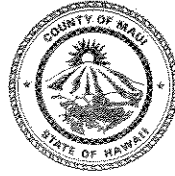


ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director



OCT - 8 2004

COUNTY OF MAUI
DEPARTMENT OF PLANNING

RECEIVED

September 17, 2004⁰⁴ SEP 24 P2:28

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 for the Paia-Haiku Community
Plan Amendment for 281 Hana Highway, Paia, Island of Maui,
Hawaii (CPA 2004/0002) (EA 2004/0002) (CIZ 2004/0008)

The Maui Planning Commission at its regular meeting on September 14, 2004, accepted the Final Environmental Assessment (FEA) for the subject project, and issued a Finding of No Significant Impact (FONSI). Please publish the FEA in the October 8, 2004, Office of Environmental Quality Control (OEQC) Environmental Notice.

We have enclosed a completed OEQC Publication Form and four (4) copies of the FEA. If you have any questions, please call Ms. Kivette A. Caigoy, Environmental Planner, of our office at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Director of Planning

MWF:KAC:do

Enclosures

c: Wayne A. Boteilho, Deputy Planning Director
Clayton I. Yoshida, AICP, Planning Program Administrator
Kivette A. Caigoy, Environmental Planner
Joseph Alueta, Staff Planner
Project File (w/enclosures)
General File
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2004-10-08 FONSI
PAIA-HAIKU COMMUNITY PLAN AMENDMENT

OCT - 8 2004

FILE COPY

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Final
Environmental Assessment

**PROPOSED CHANGES TO
LAND USE DESIGNATIONS
FOR UEOKA PROPERTY AT
TMK 2-6-8:019, PAIA, MAUI**

Prepared for:

September 2004

Accepting Authority

County of Maui
Planning Commission


MUNEKIYO & HIRAGA, INC.

Final
Environmental Assessment

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Chapter 1

Project Overview

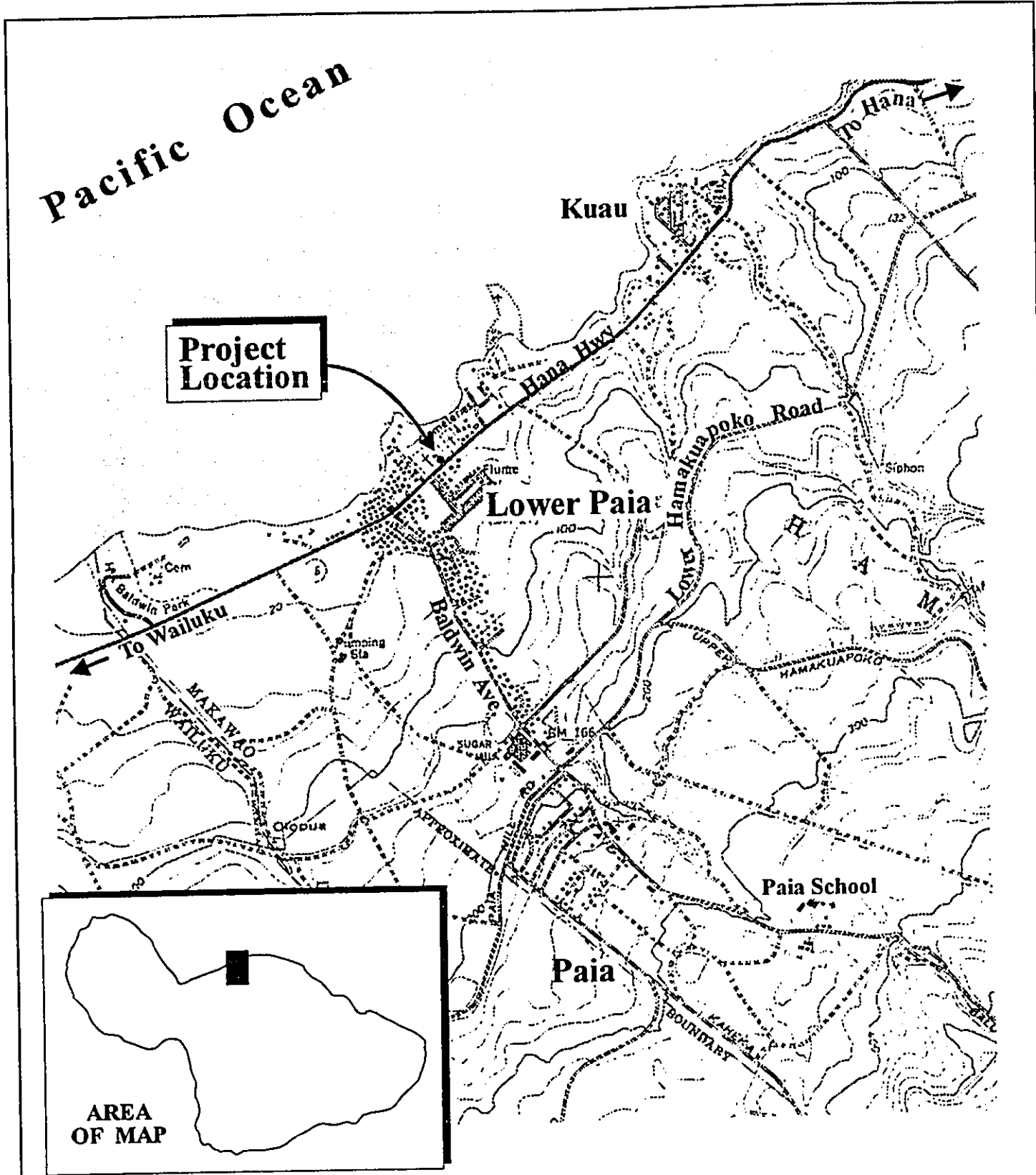
I. PROJECT OVERVIEW

A. BACKGROUND

The Council of the County of Maui has initiated land use requests involving an amendment to the Paia-Haiku Community Plan from "Public/Quasi-Public" to "Single-Family", and change in zoning from "Interim" to "R-1, Residential" for property at 281 Hana Highway, Paia, Maui. See Figure 1 and Figure 2.

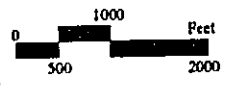
The subject property encompasses an area of approximately 5,160 square feet and has been used for single-family residential purposes for over 69 years. The Planning and Land Use Committee of the Maui County Council, in consultation with the Department of Planning, concluded that the current Community Plan and County Zoning designations are a result of mapping discrepancies which should be corrected. Implementation of the land use changes will enable the property owner to demolish the existing, deteriorating structure and to rebuild a new, single-family residence on the property.

The Council, therefore, has approved a resolution referring bills seeking the above-referenced Community Plan Amendment and Change in Zoning to the Maui County Planning Commission. See Appendix "A". The Corporation Counsel has ruled that a Council-initiated Community Plan Amendment will require an Environmental Assessment (EA) pursuant to Chapter 343, Hawaii Revised Statutes. The County's Department of Planning has been identified as the agency responsible for completing the EA, with the Maui Planning Commission designated as the accepting authority.



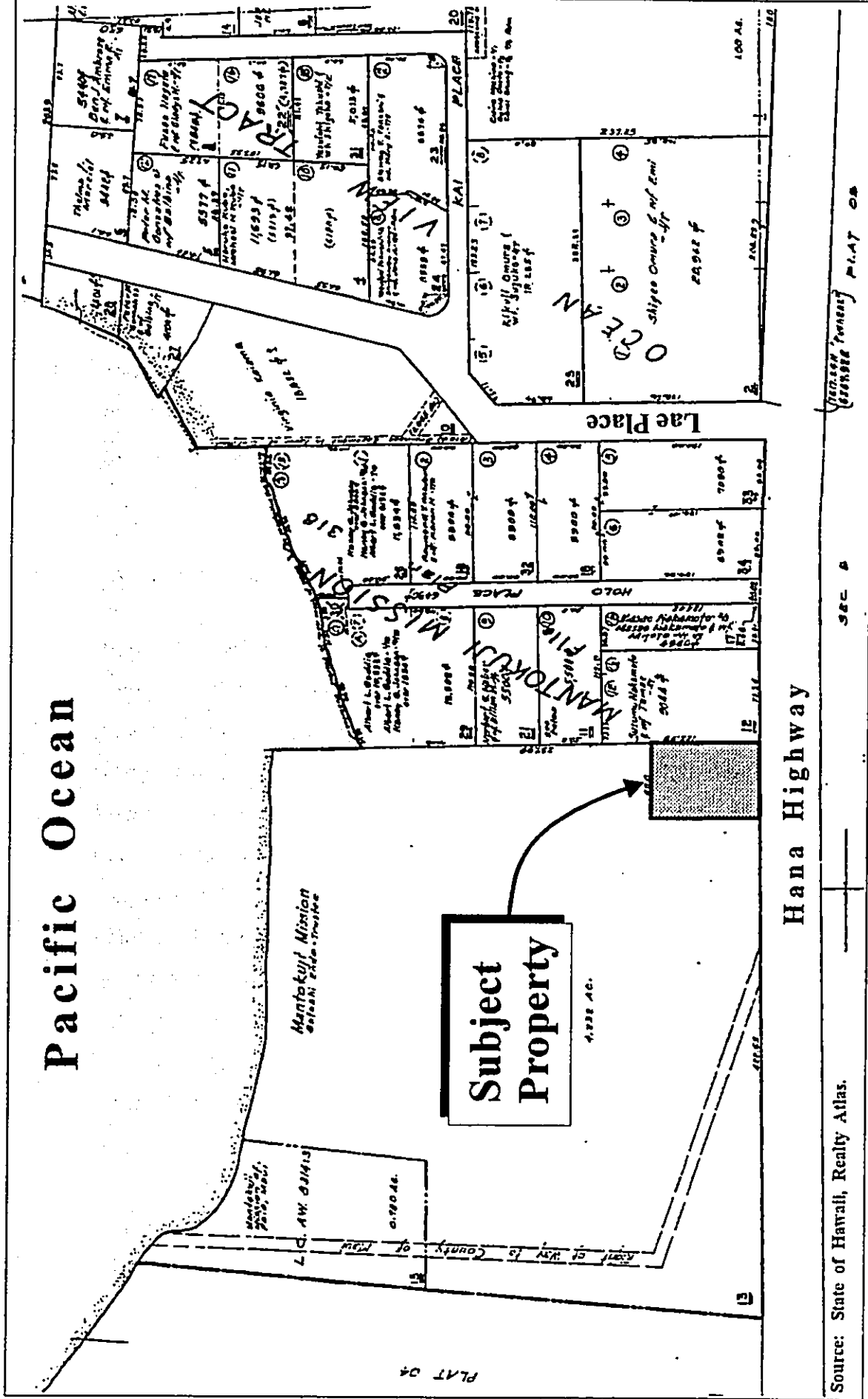
Source: U.S. Geological Survey

Figure 1 Proposed Changes to Land Use Designations for Ueoka Property at TMK 2-6-8:019, Paia, Maui
 Regional Location Map



Prepared for: County of Maui, Department of Planning

MUNEKIYO & HIRAGA, INC.



Source: State of Hawaii, Realty Atlas.

Figure 2 Proposed Changes to Land Use Designations
for Ueoka Property at TMK 2-6-8-019, Paia, Maui
Parcel Location Map

Prepared for: County of Maui, Department of Planning

MUNEKIYO & HIRAGA, INC.

B. PROPERTY LOCATION, EXISTING USE, AND LAND OWNERSHIP

Identified by Tax Map Parcel (2) 2-6-8:19, the property is located within an area of public/quasi-public and residential uses. The Mantokuji Mission grounds are immediately adjacent to the north and west, while other single-family residences lie to the east. Downtown Paia is located further west and the community of Kuau further east.

The subject property includes an existing single-family residence, owned by the Ueoka family. See Figure 3. The family has owned the property for seventy years. The family is the original owner and builder of the existing residential structure.

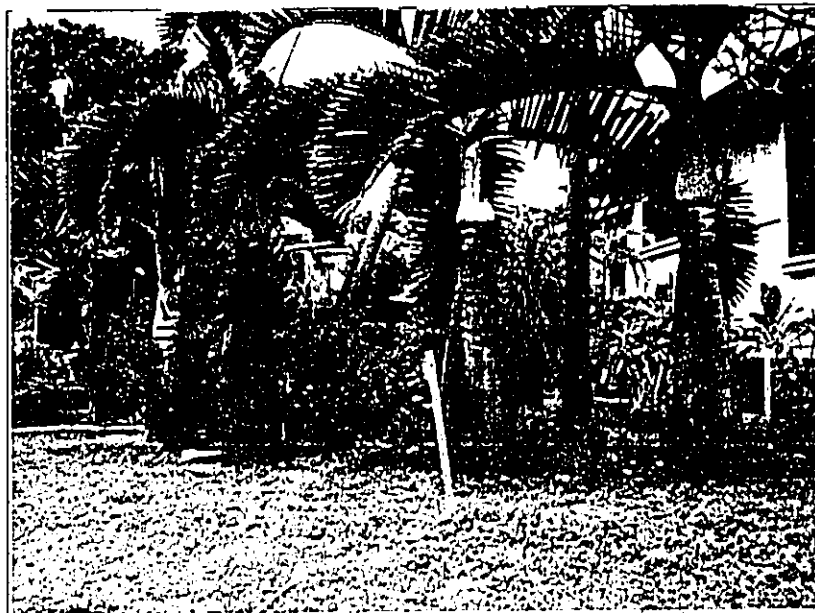
C. PROPOSED ACTION AND CHAPTER 343, HRS APPLICABILITY CONSIDERATIONS

The Ueoka family proposes the demolition of their existing residence, followed by the building of a new single-family residence on the property. The proposed new residence will provide approximately 1,104 s.f. of living area in a single-story structure. See Appendix "B". Access to the new residence will continue unchanged, via a driveway off of Hana Highway which is shared with the Mantokuji Mission. The demolition and replacement action in itself, however, is not the trigger for this Chapter 343, HRS, Environmental Assessment. Instead, the proposed Council-initiated Community Plan Amendment (redesignating the property from the Public/Quasi-Public land use category to the Single-Family land use category), has been determined by the County of Maui's Department of the Corporation Counsel to be an action subject to the applicability requirements of Chapter 343, HRS. The context for analyzing environmental impacts in this report, however, is the replacement of the existing dwelling with a new dwelling unit as the Council-initiated land use requests would establish the appropriate designations for single-family use.

RECEIVED AS FOLLOWS



Northeast View of Residence



**Northeast View of Residence Showing
Boundary Marker**

Source: Munekiyo & Hiraga, Inc.

**Figure 3 . Proposed Changes to Land Use
Designations for TMK 2-6-8:019,
Paia, Maui
Site Photographs**

Prepared for: County of Maui, Department of Planning

MUNEKIYO & HIRAGA, INC.

D. LAND USE ENTITLEMENTS PROCESSING SUMMARY

The Council's Resolution No. 04-33 referred the following bills for an ordinance to the Maui Planning Commission:

1. "A BILL FOR AN ORDINANCE TO AMEND THE PAIA-HAIKU COMMUNITY PLAN AND LAND USE MAP FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY FOR PROPERTY SITUATED AT 281 HANA HIGHWAY, PAIA, MAUI"; and
2. "A BILL FOR AN ORDINANCE TO CHANGE ZONING FROM INTERIM TO RESIDENTIAL FOR PROPERTY SITUATED AT 281 HANA HIGHWAY, PAIA, MAUI".

The Maui Planning Commission will review the foregoing ordinances at a scheduled public hearing then transmit its recommendations on the ordinances to the Council's Planning and Land Use Committee. Upon receipt of the Planning Commission's recommendations, the Planning and Land Use Committee will further deliberate the proposals and advance the Committee's recommendations to the full Council. The Council will then formally take action on the bills for ordinances.

It is noted that the Maui Planning Commission has been designated as the accepting authority for this Chapter 343, HRS environmental assessment. Before scheduling its public hearing on the bills for ordinances, the Planning Commission will review, comment and determine whether this document may be filed as a Finding of No Significant Impact.

Chapter II

***Description of the
Existing Environment***

II. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. PHYSICAL SETTING

1. Surrounding Uses

The subject property is located in Paia, a historic plantation town that has become a thriving, residential and commercial community in recent years. The center of Paia lies just west of the property, with shops and restaurants, and where a country town-business environment prevails. Single-family residences lie immediately adjacent to the east of the property and beyond to the residential community of Kuau. The Mantokuji Mission temple is adjacent to the north and west of the subject property. The Mission was founded in 1906 by the Ueoka family. The current parcel was acquired in 1919 and the Mission was transferred to this new location in 1921. The Ueoka family residence was built sometime in 1935 when the subject property was purchased from the Mantokuji Mission.

The shoreline of the Pacific Ocean is located approximately 200 feet north of the property.

2. Climate

Like most areas of Hawaii, Maui's climate is relatively uniform year-round. The region's tropical latitude, its position relative to storm tracts and the surrounding ocean combine to produce a stable climate. Variation in climate on the island is largely left to local terrain.

Average temperatures at nearby Kahului Airport range from the low 60's in February to the high 80's in August. Rainfall averages approximately 20 inches per year (Maui County Data Book, 2003).

Winds in the region are predominantly out of the north to northeast and northeast.

3. **Physiographic Characteristics**

The property is located in an area of the Flood Insurance Rate Map (FIRM) designated as Zone "X", an area without regulations on development. There are no streams or wetlands in the vicinity of the subject property. See Figure 4.

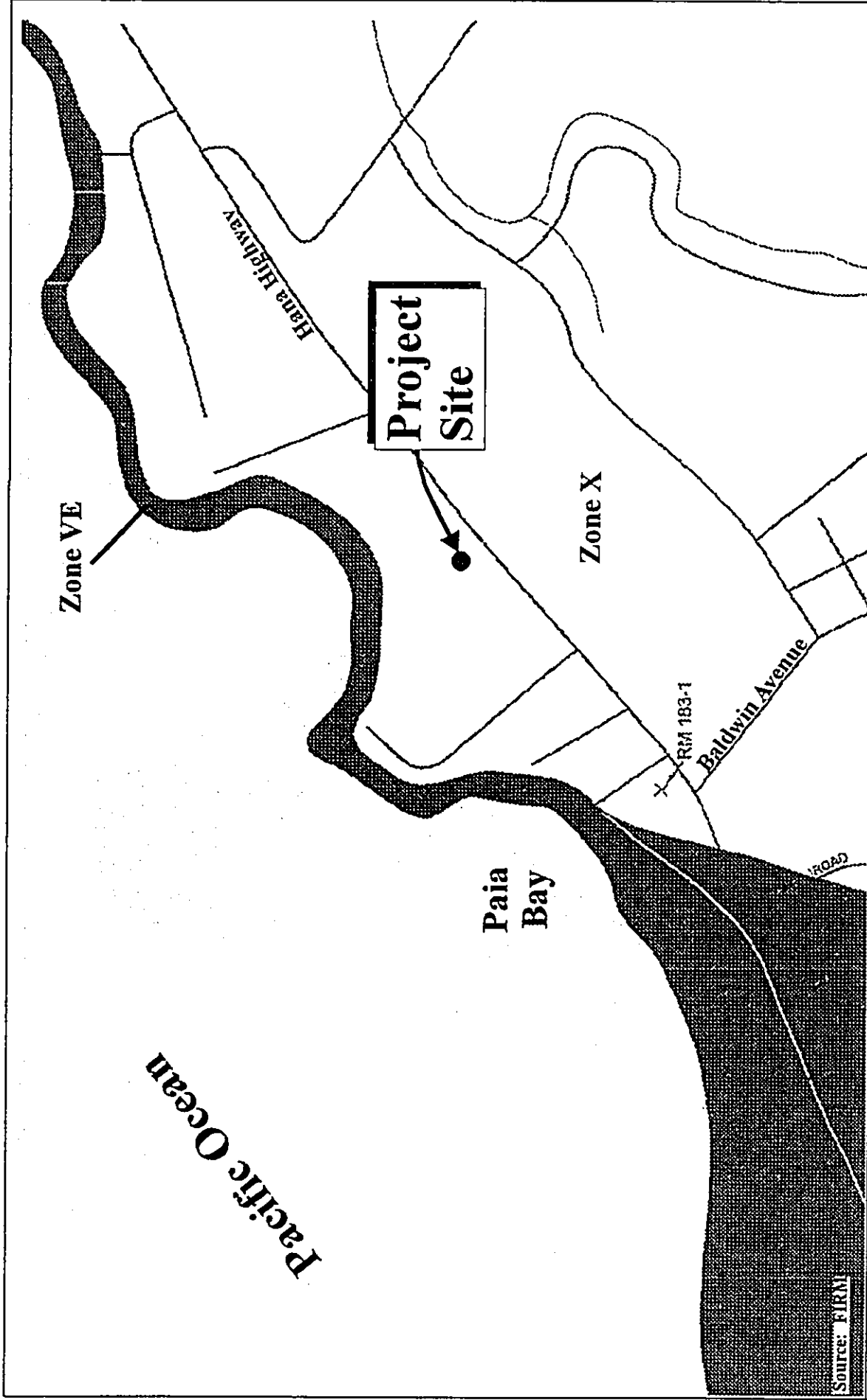
Underlying the project area are soils belonging to the Pulehu-Ewa-Jaucas association. See Figure 5. This soil association is characteristically deep and well-drained and located in alluvial fans and basins. The soil type specific to the project area is of the Paia Silty Clay classification (PcB). See Figure 6. These soils of dark, reddish-brown clay are mildly alkaline and moderately permeable, with slow runoff and slight erosion hazard. They exist in gentling sloping lands.

