, and agricultural zones prevail in this part of West Maui.

The town of Lahaina is the commercial center for West Maui. The town contains a number of shopping centers and retail business areas, and serves as a core for the region's residential housing.

Part of West Maui's attraction can be attributed to its year-round dry and warm climate, complemented by many white-sand beaches and scenic landscape. Most of the visitor accommodations are located in Lahaina and the resort communities of Kaanapali, Honokowai, Kahana, Napili and Kapalua.

The Kapalua-West Maui Airport at Mahinahina conveniently links West Maui to Oahu and other neighbor islands.

Diversified agriculture and pineapple fields occupy much of the land in the area. Pioneer Mill Company, Ltd. cultivates their agricultural lands in the Kaanapali area with seed corn. Maui Land & Pineapple Company's fields spread along the slopes of the West Maui Mountains north of Kaanapali.

2. Population

The resident population of the West Maui Community Plan region has demonstrated a substantial increase over the last three (3) decades. In 2000, the population of the island of Maui was 120,038, with 17,748 persons (15 percent) of the island's population residing in West Maui (U.S. Census Bureau, Census 2000). Since 1970, West Maui has seen a growth in population, with the population increasing from about 5,500 persons in 1970,

to approximately 10,300 persons in 1980, and to about 14,600 persons in 1990. These increases represent an 87 percent gain from 1970 to 1980, a 42 percent increase from 1980 to 1990, and a 22 percent gain from 1990 to 2000. The resident population of the West Maui region is projected to increase to 21,413 in the year 2010 (SMS, June 2002).

West Maui's annual average population growth over the last three (3) decades has kept pace with that of Maui County. Between 1970 and 1980, Maui County grew at an average rate of 4.4 percent a year, while from 1980 to 1990, and from 1990 to 2000 it grew at an average rate of 3.5 percent and 2.8 percent a year, respectively. Compared to Maui County, West Maui had a higher average annual growth rate of 6.4 percent during the 1970's, but shared a 3.5 percent average growth rate between 1980 and 1990, and a slightly lower growth rate of 2.3 percent in the 1990's. The resident population of Maui County is projected to increase to 151,269 by the year 2010 (SMS, June 2002).

3. **Economy**

The economy of Maui is heavily dependent upon the visitor industry. The dependency on the visitor industry is especially evident in West Maui, which is one of the State's major resort destination areas. Major hotels in this region include the Hyatt Regency Maui (806 rooms), the Westin Maui (759 rooms), the Royal Lahaina Resort (592 rooms), the Ritz-Carlton Kapalua (548 rooms), the Sheraton Maui Resort (510 rooms), the Kaanapali Beach Hotel (430 rooms) and the Kapalua Bay Hotel (196 rooms).

West Maui's visitor orientation is reflected in the character of Lahaina Town, which serves as a center for visitor-related retail outlets and activities.

Agriculture, another vital component of the West Maui economy, is handled by Pioneer Mill Company and Maui Land & Pineapple Company, Inc. Until the termination of sugar cane cultivation in September 1999, Pioneer Mill cultivated most of its approximately 6,700 acres of fee simple and leased lands with sugar cane. Pioneer Mill is diversifying its agricultural operations by utilizing portions of its lands for seed corn. Maui Land & Pineapple's pineapple operations remain an important component of the region's agricultural base.

As of February 2003, the unemployment rate for both the State of Hawaii and the island of Maui stood at 3.0 percent (State Department of Labor and Industrial Relations, January 2003).

C. PUBLIC SERVICES

1. Solid Waste Disposal

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 is disposed at the County's 55-acre Central Maui Landfill, located 4.0 miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

A refuse transfer station located about 6.0 miles south of the project site at Olowalu serves West Maui residents and

accommodates household refuse and green waste, as well as used oil; no commercial waste is accepted at this facility. A private waste disposal service has been contracted by the County to transport waste from this facility to the Central Maui Landfill.

2. **Medical Facilities**

The only major medical facility on the island is Maui Memorial Medical Center, located approximately 20.0 miles from Lahaina, midway between Wailuku and Kahului. The 196-bed facility provides general, acute, and emergency care services.

In addition, regular hours are offered by the Maui Medical Group, Lahaina Physicians, West Maui Healthcare Center, and Kaiser Permanente's Lahaina Clinic.

3. **Police and Fire Protection**

The project site is within the Maui Police Department's Lahaina patrol service area, which services all of the Lahaina district. The Department's Lahaina Station is located in the Lahaina Civic Center complex at Wahikuli, approximately one (1) mile east of the project site. The Lahaina Patrol includes 54 full-time personnel, including one (1) captain, one (1) lieutenant, seven (7) sergeants, and 39 police officers. The remaining six (6) personnel consist of public safety aides and administrative support staff.

Fire prevention, suppression and protection services for the Lahaina District are provided by the Maui Fire Department's Lahaina Fire Station, also located in the Lahaina Civic Center and the Napili Fire Station, located in Napili. The Lahaina Fire Station includes an engine and a ladder company, and is staffed by 30 full-

time personnel. The Napili Fire Station consists of an engine company including 15 full-time firefighting personnel.

4. **Educational Facilities**

The West Maui area is served by four (4) public schools operated by the State Department of Education: Lahainaluna High School, Lahaina Intermediate School, King Kamehameha III Elementary School, and Princess Nahienaena Elementary School. The region is also served by privately operated pre-elementary and elementary schools.

5. **Recreational Facilities**

West Maui is served by numerous recreational facilities offering diverse opportunities for the region's residents. There are nearly 20 County parks in West Maui. Approximately one-third of the County parks are situated along the shoreline and provide for excellent swimming, diving, and snorkeling, as well as fishing, surfing, picnicking, sun bathing, and other shoreline-related activities.

In addition, Kaanapali and Kapalua Resorts operate world-class golf courses which are available for public use.

Recreational facilities in the vicinity of the project site include Puamana Park, the Lahaina Aquatic Center, the Lahaina Recreation Center, Malu-ulu-o-Lele Park, and Kamehameha Iki Park.

D. INFRASTRUCTURE

1. Roadway System

Honoapiilani Highway (State Highway 30) is the main roadway serving the West Maui region. This highway is the only link between West Maui and the rest of the island (although an unimproved segment of highway, including Kahekili Highway, extends around the north coast of the island to Waihee, providing limited access). The highway has a typical two-lane configuration except for a segment from Lahaina to Honokowai where four (4) travel lanes are provided.

Access to the project site is provided off of Shaw Street via Honoapiilani Highway and via Front Street, a two-lane County roadway aligned along a north-south axis. In the vicinity of the site, Front Street has a posted speed limit of 20 miles per hour (mph) and a pavement width of approximately 26 feet. Along this segment of Front Street, a sidewalk, with a minimum width of 4 feet, lies on both sides of the right-of-way and street parking is provided on the makai side. It should be noted that in 1997, the County completed improvements to Front Street (between Baker to Shaw Streets) to facilitate traffic and pedestrian movement within this corridor, as well as to upgrade and relocate (as necessary) the water, sewer, drainage, and utilities infrastructure within this segment.

Other roadways in close proximity to the site include Prison Street to the south and Canal Street to the north. Prison Street is a two-lane roadway with a speed limit of 20 mph and a pavement width of about 20 feet. Canal Street, a one-lane roadway with parallel parking stalls on both sides of the street, forms the final leg of a

one-way traffic loop that provides access to the area around the Lahaina small boat harbor (Hotel and Wharf Streets comprise the first two legs of the loop).

2. Water Systems

The West Maui region is served by the domestic water system operated by the County's Department of Water Supply (DWS). The County water system services the coastal areas from Launiupoko to Kaanapali and from Honokowai to Napili. Two (2) surface sources and nine (9) wells are used to supply the County domestic system. In addition to the County system, the West Maui region is served by private water systems, including the Kaanapali Water Corporation, which services the Kaanapali Resort, and the Kapalua Water Company, which provides water service to the Kapalua Resort. The proposed parking lot is serviced by an existing one-inch water meter which is connected to a County DWS 8-inch waterline within the Shaw Street right-of-way.

3. Wastewater Systems

The County's wastewater collection and transmission system and the Lahaina Wastewater Reclamation Facility (LWRF) accommodate the region's wastewater needs. The LWRF, located along Honoapiilani Highway just north of the Kaanapali Resort, has been upgraded and expanded to a design capacity of 9.0 million gallons per day (MGD). The cumulative wastewater flow currently allocated to the facility is approximately 6.138 MGD. A series of force mains and gravity lines convey wastewater from Lahaina Town to the LWRF. An existing 8-inch diameter gravity sewerline lies within the Shaw Street right-of-way. This sewerline runs in an

easterly direction and terminates at a sewer manhole at the Lahaina Aquatic Center.

4. **Drainage**

Surface runoff generated onsite sheetflows across the project site in a easterly to westerly direction onto Front Street. An existing 24-inch diameter drainline is situated within the Front Street right-of-way. Based on a 50-year, 1-hour storm recurrence interval, the surface runoff is calculated at 7.7 cubic feet per second (cfs). Contributions due to offsite runoff is calculated at 1.79 cfs. See Appendix "B".

5. **Electrical, Telephone and CATV Systems**

Electrical and telephone service to the West Maui region is provided by Maui Electric Company and Verizon Hawaii, respectively. Cable television (CATV) service is provided by Hawaiian Cablevision. In the vicinity of the project site, existing overhead powerlines and utility poles are located along the east side of Front Street and the south side of Shaw Street.

Chapter III

Potential Impacts and Mitigation Measures

III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Geographic Features

No significant impacts to topography and soils are anticipated. The entire Mokuula property currently consists of an existing asphalt-paved parking lot (which will undergo archaeological recovery under separate phase of work), a portion of an existing park, as well as a vacant, cleared parcel which will require fill for the 84-stall parking lot. Site work for the proposed parking lot and Native Hawaiian building on the northern extent of the property is not expected to have an adverse effect on the existing physical environment.

In addition, the subject property is not located within a tsunami zone or an erosion-prone area, nor is it situated on geologically hazardous lands or located by an estuary, fresh waters, or coastal waters. A review of the National Wetlands Inventory Maps for Maui and an inspection of the subject property did not reveal any wetlands or other environmentally sensitive areas on the property. The Flood Insurance Rate Maps for the island reflect that the project site where the parking lot and related improvements will be located falls within Zone C (an area of minimal flooding) and also lies beyond the limits of coastal flooding. In addition, the soils underlying the subject property are characterized by very slow runoff and an erosion hazard that is no more than slight.

2. Surrounding Uses

The subject property is located within the business/commercial district of Lahaina Town to the north, and west and single- and multi-family residences and public/quasi-public designated lands to the east and south. In the vicinity of the project site and within

Lahaina Town are a myriad of visitor-oriented shops and restaurants, as well as shopping facilities such as the Banyan Inn Market Place and the Lahaina Market Place. The proposed parking lot and related improvements will be designed to enhance the indigenous architectural character and ambience of Lahaina Town. The two (2) buildings are designed to resemble a mixture of typical 1840's buildings. The Hale Halawai is a traditional Native Hawaiian building with a grass-thatched structure. The cooking house will be a stone block building with a low pitched roof. In this regard, the proposed use of the property for a parking lot and 1,800 square foot traditional Native Hawaiian building and accessory building is not anticipated to adversely impact existing surrounding land uses and is consistent with the mid-19th century Lahaina Town character. In addition, the proposed use of urban designated land for the proposed 84-stall parking lot is not expected to have an adverse impact on agriculture in the region, nor is it anticipated to affect lands that are available for agricultural use

3. **Flora and Fauna**

The subject property presently contains a few mature trees and various grasses and weeds. The existing mature trees, including coconut palms, Chinese Banyan and Monkey Pod trees, will remain and be incorporated into the landscape design. The proposed project is not expected to have an adverse effect on flora and fauna in the vicinity.

4. **Air Quality**

Air quality impacts attributed to the project will include dust generated by short-term, construction-related activities. Site work,

such as clearing, grubbing and grading, and utilities installation and construction, will generate airborne particulates. Dust control measures, such as regular watering and sprinkling, will be implemented to minimize nuisance impacts to the adjacent residents.

Once the project is completed, project-related vehicular traffic will generate automotive emissions. However, these emissions are not expected to adversely impact local and regional ambient air quality conditions.

5. **Noise**

As with air quality, ambient noise conditions will be temporarily impacted by construction activities. Heavy construction equipment, such as bulldozers, front-end loaders, and materials-carrying trucks and trailers, would be the dominant source of noise during the site construction period. Proper equipment and vehicle maintenance are anticipated to minimize noise levels. In addition, equipment mufflers or other sound attenuating devices may be utilized as required. All construction activities will be limited to normal, daylight working hours.

From a long-term perspective, the proposed project is not anticipated to generate adverse noise impacts.

6. **Scenic and Open Space Resources**

The proposed improvements will integrate a low-rise indigenous structure, landscaping and a 84-stall parking lot to provide facilities which satisfy historical and commercial requirements and are compatible with the surrounding environment.

The subject property is not part of a scenic corridor and will not affect views from inland vantage points. Accordingly, the proposed project will not encroach into view corridors.

The proposed building and parking area will be designed and landscaped to complement and enhance the surrounding area and will not adversely impact the visual character of the area.

7. **Archaeological Resources**

In recognition of the historical significance of the project site and the earlier archaeological work, the State Historic Preservation Division (SHPD) requires an archaeological inventory survey in the form of monitoring to be carried out by a qualified archaeologist during all ground altering activities on Parcels 01 and por. 02 for the construction of the parking lot, traditional Native Hawaiian building and related improvements. An acceptable monitoring plan will be submitted to SHPD for review and approval prior to any ground altering activities. With respect to Parcels 36 and por. 02, as an appropriate mitigation measure, an archaeological inventory survey, in the form of archaeological monitoring will be conducted concurrently with the demolition activities. See Appendix "C".

Should any archaeological or historic features be uncovered during construction activities, work will be immediately halted in the vicinity of the find and the find shall be protected from further damage. SHPD and the Maui/Lanai Islands Burial Council, as applicable, will be promptly contacted to ensure applicable procedures relating to Chapter 6E, HRS, are implemented.

8. **Cultural Impact Assessment**

a. **Settlement Context**

The proposed project is located in Waine'e, Ahupua'a, Lahaina District. The Lahaina District was considered to be a favorable place by Maui's high chiefs because of its natural resource qualities and its proximity to Lana'i and Moloka'i (Rosendahl, 1994). The majority of lands in Lahaina, up to approximately the 700-foot elevation, comprised a nearly continuous band of agricultural and related habitation features. Initial development of the field system likely occurred between AD 1200 to 1400. Seasonal dryland agricultural practices eventually evolved to year-round cultivation as water diversion and distribution developed. The historical significance of Lahaina is well documented. The restoration of Moku'ula is further evidence of the historic significance of Lahaina to the former Kingdom of Hawaii. Moku'ula was once an approximate 1 acre island set in a large freshwater fishpond. It was an archaic seat of Maui kings since the time of Pi'ilani from the sixteenth century to the time King Kamehameha III's royal court officially returned to Oahu in the early part of 1845. It was the home of Kahekili until his death in 1794 and became the home of Kamehameha I (Spenser Mason Architects/Austin Tsutsumi & Associates). The site also has significant ancient religious importance. According to legend, Moku'ula was built over a grotto of the highest protector mo'o goddess, Kihawahine, who swam in the surrounding Mokuhinia. The goddess, Kihawahine was frequently evoked by Kamehameha I during his conquest of the Hawaiian Islands (P. Christian Klieger, 1998).

Historical accounts document Lahaina as an important population center. Such accounts note the continued presence of agriculture through the early 1800's. Crops included taro, potatoes, yams and sugarcane.

With the decline of the whaling industry, which brought a new populace to Lahaina, the sugar industry began to evolve. The sugar industry was developed in the mid-1800's and over the next few years, further developed with the eventual consolidation of multiple smaller mills into what is known today as Pioneer Mill Company, Ltd. As with other sugar plantation communities, the late 1800's and early 1900's saw the rapid expansion and growth of the Pioneer Mill Company. In the early part of the 20th century, Pioneer Mill controlled approximately 12,500 acres of land (Xamanek Researches, 2000). A 1919 map by W.E. Wall further reveals that approximately 15,000 acres were under sugarcane cultivation by Pioneer Mill (Rosendahl, 1989.) Sugar cultivation areas extended from Ukumehame to Honokowai.

In addition to sugar, pineapple was established as a viable commercial crop in West Maui. Baldwin Packers opened a cannery in Lahaina in 1919 to provide the product processing component of the pineapple industry. Pineapple cultivation lands are generally delineated from Honokowai, north to Honokohau.

Today, Lahaina is designated a National Historic Landmark and the Moku'ula site is within the County designated

Historic District No. 1 and designated State Site 50-50-03-2967.

b. Informant Data

Interviews with knowledgeable informants were conducted during the preparation of the Draft Environmental Assessment to obtain a broader range of cultural perspectives in the proposed project area. Information provided by interviews held with Hokulani Holt-Padilla and Clifford Nae'ole follows.

(1) Hokulani Holt-Padilla

The interview was carried out in Hokulani Holt-Padilla's office at the Maui Arts and Cultural Center, Kahului on June 7, 2002.

Hokulani was born on Oahu and grew up on Maui at Waiehu. Her mother is Leiana Long Holt Woodside and her father is Harry H. Holt. Both parents were born on Maui. Hokulani attended Kamehameha School on Oahu and attended the University of Hawaii. She is the Cultural Programs Director at the Maui Arts and Cultural Center. She has taught hula on Maui since 1976. She learned hula from Hoakalei Kamaau in Honolulu and from her mother, grandmother and aunty.

Her familiarity and knowledge of the Moku'ula project site is through her research of female deities which includes the Mo'o (female reptile deity of Moku hinia). Many ponds have different Mo'o. Her family's Mo'o deity is part of the family aumakua (family guardians that take on various forms). Through her research Hokulani has gained an understanding of the Mo'o's living conditions, requirements and protocols. Due to this knowledge and understanding, Hokulani has been invited to participate in many cultural ceremonies at Moku'ula and in the vicinity of the project site. Ceremonies have been held to welcome visiting dignitaries and guests or when a ceremony is

required to regenerate personal or collective mana (spiritual power). These ceremonies are held at the stone ceremonial platform (heiau) situated at the entrance to Malu-ulu-o-Lele Park.

Although the proposed project site is not within the boundaries of Moku'ula or Mokuhinia, Hokulani believes it would have been used as an observation point to Moku'ula. In the realm of cultural significance, Hokulani indicated that we need to look at the overall area. Anything that abutted or was connected to the Mokuhinia (pond) would have been a place of personal access and where one may likely find cultural resources.

Hokulani suggests that the proposed project can be justified in the context of the larger interest. The transition of restoring the existing parking lot and relocating it to the project site may be justified and supported from a cultural perspective due to the significant historical value of restoring the cultural resources located in the vicinity of the existing parking area. Culturally speaking, the Ali'i (ruling class) provided for the benefit of all. In the past, personal sites or cultural areas would have been given up for the Ali'i's needs since it would benefit the greater society. Thus, the possible impacts to the individual or personal cultural resources that may be associated with the proposed project would be outweighed by the restoration of Moku'ula, the royal residence of Kamehameha III.

Hokulani noted that cultural sites are not created in a vacuum. Their location is determined by a spatial/spiritual relationship to other natural elements. Moku'ula's place is set in relation to the mountains, waters, ocean and stars. She stated, "It is no accident that Moku'ula is located where it is."

Apart from the laws of the State and administrative procedures defined by the State Historic Preservation Division determining the processing of cultural resources, Hokulani stated that it is imperative that the spiritual well being of the area be recognized.

Proper protocol must be followed and ceremonies carried out prior to any ground altering activities. She suggested the following ceremonies be carried out.

- Calling to and recognizing the deities and ancestors of the past and requesting their attendance.
- Ask for their support for the work that is to be carried out.
- Ask for their tolerance and their abeyance for actions that are not acceptable to them.
- Carry out ceremonies to ask for Ho'ola'aina (bring life to the land).

The ceremonies are to help the "unseen" feel comfortable with the changes to the land resulting from the proposed project. The ceremonies also keep "those of this time" focused on the purpose. As Hokulani states:

"We are changing things. We are changing it back. Although it may be looking like the land is being destroyed, it really is being done to bring the land back to it's intended use."

(2) **Clifford Nae'ole**

The interview was held at the office of Munekiyo and Hiraga, Inc. Wailuku, on June 12, 2002.

Clifford Nae'ole was born on Maui at Maui Memorial Hospital. Clifford grew up in Wailuku. He has lived on Maui for most of his life. His mother is Carmen Carbonell and his father is Joseph Kia Nae'ole. Both parents were born and raised on Maui. Clifford is the Cultural Advisor, Public Relations at the Ritz-Carlton at Kapalua.

In his youth the vicinity of the project site was known as a baseball park. He stated, when he was growing up "Hawaiians were not taught about Hawaiian culture and history". However, as his knowledge of

Hawaiian culture increased, he became more aware of the historical significance of the baseball park as the former residence of Kamehameha III. He now has a great appreciation for the area.

Clifford has participated in many cultural ceremonies at the ceremonial platform (heiau) located to the north of the existing parking lot (beyond the limits of the proposed action). Whenever individuals or groups need to refocus their energies they would come to Moku'ula to pray and chant and ask for guidance from their ancestors. He mentioned that Hawaiian people rely on their ancestors for guidance and one also honors their ancestors by going to sacred or culturally significant places such as Moku'ula. In particular, Clifford has participated in the Awa Ceremony. This is a ceremony where one drinks the Awa mixture and by accepting the drink, one makes a covenant with their ancestors to refocus their energies and protect all things Hawaiian.

The positive aspects of the proposed project were identified as follows.

- Relocating the parking lot to the project site would allow the existing parking lot to be culturally reclaimed. Clifford stated that moving the parking lot is a great compromise. It is one small step for the greater good.
- It will be a place where Hawaiians can honor Hawaiian culture.
- It re-affirms the island of Maui's position of power in the Hawaiian islands. Moku'ula was the place where the ali'i came to honor the source.
- In the context of the hospitality business, it would serve as a cultural resource to educate and inform visitors about Hawaiian culture.

The only negative aspect of the project that Clifford could see is the misunderstanding by "western thinking" that Hawaiians are taking a step backwards by attempting to reclaim the past.

In reference to the connection the proposed project has with agriculture, Clifford made an interesting observation. He noted that Moku'ula was drastically impacted as a result of the diversion of water for irrigation of the sugarcane fields. Now that sugarcane cultivation is declining, the interest in Moku'ula is re-emerging.

In consideration of possible cultural impact, Clifford responded as follows:

"It would be imperative that archaeological testing be adhered to with an archaeologist knowledgeable about Hawaiian artifacts and perceptive in seeing the unseen. It would be important to follow protocol and have the appropriate ceremonies before, during and after the project. There should be a groundbreaking ceremony. Ceremonies should be performed if any cultural artifacts are uncovered during the project. A ceremony should be held at the completion of the project."

c. Cultural Impact Analysis

Based on the settlement context and informant interviews the proposed project will restore and protect a significant cultural repository and resource. In the process of recovery, impacts to cultural resources will be mitigated by archaeological monitoring and an archaeological inventory survey to be carried out concurrently during ground altering activities. From the information provided by the cultural informants, the impacts to cultural resources will also be mitigated by carrying out ceremonies and following protocols in a culturally appropriate manner. It is anticipated that the

proposed project will not adversely impact current cultural practices performed at the recently constructed ceremonial platform and current cultural use of the site. The heiau will still be available for ceremonies and current cultural use of the site will be enhanced by the proposed improvements.

9. **Use of Chemicals and Fertilizers**

Use of herbicides will generally be limited to the initial plant establishment period on the property. Pesticides are anticipated to be used only as a treatment and not as a preventive measure. As a treatment, application usage will be minimal. In addition, plant selection for the project will be based on indigenous species, hardiness, drought tolerance, pest resistance, as well as aesthetic concerns.

Nitrogen/Phosphorus/Potash mixed fertilizers are anticipated to be applied to lawn areas, groundcover, and flowering shrubs. With proper irrigation management practices, leaching and runoff of fertilizers should be negligible.

No adverse effects on surface, underground and marine resources are anticipated.

B. IMPACTS TO THE SOCIO-ECONOMIC ENVIRONMENT

The proposed development of a 84-stall parking lot and traditional Native Hawaiian building on the subject property will support the construction industry in the short term. In the long term, the traditional building will serve as a cultural resource center for the FOM and provide a cultural resource to West Maui's visitor industry, as well as additional parking to support the commercial businesses along Front Street. In this connection,

the proposed use of the property will enhance services available to businesses, residents and visitors.

In itself, the project is not of a scale or magnitude which will affect the local population base. The project is intended to meet existing parking space demands and is not considered a population generator.

C. IMPACTS TO PUBLIC SERVICES

1. Solid Waste Disposal

Solid waste disposal services for the proposed project will be provided privately. Demands upon existing County solid waste disposal facilities will not be adversely impacted by the development of the proposed project.

2. Recreational Facilities

The proposed project will convert an existing active County recreational facility to a cultural resource facility with educational programs. An expansion to the County recreational facilities adjacent to the Lahaina Aquatic Center has been completed to replace the Malu-ulu-o-Lele Park facilities. Therefore, potential impacts to active recreational facilities have been mitigated by the expansion of the County park to the east of the project site.

3. Educational Facilities

Inasmuch as the proposed project is not anticipated to increase resident or visitor population, impacts on educational facilities are not anticipated. King Kamehameha III Elementary School currently uses a portion of Malu-ulu-o-Lele Park which includes the basketball court and outer ball field for their physical education program and during recess. This portion of the park used by the

school will not be affected by the proposed project and therefore, no adverse impacts to King Kamehameha III Elementary School's use are anticipated.

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

The proposed project will not affect the requirements or service areas for police, fire and emergency medical service operations.

D. **IMPACTS TO INFRASTRUCTURE**

1. **Roadway System**

The existing parking lot on the corner of Front and Shaw Streets has 72 regular stalls and 2 bus stalls. The existing lot has one driveway off of Front Street and one driveway off of Shaw Street. The proposed parking lot will have 84 stalls (including two (2) bus stalls) with one (1) driveway off of Shaw Street. The County of Maui, Department of Public Works and Environmental Management has assessed the proposal and determined the anticipated difference in project traffic on Shaw Street would not be significant. Also, the change in traffic on the intersection of Front and Shaw Streets with the new lot located further mauka of Front Street would not be significant. Therefore, the proposed project is not anticipated to adversely affect existing traffic conditions. It is noted that the project will provide an additional ten (10) off-street parking stalls which will help relieve parking demand in the southern portion of Lahaina Town. Appropriate traffic management controls will be utilized during the construction period to minimize impacts to traffic flow.

2. **Water System**

Water will be furnished by the Department of Water Supply's Lahaina-Alaaloa water system. The domestic water and irrigation demand for the proposed project is not anticipated to have an adverse effect on existing County water source and storage facilities, as well as water transmission and distribution systems. The Department of Water Supply's (DWS) consumption guideline has been used for roughly estimating the average daily water demand for the proposed project. The estimated water demand is about 12,200 gallons per day (gpd). Refer to Appendix "B". Detailed water use, fireflow, and irrigation calculations will be submitted to the DWS for review in connection with the processing of the project's building permit application. All water system improvements will be designed in accordance with applicable regulatory design standards.

3. **Wastewater System**

The preliminary wastewater contribution is estimated to be 300 gallons per day. Refer to Appendix "B". The proposed project is not anticipated to impact existing County wastewater collection and treatment facilities. All wastewater system improvements will be designed in accordance with applicable regulatory design criteria. The development schedule for the proposed project will be coordinated with the Department of Public Works and Environmental Management's Wastewater Reclamation Division to assure availability of treatment capacity at the LWRF.

4. **Drainage and Erosion Control**

The post-development onsite hydrology calculations for the developed area is estimated to be 9.07 cfs. Refer to Appendix "B".

The proposed drainage plan to handle the 1.38 cfs increase runoff rate for the project provides for site grading and the installation of an underground drainage collection and retention system consisting of several grated inlets and a catch basin for the interception of onsite runoff. Increase in runoff due to the development will be captured in the proposed retention system.

The proposed grading and drainage design for the site will not adversely impact adjacent and downstream properties. Soil loss will be minimized during the construction period by implementing appropriate Best Management Practices (BMP's) and erosion control measures such as the following:

1. Minimize the time of construction.
2. Retain existing ground cover until the latest possible date to complete construction.
3. Early construction of drainage features.
4. Use temporary area sprinklers in non-active construction areas when ground cover is removed.
5. Station water truck on site during construction period to provide for immediate sprinkling, as needed, in active construction zones (weekends and holidays included).
6. Use temporary berms, filter berms, and cut-off ditches, where needed, for control of erosion.
7. Graded areas shall be thoroughly watered after construction activity has ceased for the day and on weekends.
8. All cut and fill slopes shall be sodded or planted immediately after grading work has been completed.

All drainage improvements will conform to County standards and will be coordinated with the Department of Public Works and Environmental Management.

5. **Electrical, Telephone and CATV Systems**

The installation of electrical, telephone, and CATV service connections will be coordinated with Maui Electric Company, Verizon Hawaii, and Hawaiian Cablevision, respectively.

E. CUMULATIVE IMPACTS

The proposed project is not anticipated to create secondary impacts or new demands for housing or public services and facilities. The proposed traditional Native Hawaiian building will be designed in accordance with historic district design guidelines, the indigenous architecture building ordinance, as applicable, and the Maui County Building Code, thereby enhancing and complementing existing surrounding land uses, as well as fostering and preserving the historic ambience of Lahaina Town. As mentioned previously, the proposed project has been planned in the context of an overall vision for the restoration of Moku'ula island and surrounding Loko o Mokuhinia, the royal residence of Kamehameha III. Refer to Figure 6.

Chapter IV

***Relationship to Land Use Plans,
Policies and Controls***

IV. RELATIONSHIP TO LAND USE PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

Pursuant to Chapter 205A, HRS, all lands in the State have been divided and placed into one (1) of four (4) land use districts by the State Land Use Commission. These land use districts have been designated "Urban", "Rural", "Agricultural", and "Conservation". The project site is located within the State "Urban" district. See Figure 10. The proposed action is compatible with, and permitted within, the State "Urban" land use district.

B. MAUI COUNTY GENERAL PLAN

The 1990 update of the Maui County General Plan establishes broad objectives and policies to guide the long-range development of the County. As indicated by the Maui County Charter, "The purpose of the General Plan is to 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 set forth the desired sequence, patterns, and characteristics of development".

The proposed action is in keeping with the following General Plan objectives relating to land use, economic activity and urban design:

LAND USE

Objectives:

- To use the land within the County for the social and economic betterment of the County's residents.
- To preserve for present and future generations existing geographic, cultural and traditional community lifestyles by limiting and

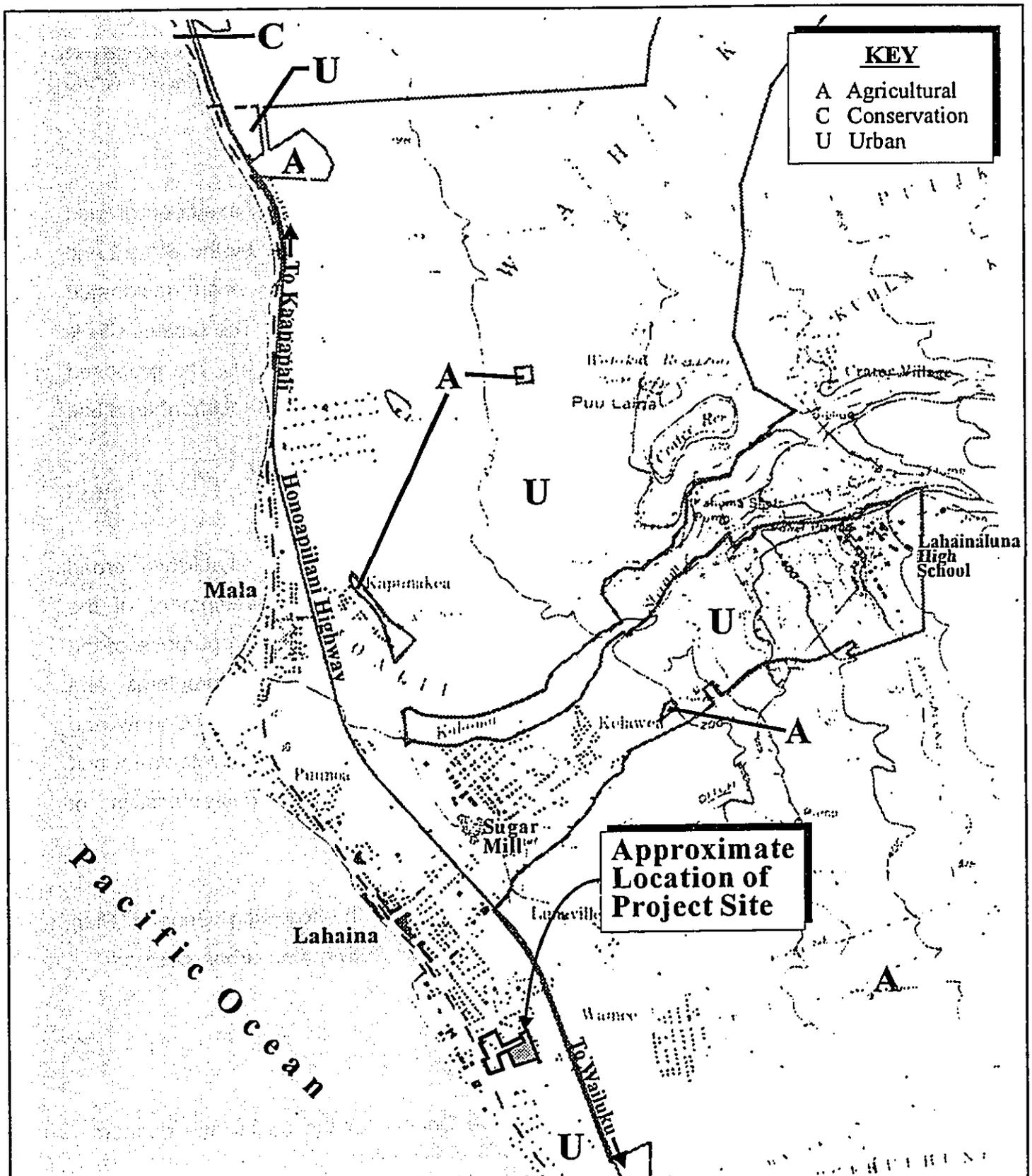
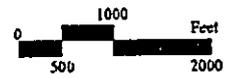


Figure 10 Proposed Parking Lot and Related Improvements at TMK 4-6-07:01, por. 02 and 36
State Land Use District Classifications



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 County of Maui, Department of Planning

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managing growth through environmentally sensitive and effective use of land in accordance with the individual character of the various communities and regions of the County.

Policy:

- Identify and preserve significant historic sites.

CULTURAL RESOURCES

Objective:

To preserve for present and future generations the opportunity to know and experience the arts, culture and history of Maui County.

Policies:

- Encourage the recordation and preservation of all cultural and historic resources, to include culturally significant natural resources.
- Establish programs to restore, maintain and interpret significant cultural districts, sites and artifacts in both natural and museum settings.
- Encourage the rehabilitation and adaptive use and reuse of historic districts, sites and buildings in order to perpetuate traditional community character and values.
- Identify and maintain an inventory of significant and unique cultural resources for special protection.

ECONOMIC ACTIVITY

Objective:

To provide an economic climate which will encourage controlled expansion and diversification of the County's economic base.

Policies:

- Support programs, services and institutions which provide economic diversification.
- Encourage industries that will utilize the human resources available from within Maui County rather than having to import workers.

URBAN DESIGN

Objective:

To see that all developments are well designed and are in harmony with their surroundings.

Policies:

- Require that appropriate principles of urban design be observed in the planning of all new developments.
- To encourage developments which reflect the character and the culture of Maui County's people.
- Establish urban design guidelines and standards which will reflect the unique traditional architectural values of each community plan area.
- Encourage community design which establishes a cohesive identity.

PUBLIC UTILITIES AND FACILITIES

Objective:

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

Policies:

- To improve the quality and availability of public facilities throughout Maui County.
- Seek improvement in the maintenance and operation of public facilities.
- Encourage the development of public facilities which will be architecturally and ecologically compatible with their surroundings and foster community development.

RECREATION AND OPEN SPACE

Objective:

To provide a wide range of recreational, cultural and traditional opportunities for all our people.

Policies:

- Expand the County's recreational programs to include cooperative program development with private agencies to meet the needs of all residents, our children, the elderly and the handicapped.
- Encourage the use of public facilities for both cultural and recreational activities.
- Foster an increased awareness of the ethnic and cultural heritage of our people.
- Encourage the identification, restoration, and preservation of important archaeological, historical and cultural sites.
- Provide for adequate public and volunteer staff to expand recreational and cultural activities.
- Encourage the use of public lands to expand and enhance outdoor recreational and cultural opportunities.

EDUCATION

Objective:

To provide Maui residents with continually improving quality educational opportunities which can help them better understand themselves and their surroundings and help them realize their ambitions.

Policy:

- Encourage the development of a wide range of informal educational and cultural programs for people of all ages.

C. WEST MAUI COMMUNITY PLAN

The project site is located in the West Maui Community Plan region, one (1) of the nine (9) Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans, which are designed to implement the Maui County General Plan. Each Community Plan contains recommendations and standards which guide the sequencing, patterns, and characteristics of development in the region.

Land use guidelines are established by the West Maui Community Plan land use map. The project site is designated for "Park" use by the Community Plan's land use map. See Figure 11. The proposed parking lot, traditional Native Hawaiian building and related improvements are in keeping with the uses designated for the site by the West Maui Community Plan.

The West Maui Community Plan sets forth goals which are statements identifying preferred conditions. Goals, objectives, policies, and planning standards associated with the development of the proposed project include the following:

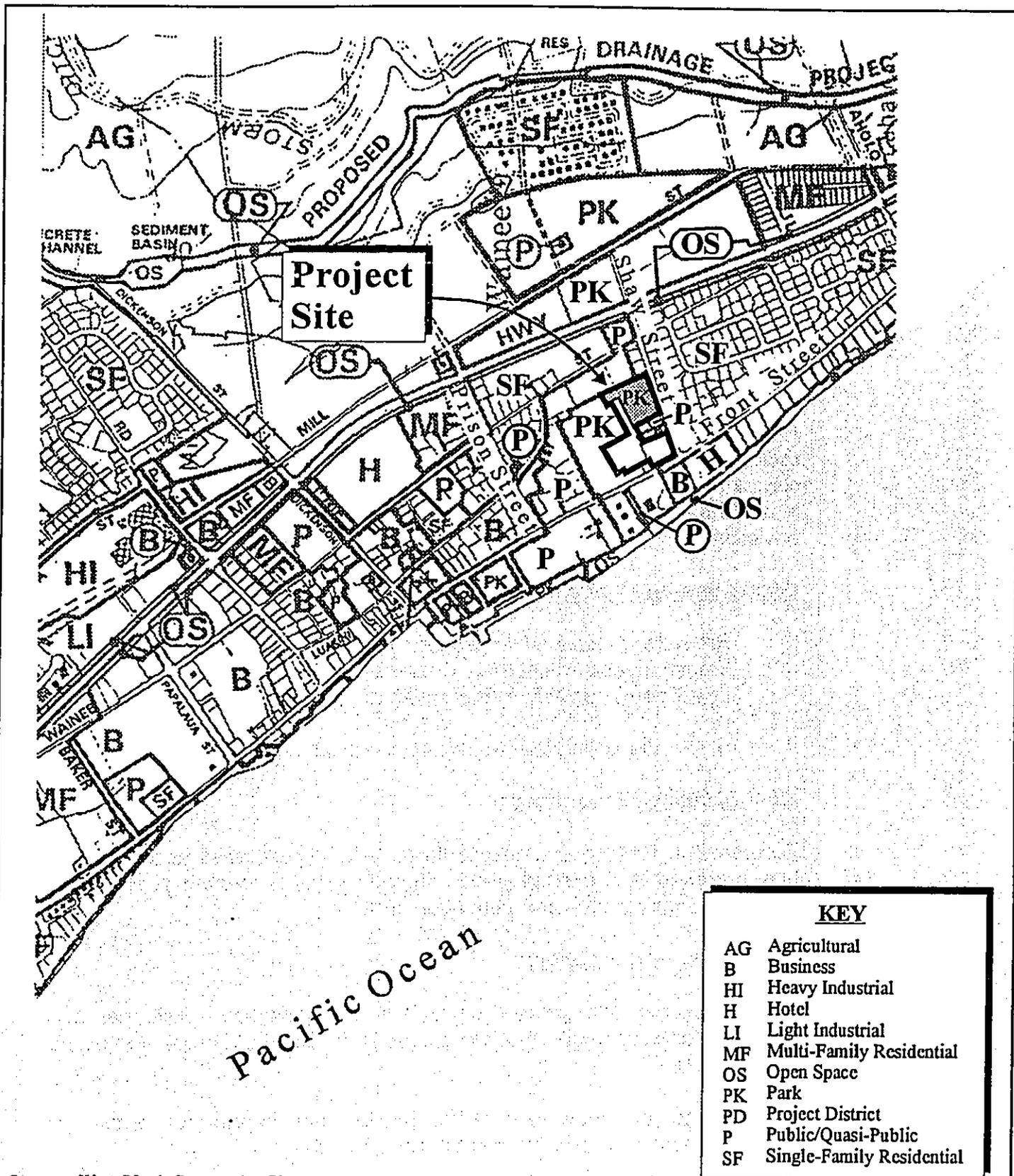
GOALS, OBJECTIVES AND POLICIES

Goal (Land Use):

An attractive, well-planned community with a mixture of compatible land uses in appropriate areas to accommodate the needs of residents and visitors in a manner that provides for the stable social and economic well-being of residents and the preservation and enhancement of the region's open space areas and natural environmental resources.