4. **Flora and Fauna**

The existing residence site is landscaped and irrigated. Plant species on the property are cultivated and include introduced species such as mango trees and flowers. Fauna found at the site are typical of Paia and include such introduced species as mongoose, rats, mynahs, and francolins.

5. **Archaeological Resources**

The subject property is located in a developed, residential area in the community of Paia. No significant material culture remains were identified during the field inspection carried out by Xamanek Researches. See Appendix "C".



Source: FIRMI

Figure 4 Proposed Changes to Land Use Designations
 for Ueoka Property at TMK 2-6-8-019, Paia, Maui
 Flood Insurance Rate Map

NOT TO SCALE

Prepared for: County of Maui, Department of Planning



LEGEND

- | | |
|--|--|
| <p>① Pulchu-Ewa-Jaucas association</p> <p>② Waiakoa-Keahua-Molekai association</p> <p>③ Honolulu-Olelo association</p> <p>④ Rock land-Rough mountainous land association</p> <p>⑤ Puu Pa-Kula-Punc association</p> <p>⑥ Hydrandepts-Tropuquods association</p> | <p>⑦ Hanu-Makuahe-Kailua association</p> <p>⑧ Pauwela-Haiku association</p> <p>⑨ Launai-Kuipoipoi-Olinda association</p> <p>⑩ Keawakapu-Makena association</p> <p>⑪ Kamaole-Oanapuka association</p> |
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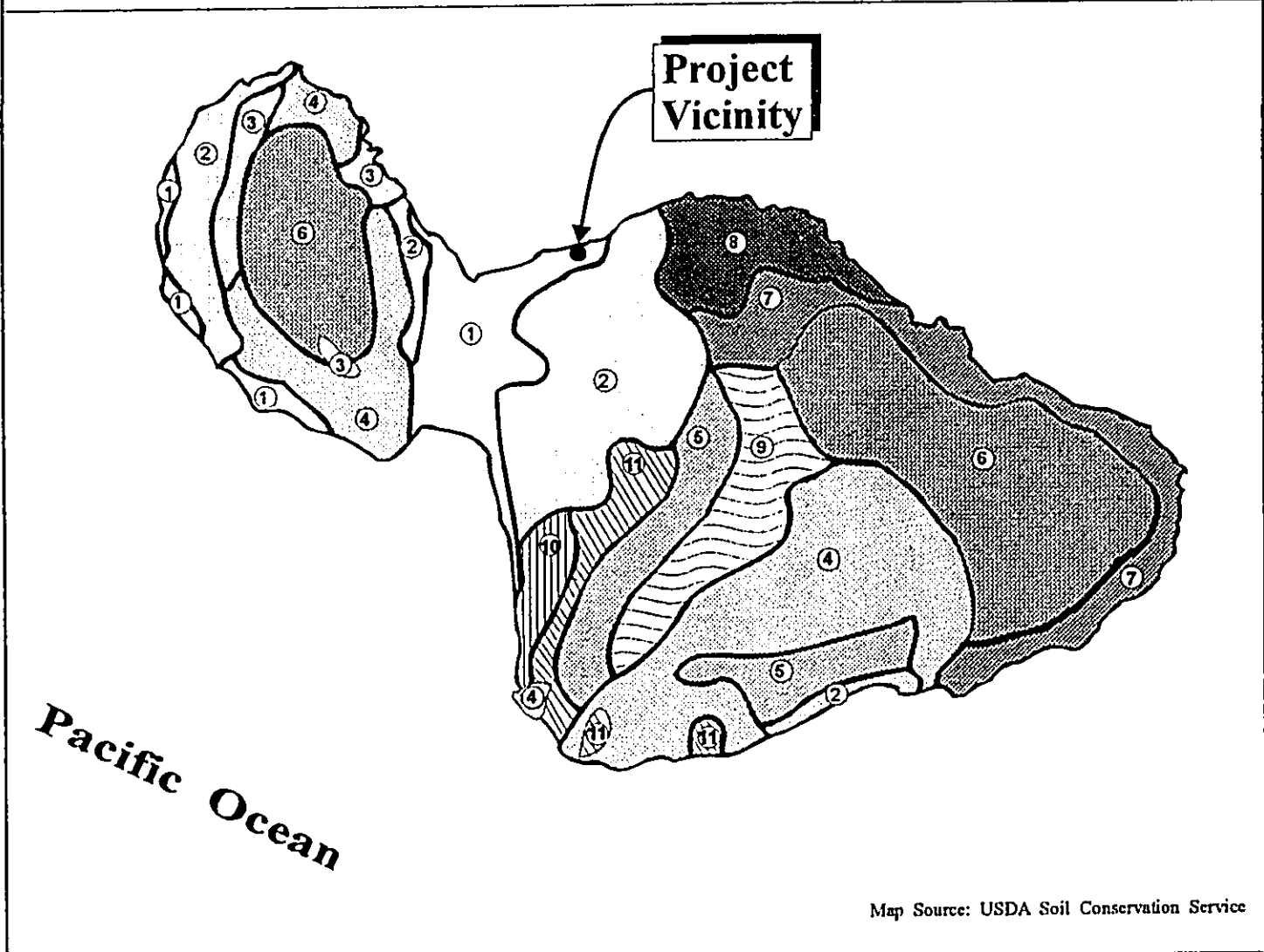


Figure 5 Proposed Changes to Land Use NOT TO SCALE
Designations for Ueoka Property at
TMK 2-6-8:019, Paia, Maui
Soil Association Map



MUNEKIYO & HIRAGA, INC.

Prepared for: County of Maui, Department of Planning

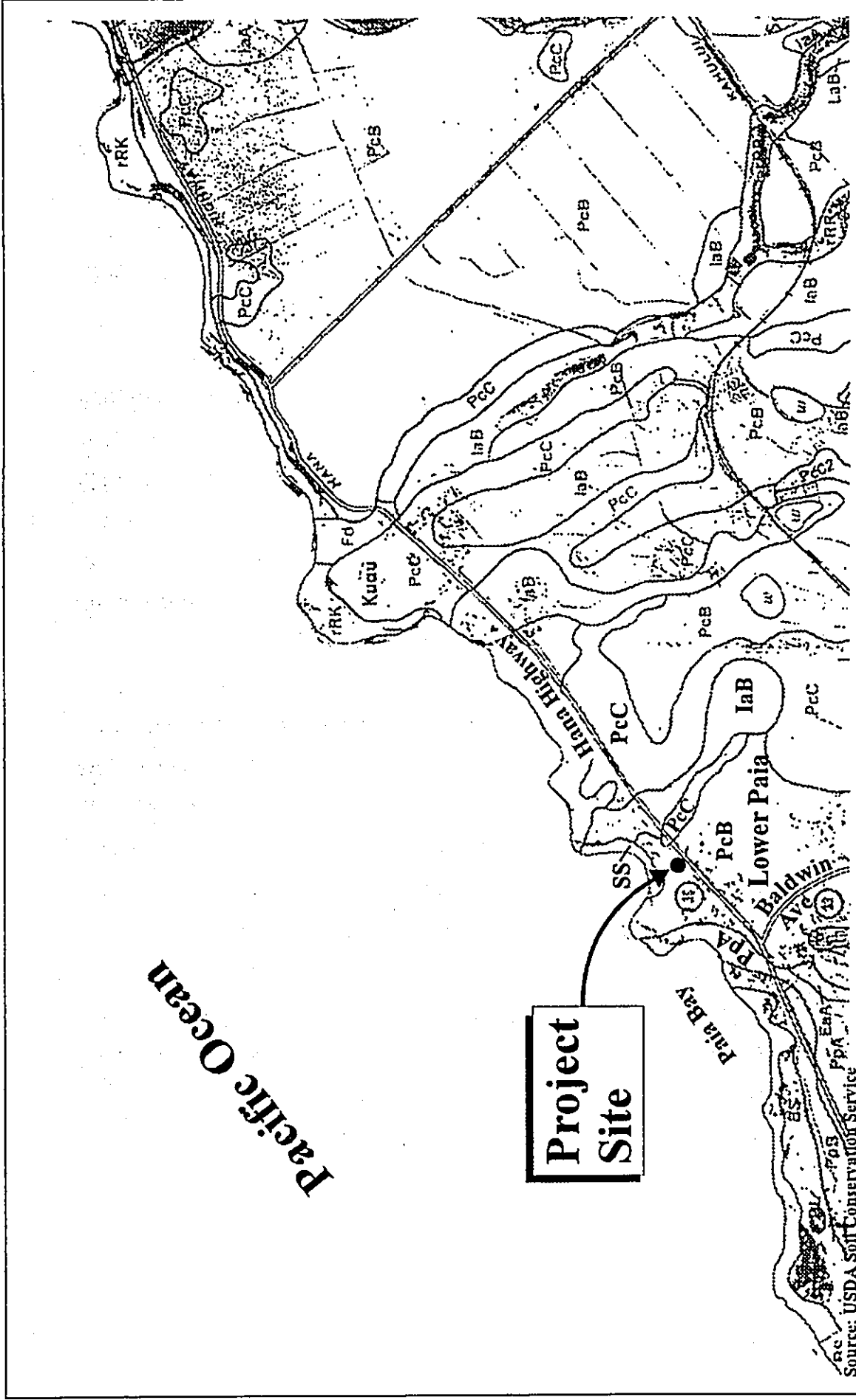


Figure 6 Proposed Changes to Land Use Designations
 for Ueoka Property at TMK 2-6-8:019, Paia, Maui
 Soil Classification Map

NOT TO SCALE



Prepared for: County of Maui, Department of Planning



It is noted, however, that there was no subsurface investigation carried out. The property is approximately 200 feet southeast of the shoreline and this relative proximity would indicate a need for archaeological monitoring. Pre-contact cultural and human remains have been discovered in the general shoreline vicinity in the past.

6. Air Quality and Noise Characteristics

Air quality in the Paia area is considered good as non-point sources of emissions, such as automobiles, do not generate problematic high concentrations of pollutants. The relatively high quality of the air can also be attributed to the region's constant exposure to winds which quickly disperse concentrations of emissions. This rapid dispersion is evident during the sugar cane burning operations in the fields surrounding Paia.

Traffic noise generated by vehicles traveling along Hana Highway is the most notable source of background noise in the vicinity. The other major source is the Pacific Ocean, located approximately 200 feet to the north of the property. The former HC&S Paia Sugar Mill, located just above Paia Town and a major source of air and noise emissions in the past, is no longer operational.

7. Scenic and Open Space Resources

The property is close to, though not at, the shoreline. Looking west, the northern reaches of the West Maui Mountains are visible. To the south, Haleakala rises above the town of Paia.

B. SOCIO-ECONOMIC ENVIRONMENT

Maui County has experienced strong growth in recent years. The resident population increased approximately 24 percent in the 10-year span from 1992 to 2002, from 108,585 to 134,139 (Maui County Data Book, 2003). Growth in the County is expected to continue with the resident population projected to increase to 136,400 by 2010 and 150,200 by 2020 (Maui County Data Book, 2003).

The community of Paia is one of mixed commercial and residential uses. Kahului lies to the west and is the island's center of commerce. The expanding residential communities of Kuau and Haiku lie to the east. The Paia-Haiku region is largely agricultural and rural in character. The primary agricultural activity is sugar cane cultivation.

Although Paia is a primary urban center within the region, it retains a "small town" scale and nature. The Paia commercial town core is situated around the intersection of Hana Highway and Baldwin Avenue. Existing residential development is generally concentrated around the commercial core, between Paia Town and Kuau, and along Baldwin Avenue to Skill Village, above the former Paia Mill.

The population of the Paia-Haiku region increased at greater rates than the County as a whole. In the 10-year span from 1990 to 2000, the population of the Paia-Haiku region grew by 52 percent, from 7,788 to 11,866 persons. The regional population is projected to grow to 12,861 in 2005 and 14,868 in 2010 (SMS).

C. PUBLIC SERVICES

1. Police and Fire Protection

The County of Maui's Police Department is headquartered in the Wailuku Station. There are three (3) patrol divisions on the island of Maui. These are the Wailuku, Lahaina, and Hana divisions. The Wailuku division covers Central Maui, Paia-Haiku, Kihei-Makena, and Upcountry Maui.

Fire prevention, suppression, and protection services for the project area are provided by the County Department of Fire and Public Safety's Paia Fire Station, located along Hana Highway in Paia Town.

2. Medical Facilities

Maui Memorial Medical Center is currently the only major medical facility on the island. Acute, general, and emergency care services are provided by the approximately 196-bed facility. In addition, Paia has medical and dental clinics to serve community residents.

3. Solid Waste

Single-family solid waste collection is provided by the County of Maui, on a once-per-week basis. Residential solid wastes collected by County crews are disposed at the County's Central Maui Landfill, located 4.0 miles southeast of the Kahului Airport. In addition to County-collected refuse, the landfill accepts commercial waste from private collection companies.

4. Recreational Facilities

The major recreation resource of the Paia area is the beach. H.A. Baldwin Beach Park, a County recreational area, is located

approximately one (1) mile west of the project site. The surfing beach of Ho'okipa is located approximately two (2) miles to the east. The Boteilho Gym, a County-run facility, is also located in Paia.

5. **Educational Facilities**

The State Department of Education operates the Paia and Haiku Elementary Schools (Grades K through 5). Private schools in the immediate area include the Doris Todd Memorial School (pre-K to Grade 8) in Paia and the Horizons Academy in Haiku (Grades K through 8).

D. **INFRASTRUCTURE**

1. **Roadways**

The subject property is bordered on the southeast by Hana Highway, a roadway that is, in the vicinity, a two-lane, two-way, State facility. Hana Highway is the major arterial roadway for Paia and all of the North Shore of Maui, running from Kahului in the west, to Hana in the east. Baldwin Avenue intersects Hana Highway just to the west of the subject property. Baldwin Avenue is a two-lane, two-way County roadway that runs from Paia to Makawao and is also considered a major collector.

2. **Water, Wastewater and Drainage Systems**

The County of Maui, Department of Water Supply provides water service to the residence on the subject property. Wastewater service is provided by the County of Maui, Department of Public Works and Environmental Management. A series of 8-inch and 10-inch lines along the roadway convey wastewater to the Wailuku-Kahului Wastewater Facility located near Kahului Harbor.

There are no drainage improvements on the property or the adjacent Montokuji Temple grounds. Rainfall runoff from the property flows in a northerly direction where it generally percolates into the soil.

3. **Electrical and Telephone Service**

Electrical service is provided by Maui Electric Company, while telephone service is provided by Verizon Hawaii.

Chapter III

Potential Impacts and Mitigation Measures

III. POTENTIAL IMPACTS AND MITIGATION MEASURES

A. IMPACTS TO THE PHYSICAL ENVIRONMENT

1. **Surrounding Land Use**

The proposed action would amend the Community Plan and County Zoning to reflect the existing use of the subject property and allow the demolition and reconstruction of the existing single-family residence. There are no anticipated impacts to surrounding land uses associated with the land use amendments or the proposed new residence. Paia is a community of mixed commercial and residential uses of which the subject property is a part.

2. **Physiography**

The proposed action is not anticipated to impact the surrounding physiography in any notable fashion. The eventual construction of a new, single-family residence will occupy essentially the same foot-print as the existing structure.

3. **Flora and Fauna**

The proposed action would have no adverse impact on flora or fauna. Only minor landscaping modifications are anticipated. Activities related to the proposed demolition and reconstruction of the single-family residence are not anticipated to result in any adverse impacts to flora or fauna.

4. **Archaeological Resources**

There are no known archeological resources on the subject property. Given the proximity to the shoreline, however, and the propensity of cultural and human remains to be found in such

locations, archeological monitoring is recommended. See Appendix "C".

5. **Cultural Impact Assessment**

a. **Cultural Practices Associated with the Paia Mantokuji Mission**

The Paia Mantokuji Mission and cemetery are located on a parcel adjoining the project site. The first Mantokuji Mission was built in 1906 on a site near the current Paia Fire Station. Reverend Sokyo Ueoka was sent from the Tokujuan Temple in the Hiroshima Prefecture of Japan to serve the people of Hawaii. In 1919, approximately 7.5 acres of land was purchased by the congregation and approximately 3.5 acres was designated current church and cemetery. The church, a minister's residence and the belfry were constructed in 1921. The Kaisei Women's School was established at the church in 1937 and taught sewing, cooking, Japanese language and other household arts to young women. It was closed in 1941, following the Japan attack on Pearl Harbor. The Reverend Soka Ueoka, son of Sokyo, was appointed assistant minister in 1930, however he was interned during the war and was not available to serve the temple from 1941 to 1954. A crematorium was added in 1938 and ceased operation in 1965. A tsunami in 1946 damaged the minister's residence and crematorium, but the temple was unharmed. Repairs were completed to both buildings. In 1949, the Reverend Shuko Ueoka, grandson to Sokyo, was ordained a minister to assist his grandfather in the temple operations while his father (Soka) was interned. Reverend Soka Ueoka returned to the

temple in 1954. Reverend Sokyo Ueoka passed away the following year and Reverend Soka Ueoka was inaugurated as the minister for the Paia Mantokuji Mission in 1956. Reverend Soka Ueoka passed away in 1963 and was succeeded by his son, Reverend Shuko Ueoka. In 1966 repairs were made to the temple and a social hall was added and in 1970, a Columbarium was added to the temple grounds.

As a part of the Buddhist religious tradition, *obon* (Celebration of the Dead) festivities are held on the temple grounds every year, during the summer months. The *obon* tradition and festivities are meant to remember those who have passed away since the last *obon* and to celebrate their passing into Nirvana ("pure land"). Traditionally, memorial services are held, followed by Japanese dancing. Visitations to the family grave sites with offerings of flowers, incense and prayers are also a part of the *obon*. Additionally, there are other traditional memorial services held throughout the year including *Hanamatsuri*, or the Buddha's birthday.

The subject property is located approximately 200 feet from the ocean. Public access to the shoreline for fishing and recreational use has always been allowed. According to a member of the Ueoka family, the public frequently accesses the beach through the church's cemetery. Members of the Ueoka family also fished the shoreline in the past and continue to do so today. In the past, the family fished in ocean near the church property using throw nets, fishing

poles and by skin diving. Pipipi and ogo (seaweed) were also gathered from the beach and rocks in the area.

b. Physical Features of the Land at Paia

The subject parcel is located in close proximity to the Pacific Ocean. The parcel has been in residential use for almost 70 years, while the adjoining Paia Mantokuji Mission land has been in public/quasi-public uses for over 95 years. There are no streams or wetlands on the property.

c. Settlement and Historical Context of the Subject Property

Since the purchase of the subject property in 1935 from the Paia Mantokuji Mission, the single-family residence has been home to Robert and Fukiyo Ueoka. Mr. Ueoka was the second son of Reverend Sokyo Ueoka. Mr. and Mrs. Robert Ueoka had seven (7) children. Additions were made to the house to expand the kitchen and add a bedroom in the 1950's. Mr. Ueoka was an accountant who had an office in Paia. He also served as President of the Paia Mantokuji Mission.

d. Informant Interviews

In order to obtain personal perspectives on cultural issues surrounding the subject property, interviews were conducted with individuals having intimate and long-standing knowledge of the area. These interviews are presented below.

(1) Noriyuki Ueoka

Mr. Noriyuki Ueoka is the third son of Reverend Sokyo and Tomio Ueoka. He was born in Paia in 1914 and lived on the Paia Mantokuji Mission property, adjacent to the subject property, until he moved away in 1942. He currently lives in Wailuku with his wife, Florence. He has two (2) sons and two (2) daughters.

Mr. Ueoka is a member of the Paia Mantokuji Mission and goes to the church at least once a week for various reasons. While he was living on the property, he was not involved with the construction of the church buildings. He recalled that the parcels located further north of the subject property, which were eventually sold for residential lots, was vacant land, covered in kiawe trees. The lots were sold to provide funding for the church. As far as he could remember, the *obon* festivities at the church were held in July every year. The *yagura*, or platform structure for the *taiko* performers, is approximately 80 years old.

Mr. Ueoka recalled fishing a lot when he lived on the property, mostly skin diving. He stated that they mostly caught fish.

When Mr. Ueoka goes to the Mantokuji Mission site, it is usually to help clean up the church grounds, to prepare for different church festivities like *obon* or to attend church services. Besides the *obon* festivities, the church also holds special services annually such as the *higan* in spring and autumn, *onihan* (a memorial service in February) and *Hanamatsuri* (the celebration of the Buddha's birthday) in April.

Mr. Ueoka liked that the site used to be isolated from Paia town and that there were hardly any buildings before. His main concerns with the surrounding land is the erosion problem, which he thought was common for shoreline properties. He stated that the portion of the cemetery, closest to the ocean, is continuing to erode away. A concrete "pill box" structure that was placed on the beach fronting the church property during World War II has since

toppled over and portions of the box are scattered on the beach. Mr. Ueoka felt that it fell over because of the beach erosion. A second problem that the church is facing is that homeless people are camping on the church grounds.

With regards to beach access, Mr. Ueoka noted that the beach has always been open to the public. When asked about public access to the beach, he stated that most people seem to access the beach from the cemetery portion of the church property as opposed to the northern portion, where the subject property is located. He stated that he thought the church activities and beach access would not be affected by the proposed project. Mr. Ueoka had no concerns about the proposed project proceeding.

(2) Kay Hanano

Kay Hanano is a resident of Kula, Maui. She was born in Paia in 1939 and is the third child of the late Robert and Fukiyo Ueoka. The Ueokas had seven (7) children. She lived on the subject property for 18 years and has lived on Maui for a majority of her life, except for four (4) years while she attended the University of Hawaii at Manoa, and lived on the East coast for three (3) years. She is married and has three (3) sons. The single-family residence was built in 1935 and included the *furo* (outdoor bath). The *furo* and the structure that it is in, is still standing, however it is no longer in use.

Mrs. Hanano is a member of the Paia Mantokuji Mission, whose property adjoins the subject property. She has strong memories about the subject property growing up there and then coming home for vacations. Her mother currently lives at the subject property. Mrs. Hanano felt that the bonds the Ueoka family has shared with the land and the Ueoka residence are an integral part of their lives. The family still gathers for dinner on the weekends, or for special occasions such as birthdays, Mother's Day, and holidays. She felt that the location of the home was ideal because of its close proximity to the beach.

The beach provided many memories for family activities also. The property is also ideal because of its location to the Paia Mantokuji Church. The Paia Mantokuji Church has played a large role in the family's history and continues to be a part of their lives. Mrs. Hanano felt that because of the church, the whole Ueoka family has been fairly close; it is a common thread that all family members share. Finally, she stated that living near the church allows for open space; that it prevented the high density of buildings.

Mrs. Hanano visits the subject property at least twice a week to see her mother who is over 90 years old and in failing health. At one time, the residence was also home to her maternal grandfather, Mr. Yamasaki and paternal grandmother, Mrs. Ueoka, who lived with the family due to health conditions. Family get-togethers are held at the residence about once a month and sometimes more often if her siblings who live on the outer islands come home for a visit. Mrs. Hanano recalled that in the 1950's an addition was made to the home, which expanded the kitchen and added three (3) bedrooms on the south side of the house.

As far as cultural practices in the vicinity of the property are concerned, Mrs. Hanano stated that the church activities are held yearly such as the New Year's service and the *obon* (festival of the dead) in July. The family members actively participate in the church activities. Additionally, since the family is involved with the church, she felt that the family has enjoyed some advantages such as being able to use the church's social hall for family gatherings. Mrs. Hanano stated that she thought the family might not keep certain traditions alive such as the annual *mochitsuki* (rice cake making) without the access to the church's facilities. She also felt that the *obon* festivities might not be as special to the family if they were not connected to the church. The church activities have also allowed them to meet new people. She felt that Buddhism has had an indirect influence on the family's lives by helping them become better people.

Problems in the area that were a concern for Mrs. Hanano included the increased traffic on Hana Highway, the proximity to the ocean and the homeless people who camp out on the church's property. She noted that traffic on Hana Highway has significantly increased over the years. She also stated that in the past, they had to evacuate the home when there was a tsunami. Finally, Mrs. Hanano stated that in recent years, there have been concerns about people trespassing on the Ueoka property to pick mangoes and the security of their property. Even during some of the church activities, such as the *obon* or annual bazaar, there are security concerns for their private property. Mrs. Hanano stated that the family is planning to install a chain link fence around the property to mitigate this concern.

In relation to beach access, Mrs. Hanano had no concerns. She stated that the public does not need to cross their property to access the beach. Mrs. Hanano stated that the family is concerned that the project move forward quickly, since her mother's health is fragile and she would like her to be able to enjoy her new home. She stated that the family has limited funds and is concerned that delays in the project will increase costs of building and attorney's fees.

e. **Cultural Impact Assessment**

Based on the historical use of the property and information provided through informant interviews, the proposed land use amendments and reconstruction of a single-family residence on the property, is not anticipated to have an adverse impact upon Native Hawaiian and temple cultural practices.

6. **Air and Noise Quality**

The proposed action would have no direct impacts to air or noise quality. The only anticipated impacts to air and noise quality would

stem from construction activities associated with demolishing and rebuilding the residence on the subject property. These would be limited given the small size and scope of work.

7. **Scenic and Open Space Resources**

The property is close to, though not at, the shoreline. The proposed action would allow the owners to demolish the existing structure and build a new residence. The proposed new residence would follow the same general profile as the existing structure and will not impact scenic resources.

B. SOCIO-ECONOMIC IMPACTS

1. **Population and Economy**

The proposed land use amendments will have no significant impact on population or economy as it would recognize an already-existing situation. The demolition and reconstruction of the single-family residence will not alter population or economic characteristics of the region since the new residence will be used by the current owner and occupants.

2. **Public Services**

The proposed land use amendments will have no significant impact on public services as it would recognize an already-existing situation. Similarly, the demolition and reconstruction of the single-family residence will not adversely impact public services.

C. IMPACTS TO INFRASTRUCTURE

1. Roadways

The new residence will utilize the existing driveway off of Hana Highway. There are no adverse trip generation or traffic operations impacts associated with the proposed action.

2. Water, Wastewater and Drainage

The proposed land use amendments will not impact water, wastewater, or drainage demands and systems as it would recognize an already-existing situation. The new residence will occupy a building footprint similar to the existing structure. There will be no significant increase in impervious surfaces which would alter runoff volumes or patterns.

3. Electrical and Telephone Services

The proposed action would have no impacts on electrical and telephone services.

D. CUMULATIVE AND SECONDARY IMPACTS

A cumulative impact is defined as an impact to the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Actions such as those that involve the construction of public facilities or infrastructure stimulate secondary impacts, such as population growth and increased demands for public services and infrastructure.

There are no anticipated cumulative or secondary impacts from the proposed action. The proposed land use changes and the reconstruction of a single-family dwelling on the property represent the entire action.

Chapter IV

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

IV. RELATIONSHIP TO LAND USE PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

Chapter 205, Hawaii Revised Statutes, relating to the Land Use Commission, establishes four (4) major land use districts in which all lands in the state are placed. These districts are designated as "Urban", "Rural", "Agricultural", and "Conservation". The subject property is located within the "Urban" district. See Figure 7. The proposed action is consistent with use regulations set forth by the State Land Use Commission.




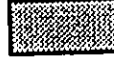
B. MAUI COUNTY GENERAL PLAN

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

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

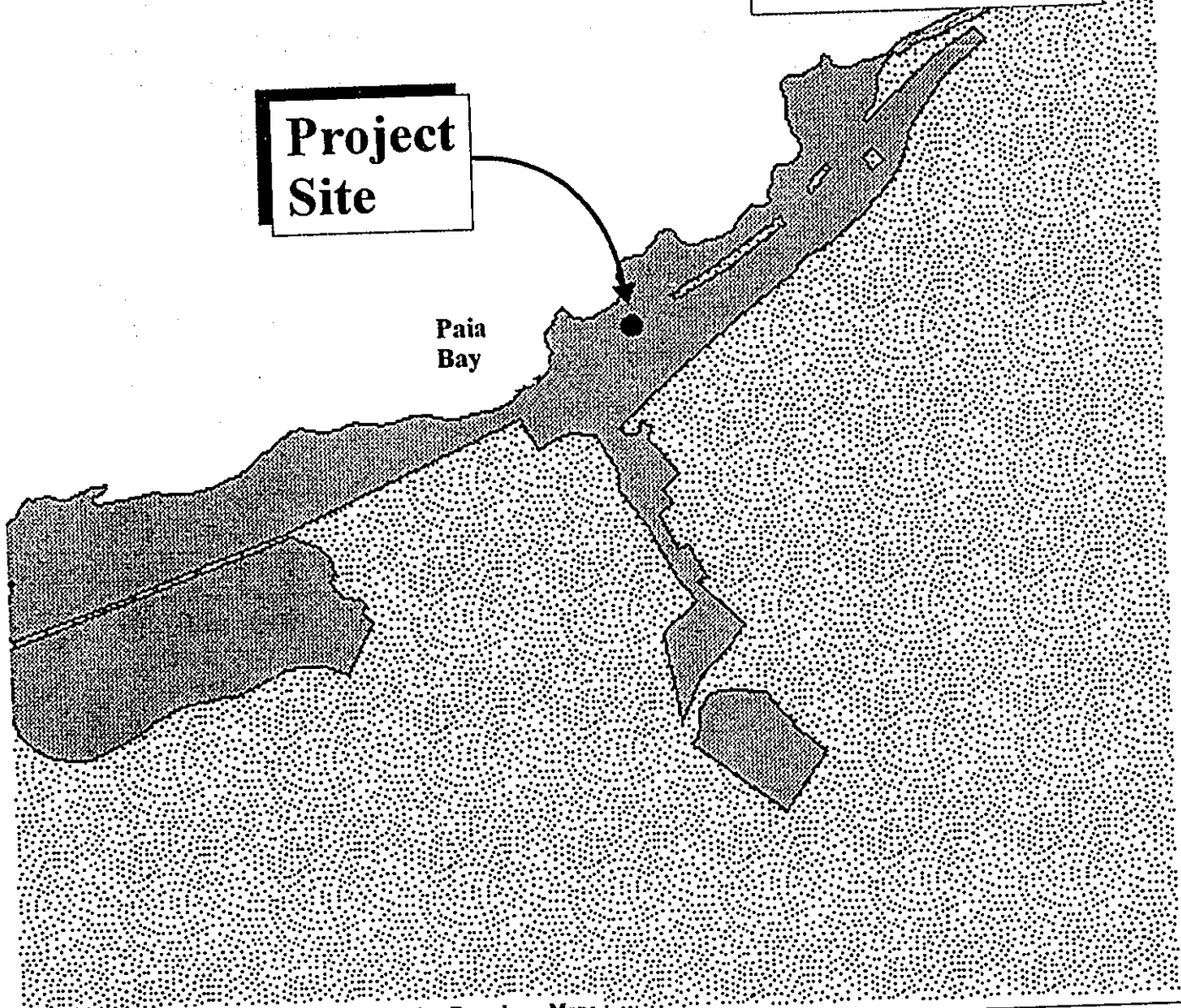
The proposed action is in keeping with the following General Plan objective and policies:

Pacific Ocean

Key	
	Agricultural
	Conservation
	Rural
	Urban

Project Site

Paia Bay



Source: State Land Use Commission District Boundary Maps

Figure 7 Proposed Changes to Land Use Designations for Ueoka Property at TMK 2-6-8:019, Paia, Maui State Land Use District Classifications NOT TO SCALE



Prepared for: County of Maui, Department of Planning

MUNEKIYO & HIRAGA, INC.

Housing

Objective:

To provide a choice of attractive, sanitary, and affordable homes for all our residents.

- Provide or require adequate physical infrastructure to meet the demands of present and planned future affordable housing needs.
- Encourage the construction of housing in a variety of price ranges and geographic locations.
- Ensure that each Community Plan region has its fair share of affordable housing.

C. PAIA-HAIKU COMMUNITY PLAN

Within Maui County, there are nine (9) Community Plan regions. From a General Plan implementation standpoint, each region is governed by a Community Plan which sets forth desired land use patterns, as well as goals, objectives, policies, and implementing actions for a number of functional areas including infrastructure-related parameters. The subject property is located within the Paia-Haiku region.

The subject parcel is located on lands currently designated as "Public/Quasi-Public" in the Community Plan. Part of the proposed action is the redesignation of those lands to the "Single-family" land use category. The County of Maui, Department of Planning, has determined that the current Community Plan designation for the subject property was adopted in error and does not reflect either the historic or current use of the parcel. The property has been a single-family residence for the Ueoka Family since 1935 and remains so. The proposed land use action would change the Community Plan designation to conform to intended and existing use of the property.

Applicable goals, objectives and policies of the Paia-Haiku Community Plan are cited below.

Land Use (Goal):

A well-planned community that preserves the region's small town ambiance and rural character, coastal scenic vistas, and extensive agricultural land use, and accommodates the future needs of residents at a sustainable rate of growth and in harmony with the region's natural environment, marine resources, and traditional uses of the shoreline and mauka lands.

Objectives and Policies:

- When appropriate, incorporate low-rise town or village forms of development, such as the neotraditional town, with defined growth limits and a village core of mixed public, residential, and commercial uses, organized and designed to enhance pedestrian and bicycle access as an alternative to linear forms of development, which are characteristic of more urban areas.
- Provide for a range of residential lot sizes in appropriate areas.

Housing (Goal):

A sufficient supply and choice of attractive housing accommodations with emphasis on affordable housing for a broad cross section of residents

Objective and Policy:

- Meet the 20-year housing needs of the planned region. Provide sufficient land area for residential development only in appropriate areas near public facilities in order to discourage land speculation, and provide predictable, efficient land use and development patterns in the region.

Town Design (Goal):

Attractive rural town development in keeping with the existing scale, form, and character of settlement areas in the region.

Objectives and Policies:

- Limit building heights to two (2) stories or thirty (30) feet above grade throughout the region, with any exceptions being subject to design review by the County.
- Maintain the ambiance of Pa'ia and Ha'iku Towns.
- Save and incorporate healthy, mature trees in the landscape planting plans of subdivisions, roads, or any other construction or development.

D. COUNTY ZONING

The subject parcel is currently zoned "Interim" by the County. Part of the proposed action is the proposed rezoning of this parcel to "R-1, Residential".

The County of Maui, Department of Planning, determined that the current County zoning designation for the subject property was adopted in error and does not reflect either the historic or current uses of the parcel. The property has been a single-family residence for the Ueoka family since 1935 and remains so. The change in zoning request would establish land use consistency with the Single-Family designation proposed by the Community Plan Amendment.

E. SPECIAL MANAGEMENT AREA OBJECTIVES AND POLICIES

The proposed project site is located within the County of Maui's Special Management Area (SMA). Pursuant to Chapter 205A, Hawaii Revised Statutes, and the SMA Rules and Regulations for the Maui Planning Commission, actions proposed within the SMA are evaluated with respect to SMA objectives, policies and guidelines. This section addresses the proposed action as related to applicable coastal zone management

considerations, as set forth in Chapter 205A and the Rules and Regulations of 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 subject property is not a shore-fronting property. Construction of the proposed improvements will not result in adverse impacts to coastal recreational resources. Further, access to and along the shoreline environment will not be impeded by the proposed project.

(2) **Historic Resources**

Objective:

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

Policies:

- (A) Identify and analyze significant archeological resources;
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Response: An archaeological inspection was conducted on the project site. While cultural sites were not identified, archaeological monitoring is recommended during ground altering activities. Appropriate archaeological monitoring protocols will be followed to protect historic and cultural resources.

(3) **Scenic and Open Space Resources**

Objective:

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 project site is not located within a significant coastal view corridor. The proposed action is not anticipated to result in adverse impacts to shoreline views or open space resources.

(4) **Coastal Ecosystems**

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;

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- (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: In light of the limited scope and scale of the proposed action, adverse impacts to coastal ecosystems are not anticipated.

(5) **Economic Uses**

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 project will provide employment opportunities during construction of the new residence. There are no significant long-term economic impacts associated with the proposed action.

(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: According to the Flood Insurance Rate Map for the area, the project site is located within Zone "X", an area with no development regulations. The proposed action is not anticipated to increase the region's susceptibility to coastal hazards.

(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: The land use approval process described in Chapter I, Section C of this report provides opportunities for public review and participation.

(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: As previously noted, public awareness of the project is being promoted through the land use entitlements processes. In addition, the President of the Mantokuji Mission Membership was consulted about the proposed action, with no comments or objections registered. Refer to Appendix "D". The proposed

project is not contrary to the objectives of public awareness, education and participation.

(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 project site is located approximately 200 feet from the shoreline. Given the project's limited size and scope, beach processes will not be impacted by the proposed action.

(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;

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- (B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;
 - (C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;
 - (D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and
 - (E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Response: The proposed action will not adversely impact coastal 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 land use changes will have no adverse environmental impacts, as they recognize an already-existing situation. The changes will establish appropriate land use designations to meet Community Plan and zoning consistency objectives. Reconstruction of the single-family dwelling would result in unavoidable construction-related impacts, such as noise impacts from the machinery and air-impacts from dust generated by site work and exhaust emissions from construction equipment. Best management practices will be followed to minimize short-term noise and air quality impacts. The proposed project is not anticipated to create any significant, long-term, adverse effects.

Chapter VI

***Alternatives to the
Proposed Action***

VI. ALTERNATIVES TO THE PROPOSED ACTION

A. NO ACTION ALTERNATIVE

The "no action" alternative would mean no land use changes would be made to the subject property. The property lands would retain the current Community Plan and County Zoning designations. This alternative is not considered a viable alternative as these designations were made in error and do not accurately reflect existing land uses. The current designations do not appropriately allow for the presence of the single-family residence which has been there for approximately seventy years. Given this, the "no action" alternative is not a feasible option.

B. PROPOSED ACTION ALTERNATIVE

The "proposed action" alternative would recognize the errors made in the current Community Plan and County Zoning designations for the subject property and amend them to accurately reflect existing land uses. In light of the acknowledgment of the inaccuracy of the current designations, this alternative is considered the reasonable course of action.

Chapter VII

Irreversible and Irretrievable Commitments of Resources

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed action does not result in the irreversible or irretrievable commitment of natural or man-made resources. The consequent results of the proposed action would be to allow the owners of the subject property to rebuild a new single-family residence on the site of the existing structure. There would be a commitment of labor and materials for this action.