Objectives and Policies for Lahaina Town:

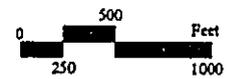
2. Emphasize visitor amenities, regional commercial activities and facilities which convey community identity along Front Street between Baker and Prison Streets.
* * *
9. Preserve the area bounded by Prison, Front, Shaw and Wainee Streets for residential, park and public/quasi-public uses.
* * *
11. Establish, expand and maintain parks, public and private open spaces, public facilities, cemeteries, and public shoreline areas within Lahaina town. Major park spaces to be maintained, expanded, or established are:
* * *
 - f. Restoration of and improvements to Malu-ulu-o-Lele Park and Moku'ula Island at the corner of Front and Shaw Streets.



KEY	
AG	Agricultural
B	Business
HI	Heavy Industrial
H	Hotel
LI	Light Industrial
MF	Multi-Family Residential
OS	Open Space
PK	Park
PD	Project District
P	Public/Quasi-Public
SF	Single-Family Residential

Source: West Maui Community Plan

Figure 11 Proposed Parking Lot and Related Improvements at TMK 4-6-07:01, por. 02 and 36
Community Plan Land Use Designations



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12. Provide parking that is adequately marked or assigned and conveniently located in retail commercial shopping areas, at public parking sites and at major commercial complexes. Where appropriate, multi-decked parking structures may be allowed. Principal parking locations include:

- a. Expanded public parking south of Prison Street between Front and Luakini Streets.

Goal (Economic Activity):

A diversified economy that provides a range of stable employment opportunities for residents, allows for desired commercial services for the community, and supports the existing visitor and agricultural industries, all in a manner that will enhance both the community's quality of life and the environment.

Objectives and Policies:

1. Promote a diversified economic base which offers long-term employment to West Maui residents, and maintains overall stability in economic activity in the areas of:

* * *

- b. Visitor-related service/commercial services.

Goal (Cultural Resources):

To preserve, protect and restore those cultural resources and sites that best represent and exemplify the Lahaina region's pre-contact, Hawaiian Monarchy, missionary and plantation history.

Objectives and Policies:

1. Preserve and protect significant archaeological, historical and cultural resources that are unique in the State of Hawaii and Island of Maui.
2. Foster an awareness of the diversity and importance of cultural resources and of the history of Lahaina.
3. Establish programs to restore, maintain and interpret significant cultural districts, sites and artifacts in both natural and museum settings.

-
4. Promote distinct cultural resources as an identifying characteristic of the region.
 5. Ensure that new projects or developments address potential impacts on archaeological, historical, and cultural resources and identify all cultural resources located within the project area as part of initial project studies. Further require that all proposed activity adequately mitigate potential adverse impacts on cultural resources.
 6. Support public and private efforts to inventory, evaluate and register historic and archaeological sites to expand the public's knowledge of the region's cultural resources.
 7. Ensure that site identification and interpretation is not damaging to any historical or archaeological sites.
 8. Recognize the importance of buffer areas to enhance and protect historical or archaeological sites.
 9. Encourage community stewardship of historic sites.
 10. Encourage the development of "cultural parks" for visitation and education.
 11. Encourage cultural and educational programs to perpetuate Hawaiian and other ethnic heritages.
 12. General site types and areas that should be flagged for possible preservation include the following:
 - a. Ancient trails/old government roads
 - b. Fishponds
 - c. Religious structures (shrines, churches and heiau)
 - d. Burials
 13. Important site types and areas in the West Maui region include but are not limited to the following:
* * *
 - k. Moku'ula Island

Goal (Urban Design):

An attractive and functionally integrated urban environment that enhances neighborhood character, promotes quality design at the resort destinations of Kaanapali and Kapalua, defines a unified landscape planting and beautification theme along major public roads and highways, watercourses, and at major public facilities, and recognizes the historic importance and traditions of the region.

Objectives and Policies for Lahaina Town

1. Improve pedestrian and bicycle access within the town core.
2. Generally locate additional off-street parking facilities near commercial areas.
3. Establish, expand and maintain parks, public and private open spaces, public facilities, cemeteries, and public shoreline areas within Lahaina town.
4. Circulation and Parking:
 - a. Kapunakea, Papalua, Lahainaluna, and Shaw Streets should serve as the major mauka-makai cross streets at Honoapiilani Highway.
 - b. Consolidate public and private off-street parking at locations within convenient walking distance to the Front Street shopping districts. Access to parking areas should be from interior streets and clearly identified with directional signs.
5. Landscape Character:
 - a. Open off-street parking facilities should be landscaped and maintained with canopy trees for shade. Parking facility perimeters should be landscaped and maintained with shrubbery to soften the parking edge when viewed from the street. Existing non-conforming parking lots should be made to conform with the current off-street parking ordinance as a prerequisite to future building permits.

Goal (Indigenous Architecture):

Reserving for future implementation Indigenous Architecture, as may be adopted from time to time by the County Council or the Maui County Cultural Resources Commission.

Objectives and Policies:

1. To legitimize Indigenous Architecture as viable spaces for living, work and recreation.

D. COUNTY ZONING

There are three historic districts on the island of Maui - two in Lahaina (Historic District Nos. 1 and 2) and one in Wailuku (Historic District No. 3). Regulations on building and uses within these districts are governed by the provisions of Chapter 19.52 of the Maui County Code. As previously indicated, the subject property is designated for "Historic District No. 1" uses by Maui County zoning. The regulations for Historic District Nos. 1 and 2, which are both located in Lahaina Town, covers a multitude of uses ranging from single-family to public/quasi-public to business/commercial uses. The proposed parking lot and related improvements are in compliance with the Historic District No. 1 use regulations.

The historic district review and approval process provides a means of insuring orderly, efficient growth and development within the County's historic districts. Toward this end, an application for Historic District Approval has been prepared for review and approval by the Maui County Cultural Resources Commission.

Pursuant to Maui County Code Chapter 10.76.055, the following conditions are established for the Lahaina Shaw Street parking lot.

-
- a. A maximum of two (2) bus parking stalls identified by pavement markings or signs shall be provided.
 - b. No bus shall park within any standard or compact sized stall as indicated by pavement markings or signs.
 - c. No bus or other vehicle shall park within the parking lot, unless the driver and passengers of said vehicle are making use of Malu-ulu-o-Lele Park.
 - d. No bus or other vehicle shall park between the hours of 2:00 a.m. and 4:00 a.m.

The proposed project will be operated in compliance with the code conditions established for the Lahaina Shaw Street parking.

E. COUNTY OF MAUI - SPECIAL MANAGEMENT AREA

The subject property is located within the County of Maui's Special Management Area (SMA). Pursuant to Chapter 205A, HRS, and the Rules and Regulations of the Maui Planning Commission, actions proposed within the SMA are evaluated with respect to Hawaii Coastal Zone Management Program (HCZMP) and SMA objectives, policies and guidelines. This section addresses the project's relationship to applicable coastal zone management considerations, as set forth in Chapter 205A, HRS and the Rules and Regulations of the Maui Planning Commission.

An application for a SMA Use Permit has been prepared for review and approval by the Maui Planning Commission.

1. Recreational Resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

- a. Improve coordination and funding of coastal recreational planning and management; and
- b. Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

-
- (i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;
 - (ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable;
 - (iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
 - (iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
 - (v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;
 - (vi) Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;
 - (vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and
 - (viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 46-6, HRS.

Response: The proposed action is not anticipated to impact coastal recreational opportunities or affect existing public access to the shoreline.

2. **Historical/Cultural Resources**

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

Policies:

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

Response: The proposed project will allow for the future restoration of a significant historical resource.

3. **Scenic and Open Space Resources**

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

Policies:

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

Response: The proposed project will be designed and landscaped in accordance with applicable regulatory standards to ensure visual compatibility with the surrounding land uses. The proposed action

is not contrary to the objectives and policies for scenic and open space resources.

4. **Coastal Ecosystem**

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

Policies:

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

Response: The proposed action is not expected to adversely impact coastal ecosystems. Drainage system improvements will be designed in accordance with applicable regulatory standards to ensure that there are no adverse effects to adjacent or downstream properties.

In addition, appropriate erosion control measures will be implemented to minimize the effects of stormwater runoff during

construction of the project and to ensure that coastal ecosystems are not adversely impacted.

5. **Economic Use**

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

Policies:

- a. Concentrate coastal dependent development in appropriate areas;
- b. Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and
- c. Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
 - (i) Use of presently designated locations is not feasible;
 - (ii) Adverse environmental effects are minimized; and
 - (iii) The development is important to the State's economy.

Response: The proposed project is consistent with this objective and the goals of the West Maui Community Plan, which guides growth and development in the region.

6. **Coastal Hazards**

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

Policies:

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

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

7. Managing Development

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

Policies:

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

Response: All aspects of development will be conducted in accordance with applicable State and County requirements.

Opportunity for review of the proposed action is offered through the various regulatory permit processes.

8. **Public Participation**

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

Policies:

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

Response: The proposed project is subject to County of Maui Special Management Area (SMA) and Historic District Approval proceedings. Opportunities for public awareness, education, and participation in coastal management are provided through these entitlement processes.

9. **Beach Protection**

Objective: Protect beaches for public use and recreation.

Policies:

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

-
- c. Minimize the construction of public erosion-protection structures seaward of the shoreline.

Response: The subject property is not located on the shoreline and is not anticipated to impact shoreline activities.

10. **Marine Resources**

Objective:

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

Policies:

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

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

Chapter V

***Summary of Adverse
Environmental Effects
Which Cannot Be Avoided***

V. SUMMARY OF ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

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

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

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

Chapter VI

***Alternatives to
the Proposed Action***

VI. ALTERNATIVES TO THE PROPOSED ACTION

A. PREFERRED ALTERNATIVE

The proposed project involves the development of a 84-stall parking lot, a 1,800 square foot traditional Native Hawaiian building, a 900 square foot accessory building, observation deck and related improvements consisting of landscaping, irrigation, lighting, attendant booth and sidewalk improvements along Shaw Street. The proposed project will replace a 74-stall parking lot on the corner of Front and Shaw Streets which was built over Moku'ula island, a significant historic site. The proposed project will allow for the archaeological recovery and eventual restoration of Moku'ula. The proposed project represents the preferred alternative.

B. NO ACTION ALTERNATIVE

The "no action" alternative would maintain the current use of the existing 74-stall parking lot and prevent the recovery of Moku'ula island. Given the historical significance of this cultural resource to Lahaina, the island of Maui, the State of Hawaii and the former Kingdom of Hawaii, the "no action" alternative does not serve the public interest. Accordingly, the "no action" alternative was not considered.

C. DEFERRED ACTION ALTERNATIVE

A "deferred action" alternative would have similar consequences as the "no action" alternative in that the recovery of Moku'ula would be delayed and not be immediately realized.

This alternative could potentially result in loss of government and private donor support which has been secured by the Friends of Moku'ula to carry out the proposed project. Based on the proceeding, the "deferred action" alternative was not considered.

D. SITE PLAN ALTERNATIVES IN THE CONTEXT OF THE CONCEPTUAL MASTER PLAN

During the project's conceptual planning and site planning phase, the cultural and educational requirements of the FOM were examined to ensure that the spatial and functional criteria for the proposed project would be integrated with the potential restoration of Moku'ula island, the fishpond and Loko o Mokuhinia. The conceptual and site planning process involved an analysis of the potential spatial features of Kamehameha III's royal compound, restoration of potential features, space relationships, future program requirements and refinement to the scope of the proposed project. Through the project's planning process, a conceptual master plan and project site plan were prepared and reviewed to ensure that all present and potential future operational, educational, and cultural program requirements could be met.

Chapter VII

***Irreversible and Irretrievable
Commitments of Resources***

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

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

Chapter VIII

Findings and Conclusions

VIII. FINDINGS AND CONCLUSIONS

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

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

The proposed project will not result in any adverse environmental impacts. There are no known, rare, threatened or endangered species of flora, fauna or avifauna located within the project site. The proposed project would allow for the recovery of significant cultural resources.

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

The proposed project and the commitment of land resources would not curtail the range of beneficial uses of the environment.

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

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

The proposed project would have a direct beneficial effect on the local economy during construction. In the long term, the proposed project will

provide substantial social/cultural benefits to Lahaina, the island of Maui and State of Hawaii.

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

No impacts to the public's health and welfare are anticipated as a result of the proposed project.

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

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

From a land use standpoint, the proposed project is compatible with surrounding uses.

The proposed improvements will hookup to existing water and wastewater systems. No adverse impacts to water and wastewater capacities and facilities are anticipated. Best Management Practices (BMP's) and appropriate erosion control measures will be utilized during the construction period. Drainage system improvements will be constructed in accordance with applicable regulatory design standards to ensure that surface runoff will not have an adverse effect on adjacent or downstream properties. The project is not expected to adversely impact public services such as police, fire, and emergency medical operations. No adverse impacts to educational, recreational, and solid waste collection and disposal facilities and resources are anticipated.

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

During the construction phase of the project, there will be short-term air quality and noise impacts as a result of the project. In the long term,

effects upon air quality and ambient noise levels should be minimal. The project is not anticipated to significantly affect the open space and scenic character of the area.

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

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

The proposed action has been planned in the context of a conceptual plan for the restoration of Moku'ula island, adjacent fishpond and surrounding Loko o Mokuhinia. Refer to Figure 6. The implementation of the Moku'ula Conceptual Plan is consistent with the West Maui Community Plan and is not anticipated to result in considerable effects 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, 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-related activities. It is anticipated that construction will be limited to daylight working hours. Water quality is not expected to be affected.

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

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

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

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

The project site is not identified as a scenic vista or viewplane. The proposed project will not affect scenic corridors and coastal scenic and open space resources.

13. The Proposed Action Would Not Require Substantial Energy Consumption

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

Based on the foregoing, it is anticipated that the proposed action will result in a finding of no significant impact (FONSI).

Chapter IX

List of Permits and Approvals

IX. LIST OF PERMITS AND APPROVALS

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

State of Hawaii

1. National Pollutant Discharge Elimination System (NPDES) Permit

County of Maui

1. Special Management Area Use Permit
2. Historic District Approval
3. Construction Permits (e.g., grading, building, driveway, demolition, electrical, plumbing, work-to-perform in County right-of-way).

Chapter X

***Agencies Consulted During the
Preparation of the Draft
Environmental Assessment; Letters
Received and Responses
to Substantive Comments***

X. AGENCIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENTS

The following agencies were consulted during the preparation of the Draft Environmental Assessment. Agency comments and responses to substantive comments are also included in this section.

1. Neal Fujiwara, District Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793-2100
2. William Lennan
U.S. Department of the Army
U.S. Army Engineer District, Hnl.
Attn: Operations Division
Bldg. T-1, Room 105
Fort Shafter, Hawaii 96858-5440
3. Robert P. Smith
Pacific Islands Manager
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., #3-122, Box 50088
Honolulu, Hawaii 96813
4. Gary Gill, Deputy Director
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801
5. Herbert Matsubayashi
District Environmental Health
Program Chief
State of Hawaii
Department of Health
54 High Street
Wailuku, Hawaii 96793
6. Gilbert Coloma-Agaran
State of Hawaii
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809
7. Don Hibbard
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawaii 96707
8. Fred Cajigal, Maui District Engineer
State of Hawaii
Department of Transportation
Highways Division
650 Palapala Drive
Kahului, Hawaii 96732
9. Colin Kippen, Deputy Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813
10. Clayton Ishikawa, Chief
County of Maui
Department of Fire Control
200 Dairy Road
Kahului, Hawaii 96732
11. Alice Lee, Director
County of Maui
Department of Housing and Human Concerns
200 South High Street
Wailuku, Hawaii 96793
12. John Min, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

-
13. Floyd Miyazono, Director
County of Maui
Department of Parks and Recreation
1580-C Kaahumanu Avenue
Wailuku, Hawaii 96793
 14. Tom Phillips, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawaii 96793
 15. David Goode, Director
County of Maui
**Department of Public Works
and Waste Management**
200 South High Street
Wailuku, Hawaii 96793
 16. David Craddick, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793
 17. Ezeikiela I. Kalua, Executive Assistant
West Maui Taxpayers Association
P.O. Box 10338
Lahaina, Hawaii 96761
 18. Theo Morrison, Executive Director
Lahaina Town Action Committee
648 Wharf Street, Suite 102
Lahaina, Hawaii 96761
 19. Keoki Freeland, Executive Director
Lahaina Restoration Foundation
120 Dickenson Street
Lahaina, Hawaii 96761



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-4440

NOV 05 2002



SENT TO
ATTENTION OF

November 4, 2002

Regulatory Branch

Mr. Mich Hirano, AICP
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Hirano:

This letter responds to your request for comments on the project summary for the proposed parking lot on Shaw Street, Lahaina, Maui, dated October 29, 2002. The information summary is not sufficiently detailed to determine if a Department of the Army (DA) permit will be required for this project. Please include us on the mailing list for the Environmental Assessment and include information in the document concerning the presence or absence of streams or wetlands in the project area.

If you have any questions concerning this determination, please contact William Lennan of my staff at 438-6986 or FAX 438-4060, and reference File No. 200300125.

Sincerely,

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

May 20, 2003

George P. Young, P.E., Chief
Regulatory Branch
U.S. Department of Army
U.S. Army Engineer District
Honolulu, Ft. Shafter, Hawaii 96858-5440

SUBJECT: Proposed Parking Lot and Related Improvements
at TMK 4-6-07:01, por. 02 and 36

Dear Mr. Young:

Thank you for your letter dated November 4, 2002 on the above subject.

A copy of the Environmental Assessment will be forwarded to the U.S. Army Engineer District, Honolulu, for review and comment.

Again, thank you for your letter and participation in the early consultation process.

Very truly yours,

Mich Hirano, AICP

MH:tn

cc: Akoni Akaia, Friends of Moku'ua, Inc.
Dwight Kauhikaua, Kauhikaua & Chun Architects

ENVIRONMENTAL



DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

NOV 12 2002

JAMES "KALO" APANA
Mayor
ALICE LEE
Director
ROSALIA P. ARZELL
Deputy Director

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

November 4, 2002

Mr. Mich Hirano, AICP
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Hirano:

**SUBJECT: REPLACE PARKING LOT AT
TMK (2) 4-6-07:01, POR. 02 and 36**

We have reviewed your October 29, 2002 letter and attachments and would like to offer the following comments:

1. The applicant is proposing to construct a 90-stall parking lot and ancillary facilities on Shaw Street to replace the parking lot at the corner of Front Street and Shaw Street. How many parking stalls are currently available at the Front Street/Shaw Street parking lot?
2. Will the 90-stall parking lot on Shaw Street be used to provide parking stalls for purposes other than replacement parking for the parking stalls that will be lost at the corner of Front Street and Shaw Street? If so, how many parking stalls are being provided for these other purposes?
3. It is my understanding that parking at the corner of Front Street and Shaw Street is provided by the County and free to the public. Will the parking on Shaw Street be free to the public, and if not, what will the parking fees be and who will be receiving the revenue from such fees?

Thank you for the opportunity to comment

Very truly yours,

ALICE L. LEE
Director

ETO:hs
c: Housing Administrator

TO SUPPORT AND ENHANCE THE SOCIAL WELL-BEING OF THE CITIZENS OF MAUI COUNTY



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

**SUBJECT: Proposed Parking Lot and Related Improvements
at TMK 4-6-07:01, Por. 02 and 36**

Dear Ms. Lee:

Thank you for your letter dated November 4, 2002 providing comments to the early consultation request on the subject project. We provide the following responses to the comments in the order as presented in your letter.

1. **Response to Item 1:** The existing parking lot on the corner of Front and Shaw Streets has 72-regular stalls and 2-bus stalls.
2. **Response to Item 2:** The proposed 84-stall parking lot (including two (2) bus stalls) will provide 10 more car parking stalls than the existing parking lot. The proposed project will include an observation deck to view the archaeological recovery activity associated with Moku'ula Island and a traditional Native Hawaiian building which will be used by the Friends of Moku'ula, Inc. to conduct educational-cultural programs, as well as to conduct traditional ceremonial practices. The additional parking stalls are not provided specifically for these uses but rather to provide more public parking capacity in the commercial area of Lahaina Town.
3. **Response to Item 3:** The existing parking lot is County owned and is free to the public. In January 2002, the County granted a Licence of Occupation to the Friends of Moku'ula, Inc. over the area so that historic resources underneath the existing parking lot could be recovered and restored. The proposed 84-stall parking lot on Shaw Street will be operated by the Friends of Moku'ula, Inc. and a fee will be charged for parking. The fee structure for parking has not yet been determined. It is proposed that the revenue from the parking fees will go towards the development and delivery of cultural and educational programs related to the restoration of Moku'ula.

Alice L. Lee, Director
May 20, 2003
Page 2

Again, thank you for your comments and participation in the early consultation process.

Very truly yours,


Mich Hirano, AICP

MH:tn
cc: Akoni Akana, Friends of Moku'ula, Inc.
Dwight Kaauhikaua, Kauahikaua & Chun Architects

SENJUNJI CAYTANO
DIRECTOR



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

P.O. Box 621
HONOLULU, HAWAII 96809

NOV 18 2002

Mich Hirano, AICP
Munekiyo & Hiraga, Inc.
305 High Street Suite 104
Wailuku, Hawaii 96793

Subject: Replace Parking Lot at tax map key: (2) 4-6-7:1, por. 2 and
36

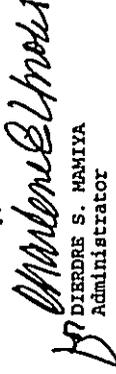
Dear Mr. Hirano:

Please accept our apology in not responding to your request sooner. A copy of your request was distributed within the Department.

Attached is a copy of the Engineering Branch, Maui District Land Office, Planning and Development Section comments. The Department of Land and Natural Resources has no other comment to offer at this time.

Should you have any questions, please contact Nicholas Vaccaro of the Land Division, Support Services Branch at 587-0438.

Sincerely,


DIERDRE S. MAMIYA
Administrator

Cc: Land Board Member

NOV 19 2002

OSBERT S. COLMAN-JAGAN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ERIC T. IRLAND
SOUTH DIRECTOR

LUREL T. ASHMOGA
SOUTH DIRECTOR
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

ALVIN R. BROWN
ACTING AND OCCASIONAL
CHAIRPERSON ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
DEPARTMENT
FORESTRY AND WILDLIFE
HONOLULU, HAWAII
COMMISSION
STATE PLANNING

L-3062



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

LAND DIVISION
P.O. BOX 621
HONOLULU, HAWAII 96809

October 31, 2002
LD/NAV

Ref.: SHAWSTREETPARKING.CMT

MEMORANDUM:

- TO: XXX Division of Aquatic Resources
 XXX Division of Forestry & Wildlife
 XXX Na Ala Hele Trails
 XXX Division of State Parks
 XXX Division of Boating and Ocean Recreation
 XXX Commission on Water Resource Management
 XXX Historic Preservation Division
 Land Division Branches:
 XXX Planning and Technical Services
 XXX Engineering Branch
 XXX Maui District Land Office
 XXX Keith Chun (Land Division)
 XXX Scott Whiting (Land Division)

FROM: Dierdre S. Mamiya, Administrator
 Land Division

SUBJECT: Pre-Assessment Consultation

Purpose: Preparation of an Environmental Assessment
 Consultant: Munekiyo & Hiraga, Inc.
 Applicant: Friends of Moku'ua, Inc.
 Project: 90-Steal Parking Lot and Ancillary Facilities
 on Shaw Street in Lahaina, Maui, Hawaii
 2nd/ 4-6-07: portion of 02 and 36
 TMK:

Please review the attached letter (summary) and map covering the subject matter and submit your comments (if any) on Division letterhead signed and dated within the time requested above.

Should you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384. If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

() We have no comments.

(✓) Comments attached.

Signed: *KK*

Date: 11-7-02

SENDAI K. CAVETANO
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

MEMORANDUM

To: Dierdre S. Mamiya
 From: Keith Chun ✓
 Date: November 7, 2002
 Re: Friends of Moku'ua, Inc. - Proposed Parking Lot and Ancillary Facilities
 Lahaina, Maui, TMK (2) 4-6-07: 01, portion of 02 and 36

The subject parcels are under the jurisdiction of the County of Maui pursuant to three executive orders (GEO 52, 2889, and 3430). Therefore, I do have any comments to the applicant's proposal, provided the proposed uses are consistent with the purposes specified in the executive orders.

cc: DLNR Maui District Land Office (via email)

OLEBERT B. COLMANAGAMA
BOARD OF LAND AND NATURAL RESOURCES

ERIC T. HIRAGA
EXECUTIVE DIRECTOR
LANDS, FORESTRY,
AND WILDLIFE
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
DIVISION
FORESTRY AND WILDLIFE
MANAGEMENT
HONOLULU ISLAND OFFICE
LAND DIVISION
STATE PARKS

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
DIVISION
FORESTRY AND WILDLIFE
MANAGEMENT
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

L-3062
Suspense Date: 11/15/02



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 611
HONOLULU, HAWAII 96809

PLANT RESOURCES
BOATING AND OCEAN RECREATION
CONTRACTS
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
NATURAL RESOURCE MANAGEMENT

October 31, 2002
LD/NAV
Ref.: SHAWSTREETPARKING.CMT

L-3062
Suspense Date: 11/15/02

MEMORANDUM:

- TO: XXX Division of Aquatic Resources
 XXX Division of Forestry & Wildlife
 XXX Na Ala Hele Trails
 XXX Division of State Parks
 Division of Boating and Ocean Recreation
 XXX Commission on Water Resource Management
 XXX Historic Preservation Division
 Land Division Branches:
 XXX Planning and Technical Services
 XXX Engineering Branch
 XXX Maui District Land Office
 XXX Keith Chun (Land Division)
 XXX Scott Whiting (Land Division)

FROM: *[Signature]* Dierdre S. Mamiya, Administrator
 Land Division

SUBJECT: Pre-Assessment Consultation
 Purpose: Preparation of an Environmental Assessment
 Consultant: Murekiyo & Hiraga, Inc.
 Applicant: Friends of Moku'ula, Inc.
 Project: 90- Stall Parking Lot and Ancillary Facilities
 on Shaw Street in Lahaina, Maui, Hawaii
 2nd/ 4-6-07: portion of 02 and 36
 TMK:

Please review the attached letter (summary) and map covering the subject matter and submit your comments (if any) on Division letterhead signed and dated within the time requested above.

Should you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384. If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

() We have no comments.

Comments attached.

Signed: *[Signature]*

Date: _____

DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
ENGINEERING BRANCH

LD/NAV
Ref.: SHAWSTREETPARKING.CMT

COMMENTS

For your information, the project site is located in Zones C (No shading) and A12. Zone C is an area of minimal flooding while Zone A12 is an area of the 100-year flood where base flood elevations and flood hazard factors are determined.

The project must comply with rules and regulations of the National Flood Insurance Program (NFIP) and all applicable County Flood Ordinances. If there are questions regarding the NFIP, please contact the State Coordinator, Mr. Sterling Yong, of the Department of Land and Natural Resources at 587-0248. If there are questions regarding flood ordinances, please contact applicable County representative.

If you have any questions, please call Mr. Eric Yuasa of the Project Planning Section at 587-0229.

Signed: *[Signature]*
 ANDREW M. MONDEN, CHIEF ENGINEER

Date: 11/12/02

RECEIVED

02 NOV 1 12:16 STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES



LAND AND NATURAL RESOURCES
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 511
HONOLULU, HAWAII 96809

October 31, 2002 L-3062
LD/NAV Ref.: SHAWSTREETPARKING.CMT
MEMORANDUM: Suspension Date: 11/15/02

MEMORANDUM:

TO: XXX Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Na Ala Hele Trails
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Historic Preservation Division
Land Division Branches:
XXX Planning and Technical Services
XXX Engineering Branch
XXX Maui District Land Office
XXX Keith Chun (Land Division)
XXX Scott Whiting (Land Division)

FROM: Bjerdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Assessment Consultation
Purpose: Preparation of an Environmental Assessment
Consultant: Munekiyo & Hiraga, Inc.
Applicant: Friends of Moku'ula, Inc.
Project: 90-STALL Parking Lot and Ancillary Facilities
on Shaw Street in Lahaina, Maui, Hawaii
TMK: 2nd/ 4-6-07: portion of 02 and 36

Please review the attached letter (summary) and map covering the subject matter and submit your comments (if any) on Division letterhead signed and dated within the time requested above.

Should you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384. If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

() We have no comments.

Signed: W. P. [Signature]
Date: 11/15/02



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 511
HONOLULU, HAWAII 96809

October 31, 2002 L-3062
LD/NAV Ref.: SHAWSTREETPARKING.CMT
MEMORANDUM: Suspension Date: 11/15/02

MEMORANDUM:

TO: XXX Division of Aquatic Resources
XXX Division of Forestry & Wildlife
XXX Na Ala Hele Trails
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Historic Preservation Division
Land Division Branches:
XXX Planning and Technical Services
XXX Engineering Branch
XXX Maui District Land Office
XXX Keith Chun (Land Division)
XXX Scott Whiting (Land Division)

FROM: Bjerdre S. Mamiya, Administrator
Land Division

SUBJECT: Pre-Assessment Consultation
Purpose: Preparation of an Environmental Assessment
Consultant: Munekiyo & Hiraga, Inc.
Applicant: Friends of Moku'ula, Inc.
Project: 90-STALL Parking Lot and Ancillary Facilities
on Shaw Street in Lahaina, Maui, Hawaii
TMK: 2nd/ 4-6-07: portion of 02 and 36

Please review the attached letter (summary) and map covering the subject matter and submit your comments (if any) on Division letterhead signed and dated within the time requested above.

Should you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384. If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

() We have no comments.

Signed: [Signature]
Date: 11/15/02

ADMINISTRATIVE
ASSTANT
SECRETARY
POLICE
PROPERTY
TRAINING
OFFICE
RECORDS
MANAGEMENT
COMMUNICATIONS
TELEPHONE
ROOMS
MAINTENANCE
GENERAL
SERVICES
PROPERTY
MANAGEMENT
OFFICE



STATE OF HAWAII
 DEPARTMENT OF LAND AND NATURAL RESOURCES
 LAND DIVISION
 P.O. BOX 621
 HONOLULU, HAWAII 96809

LAND RESOURCES
 PLANNING AND DEVELOPMENT
 CONSERVATION AND
 RESTORATION AND
 RECREATION
 CONTRACTS
 HISTORIC PRESERVATION
 LAND DIVISION
 STATE PARKS
 WATER RESOURCE MANAGEMENT

October 31, 2002
 LD/NAV
 Ref.: SHAWSTREETPARKING.CMT

L-3062
 Suspense Date: 11/15/02

MEMORANDUM:

TO: XXX Division of Aquatic Resources
 XXX Division of Forestry & Wildlife
 XXX Na Ala Hele Trails
 XXX Division of State Parks
 XXX Commission on Boating and Ocean Recreation
 XXX Commission on Water Resource Management
 XXX Historic Preservation Division
 Land Division Branches:
 XXX Planning and Technical Services
 XXX Engineering Branch
 XXX Maui District Land Office
 XXX Keith Chun (Land Division)
 XXX Scott Whiting (Land Division)

FROM: *Bierdre S. Mamiya*
 Land Division

SUBJECT: Pre-Assessment Consultation
 Purpose: Preparation of an Environmental Assessment
 Consultant: Munekiyo & Hiraga, Inc.
 Applicant: Friends of Moku'ula, Inc.
 Project: 90-Stall Parking Lot and Ancillary Facilities
 on Shaw Street in Lahaina, Maui, Hawaii
 2nd/ 4-6-07: portion of 02 and 36

RECEIVED
 2002 NOV 15 10 30 AM '02

Please review the attached letter (summary) and map covering the subject matter and submit your comments (if any) on Division letterhead signed and dated within the time requested above.

Should you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384. If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

We have no comments.
 Comments attached
 Signed: *[Signature]*
 Date: MICHAEL G. BUCK, ADMINISTRATOR
 DIVISION OF FORESTRY AND WILDLIFE
 OCT 31 2002



MUNEKIYO HIRAGA, INC.

Bierdre S. Mamiya, Administrator
 State of Hawaii
 Department of Land and Natural Resources
 Land Division
 P.O. Box 621
 Honolulu, Hawaii 96809

SUBJECT: Proposed Parking Lot and Related Improvements
 at TMK 4-6-07: 01, Por. 02 and 36

Dear Ms. Mamiya:

Thank you for your letter, dated November 18, 2002, which enclosed comments from Jason Koga, Maui District Land Agent, Keith Chun, and Andrew M. Mondon, Chief Engineer on the subject project. We provide the following responses to the comments.

1. Response to Maui District Land Agent and Keith Chun: Further coordination with the Department of Land and Natural Resources will be carried out to ensure that the proposed uses are consistent with the purposes specified in the executive orders: GEO 52, 2889, and 3430.
2. Response to Engineering Branch Comments: Zone A12 is an area of the 100-year flood with base flood elevations of 6 feet above mean sea level. Therefore, the proposed project will comply with rules and regulations of the National Flood Insurance Program and Maui County Code 19.62 Flood Hazard Areas.

Again, thank you for your Department's comments and participation in the early consultation process.

Very truly yours,

[Signature]
 Mich Hirano, AICP

MHin
 cc: Akoni Akana, Friends of Moku'ula, Inc.
 Dwight Kaauhikaua, Kauahikaua & Chun Architects

195 High Street, Suite 104 - Waikiki, Hawaii 96791 Ph: (808)244-2015 Fax: (808)244-3779 Planning@munekiyo.com

NOV 25 2002



DEPARTMENT OF WATER SUPPLY

COUNTY OF MAUI

P.O. BOX 1109

WAILUKU, MAUI, HAWAII 96793-7109

Telephone (808) 270-7816 • Fax (808) 270-7833

November 19, 2002

Mr. Mich Hirano, AICP
Munekyo & Hiraga, Inc.
305 High Street Suite 104
Wailuku HI 96793

Subject: Replace Parking Lot at TMK (2) 4-6-007:001, por 002 and 036- Construct 90- Stall
Parking Lot, Ancillary Facilities, Site Landscaping and Sidewalk Improvements

Dear Mr. Hirano:

Thank you for the opportunity to comment on the EA early consultation for this project.

There is an 8" waterline on Shaw Street side of the property as well as two fire hydrants. A 2" water meter on TMK 4-6-007:002 serves Maui Ulu O Lele Park. The EA should include the source and expected potable and non-potable water usage for the project.

Site landscaping is one of the aspects of this project. We encourage the applicant to utilize appropriate native and non invasive species and to avoid the use of potentially invasive plants. Native plants adapted to the area conserve water and protect the watershed from degradation due to invasive alien species. The project is located in Maui Planting Plan-Plant Zones 3 and 5. Attached is a list of appropriate plants for the zones as well as potentially invasive plants to avoid.

We recommend that the applicant consider using brackish and/or reclaimed water sources for all non-potable water uses, including irrigation and dust control during construction, if such alternative sources are available and adopt best management practices (BMPs) designed to minimize infiltration and runoff from all construction and vehicle operations. We have attached sample BMPs for principle operations for your reference. Additional information can be obtained for the State Department of Health.

Should you have any questions, please contact our Water Resources and Planning Division at 270-7199.

Sincerely,


David Cradick
Director

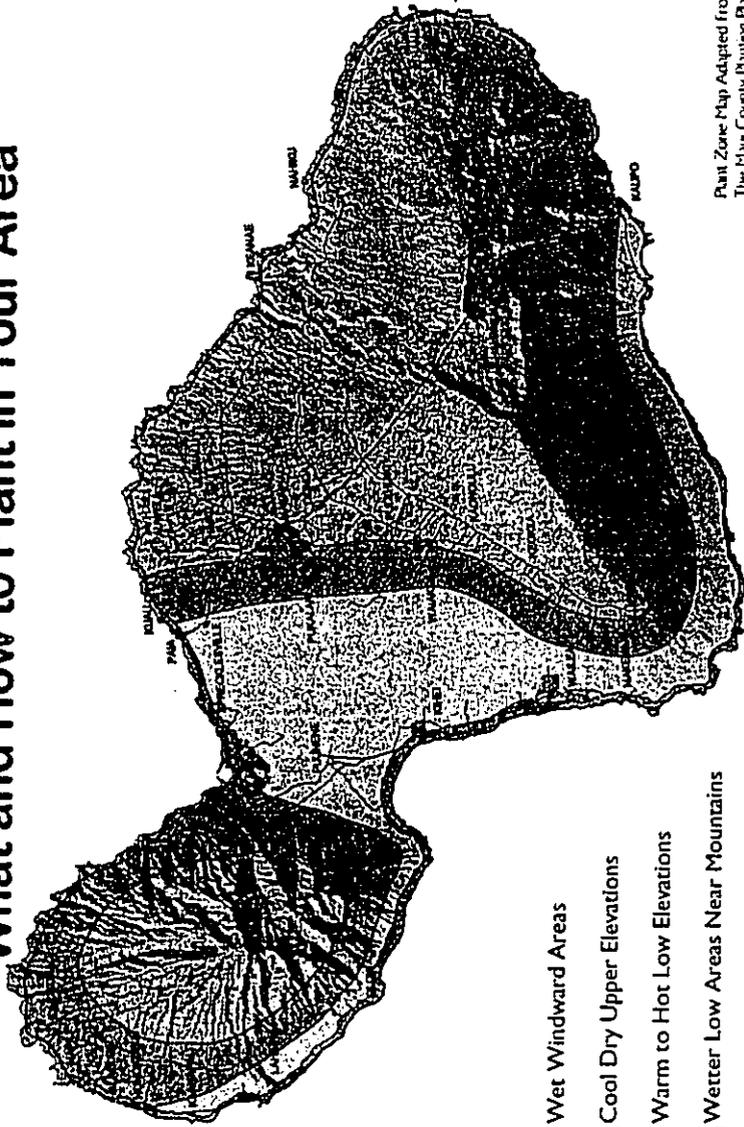
By Habermill Things Stand By

By Habermill Things Stand By

eam
cc: engineering division
applicant, with attachments
Maui County Planning Plan-Plant Zones 3 and 5, Saving Water in the Yard-What and How to Plant in Your Area
Guidance Specifying Management Measures of Nonpoint Pollution in Coastal Waters - U.S. EPA

Saving Water in The Yard

What and How to Plant in Your Area



- 1 Wet Windward Areas
- 2 Cool Dry Upper Elevations
- 3 Warm to Hot Low Elevations
- 4 Wetter Low Areas Near Mountains
- 5 Windward Coastal Salt Spray Zones

Plant Zone Map Adapted from
The Maui County Planning Plan

Tips From The Maui County Department of Water Supply
By Water: All Things Final Life

Yellow

Zone 3

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
	<i>Calochortus nudum</i>	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet
	<i>Colubrina asiatica</i>	griapanapa	3'	10'	sea to 1,000'	Dry to Wet
	<i>Eragrostis monticola</i>	kalamalo	1'	2'	sea to 3,000'	Dry to Medium
	<i>Eragrostis variabilis</i>	emo-iaa	1'	2'	sea to 3,000'	Dry to Medium
	<i>Embrasia myosa</i> ssp. <i>spathacea</i>	mau uaki aki fimbriata	0.5'	1'	sea to 1,000'	Dry to Medium
	<i>Boerhavia repens</i>	aihana	0.5'	4'	sea to 1,000'	Dry to Medium
	<i>Chamaesyce colostroides</i> var. <i>leptensis</i>	akoko	2'	3'	sea to 1,000'	Dry to Medium
	<i>Cressa truxillensis</i>	cressa	0.5'	1'	sea to 1,000'	Dry to Medium
	<i>Heliotropium spomalum</i> var. <i>ariphaeum</i>	ninahina ku kahakai	1'	2'	sea to 1,000'	Dry to Medium
	<i>Ipomoea tuberosa</i>	Hawaiian moon flower, uala	1'	10'	sea to 3,000'	Dry to Medium
	<i>Jacquemontia cyathifolia</i> ssp. <i>sandwicensis</i>	pa'u o hi'aka	0.5'	6'	sea to 3,000'	Dry to Medium
	<i>Lipochaeta glabrifolia</i>	nehe	1'	5'	sea to 1,000'	Dry to Medium
	<i>Papouania leptostachya</i>	pla'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium
	<i>Plumbago zeylanica</i>	we'a	1'			
	<i>Sesuvium portulacastrum</i>	akuhukui, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet
	<i>Sida fallax</i>	lima	0.5'	3'	sea to 1,000'	Dry to Medium
	<i>Japhrota purpurea</i> var. <i>purpurea</i>	auhuhu	2'	2'	sea to 1,000'	Dry to Medium
	<i>Hibiscus calyphyllus</i>	ma'o hau holo, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
	<i>Lipochaeta rockii</i>	nehe	2'	2'	sea to 3,000'	Dry to Medium
	<i>Lipochaeta succulentia</i>	nehe	2'	5'	sea to 1,000'	Dry to Wet
	<i>Lycium sandwicense</i>	ohelo-kai, 'ao'ao	2'	2'	sea to 1,000'	Dry to Medium
	<i>Cocos nucifera</i>	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
	<i>Fritchardia hillebrandii</i>	lo'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet
	<i>Mariscus javanicus</i>	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium

Yellow

Zone 3

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	<i>Argemone plauca</i> var. <i>decipiens</i>	pu'a kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	<i>Bidens mauiensis</i>	ko'oko'olau	1'	3'	sea to 1,000'	Dry to Medium
Sh	<i>Bidens menziesii</i> ssp. <i>menziesii</i>	ko'oko'olau	1'	3'		
Sh	<i>Bidens micrantha</i> ssp. <i>micrantha</i>	ko'oko'olau	1'	3'		
Sh	<i>Chenopodium paluense</i>	sheehea, 'awee'awee	6'		sea to higher	Dry to Medium
Sh	<i>Dianella sandwicensis</i>	uki	2'	2'	1,000' to higher	Dry to Medium
Sh	<i>Gossypium tomentosum</i>	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium
Sh	<i>Hedyotis</i> spp.	au, pio	3'	2'	1,000' to 3,000'	Dry to Wet
Sh	<i>Lipochaeta lavarum</i>	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	<i>Dalemeites anhyllidifolia</i>	ulet, etuhe	4'	6'	sea to 3,000'	Dry to Medium
Sh	<i>Scaripia sericea</i>	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	<i>Senna gaudichaudii</i>	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	<i>Solanum toisonii</i>	akia, beach solanum	3'	3'	sea to 1,000'	Dry to Medium
Sh	<i>Slyphala lameiameiae</i>	pukiewa	6'	6'	1,000' to higher	Dry to Medium
Sh	<i>Vitex rotundifolia</i>	ponihahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	<i>Wikstroemia uva-ursi kauaiensis kauaiensis</i>	akia, Molokai osmanthus				
Sh-Tr	<i>Broussonetia papyrifera</i>	wauke, paper mulberry	8'	6'	sea to 1,000'	Dry to Medium
Sh-Tr	<i>Myoporum sandwicense</i>	naio, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh-Tr	<i>Nolotrichum sandwicense</i>	kuiui	8'	8'	sea to 3,000'	Dry to Medium
Sh-Tr	<i>Dodonaea viscosa</i>	'a'ai	6'	8'	sea to higher	Dry to Medium
Tr	<i>Aleurites moluccana</i>	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet
Tr	<i>Calophyllum inophyllum</i>	kamanii, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	<i>Canthium odoratum</i>	Alaha'e, 'oh'e'e, welahe'o	12'	8'	sea to 3,000'	Dry to Medium
Tr	<i>Cordia subcordata</i>	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	<i>Diospyros sandwicensis</i>	lama	12'	15'	sea to 3,000'	Dry to Medium
Tr	<i>Erythrina sandwicensis</i>	waiwai	20'	20'	sea to 1,000'	Dry
Tr	<i>Metrosideros polymorpha</i> var. <i>macrophylla</i>	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet

Yellow

Zone 3

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
	<i>Morinda citrifolia</i>	Indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
	<i>Neesokina polynesiicum</i>	keahi	15'	15'	sea to 3,000'	Dry
	<i>Neoloma sandwicensis</i>	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
	<i>Pandanus toctorua</i>	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
	<i>Placmela auwahiensis</i>	halapopa	20'			
	<i>Psittosia sandwicensis</i>	hao	20'	15'	sea to 3,000'	Dry to Medium
	<i>Reynoldsia sandwicensis</i>	pye makai	20'	20'	1,000' to 3,000'	Dry
	<i>Santalum ellipticum</i>	coastal sandalwood, 'ii-ahi	8'	8'	sea to 3,000'	Dry to Medium
	<i>Thaussia populnea</i>	mwo	30'	30'	sea to 3,000'	Dry to Wet

Zone-specific Native and Polynesian plants for Maui County

Zone 5

TYPE: F Fem G Grass Gr Ground Cover Sh Shrub P Palm S Sedge Tr Tree V Vine

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
G	<i>Colubrina asiatica</i>	'anapanapa	3'	10'	sea to 1,000'	Dry to Wet
G	<i>Eragrostis vanabilis</i>	'emo-foa	1'	2'	sea to 3,000'	Dry to Medium
G	<i>Fimbristylis cymosa</i> ssp. <i>spathacea</i>	ma'u'aki'aki fimbriatylis	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	<i>Boerhavia repens</i>	alena	0.5'	4'	sea to 1,000'	Dry to Medium
Gr	<i>Chamaesyce celastroides</i> var. <i>laehensis</i>	'akoko	2'	3'	sea to 1,000'	Dry to Medium
Gr	<i>Cressa truxillensis</i>	cressa	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	<i>Heliotropium anomalum</i> var. <i>argenteum</i>	hinahina ku kahakai	1'	2'	sea to 1,000'	Dry to Medium
Gr	<i>Jacquemontia ovalifolia</i> ssp. <i>sandwicensis</i>	pa'u o hi'aka	0.5'	6'	sea to 1,000'	Dry to Medium
Gr	<i>Lipochaeta integrifolia</i>	nehe	1'	5'	sea to 1,000'	Dry to Medium
Gr	<i>Sesuvium portulacastrum</i>	'akukuku, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet
Gr	<i>Sida lalax</i>	'lima	0.5'	3'	sea to 1,000'	Dry to Medium
Gr	<i>Tephrosia purpurea</i> var. <i>purpurea</i>	'auhuhu	2'	2'	sea to 1,000'	Dry to Medium
Gr - Sh	<i>Hibiscus calyphyllus</i>	ma'o hau hele, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	<i>Lycium sandwicense</i>	'ohelo-kai, 'ao'ao	2'	2'	sea to 1,000'	Dry to Medium
P	<i>Cocos nucifera</i>	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
P	<i>Prichardia hillebrandii</i>	lo'uku, fan palm	25'	15'	sea to 1,000'	Dry to Wet
S	<i>Mariscus javanicus</i>	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium
Sh	<i>Argemone glauca</i> var. <i>decepiens</i>	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	<i>Aletrisia australis</i>	'ahinahina	2'	3'	sea to 3,000'	Dry to Medium
Sh	<i>Bidens hillebrandiana</i> ssp. <i>hillebrandiana</i>	ko'oko'olau	1'	2'	sea to 1,000'	Dry to Wet
Sh	<i>Bidens mauiensis</i>	ko'oko'olau	1'	3'	sea to 1,000'	Dry to Medium
Sh	<i>Chenopodium oahuense</i>	'aheahoa, 'aweoweo	6'		sea to higher	Dry to Medium
Sh	<i>Dianella sandwicensis</i>	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	<i>Gossypium tomentosum</i>	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium

Zone-specific Native and Polynesian plants for Maui County

Zone 5

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	Hedyotis spp.	au, pilo	3'	2'	1,000' to 3,000'	Dry to Wet
Sh	Lipochaeta lavarum	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	Ostroomelos anthyllidifolia	'uloi, eluhe	4'	6'	sea to 3,000'	Dry to Medium
Sh	Scaevola sericea	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	Senna gaudichaudii	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	Solanum nelsonii	'akia, beach solanum	3'	3'	sea to 1,00'	Dry to Medium
Sh	Vitex rotundifolia	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	Wikstroemia ura-ura kauliensis kauaiensis	'akia, Molokai osmanthus				
Sh - Tr	Myoporum sandwicense	naio, laise sandalwood	10'	10'	sea to higher	Dry to Medium
Sh - Tr	Dodonaea viscosa	'a'ali'i	6'	8'	sea to higher	Dry to Medium
Tr	Aleurites moluccana	candlenut, kuku'i	50'	50'	sea to 3,000'	Medium to Wet
Tr	Calophyllum inophyllum	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	Cordia subcordata	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	Hibiscus furcillatus	'akohala, hau-hele	8'			
Tr	Monarda citrifolia	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	Pandanus tectorius	'hala, puhala (HALELI'I)	35'	25'	sea to 1,000'	Dry to Wet
Tr	Hesperia populnea	milo	30'	30'	sea to 3,000'	Dry to Wet
V	Ipomoea pes-caprae	beach morning glory, pohuehue	1'			

DO NOT PLANT THESE PLANTS !!!

Common name	Scientific name	Plant family
	Jasminum humile	Oleaceae
	Arthrostemma ciliatum	Melastomataceae
	Dissotis rotundifolia	Melastomataceae
	Erigeron karwinskianus	Asteraceae
	Eucalyptus robusta	Myrtaceae
	Hedychium gardnerianum	Zingiberaceae
	Juncus plantifolius	Juncaceae
	Lophosiphon confertus	Myrtaceae
	Medinilla cumingii	Melastomataceae
	Medinilla magnifica	Melastomataceae
	Medinilla venosa	Melastomataceae
	Melastoma candidum	Melastomataceae
	Melinis minutiflora	Poaceae
	Olea europaea	Melastomataceae
	Oryzopsis paniculata	Poaceae
	Panicum maximum	Poaceae
	Paspalum urvillei	Poaceae
	Passiflora edulis	Passifloraceae
	Phormium tenax	Agavaceae
	Pinus taeda	Pinaceae
	Prosopis pallida	Fabaceae
	Pterocarpus glomerata	Melastomataceae
	Rhodomyrtus tomentosa	Myrtaceae
	Schefflera actinophylla	Araliaceae
	Syzygium jambos	Myrtaceae
Australian blackwood	Acacia melanoxylon	Mimosaceae
Australian tree fern	Cyathea cooperi	Cyatheaceae
Australian tree fern	Sphaeropteris cooperi	Cyatheaceae
Beggar's tick, Spanish needle	Bidens pilosa	Asteraceae
California grass	Bracharia mutica	Poaceae
Chinese banyon, Maylayan banyon	Ficus microcarpa	Moraceae
Chinese violet	Asystasia gangetica	Acanthaceae
Christmasberry, Brazilian pepper	Schinus molle	Anacardiaceae
Formosan koa	Acacia confusa	Mimosaceae
German ivy	Senecio mikanioides	Asteraceae
Japanese honeysuckle	Lonicera japonica	Caprifoliaceae
Koster's curse	Clerodendron bitorquatum	Melastomataceae
Lantana	Lantana camara	Verbenaceae
Mauritius hemp	Furcraea foetida	Agavaceae
Mexican ash, tropical ash	Fraxinus uhdei	Oleaceae
Mexican tulip poppy	Hunnemannia fumarifolia	Papaveraceae
Mulee foot, Madagascar tree fern	Angiopteris evecta	Marattiaceae
New Zealand laurel, karakaranui	Corynocarpus laevigatus	Corynocarpaceae
New Zealand tea	Lepidospermum scoparium	Myrtaceae
Pampas grass	Cortaderia jubata	Poaceae
Panama rubber tree, Mexican rubber tree	Castilleja elastica	Moraceae
Shoebuttin ardisia	Ardisia elliptica	Myrsinaceae
banana poka	Passiflora mollissima	Passifloraceae

Selection

As a general rule, it is best to select the largest and healthiest specimens. However, be sure to note that they are not pot-bound. Smaller, younger plants may result in a low rate of plant survival.¹ When selecting native species, consider the site they are to be planted in, and the space that you have to plant. For example: Mountain species such as koa and maile will not grow well in hot coastal areas exposed to strong ocean breezes. Lowland and coastal species such as wiliwili and Kou require abundant sunshine and porous soil. They will not grow well with frequent cloud cover, high rainfall and heavy soil.

Consider too, the size that the species will grow to be. It is not wise to plant trees that will grow too large.² Overplanting tends to be a big problem in the landscape due to the underestimation of a species' height, width or spread.

A large, dense canopied tree such as the kukui is a good shade tree for a lawn. However, it's canopy size and density of shade will limit what can be planted in the surrounding area. Shade cast by a koa and ohia lehua is relatively light and will not inhibit growth beneath it.

Keep seasons in mind when you are selecting your plants. Not all plants look good year round, some plants such as liliwa will look scraggly after they have flowered and formed seeds. Avoid planting large areas with only one native plant. Mixing plants which naturally grow together will ensure the garden will look good all year round.³ Looking at natural habitats helps to show how plants grow naturally in the landscape.

When planning an area with a mixed-ecosystem, keep in mind the size and ecological requirements of each plant. Start with the hardiest and most easily grown species, but allow space for fragile ones in subsequent plantings.

Acquiring natives

Plants in their wild habitat must be protected and maintained. It is best and easiest to get your plants from nurseries (see list), or friend's gardens. Obtain proper permits from landowners and make sure you follow a few common sense rules:

- collect sparingly from each plant or area.
- some plants are on the state or Federal Endangered Species list. Make sure you get permits (see app. A,B)

¹ K. Nagata, P.6

² K. Nagata, P.9

³ Nagata, P.9

DO NOT PLANT THESE PLANTS !!!

Common name	Scientific name	Plant family
black wattle	Acacia melanocoryna	Mimosaceae
blackberry	Rubus argutus	Rosaceae
blue gum	Eucalyptus globulus	Myrtaceae
bocconia	Bocconia frutescens	Papaveraceae
broad-leaved cordia	Cordia alliodora	Boraginaceae
broomsedge, yellow blueslom	Andropogon virginicus	Poaceae
buttergrass	Cenchrus ciliaris	Poaceae
butterfly bush, smoke bush	Buddleia madagascariensis	Buddleiaceae
cats claw, Mysore thorn, wail-a-bit	Caesalpinia decapetala	Caesalpinaceae
common ironwood	Casuarina equisetifolia	Casuarinaceae
common velvet grass, Yorkshire fog	Holcus latifolius	Poaceae
iddlewood	Citharexylum spinosum	Verbenaceae
fire tree, lava tree	Myrica tora	Myricaceae
glorybower	Clerodendrum laponicum	Verbenaceae
hairy cat's ear, gosmore	Hypochoeris radicata	Asteraceae
haole koa	Leucaena leucocephala	Fabaceae
ivy gourd, scarlet-fruited gourd	Coccinia grandis	Cucurbitaceae
juniper berry	Citharexylum caudatum	Verbenaceae
kahi flower	Grevillea banksii	Proteaceae
kiu, popcorn	Acacia farnesiana	Mimosaceae
logwood, bloodwood tree	Haematoxylum campechianum	Caesalpinaceae
loquat	Eriobotrya japonica	Rosaceae
meadow ricegrass	Eriochorda zippoides	Poaceae
melaleuca	Melaleuca quinquenervia	Myrtaceae
miconia, velvet leaf	Miconia calvescens	Melastomataceae
narrow-leaved carpetgrass	Miconia strajlotius	Poaceae
oleaster	Axonopus umbellata	Elaeagnaceae
oriental mangrove	Elaeagnus umbellata	Elaeagnaceae
pedang cassia	Bruquieria gymnorhiza	Rhizophoraceae
palmgrass	Bruquieria burmannii	Lauraceae
pearl flower	Cinnamomum burmannii	Poaceae
quinine tree	Solaria pumila	Melastomataceae
rain leaf, carmitika	Heteropogon subulpinervium	Rubiaceae
silkwood, Queensland maple	Cinchona pubescens	Rubiaceae
silky oak, silver oak	Chrysophyllum obovatum	Sapotaceae
strawberry quava	Flindersia brayleyana	Rutaceae
swamp oak, saltmarsh, longleaf ironwood	Grevillea robusta	Proteaceae
sweet vernalgrass	Grevillea robusta	Proteaceae
tree of heaven	Psidium cattleianum	Myrtaceae
trumpet tree, guarumo	Casuarina glauca	Casuarinaceae
white ginger	Anthoxanthum odoratum	Poaceae
white moho	Antanthus altissima	Simaroubaceae
yellow ginger	Antanthus altissima	Cecropiaceae
	Cecropia obtusifolia	Cecropiaceae
	Cecropia coronarium	Zingiberaceae
	Hedyotis coronarium	Zingiberaceae
	Hedyotis pappanensis	Tiliaceae
	Hedyotis flavescens	Zingiberaceae

Soil

Once you have selected your site and the plants you wish to establish there, you must look at the soil conditions on the site. Proper soil is necessary for the successful growth of most native plants, which perform poorly in hard pan, clay or adobe soils. If natives are to be planted in these types of soil, it would be wise to dig planting holes several times the size of the rootball and backfill with 50-75% compost.⁴ A large planting hole ensures the development of a strong root system. The plant will have a headstart before the roots penetrate the surrounding poor soil.⁵

It is recommended that native plants not be planted in ground that is more dense than potting soil. If there is no alternative, dig a hole in a mound of soil mixed with volcanic cinder which encourages maximum root development. Fill the hole with water, if the water tends to puddle or drain too slowly, dig a deeper hole until the water does not puddle longer than 1 or 2 minutes.⁶ Well-drained soil is one of the most important things when planting natives as you will see in the next section.

Irrigation

Most natives do very poorly in waterlogged conditions. Do not water if the soil is damp. Water when the soil is dry and the plants are wilting. Once established, a good soaking twice a week should suffice. Deep soaking encourages the development of stronger, and deeper root systems. This is better than frequent and shallow watering which encourage weaker, more shallow root systems.

The following is a watering schedule from Kenneth Nagata's Booklet, *How To Plant A Native Hawaiian Garden*:

WATER REQUIREMENT	WATERING FREQUENCY
Heavy	3x / week
Moderate	2x / week
Light	1x / week

Red clay soils hold more water for a longer period of time than sandy soils do. If your area is very sunny or near a beach, things will dry out faster. Even in the area of one garden, there are parts that will need more or less water. Soils can vary and amount of shade and wind differ. After plants are established (a month or two for most plants, up to a year for some trees), you can back off watering.

⁴ Nagata, p. 6

⁵ Nagata, p. 8

⁶ Nagata, p. 8

Automatic sprinkler systems are expensive to install and must be checked and adjusted regularly. Above-ground systems allow you to monitor how much water is being put out, but you lose a lot due to malfunctioning of sprinkler heads and wind. The most efficient way to save water and make sure your plants get enough water, is to hand-water. This way you are getting our precious water to the right places in the right amounts.⁷

Fertilizer

An all-purpose fertilizer 10-10-10 is adequate for most species. They should be applied at planting time, 3 months later, and 6 months thereafter. Use half the dosage recommended for ornamentals and pay special attention to native ferns which are sensitive to strong fertilizers. Use of organic composts and aged animal manures is suggested instead of chemical fertilizers. In addition, use of cinders for providing trace minerals is strongly recommended.⁸

Natives are plants which were here hundreds of years before the polynesians inhabited the Hawaiian Islands. They were brought here by birds, or survived the harsh ocean conditions to float here. They are well-adapted to Hawaii's varying soil and environmental conditions. This is why they make prime specimens for a xeriscape garden. However, natives will not thrive on their own, especially under harsh conditions. On the other hand, like any other plant, if you over-water and over-fertilize them, they will die. Follow the instructions given to you by the nursery you buy the plant from, or from this booklet. Better yet, buy a book (suggested readings can be found in the bibliography in the back of this pamphlet), read it, and learn more about native plants. I guarantee that you will be pleased with the results.

⁷ Bornhorst, p. 19-20

⁸ Nagata, p. 6

Propagation

There are many ways to propagate and plant-out native Hawaiian species. One of the most thorough and helpful book is Heidi Bomborst's book, *Growing Native Hawaiian Plants*. The easiest, and best way to obtain natives for the novice gardener is to get them from a reputable nursery (see appendix c). That way all you will have to do is know how to transplant (if necessary) and plant-out when you are ready. These are the two methods I have listed here.

Transplanting

1. Use pots that are one size bigger than the potted plant is in
2. Get your potting medium ready

Good potting medium is a 1/2, 1/2 mixture of peat moss and perlite. If the plant is from a dry or coastal area, add chunks of cinder or extra perlite. If it is a wet forest species, add more peat moss or compost. Be aware that peat moss is very acidic and certain plants react severely to acidity.

If the plant is to eventually be planted into the ground, make a mix of equal parts peat moss, perlite, and soil from the area in which the plant is to be planted. Slow-release fertilizer can be mixed into the potting medium.

3. Once pots, potting medium, fertilizer and water are ready, you can begin re-potting. Keep the plant stem at the same depth it was in the original pot. Avoid putting the plant in too large a pot, as the plant may not be able to soak up all the water in the soil and the roots may drown and rot.

Mix potting medium and add slow-release fertilizer at this time. Pre-wet the medium to keep dust down and lessen shock to the plant. Put medium in bottom of pot. Measure for the correct depth in the new pot. Make sure there is from 1/2 to 2 inches from the top of the pot so the plant can get adequate water. Try to stand the plant upright and center the stem in the middle of the pot.

Water the plant thoroughly after transplanting. A vitamin B-1 transplanting solution can help to lessen the transplant shock. Keep the plant in the same type of environment as it was before, sun or shade. If roots were broken, trim off some of the leaves to compensate for the loss.

Planting out

1. Plant most native Hawaiian plants in a sunny location in soil that is well-drained.
 2. Make the planting hole twice as wide as the root ball or present pot, and just as deep.
- If the soil is clay-like, and drains slowly, mix in some coarse red or bland cinder, coarse perlite or

coarse compost. Place some slow-release fertilizer at the bottom of the hole.

3. Carefully remove the plant from the container and place it in the hole. The top of the soil should be at the same level as the top of the hole, if it is too high or too low, adjust the soil level so that the plant is at the right depth.
4. Water thoroughly after you transplant.

Mulch

Most natives cannot compete with weeds, and therefore must be weeded around constantly in order to thrive. Mulch is a practical alternative, which discourages and prevents weeds from growing.

Hawaii's hot, humid climate leads to the breaking down of organic mulches. Thick organic mulches such as wood chips and leaves, may also be hiding places for pests.

Stone mulches are attractive, permanent and can help to improve soil quality. Red or black cinder, blue rock chips, smooth river rocks and coral chips are some natural choices.¹⁰ Macadamia nut hulls are also easy to find and can make a nice mulch.¹¹

Never pile up mulch right next to the stem or trunk of a plant, keep it a few inches away.

¹⁰ Bomborst, p. 24

¹¹ Nagata, p. 7

PLACES TO SEE NATIVES ON:

The following places propagate native Hawaiian plants from seeds and/or cuttings. Their purpose is to protect and preserve these native plants. Please contact them before going to view the sites, they can provide valuable information and referral to other sources.

Maui:

1. Hoolawa Farms, P.O. Box 731, Hāna, Hawaii, 96708 572-4835
2. The Hawaiian Collection, 1127 Mamu St., Kula, Hawaii, 96790 878-1701
3. Kula Botanical Gardens, RR 4, Box 228, Kula, Hawaii, 96790 878-1715
4. Maui Botanical Gardens, Kanaloa Avenue across from stadium 243-7337
5. Kula Forest Reserve, access road at the end of Waipouli Rd.
Call the Maui District Forester 984-8100
6. Wailea Point, Private Condominium residence, 4000 Wailea Alanui,
public access points at Four Seasons Resort or Polo Beach 875-9557
7. Kahau Gardens, National Tropical Botanical Garden,
Alani Pl, Hana, Hawaii, 96713 248-8912
9. Kahului Library Courtyard, 20 School Street, Kahului, Hawaii 873-3097

ZONES

The Maui County Planning Plan has compiled a system of 5 zones of plant growth for Maui County. The descriptions of zones and maps for these zones are as follows:

- Zone 1: Wet areas on the windward side of the island. More than 40 inches of rain per year. Higher than 3,000 feet.
- Zone 2: Cool, dry areas in higher elevations (above 1,000 feet). 20 to 40 inches of rain per year.
- Zone 3: Low, drier areas, warm to hot. Less than 20 inches of rain per year. Sea level to 1,000 feet.
- Zone 4: Lower elevations which are wetter due to proximity of mountains. 1,000 to 3,000 feet.
- Zone 5: Salt spray zones in coastal areas on the windward side.

These zones are to be used as a general guide to planning for Maui County. In addition to looking at the maps, read the descriptions of the zones and decide which zone best fits your area. Plants can be listed in more than one zone and can be planted in a variety of conditions. For best results, take notes on the rainfall, wind, sun and salt conditions of your site. Use the zones as a general guide for selection and read about the plants to decide which best fits your needs as far as care and or function.



Guidance Specifying Management Measures For Sources Of Nonpoint Pollution In Coastal Waters

PLACES TO BUY NATIVES ON:

Maui:

- | | |
|---|----------|
| 1. Hoolawa Farms
P O Box 731
Haiku HI 96708
The largest and best collection of natives
in the state. They will deliver, but it's
worth the drive to go and see!
Will propagate upon request | 575-5099 |
| 2. Kula True Value Nursery
Many natives in stock
Get most of their plants from Hoolawa Farms
They take special requests | 878-2551 |
| 3. Kihel Garden and Landscape | 244-3804 |
| 4. Kihana Nursery, Kihel | 879-1165 |
| 5. The Hawaiian Collection
Specialize in Sandalwood propagation
Will propagate special requests | 878-1701 |

Issued Under the Authority of
Section 6217(g) of the Coastal Zone Act
Reauthorization Amendments of 1990

measured sediment loading rates associated with construction activities found across the United States. As seen in Table 4-14, erosion rates from natural areas such as undisturbed forested lands are typically less than one ton/acre/year, while erosion from construction sites ranges from 7.2 to over 1,000 tons/acre/year.

Table 4-14. Erosion and Sediment Problems Associated With Construction

Location	Problem	Reference
United States	Sediment loading rates vary from 36.5 to 1,000 ton/acre/yr. These are 5 to 500 times greater than those from undeveloped land. Approximately 600 million tons of soil erodes from developed sites each year. Construction site sediment in runoff can be 10 to 20 times greater than that from agricultural lands.	York County Soil and Water Conservation District, 1990
Franklin County, FL	Sediment yield (ton/acre/yr): forest < 0.5 range/land < 0.5 tilled 1.4 construction site 30 established urban < 0.5	Franklin County, FL
Wisconsin	Erosion rates range from 30 to 200 ton/acre/yr (10 to 20 times those of cropland).	Wisconsin Legislative Council, 1981
Washington, DC	Erosion rates range from 35 to 45 ton/acre/yr (10 to 100 times greater than agriculture and stabilized urban land uses).	MWCOG, 1987
Anacostia River Basin, VA, MD, DC	Sediment yields from portions of the Anacostia Basin have been estimated at 75,000 to 132,000 ton/yr.	U.S. Army Corps of Engineers, 1980
Washington	Erosion rates range from 50 to 500 ton/acre/yr. Natural erosion rates from forests or well-wooded prairies are 0.01 to 1.0 ton/acre/yr.	Washington Department of Ecology, 1989
Anacostia River Basin, VA, MD, DC	Erosion rates range from 7.2 to 100.9 ton/acre/yr.	USGS, 1978
Alabama	1.4 million tons eroded per year.	Woodward-Clyde, 1991
North Carolina	6.7 million tons eroded per year.	
Louisiana	5.1 million tons eroded per year.	
Oklahoma	4.2 million tons eroded per year.	
Georgia	3.8 million tons eroded per year.	
Texas	3.5 million tons eroded per year.	
Tennessee	3.3 million tons eroded per year.	
Pennsylvania	3.1 million tons eroded per year.	
Ohio	3.0 million tons eroded per year.	
Kentucky	3.0 million tons eroded per year.	

III. CONSTRUCTION ACTIVITIES

A. Construction Site Erosion and Sediment Control Management Measure

- (1) Reduce erosion and, to the extent practicable, retain sediment onsite during and after construction, and
- (2) Prior to land disturbance, prepare and implement an approved erosion and sediment control plan or similar administrative document that contains erosion and sediment control provisions.

1. Applicability

This management measure is intended to be applied by States to all construction activities on sites less than 5 acres in areas that do not have an NPDES permit¹ in order to control erosion and sediment loss from those sites. This management measure does not apply to: (1) construction of a detached single family home on a site of 1/2 acre or more or (2) construction that does not disturb over 5,000 square feet of land on a site. (NOTE: All construction activities, including clearing, grading, and excavation, that result in the disturbance of areas greater than or equal to 5 acres or are a part of a larger development plan are covered by the NPDES regulations and are thus excluded from these requirements.) Under the Coastal Zone Act Reauthorization Amendments of 1990, States are subject to a number of requirements as they develop coastal NFS programs in conformity with this management measure and will have flexibility in doing so. The application of management measures by States is described more fully in *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, published jointly by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.

2. Description

The goal of this management measure is to reduce the sediment loadings from construction sites in coastal areas that enter surface waterbodies. This measure requires that coastal States establish new or enhance existing State erosion and sediment control (ESC) programs and/or require ESC programs at the local level. It is intended to be part of a comprehensive land use or watershed management program, as previously detailed in the *Watershed and Site Development Management Measures*. It is expected that State and local programs will establish criteria determined by local conditions (e.g., soil types, climate, meteorology) that reduce erosion and sediment transport from construction sites.

Runoff from construction sites is by far the largest source of sediment in urban areas under development (York County Soil and Water Conservation District, 1990). Soil erosion removes over 90 percent of sediment by tonnage in urbanizing areas where most construction activities occur (Canning, 1988). Table 4-14 illustrates some of the

¹ On May 27, 1992, the United States Court of Appeals for the Ninth Circuit upheld EPA's exemption of construction sites smaller than 5 acres from the storm water permit program in *National Resources Defense Council v. EPA*, 963 F.2d 719 (9th Cir. 1992). EPA is conducting further rulemaking proceedings on this issue and will not require permit applications for construction activities under 5 acres until further rulemaking has been completed.

III. Construction Activities

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Eroded sediment from construction sites creates many problems in coastal areas including adverse impacts on water quality, critical habitats, submerged aquatic vegetation (SAV) beds, recreational activities, and navigation (APWA, 1991). For example, the Miami River in Florida has been severely affected by pollution associated with upland erosion. This watershed has undergone extensive urbanization, which has included the construction of many commercial and residential buildings over the past 50 years. Sediment deposited in the Miami River channel contributes to the severe water quality and navigation problems of this once-thriving waterway, as well as Biscayne Bay (SFWMD, 1988).

ESC plans are important for controlling the adverse impacts of construction and land development and have been required by many State and local governments, as shown in Table 4-13 (in the Site Development section of this chapter). An ESC plan is a document that explains and illustrates the measures to be taken to control erosion and sediment problems on construction sites (Consistent Council on Soil and Water Conservation, 1988). It is intended that existing State and local erosion and sediment control plans may be used to fulfill the requirements of this management measure. Where existing ESC plans do not meet the management measure criteria, inadequate plans may be enhanced to meet the management measure guidelines.

Typically, an ESC plan is part of a larger site plan and includes the following elements:

- Description of predominant soil types;
- Details of site grading including existing and proposed contours;
- Design details and locations for structural control;
- Provisions to preserve topsoil and limit disturbance;
- Details of temporary and permanent stabilization measures; and
- Description of the sequence of construction.

ESC plans ensure that provisions for control measures are incorporated into the site planning stage of development and provide for the reduction of erosion and sediment problems and accountability if a problem occurs (York County Soil and Water Conservation District, 1990). An effective plan for urban runoff management on construction sites will control erosion, retain sediments on site, to the extent practicable, and reduce the adverse effects of runoff. Climate, topography, soils, drainage patterns, and vegetation will affect how erosion and sediment should be controlled on a site (Washington State Department of Ecology, 1989). An effective ESC plan includes both structural and nonstructural controls. Nonstructural controls address erosion control by decreasing erosion potential, whereas structural controls are both preventative and mitigative because they control both erosion and sediment movement.

Typical nonstructural erosion controls include (APWA, 1991; York County Soil and Water Conservation District, 1990):

- Planning and designing the development within the natural constraints of the site;
- Minimizing the area of bare soil exposed at one time (phased grading);
- Providing for runoff crossing areas for natural and man-made areas; and
- Stabilizing cut-and-fill slopes caused by construction activities.

Structural controls include:

- Perimeter control;
- Mulching and seeding exposed areas;
- Sediment basins and traps; and
- Filter fabric, or silt fences.

Some erosion and soil loss are unavoidable during land-disturbing activities. While proper siting and design will help prevent areas prone to erosion from being developed, construction activities will inevitably produce conditions where erosion may occur. To reduce the adverse impacts associated with construction, the construction management measure suggests a system of nonstructural and structural erosion and sediment controls for incorporation into an

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ESC plan. Erosion controls have distinct advantages over sediment controls. Erosion controls reduce the amount of sediment transported off-site, thereby reducing the need for sediment controls. When erosion controls are used in conjunction with sediment control, the size of the sediment control structures and associated maintenance may be reduced, decreasing the overall treatment costs (SWRPC, 1991).

3. Management Measure Selection

This management measure was selected to minimize sediment being transported outside the perimeter of a construction site through two broad performance goals: (1) reduce erosion and (2) retain sediment onsite, to the extent practicable. These performance goals were chosen to allow States and local governments flexibility in specifying practices appropriate for local conditions.

While several commentors responding to the draft (May 1991) guidance expressed the need to define "more measurable, enforceable ways" to control sediment loadings, other commentors stressed the need to draft management measures that do not conflict with existing State programs and allow States and local governments to determine appropriate practices and design standards for their communities. These management measures were selected because virtually all coastal States control construction activities to prevent erosion and sediment loss.

The measures were specifically written for the following reasons:

- (1) Predevelopment loadings may vary greatly, and some sediment loss is usually inevitable;
- (2) Current practice is built on the use of systems of practices selected based on site-specific conditions; and
- (3) The combined effectiveness of erosion and sediment controls in systems is not easily quantified.

4. Erosion Control Practices

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

Erosion controls are used to reduce the amount of sediment that is detached during construction and to prevent sediment from entering runoff. Erosion control is based on two main concepts: (1) disturb the smallest area of land possible for the shortest period of time, and (2) stabilize disturbed soils to prevent erosion from occurring.

a. Schedule projects so clearing and grading are done during the time of minimum erosion potential.

Often a project can be scheduled during the time of year that the erosion potential of the site is relatively low. In many parts of the country, there is a certain period of the year when erosion potential is relatively low and construction scheduling could be very effective. For example, in the Pacific region if construction can be completed during the 6-month dry season (May 1 - October 31), temporary erosion and sediment controls may not be needed. In addition, in some parts of the country erosion potential is very high during certain parts of the year such as the spring thaw in northern areas. During this time of year, melting snowfall generates a constant runoff that can erode soil. In addition, construction vehicles can easily turn the soft, wet ground into mud, which is more easily washed offsite. Therefore, in the north, limitations should be placed on grading during the spring thaw (Goldman et al., 1986).

b. Stage construction.

oid airside clearance of construction sites. Plan and stage land disturbance activities so that only the area recently under construction is exposed. As soon as the grading and construction in an area are complete, the area could be stabilized.

r cleaning only those areas immediately essential for completing site construction, buffer zones are preserved and it remains undisturbed until construction begins. Physical markers, such as tape, signs, or barriers, indicating the us of land disturbance, can ensure that equipment operators know the proposed limits of clearing. The area of e watershed that is exposed to construction is important for determining the net amount of erosion. Reducing the tent of the disturbed area will ultimately reduce sediment loads to surface waters. Existing or newly planted egration that has been planned to stabilize disturbed areas should be protected by routing construction traffic around d protecting natural vegetation with fencing, tree armoring, retaining walls, or tree wells.

c. Clear only areas essential for construction.

ten areas of a construction site are unnecessarily cleared. Only those areas essential for completing construction ivities should be cleared, and other areas should remain undisturbed. Additionally, the proposed limits of land urbance should be physically marked off to ensure that only the required land area is cleared. Avoid disturbing egration on steep slopes or other critical areas.

d. Locate potential/nonpoint pollutant sources away from steep slopes, waterbodies, and critical areas.

lateral stockpiles, borrow areas, access roads, and other land-disturbing activities can often be located away from ical areas such as steep slopes, highly erodible soils, and areas that drain directly into sensitive waterbodies.

e. Route construction traffic to avoid existing or newly planted vegetation.

Where possible, construction traffic should travel over areas that must be disturbed for other construction activity. his practice will reduce the area that is cleared and susceptible to erosion.

f. Protect natural vegetation with fencing, tree armoring, and retaining walls or tree wells.

ree armoring protects tree trunks from being damaged by construction equipment. Fencing can also protect tree unks, but should be placed at the tree's drip line so that construction equipment is kept away from the tree. The ee drip line is the minimum area around a tree in which the tree's root system should not be disturbed by cut, fill, r soil compaction caused by heavy equipment. When cutting or filling must be done near a tree, a retaining wall r tree well should be used to minimize the cutting of the tree's roots or the quantity of fill placed over the tree's oots.

g. Stockpile topsoil and reapply to revegetate site.

Because of the high organic content of topsoil, it cannot be used as fill material or under pavement. After a site is cleared, the topsoil is typically removed. Since topsoil is essential to establish new vegetation, it should be stockpiled and then reappplied to the site for revegetation, if appropriate. Although topsoil salvaged from the existing site can often be used, it must meet certain standards and topsoil may need to be imported onto the site if the existing topsoil is not adequate for establishing new vegetation.

h. Cover or stabilize topsoil stockpiles.

Unprotected stockpiles are very prone to erosion and therefore stockpiles must be protected. Small stockpiles can be covered with a tarp to prevent erosion. Large stockpiles should be stabilized by erosion blankets, seeding, and/or mulching.

i. Use wind erosion controls.

Wind erosion controls limit the movement of dust from disturbed soil surfaces and include many different practices. Wind barriers block air currents and are effective in controlling soil blowing. Many different materials can be used as wind barriers, including solid board fences, snow fences, and bales of hay. Sprinkling moistens the soil surface with water and must be repeated as needed to be effective for preventing wind erosion (Delaware DNREC, 1989); however, applications must be monitored to prevent excessive runoff and erosion.

j. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drain.

Earth dikes, perimeter dikes or swales, or diversions can be used to intercept and convey runoff above disturbed areas. An earth dike is a temporary berm or ridge of compacted soil that channels water to a desired location. A perimeter dike/swale or diversion is a swale with a supporting ridge on the lower side that is constructed from the soil excavated from the adjoining swale (Delaware DNREC, 1989). These practices should be used to intercept flow from denuded areas or newly seeded areas to keep the disturbed areas from being eroded from the uphill runoff. The structures should be stabilized within 14 days of installation. A pipe slope drain, also known as a pipe drop structure, is a temporary pipe placed from the top of a slope to the bottom of the slope to convey concentrated runoff down the slope without causing erosion (Delaware DNREC, 1989).

k. On long or steep, disturbed, or man-made slopes, construct benches, terraces, or ditches at regular intervals to intercept runoff.

Benches, terraces, or ditches break up a slope by providing areas of low slope in the reverse direction. This keeps water from proceeding down the slope at increasing volume and velocity. Instead, the flow is directed to a suitable outlet, such as a sediment basin or trap. The frequency of benches, terraces, or ditches will depend on the erodibility of the soils, steepness and length of the slope, and rock outcrops. This practice should be used if there is a potential for erosion along the slope.

l. Use retaining walls.

Often retaining walls can be used to decrease the steepness of a slope. If the steepness of a slope is reduced, the runoff velocity is decreased and, therefore, the erosion potential is decreased.

m. Provide linings for urban runoff conveyance channels.

Often construction increases the velocity and volume of runoff, which causes erosion in newly constructed or existing urban runoff conveyance channels. If the runoff during or after construction will cause erosion in a channel, the channel should be lined or flow control BMPs installed. The first choice of lining should be grass or sod since this reduces runoff velocities and provides water quality benefits through filtration and infiltration. If the velocity in the channel would erode the grass or sod, then riprap, concrete, or gabions can be used.

n. Use check dams.

Check dams are small, temporary dams constructed across a swale or channel. They can be constructed using gravel or straw bales. They are used to reduce the velocity of concentrated flow and, therefore, to reduce the erosion in

swale or channel. Check dams should be used when a swale or channel will be used for a short time and therefore is not feasible or practical to line the channel or implement flow control BMPs (Delaware DNREC, 1989).

o. Seed and fertilize.

Seeding establishes a vegetative cover on disturbed areas. Seeding is very effective in controlling soil erosion once a dense vegetative cover has been established. However, often seeding and fertilizing do not produce as thick a vegetative cover as do seed and mulch or seeding. Newly established vegetation does not have as extensive a root system as existing vegetation and therefore is more prone to erosion, especially on steep slopes. Care should be taken when fertilizing to avoid uniformly or excessive application. Since the practice of seeding and fertilizing does not provide any protection during the time of vegetative establishment, it should be used only on favorable soils in very flat areas and not in sensitive areas.

p. Use seeding and mulch/mats.

Seeding establishes a vegetative cover on disturbed areas. Seeding is very effective in controlling soil erosion once the vegetative cover has been established. The mulching/mats protect the disturbed area while the vegetation becomes established.

The management of land by using ground cover reduces erosion by reducing the flow rate of runoff and the raindrop impact. Bare soils should be seeded or otherwise stabilized within 15 calendar days after final grading. Denuded areas that are inactive and will be exposed to rain for 30 days or more should also be temporarily stabilized, usually by planting seeds and establishing vegetation during favorable seasons in areas where vegetation can be established. In very flat, non-sensitive areas with favorable soils, stabilization may involve simply seeding and fertilizing. Mulching and/or seeding may be necessary as slopes become moderate to steep, as soils become more erodible, and as areas become more sensitive.

q. Use mulch/mats.

Mulching involves applying plant residues or other suitable materials on disturbed soil surfaces. Mulch/mats used include tacked straw, wood chips, and jute netting and are often covered by blankets or seeding. Mulching alone should be used only for temporary protection of the soil surfaces or when permanent seeding is not feasible. The useful life of mulch varies with the material used and the amount of precipitation, but is approximately 2 to 6 months. Figure 4-5 shows water velocity reductions that could be expected using various mulching techniques. Similarly, Figure 4-6 shows reductions in soil loss achievable using various mulching techniques. During times of year when vegetation cannot be established, soil mulching should be applied to moderate slopes and soils that are not highly erodible. On steep slopes or highly erodible soils, multiple mulching treatments should be used. On a high-elevation or desert site where grasses cannot survive the harsh environment, native shrubs may be planted. Interlocking ceramic materials, filter fabric, and netting are available for this purpose. Before stabilizing an area, it is important to have installed all sediment controls and diverted runoff away from the area to be planted. Runoff may be diverted away from denuded areas or newly planted areas using dikes, swales, or pipe slope drains to intercept runoff and convey it to a permanent channel or storm drain. Reserved topsoil may be used to revegetate a site if the stockpile has been covered and stabilized.

Consideration should be given to maintenance when designing mulching and matting schemes. Plastic mats are often used to cover the mulch or mat; however, they can foul lawn mower blades if the area requires mowing.