Chapter VIII

***Anticipated Determination
and Findings and Reasons
Supporting the Determination***

VIII. ANTICIPATED DETERMINATION AND FINDINGS AND REASONS SUPPORTING THE DETERMINATION

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 action 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 Resources Would Occur as a Result of the Proposed Project**

The proposed project would maintain existing land use of the subject property and include the rebuilding of an already-existing single-family residence in a similar scale at the same location. Therefore, there is no commitment to a loss of any natural or cultural resources.

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

The subject property contains a single-family residence which would be rebuilt as a result of the proposed action. There would be no consequent curtailment of 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 (HRS). The proposed action is in consonance with the policies and guidelines of Chapter 344, HRS.

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

The proposed action would recognize the validity of the residential use of long-time residents of the community. The consequent rebuilding of the single-family residence would have a short-term positive impact to the local economy during the construction. In the long term, the project will have no notable impacts to economic or social welfare.

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

No impacts to public health are anticipated to result from the proposed project.

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

The proposed action would recognize existing land use and allow the residents to rebuild an existing structure. There are no secondary impacts to population. There are also no anticipated effects upon public services, such as police, fire, medical, educational, or waste collection services.

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

The proposed action will have no substantial impact to environmental quality. The consequent rebuilding would occupy the same foot-print as the existing structure and not affect the surrounding environment.

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

The proposed actions will allow the current residents to demolish the existing structure and rebuilding their residence. This residence will be

similar in size and scope to that already-existing and would not have considerable impact 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, endangered, or threatened species within the project vicinity and none are anticipated to be impacted by the action.

10. **Air Quality, Water Quality or Ambient Noise Levels Would Not Be Detrimentially Affected by the Proposed Project**

During the consequent rebuilding of the single-family residence, there may be short-term impacts to air and noise quality. Best Management Practices (BMP's) can reduce these short-term impacts, which will not extend into the long term.

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 subject property is located approximately 200 feet from the shoreline. The consequent rebuilding of the single-family residence on the property will not impact the coastal waters. There are no wetlands or other environmentally sensitive areas in proximity and the property is an area of minimal flooding.

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

The proposed action would have no impact on vistas or viewplanes. The rebuilding of the single-family residence would follow the height parameters of the existing residence and have no impact upon existing views.

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

The proposed project would involve no significant commitment of energy. The consequent rebuilding of the single-family residence would involve the short-term commitment of fuel for equipment, vehicles, and machinery during construction activities. However, this is not anticipated to result in any substantial consumption of energy.

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

Chapter IX

***List of Permits
and Approvals***

IX. LIST OF PERMITS AND APPROVALS

The proposed action calls for amending the Community Plan and county zoning designations for the subject property. Requirements for the reconstruction of the single-family dwelling include County demolition and building permits and Special Management Area Assessment review.

Chapter X

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

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

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

1. Herbert Matsubayashi
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2. Peter T. Young, Chairperson
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Honolulu, Hawaii 96809
3. P. Holly McEldowney, Administrator
State of Hawaii
Department of Land and Natural
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State Historic Preservation Division
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Kapolei, Hawaii 96707
4. Rodney Haraga, Director
State of Hawaii
Department of Transportation
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Honolulu, Hawaii 96813
5. Fred Cajigal, Maui District Engineer
State of Hawaii
Department of Transportation
Highways Division
650 Palapala Drive
Kahului, Hawaii 96732
6. Clyde Namu'o, Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813
7. Carl Kaupololo, Chief
County of Maui
Department of Fire Control
200 Dairy Road
Kahului, Hawaii 96732
8. Thomas Phillips, Chief
County of Maui
Police Department
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Wailuku, Hawaii 96793
9. Gilbert S. Coloma-Agaran, Director
County of Maui
Department of Public Works
and Environmental Management
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10. Kyle Ginoza, Director
County of Maui
Department of Transportation
200 South High Street
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11. George Tengan, Director
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-
12. Kyle Watanabe
County of Maui
Civil Defense
200 South High Street
Wailuku, Hawaii 96793

LINDA LINGLE
GOVERNOR OF HAWAII



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

June 17, 2004

JUN 21 2004

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

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

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

Dear Mr. Slepín:

Subject: **Early Consultation Request**
TMK: (2) 2-6-8:019, Paia, Maui, Hawaii

Thank you for the opportunity to participate in the early consultation process for the environmental assessment. We have no comments to offer at this time.

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

Sincerely,

A handwritten signature in black ink, appearing to be "H. Matsubayashi".

Herbert S. Matsubayashi
District Environmental Health Program Chief

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

JUN 23 2004

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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
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

June 21, 2004

LD-NAV
281HANAMUNEKIYO.RCM

Munekiyo and Hiraga, Inc.
Matthew M. Slepín, Planner
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepín:

SUBJECT: Community Plan Amendment and Change in Zoning for Property
Located at 281 Hana Highway, Paia, Island of Maui, Hawaii
TMK: (2) 2-6-8: 019

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 your letter dated June 2, 2004 and photos pertaining to the subject matter to the following DLNR Divisions for their review and comment:

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

Enclosed please find a copy of the Engineering Division 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 black ink, 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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

DAH DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
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

June 4, 2004
281HANAMUNEKIYO.CMT

LD/NAV
Suspense Date: 6/18/04

MEMORANDUM:

From: TO: Division of Aquatic Resources
XXX Division of Forestry & Wildlife
Na Ala Hele Trails
XXX Engineering Division
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
XXX Land-Planning and Development

To: FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Early Consultation for Community Plan Amendment and Change
in Zoning for Property at 281 Hana Highway, Paia, Island
of Maui, Hawaii
Authority: County of Maui Department of Planning
Consultant: Munekiyo & Hiraga, Inc (Matthew Slepik)

Please review the attached document pertaining to the subject
matter and submit your comment (if any) on Division letterhead
signed and dated by the suspense date.

Should you have any questions, please contact Nicholas A.
Vaccaro at 587-0384. 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: W. Roy Hardy

Date: 6/18/04

Print Name: Roy Hardy

COMMISSION ON WATER
04 JUN 7 PM 4:45
RECEIVED

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION



DI
STATE

JUN 8 10 52 AM '04

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
DAN DAVIDSON
DEPUTY DIRECTOR - LAND
YVONNE Y. IZU
DEPUTY DIRECTOR - WATER



2004 JUN 15 P 3: 56

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

June 4, 2004
281HANAMUNEKIYO.CMT

Suspense Date: TO: LD/NAV
6/18/04

MEMORANDUM:

TO: Division of Aquatic Resources
XXX Division of Forestry & Wildlife
Na Ala Hele Trails
XXX Engineering Division
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
XXX Land-Planning and Development

___ ADMINISTRATOR
___ ASST ADMIN
___ DEV BR
___ PLAN BR
___ RES 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

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Early Consultation for Community Plan Amendment and Change
in Zoning for Property at 281 Hana Highway, Paia, Island
of Maui, Hawaii
Authority: County of Maui Department of Planning
Consultant: Munekiyo & Hiraga, Inc (Matthew Slepín)

Please review the attached document pertaining to the subject
matter and submit your comment (if any) on Division letterhead
signed and dated by the suspense date.

Should you have any questions, please contact Nicholas A.
Vaccaro at 587-0384. If this office does not receive your comments
by the suspense date, we will assume there are no comments.

(X) We have no comments.

() Comments attached.

Division: State Parks

Signed: [Signature]

Date: 6/14/04

Print Name: Daniel S. Quinn

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION



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

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
DEPUTY DIRECTOR - WATER



2004 JUN 10 P 4: 10

DEPT. OF LAND AND NATURAL RESOURCES
STATE OF HAWAII

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

June 4, 2004
281HANAMUNEKIYO.CMT

LD/NAV
Suspense Date: 6/18/04

MEMORANDUM:

TO: Division of Aquatic Resources
XXX Division of Forestry & Wildlife
Na Ala Hele Trails
XXX Engineering Division
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
XXX Land-Planning and Development

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Early Consultation for Community Plan Amendment and Change
in Zoning for Property at 281 Hana Highway, Paia, Island
of Maui, Hawaii
Authority: County of Maui Department of Planning
Consultant: Munekiyo & Hiraga, Inc (Matthew Slepín)

Please review the attached document pertaining to the subject
matter and submit your comment (if any) on Division letterhead
signed and dated by the suspense date.

Should you have any questions, please contact Nicholas A.
Vaccaro at 587-0384. 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: JUN 9 2004

Print Name: MICHAEL G. BUCK, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE

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

YVONNE Y. IZU
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

June 4, 2004
281HANAMUNEKIYO.CMT

LD/NAV
Suspense Date: 6/18/04
08

MEMORANDUM:

TO: Division of Aquatic Resources
XXX Division of Forestry & Wildlife
Na Ala Hele Trails
XXX Engineering Division
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
XXX Land-Planning and Development

RECEIVED
LAND DIVISION
2004 JUN 14 P 4: 30
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Early Consultation for Community Plan Amendment and Change
in Zoning for Property at 281 Hana Highway, Paia, Island
of Maui, Hawaii
Authority: County of Maui Department of Planning
Consultant: Munekiyo & Hiraga, Inc (Matthew Slepín)

Please review the attached document pertaining to the subject
matter and submit your comment (if any) on Division letterhead
signed and dated by the suspense date.

Should you have any questions, please contact Nicholas A.
Vaccaro at 587-0384. 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: Engineering

Signed: ERICT. HIRANO, CHIEF ENGINEER

Date: _____

Print Name: _____

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LA/NAV

Ref.: 281HANAMUNEKIYO.CMT

COMMENTS

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

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

- () Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.
 - () Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.
 - () Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
 - () Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.
- () The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
 - () The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.
 - () Additional Comments: _____

 - () Other: _____

Should you have any questions, please call Mr. Andrew Monden of the Planning Branch at 587-0229.

Signed: Andrew M. Monden
for ERIC T. HIRANO, CHIEF ENGINEER
Date: 6/14/04

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION



2004 JUN 14 A 9 35



DEPT. OF LAND AND NATURAL RESOURCES
NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
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

YVONNE Y. IZU
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

June 4, 2004
281HANAMUNEKIYO.CMT

LD/NAV
Suspense Date: 6/18/04

MEMORANDUM:

TO: Division of Aquatic Resources
XXX Division of Forestry & Wildlife
Na Ala Hele Trails
XXX Engineering Division
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
XXX Land-Planning and Development

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: Early Consultation for Community Plan Amendment and Change
in Zoning for Property at 281 Hana Highway, Paia, Island
of Maui, Hawaii
Authority: County of Maui Department of Planning
Consultant: Munekiyo & Hiraga, Inc (Matthew Slepín)

Please review the attached document pertaining to the subject
matter and submit your comment (if any) on Division letterhead
signed and dated by the suspense date.

Should you have any questions, please contact Nicholas A.
Vaccaro at 587-0384. 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: 6-9-04

Print Name: Jason K. Koga



July 8, 2004

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

SUBJECT: Request for Community Plan Amendment and Change in Zoning for
Property at 281 Hana Highway, Paia, Maui, TMK 2-6-8:19

Dear Ms. Mamiya:

Thank you for your letter of June 21, 2004, responding to our request for early consultation comments for the proposed land use changes at TMK 2-6-8:19, Paia, Maui. We acknowledge the Engineering Division's flood zone determination (Zone X) for the subject property. We note that the Maui District Land Office, the Division of State Parks, the Commission on Water Resource Management, and the Division of Forestry and Wildlife also reviewed our request for early consultation comments and had no comments.

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

Very truly yours,

Matthew M. Slepina, Planner

MSM:yp

cc: Kivette Caigoy, Department of Planning

compdpaiadlr.res

JUN 17 2004

PHONE (808) 594-1888

FAX (808) 594-1865



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

HRD04-1432

June 15, 2004

Matthew M. Slepín, Planner
Munekiyo & Hiraga, Inc.
350 High Street, Suite 104
Wailuku, HI 96793

Subject: Early Consultation Request for Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK: (2) 2-6-8: Parcel 19

Dear Mr. Slepín:

Thank for your letter dated June 2, 2004 regarding the early consultation request for Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK: (2) 2-6-8: Parcel 19. Your letter requests that the Office of Hawaiian Affairs (OHA) review and comment on the proposed project.

Your preliminary consultation letter notes,


"Implementation of the land use changes will enable the property owner to demolish the existing, deteriorating structure and to rebuild a new, single-family residence on the property."

OHA doesn't have enough information on the scope of the proposed project, including the footprint, elevation and accessory structures of the proposed single-family residence.

OHA looks forward to your Draft EA for the proposed project, which should clarify the project scope and define the project footprint more clearly.

If you have questions or concerns please contact Matthew Myers, Policy Advocate at 594-1945 or matthewm@oha.org.

'O wau iho nō,



Clyde W. Nāmu'o
Administrator



July 8, 2004

Clyde Namu`o, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard
Honolulu, Hawaii 96813

SUBJECT: Request for Community Plan Amendment and Change in Zoning,
for property at 281 Hana Highway, Paia, Maui, TMK 2-6-8:19

Dear Mr. Namu`o:

Thank you for your letter of June 15, 2004, responding to our request for early consultation comments for the proposed land use changes at TMK 2-6-8:19, Paia, Maui. The Draft Environmental Assessment (EA) will discuss the plans for the new residence. This structure will occupy the same foot-print as the existing residence, with similar massing and scale characteristics.

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

Very truly yours,

A handwritten signature in black ink, appearing to read "M. Slepina". The signature is fluid and cursive.

Matthew M. Slepina, Planner

MMS:yp

cc: Kivette Caigoy, Department of Planning
com/pdp/ha/res

JUN 08 2004

ALAN M. ARAKAWA
MAYOR



CARL M. KAUPALOLO
CHIEF

NEAL A. BAL
DEPUTY CHIEF

COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY

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

June 7, 2004

Munekiyo & Hiraga, Inc.
Attention: Matthew M. Slepín, Planner
350 High Street, Suite 104
Wailuku, Hawaii 96793

Subject: Change in Zoning for 281 Hana Hwy, Paia, Maui TMK (2)2-6-008:019

Dear Matthew M. Slepín,

Thank you for the opportunity to comment on the above subject. After reviewing the intentions of the applicant, I have no comment at this time. Please feel free to contact me at 270-7568 if there are any questions.

Sincerely,

A handwritten signature in cursive script, reading "Valeriano F. Martin".

Valeriano F. Martin
Captain
Fire Prevention Bureau



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

June 23, 2004

JUN 23 2004



THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAPIO R. AKANA
DEPUTY CHIEF OF POLICE

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

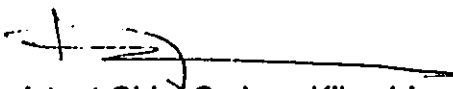
Dear Mr. Slepín:

SUBJECT: Early Consultation Request for Community Plan Amendment
and Change in Zoning for Property at 281 Hana Highway, Paia, Maui
TMK (2) 2-6-8:019

Thank you for your letter of June 2, 2004, requesting comments on the above
subject.

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

Very truly yours,


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

c: Michael Foley, Planning Department

Enclosures

COPY

[Handwritten signature]

TO : THOMAS PHILLIPS, CHIEF OF POLICE, COUNTY OF MAUI
VIA : GEORGE FONTAINE, CAPTAIN, WAILUKU PATROL
FROM : MITCHELL PELLAZAR, SERGEANT, WAILUKU PATROL
SUBJECT : EARLY CONSULTATION REQUEST FOR COMMUNITY PLAN
AMENDMENT AND CHANGE IN ZONING FOR PROPERTY AT:
281 HANA HIGHWAY, PAIA, MAUI (TMK (2)2-6-8:019)

This To-From is being submitted in regards to the request by the Department of Planning of early review and comment on the proposed land use changes in accordance with the requirements of the Hawaii Administrative Rules, Title 11, Chapter 200.

Upon reviewing the report submitted by Munekiyo and Hiraga, Inc. and attending the previously held County Council meeting regarding this matter, in which it was brought to light that the privately real property in question had inadvertently been re-zoned to "Interim" from R-1, Residential, and that the owner is asking to have the property re-zoned back to R-1, Residential.

The demolition and debris removal of the current structure as well as the planned rebuilding of another building/home on the site should not adversely affect vehicular traffic flow on Hana Highway for an extended period of time, nor have any increased safety concerns than any other home re-construction project along Hana Highway. ✓

In conclusion there are no objections to having the above-mentioned property re-zoned back to R-1, residential.

Submitted for your perusal.

*Wailuku,
mf 6/22/04*

Sgt. Mitchell Pellazar
Sgt. Mitchell Pellazar E-8468
Wailuku Patrol - Administrative Sergeant
resubmitted: 06/22/04 - 1400 hours



July 8, 2004

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

SUBJECT: Request for Community Plan Amendment and Change in Zoning,
for property at 281 Hana Highway, Paia, Maui, TMK 2-6-8:19

Dear Mr. Philips:

Thank you for your letter of June 23, 2004, responding to our request for early consultation comments for the proposed land use changes at TMK 2-6-8:19, Paia, Maui. We acknowledge your comments to the effect that the proposed project will have no anticipated, adverse impacts on vehicular traffic or home safety in the area.

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

Very truly yours,

Matthew M. Slepina, Planner

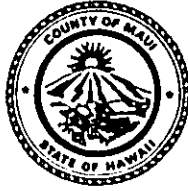
MMS:yp

cc: Kivette Caigoy, Department of Planning
compdpaiavmpd.res

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

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



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

JUL 06 2004

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

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

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

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division

June 29, 2004

Mr. Matthew M. Slepik
Munekiyo & Hiraga, Inc
350 High Street, Suite 104
Wailuku, Hawaii 96793

**SUBJECT: EARLY CONSULTATION REQUEST FOR COMMUNITY PLAN
AMENDMENT AND CHANGE IN ZONING FOR PROPERTY AT
281 HANA HIGHWAY, PAIA
TMK: (2) 2-6-008:019**

Dear Mr. Slepik:

We have reviewed your request and have no comments to offer at this time.

If you have any questions regarding this letter, please contact Sharon Norrod at
(808)270-7250.

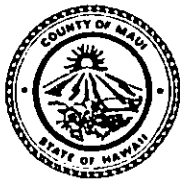
Very truly yours,

A handwritten signature in cursive script, appearing to read "Gilbert S. Coloma-Agaran".

Gilbert S. Coloma-Agaran
Director of Public Works
and Environmental Management

GSC:sn
S:\LUCA\ZMDraft Comments\26008019_281 Hana_Hwy_ec.wpd

ALAN M. ARAKAWA
MAYOR



JUN 04 2004

KYLE K. GINOZA
Director
DON A. MEDEIROS
Deputy Director
Telephone (808) 270-7511
Facsimile (808) 270-7505

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI
200 South High Street
Wailuku, Hawaii, USA 96793-2155

June 3, 2004

Munekiyo & Hiraga, Inc.
Attention: Matthew M. Selpin, Planner
350 High Street, Suite 104
Wailuku, HI. 967693

Subject: Early Consultation Request for Community Plan Amendment and
Change in Zoning for Property at 281 Hana Highway, Paia, Maui
(TMK (2)2-6-8:019)

Dear Mr. Selpin:

The County Department of Transportation has no objection to amending the Paia-Haiku Community Plan from "public/Quasi Public" to "Single-Family", and with the change in zoning from "interim" to "R-1, Residential" for the subject property at 281 Hana Highway, Paia, Maui.

Please contact me for any additional information you may require.

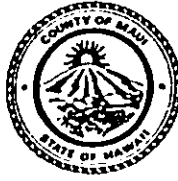
Sincerely,

A handwritten signature in black ink, appearing to read "Kyle K. Ginoza".

Kyle K. Ginoza
Director

JUN 21 2004

ALAN M. ARAKAWA
Mayor



GEORGE Y. TENGAN
Director

JEFFREY T. PEARSON, P.E.
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 South High Street
WAILUKU, MAUI, HAWAII 96793-2155
Telephone (808) 270-7816 • Fax (808) 270-7833
www.mauewater.org

June 15, 2004

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

Subject: Early Consultation Request for Community Plan Amendment and Change in Zoning for 281 Hana Highway, TMK: 2-6-08:019

Dear Mr. Slepín:

Thank you for the opportunity to provide comments on the proposed land use changes and preparation of an Environmental Assessment (EA). The Department of Water Supply provides the following information:

Source Availability and Consumption

The main sources of water for this system are the Iao and Waihee aquifers, the Iao tunnel and the Iao-Waikapu Ditch. As of July 21, 2003, the Commission on Water Resource Management (CWRM) has designated Iao aquifer as Groundwater Management Area. DWS will not issue reservations for future meters until new sources are brought on-line. The County will issue meters up to 800,000 gallons per day (gpd) to those ready to receive service from the service area. To date, the Department has issued meters equivalent to about 529,000 gpd. The property is currently served by a 5/8-inch water meter. Should a larger meter be required, the applicant should be made aware that additional water for the property may not be available until new sources are on-line.

System Infrastructure

The subject property is served by a 6-inch and a 12-inch water line and two fire hydrants along Hana Highway. The first dwelling is exempt from fire flow requirements.

Pollution Prevention

The project overlies the Paia aquifer. The Department of Water Supply strives to protect the integrity of surface and groundwater resources by encouraging the applicant to adopt best management practices (BMPs) designed to minimize infiltration and runoff from construction. We have attached sample BMPs for construction for reference. Additional information can be obtained from the State Department of Health.

Conservation

We recommend that the following water conservation measures be included in the EA and implemented in project design and construction:

Eliminate Single-Pass Cooling: Single-pass, water-cooled system 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.

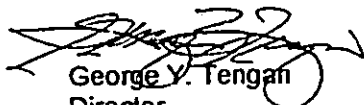
Maintain Fixtures to Prevent Leaks: A simple, regular program of repair and maintenance can prevent the loss of hundreds or even thousands of gallons a day. Refer to the attached handout, "The Costly Drip". The applicant should establish a regular maintenance program.

Use Climate-adapted Plants: The project is located in the "Maui County Planting Plan" - Plant Zone 5. Native plants adapted to the area conserve water and protect the watershed from degradation due to invasive alien species. Please refer to the attached brochure: "Saving Water In The Yard - What and How to Plant In Your Area".

Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers in common areas. 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.

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

Sincerely,


George Y. Tengani
Director
emb

c: engineering division

attachments:

The Costly Drip
Maui County Planting Plan -Saving Water in the Yard-What and How to Plant in your Area
Ordinance No. 2108 - A Bill for an Ordinance Amending Chapter 16.20 of the Maui County Code, Pertaining to the Plumbing Code
A Checklist of Water Conservation Ideas For the Home
Selected BMP's from "Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters"-EPA

C:\WPdocs\EAs EISs\281 Hana Hwy CPA CIZ EA.wpd

By Water All Things Find Life

"THE COSTLY DRIP"



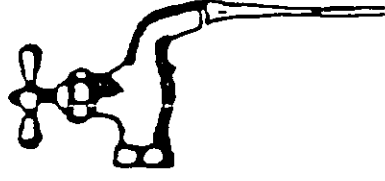
Slowly Dripping
Spigot Wastes
15 Gallons a day.



1/32" Leak Wastes
25 Gallons a day.



1/16" Stream Wastes
100 Gallons a Day.



1/8" Stream Wastes
400 Gallons a day.

Green

Zone 1

Zone-specific Native and Polynesian plants for Maui County

TYPE: . F Fern 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.
F	<i>Psilotum nudum</i>	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet
F	<i>Sadleria cyaltheoides</i>	'ama'u, ama'uma'u				
Gr - Sh	<i>Lipochaeta succulenta</i>	nehe	2'	5'	sea to 1,000'	Dry to Wet
P	<i>Cocos nucifera</i>	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
P	<i>Pritchardia arecina</i>	lo'ulu, hawane	40'	10'	1,000' to 3,000'	Dry to Wet
P	<i>Pritchardia forbesiana</i>	lo'ulu	15'			
P	<i>Pritchardia hillebrandii</i>	lo'ulu, 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>Bidens hillebrandiana</i> ssp. <i>hillebrandiana</i>	ko'oko'olau	1'	2'	sea to 1,000'	Dry to Wet
Sh	<i>Cordyline fruticosa</i>	ti, ki	6'			
Sh	<i>Hedyotis</i> spp.	au, pilo	3'	2'	1,000' to 3,000'	Dry to Wet
Sh - Tr	<i>Broussonetia papyrifera</i>	wauke, paper mulberry	8'	6'	sea to 1,000'	Dry to Medium
Tr	<i>Acacia koa</i>	koa	50' - 100'	40' - 80'	1,500' to 4,000'	Dry to Medium
Tr	<i>Aleurites moluccana</i>	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet
Tr	<i>Calophyllum inophyllum</i>	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	<i>Charpentiera obovata</i>		15'			
Tr	<i>Cordia subcordata</i>	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	<i>Hibiscus furcatus</i>	'akiohala, hau-hele	8'			
Tr	<i>Metrosideros polymorpha</i> var. <i>macrophylla</i>	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet
Tr	<i>Morinda citrifolia</i>	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	<i>Pandanus tectorius</i>	nala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
V	<i>Alyxia oliviformis</i>	maile	Vine		sea to 6,000'	Medium to Wet

Pink

Zone 2

Zone-specific Native and Polynesian plants for Maui County

TYPE: F Fern 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.
F	<i>Psilotum nudum</i>	mōa, mōa kula	1'	1'	sea to 3,000'	Dry to Wet
F	<i>Sadleria cyathoides</i>	'ama'u, ama'uma'u				
G	<i>Eragrostis monticola</i>	kalamalo	1'	2'	sea to 3,000'	Dry to Medium
Gr	<i>Ipomoea tuboides</i>	Hawaiian moon flower, 'uiala	1'	10"	sea to 3,000'	Dry to Medium
Gr	<i>Peperomia leptostachya</i>	'ala'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium
Gr	<i>Plumbago zeylanica</i>	'līe e	1'			
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>Lipochaeta rockii</i>	nehe	2'	2'	sea to 3,000'	Dry to Medium
Sh	<i>Argemone glauca</i> var. <i>decipiens</i>	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	<i>Artemisia mauiensis</i> var. <i>diffusa</i>	MauI wormwood, 'ahinahina	2'	3'	1,000' to higher	Dry to Medium
Sh	<i>Chenopodium oahuense</i>	'ahaheha, '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>Lipochaeta lavarum</i>	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	<i>Osteomeles anthyllifolia</i>	'ulei, 'elehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	<i>Senna gaudichaudii</i>	kolomaha	5'	5'	sea to 3,000'	Dry to Medium
Sh	<i>Styphalia tamelamelae</i>	pukiawe	6'	6'	1,000' to higher	Dry to Medium
Sh	<i>Vitex rotundifolia</i>	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh - Tr	<i>Myoporum sandwicense</i>	nalo, false sandalwood	10'	10"	sea to higher	Dry to Medium
Sh - Tr	<i>Nototrichum sandwicense</i>	kulu'i	8'	8'	sea to 3,000'	Dry to Medium
Sh - Tr	<i>Dodonaea viscosa</i>	'a'ai'i	8'	8'	sea to higher	Dry to Medium
Tr	<i>Acacia koa</i>	koa	50' - 100'	40' - 80'	1,500' to 4,000'	Dry to Medium
Tr	<i>Charpentiera obovata</i>		15'			
Tr	<i>Erythrina sandwicensis</i>	wilwilī	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.

Pink

Zone-specific Native and Polynesian plants for Maui County

Zone 2

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	<i>Nestegia sandwicensis</i>	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	<i>Pleomele auwahiensis</i>	halapepe	20'			
Tr	<i>Rauvolfia sandwicensis</i>	hao	20'	15'	sea to 3,000'	Dry to Medium
Tr	<i>Santalum ellipticum</i>	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	<i>Sophora chrysophylla</i>	mamane	15'	15'	1,000' to 3,000'	Medium
V	<i>Alyxia oliviformis</i>	malle	Vine		sea to 6,000'	Medium to Wet

Blue

Zone 4

Zone-specific Native and Polynesian plants for Maui County

Type	F Fern	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.		
F	<i>Psilotum nudum</i>	mopa, moa kula	1'	1'	sea to 3,000'	Dry to Wet		
F	<i>Sadleria cyatheoides</i>	'ama'u, ama uma'u						
G	<i>Colubrina asiatica</i>	anapanapa	3'	10'	sea to 1,000'	Dry to Wet		
G	<i>Eragrostis monticola</i>	kalamalo	1'	2'	sea to 3,000'	Dry to Medium		
G	<i>Eragrostis variabilis</i>	'emo-ia	1'	2'	sea to 3,000'	Dry to Medium		
G	<i>Fimbristylis cymosa</i> ssp. <i>apalhnacea</i>	mau'u'aki'aki fimbriatylis	0.5'	1'	sea to 1,000'	Dry to Medium		
Gr	<i>Chamaesyce celastroides</i> var. <i>laehiensis</i>	'akoko	2'	3'	sea to 1,000'	Dry to Medium		
Gr	<i>Ipomoea tuboides</i>	Hawaiian moon flower, 'uala	1'	10'	sea to 3,000'	Dry to Medium		
Gr	<i>Jacquemonita ovalifolia</i> ssp. <i>sandwicensis</i>	pa'u o hiiaka	0.5'	6'	sea to 1,000'	Dry to Medium		
Gr	<i>Lipochaeta integrifolia</i>	nehe	1'	5'	sea to 1,00'	Dry to Medium		
Gr	<i>Peperomia leptostachya</i>	'ala'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium		
Gr	<i>Plumbago zeylanica</i>	'iie'e	1'					
Gr	<i>Sida fallax</i>	'ilima	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>Lipochaeta rockii</i>	nehe	2'	2'	sea to 3,000'	Dry to Medium		
Gr - Sh	<i>Lipochaeta succulenta</i>	nehe	2'	5'	sea to 1,000'	Dry to Wet		
P	<i>Cocos nucifera</i>	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet		
P	<i>Pritchardia arecina</i>	lo'ulu, hawane	40'	10'	1,000' to 3,000'	Dry to Wet		
P	<i>Pritchardia forbesiana</i>	lo'ulu	15'					
P	<i>Pritchardia hillebrandii</i>	lo'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet		
S	<i>Mariscus javanicus</i>	marsh cypress, anu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium		
Sh	<i>Argemone glauca</i> var. <i>decipiens</i>	pua kala	3'	2'	sea to 3,000'	Dry to Medium		
Sh	<i>Artemisia australis</i>	'ahinahina	2'	3'	sea to 3,000'	Dry to Medium		

Blue

Zone 4

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	<i>Artemisia mauiensis</i> var. <i>diffusa</i>	Maui wormwood, ahinahina	2'	3'	1,000' to higher	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 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>Cordylone fruticosa</i>	li, ki	6'			
Sh	<i>Dianella sandwicensis</i>	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	<i>Lipochabeta lamarum</i>	nene	3'	3'	sea to 3,000'	Dry to Medium
Sh	<i>Osteomeles anhyllifolia</i>	'ulei, eluehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	<i>Scaevola sericea</i>	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	<i>Solanum nelsonii</i>	'akia, beach solanum	3'	3'	sea to 1,000'	Dry to Medium
Sh	<i>Slyphelia lameiameia</i>	pukiawe	6'	6'	1,000' to higher	Dry to Medium
Sh	<i>Vitex rotundifolia</i>	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	<i>Wikstroemia uva-ursi</i> <i>kauaiensis</i> <i>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>Notoliridium sandwicense</i>	kulu'i	8'	8'	sea to 3,000'	Dry to Medium
Sh - Tr	<i>Dodonaea viscosa</i>	'a'ali'i	6'	8'	sea to higher	Dry to Medium
Tr	<i>Acacia koa</i>	koa	50' - 100'	40' - 80'	1,500' to 4,000'	Dry to Medium
Tr	<i>Aleurites moluccana</i>	candlenut, kukui	50'	50'	sea to 3,000'	Medium to Wet
Tr	<i>Calophyllum inophyllum</i>	kamani, alexandrian laurel	60'	40'	sea to 3,000'	Medium to Wet
Tr	<i>Canthium odoratum</i>	Alahe'e, 'one'e, walahe'e	12'	8'	sea to 3,000'	Dry to Medium
Tr	<i>Charpentiera obovata</i>		15'			
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>Hibiscus furcellatus</i>	'akiohala, hau-hele	8'			
Tr	<i>Metrosideros polymorpha</i> var. <i>macrophylla</i>	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet
Tr	<i>Morinda citrifolia</i>	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet

Blue

Zone 4

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	<i>Nestegia sandwicensis</i>	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	<i>Pandanus tectorius</i>	hala, puhala (PALELISI)	35'	25'	sea to 1,000'	Dry to Wet
Tr	<i>Pleomele auwahiensis</i>	halapepe	20'			
Tr	<i>Rauvolfia sandwicensis</i>	hao	20'	15'	sea to 3,000'	Dry to Medium
Tr	<i>Santalum ellipticum</i>	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	<i>Sophora chrysophylla</i>	mamane	15'	15'	1,000' to 3,000'	Medium
Tr	<i>Thespesia populnea</i>	milo	30'	30'	sea to 3,000'	Dry to Wet
V	<i>Alyxia olivifolia</i>	malle	Vine		sea to 6,000'	Medium to Wet

Purple

Zone 5

Zone-specific Native and Polynesian plants for Maui County

TYPE: F Fern 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 variabilis</i>	'emo-ioa	1'	2'	sea to 3,000'	Dry to Medium
G	<i>Fimbristylis cymosa</i> ssp. <i>spalhnacea</i>	mau'u'aktaki timbristylis	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 celestroides</i> var. <i>laehfensis</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 kane'kai	1'	2'	sea to 1,000'	Dry to Medium
Gr	<i>Jacquemontia ovalifolia</i> ssp. <i>sandwicensis</i>	pa'u o hii'aka	0.5'	6'	sea to 1,000'	Dry to Medium
Gr	<i>Lipochaeta integrifolia</i>	nehe	1'	5'	sea to 1,00'	Dry to Medium
Gr	<i>Sesuvium portulacastrum</i>	'akuikuli, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet
Gr	<i>Sida fallax</i>	'iima	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, 'ae'ae	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>Pritchardia hillebrandii</i>	lo'uulu, 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>decipiens</i>	pua'kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	<i>Artemisia 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>	'ahe'aha, 'awe'oweo	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

Purple

Zone 5

Zone-specific Native and Polynesian plants for Maui County

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	Osteomeles anthyllifolia	'ulei, eluehe	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 uva-ursi kauaiensis kauaiensis	'akia, Molokai osmanthus				
Sh - Tr	Myoporium sandwicense	nalo, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh-Tr	Dodonaea viscosa	'a'ali	6'	8'	sea to higher	Dry to Medium
Tr	Aleurites moluccana	candlenut, kukui	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 furcatus	'akiohala, hau-hale	8'			
Tr	Morinda citrifolia	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	Pandanus tectorius	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
Tr	Thespesia 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
	<i>Jasminum fluminense</i>	Oleaceae
	<i>Arihrostea ciliatum</i>	Melastomataceae
	<i>Dissotis rotundifolia</i>	Melastomataceae
	<i>Erigeron karvinskianus</i>	Asteraceae
	<i>Eucalyptus robusta</i>	Myrtaceae
	<i>Hedychium garoerianum</i>	Zingiberaceae
	<i>Juncus planifolius</i>	Juncaceae
	<i>Lophoslemon confertus</i>	Myrtaceae
	<i>Medinilla curvingii</i>	Melastomataceae
	<i>Medinilla magnifica</i>	Melastomataceae
	<i>Medinilla venosa</i>	Melastomataceae
	<i>Melastoma candidum</i>	Melastomataceae
	<i>Melinis minutiflora</i>	Poaceae
	<i>Olea europaea</i>	Melastomataceae
	<i>Oxyropa paniculata</i>	Poaceae
	<i>Panicum maximum</i>	Poaceae
	<i>Paspalum urvillei</i>	Poaceae
	<i>Passiflora edulis</i>	Passifloraceae
	<i>Phormium tenax</i>	Agavaceae
	<i>Pinus taeda</i>	Pinaceae
	<i>Prosopis pallida</i>	Fabaceae
	<i>Pterolepis glomerata</i>	Melastomataceae
	<i>Rhodomytus lomenlosa</i>	Myrtaceae
	<i>Schefflera actinophylla</i>	Araliaceae
	<i>Syzygium jambos</i>	Myrtaceae
Australian blackwood	<i>Acacia melanoxylon</i>	Mimosaceae
Australian tree fern	<i>Cyathea cooperi</i>	Cyatheaceae
Australian tree fern	<i>Sphaeropteris cooperi</i>	Cyatheaceae
Beggar's tick, Spanish needle	<i>Bidens pilosa</i>	Asteraceae
California grass	<i>Bracharia mutica</i>	Poaceae
Chinese banyon, Maylayan banyon	<i>Ficus microcarpa</i>	Moraceae
Chinese violet	<i>Asystasia gangetica</i>	Acanthaceae
Christmasberry, Brazilian pepper	<i>Schinus terebinthifolius</i>	Anacardiaceae
Formosan koa	<i>Acacia confusa</i>	Mimosaceae
German ivy	<i>Senecio mikanioides</i>	Asteraceae
Japanese honeysuckle	<i>Lonicera japonica</i>	Caprifoliaceae
Koster's curse	<i>Clidemia hirta</i>	Melastomataceae
Lantana	<i>Lantana camara</i>	Verbenaceae
Mauritius hemp	<i>Furcraea foetida</i>	Agavaceae
Mexican ash, tropical ash	<i>Fraxinus undel</i>	Oleaceae
Mexican tulip poppy	<i>Hunnemannia fumarifolia</i>	Papaveraceae
Mules foot, Madagascar tree fern	<i>Angiopteris evecta</i>	Marattiaceae
New Zealand laurel, karakaranut	<i>Corynocarpus laevigatus</i>	Corynocarpaceae
New Zealand tea	<i>Lepospermum scoparium</i>	Myrtaceae
Pampas grass	<i>Cortaderia jubata</i>	Poaceae
Panama rubber tree, Mexican rubber tree	<i>Castilleja elastica</i>	Moraceae
Shoebutton ardisia	<i>Ardisia elliptica</i>	Myrsinaceae
banana poka	<i>Passiflora mollissima</i>	Passifloraceae

DO NOT PLANT THESE PLANTS !!!