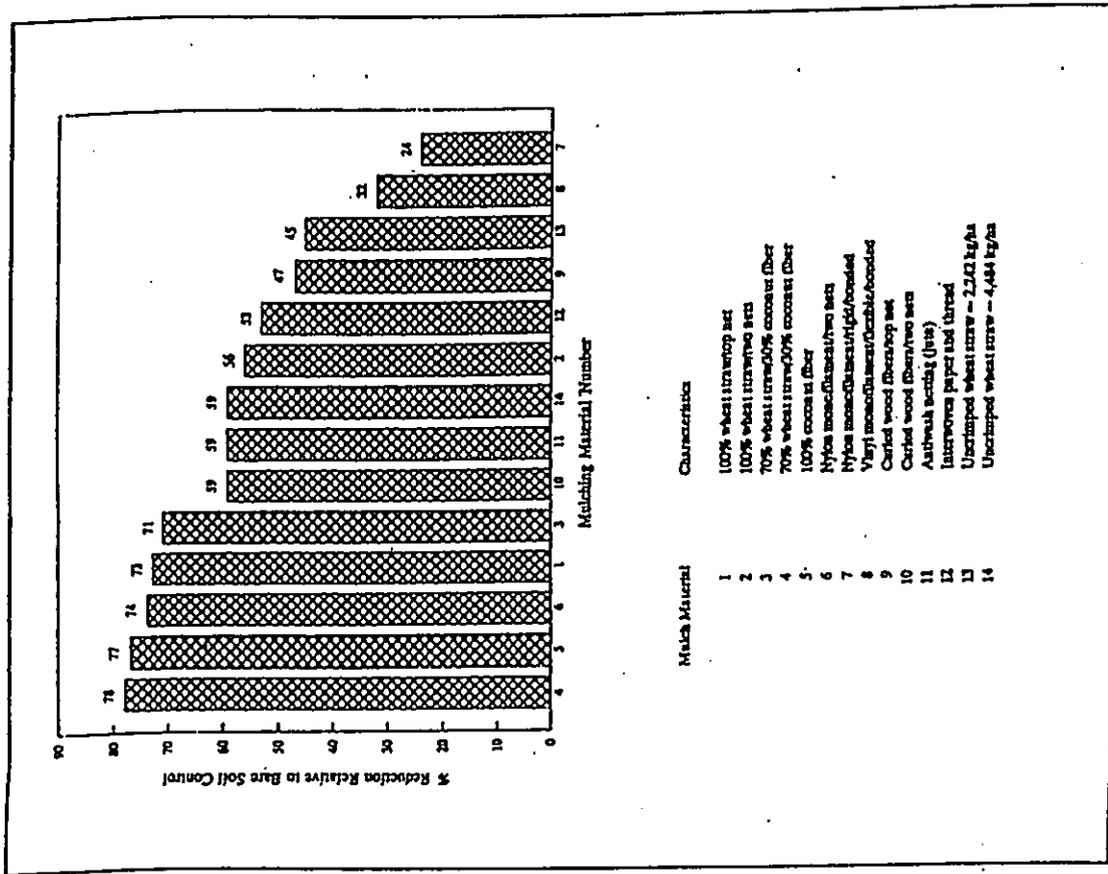


Figure 4-5. Water velocity reductions for different mulch treatments (adapted from Harding, 1990).

r. Use sodding.

Sodding permanently stabilizes an area. Sodding provides immediate stabilization of an area and should be used in critical areas or where establishment of permanent vegetation by seeding and mulching would be difficult. Sodding is also a preferred option when there is a high erosion potential during the period of vegetative establishment from seeding.

s. Use wildflower cover.

Because of the hardy drought-resistant nature of wildflowers, they may be more beneficial as an erosion control practice than turf grass. While not as dense as turf grass, wildflower thickets and associated grasses are expected to be as effective in erosion control and contaminant absorption. Because thickets of wildflowers do not need fertilizer, pesticides, or herbicides, and watering is minimal, implementation of this practice may result in a cost savings (Brash et al., undated). In 1987, Howard County, Maryland, spent \$690.00 per acre to maintain turfgrass areas, compared to only \$31.00 per acre for wildflower meadows (Wilson, 1990).

A wildflower stand requires several years to become established; maintenance requirements are minimal once the area is established (Brash et al., undated).

5. Sediment Control Practices⁴

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

Sediment controls capture sediment that is transported in runoff. Filtration and detention (gravitational settling) are the main processes used to remove sediment from urban runoff.

a. Sediment Basins

Sediment basins, also known as silt basins, are engineered impoundment structures that allow sediment to settle out of the urban runoff. They are installed prior to full-scale grading and remain in place until the disturbed portions of the drainage area are fully stabilized. They are generally located at the low point of sites, away from construction traffic, where they will be able to trap sediment-laden runoff.

Sediment basins are typically used for drainage areas between 5 and 100 acres. They can be classified as either temporary or permanent structures, depending on the length of service of the structure. If they are designed to function for less than 36 months, they are classified as "temporary"; otherwise, they are considered permanent structures. Temporary sediment basins can also be converted into permanent urban runoff management ponds. When sediment basins are designed as permanent structures, they must meet all standards for wet ponds.

b. Sediment Trap

Sediment traps are small impoundments that allow sediment to settle out of runoff water. Sediment traps are typically installed in a drainage way or other point of discharge from a disturbed area. Temporary diversions can be

⁴Adapted from Goldinas (1986).

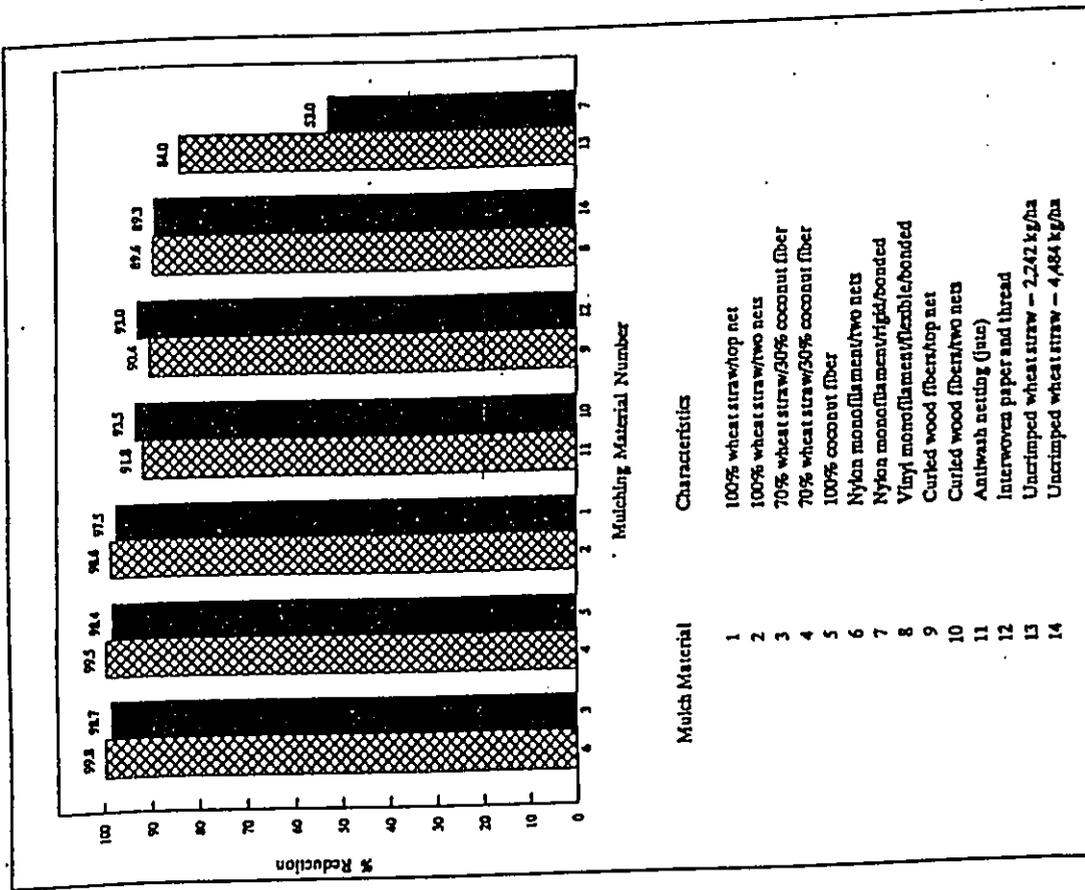


Figure 4-6. Actual soil loss reductions for different mulch treatments (adapted from Harding, 1990).

used to direct runoff to the sediment trap. Sediment traps should not be used for drainage areas greater than 5 acres and typically have a useful life of approximately 18 to 24 months.

■ c. Filter Fabric Fences

Filter fabric fence is available from many manufacturers and in several mesh sizes. Sediment is filtered out as urban runoff flows through the fabric. Such fences should be used only where there is sheet flow (i.e., no concentrated flow), and the maximum drainage area to the fence should be 0.5 acre or less per 100 feet of fence. Filter fabric fences have a useful life of approximately 6 to 12 months.

■ d. Straw Bale Barrier

A straw bale barrier is a row of anchored straw bales that detain and filter urban runoff. Straw bales are less effective than filter fabric, which can usually be used in place of straw bales. However, straw bales have been effectively used as temporary check dams in channels. As with filter fabric fences, straw bale barriers should be used only where there is sheet flow. The maximum drainage area to the barrier should be 0.25 acre or less per 100 feet of barrier. The useful life of straw bales is approximately 3 months.

■ e. Inlet Protection

Inlet protection consists of a barrier placed around a storm drain drop inlet, which traps sediment before it enters the storm sewer system. Filter fabric, straw bales, gravel, or sand bags are often used for inlet protection.

■ f. Construction Entrance

A construction entrance is a pad of gravel over filter cloth located where traffic leaves a construction site. As vehicles drive over the gravel, mud, and sediment are collected from the vehicles' wheels and offsite transport of sediment is reduced.

■ g. Vegetated Filter Strips

Vegetated filter strips are low-gradient vegetated areas that filter overland sheet flow. Runoff must be evenly distributed across the filter strip. Channelized flows decrease the effectiveness of filter strips. Level spreading devices are often used to distribute the runoff evenly across the strip (Dillaba et al., 1989).

Vegetated filter strips should have relatively low slopes and adequate length and should be planted with erosion-resistant plant species. The main factors that influence the removal efficiency are the vegetation type, soil infiltration rate, and flow depth and travel time. These factors are dependent on the contributing drainage area, slope of strip, degree and type of vegetative cover, and strip length. Maintenance requirements for vegetated filter strips include sediment removal and inspections to ensure that dense, vigorous vegetation is established and concentrated flows do not occur. Maintenance of these structures is discussed in Section III.A of this chapter.

6. Effectiveness and Cost Information

■ a. Erosion Control Practices

The effectiveness of erosion control practices can vary based on land slope, the size of the disturbed area, rainfall frequency and intensity, wind conditions, soil type, use of heavy machinery, length of time soils are exposed and unprotected, and other factors. In general, a system of erosion and sediment control practices can more effectively reduce offsite sediment transport than can a single system. Numerous nonstructural measures such as protecting natural or newly planted vegetation, minimizing the disturbance of vegetation on steep slopes and other highly

erodible areas, maximizing the distance eroded material must travel before reaching the drainage system, and locating roads away from sensitive areas may be used to reduce erosion.

Table 4-15 contains the available cost and effectiveness data for some of the erosion controls listed above. Information on the effectiveness of individual nonstructural controls was not available. All reported effectiveness data assume that controls are properly designed, constructed, and maintained. Costs have been broken down into annual capital costs, annual maintenance costs, and total annual costs (including annualization of the capital costs).

■ b. Sediment Control Practices

Regular inspection and maintenance are needed for most erosion control practices to remain effective. The effectiveness of sediment controls will depend on the size of the construction site and the nature of the runoff flows. Sediment basins are most appropriate for drainage areas of 5 acres or greater. In smaller areas with concentrated flows, silt traps may suffice. Where concentrated flow leaves the site and the drainage area is less than 0.5 ac/100 ft² of flow, filter fabric fences may be effective. In areas where sheet flow leaves the site and the drainage area is greater than 0.5 ac/100 ft² of flow, perimeter dikes may be used to divert the flow to a sediment trap or sediment basin. Urban runoff inlets may be protected using straw bales or diversions to filter or route runoff away from the inlet.

Table 4-16 describes the general cost and effectiveness of some common sediment control practices.

■ c. Comparisons

Figure 4-7 illustrates the estimated TSS loading reductions from Maryland construction sites possible using a combination of erosion and sediment controls in contrast to using only sediment controls. Figure 4-8 shows a comparison of the cost and effectiveness of various erosion control practices. As can be seen in Figure 4-8, seeding or sodding and mulching provides the highest levels of control at the lowest cost.

Table 4-15. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Mulch	Temporary stabilization of disturbed area.	Observed range:		Straw mulch: 0.25	Average: NA ^b Range: NA References: None	Straw mulch: \$7,500 per acre
		sand:			Average: \$1,700 per acre Range: \$500 - \$5,000 per acre References: Wisconsin DOT cited in SWRPC, 1991; Washington DOT, 1990; Virginia, 1980	
		20% slope	50% slope			
		wood fiber @ 1500 lb/ac	50-60%	0-20%		
		wood fiber @ 3000 lb/ac	50-85%	50-70%		
		straw @ 3000 lb/ac	90-100%	95%		
		Silt-foam:		Wood fiber mulch: 0.33	Wood fiber mulch: Average: \$1,000 per acre Range: \$100 - \$2,300 per acre References: Washington DOT, 1990; Virginia, 1980	Wood fiber mulch: \$3,500 per acre
		20% slope	50% slope			
		wood fiber @ 1500 lb/ac	20-60%	40-60%		
		wood fiber @ 3000 lb/ac	60-80%	80-70%		
straw @ 3000 lb/ac	80-95%	70-90%				
Silt-clay-foam:		Jute netting: 0.33	Jute netting: Average: \$3,700 per acre Range: \$3,500-\$4,100 per acre References: Washington DOT, 1990; Virginia, 1980	Jute netting: \$12,500 per acre		
10-30% slope	30-50% slope					
wood fiber @ 1500 lb/ac	5%	- netting: -				
wood fiber @ 3000 lb/ac	40%	- 0.33				
jute netting	30-60%	30%				
straw @ 3000 lb/ac	40-70%	20-40%				
wood chips @ 10,000 lb/ac	60-80%	50-60%				
mulch blanket	60-80%	50-60%	Straw and jute: Average: \$5,400 per acre Range: \$4,000-\$9,100 per acre References: Washington DOT, 1990; Virginia, 1980	Straw and jute: \$18,000 per acre		
excelsior blanket	80-80%	50-80%	Straw and jute: 0.33			
multiple treatment (straw and jute)	80%	80%				

References: Minnesota Pollution Control Agency, 1980; Key, 1983 cited in Goldman, 1988

Table 4-15. ESC Quantitative Effectiveness and Cost Summary

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Seed	Establish vegetation on disturbed area.	Average: 90% Observed range: 88% - 99% References: Minnesota Pollution Control Agency, 1988; Pennsylvania, 1983 cited in USEPA, 1991	2	Average: \$0.2 per ft ² [\$11,300 per acre] Range: \$0.1 - \$1.1 References: SWRPC, 1991; Schueler, 1987; Virginia, 1980	Average: 5% Range: 5% References: SWRPC, 1991	\$0.20 per ft ² \$7,500 per acre
Seed	Establish vegetation on disturbed area.	After vegetation established: Average: 90% Observed range: 50% - 100% References: SCS, 1985 cited in EPA, 1991; Minnesota Pollution Control Agency, 1988; Oberis, 1984 cited in City of Austin, 1988; Delaware Department of Natural Resources, 1989	2	Average: \$400 per acre Range: \$200 - \$1000 per acre References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1988; Virginia, 1980	Average: 20% Range: 15% - 25% References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991	\$300 per acre
Seed and Mulch	Establish vegetation on disturbed area.	After vegetation established: Average: 90% Observed range: 50% - 100% References: SCS, 1985 cited in EPA, 1991; Minnesota Pollution Control Agency, 1988; Oberis, 1984 cited in City of Austin, 1988; Delaware Department of Natural Resources, 1989	2	Average: \$1,500 per acre Range: \$800 - \$3,500 per acre References: Goldman, 1988; Washington DOT, 1990; NC State, 1990; Schueler, 1987; Virginia, 1980; SWRPC, 1991	Average: NA ^b Range: NA References: None	\$1,100 per acre

Table 4-16. ESC Quantitative Effectiveness and Cost Summary for Sediment Control Practices

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Sediment basin	Minimum drainage area = 5 acres, maximum drainage area = 100 acres	Average: 70% Observed range: 55% - 100% References: Schueler, 1990; Engle, BW and Jarrett, AR, 1990; Baumann, 1990	2	Less than 50,000 ft ³ storage Average: \$0.60 per ft ³ storage (\$1,100 per drainage acre ^c) Range: \$0.20 - \$1.30 per ft ³	Average: 25% Range: 25% References: Denver COG cited in SWRPC, 1991; SWRPC, 1991	Less than 50,000 ft ³ storage \$0.40 per ft ³ storage \$700 per drainage acre ^b
				Greater than 50,000 ft ³ storage Average: \$0.3 per ft ³ storage (\$550 per drainage acre ^c) Range: \$0.10 - \$0.40 per ft ³ References: SWRPC, 1991		Greater than 50,000 ft ³ storage \$0.20 per ft ³ storage \$900 per drainage acre ^b
Sediment trap	Maximum drainage area = 5 acres	Average: 80% Observed range: (>7%) - 100% References: Schueler, et al., 1990; Tahoe Regional Planning Agency, 1989; Baumann, 1990	1.5	Average: \$0.60 per ft ³ storage (\$1,100 per drainage acre ^c) Range: \$0.20 - \$2.00 per ft ³ References: Denver COG cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986	Average: 20% Range: 20% References: Denver COG cited in SWRPC, 1991; SWRPC, 1991	\$0.70 per ft ³ storage \$1,300 per drainage acre ^b
Filter Fabric Fence	Maximum drainage area = 0.5 acre per 100 feet of fence. Not to be used in concentrated flow areas.	Average: 70% Observed range: 0% - 100% sand: 80% - 95% silt-loam: 50% - 80% silt-clay-loam: 0% - 20% References: Munson, 1991; Fisher et al., 1984; Minnesota Pollution Control Agency, 1989	0.5	Average: \$3 per lin ft (\$700 per drainage acre ^c) Range: \$1 - \$8 per lin ft References: Wisconsin DOT cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986; Virginia, 1991; NC State, 1990	Average: 100% Range: 100% References: SWRPC, 1991	\$7 per lin ft \$850 per drainage acre ^b

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III. Construction Activities

Chapter 4

Table 4-16. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Terraces	Break up long or steep slopes.	Observed range: Land Slope Reduction in Erosion 1-12% 70% 12-16% 60% 18-24% 55% Additionally, if the slope steepness is halved, while other factors are held constant, the soil loss potential decreases 2-1/2 times. If both the slope and length are halved, the soil loss potential is decreased 4 times. References: Goldman, 1986; Beasley, 1972	2	Average: \$5 per lin ft Range: \$1 - \$12 References: SWRPC, 1991; Goldman, 1986; Virginia, 1991	Average: 20% Range: 20% Reference: SWRPC, 1991	\$4 per lin ft
All Erosion Controls	Reduce amount of sediment entering runoff.	Average: 85% Observed range: 65% Reference: Schueler, 1990	-	Varies but typically low	Varies but typically low	Varies but typically low

NA - Not available.
^a Useful life estimated as length of construction project (assumed to be 2 years).
^b For Total Annual Cost, assume Annual Maintenance Cost = 2% of construction cost.

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Chapter 4

III. Construction Activities

Table 4-16. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Vegetative Filter Strip	Must have sheet flow.	Average: 70% Observed Range: 20% - 80% References: Hayes and Halston, 1983 cited in Casman, 1990; Disha et al., 1989, cited in Glick et al., 1991; Virginia Department of Conservation, 1987; Nonpoint Source Control Task Force, 1983 cited in Minnesota PCA, 1989; Schueler, 1987	2	Established from existing vegetation- Average: \$0 Range: \$0 References: Schueler, 1987 Established from sod- Average: \$11,300 per acre Range: \$4,500 - \$48,000 per acre References: Schueler, 1987; SWRPC, 1991	Average: NA Range: NA References: None	NA

NA - Not available.
^a Useful life estimated as length of construction project (assumed to be 2 years)
^b For Total Annual Cost, assume Annual Maintenance Cost=20% of construction cost.
^c Assumes trap volume = 1800 cu/ac (0.5 inches runoff per acre).
^d Assumes drainage area of 0.5 acre per 100 feet of fence (maximum allowed).
^e Assumes drainage area of 0.25 acre per 100 feet of barrier (maximum allowed).

Table 4-16. (Continued)

Practice	Design Constraints or Purpose	Percent Removal of TSS	Useful Life (years) ^a	Construction Cost	Annual Maintenance Cost (as % construction cost)	Total Annual Cost
Straw Bale Barrier	Maximum drainage area = 0.25 acre per 100 feet of barrier. Not to be used in concentrated flow areas.	Average: 70% Observed Range: 70% References: Virginia, 1980 cited in EPA, 1991	0.25	Average: \$4 per lin ft (\$1,600 per drainage acre) ^d Range: \$2 - \$8 per lin ft References: Goldman, 1986; Virginia, 1991	Average: 100% Range: 100% References: SWRPC, 1991	\$17 per lin ft \$8,800 per drainage acre ^d
Inlet Protection	Protect storm drain inlet.	Average: NA Observed Range: NA References: None	1	Average: \$100 per inlet Range: \$50 - \$160 References: SWRPC, 1991; Denver COG cited in SWRPC, 1991; Virginia, 1991; EPA cited in SWRPC, 1991	Average: 60% Range: 20% - 100% References: SWRPC, 1991; Denver COG cited in SWRPC, 1991	\$150 per inlet
Construction Entrance	Removes sediment from vehicles wheels.	Average: NA Observed Range: NA References: None	2	Average: \$2,000 each Range: \$1,000 - \$4,000 References: Goldman, 1986; NC State, 1990 With washrack Average: \$3,000 each Range: \$1,000 - \$5,000 References: Virginia, 1991	Average: NA ^e Range: NA References: None	\$1,500 each \$2,200 each

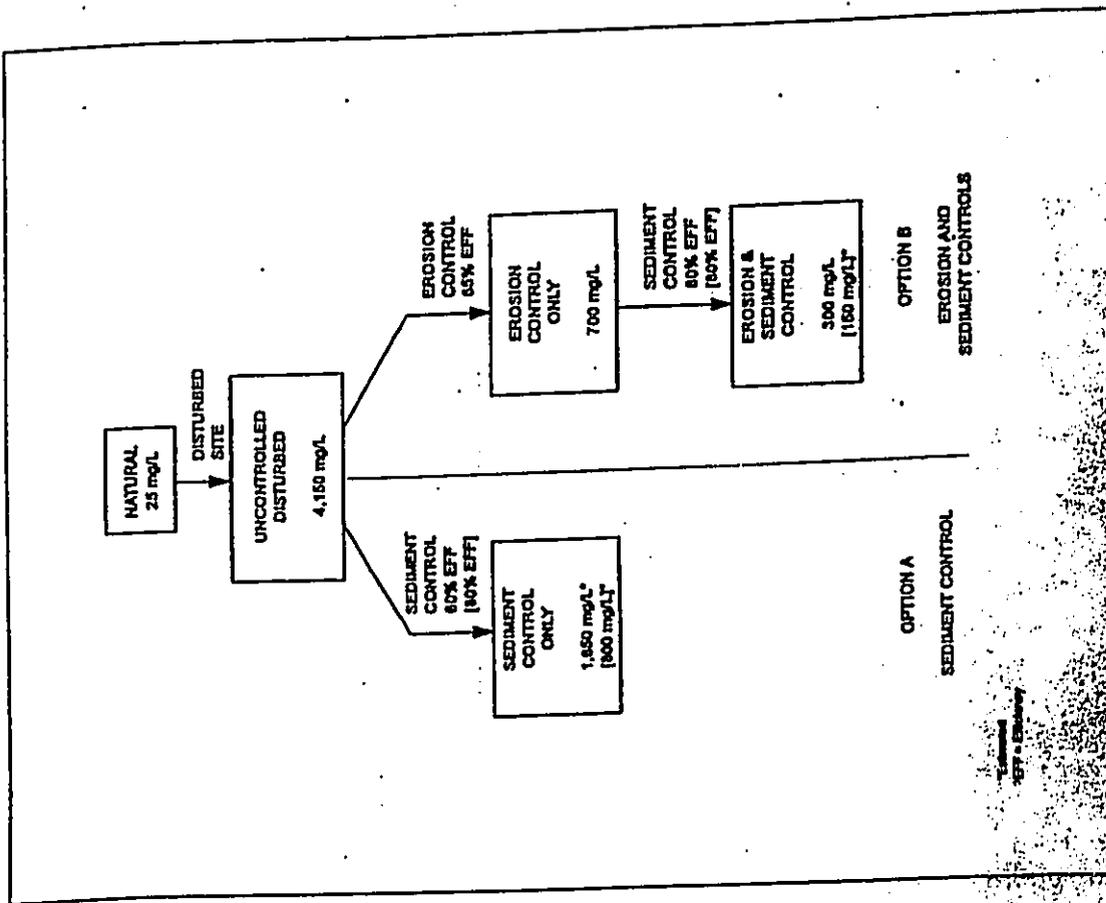


Figure 4-7. TSS concentrations from unimpacted construction sites (Schuler, 1987).

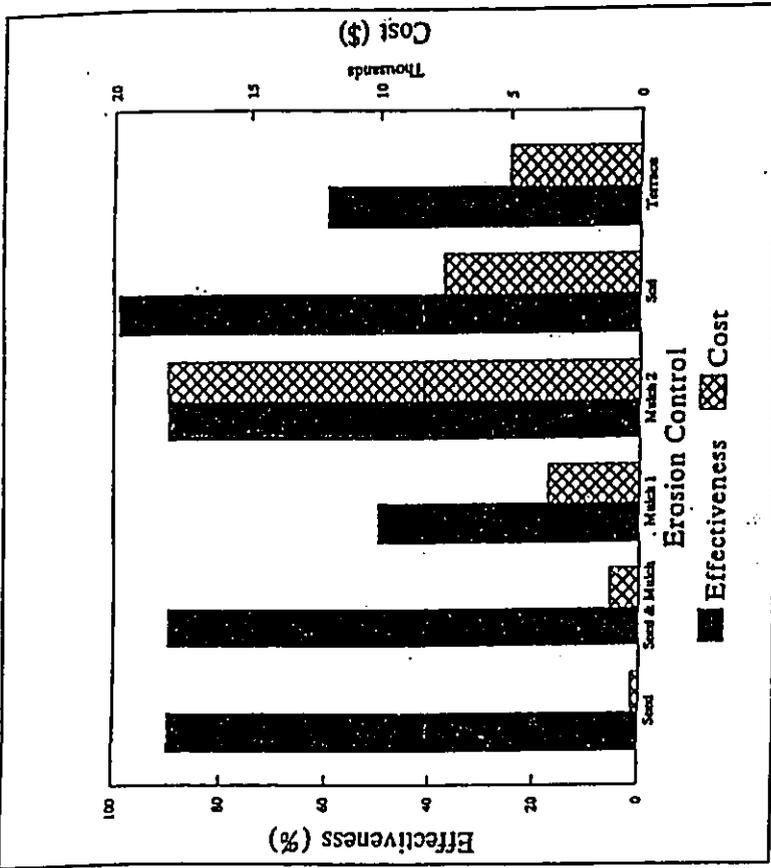


Figure 4-8. Comparison of cost and effectiveness for erosion control practices (based on information in Tables 4-15 and 4-16).

B. Construction Site Chemical Control Management Measure

- (1) Limit application, generation, and migration of toxic substances;
- (2) Ensure the proper storage and disposal of toxic materials; and
- (3) Apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters.

1. Applicability

This management measure is intended to be applied by States to all construction sites less than 5 acres in area and to new, resurfaced, restored, and reconstructed road, highway, and bridge construction projects. This management measure does not apply to: (1) construction of a detached single family home on a site of 1/2 acre or more or (2) construction that does not disturb over 5,000 square feet of land on a site. (NOTE: All construction activities, including clearing, grading, and excavation, that result in the disturbance of areas greater than or equal to 5 acres or are a part of a larger development plan are covered by the NPDES regulations and are thus excluded from these requirements.) Under the Coastal Zone Act Reauthorization Amendments of 1990, States are subject to a number of requirements as they develop coastal NPS programs in conformance with this management measure and will have flexibility in doing so. The application of management measures by States is described more fully in *Coastal Nonpoint Pollution Control Programs: Program Development and Approval Guidance*, published jointly by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.

2. Description

The purpose of this management measure is to prevent the generation of nonpoint source pollution from construction sites due to improper handling and usage of nutrients and toxic substances, and to prevent the movement of toxic substances from the construction site.

Many potential pollutants other than sediment are associated with construction activities. These pollutants include pesticides (insecticides, fungicides, herbicides, and rodenticides); fertilizers used for vegetative stabilization; petrochemicals (oil, gasoline, and asphalt emulsions); construction chemicals such as concrete products, sealers, and paint; wash water associated with these products; paper, wood, garbage; and sanitary wastes (Washington State Department of Ecology, 1991).

The variety of pollutants present and the severity of their effects are dependent on a number of factors:

- (1) The nature of the construction activity. For example, potential pollution associated with fertilizer usage may be greater along a highway or at a housing development than it would be at a shopping center development because highways and housing developments usually have greater landscaping requirements.
- (2) The physical characteristics of the construction site. The majority of all pollutants generated at construction sites are carried to surface waters via runoff. Therefore, the factors affecting runoff volume,

such as the amount, intensity, and frequency of rainfall; soil infiltration rates; surface roughness; slope length and steepness; and area denuded, all contribute to pollutant loading.

- (3) The proximity of surface waters to the nonpoint pollutant source. As the distance separating pollutant-generating activities from surface waters decreases, the likelihood of water quality impacts increases.

a. Pesticides

Insecticides, rodenticides, and herbicides are used on construction sites to provide safe and healthy conditions, reduce maintenance and fire hazards, and curb weeds and woody plants. Rodenticides are also used to control rodents attracted to construction sites. Common insecticides employed include synthetic, relatively water-insoluble chlorinated hydrocarbons, organophosphates, carbamates, and pyrethrins.

b. Petroleum Products

Petroleum products used during construction include fuels and lubricants for vehicles; for power tools, and for general equipment maintenance. Specific petroleum pollutants include gasoline, diesel oil, kerosene, lubricating oils, and grease. Asphalt paving also can be particularly harmful since it releases various oils for a considerable time period after application. Asphalt overflows might be dumped and covered without inspection. However, many of these pollutants adhere to soil particles and other surfaces and can therefore be more easily controlled.

c. Nutrients

Fertilizers are used on construction sites when revegetating graded or disturbed areas. Fertilizers contain nitrogen and phosphorus, which in large doses, can adversely affect surface waters, causing eutrophication.

d. Solid Wastes

Solid wastes on construction sites are generated from trees and shrubs removed during land clearing and structure installation. Other wastes include wood and paper from packaging and building materials, scrap metal, sanitary wastes, rubber, plastic and glass, and masonry and asphalt products. Food containers, cigarette packages, leftover food, and aluminum foil also contribute solid wastes to the construction site.

e. Construction Chemicals

Chemical pollutants, such as paints, acids for cleaning masonry surfaces, cleaning solvents, asphalt products, soil additives used for stabilization, and concrete-curing compounds, may also be used on construction sites and carried in runoff.

f. Other Pollutants

Other pollutants, such as wash water from concrete mixers, acid and alkaline solutions from exposed soil or rock, and alkaline-forming natural elements, may also be present and contribute to nonpoint source pollution.

Revegetation of disturbed areas may require the use of fertilizers and pesticides, which, if not applied properly, may become nonpoint source pollutants. Many pesticides are restricted by Federal and/or State regulations. In preceding operations, in which "zero" fertilizers and lime are applied to the ground surface in a one-step operation, are more conducive to nutrient pollution than are the conventional seedbed-preparation operations, in which fertilizers and lime are tilled into the soil. Use of fertilizers containing little or no phosphorus may be required by

local authorities if the development is near sensitive waterbodies. The addition of lime can also affect the pH of sensitive waters, making them more alkaline.

Improper fueling and servicing of vehicles can lead to significant quantities of petroleum products being dumped onto the ground. These pollutants can then be washed off site in urban runoff, even when proper erosion and sediment controls are in place. Pollutants carried in solution in runoff water, or fixed with sediment crystalline structures, may not be adequately controlled by erosion and sediment control practices (Washington Department of Ecology, 1991). Oil, waxes, and water-insoluble pesticides can form surface films on water and solid particles. Oil films can also concentrate water-soluble insecticides. These pollutants can be nearly impossible to control once present in runoff other than by the use of very costly water-treatment facilities (Washington Department of Ecology, 1991).

After spill prevention, one of the best methods to control petroleum pollutants is to retain sediments containing oil on the construction site through use of erosion and sediment control practices. Improved maintenance and safe storage facilities will reduce the chance of contaminating a construction site. One of the greatest concerns related to use of petroleum products is the method for waste disposal. The dumping of petroleum product wastes into sewers and other drainage channels is illegal and could result in fines or job shutdown.

The primary control method for solid wastes is to provide adequate disposal facilities. Erosion and sediment control structures usually capture much of the solid waste from construction sites. Periodic removal of litter from these structures will reduce solid waste accumulations. Collected solid waste should be removed and disposed of at authorized disposal areas.

Improperly stored construction materials, such as pressure-treated lumber or solvents, may lead to leaching of toxics to surface water and ground water. Disposal of construction chemicals should follow all applicable State and local laws that may require disposal by a licensed waste management firm.

3. Management Measure Selection

This management measure was selected based on the potential for many construction activities to contribute to nutrient and toxic NPS pollution.

This management measure was selected because (1) construction activities have the potential to contribute to increased loadings of toxic substances and nutrients to waterbodies; (2) various States and local governments regulate the control of chemicals on construction sites through spill prevention plans, erosion and sediment control plans, or other administrative devices; (3) the practices described are commonly used and presented in a number of best management practice handbooks and guidance manuals for construction sites; and (4) the practices selected are the most economical and effective.

4. Practices

As discussed more fully at the beginning of this chapter and in Chapter 1, the following practices are described for illustrative purposes only. State programs need not require implementation of these practices. However, as a practical matter, EPA anticipates that the management measure set forth above generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices set forth below have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measure described above.

a. Properly store, handle, apply, and dispose of pesticides.

Pesticide storage areas on construction sites should be protected from the elements. Warning signs should be placed in areas routinely sprayed or treated. Personnel wearing and applying these chemicals should wear suitable protective clothing in accordance with the label.

Application must conform to registered label directions. Disposal of excess pesticides and pesticide-related wastes should conform to registered label directions for the disposal and storage of pesticides and pesticide containers set forth in applicable Federal, State, and local regulations that govern their usage, handling, storage, and disposal. Pesticides and herbicides should be used only in conjunction with Integrated Pest Management (IPM) (see Chapter 2). Pesticides should be the tool of last resort; methods that are the least disruptive to the environment and human health should be used first.

Pesticides should be disposed of through either a licensed waste management firm or a treatment, storage, and disposal (TSD) facility. Containers should be triple-rinsed before disposal, and rinse waters should be reused as product.

Other practices include setting aside a locked storage area, tightly closing lids, storing in a cool, dry place, checking containers periodically for leaks or deterioration, maintaining a list of products in storage, using plastic sheeting to line the storage area, and notifying neighboring property owners prior to spraying.

b. Properly store, handle, use, and dispose of petroleum products.

When storing petroleum products, follow these guidelines:

- Create a shelter around the area with cover and wind protection;
- Line the storage area with a double layer of plastic sheeting or similar material;
- Create an impervious berm around the perimeter with a capacity 110 percent greater than that of the largest container;
- Clearly label all products;
- Keep tanks off the ground; and
- Keep lids securely fastened.

Oil and oily wastes such as crankcase oil, cans, rags, and paper dropped into oils and lubricants should be disposed of in proper receptacles or recycled. Waste oil for recycling should not be mixed with degreasers, solvents, antifreezes, or brake fluid.

c. Establish fuel and vehicle maintenance staging areas located away from all drainage courses, and design these areas to control runoff.

Proper maintenance of equipment and installation of proper stream crossings will further reduce pollution of water by these sources. Stream crossings should be minimized through proper planning of access roads. Refer to Chapter 3 for additional information on stream crossings.

d. Provide sanitary facilities for construction workers.

e. Store, cover, and isolate construction materials, including topsoil and chemicals, to prevent runoff of pollutants and contamination of ground water.

f. Develop and implement a spill prevention and control plan. Agencies, contractors, and other commercial entities that store, handle, or transport fuel, oil, or hazardous materials should develop a spill response plan.

Post spill procedure information and have persons trained in spill handling on site or on call at all times. Materials for cleaning up spills should be kept on site and easily available. Spills should be cleaned up immediately and the contaminated material properly disposed of. Spill control plan components should include:

- Stop the source of the spill.
- Contain any liquid.
- Cover the spill with absorbent material such as kity litter or sawdust, but do not use straw. Dispose of the used absorbent property.

g. Maintain and wash equipment and machinery in confined areas specifically designed to control runoff.

Thinners or solvents should not be discharged into sanitary or storm sewer systems when cleaning machinery. Use alternative methods for cleaning larger equipment parts, such as high-pressure, high-temperature water washes, or steam cleaning. Equipment-washing detergents can be used, and wash water may be discharged into sanitary sewers if solids are removed from the solution first. (This practice should be verified with the local sewer authority.) Small parts can be cleaned with degreasing solvents, which can then be reused or recycled. Do not discharge any solvents into sewers.

Washout from concrete trucks should be disposed of into:

- A designated area that will later be backfilled;
- An area where the concrete wash can harden, can be broken up, and then can be placed in a dumpster; or
- A location not subject to urban runoff and more than 30 feet away from a storm drain, open ditch, or surface water.

Never dump washout into a sanitary sewer or storm drain, or onto soil or pavement that carries urban runoff.

h. Develop and implement nutrient management plans.

Properly time applications, and work fertilizers and liming materials into the soil to depths of 4 to 6 inches. Using soil tests to determine specific nutrient needs at the site can greatly decrease the amount of nutrients applied.

i. Provide adequate disposal facilities for solid waste, including excess asphalt, produced during construction.

j. Educate construction workers about proper materials handling and spill response procedures. Distribute or post informational material regarding chemical control.



May 20, 2003

George Tengan, Director
County of Maui
Department of Water Supply
P.O. Box 1109
Wailuku, Hawaii 96793-7109

SUBJECT: Proposed Parking Lot and Related Improvements
at TMK 4-6-07-01, Por. 02 and 36

Dear Mr. Tengan:

Thank you for the Department of Water Supply's letter dated November 18, 2002 providing comments to the early consultation request on the subject project.

The Draft Environmental Assessment will include the source and expected potable and non-potable water usage for the project.

Your comments regarding the use of appropriate native and non invasive species and to avoid potentially invasive plants have been forwarded to the project design consultant for consideration.

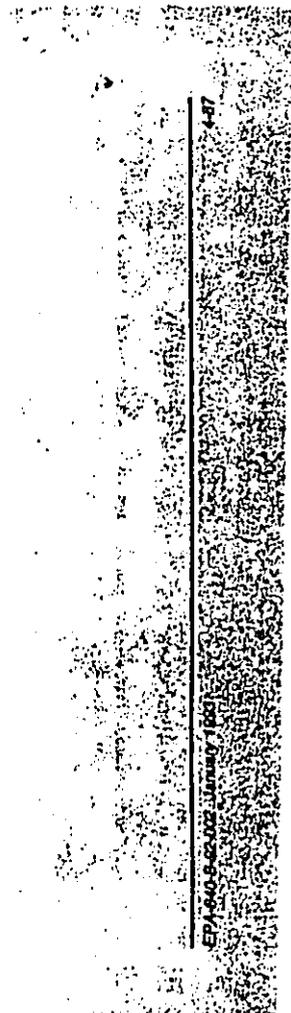
We have also forwarded your recommendation that the applicant consider using brackish and/or reclaimed water sources for all non-potable wateruses, including irrigation and dust control during construction for consideration and implementation as practicable.

Again, thank you for your Department's comments and participation in the early consultation process.

Very truly yours,

Mich Hirano, AICP

MH:tn
cc: Akoni Akana, Friends of Moku'ula, Inc.
Dwight Kaauhikaua, Kaauhikaua & Chun Architects
kchun@chunarchitects.com



DEC 10 2002
FAX (808) 594-1865



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPOLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

PHONE (808) 594-1868

November 21, 2002

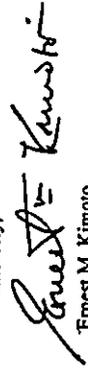
Mr. Mich Hirano, AICP
Munekyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

HRD 02 816

Subject: Replace Parking Lot at TMK (2) 4-6-07:01, por. 02 and 36

Dear Mr. Hirano:

Thank you for the opportunity to comment on this project. The Office of Hawaiian Affairs has no comment on the proposed project at this time. We look forward to receiving a copy of the DEA, the SMA application, and the application for historic district approval from the Maui County Cultural Resources Commission. If you have any questions, please contact Leimama DaMata, Hawaiian Rights Division, at 594-1944 or email her at leimamad@oha.org.