Common name	Scientific name	Plant family
black wattle	<i>Acacia mearnsii</i>	Mimosaceae
blackberry	<i>Rubus argutus</i>	Rosaceae
blue gum	<i>Eucalyptus globulus</i>	Myrtaceae
bocconia	<i>Bocconia frutescens</i>	Papaveraceae
broad-leaved cordia	<i>Cordia alliodora</i>	Boraginaceae
broomsedge, yellow bluestem	<i>Andropogon virginicus</i>	Poaceae
buffelgrass	<i>Cenchrus ciliaris</i>	Poaceae
butterfly bush, smoke bush	<i>Buddleia madagascariensis</i>	Buddleiaceae
cats claw, Mysore thorn, walt-a-bit	<i>Caesalpinia decapetala</i>	Caesalpinaceae
common ironwood	<i>Casuarina equisetifolia</i>	Casuarinaceae
common velvet grass, Yorkshire fog	<i>Holcus lanatus</i>	Poaceae
fiddlewood	<i>Cilicaryxylum spinosum</i>	Verbenaceae
fire tree, lava tree	<i>Myrica faya</i>	Myricaceae
glorybower	<i>Clerodendrum laponicum</i>	Verbenaceae
hairy cat's ear, gosmore	<i>Hypochoeris radicata</i>	Verbenaceae
haole koa	<i>Leucaena leucocephala</i>	Fabaceae
ivy gourd, scarlet-fruited gourd	<i>Coccinia grandis</i>	Cucurbitaceae
juniper berry	<i>Cilicaryxylum caudatum</i>	Verbenaceae
kahili flower	<i>Grevillea banksii</i>	Proteaceae
ku, popinac	<i>Acacia farnesiana</i>	Mimosaceae
logwood, bloodwood tree	<i>Haematoxylon campechianum</i>	Caesalpinaceae
loquat	<i>Eriobotrya japonica</i>	Rosaceae
meadow ricegrass	<i>Ehrharta stipoides</i>	Poaceae
melaleuca	<i>Melaleuca quinquenervia</i>	Myrtaceae
mictonia, velvet leaf	<i>Miconia calvescens</i>	Melastomataceae
narrow-leaved carpetgrass	<i>Axonopus fissifolius</i>	Poaceae
oleaster	<i>Elaeagnus umbellata</i>	Elaeagnaceae
oriental mangrove	<i>Bruguiera gymnorhiza</i>	Rhizophoraceae
padang cassia	<i>Cinnamomum burmannii</i>	Lauraceae
palmgrass	<i>Setaria palmifolia</i>	Poaceae
pearl flower	<i>Heterocentron subirpinervium</i>	Melastomataceae
quinine tree	<i>Cinchona pubescens</i>	Rubiaceae
salin leaf, carmillillo	<i>Chrysophyllum oliviforme</i>	Sapotaceae
silkwood, Queensland maple	<i>Flindersia brayleyana</i>	Rubiaceae
silky oak, silver oak	<i>Grevillea robusta</i>	Proteaceae
strawberry quava	<i>Psidium cattleianum</i>	Myrtaceae
swamp oak, saltmarsh, longleaf ironwood	<i>Casuarina glauca</i>	Casuarinaceae
sweet vernalgrass	<i>Anihoaanthum odoratum</i>	Poaceae
tree of heaven	<i>Ailanthus altissima</i>	Simaroubaceae
trumpet tree, quarumo	<i>Cecropia obtusifolia</i>	Cecropiaceae
white ginger	<i>Hedychium coronarium</i>	Zingiberaceae
white moho	<i>Heliconia popayanensis</i>	Tillaceae
yellow ginger	<i>Hedychium flavescens</i>	Zingiberaceae

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, its 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 ilima 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 planting 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

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

Heavy
Moderate
Light

WATERING FREQUENCY

3x / week
2x / week
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 Bornhorst'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 ½, ½ 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 ½ 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.⁹

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

⁹ Bornhorst, p.20-21

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 Bornhorst, p. 24

¹¹ Nagata, p. 7

ZONES

The Maui County Planting 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 planting 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.

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, Haiku, Hawaii, 96708 572-4835
2. The Hawaiian Collection, 1127 Manu 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. Kahanu Gardens, National Tropical Botanical Garden,
Alau Pt, Hana, Hawaii, 96713 248-8912
9. Kahului Library Courtyard, 20 School Street, Kahului, Hawaii 873-3097

PLACES TO BUY NATIVES ON MAUI

1. Ho'olawa Farms
Anna Palomino
P O Box 731
Haiku HI 96708
575-5099

* The largest and best collection of natives in the state. They will deliver, but worth the drive to go and see!
Will propagate upon request
2. Kahanu Gardens
National Tropical Botanical Garden
Alau Place, Hana
248-8912
3. Kihana Nursery
1708 South Kihei Road
Kihei HI 96753
879-1165
4. Kihei Garden and Landscape
Waiko Road, Wailuku
P O Box 1058
Puunene HI 96784
244-3804
5. Kula Ace Hardware and Nursery
3600 Lower Kula Road
Kula HI 96790
876-0734
* many natives in stock
* get most of their plants from Ho'olawa Farms
* they take special requests
6. Kulamanu Farms - Ann Carter
Kula HI 96790
878-1801
7. Maui Nui Botanical Gardens
Kanaloa Avenue
(Across from stadium)
Kahului HI 96732
249-2798
8. Native Landscapes
Robin McMillan
1330 Lower Kimo Drive
Kula HI 96790
870-1421

* grows native plants and installs landscapes including irrigation.
9. Native Hawaiian Tree Source
1630 Piihola Road
Makawao HI 96768
572-6180
10. Native Nursery, LLC
Jonathan Keyser
250-3341
11. New Moon Enterprises - Pat Bily
47 Kahoea Place
Kula HI 96790
878-2441
12. Waiakoa Tree Farm - Kua Rogoff
Pukalani HI 96768
Cell - 264-4166



A Checklist of Conservation Ideas for the Home



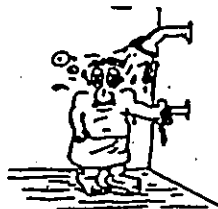
Water Habits

Shaving & Brushing Teeth

If you leave the water running while you shave or brush your teeth, you are wasting a gallon a minute! Stopper the sink and fill the basin half way when you shave, and you use just 1/2 a gallon! Turn off the water while brushing your teeth!

Bathing & Showering

Which uses more water, a shower or a tub bath? That depends! A partially filled tub uses less water than a long shower, but a short shower with a low flow showerhead uses much less than a brimful tub! You can compare for yourself. Try plugging the tub while you shower and see how high the water gets. Make a habit of showering quickly or using a partially filled tub. Or try the "navy shower". Turn on the water to get wet, turn it off to soap up, and turn it back on to rinse off. It's a great conservation technique, especially in drought emergencies.



House plants & Fish Tanks

If you have a fish tank, you probably clean it regularly. Use the dirty water to water your House plants. It saves using the same water twice, and the plants love the water, which is rich in nitrogen and phosphorous!

Washing Smart

Some washing machines use 40 or more gallons whether you're washing a full load, or only a few pairs of socks. Use full washloads, especially for older machines. If your machine is adjustable, use the proper setting. You'll save electricity as well as water.

Food Prep

If you like to rinse off vegetables and fruits, stopper the sink instead of using running water. And when you're finished, turn on the garbage disposal as you pull the plug, rather than running water just for the disposal.

Doing Dishes

Which is more efficient, washing dishes in the sink or in a dishwasher? You can check by testing how much water your full sink basin holds compared with the 9.5 to 12 gallons dishwashers use during a regular cycle. Either way, it is more water efficient to wash full loads. If you do wash dishes by hand, stopper the sink and run the disposal as you pull the plug.



Washing the Car

Do you wash your car at home? Use a bucket, or a hose with a trigger nozzle to avoid wasting water. Wet the car thoroughly, and then turn off the hose while you wash the car! Swab the car with soapy water from a bucket. You can use the hose again for a final rinse. Better still, take your car to a car wash. Most of the car washes on Maui are fitted with recirculating water.



For a Cold Glass of Water

Keep a pitcher of cool water in the refrigerator. Running the water until it turns cool can waste a gallon for each glass. Letting the water sit in the fridge can also allow any chlorine to dissipate, and improve the taste.

Don't Use the Toilet for Trash!!

Some people toss and flush away tissues, cigarettes or bits of trash in the toilet. Use a wastebasket instead. If everyone in the U.S. flushed just once less per day, we could save a sea full of water a mile wide, a mile long and four feet deep, every day!



Water Saving Devices

Showerheads

Replacing your old showerhead with a low flow can save as much as 7.2 gallons per person per day. You can get showerheads and other low flow fixtures from the Maui County Board of Water Supply (270-7199), or the Public Works Department (270-7417).

Toilets

Installing A New Water Conserving Toilet can save as much as 17 gallons per person per day. Even a low cost installing a toilet flapper can save more than 5 gallons per person per day.

Faucets

Replacing your old faucets with more efficient models can save 4 gallons per person per day. Faucet aerators or spray taps can also help, by mixing air with water. This cuts the flow and reduces splashing, while leaving enough pressure to cut the soap and grease.

Washing Machines

A water-efficient washing machine can save up to 20 gallons per load. With the average household washing 6 loads per week, that's a lot of water! In fact, within 2 years, these can save as much water as the average person drinks in a lifetime! And that's not all. Statistics on energy savings potential indicate that highly efficient washing machines save from 35% to 65% on energy used for washing!

Maintenance

Check for Leaks!

Leaking faucets cost you money! Even a slow drip wastes 15 gallons per day. A 1/8" stream can waste 400 gallons per day! Think about it. A single dripping faucet can waste more water in one day than a person needs for drinking for an entire week! Unfortunately, the average non-conserving home loses more than 10% of the water it pays for to leaks! Check for leaks regularly. Try putting 10 drops of food coloring in your toilet tank. Don't flush, just wait 15 minutes. If colored water shows up in the bowl, your tank is leaking. Check your water meter while no water is running in your house. If the meter is registering, you have a leak somewhere.



After toilets, most indoor leaks are caused by worn washers in faucets. Check your faucets twice a year. If any drip after you've turned them off firmly, turn off the supply line, take the faucet apart and replace the washer. And don't forget the faucets on the side of the house.

A Clean Sweep

Did you know that 5 minutes of unnecessary hosing will waste 25 gallons of water? Try sweeping sidewalks and driveways. This will get them clean without wasting water.

Pipes Break - Be Prepared

Do you know where your master shut-off valve is located? If a pipe breaks in your home, you could experience flooding and property damage as well as huge water waste unless you quickly shut your valve. Locate your valve and mark it for quick easy identification. Learn how to shut it properly, and teach your family to do so as well.

Cover Pools and Jacuzzis

They're fun, but they can waste a lot of water! An average sized pool loses about 1,000 gallons of water per month to evaporation. A pool cover can cut these losses by 90%!



A Checklist of Conservation Ideas for the Yard



□ Limit Lawn Size

Most turf grasses require 30% to 50% more water than shrubs and ground covers. Limit the use of grass and lawns to active picnicking and play areas. Shade in these areas will reduce moisture loss and make a cool area for children to play. If you do have a lawn, mow at least once per week, and try to cut no more than 1/3 of the grass blade, or 1/2 to 3/4 of an inch at a time. Adjust your lawn mower to a higher setting. Taller blades of grass actually hold up better in the heat, because that little bit of extra shade helps to more moisture in the soil. If you mow the grass too short, root shock will cause your grass to turn yellow despite your watering!

Designing for Irrigation Zones

Avoid putting thirsty exotics with plants that do well in dry weather. Zone your plants so that each area has similar water needs. This will enable you to water more efficiently, and keep the plants healthier. Limit thirsty plants to small decorative borders around the house itself or in specific viewing areas or shady areas. While you're at it, call the Board of Water Supply at 270-7199 for more information.

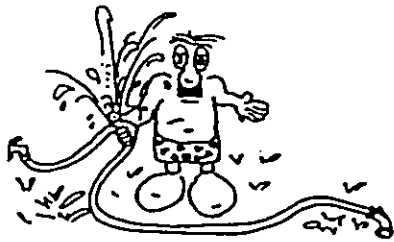
Choosing Native Plants: A Hawaiian Sense of Place

An out-of-place, thirsty landscape can slurp up 1/4 of your home's water use. Plant shrubs and trees that nature designed to look green and full here on Maui without a lot of water. Make sure they get regular watering in the first year or two, to help them establish good, deep roots. Then, once they are grown in, you can cut back or stop watering, depending upon your location. At worst, in our hot, low southern areas an occasional, slow, deep watering placed right at the roots should be enough to keep a climate adapted plant looking good even through the hot summer.



□ Find and Repair Leaks

Your garden hose and irrigation lines can carry thousands of gallons per day, so you can imagine a leak outdoors wastes a lot of water! Check and repair all of your outdoor fixtures regularly.



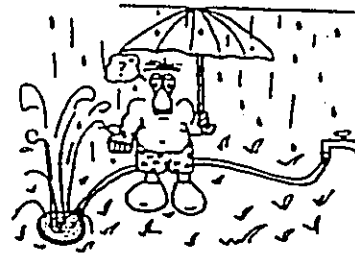
□ Irrigation Systems

Drip irrigation is designed to get water slowly and directly to the roots of plants. This not only saves water, but for some plants it helps to reduce the risk of diseases. Sprinklers with fine, high sprays lose a lot of water to evaporation. So, if you do use a sprinkler for certain plants, go for the sort with low, flat spray patterns and larger drops of water. Check timers on irrigation controllers and adjust them monthly to water appropriately for the season. For small grassy areas, watering by hand can actually reduce waste! But if you use a hose, set a kitchen timer or buy a timer attachment that hooks on between the faucet and hose. This will help remind you not to over-water one area. Use a soaker hose on slopes to reduce run-off.



□ Watering

If you do have a lawn, water only when it needs it. A good deep soaking is better than a light sprinkling. If you water too frequently and lightly, plants develop shallower roots and become less drought resistant! A good way to see if your lawn needs watering is to step on the grass. If it springs back up when you move, it doesn't need water. If it stays flat, it could use a bit. Avoid watering in the heat of the day. By 10 A.M., the sun is up and so is the heat. This will rob your lawn's moisture. In dry areas you can also choose evenings to water.



□ Watching the Weather...

As simple-minded as it sounds...never water while it's raining! Many people forget to follow this simple rule. Install rain-shutoffs or soil moisture sensors on automated systems. Teach your family to turn off your irrigation in the rain. You also create "weather conditions" by how and where you plant. Sunny exposed areas and slopes need to be watered more frequently than shady areas. Place your plants appropriately.

□ Getting to the Root

Root leeder or water aerator probes around trees and bushes will help direct water where it is needed. Even for the biggest trees, you don't need to go any deeper than 18 inches. 8 to 12 inches is big enough for small trees and shrubs. You can also build a watering basin in the soil around the base of your plants to help the water to seek in deeply. Drip systems are good for this too.

□ Soils & Mulch

Soils are not all alike. Clay soils can typically take from 1/4 to 1/2" of water per hour before water starts running off and is wasted. Sandy soils require more frequent, shorter watering. You can have your soils tested. Call the Ag Extension Service at MCC for advice (244-3242). Compost or other organic material will also help soils hold moisture and support heartier, more drought-tolerant plants. Try leaves, grass clippings, manure, aged sawdust, wood chips, or humic acid. Mulching is an excellent way to hold moisture, keep the ground from overheating and discourage weeds. You should also loosen the soil by rototilling or spading while you add the organic matter. Looser soil can make a healthier lawn.



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 31st, 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


WE HEREBY CERTIFY that the foregoing BILL NO. 6 (1992), Draft 1

1. Passed FINAL READING at the meeting of the Council of the County of Maui, State of Hawaii, held on the 1st day of May, 1992, by the following votes:

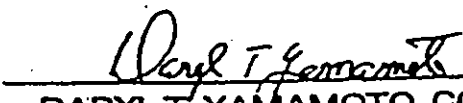
Howard S. KIHUNE Chair	Patrick S. KAWANO Vice-Chair	Vince G. BAGOYO, Jr.	Goro HOKAMA	Alice L. LEE	Ricardo MEDINA	Wayne K. NISHIKI	Joe S. TANAKA	Leinania TERUYA DRUMMOND
Aye	Aye	Excused	Excused	Aye	Aye	Aye	Aye	Aye

2. Was transmitted to the Mayor of the County of Maui, State of Hawaii, on the 1st day of May, 1992.

DATED AT WAILUKU, MAUI, HAWAII, this 1st day of May, 1992.



 HOWARD S. KIHUNE, CHAIR
 Council of the County of Maui



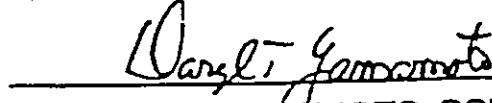
 DARYL T. YAMAMOTO, COUNTY CLERK
 County of Maui

THE FOREGOING BILL IS HEREBY APPROVED THIS 5th DAY OF MAY, 1992.



 LINDA CROCKETT LINGLE, MAYOR
 County of Maui

I HEREBY CERTIFY that upon approval of the foregoing BILL by the Mayor of the County of Maui, the said BILL was designated as ORDINANCE NO. 2108 of the County of Maui, State of Hawaii.



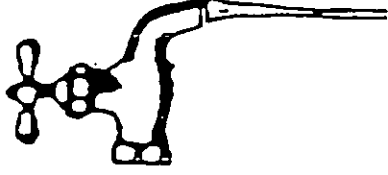
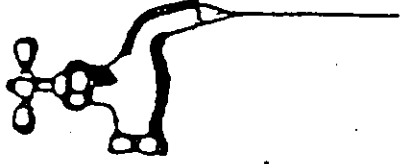
 DARYL T. YAMAMOTO, COUNTY CLERK
 County of Maui

Passed First Reading on January 17, 1992.
 Effective date of Ordinance May 5, 1992.

I HEREBY CERTIFY that the foregoing is a true and correct copy of Ordinance No. 2108, the original of which is on file in the Office of the County Clerk, County of Maui, State of Hawaii.

Dated at Wailuku, Hawaii, on _____

"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.

United States
Environmental Protection
Agency

Office of Water
Washington, DC 20460

840-B-92-002
January 1993



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

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

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 permit³ 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 NPS 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

³ On May 27, 1992, the United States Court of Appeals for the Ninth Circuit invalidated EPA's exemption of construction sites smaller than 5 acres from the storm water permit program in *Natural Resources Defense Council v. EPA*, 965 F.2d 759 (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.

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/ac/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/ac/yr): forest < 0.5 rangeland < 0.5 tilled 1.4 construction site 30 established urban < 0.5	Franklin County, FL
Wisconsin	Erosion rates range from 30 to 200 ton/ac/yr (10 to 20 times those of cropland).	Wisconsin Legislative Council, 1991
Washington, DC	Erosion rates range from 35 to 45 ton/ac/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, 1990
Washington	Erosion rates range from 50 to 500 ton/ac/yr. Natural erosion rates from forests or well-sodded prairies are 0.01 to 1.0 ton/ac/yr.	Washington Department of Ecology, 1989
Anacostia River Basin, VA, MD, DC	Erosion rates range from 7.2 to 100.8 ton/ac/yr.	USGS, 1978
Alabama North Carolina Louisiana Oklahoma Georgia Texas Tennessee Pennsylvania Ohio Kentucky	1.4 million tons eroded per year. 6.7 million tons eroded per year. 5.1 million tons eroded per year. 4.2 million tons eroded per year. 3.8 million tons eroded per year. 3.5 million tons eroded per year. 3.3 million tons eroded per year. 3.1 million tons eroded per year. 3.0 million tons eroded per year. 3.0 million tons eroded per year.	Woodward-Clyde, 1991

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 (Connecticut 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 controls;
- 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 preventive 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 stream crossing areas for natural and man-made areas; and
- Stabilizing cut-and-fill slopes caused by construction activities.

Structural controls include:

- Perimeter controls;
- 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 invariably 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

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 controls, 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.

Avoid areawide clearance of construction sites. Plan and stage land disturbance activities so that only the area currently under construction is exposed. As soon as the grading and construction in an area are complete, the area should be stabilized.

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

■ c. Clear only areas essential for construction.

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

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

Material stockpiles, borrow areas, access roads, and other land-disturbing activities can often be located away from critical 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. This 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.

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

■ 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 reapplied 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 fence, 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

a swale or channel. Check dams should be used when a swale or channel will be used for a short time and therefore it 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 netting. 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 untimely 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 sodding may be necessary as slopes become moderate to steep, as soils become more erosive, and as areas become more sensitive.

■ q. *Use mulch/mats.*

Mulching involves applying plant residues or other suitable materials on disturbed soil surfaces. Mulchs/mats used include tacked straw, wood chips, and jute netting and are often covered by blankets or netting. Mulching alone should be used only for temporary protection of the soil surface 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 nets are often used to cover the mulch or mats; however, they can foul lawn mower blades if the area requires mowing.

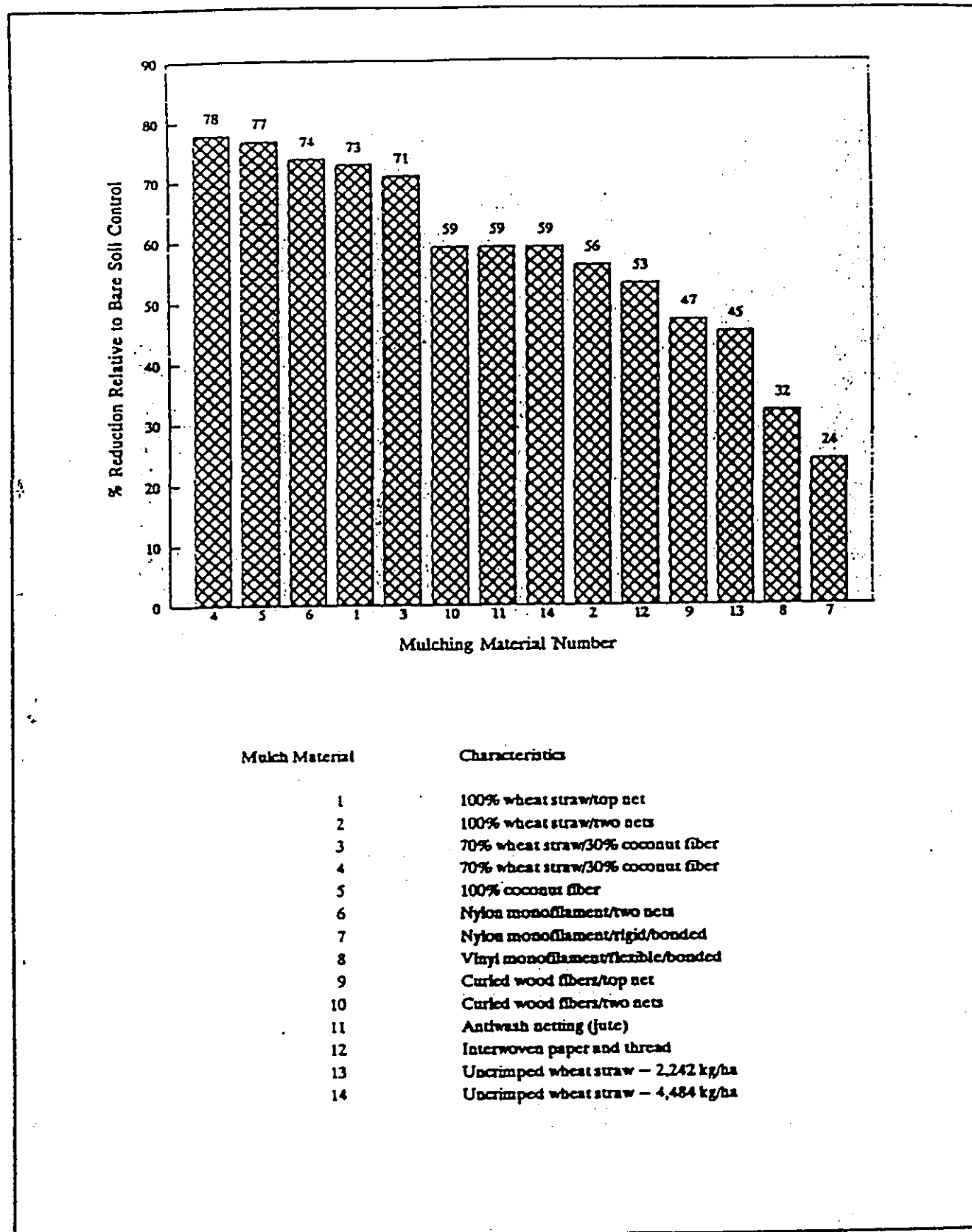
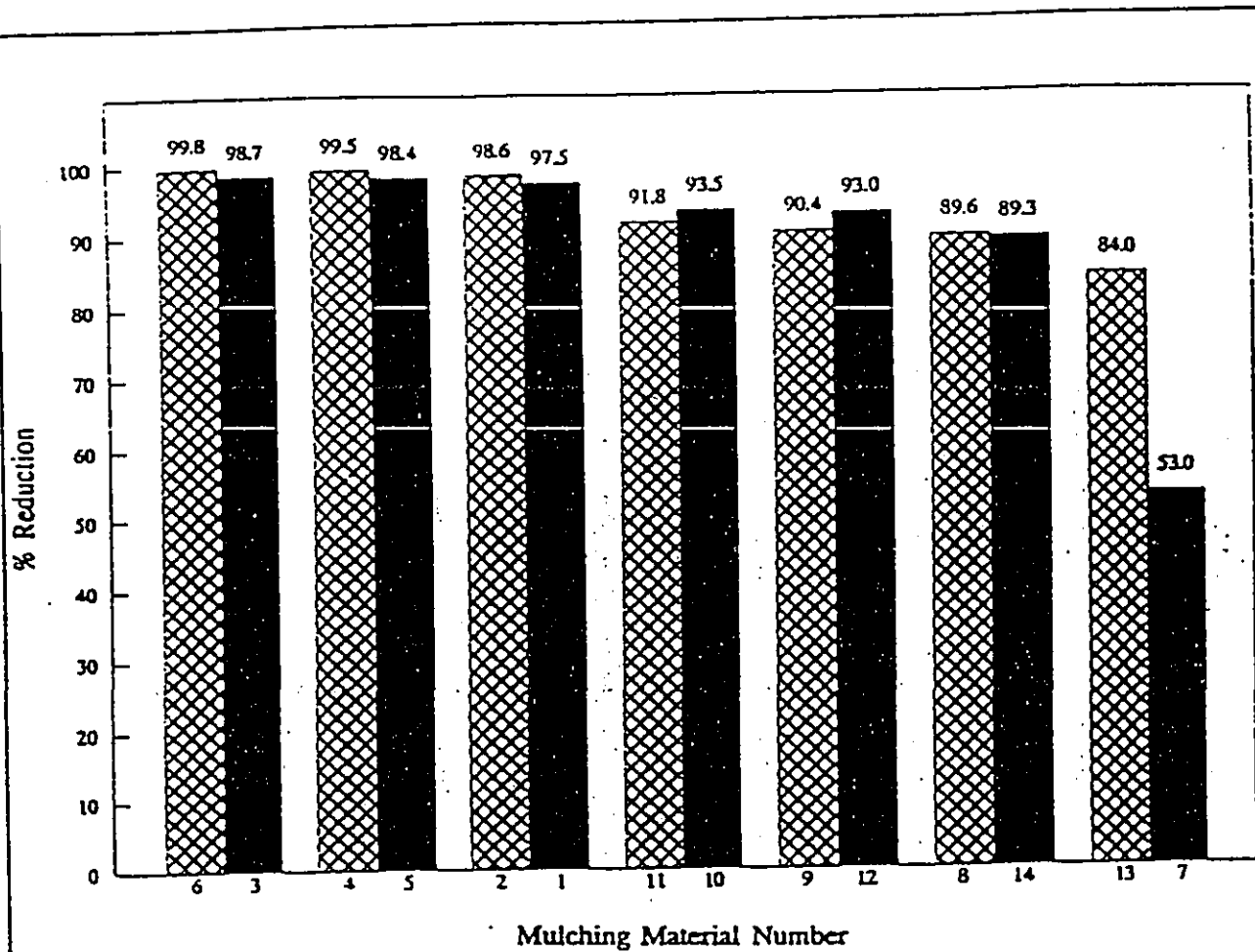


Figure 4-5. Water velocity reductions for different mulch treatments (adapted from Harding, 1990).



Mulch Material	Characteristics
1	100% wheat straw/top net
2	100% wheat straw/two nets
3	70% wheat straw/30% coconut fiber
4	70% wheat straw/30% coconut fiber
5	100% coconut fiber
6	Nylon monofilament/two nets
7	Nylon monofilament/rigid/bonded
8	Vinyl monofilament/flexible/bonded
9	Curled wood fibers/top net
10	Curled wood fibers/two nets
11	Antiwash netting (jute)
12	Interwoven paper and thread
13	Uncrimped wheat straw - 2,242 kg/ha
14	Uncrimped wheat straw - 4,484 kg/ha

Figure 4-6. Actual soil loss 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 turfgrass, wildflower thatches and associated grasses are expected to be as effective in erosion control and contaminant absorption. Because thatches of wildflowers do not need fertilizers, 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 drainageway or other point of discharge from a disturbed area. Temporary diversions can be

⁴Adapted from Goldman (1986).

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 Fence

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 (Dillaha 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 II.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 ft 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 acre/100 ft 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 inlets.

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 seeding and mulching provide the highest levels of control at the lowest cost.

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
Sod	Immediate erosion protection where there is high erosion potential during vegetative establishment.	Average: 99% Observed range: 98% - 99% References: Minnesota Pollution Control Agency, 1989; 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% Reference: SWRPC, 1991	\$0.20 per ft ² \$7,500 per acre
Seed	Establish vegetation on disturbed area.	After vegetation established. Average: 80% Observed range: 50% - 100% References: SCS, 1985 cited in EPA, 1991; Minnesota Pollution Control Agency, 1988; Oberls, 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; Oberls, 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, 1980; Schueler, 1987; Virginia, 1980; SWRPC, 1991	Average: NA ^b Range: NA References: None	\$1,100 per acre

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	Straw mulch: Average: \$1,700 per acre Range: \$500 - \$5,000 per acre References: Wisconsin DOT cited in SWRPC, 1991; Washington DOT, 1980; Virginia, 1980	Average: NA ^b Range: NA References: None	Straw mulch: \$7,500 per acre	
		<u>sand:</u>	50% slope				
		wood fiber @ 1500 lb/ac	20% slope				
		wood fiber @ 3000 lb/ac	50-60%	0-20%			
		straw @ 3000 lb/ac	50-85%	50-70%			
			80-100%	95%			
		<u>Silt-loam:</u>	20% slope	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
		wood fiber @ 1500 lb/ac	20-60%	40-80%			
		wood fiber @ 3000 lb/ac	60-90%	60-70%			
		straw @ 3000 lb/ac	80-95%	70-90%			
Mulch	Temporary stabilization of disturbed area.	<u>Silt-clay-loam:</u>	10-30% slope	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	
		wood fiber @ 1500 lb/ac	5%				
		wood fiber @ 3000 lb/ac	40%				
		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%			
		excelsior blanket	60-80%	50-60% and			
		multiple treatment (straw and jute)	90%	90% jute: 0.33			
							Straw and jute: \$18,000 per acre

References: Minnesota Pollution Control Agency, 1988; Kay, 1983 cited in Goldman, 1986

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
Terraces	Break up long or steep slopes.	Observed range: <u>Land Slope</u> 1-12% 12-18% 18-24% <u>Reduction in Erosion</u> 70% 60% 55%	2	Average: \$5 per lin ft Range: \$1 - \$12 References: SWRPC, 1991; Goldman, 1988; Virginia, 1991	Average: 20% Range: 20% Reference: SWRPC, 1991	\$4 per lin ft
All Erosion Controls	Reduce amount of sediment entering runoff.	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, 1988; Beasley, 1972	--	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.

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 References: SWRPC, 1991	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
Sediment trap	Maximum drainage area = 5 acres	Average: 60% Observed range: (-7%) - 100% References: Schueler, et al., 1990; Tahoe Regional Planning Agency, 1989; Baumann, 1990	1.5	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	Average: 20% Range: 20% References: Denver COG cited in SWRPC, 1991; SWRPC, 1991; Goldman, 1986	Greater than 50,000 ft ³ storage \$0.20 per ft ³ storage \$900 per drainage acre ^c
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% - 99% 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, 1980	Average: 100% Range: 100% References: SWRPC, 1991	\$7 per lin ft \$850 per drainage acre ^c

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 - \$6 per lin ft References: Goldman, 1986; Virginia, 1991	Average: 100% Range: 100% References: SWRPC, 1991	\$17 per lin ft \$6,800 per drainage acre ^d
Inlet Protection	Protect storm drain inlet.	Average: NA Observed Range: NA References: None	1	Average: \$100 per inlet Range: \$50 - \$150 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	Average: NA ^e Range: NA References: None	\$1,500 each
				With washrack: Average: \$3,000 each Range: \$1,000 - \$5,000 References: Virginia, 1991		\$2,200 each

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 Halrston, 1983 cited in Casman, 1980; Dillaha 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	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 c/acre (0.5 inches runoff per acre).
- ^d Assumes drainage area of 0.5 acre per 100 feet of fence (maximum allowed).

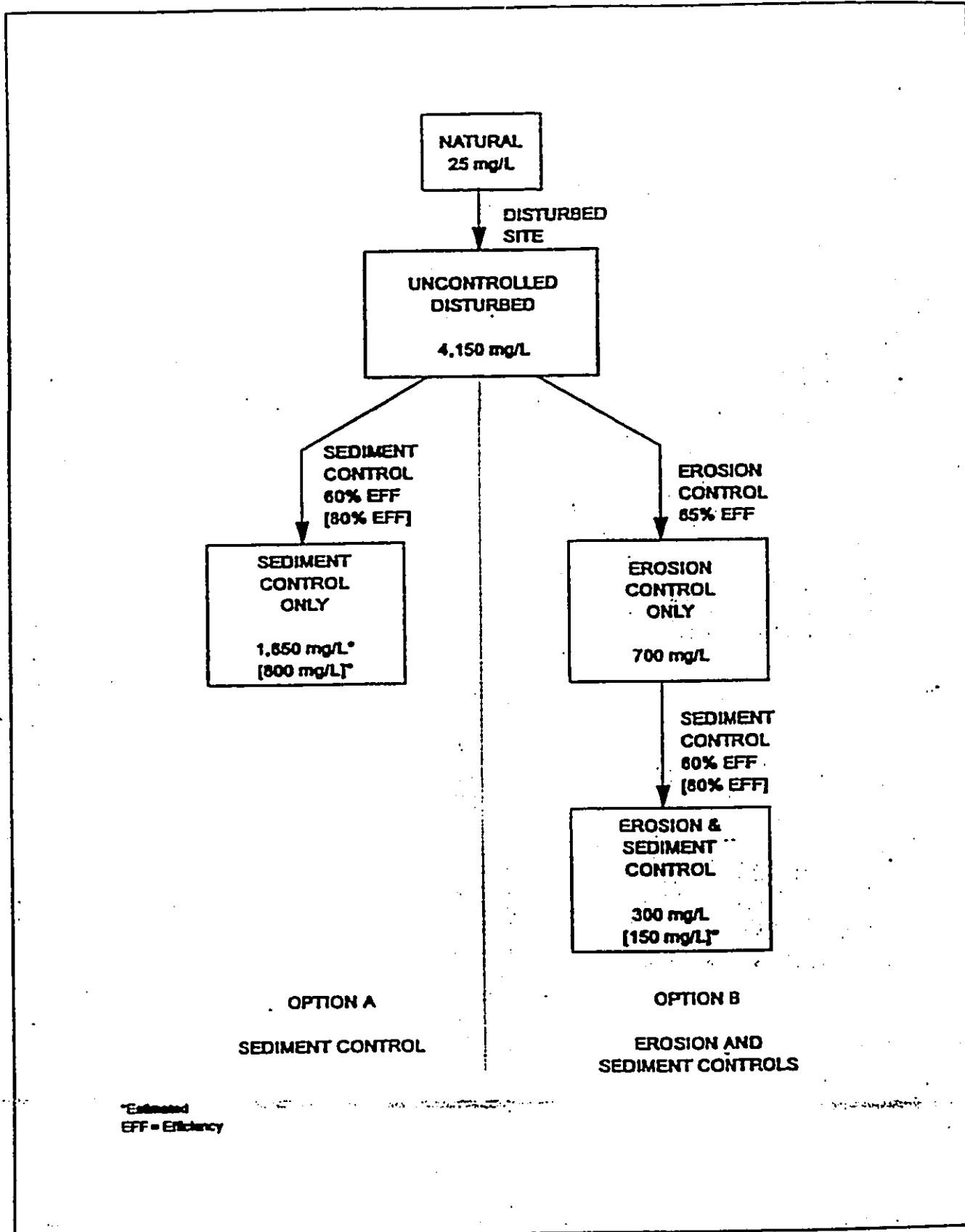


Figure 4-7. TSS concentrations from Maryland construction sites (Schueler, 1987).

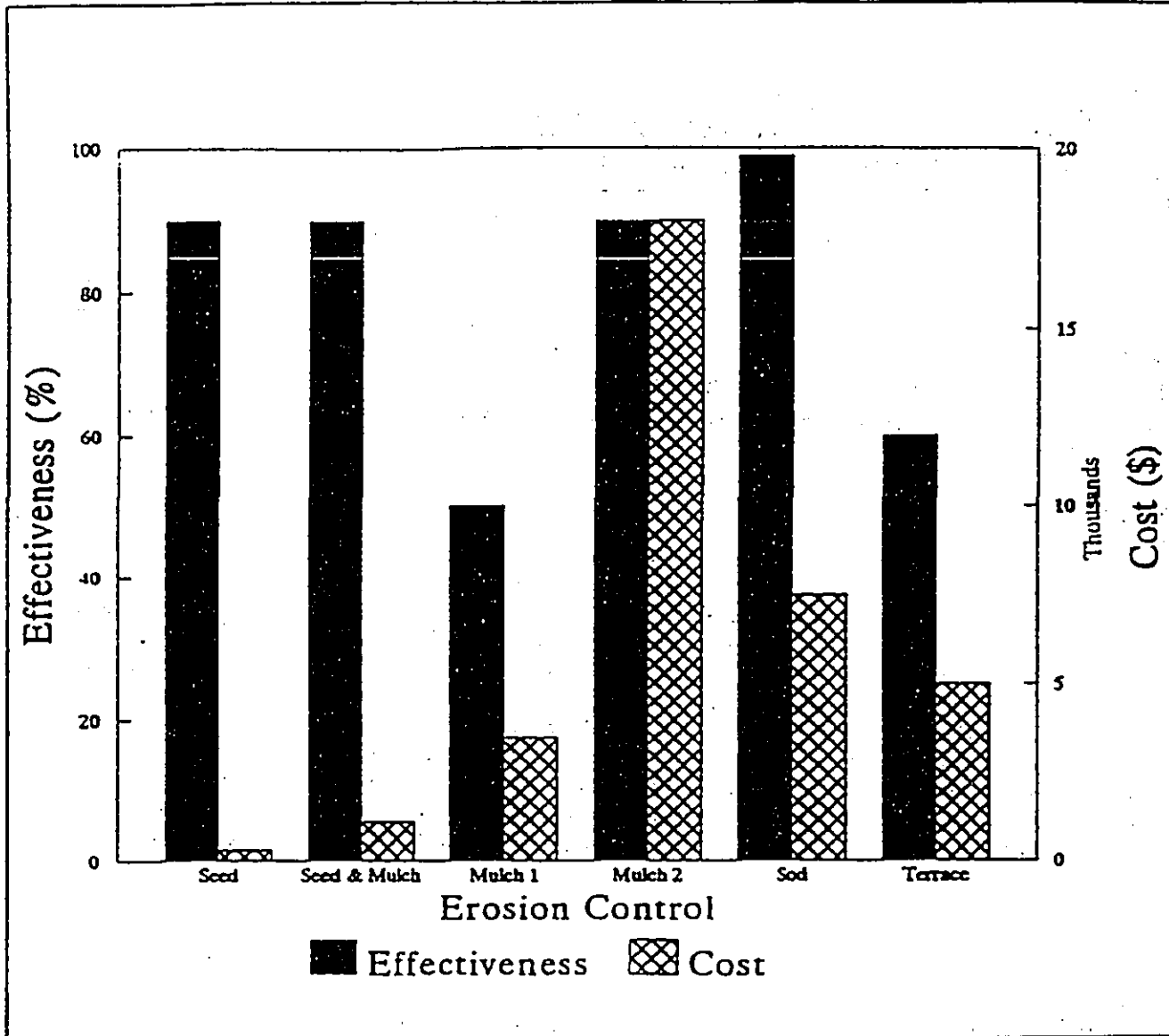


Figure 4-8. Comparison of cost and effectiveness for erosion control practices (based on information in Tables 4-15 and 4-16).

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 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 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 (oils, gasoline, and asphalt degreasers); construction chemicals such as concrete products, sealers, and paints; 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 loadings.

- (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 overloads 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 metals, 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.

Hydroseeding operations, in which seed, 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). Oils, 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 recently sprayed or treated. Persons mixing and applying these chemicals should wear suitable protective clothing, in accordance with the law.