Sincerely,

Ernest M. Kimoto
Hawaiian Rights Division, Acting Director

Cc: OHA Board of Trustees
OHA Administrator
Maui CRC

DEC 02 2002



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

EDUARDO J. CAETANO
GOVERNOR OF HAWAII

November 22, 2002

Mr. Mich Hirano, AICP
Munekyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Hirano:

Subject: Pre-Consultation Environmental Assessment (PEA) Request
Replacement of Parking Lot, Lahaina, Maui
Tax Map Key: (2) 4-6-007:001, por. 002 and 036

Thank you for the opportunity to review and comment on the subject proposal. The PEA was routed to the various branches of the Environmental Health Administration. We have the following comments:

Clean Water Branch (CWB)

1. The applicant should contact the Army Corps of Engineers to identify whether a federal permit (including a Department of Army permit) is required for this project. A Section 401 Water Quality Certification is required for "Any applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters..." pursuant to Section 401(a)(1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act");
2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following discharges to waters of the State:
 - a. Discharge of storm water runoff associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi);
 - b. Discharge of storm water runoff associated with construction activities that involve the disturbance of five (5) acres or greater, including clearing, grading, and excavation;

- c. Discharge of treated effluent from leaking underground storage tank remedial activities;
- d. Discharge of once through cooling water less than one million gallons per day;
- e. Discharge of hydro-testing water;
- f. Discharge of construction dewatering effluent;
- g. Discharge of treated effluent from petroleum bulk stations and terminals; and
- h. Discharge of treated effluent from well drilling activities.

Any person requesting to be covered by a NPDES general permit for any of the above activities should file a Notice of Intent with the Department of Health, Clean Water Branch (CWB) at least thirty (30) days prior to commencement of any discharges to State waters;

3. If construction activities involve the disturbance of one acre or greater, including clearing, grading, and excavation, and will take place or extend after March 10, 2003, an NPDES general permit coverage is required for discharges of storm water runoff into State waters; and
4. The applicant may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters.

If you have any questions, please contact the Clean Water Branch at (808) 586-4309.

Clean Air Branch (CAB)

Control of Fugitive Dust

There is a significant potential for fugitive dust emissions during all phases of construction activities. Proposed construction activities will occur in close proximity to existing business/residential establishments and major thoroughfares, thereby exacerbating potential dust problems. It is recommended that a dust control management plan be developed which identifies and addresses all activities that have a potential to generate fugitive dust. Implementation of adequate dust control measures during all phases of development and construction activities is warranted.

Construction activities must comply with provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Pollution Control," Section 11-60.1-33, Fugitive Dust.

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

- a. Planning the different phases of construction, focusing on minimizing the amount of dust generating materials and activities, centralizing on-site vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;
- b. Providing an adequate water source at the site prior to start up of construction activities;
- c. Landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;
- d. Controlling of dust from shoulders and access roads;
- e. Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
- f. Controlling of dust from debris being hauled away from project site.

If you have any questions regarding these issues on fugitive dust, please contact the Clean Air Branch at (808) 586-4200.

Noise, Radiation and Indoor Air Quality (NRIAQ) Branch

All project activities shall comply with the Administrative Rules of the Department of Health, Chapter 11-46, on "Community Noise Control."

If you have any questions, please contact the NRIAQ at (808) 586-4701.

Environmental Planning Office (EPO)

This project appears to be located within the West Maui Coast-North watershed. The West Maui Coast-North coastal waters (nearshore waters to 60' depth from Honolulu to Lahaina) are currently listed under section 303(d) of the Clean Water Act as being impaired by nutrients, turbidity, and suspended solids. The impaired status of these waters requires that the Department of Health establish Total Maximum Daily Loads (TMDLs) suggesting how much the existing pollutant loads should be reduced in order to attain water quality standards in the coastal waters.

Although these TMDLs are yet to be established and implemented, a first step in achieving TMDL objectives would be to prevent any project-related increases in pollutant loads. When TMDLs are established for the coastal water body, the State will establish pollutant load allocations for the coastal lands and develop an implementation plan to improve coastal water quality. One of the components of this implementation plan will be to reduce the polluted runoff entering coastal waters from facilities such as the proposed parking lot. Thus we suggest that the environmental assessment identify the specific drainage facilities and receiving water locations connected with parking lot drainage; calculate expected changes in post-project runoff patterns, quantity, and quality; and propose stormwater management measures that would maintain the quantity and quality of this runoff (and thus the magnitude of pollutant loads) at pre-project

Mr. Mich Hirano, AICP
November 22, 2002
Page 4

levels. Guidance for these measures is available in numerous sources, including the West Maui Stormwater and Drainage Management Plan prepared by Woodward-Clyde Consultants in 1996. We encourage the Friends of Moku'ula and the County of Maui to participate in the TMDL process and suggest that they consult with the Department of Health Clean Water Branch (Engineering Section) to discuss how water pollution control permitting may be linked with TMDL implementation and to plan additional pollutant load reduction practices for future management of the storm drain system.

If you have any questions, please contact David Penn at 586-4337.

Sincerely,



GARY GILL
Deputy Director
Environmental Health Administration

c: CWB
CAB
NRJ/AQ
EPO



May 20, 2003

Dr. Jane K. Kadohiro, Deputy Director
Environmental Health Division
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

SUBJECT: Proposed Parking Lot and Related Improvements
at TMK 4-6-07-01, Por. 02 and 36

Dear Dr. Kadohiro:

Thank you for the letter dated November 22, 2002 providing comments to the early consultation on the subject project. We provide the following information in response to the comments.

1. Response to Department of Army Permits: We will contact the Army Corps of Engineers about the necessity for federal permits. The applicant will obtain, if required by applicable statutory or regulatory provisions, a Section 401 Water Quality Certification for the activities.
2. Response to National Pollutant Discharge Elimination System: The applicant will obtain, if required by applicable statutory or regulatory provisions, a National Pollutant Discharge Elimination Permit System (NPDES) permit for the improvements related to the proposed parking lot project.
3. Response to Control of Fugitive Dust: We confirm construction activities will comply with provisions of Hawaii Administrative Rules, Chapter 11-60.1, "Air Control", Section 11-60.1-33, Fugitive Dust, and that appropriate measures to control dust will be taken during ground altering activities.
4. Response to Noise, Radiation, and Indoor Air Quality Branch: We confirm that project activities will comply with the Administrative Rules of the Department of Health, Chapter 11-46, on "Community Noise Control" and a Community Noise Control permit will be obtained as necessary.
5. Response to Environmental Planning Office: We confirm the environmental assessment will identify the specific drainage facilities and, as applicable, receiving

DEC 05 2002

RALPH MADAMBE, L.S., P.E.
Land Use and Codes Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

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

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division



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

December 2, 2002

JAMES "BOBO" APANA
Mayor

DAVID C. GOODE
Director

MILTON LIJAKAWA, A.I.C.P.
Deputy Director

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

Dr. Jane K. Kadohiro, Deputy Director
May 20, 2003
Page 2

water locations connected with parking lot drainage and a drainage report will be prepared in accordance with the items identified. We have forwarded your comments regarding participation in the Total Maximum Daily Loads (TMDL) process to the project design team in order that further consultation with the Department of Health Clean Water Branch can be carried out during project design.

Again, thank you for the comments and participation in the early consultation process.

Very truly yours,

Mich Hirano, AICP

MH:tn

cc: Akoni Akana, Friends of Moku'ula, Inc.
Dwight Kauahikaua, Kauahikaua & Chun Architects

Mr. Mich Hirano
MUNEKIYO & HIRAGA, INC.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96783

Dear Mr. Hirano:

SUBJECT: EARLY CONSULTATION
MOKU'ULA, INC. - PARKING LOT
TMK: (2) 4-6-007:001,002,036

We reviewed the subject request for an early consultation and have the following comments:

1. Submit a solid waste management plan for construction and demolition waste recycling and disposal at C & D landfill.
2. Responsibilities for the demolition of the existing parking lot and removal of the lighting system, as well as any future control and maintenance of the new lot, including dust control, should be discussed.
3. Maui County Code (MCC), Chapter 10.76, Section 10.76.055 provides that the Shaw Street parking lot have a maximum of two (2) bus parking stalls for users of the Malu-ulu-o-iele Park. Will bus parking be provided in the new 90-stall parking lot?
4. The wooden fence and gates noted in Figure 2 may pose potential sight distance conflicts for vehicles exiting Shaw Street onto Front Street. Construction of the fence should not impede sight distance.
5. Additional details of the site plan, drainage plan and traffic plan should be provided.

Quality Seamless Service - Now and for the Future

Mr. Mich Hirano
December 2, 2002
Page 2

6. The proposed indigenous structure shall comply with applicable building code requirements.

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

Sincerely,


for DAVID GOODE
Director

DG:RMN:mssc
S:\UC\AZM\mabrude-ec.wpd



May 20, 2003

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

SUBJECT: Proposed Parking Lot and Related Improvements
at ~~TMK 4-6-07-01, Por. 02 and 36~~

Dear Mr. Coloma-Agaran:

Thank you for your department's letter dated December 2, 2002 providing comments to the early consultation request on the subject project. We provide the following responses to the comments in the order as presented in your letter.

1. **Response to Item 1:** A solid waste management plan for construction and demolition waste recycling and disposal at an approved landfill will be submitted to the department for review.
2. **Response to Item 2:** Due to insufficient details regarding the demolition of the existing parking lot and methodology of the archaeological recovery program at this time, these activities will be carried out under a separate phase of work. Nevertheless, future control and maintenance of the proposed parking lot, including dust control measures will be included in the environmental assessment document.
3. **Response to Item 3:** The proposed 84-stall parking lot includes two (2) bus stalls and four (4) handicapped stalls.
4. **Response to Item 4:** As mentioned previously, all activities associated with the demolition of the existing parking lot will be undertaken as a separate phase of work. Nevertheless, the applicant is aware of the department's comment regarding potential sight distance conflicts for vehicles exiting Shaw Street onto Front Street and will appropriately design the construction fence so that sight distances will not be impeded.
5. **Response to Item 5:** Additional details of the site plan, drainage plan and traffic plan will be provided in the environmental assessment document.

DEC 03 2002

JAMES "KIMO" APANA
Mayor
JOHN E. MIN
Director
CLAYTON LYOSHIDA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

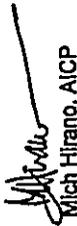
November 27, 2002

Gilbert Coloma-Agaran, Director
May 20, 2003
Page 2

6. **Response to Item 6:** We confirm the proposed indigenous structure will comply with applicable building code requirements.

Again, thank you for your department's comments and participation in the early consultation process.

Very truly yours,


Mich Hirano, AICP

MH:tn
cc: Akoni Akana, Friends of Moku'ula, Inc.
Dwight Kaunahikaua, Kaunahikaua & Chun Architects

Mr. Mich Hirano, AICP
Munekyo & Hiraga, Inc.
304 S. High Street, Suite 104
Wailuku, Hawaii 96793

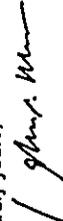
Dear Mr. Hirano:

RE: Pre-Consultation for a Draft Environmental Assessment (EA) for the Proposed Replacement of the Parking Lot at Malu'ulu o Lele Park (TMK: 4-6-007:por. 001 and 036) With a New 90-Staff Parking Lot and Ancillary Facilities (TMK: 4-6-007:001), Lahaina, Maui, Hawaii. (LTR 2002/5847)

Thank you for the opportunity to comment on the above request. Enclosed please find a copy of the Planning Department (Department) Report to the Maui County Cultural Resources Commission which contains the comments of the Department.

If additional clarification is required, please contact Ms. Colleen M. Suyama, Staff Planner, of the this office at 270-7735.

Very truly yours,


JOHN E. MIN
Planning Director

JEM:CMS:jay
c: Clayton Yoshida, AICP, Deputy Planning Director
Colleen M. Suyama, Staff Planner
Project File
General File
(K:\WP_DOCS\PLANNING\EA\2002\MokuulaParking\DepPreComments.wpd)

BEFORE THE MAUI COUNTY CULTURAL RESOURCES COMMISSION

COUNTY OF MAUI

STATE OF HAWAII

DECEMBER 5, 2002

THE REQUEST

The Consulting Firm of Munekiyo and Hiraga, Inc. is requesting preliminary consultation for a draft Environmental Assessment (EA) for the proposed demolition of the existing parking lot at Malu'ulu o Lele Park (Moku'ula) (Tax Map Key 4-6-007:por. 002 and 036) and construction of a replacement 90-stall parking lot and ancillary facilities (Tax Map Key 4-6-007:001). The request is filed pursuant to Chapter 343, Hawaii Revised Statutes (HRS) and the Hawaii Administrative Rules of the State Department of Health, Chapter 200 Environmental Impact Statement Rules. (Location Map, *Exhibit "1"*)

The existing parking lot is located on an approximate 2.7 acre site while the new parking lot and facilities are located on a 2.0 acre site. Both sites are owned by the State of Hawaii and County of Maui (*Exhibit "2"*) and located within the Lahaina National Landmark District and Historic District No. 1 (See *Exhibit "3"* and *"4"*). Both districts are designated in the National Register while Historic District No. 1 is also on the Hawaii Register. The proposed use involving the use of state or county lands and uses within the national and Hawaii register requires compliance to Chapter 343, HRS, and Chapter 200 Environmental Impact Statement Rules.

DESCRIPTION OF THE PROPOSED DEVELOPMENT

Friends of Moku'ula, Inc., a Hawaii non-profit corporation, proposes to demolish the existing parking lot at the corner of Shaw and Front Street to conduct an archaeological inventory survey of the site. Also, to construct a 90-stall replacement parking lot and ancillary facilities on Shaw Street in Lahaina, Maui. (See *Exhibit "5"*) The proposed project will also include an observation deck, site landscaping, and sidewalk improvements along Shaw Street. In addition, an indigenous building of approximately 2,400 sq. ft. will be constructed on the adjacent Malu'ulu o Lele Park site (Moku'ula).

COMMENTS

1. Pursuant to the Lahaina Historical Restoration and Preservation Plan (Plan), the subject properties are identified as part of the former island of Moku'ula and Pond of Loko o Mokuhinia. The Plan proposes the areas of Lahaina Town for preservation or future restoration. The Plan identifies five historic periods 1) when Kamehameha the Great dwelt at Lahaina, 2) when Kamehameha III selected Lahaina as the capital of the Hawaiian Kingdom, 3) missionaries influence on the populace began to grow, 4) the whaling era, and 5) the growing influence of the United States climaxed by Hawaii's annexation. (*Exhibit "6"*) The Plan identifies Moku'ula and the Pond of Loko o Mokuhinia for eventual restoration. The site has been leased to Friends of Moku'ula, Inc., a non-profit Hawaii Corporation, for the purpose of re-establishing the Island of Moku'ula within Loko o Mokuhinia in keeping with the Lahaina Historic Restoration and Preservation Plan.
2. Based on the study *Moku'ula History and Archaeological Excavation at the Private Palace of King Kamehameha III in Lahaina, Maui* by Paul Christiaan Klieger, Ph.D., prepared for the Lahaina Restoration Foundation and Bishop Museum the more significant site is the existing parking lot at the corner of Shaw Street and Front Street. Based on the survey conducted a portion of the Island of Moku'ula is believed to be located under the parking lot. The demolition of the parking lot will allow further archaeological work to determine the boundaries of the former island and open the area up for future restoration. (*Exhibit "7"*)

The study indicates that during the Phase 1 archaeological investigations the water table generally lies less than 1.0 m below the surface of Malu'ulu o Lele Park. This water seemed to be fresh and abundant. It is possible that the springs historically associated with the holding ponds, probably the main source of water for Loko o Mokuhinia, are still active. There may presently be enough water in the aquifer to naturally restore the lake should the overburden be removed.

According to the study it would not be necessary to restore the entire 11 to 17 acres of Loko o Mokuhinia. Three or four acres of water encircling Moku'ula may be aesthetically and ecologically "sufficient". The remainder of the park could be utilized much as before. Given the present lack of floor plans, detailed drawings of structures, and the paucity of archaeologically exposed architectural features, it may be impossible to accurately reconstruct the buildings of Moku'ula. Such reconstruction

would also warrant perpetual maintenance and engender questions of access.

The Study further recommends as part of the general restoration plan, and to educate the public a low maintenance kiosk with permanent signage may be appropriate. Illustrations could include an artist's concept of the palace complex in the 1830s. A more ambitious plan would be a visitors' center.

Since the preparation of the Study, the *Phase II Archaeological Survey of Moku'ula* has been completed which has helped to more closely determine the precise location of the buried island. However, the actual boundaries still remain unknown since the survey did not identify the nineteenth century "perimeter" basalt wall with the spatial boundaries of the island. The Phase III Survey excavations has not been done which will center on, but not be limited to Moku'ula. The excavation, preservation, and restoration plans must be developed and submitted to and approved by the Commission and State Historic Preservation Division before any fieldwork will commence.

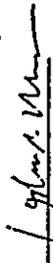
As part of the restoration process, the County of Maui requested assistance from the Department of the Army. By letter dated August 30, 2002 (*Exhibit "8"*), the Department of the Army responded that they would initiate a Section 206 reconnaissance study of restoring the Ponds of Moku'uhia and the Island of Moku'ula during the Federal Fiscal Year 2003. The reconnaissance study report, also known as the Preliminary Restoration Plan (PRP), will serve as the initial decision document for determining whether continued Federal interest is warranted into the detailed feasibility phase. The PRP is 100% federally financed. The follow-up feasibility phase, is cost shared at 35% non-Federal and 65% Federal but initially funded by the Federal Government.

It should be noted that the Maui County Cultural Resources Commission has in the past supported the efforts for the restoration of Moku'ula. The most recent was its support of the Wetland Determination and Feasibility Study by letter dated March 9, 2000 (*Exhibit "9"*). As part of any study of the Moku'ula the Commission requested the following:

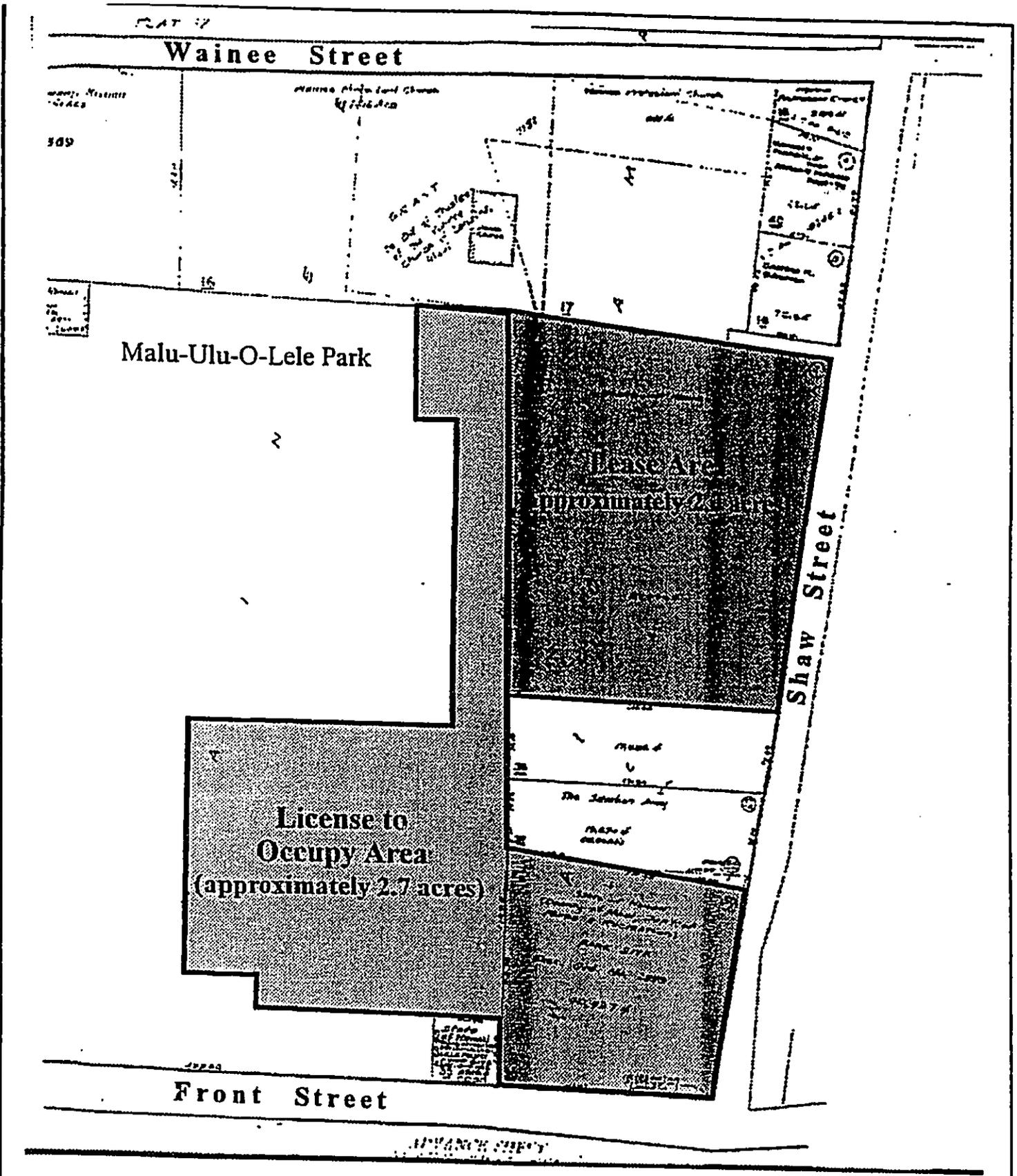
- a. That provisions of the National Preservation Act are adhered to; and

- b. That the Commission is consulted in the methodology to be used in making the determination and feasibility study to protect this historic and cultural resources from any invasive methods.
3. The draft EA should include a section on the history of Moku'ula. A source of information is the study by Paul Christiaan Kieger, Ph.D.
4. The subject properties are also located within the Special Management Area (SMA) of the Island of Maui and requires compliance to Chapter 205 A, HRS, and the SMA Rules of the Maui Planning Commission.

APPROVED:


JOHN E. MIN
Director of Planning

(K:\WP_DOCS\PLANNING\EA\2002\Moku'ula\Parking\CRReport.wpd)



Source: County of Maui

Figure 3

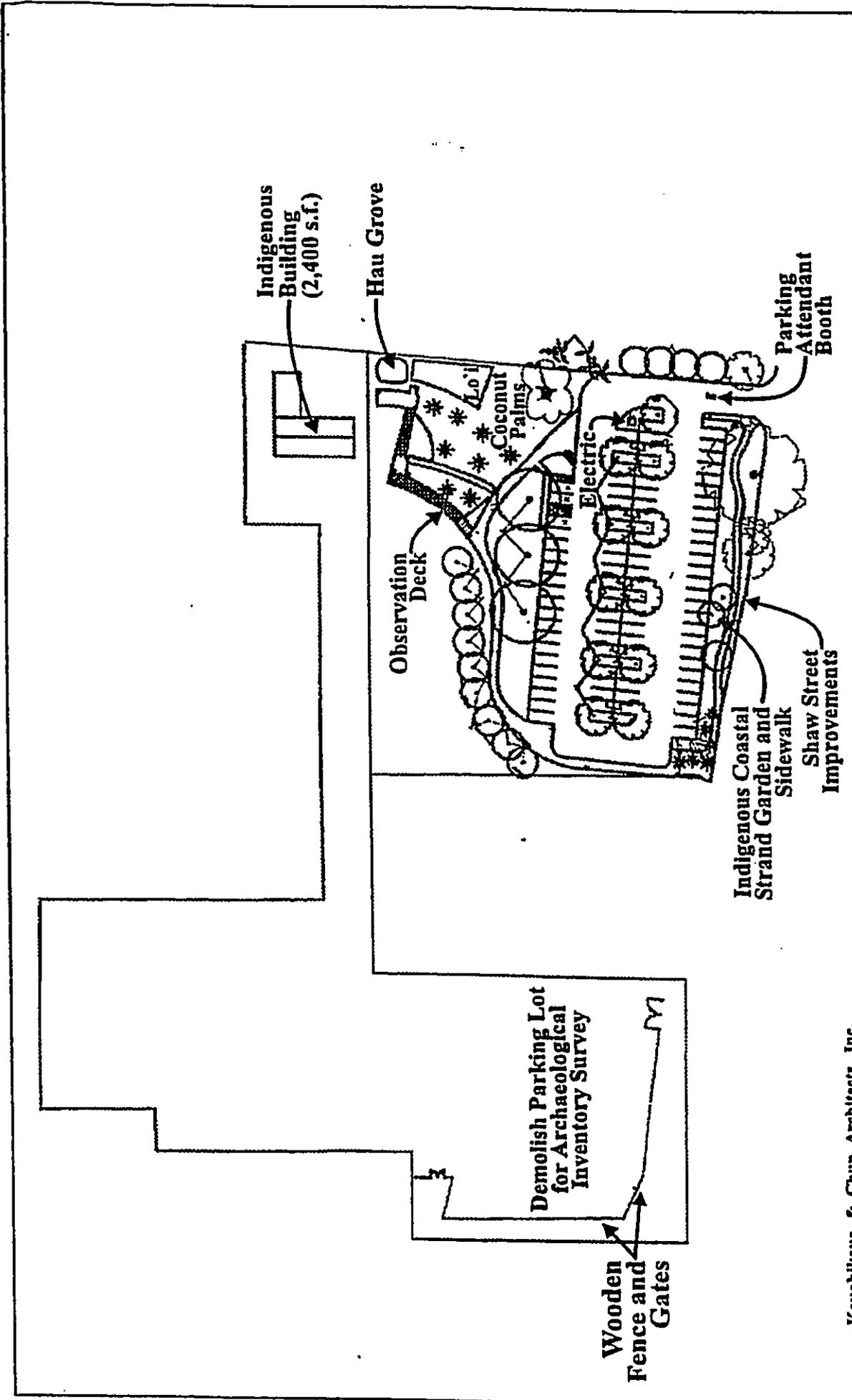
Replace Parking Lot at TMK (2)4-6-07:01, pors. 02 and 36
 Lease and License of Occupation Areas

NOT TO SCALE



Prepared for: County of Maui, Department of Planning and Kaunahikaua & Chun Architects

EXHIBIT "2"



Kauahikaua & Chun Architects, Inc.

Site 2 **Replace Parking Lot at TMK (2)4-6-07:01,** **NOT TO SCALE**
pors. 02 and 36
Site Plan

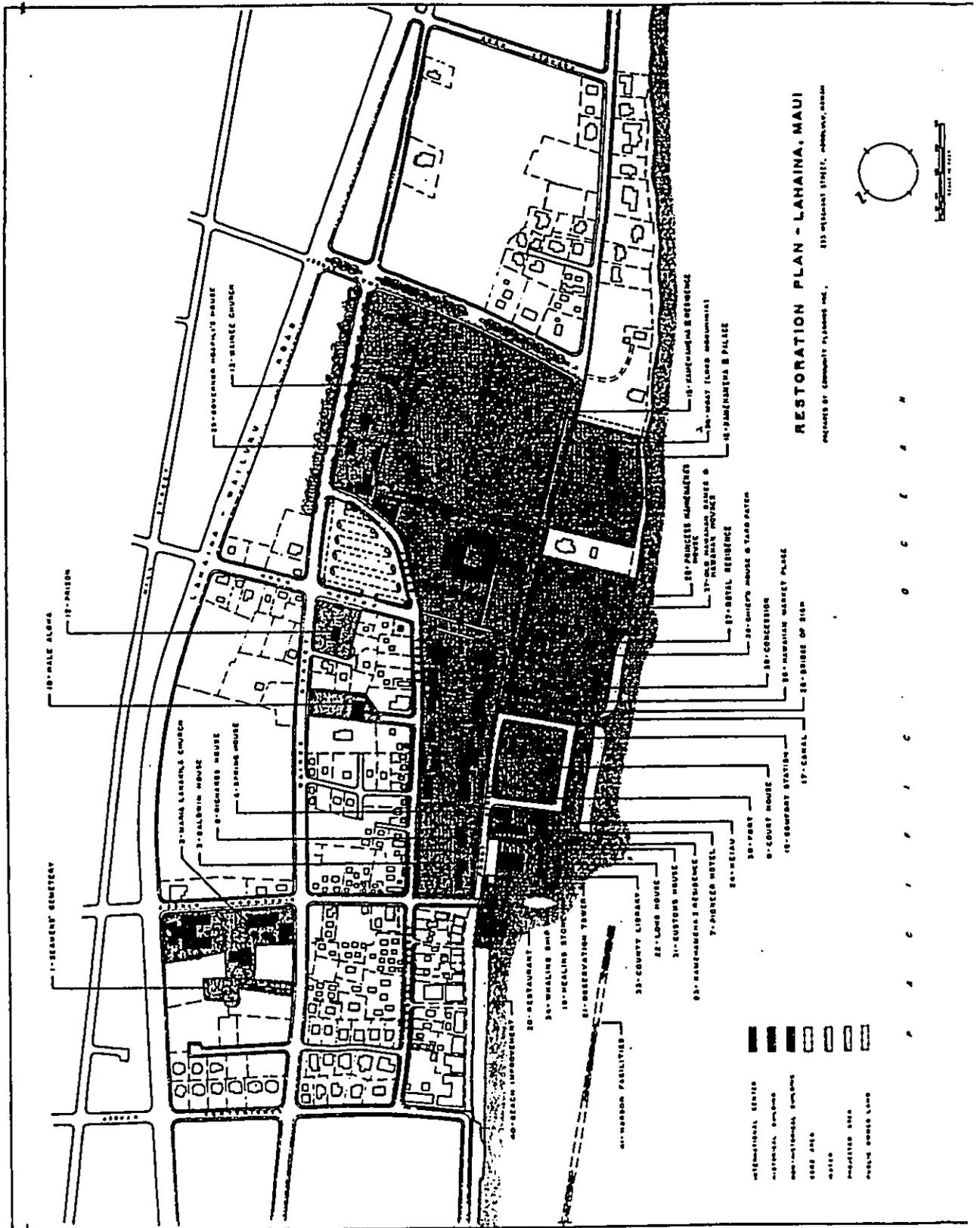


MURAKIYO HIRAGA, INC.

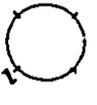
for: County of Maui, Department of Planning
and Kaunahikaua & Chun Architects, Inc.

EXHIBIT "5"

EXHIBIT "6"



RESTORATION PLAN - LAHAINA, MAUI
 PREPARED BY: COMMUNITY PLANNING AND DESIGN CENTER



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FORT SHAFTER, HAWAII 96818-6440

REF TO
ATTENTION OF:

August 30, 2002

02 SEP -4 P2:10

DEPT OF THE ARMY
COUNTY OF MAUI
RECEIVED

Civil and Public Works Branch

Honorable James K. Apana
Mayor
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793-2155

Dear Mayor Apana:

We are in receipt of your letter dated July 30, 2002, regarding your request for assistance to restore the Ponds of Mokuhinia and Island of Mokuula, Lahaina, Maui, Hawaii under Section 206, Water Resources Development Act of 1996, Aquatic Ecosystem Restoration Projects Authority. We understand that with the improvement of fish and wildlife resources there will be benefits to cultural resources as well.

As discussed between Mr. Clayton Yoshida of your Planning Office and Mr. Derek Chow of my staff, we will initiate a Section 206 reconnaissance study of restoring the Ponds of Mokuhinia and Island of Mokuula during Federal Fiscal Year 2003. The reconnaissance study report, also known as the Preliminary Restoration Plan (PRP), will serve as the initial decision document for determining whether continued Federal interest is warranted into the detailed feasibility phase. The PRP is 100% federally financed. The follow-on feasibility phase, is cost shared at 35% non-Federal and 65% Federal but initially funded by the Federal Government. Mr. Derek Chow, Project Manager, will work closely with your office in the development of the PRP.

We appreciate your confidence in the Honolulu District in addressing your water resources needs. If you have any questions, feel free to contact me or Mr. Derek Chow of my Civil and Public Works staff at 438-7009. I am sending copies of this letter to Mr. Clayton Yoshida, Department of Planning, County of Maui, 200 South High Street, Wailuku, Maui, Hawaii 96793 and Mr. Akoni Akana, Friends of Mokuula, 505 Front Street, Suite 234, Lahaina, Maui, Hawaii 96761.

Sincerely,

David C. Press
Lieutenant Colonel, U.S. Army
District Engineer

EXHIBIT "8"

JAMES PANNAZ
Director
JOHN M. MIN
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

March 9, 2000

RECEIVED
MAR 13 2000

Mr. James Pennaz, Chief
Civil Works Technical Branch
Army Corps of Engineers
Honolulu Engineer District, Building 230
Ft. Shafter, Hawaii 96858-5440

Dear Mr. Pennaz:

Re: Wetland Determination for the Ponds of Mokuhinia at Maui Tax
Map (TMK): 2-4-6-007:1, 2, 35, 36 and 41 (Malu Ulu O Lala
Park Area) and TMK: 2-4-6-002:23 (Kamehameha Iki Park),
Lahaina, Island of Maui, Hawaii.

At its March 2, 2000 meeting, the Maui County Cultural Resources Commission (MCCRC) voted to initiate a letter of request to the Army Corps of Engineers to initiate a Wetland Determination and Feasibility Study as the first efforts for future restoration of the Ponds of Mokuhinia and the Island of Mokuula. The Ponds of Mokuhinia are part of the Mokuula Complex and are listed on both the National Register of Historic Places and the State Register of Historic Places.

Mokuula is the site of the private residential complex of King Kamehameha III from 1837 to 1845 when Lahaina was the capital of the kingdom of the Hawaiian Islands. The Ponds of Mokuhinia surrounded the island on which the residential complex was situated. Since the early 1960's, there has been a desire to restore the Mokuula Complex as part of restoration efforts within the Lahaina District. For this purpose, the Lahaina Historic Districts were established in 1966 to protect our cultural and historic resources including Mokuula.

Although little effort has been made by the community for the desired restoration since this time, in recent years the community has revived interest in Mokuula. The Friends of Mokuula was established to help spearhead the restoration efforts. Through their efforts and in cooperation with the County of Maui and the MCCRC, the Friends of Mokuula has initiated educational and cultural programs, research on Mokuula and fund raising.

860 SOUTH HIGH STREET, HAWAII, MAUI, HAWAII 96703
PLANNING DIVISION (808) 270-7736; ZONING DIVISION (808) 270-7533; FACSIM

EXHIBIT "9"

Mr. James Pennaz, Chief
March 9, 2000
Page 2

Due to the significance of the site to both the Maui community and the State of Hawaii, the MCCRC requests the initiation of the Wetland Determination and Feasibility Study by the Army Corps of Engineers. Further, as a National and State registered site, the MCCRC requests that care be given in the study as follows:

1. That provisions of the National Preservation Act are adhered to; and
2. That the MCCRC is consulted in the methodology to be used in making the determination and feasibility study to protect this historic and cultural resources from any invasive methods.

Thank you for your consideration and cooperation. If additional clarification is required, please contact Ms. Colleen Suyama, Staff Planner, of this office at 270-7735.

Very truly yours,

JACKIE PIAS CARLIN, Chair
Maui County Cultural Resources Commission

JPC:CMS:osy
cc: James "Kimo" Apana, Mayor
Maui County Cultural Resources Commission
John Min, Planning Director
Clayton Yoshida, Deputy Planning Director
Akoni Akana, Friends of Mokuula
Colleen Suyama, Staff Planner
Project File
General File
IS:\CMS\mokuula\1



Michael Foley, Director
May 20, 2003
Page 2

May 20, 2003

Again, thank you for the comments and participation in the early consultation process.

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

SUBJECT: Proposed Parking Lot and Related Improvements
at TMK 4-6-07: 01, Por. 02 and 36

Dear Mr. Foley:

Thank you for your department's letter, dated November 27, 2002, enclosing the report to the Cultural Resources Commission which contained the Department of Planning's comments on the subject project. We provide the following responses to the comments in the order as presented in your report.

- 1. Response to Item 1:** The project site includes three (3) parcels identified by TMK 4-6-07: 01, por. 02 and 36. The Friends of Moku'ula, Inc. has a lease from the County on Parcel 01 and a Grant Agreement for a License of County Real Property on Parcels por. 02 and 36.
- 2. Response to Item 2:** The applicant confirms that the excavation, preservation, and restoration plans for the Island of Moku'ula will be developed and submitted to and approved by the Cultural Resources Commission and the State Historic Preservation Division before any fieldwork will commence. The applicant further confirms the provisions of the National Preservation Act will be adhered to and that the Cultural Resources Commission will be consulted in the methodology to be used in making the determination and feasibility study to protect the historic and cultural resources from any invasive methods.
- 3. Response to Item 3:** The draft environmental assessment will include a section on the history of Moku'ula and will draw information from the study by Paul Christiaan Klieger.
- 4. Response to Item 4:** We confirm a Special Management Area application pursuant to Chapter 205A, Hawaii Administrative Rules and the SMA Rules of the Maui Planning Commission will be prepared and filed for review and action by the Maui Planning Commission.

Very truly yours,

Mich Hirano, AICP

MHi:in
cc: Akoni Akana, Friends of Moku'ula, Inc.
Dwight Kauahikaua, Kauahikaua & Chun Architects
kchun@kchun.com

DEC 19 2002

JAMES 'KAIKO' APAHA
Mayor
JOHN E. MIN
Director
CLAYTON I. YOSHIDA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

December 13, 2002

Mr. Mich Hirano, AICP
Munekyo & Hiraga, Inc.
304 S. High Street, Room 104
Wailuku, Hawaii 96793

Dear Mr. Hirano:

RE: Pre-Consultation for a Draft Environmental Assessment (EA) for the Proposed Replacement of the Parking Lot at Malu'ulu o Lele Park (TMK: 4-6-007:por. 001 and 036) With a New 90-Stack Parking Lot and Ancillary Facilities (TMK: 4-6-007:001), Lahaina, Maui, Hawaii. (LTR 2002/5847)

At a special meeting on December 12, 2002, the Maui County Cultural Resources Commission (Commission) reviewed the above referenced project and had the following comments:

1. The proposed Phase 1 development for the Restoration of Moku'ula shall be integrated into a larger Conceptual Master Plan for the restoration project. This Conceptual Master Plan should be included in the Environmental Assessment.
2. The old stone curbs along portions of Shaw Street shall be integrated into the street improvements proposed from the project site to Front Street.
3. The project shall limit the amount of ground disturbance during construction on Parcel 1.
4. Concerns were raised over the size of the proposed indigenous structure. The larger the structure the less Hawaiian the structure becomes. Consideration shall be given to smaller multiple structures. Also, the proposed uses of the structures should be identified.

Mr. Mich Hirano
December 13 2002
Page 2

5. Concerns were raised regarding the building materials to be used within the project. The project identifies native plants within the landscaping and similarly the use of native materials (i.e. rock) for construction shall be considered instead of asphalt and concrete.
6. The Commission noted that there are marked graves in the area which are an indication that unmarked graves may also be present.
7. An inventory survey in the form of monitoring shall be conducted during construction related activities as tentatively recommended by the State Historic Preservation Division.
8. The Commission commended the use of the same archaeological team from the previous archaeological work for consistency.

If additional clarification is required, please contact Ms. Colleen M. Suyama, Staff Planner, of this office at 270-7735.

Very truly yours,

JOHN E. MIN
Planning Director

JEM:CMS:jay
c: Clayton Yoshida, AICP, Deputy Planning Director
Maui County Cultural Resources Commission Members
Colleen M. Suyama, Staff Planner
Project File
General File
(K:\WP_DOCS\PLANNING\EA\2002\Moku'ula\Parking\CRCPreComments.wpd)



Michael Foley, Director
May 20, 2003
Page 2

May 20, 2003

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

SUBJECT: Proposed Parking Lot and Related Improvements
at IMK 4-6-07-01, Pgr. 02 and 36

Dear Mr. Foley,

Thank you for your department's letter, dated December 13, 2002, providing the comments from the Maui County Cultural Resources Commission upon review of the comments at their meeting of December 12, 2002. We provide the following responses to the comments in the order as presented in the letter.

- 1. Response to Item 1:** The proposed parking lot and related improvements will be integrated into a larger Conceptual Master Plan. The Conceptual Master Plan and discussion of the project in the context of the Conceptual Master Plan will be incorporated in the Environmental Assessment.
- 2. Response to Item 2:** We confirm the old stone curbs along portions of Shaw Street will be integrated into the street improvements proposed along Shaw Street.
- 3. Response to Item 3:** We confirm the proposed parking lot and related improvements will be limited to installation of underground utilities and infrastructure on Parcel 01. A qualified archaeological monitor will be on site during all ground disturbing activities on Parcel 01 in order to identify and document any historic properties which may be encountered during the proposed undertaking and to provide appropriate mitigation measures as necessary.
- 4. Response to Item 4:** We note the concern raised in connection with the size of the proposed indigenous structure of approximately 2,400 square feet in area. The structure has been redesigned and is proposed to be approximately 1,800 square feet in area. The proposed uses of the structures will be identified in the Environmental Assessment.

- 5. Response to Item 5:** The use of Native materials will be considered for construction and applied as appropriate and practicable instead of asphalt and concrete.
- 6. Response to Item 6:** We note the presence of marked graves in the area which may indicate the presence of unmarked graves. As mentioned above, a qualified archaeologist will monitor all ground-altering activities and appropriate mitigation measures will be implemented.
- 7. Response to Item 7:** We confirm the State Historic Preservation Division has determined that an inventory survey in the form of monitoring will be conducted during construction-related activities.
- 8. Response to Item 8:** We agree that consistency of archaeological investigation will be an important component to the identification and recovery of cultural resources of Moku'ula Island, the fishpond and surrounding Loko o Mokuhinia.

Again, thank you for providing the comments from the Cultural Resources Commission to the request for early consultation.

Very truly yours,

Mich Hirano, AICP

MH:in
cc: Akoni Akana, Friends of Moku'ula, Inc.
Dwight Kawahikaua, Kawahikaua & Chun Architects
KAWAHIKAUA ARCHITECTS



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
MAJORS/REVA BUILDING, ROOM 808
801 KAUAIOLA BOULEVARD
HONOLULU, HAWAII 96813

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCES
MANAGEMENT
COMMISSION ON LAND RESOURCES
ENFORCEMENT
CONSERVATION
ENGINEERING
HISTORIC PRESERVATION
LAND
STATE PARKS

JAN 09 2003

ERIC HERRING, ACTING DIRECTOR
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

January 6, 2003

Mr. Mich Hirono
Munekiyo & Hiraga, Inc.
305 South High Street, Suite 104
Wailuku, Hawaii 96793

LOG NO: 31256
DOC NO: 0212CD05

Dear Mr. Hirono,

SUBJECT: Chapter 6E-42 Historic Preservation Review Pertaining to an Information Request for the Proposed Construction of a 90-stall Parking Lot and Ancillary Facilities
Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-6-007:001, por. 002 and 036

Thank you for the opportunity to provide comments pertaining to an information request pertaining to the proposed construction of a 90-stall parking lot and ancillary facilities, which was received by our staff October 30, 2002.

Based on the submitted information request, we understand the proposed undertaking will be located on a currently vacant lot at Shaw Street, Lahaina. The proposed project will consist of the construction of a 90-stall parking facility, an observation deck, and indigenous building, landscaping, and sidewalk improvements along Shaw Street (TMK: 4-6-007:001). The proposed undertaking will replace an existing public parking facility on Front Street (TMK: 4-6-007:002 & 036) which has been constructed over the historic Moku'ula Site (State Site 50-50-03-2967). Upon completion of the 90-stall parking lot, the existing parking structure will be demolished. We further understand that an Application for Special Management Area Use Permit and a Draft Environmental Assessment will be prepared and submitted to this office for review. We look forward to reviewing these documents.

The proposed project area is located within the boundaries of the Historic Lahaina District (State Site 50-50-03-3001). This area comprises the port town of the 1800s and is likely to have once been the location of pre-Contact farming, perhaps with scattered houses, during the pre-Contact period. In addition, the proposed project location is part of the historic Moku'ula Site (State Site 50-50-03-2967) and is associated with King Kamehameha III. Given the above information, we believe that it is likely that historic sites and/or site remnants may be present in the subsurface deposits of the proposed project area.

During the early 1990s, the Bishop Museum conducted archaeological excavations at TMK: 4-6-007: por 002 and 036 to establish the boundaries of Moku'ula Fishpond. We have reviewed the report documenting the findings (SHPD DOC NO.: 951KD23/LOG NO.: 15964). However, we have not received the requested revisions to date.

Mr. Mich Hirono
Page 2

In 1998 Xamanek Researches conducted an archaeological inventory survey of TMK: 4-6-007:001. Although no historic sites were identified during the survey, we concur with Xamanek Researches' recommendation of archaeological monitoring during all ground-altering activities conducted on the subject property as an appropriate mitigation measure given the cultural significance of this area.

Given the above information and the overall cultural sensitivity of the area, we recommend the following monitoring actions, which can be done as one project, with one plan, and one report.

1. A qualified archaeological monitor be present during all ground-altering activities conducted on TMK: 4-6-007:001 in order to identify and document any historic properties which may be encountered during the proposed undertaking and to provide appropriate mitigation measures as necessary. An acceptable monitoring plan will need to be submitted to this office for review, prior to the commencement of any ground-altering activities. An acceptable report documenting the findings of the monitoring activities will need to be submitted to this office for review within 180 days following the completion of the proposed undertaking. This should mitigate any adverse effects to significant sites which may occur.
2. An archaeological inventory survey, in the form of archaeological monitoring will be conducted concurrently with the demolition activities, to determine whether significant historic sites are present at TMK: 4-6-007:por. 002 and 036. An acceptable report documenting the findings of the survey will need to be submitted to this office for review. If significant historic sites are identified, a mitigation plan may need to be developed, in consultation with this office, and executed.

If you have any questions, please call Cathleen Dagher at (808) 692-8023.

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division

CD/jen



MUNEKIYO HIRAGA, INC.

P. Holly McEldowney, Acting Administrator
State of Hawaii
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamohia Boulevard
Honolulu, Hawaii 96707

May 20, 2003

**SUBJECT: Proposed Parking Lot and Related Improvements
at TMK 4-6-07: 01, Por. 02 and 36**

Dear Ms. McEldowney:

Thank you for your Division's letter, dated January 6, 2003, on the subject project. We confirm that a qualified archaeological monitor will be present during all ground-altering activities conducted on TMK 4-6-07:01 and an acceptable monitoring plan will be submitted to the State Historic Preservation Division (SHPD) for review prior to the commencement of any ground-altering activities.

We also confirm an archaeological inventory survey in the form of archaeological monitoring will be conducted concurrently with the demolition activities on Parcels por. 02 and 36. An acceptable report documenting the findings will be submitted to SHPD for review. We also note and confirm that a mitigation plan may need to be developed and reviewed in consultation with SHPD if significant historical sites are identified.

Again, thank you for your comments and participation in the early consultation process.

Very truly yours,

Mich Hirano, AICP

MH:hm
cc: Akoni Akana, Friends of Moku'ua, Inc.
Dwight Kauhikaua, Kauhikaua & Chun Architects

305 High Street, Suite 104 - Honolulu, Hawaii 96793 pt: (808) 744-2015 fax: (808) 744-4729 - planning@munekiyo.com

NOV 26 2002

OLBERT S. COLMAN-AGUIAR
CHAIRMAN
BOARD OF LAND AND NATURAL RESOURCES

ERIC T. WEAHO
DEPUTY DIRECTOR
LUREL T. HIRAKAWA
COMMISSIONER
THE COMMISSION ON WATER
RESOURCE MANAGEMENT

STATE HISTORIC PRESERVATION
COMMISSION ON WATER RESOURCES
CONSERVATION AND RESOURCES
DEPARTMENT
PROPERTY AND VISUAL
ARCHITECTURAL PRESERVATION
COMMISSION
STATE PARKS



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

P.O. Box 621
HONOLULU, HAWAII 96809

NOV 22 2002

L-3062

Mich Hirano, AICP
Munekiyo & Hiraga, Inc.
305 High Street Suite 104
Wailuku, Hawaii 96793

Subject: Replace Parking Lot at tax map key: (2) 4-6-7:1, por. 2 and 36

Dear Mr. Hirano:

Please accept our apology in not responding to your request sooner. A copy of your request was distributed within the Department.

Attached is a copy of the Division of Aquatic Resources response. The Department of Land and Natural Resources has no other comment to offer at this time.

Should you have any questions, please contact Nicholas Vaccaro of the Land Division, Support Services Branch at 587-0438.

Sincerely,

DIERDRE S. MAMIYA
Administrator

Cc: Land Board Member

1	STATE OF HAWAII	
2	DEPARTMENT OF LAND AND NATURAL RESOURCES	
3	LAND DIVISION	
4	P.O. BOX 521	
5	HONOLULU, HAWAII 96809	
6	DATE	10/18/02
7	BY	[Signature]
8	RECEIVED	
9	BY	
10	DATE	



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 521
HONOLULU, HAWAII 96809

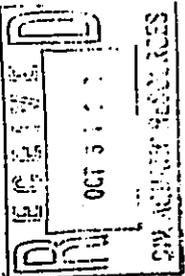
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND
DEVELOPMENT
CONSERVATION
ADULTERY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
WATER RESOURCE MANAGEMENT

L-3062
Suspense Date: 11/15/02

Ref.: SHAWSTREETPARKING.CMT

MEMORANDUM:

- TO: XXX Division of Aquatic Resources
 XXX Division of Forestry & Wildlife
 XXX Na Ala Hele Trails
 XXX Division of State Parks
 Division of Boating and Ocean Recreation
 XXX Commission on Water Resource Management
 XXX Historic Preservation Division
 Land Division Branches:
 XXX Planning and Technical Services
 XXX Engineering Branch
 XXX Maui District Land Office
 XXX Keith Chun (Land Division)
 XXX Scott Whiting (Land Division)



FROM: Biederre S. Mamiya, Administrator
 Land Division

SUBJECT: Pre-Assessment Consultation
 Purpose: Preparation of an Environmental Assessment
 Consultant: Munekiyo & Hiraga, Inc.
 Applicant: Friends of Moku'ula, Inc.
 Project: 90- Stall Parking Lot and Ancillary Facilities
 on Shaw Street in Lahaina, Maui, Hawaii
 2nd/ 4-6-07: portion of 02 and 36
 TMK:

Please review the attached letter (summary) and map covering the subject matter and submit your comments (if any) on Division letterhead signed and dated within the time requested above.

Should you have any questions, please contact Nicholas A. Vaccaro at ext.: 7-0384. If this office does not receive your comments on or before the suspense date, we will assume there are no comments.

(X) We have no comments. () Comments attached.

Signed: [Signature]
 Date: 11/18/02

MUNEKIYO HIRAGA, INC.

92 93 30 8:26

October 29, 2002

Gilbert Coloma-Agaran
 State of Hawaii
 Department of Land and Natural Resources
 P. O. Box 521
 Honolulu, Hawaii 96809

SUBJECT: . Replace Parking Lot at TMK (2) 4-6-07:01, por. 02 and 36

Dear Mr. Coloma-Agaran:

The applicant, Friends of Moku'ula, Inc., a Hawaii non-profit corporation, proposes to construct a 90-stall parking lot and ancillary facilities on Shaw Street in Lahaina, Maui. See Figure 1 and Figure 2. The proposed project will include an observation deck, an indigenous building of approximately 2,400 square feet, site landscaping and sidewalk improvements along Shaw Street. The proposed project will replace an existing public parking facility on Front Street which has been built over the historic Moku'ula site, the royal residence of King Kamehameha III. Upon completion of the 90-stall parking lot, the existing parking lot will be demolished and recovered for archaeological information. The proposed project area involves two (2) parcels; an approximate 2.0 acre site on which the 90-stall parking lot will be located is identified by TMK: (2) 4-6-07:01 and an approximate 2.7 acre area which covers the existing parking lot and a portion of Malu-Ulu-O-Lele Park is identified by TMK: (2) 4-6-07: por. 02 and 36. See Figure 3. Both parcels are owned by the State of Hawaii, County of Maui and have been granted to the Friends of Moku'ula, Inc. through a Lease and License to Occupy, respectively.

Since the proposed improvements involve State and County lands, as well as an action within the limits of the Lahaina National Historic Landmark District, an Environmental Assessment (EA) will be prepared as required by Chapter 343, Hawaii Revised Statutes. It should also be noted that since the subject property is located within the limits of the Special Management Area (SMA) for the island of Maui, an application for a SMA Use Permit will be prepared. In addition, since the site is situated within Lahaina Historic District No. 2, an application for historic district approval will be prepared for review by the Maui County Cultural Resources Commission.

As part of the EA early consultation process, we are, on behalf of the applicant, seeking early input as part of the EA preparation process. In this regard, your written comments

JAMES "KIMO" APANA
Mayor



DEPARTMENT OF PARKS & RECREATION
1580-C Kaahumanu Avenue, Wailuku, Hawaii 96793

NOV 25 2002

FLOYD S. MIYAZONO
Director
GLENN T. CORREA
Deputy Director

(808) 270-7130
Fax (808) 270-7931

November 21, 2002

Mich Hirano, AICP
Munekyo & Hiraga, Inc.
305 High Street
Wailuku, Hawaii 96793

RE: Replace Parking Lot at TMK (2) 4-6-07:01, por. 02 and 36

Dear Mr. Hirano:

Thank you for the opportunity to review and comment on the referenced action as part of the Environmental Assessment early consultation process.

We have no comment to offer on the proposed actions at this time. Should you have any questions, please contact me or Patrick Matsui, Chief of Parks Planning & Development at 808-270-7931.

Sincerely,

Floyd S. Miyazono
Director

c: Patrick Matsui, Chief of Parks Planning & Development

NOV 13 2002

BENJAMIN L. CAVETANO
DIRECTOR
COUNTY DIRECTOR OF
PUBLIC WORKS AND
JUDREY Y. UHASENO



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MAUI DISTRICT
650 PALAPALA DRIVE
HAHOLE, HAWAII 96732

BY REPLY REFER TO:
HWY-112-340-02

November 5, 2002

MEMORANDUM

TO: Mich Hirano
Munekyo & Hiraga, Inc.

FROM: Paul M. Chung
State Highways

SUBJECT: Replace Parking Lot at TMK: 4-6-07: 01. por. of 02 & 36
ME 02-57
Lahaina, Maui, Hawaii

Thank you for the opportunity to review and comment on the proposed parking lot development. Based upon our review of the submittals, it appears that the subject project will not have any significant impacts to our facilities.

If there are any questions or concerns, please call me at 873-3535.

/pmc

Chapter XI

***Comments Received During the
30-Day Draft Environmental
Assessment Comment Period
and Responses to Substantive
Comments***

XI. COMMENTS RECEIVED DURING THE 30-DAY DRAFT ENVIRONMENTAL ASSESSMENT COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

Pursuant to the requirements of the environmental review process, comments received during the Draft Environmental Assessment 30-day comment period, as well as responses to substantive comments, are included in this section.

United States Department of Agriculture



Natural Resources Conservation Service
210 Iml Kala Street, Suite 209
Wailuku, Hawaii 96793

03 JUL 10 12 27

July 8, 2003

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

Ms. Colleen Suyama
Department of Planning
250 S. High Street
Wailuku, Hawaii 96793

Dear Ms. Suyama,

SUBJECT: Moku'ula Parking Lot; TMK: 4-6-007: 001, 002, 036
I.D. EA 2003/0002, SM1 2003/0008, HDC 2003/0004

We have no comment on the subject application.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in cursive script that reads "Neal S. Fujiwara".

Neal S. Fujiwara
District Conservationist

The Natural Resources Conservation Service provides leadership in a partnership effort to help people
conserve, maintain, and improve our natural resources and environment.

An Equal Opportunity Provider and Employer



ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
YOUR REFERENCE

POLICE DEPARTMENT COUNTY OF MAUI

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



THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

July 15, 2003

MEMORANDUM

TO : MICHAEL W. FOLEY, PLANNING DIRECTOR

FROM : THOMAS M. PHILLIPS, CHIEF OF POLICE

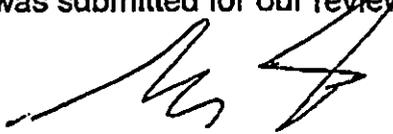
SUBJECT : I.D.: EA 2003/0002, SM1 2003/0008, HDC 2003/0004
 TMK: 4-6-007:001, 002, 036
 Project
 Name: Moku'ula Parking Lot
 Applicant: Michael T. Munekiyo, on behalf of Friends of Moku'ula

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
03 JUL 16 09:38

No further recommendation or comment is necessary or desired.

Refer to enclosed comments and/or recommendations.

Thank you for giving us the opportunity to comment on this project. We are returning the application booklet which was submitted for our review.


Acting Assistant Chief George Fontaine
For: THOMAS M. PHILLIPS
Chief of Police

Enclosures

TO : THOMAS PHILLIPS, CHIEF OF POLICE, MAUI COUNTY
VIA : CHANNELS
FROM : TIMOTHY H. HODGENS, P.O. II, LAHAINA SPECIALIZED UNITS
SUBJECT: TMK 4-6-007, 002, 036 IMPROVEMENTS

Sir, this To/From is in regards to the proposed project that is to be built at TMK 4-6-007, 002, 036.

The Friends of Moku'ula wish to build a 84-stall parking lot on Shaw Street, next door to the Salvation Army in Lahaina. At this time, the lot is a unkept, vacant field. Due to the lack of parking in the area, this proposed project will be a welcomed addition.

In addition to parking stalls, the group plans to improve the area by putting in a sidewalk along its portion of the land that fronts Shaw Street. At this time there are no sidewalks in the area. The group also plans to install lighting in the area of the parking lot. These improvements will also be welcome additions to the area.

This Officer recommends approval of this project, and sees no problems with public safety with its presence.

*This project would be a
good improvement to this
area. I would recommend
approval of this project.*

*Sgt. [Signature]
07/11/03 1230*

Respectfully Submitted;

[Signature]

**T. HODGENS 2319
Police Officer II
Lahaina Specialized Units
071003 1200 Hrs**

*LOW IMPACT TO VEHICLE
TRAFFIC AND PROPER LIGHTING
WILL BE INSTALLED TO
DISCOURAGE CRIMINAL
ACTIVITY. RECOMMENDS
APPROVAL.*

*n/capt. V. [Signature]
7/11/03 1230*

*[Signature]
WJ RIAK
07/14/03*



September 8, 2003

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

SUBJECT: Proposed Parking Lot and Related Improvements at
TMK (2) 4-6-07: 01, Por. 02 and 36

Dear Chief Phillips:

Thank you for your memorandum of July 15, 2003 to Michael Foley, Planning Director, commenting on the subject project. On behalf of Friends of Moku`ula, Inc., we wish to acknowledge Officer Hodgens' assessment that the proposed project will be a welcome addition to parking in the southern portion of Lahaina Town. Although, the proposed project will replace the current 74 stall parking lot on the corner of Shaw and Front Streets additional parking will also be provided.

We also concur that the proposed improvements which include a sidewalk along the property boundary fronting Shaw Street and the lighting of the parking lot will help provide pedestrian safety and security in the local area.

Again, thank you for your comments and review of the draft EA.

Very truly yours,

Mich Hirano, AICP

MH:yp

cc: Akoni Akana, Friends of Moku`ula, Inc.
Dwight Kauahikaua, Kauahikaua & Chun/Architects

kca/mokuula/mpd.res

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 24, 2003

SM12003-0008.RCM

LD-NAV

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

Dear Mr. Foley:

Subject: Special Management Area Permit Application
I.D. No.: SM1 2003/0008
Project: Mokuula Parking Lot
TMK: (2) 4-6-007: 002 and 036
Authority: County of Maui Department of Planning

Thank you for the opportunity to review and comment on the subject matter.

The Department of Land and Natural Resources' (DLNR) Land Division made available or distributed a copy of the document pertaining to the subject matter to the following DLNR Divisions for their review and comment:

- Division of Aquatic Resources
- Division of Forestry and Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Maui District Land Office

Attached is a copy of the Land-Maui District Land Office comment.

Based on the attached responses, the Department of Land and Natural Resources has no other comment to offer on the subject matter.

If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Dierdre S. Mamiya".

DIERDRE S. MAMIYA
Administrator

C: MDLO

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

54 High Street, Room 101
Wailuku, Hawaii 96793
PHONE: (808) 984-8103
FAX: (808) 984-8111

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 22, 2003

Ref: SM12003-0008.CMT

MEMORANDUM

TO: Dierdre S. Mamiya, Administrator
Land Division

FROM: Jason K. Koga, District Land Agent *J. Koga*
Maul District Land Office

SUBJECT: I.D: EA 2003/0002, SM1 2003/0008, HDC 2003/0004, Moku'ula Parking
Lot, TMK: (2) 4-6-007:001, 002 and 036

The Special Management Area Permit Application, together with the Land Ownership Documentation and Draft Environmental Assessment should be revised to reflect the State of Hawaii as the owner. The County of Maui has control and management over the subject parcels by way of Governor's Executive Order Nos. 52, 2889 and 3430, however, title is retained by the State of Hawaii.

The Draft EA indicates that the Friends of Moku'ula (FOM) intends to operate and manage the proposed paid parking lot, which appears to be confined entirely within Parcel 001. Proceeds from the parking fees will be used to support cultural-educational programs of FOM at the site.

A Lease dated January 2, 2002 between the County of Maui and FOM provides that Parcel 1 shall be used solely to restore and preserve Moku'ula and the ponds of Mokuhinia, with other uses subject to written approval from the County and the State. The Lease further provides for the construction of the parking area. Plans and specifications for any improvements shall be submitted to the County and the State for approval. There is no mention of parking fee collections within the Lease. It is our understanding that the Lease will be undergoing an amendment to include the paid parking operation. Following County concurrence, the Board of Land and Natural Resources should be provided the opportunity to review and approve of the operation.

Dierdre S. Mamiya, Administrator
July 22, 2003
Page 2

The Draft EA also indicates that FOM may rent Hale Halawai for special occasions. Hale Halawai is apparently located entirely within Parcel 2. That portion of Parcel 2 is covered under a License between the County and FOM, providing the same restoration and preservation uses as the Lease.

The renting of facilities is not provided for in the License. If the County concurs with the rental use, an amendment to the License or some other appropriate written authorization should be provided and the Board of Land and Natural Resources afforded the opportunity to review and approve. Under the License, FOM should provide plans and specifications for the improvements to the County and the State for approval.

Apparently, a separate EA will be done to address the restoration efforts of Moku'ula and the ponds of Mokuhinia within the Lease and License areas. The State should be afforded the opportunity to review and comment on that future EA as the landowner and consentor to the Lease and License.

Thank you for the opportunity to review and comment on the matter. . . .

c: N. Vaccaro
District Files

LINDA LINGLE
GOVERNOR OF HAWAII



8 30 AM '03

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 2, 2003
LD/NAV
Ref.: SM12003-0008.CMT

Suspense Date: 7/21/03

MEMORANDUM:

TO: XXX Division of Aquatic Resources (DD)
XXX Division of Forestry & Wildlife (DD)
/XXX Engineering Division (DD)
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Maui District Land Office (DD)

FROM: Dierdre S. Mamiya, Administrator *[Signature]*
Land Division

SUBJECT: Application: Special Management Area Permit
I.D. No.: SM1 2003/0008
TMK: 2nd/ 4-6-7: Portion of 02 and 036
Project: Parking Lot and Related Improvements
Authority: County of Maui Department of Planning

- TO: ADMINISTRATOR *[initials]*
- ASST ADMIN
- DEV BR
- PLAN BR *[initials]*
- PES MGT BR
- CLERICAL
- ADMIN ASST
- INTERP BR

- FOR: CIRC/POST/STAFF RM
- COMMENTS & REC
- DRAFT REPLY
- FILE
- FOLLOW UP
- INFO
- RUN COPIES
- RUSH DUE
- SEE ME
- FAX/SEND COPY TO

Please review the document pertaining to the subject matter and submit your comment (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Division: State Park

Signed: *[Signature]*

Date: Jul 1 9 2003

Name: Daniel S. [Signature]

LINDA LINGLE
GOVERNOR OF HAWAII



RECEIVED

03 JUL 2 11:55



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER
RESOURCE MANAGEMENT OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 2, 2003
LD/NAV
Ref.: SM12003-0008.CMT

Suspense Date: 7/21/03

MEMORANDUM:

From
TO: XXX Division of Aquatic Resources (DD)
XXX Division of Forestry & Wildlife (DD)
XXX Engineering Division (DD)
XXX Division of State Parks
Division of Boating and Ocean Recreation
✓ XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Maui District Land Office (DD)

To
FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Application: Special Management Area Permit
I.D. No.: SM1 2003/0008
TMK: 2nd/ 4-6-7: Portion of 02 and 036
Project: Parking Lot and Related Improvements
Authority: County of Maui Department of Planning

Please review the document pertaining to the subject matter and submit your comment (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Division: CWRM

Signed: Dierdre Mamiya

Date: 7/8/03

Name: DAVID HAGA

2003 JUL 9 4 45 PM

LINDA LINGLE
GOVERNOR OF HAWAII



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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER



2003 JUL -9 A 9:55

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

July 2, 2003
LD/NAV
Ref.: SM12003-0008.CMT

Suspense Date: 7/21/03

MEMORANDUM:

TO: XXX Division of Aquatic Resources (DD)
 XXX Division of Forestry & Wildlife (DD)
 XXX Engineering Division (DD)
 XXX Division of State Parks
Division of Boating and Ocean Recreation
 XXX Commission on Water Resource Management
 XXX Office of Conservation and Coastal Lands
 XXX Land-Maui District Land Office (DD)

FROM: Pierdre S. Mamiya, Administrator
Land Division

SUBJECT: Application: Special Management Area Permit
I.D. No.: SM1 2003/0008
TMK: 2nd/ 4-6-7: Portion of 02 and 036
Project: Parking Lot and Related Improvements
Authority: County of Maui Department of Planning

Please review the document pertaining to the subject matter and submit your comment (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Division: _____

Signed:

Date: JUL -7 .

Name: **MICHAEL G. BUCK, ADMINISTRATOR**
DIVISION OF FORESTRY AND WILDLIFE



September 8, 2003

Dierdre S. Mamiya
State of Hawaii
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

SUBJECT: Proposed Parking Lot and Related Improvements at
TMK (2) 4-6-07: 01, Por. 02 and 36

Dear Ms. Mamiya:

Thank you for your letter dated July 24, 2003 to Michael Foley, Planning Director, commenting on the subject project. On behalf of Friends of Moku`ula, Inc., we provide the following responses to the comments from Jason Koga, District Land Agent in the order presented in his memorandum.

1. **Response to comment on land ownership documentation**

The Special Management Area Permit Application, the Land Ownership Documentation and the Final Draft Environmental Assessment (EA) will be revised to reflect the State of Hawaii as owner.

2. **Response to comment on parking fees**

The Friends of Moku`ula has submitted a request to the County Department of Parks and Recreation, and Department of Housing and Human Concerns, and to the State of Hawaii, Board of Land and Natural Resources, to review and provide written approval to construct the proposed improvements.

3. **Response to comment on rental of the Hale Halawai**

The Friends of Moku`ula confirms that the renting of facilities located on a portion of Parcel 02 and within the License to Occupy the area will require review and written authorization from the County of Maui and the Board of Land and Natural Resources. A request to review and approve the operational program for the facilities, including the rental of the Hale Halawai will be submitted to the County

Dierdre S. Mamiya
September 8, 2003
Page 2

and State once the plans, specifications and operational programs for the facilities have been finalized.

4. **Response to comments on the restoration of Moku`ula and the ponds of Mokuhinia**

The U.S. Army Corps of Engineers is investigating the feasibility of an ecosystem restoration project under Section 206 of the Water Resources Development Act of 1996 to restore the wetlands that previously existed at the site. The County of Maui is the non-Federal sponsor of the project. Preparation of a Preliminary Restoration Plan is underway to determine if Federal interest is warranted in proceeding with detailed investigations. Coordination with the County of Maui and the State of Hawaii, Department of Land and Natural Resources will continue as the project plans are developed.

Again, thank you for your comments and review of the draft EA.

Very truly yours,



Mich Hirano, AICP

MH:yp

cc: Akoni Akana, Friends of Moku`ula, Inc.
Dwight Kauahikaua, Kauahikaua & Chun/Architects

kca/mokuula/0624comm.res

LINDA LINGLE
GOVERNOR OF HAWAII



'03 AUG -1 P 1:33

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

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 29, 2003

Mr. Michael Foley, Planning Director
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

LOG NO: 2003.1398
DOC NO: 0307CD62

Dear Mr. Foley,

SUBJECT: Chapter 6E-42 Historic Preservation Review – Environmental Assessment and Applications for Special Management Area Use Permit and Historic District Approval for the Proposed Parking Lot and Related Improvements at TMK: 4-6-07:01. por. 02, and 36 (Subject I.D.: EA 2003/0002, SM1 2003/0008, HDC 2003/0004) (County/Planning) Waihe'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-6-007:001, 002 por., and 036

Thank you for the opportunity to review and comment on the Environmental Assessment (EA) and Applications for Special Management Area Use Permit (SM1) and Historic District (HDC) Approval for the Proposed Parking Lot and Related Improvements at TMK: 4-6-07:01. por. 02, and 36, which was received by our staff June 30, 2003. Our review is based on reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was conducted of the subject property.

Based on the submitted document we understand the proposed undertaking consists of the construction of a 84-stall parking lot and ancillary facilities, an 1800 square foot traditional Native Hawaiian building (Hale Halawai), an accessory building, an observation deck, site landscaping and sidewalk improvements along Shaw Street. The proposed undertaking will replace an existing 74-stall parking facility on the corner of Front and Shaw Streets which has been built over the historic Moku'ula Complex. Upon the completion of the new parking facility the existing parking lot will be demolished.

We have previously provided comments pertaining to an information request for the proposed undertaking (SHPD DOC NO.: 0212CD06/LOG NO.: 31257). At that time the proposed project consisted of the construction of a 90-stall parking facility, an observation deck, an indigenous building, landscaping and sidewalk improvements along Shaw Street, and the demolition of the existing parking facility upon completion of the new lot. Although the proposed undertaking has been slightly modified, our previous comments still apply and are paraphrased below.

The proposed project area is located within the boundaries of the Historic Lahaina District (State Site 50-50-03-3001). This area comprises the port town of the 1800s and is likely to have once been the location of pre-Contact farming, perhaps with scattered houses, during the pre-Contact period. In addition, the proposed project location is part of the historic Moku'ula Site (SIHP 50-50-03-2967) and is associated with Kamehameha III. Given the above information, we believe that it is likely that historic sites and/or site remnants may be present in the subsurface deposits of the proposed project area.

Mr. Michael Foley, Planning Director
Page 2

During the early 1990s the Bishop Museum conducted archaeological excavations at TMK: 4-6-007: por 002 and 036 to establish the boundaries of Moku'ula Fishpond. We have reviewed the report documenting the findings of the survey (SHPD DOC NO.: 9511KD23/LOG NO.: 15964) and requested some revisions. To date we have not received the requested revisions.

In 1998, Xamanek Researches conducted an archaeological inventory survey of TMK: 4-6-007:001. No historic sites were identified during the survey. However, given the cultural significance of the area in general, we concur with Xamanek Researches' recommendation that archaeological monitoring occur during all ground-altering activities conducted on the subject property as an appropriate mitigation plan.

Given the above information and the overall cultural sensitivity of the area we recommend the following conditions be attached to the subject SM1, EA and HDC, if approved.

- 1) A qualified archaeological monitor shall be present during all ground-altering activities conducted on TMK: 4-6-007:001 in order to document any historic properties which may be encountered during the proposed undertaking and to provide mitigation measures as necessary. An acceptable archaeological monitoring plan will need to be submitted to the State Historic Preservation Division for review, prior to the commencement of any ground-altering activities. An archaeological monitoring plan must contain the following nine specifications: (1) The kinds of remains that are anticipated and where in the construction area the remains are likely to be found; (2) How the remains and deposits will be documented; (3) How the expected types of remains will be treated; (4) The archaeologist conducting the monitoring has the authority to halt the construction in the immediate area of the find in order to carry out the plan; (5) A coordination meeting between the archaeologist and construction crew is scheduled, so that the construction team is aware of the plan; (6) What laboratory work will be done on remains that are collected; (7) A schedule of report preparation; (8) Details concerning the archiving of any collections that are made; and (9) An acceptable report documenting the findings of the monitoring activities shall be submitted to the State Historic Preservation Division for review upon 180 days following the completion of the proposed undertaking.
- 2) The State Historic Preservation Division (Maui and O'ahu offices) shall be notified in writing upon the on-set and completion of the proposed undertaking.
- 3) An archaeological inventory survey shall be conducted concurrently with the ground altering activities to determine whether significant historic sites are present at TMK: 4-6-007: por 002 and 036. An acceptable scope of work shall be submitted to the State Historic Preservation Division for review prior to the commencement of any ground altering activities. An acceptable report documenting the findings shall be submitted to the State Historic Preservation Division for review upon 180 days following the completion of the proposed undertaking.

In addition, we understand from the submitted EA, SM1, and HDC that the proposed project has been designed in the context of the future reclamation of the historic site. We look forward to being involved in this process.

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

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division

CD:jen

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



September 8, 2003

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

SUBJECT: Proposed Parking Lot and Related Improvements at
TMK (2) 4-6-07: 01, Por. 02 and 36

Dear Mr. McEldowney:

Thank you for your letter dated July 29, 2003 to Michael Foley, Planning Director, commenting on the subject project. On behalf of Friends of Moku'ula, Inc., we provide the following responses to your comments in the order presented in your letter.

1. **Response to comments regarding an archaeological monitor**

We confirm that an archaeological monitor shall be present during all ground-altering activities conducted on Parcel 01. Furthermore, as requested, an acceptable archaeological monitoring plan will be submitted to State Historic Preservation Division (SHPD) for review prior to the commencement of ground-altering activities. The monitoring plan will contain the nine (9) specifications as detailed in your letter.

2. **Response to notification**

We confirm that the SHPD offices, Maui and Oahu, will be notified in writing upon the on-set and completion of the proposed project.

3. **Response to archaeological inventory survey of Parcels Por. 02 and 36**

We confirm that an archaeological inventory survey shall be conducted concurrently with the ground-altering activities proposed for Parcels Por. 02 and 36. As requested, an acceptable scope of work shall be submitted to SHPD prior to the commencement of any ground-altering activities. An acceptable report documenting the findings of the inventory survey shall be submitted to SHPD for review upon 180 days following the completion of the proposed project.

P. Holly McEldowney, Acting Administrator
September 8, 2003
Page 2

4. Response to future reclamation of Moku`ula

We confirm that further coordination will be carried out with SHPD in relation to the restoration of Moku`ula and the pond of Mokuhinia.

Again, thank you for your comments and review of the draft EA.

Very truly yours,



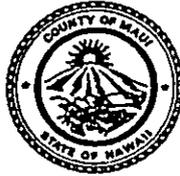
Mich Hirano, AICP

MH:yp

cc: Akoni Akana, Friends of Moku`ula, Inc.
Dwight Kauahikaua, Kauahikaua & Chun/Architects

kca/mokuula/mceldowney.res

AUG 08 2003



DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109
Telephone (808) 270-7816 • Fax (808) 270-7833

August 4, 2003

Ms. Colleen Suyama, Staff Planner
Planning Department
County of Maui
250 S High Street
Wailuku, Hawaii 96793

Dear Ms. Suyama:

Project Name: Moku'ula Parking Lot - Construction of 1800 sf traditional native Hawaiian building (Hale Halawai), 84 parking stalls, 900 sf accessory building (Hale Pohaku) housing a cooking house and washroom facilities, observation deck, site landscaping and sidewalk improvements

TMK : (2) 4-6-007:001, por 002 and 036

ID : EA 2003/0002, SM1 2003/0008, HDC 2003/0004

Thank you for the opportunity to review this project proposal. The Department of Water Supply provides the following information:

Estimated demand based on system standards is 8,194 gpd. Actual demand will depend on intensity of use.

The project site is served by an 8-inch waterline along the Shaw Street side of the property, 1-inch water meter and fire hydrants within 250 ft. The applicant should be required to provide domestic, fire and irrigation services in accordance with standards. Fire, domestic, and irrigation calculations will be required during the building permit process. Actual fire demand for structures is determined by fire flow calculations prepared, signed and stamped by a certified engineer or architect. The approved fire flow calculation methods for use include Guidance for Determination of Fire Flow- Insurance Service Office, 1974 and Fire Flow- Hawaii Insurance Bureau, 1991. Installation of reduced pressure back-flow prevention approved by the Department will likewise be required. The applicant should contact our Engineering Division at 270-7835 to discuss required water system improvements.

In order to conserve our limited water resources, we would like to reiterate our comments in the early consultation process for this project. These include the use of appropriate native and non invasive species and potentially invasive plants to avoid as well as the use of brackish and/or reclaimed water sources for all non-potable water uses, including irrigation and dust control during construction, if such alternative sources are available. We encourage the applicant to also consider the following conservation measures in and around the property:

Eliminate Single-Pass Cooling: Single-pass, water-cooled systems should be eliminated per Maui County Code Subsection 14.21.20. Although prohibited by code, single-pass water cooling is still manufactured into some models of air conditioners, freezers, and commercial refrigerators.

Utilize Low-Flow Fixtures and Devices: Maui County Code Subsection 16.20A.680 requires the use of low-flow water fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs. Water conserving washing machines, ice-makers and other units are also available.

Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Please refer to the attached handout, "The Costly Drip".

Page 2
Colleen Suyama
August 4, 2003

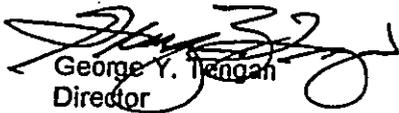
Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers. Check and reset controllers at least once a month to reflect the monthly changes in evapotranspiration rates at the site. As an alternative, provide the more automated, soil-moisture sensors on controllers.

Look for Opportunities to Conserve Water: A few examples of these are as follows: When clearing driveways, etc. of debris, use a broom instead of a hose. When washing cars, use a hand-operated spray nozzle instead of an open hose. Additionally, check for leaks in faucets and toilet tanks.

The project overlies the Launiupoko aquifer which has an estimated sustainable yield of 8 MGD of potable water. In order to protect surface and groundwater resources, we encourage the applicant to adopt Best Management Practices (BMPs) designed to minimize infiltration and runoff from all construction and vehicle operations. The applicant was also provided a copy of recommended BMPs during the early consultation process.

Should you have any questions, please contact our Water Resources and Planning Division at 270-7199.

Sincerely,


George Y. Tengan
Director

eam

c:: engineering division

applicant, with attachments

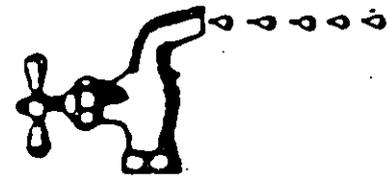
The Costly Drip

Ordinance No. 2108 - a Bill for an Ordinance Amending Chapter 16.20 of the Maui County Code, Pertaining to the Plumbing Code

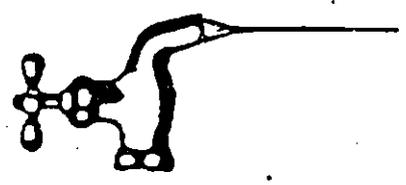
"THE COSTLY DRIP"



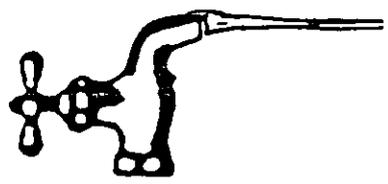
Slowly Dripping
Spigot Wastes
15 Gallons a day.



1/32" Leak Wastes
25 Gallons a day.



1/16" Stream Wastes
100 Gallons a Day.



1/8" Stream Wastes
400 Gallons a day.

ORDINANCE NO. 2108

BILL NO. 6 (1992)

Draft 1

A BILL FOR AN ORDINANCE AMENDING
CHAPTER 16.20 OF THE MAUI COUNTY
CODE, PERTAINING TO THE PLUMBING CODE

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Title 16 of the Maui County Code is amended by adding a new section to Chapter 10 of the Uniform Plumbing Code to be designated and to read as follows:

*16.20.675 Section 1050 added. Chapter 10 of the Uniform Plumbing Code is amended by adding a new section, pertaining to low-flow water fixtures and devices, to be designated and to read as follows:

Sec. 1050 Low-flow water fixtures and devices. (a) This section establishes maximum rates of water flow or discharge for plumbing fixtures and devices in order to promote water conservation.

(b) For the plumbing fixtures and devices covered in this section, manufacturers or their local distributors shall provide proof of compliance with the performance requirements established by the American National Standards Institute (ANSI) and such other proof as may be required by the director of public works. There shall be no charge for this registration process.

(c) Effective December 31, 1992, only plumbing fixtures and devices specified in this section shall be offered for sale or installed in the County of Maui, unless otherwise indicated in this section. All plumbing fixtures and devices which were installed before December 31, 1992, shall be allowed to be used, repaired or replaced after December 31, 1992.

(1) Faucets (kitchen): All kitchen and bar sink faucets shall be designed, manufactured, installed or equipped with a flow control device or aerator which will prevent a water flow rate in excess of two and two-tenths gallons per minute at sixty pounds per square inch of water pressure.

(2) Faucets (lavatory): All lavatory faucets shall be designed, manufactured, installed or equipped with a flow control device or aerator which will prevent a water flow rate in excess of two and two tenths gallons per minute at sixty pounds per square inch of water

pressure.

(3) Faucets (public rest rooms): In addition to the lavatory requirements set forth in paragraph (2), lavatory faucets located in rest rooms intended for use by the general public shall be of the metering or self-closing types.

(4) Hose bibbs: Water supply faucets or valves shall be provided with approved flow control devices which limit flow to a maximum three gallons per minute.

EXCEPTIONS: (A) Hose bibbs or valves not used for fixtures or equipment designated by the director of public works.

(B) Hose bibbs, faucets, or valves serving fixed demand, timing, or water level control appliances, and equipment or holding structures such as water closets, pools, automatic washers, and other similar equipment.

(5) Showerheads: Showerheads, except where provided for safety or emergency reasons, shall be designed, manufactured, or installed with a flow limitation device which will prevent a water flow rate in excess of two and one-half gallons per minute at eighty pounds per square inch of water pressure. The flow limitation device must be a permanent and integral part of the showerhead and must not be removable to allow flow rates in excess of two and one-half gallons per minute or must be mechanically retained requiring force in excess of eight pounds to remove.

(6) Urinals: Urinals shall be designed, manufactured, or installed so that the maximum flush will not exceed one gallon of water. Adjustable type flushometer valves may be used provided they are adjusted so the maximum flush will not exceed one and six tenths gallons of water.

(7) Water closets (toilets): Water closets shall be designed, manufactured, or installed so that the maximum flush will not exceed one and six tenths gallons of water.

(d) Beginning December 31, 1992, it is unlawful to sell or install any plumbing fixtures or devices not specified in this section, except as permitted under this section.

(e) The director of public works may exempt the use of low-flow water fixtures and devices if there is a finding that the use of such fixtures and devices would not be consistent with accepted engineering practices and would be detrimental to the public health, safety and welfare.

(f) Any person violating this section shall be fined \$250 for each violation and shall correct all instances of non-compliance for which a citation is issued. Violation of this section shall constitute a violation as defined in section 701-107 Hawaii Revised Statutes and shall be enforceable by employees of the department of public works. The foregoing fine may also be imposed in a civil, administrative proceeding pursuant to Rules and Regulations adopted by the department of public works in accordance with chapter 91 Hawaii Revised Statutes."

SECTION 2. New material is underscored. In printing this bill, the County Clerk need not include the underscoring.

SECTION 3. This ordinance shall take effect upon its approval.

APPROVED AS TO FORM
AND LEGALITY:



HOWARD M. FUKUSHIMA
Deputy Corporation Counsel
County of Maui
c:\wp51\ords\flows4\pk

LAND USE TYPE:Public facility/Comm

LAND_USE:Parking lot and pavement

CONCERN:
Polluted storm water

GOAL:
keep pollutants from contact with rain and being
dumped or poured into storm drains

SUGGESTED PRACTICES:

Follow these BMPs to control pollutant discharges. The objectives are: 1) to keep pollutants from contacting rain, and 2) to keep pollutants from being dumped or poured into the storm drains. The goal is "only rain in the storm drain."

Pavement Cleaning:

- Sweep parking lots and other paved areas periodically to remove debris. Dispose of debris in the garbage.
- If outdoor pavement cleaning with detergent is required, collect wash water and dispose in indoor sinks or drains for discharge to the sanitary sewer. Contact your local wastewater treatment agency.

REFERENCE:

Alameda Countywide Clean Water Program: Good Housekeeping Practices



September 8, 2003

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

SUBJECT: Proposed Parking Lot and Related Improvements at
TMK (2) 4-6-07: 01, Por. 02 and 36

Dear Mr. Tengan:

Thank you for your letter dated August 4, 2003 to Colleen Suyama, Staff Planner, Department of Planning, commenting on the subject project. On behalf of Friends of Moku'ula, Inc., we provide the following responses to your comments in the order presented in your letter.

1. **Response to conserve limited water resources.** We confirm that the proposed landscaping plan includes the use of appropriate native and non-invasive species. A source of non-potable water for irrigation is currently not available in the vicinity of the project site. Non-potable water sources will be used for dust control during construction.
2. **Response to conservation measures.** We confirm single-pass, water-cooled systems will be eliminated. Low flow water fixtures and devices in faucets shall be installed in compliance with Maui County Code Subsection 16.20A.680.
3. **Response to maintenance.** A regular repair and maintenance program will be developed and implemented for the proposed facilities to prevent loss of water from leaks.

George Y. Tengan
September 8, 2003
Page 2

Again, thank you for your comments and review of the draft EA.

Very truly yours,

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

Mich Hirano, AICP

MH:tn

cc: Akoni Akana, Friends of Moku`ula, Inc.
Dwight Kauahikaua, Kauahikaua & Chun/Architects

kca/mokuula/dws2.res

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

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

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



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

August 6, 2003

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

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

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

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
03 AUG -8 11:58

MEMO TO: MICHAEL W. FOLEY, PLANNING DIRECTOR

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

SUBJECT: SPECIAL MANAGEMENT AREA PERMIT APPLICATION
HISTORIC DISTRICT APPROVAL
ENVIRONMENTAL ASSESSMENT
MOKU'ULA PARKING LOT AND RELATED IMPROVEMENTS
TMK: (2) 4-6-007:001, 002, 036
SM1 2003/0002, HDC 2003/0004, EA 2003/0002

We reviewed the subject application and have the following comments:

1. Submit a solid waste management plan for the recycling and disposal of demolition material, composting and disposal of cleared and grubbed material and the recycling and disposal of construction waste material.
2. Although wastewater capacity is available as of July 24, 2003, the developer should be informed that wastewater capacity cannot be ensured until the issuance of the building permit.
3. The developer is not required to pay assessment fees for this area at this time, but is required to fund any necessary off-site improvements to collection system and wastewater pump stations.
4. Wastewater contribution calculations are required before a building permit is issued. Indicate on the plans the ownership of each easement (in favor of each party). The County will not accept sewer easements which traverse private property. Plans should show the installation of a single service lateral and advanced riser for each lot.

Memo to Michael W. Foley, Planning Director
August 6, 2003
Page 2

5. Non-contact cooling water and condensate cannot drain to the wastewater system.
6. Kitchen facilities within the proposed project shall comply with pre-treatment requirements (including grease interceptors, sample boxes, screens, etc.).
7. Note plans to upgrade the County's sewer force main in Shaw Street are nearing construction phase. Any required work within Front Street or Shaw Street should be coordinated with the Wastewater Reclamation Division.
8. Road-widening and frontage improvements are required, including curbs, gutters and sidewalks.
9. Drainage improvements are required. County off-site facilities are not adequate to accommodate this project.
10. The grading for the project shall comply with the provisions of the grading ordinance. Best management practices shall be implemented to the maximum extent practicable to prevent pollutants including dust and sediment from discharging off the project site.
11. The drainage system design by a licensed engineer shall comply with the provisions of the drainage rules and shall create no additional adverse effects to adjacent and downstream properties.
12. The proposed indigenous structures shall comply with the applicable building code requirements. At this time, approval from the Board of Code Appeals is required.

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

GSCA:RMN:msc
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September 8, 2003

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

**SUBJECT: Proposed Parking Lot and Related Improvements at
TMK (2) 4-6-07: 01, Por. 02 and 36**

Dear Mr. Coloma-Agaran:

Thank you for your letter dated August 6, 2003 to Michael Foley, Planning Director, commenting on the subject project. On behalf of Friends of Moku`ula, Inc., we provide the following responses to your comments in the order presented in your letter.

1. **Response to Item 1.** A solid waste management plan will be submitted to the Department of Public Works and Environmental Management (DPWEM), Solid Waste Division, for approval. All non-recyclable construction debris shall be disposed of at an approved construction waste receiving facility. No recyclable materials from demolition or construction are anticipated. Should any be encountered, these materials shall be properly separated and delivered to the appropriate recycling center (e.g. Aloha Plastic Recycling, Maui Recycling Service and Best Disposal). Organic materials from grubbing shall be removed from the site and disposed of at the Maui Demolition and Construction Landfill in Ma`alaea.
2. **Response to Item 2.** The Applicant acknowledges that wastewater capacity cannot be ensured until the issuance of the building permit.
3. **Response to Item 3.** The Applicant acknowledges to fund fair-share costs for any off-site improvements to the collection system and wastewater pump station that may be required for the proposed development.
4. **Response to Item 4.** Wastewater calculations for the proposed project will be carried out by a licensed civil engineer and shall be submitted with the building permit application. Plans will indicate the installation of a single-service lateral and

- advanced riser for each lot. Plans will also indicate the ownership of each easement and sewer easements shall not traverse private property.
5. **Response to Item 5.** We confirm that any non-contact cooling water and condensate shall be directed to a dry well or similar system and not introduced to the county wastewater system.
 6. **Response to Item 6.** We confirm that kitchen facilities within the proposed project shall comply with pre-treatment requirements, such as, grease interceptors, sample boxes and screens.
 7. **Response to Item 7.** Discussion between the Applicant for the SMA Use Permit and the Wastewater Reclamation Division have been on-going. The anticipated impact of this project on the sewer system is minimal. We confirm coordination between the Applicant and the Wastewater Reclamation Division shall continue.
 8. **Response to Item 8.** We confirm road widening and frontage improvements along the border of the proposed development and Shaw Street are anticipated and shall be indicated on the development plans.
 9. **Response to Item 9.** We confirm that the post-development incremental increase in stormwater runoff shall be contained within the confines of the proposed development. No run-off to county off-site facilities is anticipated.
 10. **Response to Item 10.** We confirm that the grading for the proposed project shall comply with the provisions of the grading ordinance. Best Management Practices (BMPs) shall be indicated on the grading plans.
 11. **Response to Item 11.** We confirm that the drainage system will be designed by a licensed engineer and shall comply with the provisions of the drainage rules and shall not create additional adverse effects to adjacent downstream properties.
 12. **Response to Item 12.** We confirm that the proposed indigenous structures shall comply with the applicable building code requirements.

Gilbert Coloma-Agaran, Director
September 8, 2003
Page 3

Again, thank you for your comments and participation in the draft EA review.

Very truly yours,

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

Mich Hirano, AICP

MH:tn

cc: Akoni Akana, Friends of Moku'ula, Inc.

Dwight Kauahikaua, Kauahikaua & Chun/Architects

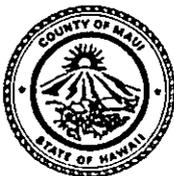
kca/mokuulal/dpvem2.res

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

AUG 12 2003



COUNTY OF MAUI
DEPARTMENT OF PLANNING

August 8, 2003

Mr. Mich Hirano, AICP
Munekiyo & Hiraga, Inc.
305 South High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Hirano:

RE: Draft Environmental Assessment for the Proposed Moku'ula 84 Stall Parking Lot, 1,800 Sq. Ft. Native Hawaiian Building (Hale Halawai), and Accessory 900 Sq. Ft. Cooking House and Restroom Facility (Hale Pohaku), and Related Improvements at 162 Shaw Street, TMK: 4-6-007:001, 002, 036, Lahaina, Maui, Hawaii (EA 2003/0002)

At its August 7, 2003 meeting the Maui County Cultural Resources Commission (MCCRC) reviewed the Draft Environmental Assessment (DEA) for the above referenced project and commented that the DEA addressed their concerns raised at their meeting on December 5, 2002 and they had no further comments to make.

The MCCRC also concurred with the Maui Planning Department that the Maui Planning Commission (MPC) was the appropriate agency to review and accept the Final Environmental Assessment due to the broader issues under the MPC's review such as drainage, traffic, infrastructure, etc.

Thank you for your cooperation. If additional clarification is required, please contact Ms. Colleen Suyama, Staff Planner, of this office at 270-7735.

Sincerely,

A handwritten signature in black ink, appearing to read "M. W. Foley".

MICHAEL W. FOLEY
Planning Director

Mr. Mich Hiran^o
August 8, 2003
Page 2

MWF:CMS:lar

c: Wayne A. Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Colleen Suyama, Staff Planner
Akoni Akana, Friends of Moku'ula
Project File
General File
(K:\WP_DOCS\PLANNING\EA\2003\0002_MokuulaParkingLo\CRCCComments.wpd)

LINDA LINGLE
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

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

June 24, 2003

Michael Foley
Maui Planning Department
250 South High St.
Wailuku, HI 96793

Attn: Colleen Suyama

Dear Mr. Foley:

Subject: Draft environmental assessment (EA)
Shaw Street Parking Lot & Related Improvements (Ponds of Moku'ula)

We have the following comments:

Figures: Figure 6 should be clarified by indicating whether the parking lot on the figure is the new one or the existing one, and by defining the term "license area."

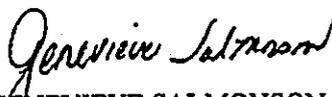
Fees: The draft EA notes that Friends of Moku'ula will charge for parking in the new lot. Do users of Malu-ulu-o-Lele Park currently park for free at the existing lot? Will park users also be charged for parking at the new lot? What will the rates be?

Cultural impacts assessment:

Act 50 was passed by the Legislature in April of 2000. This mandates an *assessment* of impacts to current cultural practices by the proposed project. The draft EA presents historical background and interviews with informants, but 1) fails to discuss if any cultural or traditional practices are currently carried on at the project site; and 2) fails to draw any conclusions, i.e., perform the analysis, from the background information provided. In the final EA include such an assessment.

If you have any questions, please call Nancy Heinrich at 586-4185.

Sincerely,


GENEVIEVE SALMONSON
Director

c: Michael Munekiyo
Friends of Moku'ula



September 8, 2003

Genevieve Salmonson, Director
State Of Hawaii
Office of Environmental Quality Control
235 South Beretania Street, Suite 708
Honolulu, Hawaii 96813

SUBJECT: Proposed Parking Lot and Related Improvements at
TMK (2) 4-6-07: 01, Por. 02 and 36

Dear Ms. Salmonson:

Thank you for your letter dated June 24, 2003 to Michael Foley, Planning Director, commenting on the subject project. On behalf of Friends of Moku`ula, Inc., we provide the following responses to your comments in the order presented in your letter.

1. **Response to Figures.** Figure 6 will be revised to clarify the "parking lot" in the figure refers to the proposed parking lot and the license and lease area will be clarified to distinguish it from the remaining Malu-ulu-o-Lele Park area which is under the management and control of the County of Maui.
2. **Response to Fees.** As noted in the draft Environmental Assessment, Friends of Moku`ula will charge for parking in the new lot. Users of Malu-ulu-o-Lele Park and others used to park for free at the existing parking lot on the corner of Shaw and Front Streets. However, since May 2003, Friends of Moku`ula have started to charge for parking at the existing parking lot for all users. The parking rates are as follows:

a.	Monthly Parking:	Daytime from 6:00 AM to 6:00 PM	\$ 40.00
b.	Monthly Parking:	Day/Evening and Weekends	\$ 65.00
c.	0 to 2 Hours	Total fee	\$ 3.00
d.	2 to 5 Hours	Total fee	\$ 5.00
e.	Evening Rate	Flat rate from 6:00 PM	\$ 5.00
3. **Response to Cultural Impact Assessment.** We confirm the final Environmental Assessment will draw conclusions and analysis from the information provided from the cultural impact assessment.

Genevieve Salmonson, Director
September 8, 2003
Page 2

Again, thank you for your comments and participation in the draft Environmental Assessment review.

Very truly yours,

A handwritten signature in black ink, appearing to read "Hirano", with a long, sweeping flourish extending to the right.

Mich Hirano, AICP

MH:tn

cc: Akoni Akana, Friends of Moku`ula, Inc.
Dwight Kauahikaua, Kauahikaua and Chun/Architects

kca/mokuula/oeqc.res



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

REPLY TO
ATTENTION OF: CEPOM-EC-1

July 8, 2003

03 JUL -8 P1:26

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

Civil Works Technical Branch

Ms. Colleen Suyama, Staff Planner
County of Maui
Department of Planning
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Ms. Suyama:

Thank you for the opportunity to review and comment on the Special Management Area Application and Draft Environmental Assessment (DEA) for the Mokuula Parking Lot Project, Lahaina, Maui (TMKs 4-6-7: 1, 2, and 36). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

- a. The flood hazard information provided on page 13 of the DEA is correct.
- b. Appendix A (Botanical Survey) lists several wetland plants at the undeveloped parcel but does not state whether or not the parcel or a portion thereof is a wetland. Without this information, we are unable to determine if a DA permit will be required for this project. Please contact Mr. William Lennan of our Regulatory Branch staff at (808) 438-6986 and refer to file number 200300125.

Sincerely,

James Pennaz
James Pennaz, P.E.
Chief, Civil Works
Technical Branch



September 8, 2003

Mr. James Pennaz, P.E.
Chief, Civil Works Technical Branch
U.S. Department of Army
Corps of Engineers
Fort Shafter, Hawaii 96858-5440

SUBJECT: Proposed Parking Lot and Related Improvements at
TMK (2) 4-6-07: 01, Por. 02 and 36

Dear Mr. Pennaz:

Thank you for your letter dated July 8, 2003 to Colleen Suyama, Staff Planner, Department of Planning, commenting on the subject project. On behalf of Friends of Moku'ula, Inc., we provide the following information in response to your comment regarding wetlands.

The subject parcels were formerly wetlands, however, in around 1914 the land was filled. The lands range in elevation from approximately 4 feet to 8 feet above mean sea level. There is no evidence of characteristic wetland hydrology on the subject parcels, such as evidence of the area periodically inundated or evidence of saturated soils during the growing season. The project site is now considered fast lands and a non-wetland area.

Again, thank you for your comments and participation in the draft EA review.

Very truly yours,

Mich Hirano, AICP

MH:tn

cc: Akoni Akana, Friends of Moku'ula, Inc.
Dwight Kauahikaua, Kauahikaua/Chun Architects
Winona Char, Char and Associates

kca/mokuula/army2.res

LINDA LINGLAK
GOVERNOR



RUSSELL BAITO
Comptroller

KATHERINE H. THOMASON
Deputy Comptroller

03 JUL 31 12:23
STATE OF HAWAII
DEPARTMENT OF ACCOUNTING
AND GENERAL SERVICES
SURVEY DIVISION
P.O. BOX 119
HONOLULU, HAWAII 96810-0119
DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
July 30, 2003

MEMORANDUM

TO: Michael W. Foley, Planning Director
Maui County Planning Department

ATTN: Colleen Suyama, Staff Planner

FROM: Randall M. Hashimoto, State Land Surveyor 
DAGS, Survey Division

SUBJECT: LD.: EA 2003/0002, SMI 2003/0008, HDC 2003/0004
TMK: 4-6-007:001, 002, 036
Project Name: Moku'ula Parking Lot
Applicant: Michael T. Munekiyo, on behalf of Friends of
Moku'ula, Inc.

The subject proposal has been reviewed and confirmed that no Government Survey Triangulation Stations or Benchmarks are affected. Survey has no objections to the proposed project.

LINDA LINGLE
GOVERNOR OF HAWAII



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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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



03 AUG -4 P1:26 STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

July 31, 2003

SM12003-0008.RCM

LD-NAV

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

Dear Mr. Foley:

Subject: Special Management Area Permit Application
I.D. No.: SM1 2003/0008
Project: Parking Lot and Related Improvements
TMK: (2) 4-6-7: Portion of 02 and 036
Authority: County of Maui Department of Planning

Thank you for the opportunity to review and comment on the subject matter.

The Department of Land and Natural Resources' (DLNR) Land Division made available or distributed a copy of the document pertaining to the subject matter to the following DLNR Divisions for their review and comment:

- Division of Aquatic Resources
- Division of Forestry and Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Maui District Land Office

Attached is a copy of the Maui District Land Office comment.

Based on the attached responses, the Department of Land and Natural Resources has no other comment to offer on the subject matter.

If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: MDLO

LINDA LINGLE
GOVERNOR OF HAWAII



03 AUG -4 P1 26 STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

DEPT OF PLANNING
COUNTY OF MAUI
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POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 31, 2003

SM12003-0008.RCM

LD-NAV

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

Dear Mr. Foley:

Subject: Special Management Area Permit Application
I.D. No.: SM1 2003/0008
Project: Parking Lot and Related Improvements
TMK: (2) 4-6-7: Portion of 02 and 036
Authority: County of Maui Department of Planning

Thank you for the opportunity to review and comment on the subject matter.

The Department of Land and Natural Resources' (DLNR) Land Division made available or distributed a copy of the document pertaining to the subject matter to the following DLNR Divisions for their review and comment:

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- Division of Forestry and Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Maui District Land Office

Attached is a copy of the Maui District Land Office comment.

Based on the attached responses, the Department of Land and Natural Resources has no other comment to offer on the subject matter.

If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: MDLO

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1-585

808-242819

From-DEPT OF PLANNING COUNTY OF MAUI

Aug-05-03 02:03pm

LINDA LINGLE
GOVERNOR OF HAWAII



RECEIVED
DIVISION OF
LAND MANAGEMENT

2003 JUL -3 PM 3:24

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 2, 2003

LD/NAV

Ref.: SM12003-0008.CMT

Suspense Date: 7/21/03

MEMORANDUM:

TO: XXX Division of Aquatic Resources (DD)
XXX Division of Forestry & Wildlife (DD)
XXX Engineering Division (DD)
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
✓ XXX Office of Conservation and Coastal Lands
✓ XXX Land-Maui District Land Office (DD)

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Application: Special Management Area Permit
I.D. No.: SM1 2003/0008
TMK: 2nd/ 4-6-7: Portion of 02 and 036
Project: Parking Lot and Related Improvements
Authority: County of Maui Department of Planning

Please review the document pertaining to the subject matter and submit your comment (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

() We have no comments.

(✓) Comments attached.

Division: MDLO

Signed: Jason K. Koga

Date: 7-22-03

Name: Jason K. Koga

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

54 High Street, Room 101
Wailuku, Hawaii 96793
PHONE: (808) 984-8103
FAX: (808) 984-8111

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 22, 2003

Ref: SM12003-0008.CMT

MEMORANDUM

TO: Dierdre S. Mamiya, Administrator
Land Division

FROM: Jason K. Koga, District Land Agent *J. Koga*
Maui District Land Office

SUBJECT: I.D: EA 2003/0002, SM1 2003/0008, HDC 2003/0004, Moku'ula Parking
Lot, TMK: (2) 4-6-007:001, 002 and 036

The Special Management Area Permit Application, together with the Land Ownership Documentation and Draft Environmental Assessment should be revised to reflect the State of Hawaii as the owner. The County of Maui has control and management over the subject parcels by way of Governor's Executive Order Nos. 52, 2889 and 3430, however, title is retained by the State of Hawaii.

The Draft EA indicates that the Friends of Moku'ula (FOM) intends to operate and manage the proposed paid parking lot, which appears to be confined entirely within Parcel 001. Proceeds from the parking fees will be used to support cultural-educational programs of FOM at the site.

A Lease dated January 2, 2002 between the County of Maui and FOM provides that Parcel 1 shall be used solely to restore and preserve Moku'ula and the ponds of Mokuhinia, with other uses subject to written approval from the County and the State. The Lease further provides for the construction of the parking area. Plans and specifications for any improvements shall be submitted to the County and the State for approval. There is no mention of parking fee collections within the Lease. It is our understanding that the Lease will be undergoing an amendment to include the paid parking operation. Following County concurrence, the Board of Land and Natural Resources should be provided the opportunity to review and approve of the operation.

Dierdre S. Mamiya, Administrator
July 22, 2003
Page 2

The Draft EA also indicates that FOM may rent Hale Halawai for special occasions. Hale Halawai is apparently located entirely within Parcel 2. That portion of Parcel 2 is covered under a License between the County and FOM, providing the same restoration and preservation uses as the Lease.

The renting of facilities is not provided for in the License. If the County concurs with the rental use, an amendment to the License or some other appropriate written authorization should be provided and the Board of Land and Natural Resources afforded the opportunity to review and approve. Under the License, FOM should provide plans and specifications for the improvements to the County and the State for approval.

Apparently, a separate EA will be done to address the restoration efforts of Moku'ula and the ponds of Mokuhinia within the Lease and License areas. The State should be afforded the opportunity to review and comment on that future EA as the landowner and consenter to the Lease and License.

Thank you for the opportunity to review and comment on the matter.

c: N. Vaccaro
District Files

LINDA LINGLE
GOVERNOR OF HAWAII



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AFRC
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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
—LAND DIVISION

03-527
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

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

July 2, 2003
LD/NAV
Ref.: SM12003-0008.CMT

Suspense Date: 7/21/03

MEMORANDUM:



XXX Division of Aquatic Resources (DD)
XXX Division of Forestry & Wildlife (DD)
XXX Engineering Division (DD)
XXX Division of State Parks
Division of Boating and Ocean Recreation
XXX Commission on Water Resource Management
XXX Office of Conservation and Coastal Lands
XXX Land-Maui District Land Office (DD)

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Application: Special Management Area Permit
I.D. No.: SM1 2003/0008
TMK: 2nd/ 4-6-7: Portion of 02 and 036
Project: Parking Lot and Related Improvements
Authority: County of Maui Department of Planning

Please review the document pertaining to the subject matter and submit your comment (if any) on Division letterhead signed and dated by the suspense date. Should you need more time to review the subject matter, please contact Nick Vaccaro at ext.: 7-0384.

Note: One (1) copy of the document is available for your review in the Land Division Office, Room 220.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

We have no comments.

Comments attached.

Division: Aquatic Resources

Signed: [Signature]

Date: 7/18/03

Name: William S. Devick
Administrator

ALAN M. ARAKAWA
Mayor



GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

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

03 AUG -6 P 2 03
DEPARTMENT OF PARKS & RECREATION
700 Hali'a Nako'a Street, Unit 2, Wailuku, Hawaii 96793

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

July 31, 2003

Colleen Suyama, Planner
250 South High Street
Wailuku, Hawaii 96793

**Re: Moku'ula Parking Lot TMK 4-6-007:001, 002, 036
Application for Special Management Area Use Permit & Historic District Approval**

Dear Ms. Suyama:

Thank you for the opportunity to review and comment on the above proposed parking lot. At this time we ask that we be able to review and approve the construction plans so as to determine how our park areas will be protected.

Should you have any questions, please contact me or Patrick Matsui, Chief of Parks Planning & Development at (808) 270-7931.

Sincerely,

A handwritten signature in black ink, appearing to read "Glenn T. Correa".

Glenn T. Correa
Director

c. Patrick Matsui, Chief of Parks Planning & Development



September 8, 2003

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

SUBJECT: Proposed Parking Lot and Related Improvements at
TMK (2) 4-6-07: 01, Por. 02 and 36

Dear Mr. Correa:

Thank you for your letter dated July 31, 2003 to Colleen Suyama, Staff Planner, Department of Planning, commenting on the subject project. On behalf of Friends of Moku`ula, Inc., we wish to confirm that the construction plans will be submitted to the Department of Parks and Recreation for review and approval.

Again, thank you for your comment and review of the draft EA.

Very truly yours,

A handwritten signature in black ink, appearing to read "Mich Hirano", written in a cursive style.

Mich Hirano, AICP

MH:tn

cc: Akoni Akana, Friends of Moku`ula, Inc.
Dwight Kauahikaua, Kauahikaua & Chun/Architects
Pat Matsui, Department of Parks and Recreation

kca/mokuula/dpr.res

LINDA LINGLE
GOVERNOR OF HAWAII



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

August 7, 2003

AUG -8 10:02

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

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

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

Mr. Michael W. Foley
Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawai'i 96793

Attention: Colleen Suyama

Dear Mr. Foley:

Subject: Moku'ula Parking Lot
TMK: (2) 4-6-007:001, 002, 036
EA 2003/0002, SM1 2003/0008, HDC 2003/0004

Thank you for the opportunity to comment on the Moku'ula Parking Lot project. Our concerns regarding noise, fugitive dust, NPDES permits have been adequately addressed in the application. We have no additional comments to offer.

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

Sincerely,

A handwritten signature in black ink, appearing to read "H. Matsubayashi".

Herbert S. Matsubayashi
District Environmental Health Program Chief

References

References

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Vuich Environmental Consultants, Inc. Environmental Site Assessment: Phase I Investigation for Front Street Properties (TMK 4-6-08:48 and 53), November 2001.

Appendices

Appendix A

***Botanical Resources Inventory
Assessment Survey, Char
& Associates, May 2, 2002***

CHAR & ASSOCIATES

Botanical/Environmental Consultants

4471 Puu Panini Ave.
Honolulu, Hawaii 96816
(808) 734-7828

02 May 2002

Mr. Dwight Kauahikaua
Kauahikaua & Chun/Architects
Kawaiahao Plaza, Hale Mauka
567 South King Street, Suite 108
Honolulu, Hawai'i 96813

SUBJECT Botanical Resources Assessment Survey
Moku'ula, Phase 1
Lahaina, Maui

Dear Mr. Kauahikaua:

Field studies to assess the botanical resources on the Moku'ula, Phase 1 site were conducted on 15 April 2002. The 4.8-acre Moku'ula project site is located on TMK (2) 4-6-007: 001 (± 2 acres), 036 (± 1 acre), and a portion of 002 (± 1.8 acres). The site is located in Lahaina town and the topography is generally level land. The approximately 2-acre parcel fronting Shaw Street is undeveloped and somewhat overgrown. The 1-acre parcel on the corner of Shaw Street and Front Street supports a paved County Park parking lot. Baseball fields are found on the 1.8-acre parcel.

The primary objectives of the field survey were to:

- 1) provide a general description of the vegetation on the site;
- 2) search for threatened and endangered species as well as species of concern; and
- 3) identify areas of potential environmental problems or concerns and propose appropriate mitigation measures.

Description of the Vegetation

The plant names used in this report follow the most recent treatment of the Hawaiian flora by Wagner *et al.* (1990), and Wagner and Herbst (1999). The few recent name changes are those recorded in the Hawaii Biological Survey series (Evenhuis and Miller, editors, 1999-2000).

The undeveloped parcel has been bulldozed and cleared in places; the substrate on the central portion of the parcel is gravel and barren soil. A narrow band of kiawe trees (Prosopis pallida), 20 to 35 ft. tall, is found along the perimeter of the parcel. This band of vegetation is denser along the mauka and Shaw Street boundaries. Several monkeypod trees (Samanea saman), very large Chinese fan palms (Livistona chinensis), and a large Chinese banyan tree (Ficus microcarpa) are also found here.

A varied assortment of grasses and weedy, mostly herbaceous species makes up the ground cover. Locally abundant and forming large patches in the more open areas are kipukai (Heliotropium curassavicum), 'akulikuli (Sesuvium portulacastrum), saltbush (Atriplex suberecta), Bermuda grass or manienie (Cynodon dactylon), 'aheahea (Chenopodium murale), saltmarsh sand spurry or mimi'ilio (Spergularia marina), and swollen fingergrass or mau'u lei (Chloris barbata). Under the band of kiawe trees where it is shadier, Guinea grass (Panicum maximum), bristly foxtail grass (Setaria verticillata), lion's ear (Leonotis nepetifolia), and spiny amaranth (Amaranthus spinosus) are locally common. A few shrubs of koa haole (Leucaena leucocephala) and sourbush (Pluchea carolinensis) also occur here.

The asphalt paved parking lot supports a few trees, mostly along its perimeter. These include kiawe, sea grape (Coccoloba uvifera), milo (Thespesia populnea), and hau (Hibiscus tiliaceus).

The ballpark is primarily Bermuda grass with a few scattered weedy patches. Some of the more commonly observed lawn weeds include creeping indigo (Indigofera spicata), swollen fingergrass, wiregrass (Eleusine indica), nutgrass (Cyperus rotundus), and khaki weed (Alternanthera pungens).

Discussion and Recommendations

The vegetation on the proposed Moku'ula, Phase 1 project site is dominated by introduced or alien species. Introduced species are all those plants which were brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact, that is, Cook's arrival in the islands in 1778. Most of the site is developed and landscaped. The mauka parcel is undeveloped, but has been bulldozed in the past.

The few native plants on the site are all indigenous, that is, they are native to the Hawaiian Islands and elsewhere. These plants prefer the open, sunny, often disturbed areas; they are the

'akulikuli (Sesuvium portulacastrum), kipukai or nena (Heliotropium curassavicum), 'uhaloa (Waltheria indica), and hau (Hibiscus tiliaceus). None of the plants observed on the Moku'ula site is a threatened and endangered species or a species of concern (U.S. Fish and Wildlife Service 1999a, 1999b; Wagner et al. 1999). All of the plants can be found in similar environmental habitats throughout the islands.

Given these findings, the proposed restoration of Moku'ula is not expected to have a significant negative impact on the botanical resources of the site or the general region. There are no botanical reasons to impose any restrictions, conditions, or impediments to the proposed restoration project.

It is recommended that Polynesian heritage plants (those plants brought to Hawai'i on the voyaging canoes during the settlement of the islands) and native plants be used for landscaping the project site. Polynesian heritage plants suitable for planting on the somewhat saline soils on the project site include 'ulu or breadfruit (Artocarpus altilis), niu or coconut (Cocos nucifera), kamani (Calophyllum inophyllum), milo, and noni (Morinda citrifolia).

Native trees suitable for landscaping the site include hau, hala (Pandanus tectorius), and kou (Cordia subcordata) -- this species was originally thought to have been introduced by the early Polynesian settlers, but subfossil seeds have been found in soil core samples which predate Polynesian settlement (Wagner and Herbst 1999).

Recommended native shrubs and ground cover species of ornamental value and adapted to lowland, dry habitats such as the project site include ma'o or Hawaiian cotton (Gossypium tomentosum), ko'olua 'ula or red 'ilima (Abutilon menziesii), 'ilima papa (Sida fallax), naio or false sandalwood (Myoporum sandwicense), naupaka kahakai or beach naupaka (Scaevola sericea), pohinahina or kolokolo kahakai (Vitex rotundifolia), 'akia (Wikstroemia uva-ursi), and pa'uohi'iaka (Jacquemontia ovalifolia ssp. sandwicensis).

The County's Maui Botanical Garden in Kahului should be contacted for plant material for landscaping the project site. They may also recommend other native species suitable for landscaping the Moku'ula site.

Sincerely,



Winona P. Char

References

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Appendix B

***Preliminary Engineering
Report, Austin, Tsutsumi &
Associates, Inc., January 2003***

PRELIMINARY ENGINEERING REPORT

FOR

**PROPOSED PARKING LOT &
RELATED IMPROVEMENTS**

AT

**LAHAINA, MAUI, HAWAII
TMK: (2) 4-6-07: 001, 036, & POR. 002**

Prepared For:

FRIENDS OF MOKU'ULA, INC.

By

**Austin, Tsutsumi & Associates, Inc.
Civil Engineers • Surveyors**

MAY 2003

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Preliminary Engineering Report
For
Proposed Parking Lot &
Related Improvements
At
Tax Map Key: (2) 4-6-07:01, por. 02 and 36
Lahaina, Maui, Hawaii

I. INTRODUCTION

The purpose of this report is to summarize preliminary civil engineering design criteria for the Proposed Parking Lot & Related Improvements. It evaluates existing site conditions and defines requirements for grading, drainage, sewer, water, and other site improvements.

II. PROJECT DESCRIPTION

The proposed project is located in Lahaina, Maui, Hawaii, TMK: (2) 4-6-07:01 por 02 and 36. The proposed project replaces an existing Front Street parking lot built over the historic Moku'ula site—once the royal residence of King Kamehameha III. The existing 0.93 acre parking lot is to be demolished and recovered for archeological purposes following construction of 1.12 acre, 90-stall parking lot and ancillary facilities. The proposed parking will include embankment, paving, curbing, construction of sidewalks, striping, signage, and site landscaping.

III. EXISTING CONDITIONS

A. ADJACENT LAND USES

The project site is partially residential and is bounded to the south by Shaw Street and to the North by Malu-ulu-o-lele Park. Its Western and Eastern boundaries are Front Street and Wainee Protestant Church respectively.

B. TOPOGRAPHY AND SOIL CONDITIONS

The site of the new parking lot is currently undeveloped. It is relatively flat with slopes varying at around 0.5 to 0.7 percent. Elevations range between 4 feet mean sea level (msl) and 8 feet msl with low point areas prone to water collection. The majority of the surface is bare soil with scattered bushes and a few standing palms. The surrounding areas, also considered onsite, contain the existing AC parking lot, some archeological rock wall structures, and the park consisting of a baseball and soccer field.

Ewa silty clay loam, (PsA) is the soil classification found on the project site. It is a well-drained soil found on basins and alluvial fans on the islands of Maui and Oahu. Elevations at which this soil is found, range between sea level to 150 feet msl. This soil type is used mainly for sugarcane, truck crops, and pasture. Natural vegetation usually found on this soil include fingergrass, kiawe, koa haole, klu, and uhaloa. This soil is characterized with moderate permeability, slow runoff, and a slight erosion hazard. Water capacity averages 1.4 inches per foot.

Soil classifications and descriptions are taken from the United States Department of Agriculture (USDA) Soil Conservation Service's (SCS) publication, Soil Survey of the Islands of Kauai, Oahu, Molokai, Maui, and Lanai.

C. INFRASTRUCTURE

1. Water

An existing 8" asphalt concrete waterline runs along Shaw Street and connects to a 12" asphalt concrete waterline along Front Street. An existing fire hydrant is located on Shaw Street at the property corner of TMK: (2) 4-6-07:001 and TMK: (2) 4-6-07:38. Currently, the project site is serviced by a 1 inch water meter installed off the 8" waterline.

2. Sewer

The site currently generates no wastewater flow. An existing 8" sewer system is located within Shaw Street and Front Street.

3. Drainage

Currently, onsite surface runoff generated by the project site flows westerly into an existing drainage system within Front Street. Existing onsite runoff is calculated at 7.70 cfs. A contribution due to offsite runoff is mainly from Wainee Cemetery and is calculated at 1.79 cfs. Runoff calculations are based on 50 Yr – 1 Hr storm recurrence interval (See Exhibits 3 & 4 for defined drainage areas. See Appendix for hydrology calculations). Shallow (less than 1 ft) low point areas exist at the northern boundary of the site.

D. FLOOD ZONE

The project site resides in Flood Zone designations "A12" and "C". Flood Zone "A12" is described as an area of 100-yr flood; base flood elevations and flood hazard factors determined. Flood Zone "C" is described as an area of

minimal flooding. All flood zone designations and descriptions are according to a Flood Insurance Rate Map (FIRM), Panel Number 150003-0163C (August 3, 1998), as provided by the Federal Emergency Management Agency (FEMA). (See Exhibit 5).

IV. PROPOSED IMPROVEMENTS

A. GRADING PLAN

Grading for the proposed project includes excavation and embankment for the construction of the proposed parking lot. Grading of the parking lot will average 2% sloping north-westerly toward a future retention basin. Grading of surrounding areas (i.e. recovered archeological areas) will require fill of problem low points to provide an average 2% general slope toward Front Street.

B. DRAINAGE SYSTEM

A runoff rate of approximately 9.07 cfs was calculated for the developed site using a 50-yr recurrence interval based on a one-hour storm (See Exhibit 6 for defined drainage areas. This increase of 1.38 cfs will be handled by a proposed integrated pond/retention basin. The pond is part of a later phase involving the continued restoration of Moku'ula. The Rational Method was used to calculate the onsite post development storm runoff. See appendix for hydrological calculations).

C. WATER SYSTEM

Water service is available to the project site. Preliminary water demand estimates require an average daily demand of approximately 12,201 gallons per

day based on Department of Water Supply Standards. Refer to Appendix C for Preliminary Water Demand Calculations.

D. SEWER SYSTEM

A new sewer system will be installed within the project site to provide sewer service to the building. Preliminary wastewater contributions are calculated at approximately 300 gallons per day (average daily demand). Refer to Appendix D for Preliminary Wastewater Contribution Calculations.

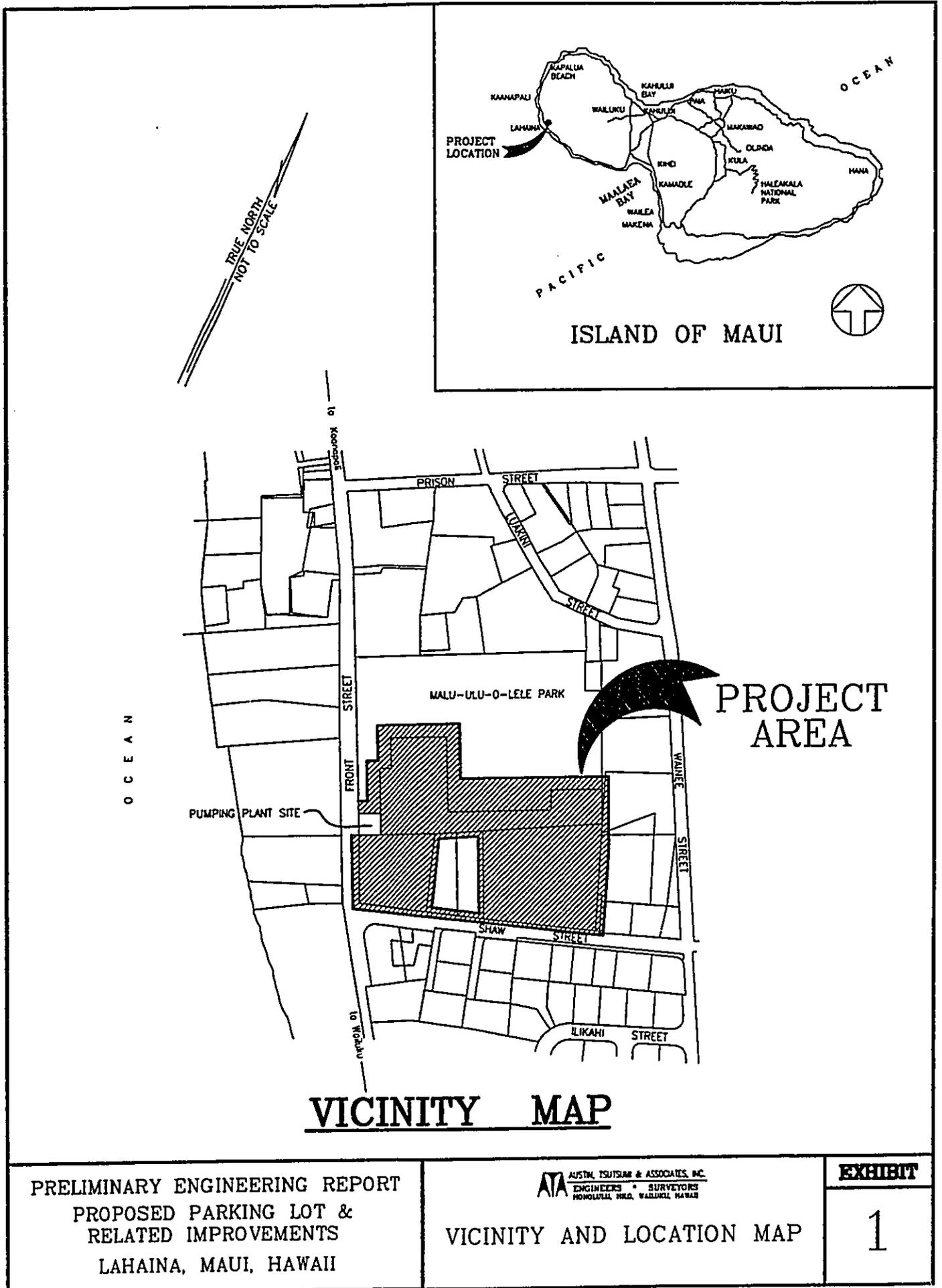
E. ROADWAY IMPROVEMENTS

Although no major roadway improvements are anticipated, the project encompasses construction of ADA compliant sidewalks along the lot frontage of the project site. Pavement widening as per County of Maui for proper lane widths will be required.

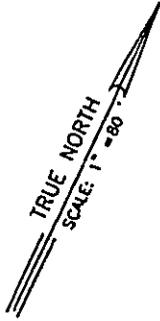
V. CONCLUSION

The proposed improvements for this project will be designed to produce no adverse effects to existing facilities and to the surrounding environment. All improvements will be designed in accordance with the applicable regulatory agencies.

APPENDIX A: EXHIBITS



TMK:(2) 4-6-07:02



FRONT STREET

HALE H
(GATHE
2400 S

OBSERV

PROPOSE
RELOC

TMK:(2) 4-6-07:36

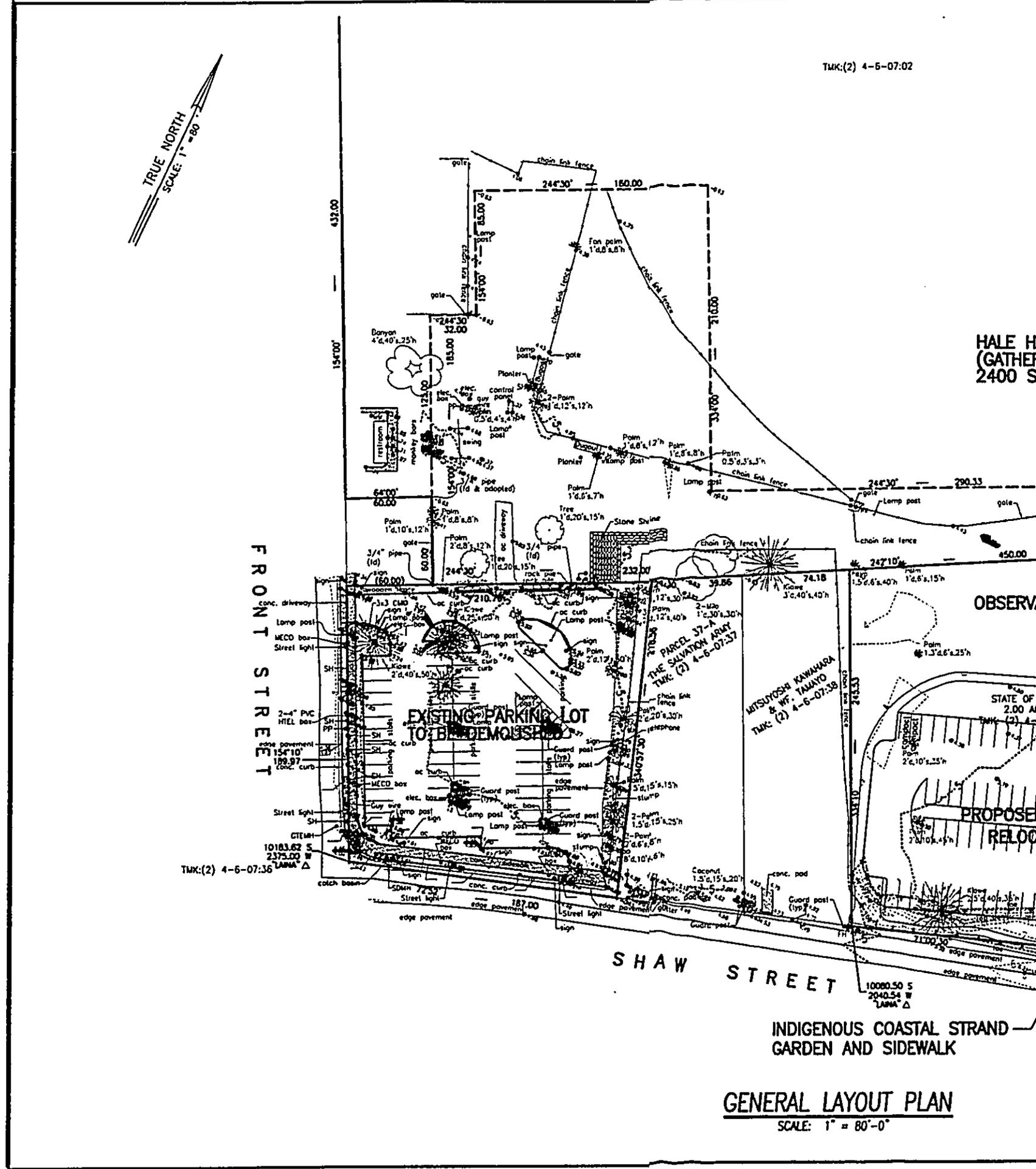
MITSUYOSHI KAWAHARA
& WIFE TAMAYO
TMK: (2) 4-6-07:38

SHAW STREET

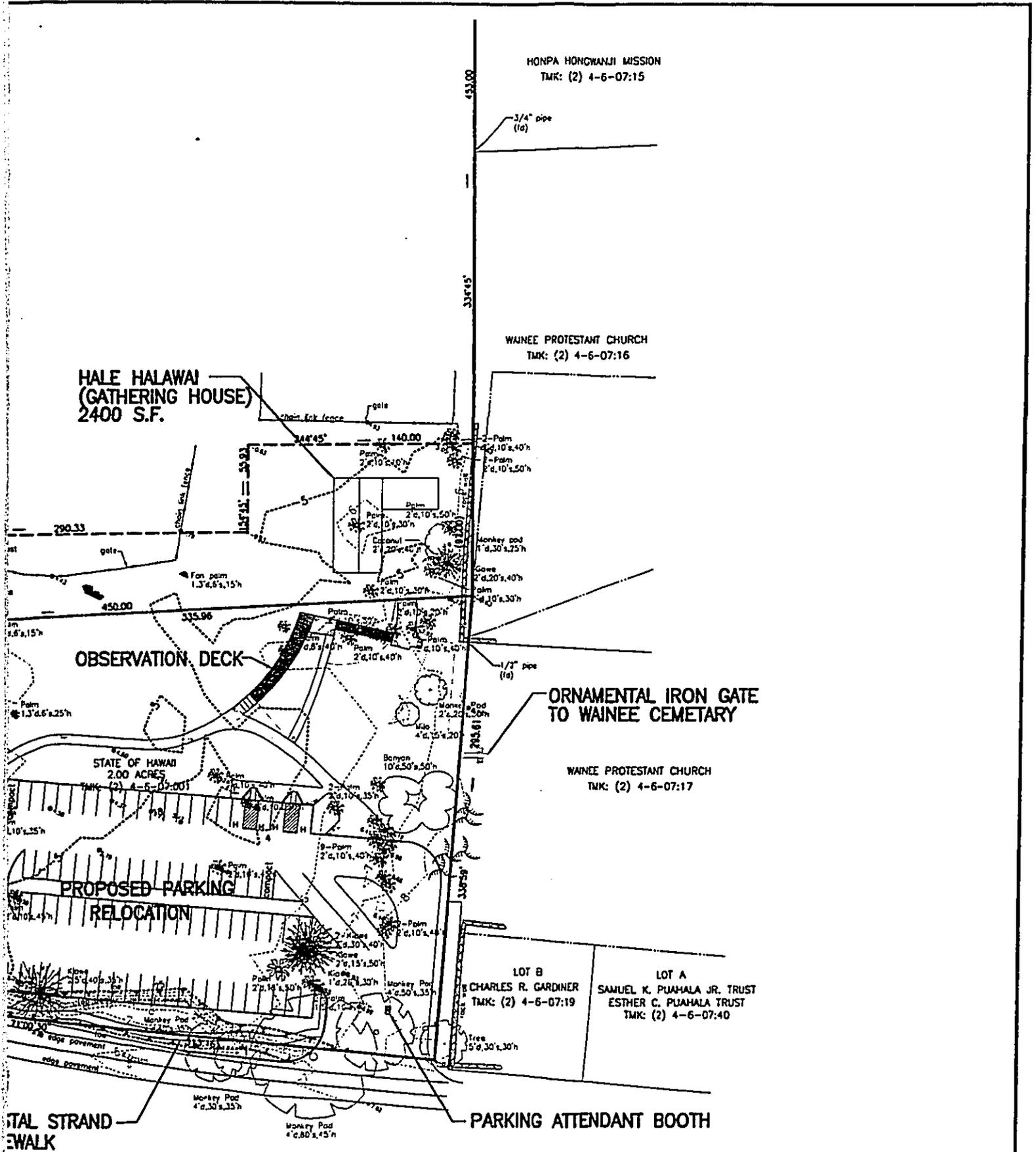
INDIGENOUS COASTAL STRAND
GARDEN AND SIDEWALK

GENERAL LAYOUT PLAN

SCALE: 1" = 80'-0"



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PLAN

PRELIMINARY ENGINEERING REPORT
 PROPOSED PARKING LOT &
 RELATED IMPROVEMENTS
 LAHAINA, MAUI, HAWAII

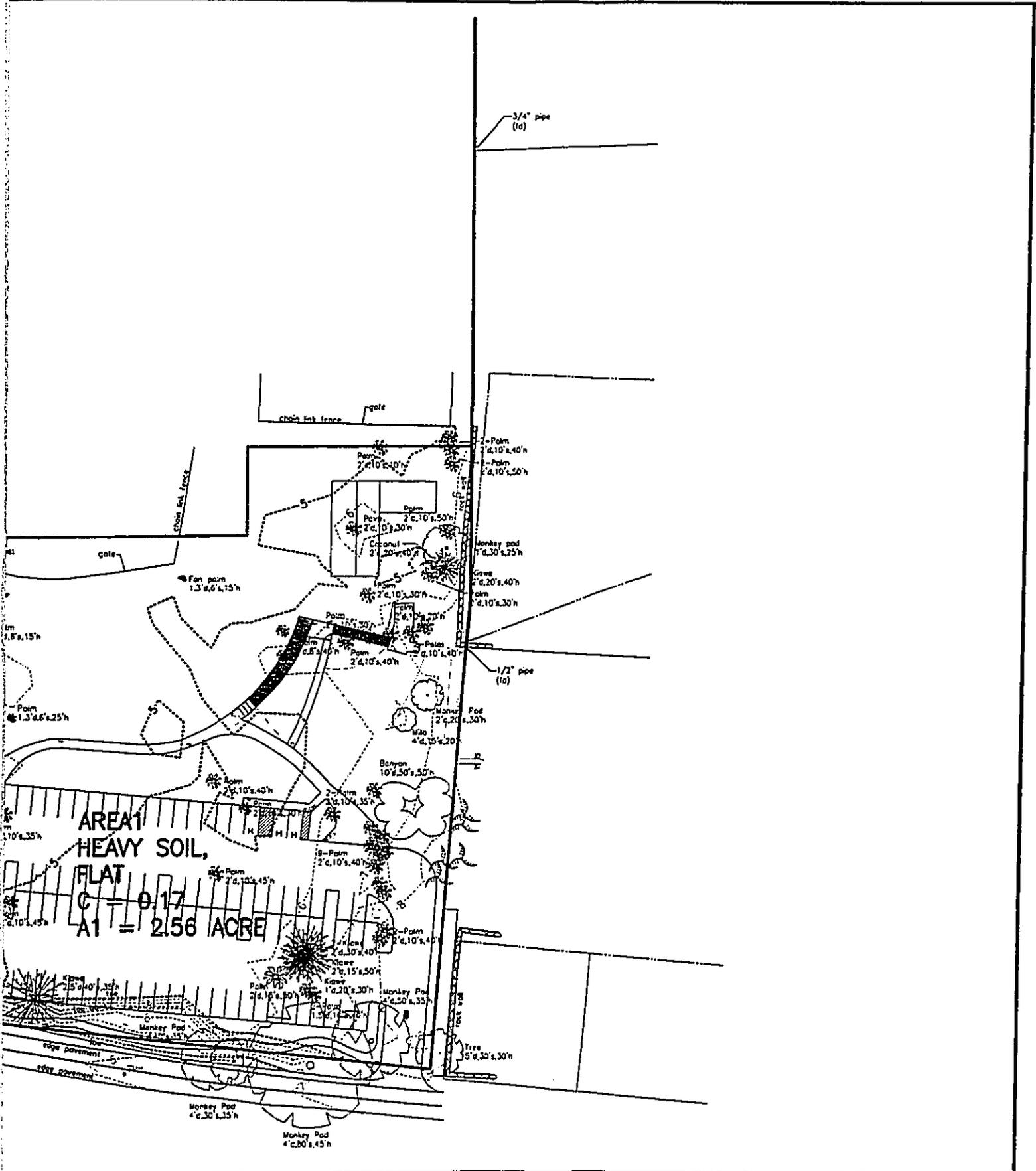
ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
 ENGINEERS, SURVEYORS • HONOLULU, HIL, WAILUKU, HAWAII

GENERAL LAYOUT PLAN

EXHIBIT

2

03/21/03



AREAS

PRELIMINARY ENGINEERING REPORT
 PROPOSED PARKING LOT &
 RELATED IMPROVEMENTS
 LAHAINA, MAUI, HAWAII

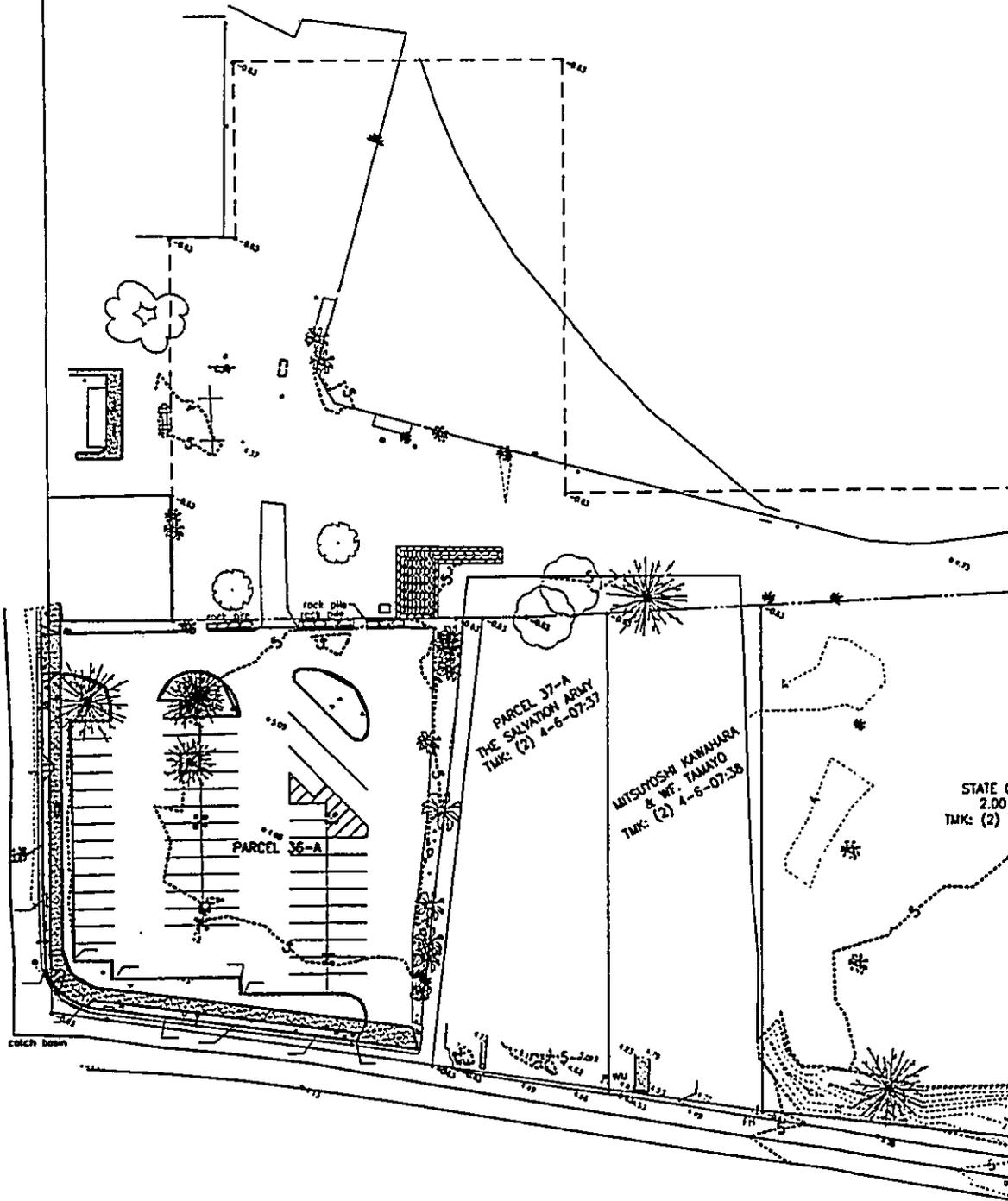
ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
 ENGINEERS, SURVEYORS • HONOLULU, HILO, WAILUKU, HAWAII
 EXISTING DRAINAGE AREA

EXHIBIT
 3

DOCUMENT CAPTURED AS RECEIVED

TMK:(2) 4-6-07:02

TRUE NORTH
SCALE: 1" = 80'-0"

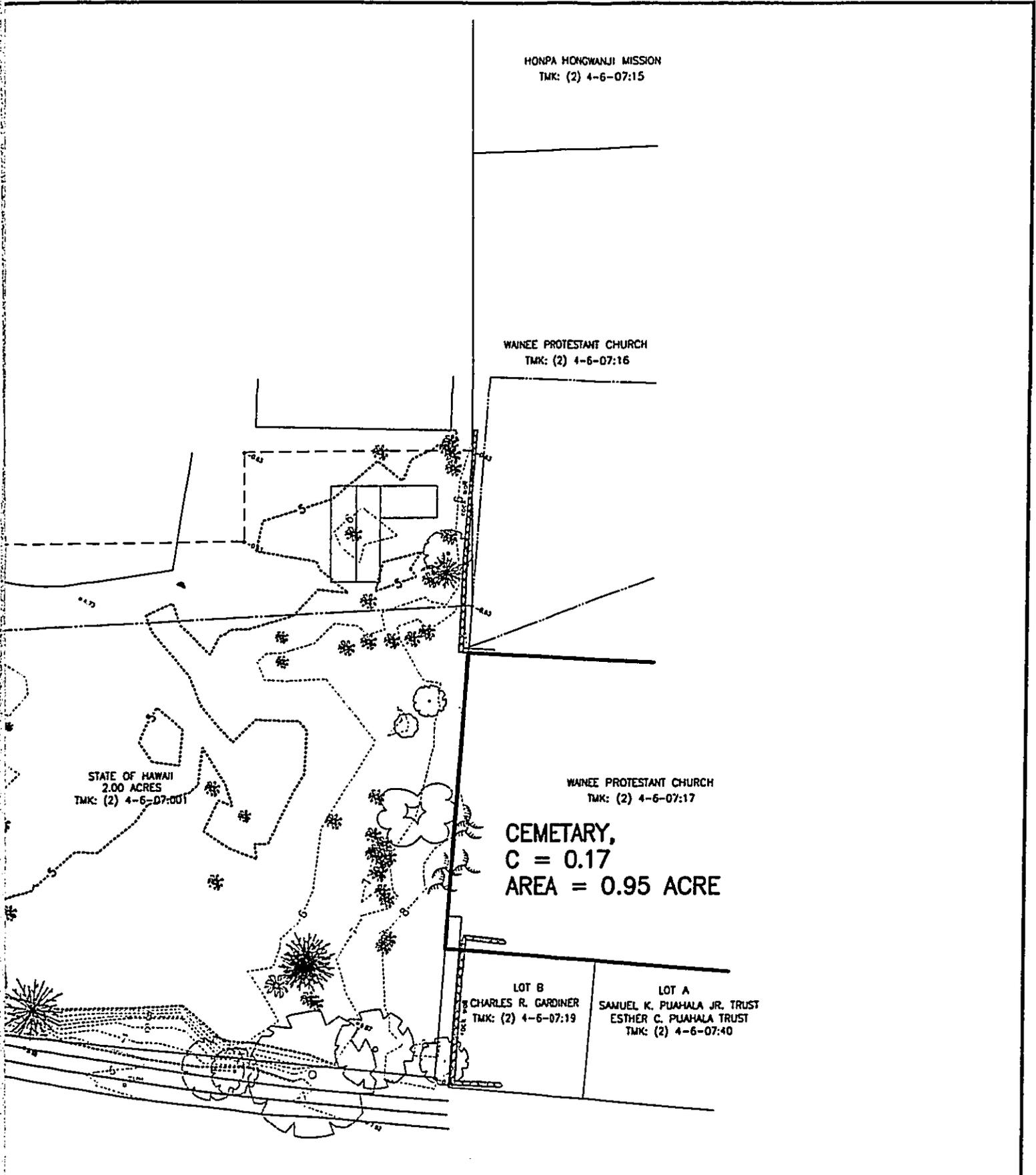


TMK:(2) 4-6-07:36

OFFSITE DRAINAGE AREA

SCALE: 1" = 80'-0"

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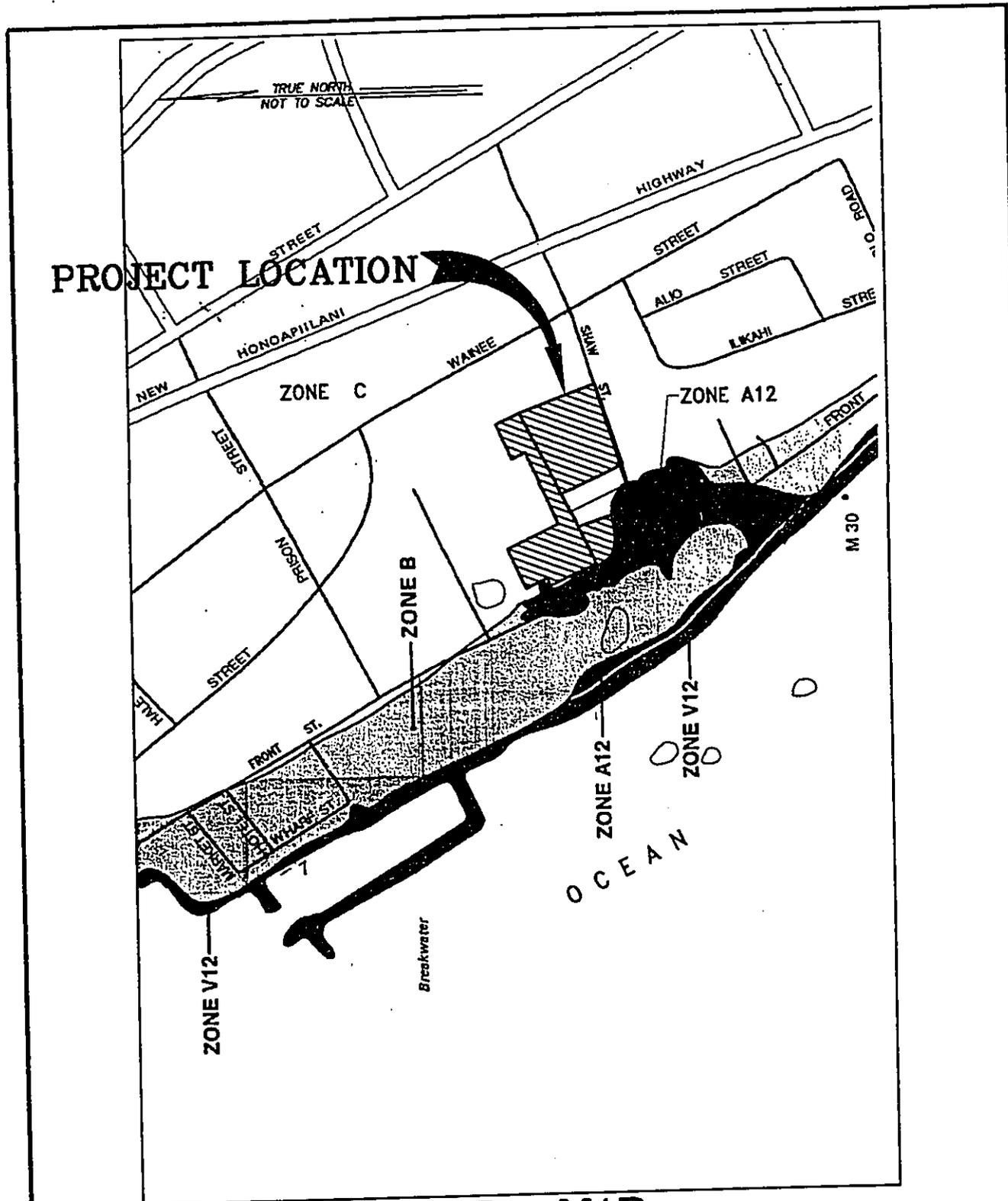


AREA

**PRELIMINARY ENGINEERING REPORT
PROPOSED PARKING LOT &
RELATED IMPROVEMENTS
LAHAINA, MAUI, HAWAII**

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HILO, WAILUKU, HAWAII
OFFSITE DRAINAGE AREA

EXHIBIT
4



FLOOD MAP

PRELIMINARY ENGINEERING REPORT
PROPOSED PARKING LOT &
RELATED IMPROVEMENTS
LAHAINA, MAUI, HAWAII

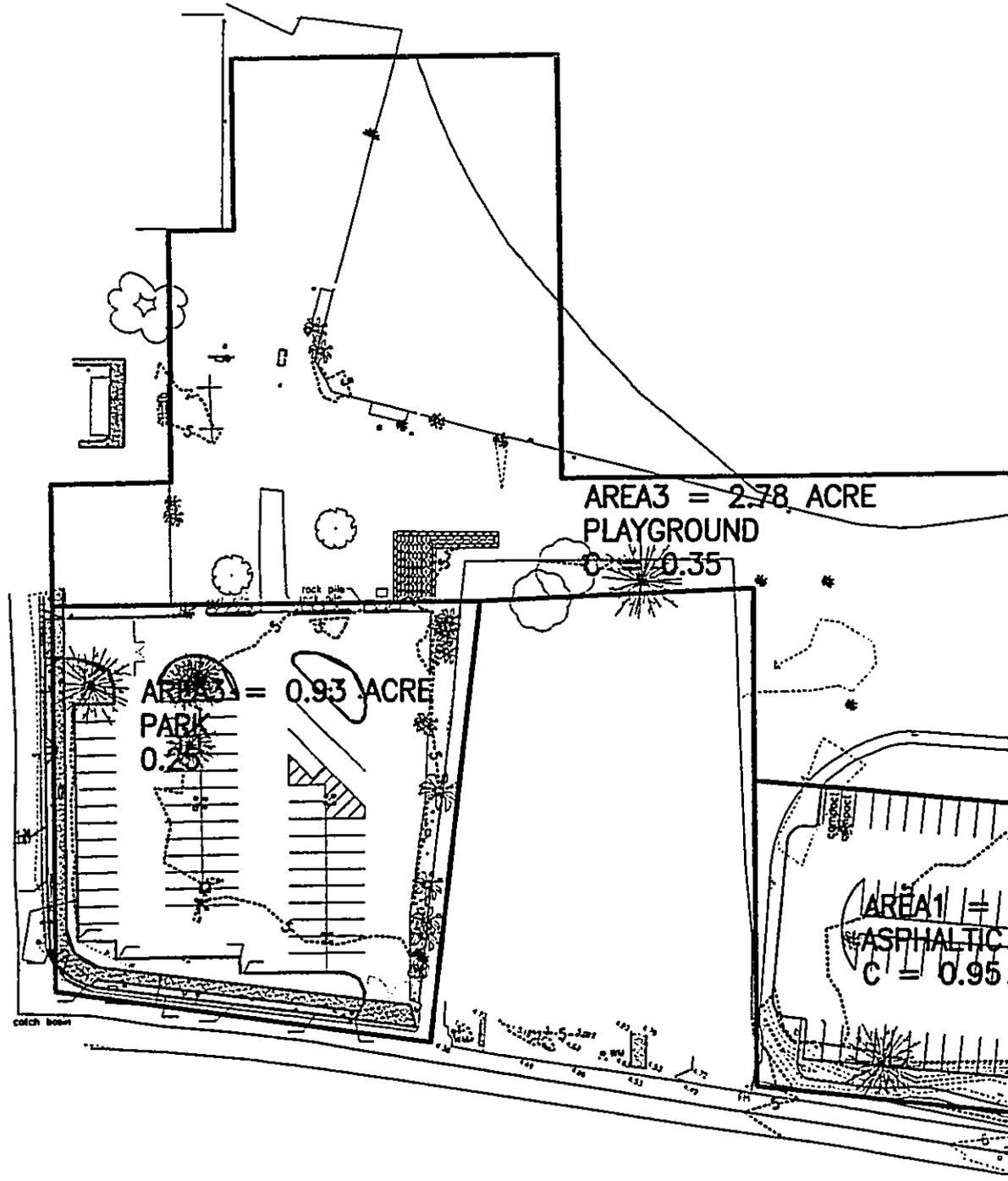
ATA MAIHELE ESTILAR & ASSOCIATES, INC.
ENGINEERS • SURVEYORS
HONOLULU, HAWAII

FLOOD MAP

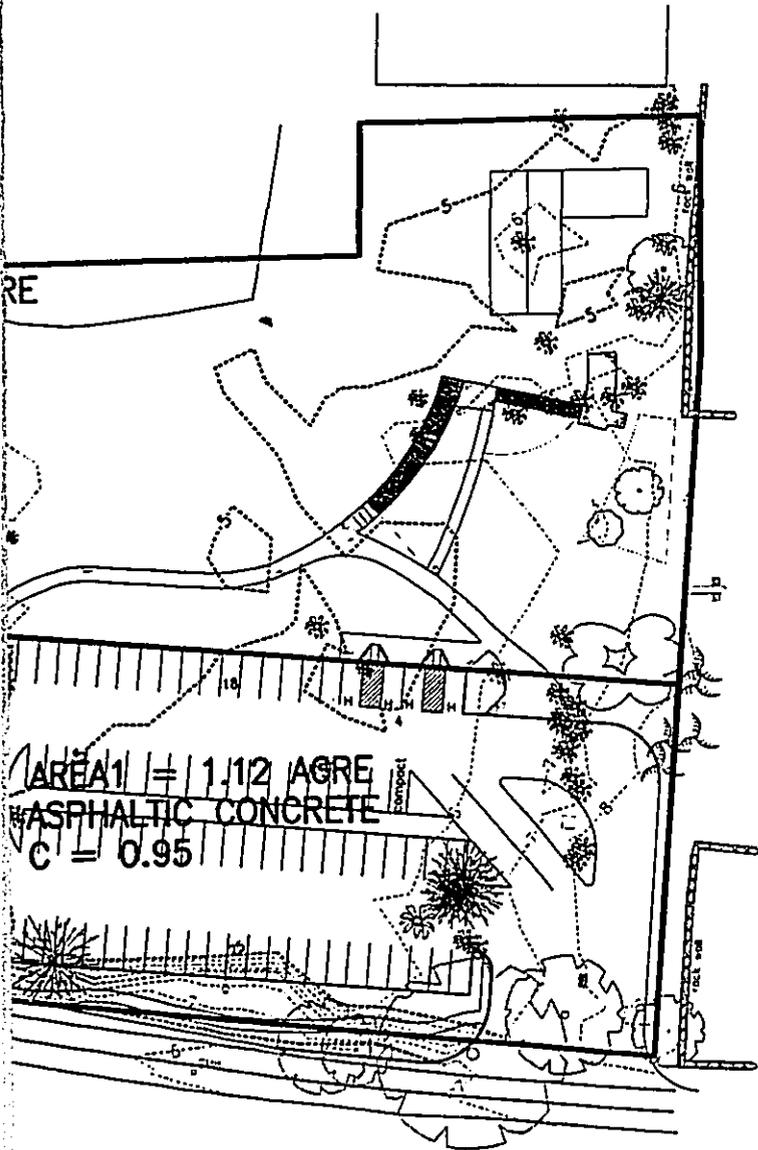
EXHIBIT

5

TRUE NORTH
SCALE: 1" = 80'



POST DEVELOPMENT DRAINAGE AREAS
SCALE: 1" = 80'-0"



DRAINAGE AREAS

PRELIMINARY ENGINEERING REPORT
 PROPOSED PARKING LOT &
 RELATED IMPROVEMENTS
 LAHAINA, MAUI, HAWAII

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.
 ENGINEERS, SURVEYORS • HONOLULU, HILO, WAILUKU, HAWAII

POST DEVELOPMENT
 DRAINAGE AREAS

EXHIBIT
 6

**APPENDIX B:
HYDROLOGY CALCULATIONS**

EXISTING ON-SITE HYDROLOGY CALCULATIONS (50 Year - 1 Hour Storm)

Area (a)

$$A = A_1 + A_2 + A_3$$

$$A_1 = 2.56$$

$$A_2 = 0.93$$

$$A_3 = 1.33$$

$$A = 4.82 \text{ acre}$$

Runoff Coefficient (c)

$$C = C_1A_1 + C_2A_2 + C_3A_3 + / (A_1 + A_2 + A_3)$$

$$c_1 = 0.17 \text{ (Heavy Soil Flat)}$$

$$c_2 = 0.95 \text{ (Asphaltic Concrete)}$$

$$c_3 = 0.25 \text{ (Parks, cemeteries)}$$

$$c = 0.17 * 2.56 + 0.95 * 0.93 + 0.25 * 1.33 / (2.56 + 0.93 + 1.33)$$

$$c = 0.34$$

Rainfall Intensity (i)

Recurrence Interval: 50 yr - 1hr = 2.5"

Length of Reach = 744.96 Feet

Average Slope = 0.67%

Time of Concentration (Tc) = 14 minutes

I = 4.7 in/hr

Runoff (Q)

$$Q = c i a$$

$$Q = 4.82 * 0.34 * 4.7$$

$$Q = 7.70 \text{ cfs}$$

Project: Proposed parking Lot & Related Improvements
Lahiana, Maui, Hawaii
TMK: (2) 4-6-07:01, por.02 and 36

Job No: M-02-506
Computed by: MY
Date: 5/2/03 [1 of 1]



Austin, Tsutsumi & Associates, Inc. • Civil Engineers • Surveyors
1871 Wili Pa Loop • Suite A • Wailuku, HI 96793 • (808) 244-8044

OFFSITE HYDROLOGY CALCULATIONS (50 Year – 1 Hour Storm)

Wainee Protestant Church (cemetery):
Tmk (2) 4-6-07:17

Area (a)

A = 0.95 acre

Runoff Coefficient (c)

C_{cemetery}
Infil = 0.07
Relief = 0.0
Vegetal = 0.0
Develop = 0.4
C = 0.47

Rainfall Intensity (I)

Recurrence Interval: 50 Yr – 1 Hr = 2.5"
Length of Reach = 125 Feet
Slope = < 1%
Time of Concentration (Tc) = 11 min
I = 4 in/hr

Runoff (Q)

Q = c i a
Q = 0.47 * 4 in/hr * 0.95 acre
Q = 1.79 cfs

Project: Proposed parking Lot & Related Improvements
Lahiana, Maui, Hawaii
TMK: (2) 4-6-07:01, por.02 and 36

Job No: M-02-506
Computed by: MY
Date: 3/8/03 [1 of 1]



Austin, Tsutsumi & Associates, Inc. • Civil Engineers • Surveyors
1871 Wili Pa Loop • Suite A • Wailuku, HI 96793 • (808) 244-8044

POST DEVELOPMENT ON-SITE HYDROLOGY CALCULATIONS (50 Year - 1 Hour Storm)

Area (a)

$$A = A_1 + A_2 + A_3$$

$$A_1 = 1.12$$

$$A_2 = 2.78$$

$$A_3 = 0.93$$

$$A = 4.83 \text{ acre}$$

Runoff Coefficient (c)

$$C = C_1A_1 + C_2A_2 + C_3A_3 + / (A_1 + A_2 + A_3)$$

$$c_1 = 0.95 \text{ (Asphaltic Street)}$$

$$c_2 = 0.35 \text{ (Playgrounds)}$$

$$c_3 = 0.25 \text{ (Parks, Cemeteries)}$$

$$c = (0.95 * 1.12 + 0.35 * 2.78 + 0.25 * .93) / (1.12 + 2.78 + .93)$$

$$c = 0.47$$

Rainfall Intensity (i)

Recurrence Interval: 50 yr - 1hr = 2.5"

Length of Reach = 722 ft

Average Slope = 2 %

Time of Concentration (Tc) = 21 minutes

I = 4.0 in/hr

Runoff (Q)

$$Q = c i a$$

$$Q = 0.34 * 4 * 4.83$$

$$Q = 9.07 \text{ cfs}$$

Project: Moku'ula Proposed parking Lot & Related Improvements
Lahiana, Maui, Hawaii
TMK: (2) 4-6-07:01, por.02 and 36

Job No: M-02-506
Computed by: MY
Date: 3/8/03 [1 of 1]



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**APPENDIX C:
WATER DEMAND CALCULATIONS**

PRELIMINARY WATER DEMAND CALCULATIONS

Project Site Description

Total Project Area = 4.82 acres

Average Daily Water Demand Requirements

Schools/Parks 1700 gallons / acre (Table 100-18, Water System Standards)

Water Demand Calculation

Average Daily Demand

4.82 acres * 1700 gallons / acre = 8194 gallons per day (gpd), Average Daily Demand

Maximum Daily Demand

Avg. Daily Demand x 1.5 = Maximum Daily Demand

= 8194 gpd x 1.5

= 12291 gpd, Maximum Daily Demand

Reference: Water System Standards
Department of Water Supply, County of Maui, 2002 and as amended

Project: Proposed parking Lot & Related Improvements
Lahiana, Maui, Hawaii
TMK: (2) 4-6-07:01, por.02 and 36

Job No: M-02-506
Computed by: MY
Date: 3/12/03 [1 of 1]



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**APPENDIX D:
WASTEWATER CONTRIBUTION CALCULATIONS**

PRELIMINARY WASTEWATER CONTRIBUTION CALCULATIONS

Project Site Description

Total Project Area = 4.82 acres

Assumptions

-Total of 30 people per day

-Contribution: 10 gallon per capita per day (gpcd)

Wastewater Contribution Calculation

$$\left(\frac{30 \text{ people}}{\text{day}}\right) \left(\frac{10 \text{ gallons}}{\text{capita}}\right) = 300 \text{ gallons per day}$$

Reference: Wastewater Flow Standards
Wastewater Reclamation Division, County of Maui, 1993

Project: Proposed parking Lot & Related Improvements
Lahiana, Maui, Hawaii
TMK: (2) 4-6-07:01, por.02 and 36

Job No: M-02-506
Computed by: RRR
Date: 3/12/03 [1 of 1]



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Appendix C

***State Historic Preservation
Division Letter Dated
January 6, 2003***

LINDA LINGLE
GOVERNOR OF HAWAII



JAN 01 2003

ERIC HIRANO, ACTING DIRECTOR
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

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

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

January 6, 2003

Mr. Mich Hirano
Munekiyo & Hiraga, Inc.
305 South High Street, Suite 104
Wailuku, Hawaii 96793

LOG NO: 31256
DOC NO: 0212CD05

Dear Mr. Hirano,

**SUBJECT: Chapter 6E-42 Historic Preservation Review Pertaining to an Information Request for to the Proposed Construction of a 90-stall Parking Lot and Ancillary Facilities Waine'e Ahupua'a, Lahaina District, Island of Maui
TMK: (2) 4-6-007:001, por. 002 and 036**

Thank you for the opportunity to provide comments pertaining to an information request pertaining to the proposed construction of a 90-stall parking lot and ancillary facilities, which was received by our staff October 30, 2002.

Based on the submitted information request, we understand the proposed undertaking will be located on a currently vacant lot at Shaw Street, Lahaina. The proposed project will consist of the construction of a 90-stall parking facility, an observation deck, and indigenous building, landscaping, and sidewalk improvements along Shaw Street (TMK: 4-6-007:001). The proposed undertaking will replace an existing public parking facility on Front Street (TMK: 4-6-007:002 & 036) which has been constructed over the historic Moku'ula Site (State Site 50-50-03-2967). Upon completion of the 90-stall parking lot, the existing parking structure will be demolished. We further understand that an Application for Special Management Area Use Permit and a Draft Environmental Assessment will be prepared and submitted to this office for review. We look forward to reviewing these documents.

The proposed project area is located within the boundaries of the Historic Lahaina District (State Site 50-50-03-3001). This area comprises the port town of the 1800s and is likely to have once been the location of pre-Contact farming, perhaps with scattered houses, during the pre-Contact period. In addition, the proposed project location is part of the historic Moku'ula Site (State Site 50-50-03-2967) and is associated with King Kamehameha III. Given the above information, we believe that it is likely that historic sites and/or site remnants may be present in the subsurface deposits of the proposed project area.

During the early 1990s, the Bishop Museum conducted archaeological excavations at TMK: 4-6-007: por 002 and 036 to establish the boundaries of Moku'ula Fishpond. We have reviewed the report documenting the findings (SHPD DOC NO.:951IKD23/LOG NO.: 15964). However, we have not received the requested revisions to date.

Mr. Mich Hirano
Page 2

In 1998 Xamanek Researches conducted an archaeological inventory survey of TMK: 4-6-007:001. Although no historic sites were identified during the survey, we concur with Xamanek Researches' recommendation of archaeological monitoring during all ground-altering activities conducted on the subject property as an appropriate mitigation measure given the cultural significance of this area.

Given the above information and the overall cultural sensitivity of the area, we recommend the following monitoring actions, which can be done as one project, with one plan, and one report.

1. A qualified archaeological monitor be present during all ground-altering activities conducted on TMK: 4-6-007:001 in order to identify and document any historic properties which may be encountered during the proposed undertaking and to provide appropriate mitigation measures as necessary. An acceptable monitoring plan will need to be submitted to this office for review, prior to the commencement of any ground-altering activities. An acceptable report documenting the findings of the monitoring activities will need to be submitted to this office for review within 180 days following the completion of the proposed undertaking. This should mitigate any adverse effects to significant sites which may occur.

2. An archaeological inventory survey, in the form of archaeological monitoring will be conducted concurrently with the demolition activities, to determine whether significant historic sites are present at TMK: 4-6-007:pors. 002 and 036. An acceptable report documenting the findings of the survey will need to be submitted to this office for review. If significant historic sites are identified, a mitigation plan may need to be developed, in consultation with this office, and executed.

If you have any questions, please call Cathleen Dagher at (808) 692-8023.

Aloha,

P. Holly McEldowney

P. Holly McEldowney, Acting Administrator
State Historic Preservation Division

CD:jen