Application rates should 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. Property 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, antifreeze, 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 kitty litter or sawdust, but do not use straw. Dispose of the used absorbent properly.

■ *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 50 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.

■ *n. 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.*



July 8, 2004

George Tengan, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawaii 96793-2155

SUBJECT: Request for Community Plan Amendment and Change in Zoning for
Property at 281 Hana Highway, Paia, Maui, TMK 2-6-8:19

Dear Mr. Tengan:

Thank you for your letter of June 15, 2004, responding to our request for early consultation comments for the proposed land use changes at TMK 2-6-8:19, Paia, Maui. We acknowledge your comments regarding water source availability and consumption, as well as the suggested conservation measures. We thank you for the verification that the current residence is exempt from fire flow requirements. A copy of the Draft Environmental Assessment will be provided to your office for review and comment. Please contact me at 244-2015 with any further questions.

Thank you again for your response.

Very truly yours,

A handwritten signature in black ink, appearing to read "M. Slepín", is written over a light blue circular stamp.

Matthew M. Slepín, Planner

MS:yp

cc: Kivette Caigoy, Department of Planning

com\pd\pala\dws.res\tr

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

environment
planning
government

Chapter XI

***Letters Received During the
Draft Environmental Assessment
Public Comment Period and
Responses to Substantive
Comments***

XI. LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT PUBLIC COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

A Draft Environmental Assessment for the subject project was filed and published in the Office of Environmental Quality Control's The Environmental Notice on July 23, 2004. During the 30-day public comment period, agencies were provided the opportunity to comment on the proposed action. This section incorporates the comments received during the 30-day comment period between July 23, 2004 and August 23, 2004. Responses to the substantive comments are also incorporated herein.

United States Department of Agriculture



NRCS Natural Resources Conservation Service

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

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

August 2, 2004

Ms Kivette A. Caigoy, Staff Planner
County of Maui
Department of Planning
250 S. High Street
Wailuku, Hawaii 96793

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
04 AUG -3 112:03

Subject: I.D.: EA 2004/0002, CPA 2004/0002, CIZ 2004/0008
TMK: (2) 2-6-008: 019
Project Name: Paia-Haiku Community Plan Amendment (Ueoka Residence)
Applicant: County of Maui, Department of Planning

Dear Ms Caigoy,

We have no comment at this time.

Thank you for the opportunity to comment.

Sincerely,

Ranae Ganske - Cerizo
Acting District Conservationist

Aug-18-04 02:53pm

From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-572 P.02/04 F-716



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 223
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF: CEPOH-EC-T

August 18, 2004

'04 AUG 18 12:40

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

Civil Works Technical Branch

Mr. Kivette A. Caigoy, Staff Planner
County of Maui
Department of Planning
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Caigoy:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (EA) for the Ueoka Property, Paia, Maui (TMK 2-6-8: 19). 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. Based on the information provided, a DA permit is not required for the project.

b. We concur with the flood information provided on page 8 of the DEA.

Should you require additional information, please contact Ms. Jessie Dobinchick of my staff at (808) 438-8876.

Sincerely,

James Pennaz, P.E.
Chief, Civil Works
Technical Branch

PHONE (808) 594-1888

FAX (808) 594-1865



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

04 AUG 18 12:40

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

HRD04/1497

August 12, 2004

Kivette A. Caigoy
Staff Planner
County of Maui
Department of Planning
250 South High Street
Wailuku, HI 96793

RE: Request for review and comment on the Draft Environmental Assessment and Cultural Impact Assessment for Paia-Haiku Community Plan Amendment (Ueoka Residence), Paia, Maui, TMK: 2-6-008:019

Dear Kivette Caigoy,

The Office of Hawaiian Affairs (OHA) is in receipt of your July 27, 2004, request for comments on the above project, which would include the amendment of the Paia-Haiku Community Plan from "Public/Quasi-Public" to "Single Family," and change the zoning from "Interim" to R-1, Residential" for property at 281 Hana Highway. OHA offers the following comments.

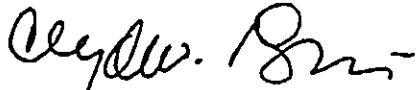
Because the Ueoka family has owned the subject property for the past 70 years, with the existing single-family residence on the property for most of this time, OHA registers no complaints with the family wanting to demolish their existing structure and building a new residence in its place. The resulting needs for a change in zoning and an amendment to the community plan to reflect the existing and continuing use of the property also seem to be sensible requests.

OHA's concerns rest primarily with the potential for cultural and archaeological finds. OHA requests assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance or excavation, work will cease, and the appropriate agencies will be contacted pursuant to applicable law. Because cultural and human remains have been discovered in the nearby shoreline area in the past, OHA also requests archaeological monitoring during ground disturbing activities.

OHA commends the applicants on their assurances that public access to the shoreline will be allowed to continue for subsistence, recreational, and gathering activities in the adjacent ocean and coastal areas.

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

Sincerely,



Clyde W. Nāmu'o
Administrator



August 27, 2004

Mr. Clyde Namu`o, Administrator
Office of Hawaiian Affairs
711 Kapi`olani Boulevard, Suite 500
Honolulu, Hawai`i 96813

SUBJECT: Draft Environmental Assessment for Property at 281 Hana Highway,
Paia, Maui, TMK (2) 2-6-8:19

Dear Mr. Namu'o:

Thank you for your letter of August 12, 2004, commenting upon the proposed Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK (2) 2-6-8:19. In response to your comments, we note that coordination is being undertaken with the State Historic Preservation Division to devise an archaeological monitoring plan to be implemented during ground altering activities. Should any cultural and human remains be discovered, work will cease and the appropriate agencies will be contacted.

Thank you again for providing your input to the proposed action. Please feel free to contact me with any questions at (808) 244-2015.

Very truly yours,

Matthew Slepina, Planner

MS:yp

cc: Kivette Caigoy, Department of Planning
compdp@ia.hawaii.gov

Aug-17-04 04:12pm From-DEPT OF PLANNING COUNTY OF MAUI

808-242819

T-561 P.02/02 F-692

ALAN M. ARAKAWA
MAYOR



CARL M. KAUPALOLO
CHIEF

NEAL A. BAL
DEPUTY CHIEF

'04 AUG 17 P2:41
COUNTY OF MAUI
DEPARTMENT OF FIRE AND PUBLIC SAFETY
DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED
200 DAIRY ROAD
KAHULUI, MAUI, HAWAII 96732
(808) 270-7561
FAX (808) 270-7919

August 16, 2004

Kivette A. Caigoy, Staff Planner
Department of Planning
250 South High Street
Wailuku, HI 96793

Subject: EA 2004/0002, CPA 2004/0002, CIZ 2004/0008 Paia-haiku Community Plan

Dear Kivette,

Thank you for the opportunity to comment on the above subject. After reviewing the intentions of the applicant, I have no comment at this time. Please feel free to contact me at 270-7568 if there are any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Drechsel".

Jeff Drechsel
Fire Prevention Bureau

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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 19, 2004

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

Log No: 2004.2045
Doc No: 0407CD15

Dear Mr. Slepín,

**SUBJECT: Chapter 6E-42 Historic Preservation Review – Early Consultation Request for Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui
TMK: (2) 2-6-008:019**

Thank you for the opportunity to comment on the Early Consultation Request for Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, which was received June 4, 2004. Our review is based on reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was conducted of the subject property.

Based on the submitted document, we understand the following:

- 1) The subject property (5, 160 sq. ft) has been used for single-family residential purposed for over 50 years.
- 2) The subject property is adjacent to the Mantokuji Mission of Paia.
- 3) The landowners plan on demolishing existing structure.
- 4) The landowners plan on building a new single-family residence on the property.
- 5) An Environmental Assessment, pursuant to Chapter 343, Hawaii Revised Statutes will be prepared for the proposed undertaking.

A search of our records indicates an archaeological inventory survey has not been conducted of the subject property. Generally, the area is likely to have once been the location of pre-Contact farming, perhaps with scattered houses. Known historic sites in the vicinity include the Paia House and Grave (SIHP 50-50-05-1253), a subsurface cultural deposit (SIHP 50-50-05-1782), and the Kalahau (Kalauhau) Burial Complex (SIHP 50-50-05-1604). In addition, the Mantokuji Mission of Paia and cemetery is located immediately adjacent to the subject property. As cemetery boundaries are known to change through time it is likely burials may be present on the subject property. Thus, we believe it is likely historic sites and/or site remnants may be present in the subsurface deposits of the subject property.

Matthew Munckiyo
Page 2

Given the above information we recommend an archaeological monitor be present during the demolition of the existing structure if ground altering activities (i.e. the removal of the foundation) are involved. In addition, if the existing structure is 50 years old or older, our historic architecture branch will need to review the demolition permit application. An archaeological inventory survey (to be conducted in the form of subsurface testing) will need to be conducted following the demolition and prior to the construction of the new dwelling, and as we believe of burials may be present, archaeological monitoring will need to be conducted during the construction of the new dwelling.

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

Aloha,



P. Holly McEldowney, Administrator
Historic Preservation Division

CD: sky

c: Maui Cultural Resources Commission, Dept of Planning, 250 S. High Street, Wailuku, HI 96793
Chair, Maui/Lana'i Islands Burial Council
Kana'i Kapeliela, Burial Sites Program



August 27, 2004

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

**SUBJECT: Draft Environmental Assessment for Property at 281 Hana Highway,
Paia, Maui, TMK (2) 2-6-8:19**

Dear Ms. McEldowney:

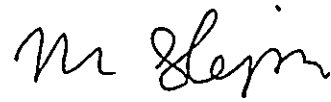
Thank you for your letter of July 19, 2004, responding to our request for comments concerning the proposed Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK (2) 2-6-8:19. In response to your comments, we note the following:

1. The applicant will work with your office to determine an appropriate archaeological monitoring plan for ground altering activities.
2. The applicant understands that the historic architecture branch of your department will need to review the demolition permit application, as the existing structure is over 50 years of age.
3. The applicant also acknowledges that further archaeological review and documentation may be required prior to construction of a new structure on the property. The applicant's archaeologists will coordinate with the State Historic Preservation Division, to ensure compliance with applicable requirements.

P. Holly McEldowney, Administrator
August 27, 2004
Page 2

Thank you again for providing your input to the proposed action. Please feel free to contact me with any questions at (808) 244-2015.

Very truly yours,



Matthew Slepik, Planner

MS:yp

cc: Kivette Caigoy, Department of Planning
com\pd\palatshpd.deares

LINDA LINGLE
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON
DIRECTOR

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

July 26, 2004

Michael Foley
Maui Planning Department
250 South High St.
Wailuku, HI 96793

Attn: Kivette Caigoy

Dear Mr. Foley:

Subject: Draft environmental assessment (EA)
Paia-Haiku Community Plan Amendment (281 Hana Highway)

We have the following comments:

Consultations:

A. Community consultation is an important part of the EA review process. Your preconsultation list does not include any community groups. A consultation with the Mantokuji Mission members would be logical. In the final EA be sure to document your contacts, including copies of any correspondence.

B. State Historic Preservation Division of DLNR: In the final EA enclose documentation and correspondence from this office. Issues of concern are the mission facility and proximity to the coastline. Is the mission on the state or national historic register? If so analyze the impacts of the proposed action on the facility. Proximity to the shoreline can reveal burials in the sandy areas. Because of this SHPD has jurisdiction for any activity in this area.

Sustainable building techniques: Please consider applying sustainable building techniques presented in the "Guidelines for Sustainable Building Design in Hawaii." In the final EA include a description of any of the techniques you will implement. Contact our office for a paper copy of the guidelines or go to our website at <http://www.state.hi.us/health/oeqc/guidance/sustainable.htm>.

Landscaping: Is landscaping proposed for the new home? We recommend the use of native Hawaiian flora whenever and wherever possible.

Michael Foley
July 26, 2004
Page 2

Tsunami zone: What is the threat from wave runup? What measures do you plan to mitigate these impacts?

If you have any questions, please call Nancy Heinrich at 586-4185.

Sincerely,



GENEVIEVE SALMONSON
Director

c: Matt Slep, Munckiy & Hiraga



August 27, 2004

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

**SUBJECT: Draft Environmental Assessment for Property at 281 Hana Highway,
Paia, Maui, TMK (2) 2-6-8:19**

Dear Ms. Salmonson:

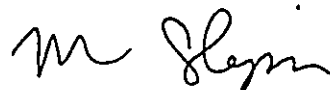
Thank you for your letter of July 26, 2004, commenting on the proposed Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK (2) 2-6-8:19. In response to your comments, we note the following:

1. The Mantokuji Mission has been consulted upon your advice. A record of that consultation will be included in the Final Environmental Assessment.
2. We are in consultation with the State Historic Preservation Division to determine appropriate measures to safeguard potential cultural and traditional remains. The mission is not listed on the Historic Register and no impacts are anticipated on it from the proposed action.
3. We acknowledge your comments regarding sustainable building techniques and landscaping.
4. There are no specific tsunami mitigations measures in relation to the proposed land use changes. The property upon which the existing residence exists was not impacted by the 1946 or 1961 tsunamis.

Genevieve Salmonson, Director
August 27, 2004
Page 2

Thank you again for providing your input to the proposed action. Please feel free to contact me with any questions at (808) 244-2015.

Very truly yours,



Matthew Slepina, Planner

MS:yp

cc: Kivette Caigoy, Department of Planning

com\pd\pa\loecq.deares

LINDA LINGLE
GOVERNOR



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

JUL 20 2004

RODNEY K. HARAGA
DIRECTOR

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

IN REPLY REFER TO:

STP 8.1242

July 13, 2004

Mr. Matthew M. Slepín, Planner
Munekiyo & Hiraga, Inc.
350 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Slepín:

Subject: Property at 281 Hana Highway, Paia, Maui
Early Consultation Request for Community Plan Amendment and
Change in Zoning
TMK: (2) 2-6-8: 019

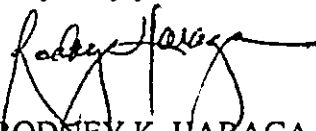
Thank you for your transmittal requesting our review of the subject application.

Our comments are as follows:

1. The subject property does not have a driveway for direct access to Hana Highway, and it would not be desirable to establish such a driveway.
2. For highway access, the subject parcel uses a driveway on the abutting lot (TMK: 2-6-008: 013) owned by Montokuji Mission. Please encourage the applicant to establish some kind of formal permanent authorization to continue using Montokuji Mission's driveway to Hana Highway.

We appreciate the opportunity to provide comments.

Very truly yours,


RODNEY K. HARAGA
Director of Transportation

c: Michael Foley, Maui Planning Department



August 27, 2004

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

SUBJECT: Draft Environmental Assessment for Property at 281 Hana Highway,
Paia, Maui, TMK (2) 2-6-8:19

Dear Mr. Haraga:

Thank you for your letter of July 13, 2004, responding to our request for comments upon the proposed Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK (2) 2-6-8:19. In response to your comments, we note that the applicant has no expressed desire to create a new driveway directly accessing Hana Highway. We acknowledge your suggestion to establish a formal agreement with the Mantokuji Mission regarding the use of their driveway.

Thank you again for providing your input to the proposed action. Please feel free to contact me with any questions at (808) 244-2015.

Very truly yours,

Matthew Slepina, Planner

MS:yp

cc: Kivette Caigoy, Department of Planning
compdpaiatsdol.deares

LINDA LINGLE
GOVERNOR OF HAWAII



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

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

04 AUG 25 A8 39

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

OFFICE OF PLANNING
COUNTY OF MAUI
RECEIVED

August 23, 2004

Mr. Michael W. Foley
Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawai'i 96793

Attention: Kivette A. Caigoy

Dear Mr. Foley:

Subject: Paia-Haiku Community Plan Amendment (Ueoka Residence)
TMK: (2) 2-6-008:019
EA 2004/0002, CPA 2004/0002, CIZ 2004/0008

Thank you for the opportunity to comment on the land use requests involving the Ueoka property. The following comments are offered:

The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46 "Community Noise Control". A noise permit may be required and should be obtained before the commencement of work.

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

T-648 P. 02/03 F-856

808-242819

Aug-25-04 12:07pm From-DEPT OF PLANNING COUNTY OF MAUI



August 27, 2004

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

SUBJECT: Draft Environmental Assessment for Community Plan Amendment and
Change in Zoning for Property at 281 Hana Highway, Paia, Maui,
TMK (2) 2-6-8:19

Dear Mr. Matsubayashi:

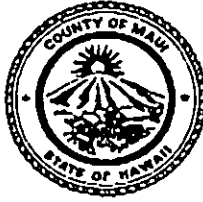
Thank you for your letter of August 23, 2004, commenting upon the proposed Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK (2) 2-6-8:19. In response to your comments, we note that the applicant will work with their contractor to determine potential noise impacts during construction and will seek a noise permit if such is deemed appropriate.

Thank you again for providing your input to the proposed action. Please feel free to contact me with any questions at (808) 244 2015.

Very truly yours,

Matthew Slepina, Planner

MS:yp
cc: Kivette Caigoy, Department of Planning
conf:pdpaia@dohmaui.deares



04 AUG 25 10:35

DEPARTMENT OF WATER SUPPLY

COUNTY OF MAUI
200 South High Street
WAILUKU, MAUI, HAWAII 96793
Telephone (808) 270-7816 • Fax (808) 270-7833

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

August 23, 2004

Mr. Michael W. Foley, Director
Planning Department
County of Maui
250 South High Street
Wailuku Hawaii 96793
ATTN: Ms. Kivette A. Caigoy

Project Name: Paia-Haiku Community Plan Amendment (Ueoka Residence) - re-designating the property from Public/Quasi-Public to Single family land use category
TMK: (2) 2-6-008:019
ID: EA 2004/0002, CPA 2004/0002, CIZ 2004/0008

Dear Mr. Foley:

Thank you for the opportunity to review this project proposal.

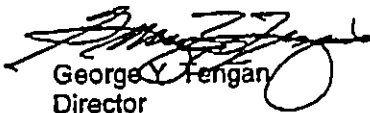
The property is served by our Central Maui System with the Iao and Waihee aquifers, the Iao tunnel and the Iao-Waikapu Ditch as its main sources of water. As of July 21, 2003 the Commission on Water Resource Management (CWRM) has designated the Iao aquifer as Groundwater Management Area. DWS will not issue reservations for future meters until new sources are brought on-line. The property is served by a 5/8-inch water meter. Since there is no proposed change in land use, no increase in demand is anticipated. Should a larger meter be required, the applicant should be made aware that additional water for the property may not be available until new sources are on-line.

The project site is served by a 6-inch and a 12-inch waterline and two fire hydrants along Hana Highway. The first dwelling is exempt from fire flow requirements.

We encourage the applicant to integrate the water conservation measures in the project design and construction as well as adopt Best Management Practices (BMPs) information DWS provided during the EA early consultation process.

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

Sincerely,


George Y. Fengan
Director

eam
c: Engineering Division
Applicant, with attachment:
DWS letter of June 15, 2004

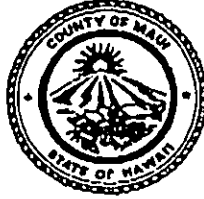
By Water All Things Find Life

1-858 F-03/03 P 03/03

808-242819

FROM-DEPT OF PLANNING COUNTY OF MAUI

Aug-25-04 12:08pm



04 AUG 25 10:35

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 South High Street
WAILUKU, MAUI, HAWAII 96793
Telephone (808) 270-7816 • Fax (808) 270-7833

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED

August 23, 2004

Mr. Michael W. Foley, Director
Planning Department
County of Maui
250 South High Street
Wailuku Hawaii 96793
ATTN: Ms. Kivette A. Calgoy

Project Name: Paia-Haiku Community Plan Amendment (Ueoka Residence) - re-designating the property from Public/Quasi-Public to Single family land use category
TMK: (2) 2-6-008:019
ID: EA 2004/0002, CPA 2004/0002, CIZ 2004/0008

Dear Mr. Foley:

Thank you for the opportunity to review this project proposal.

The property is served by our Central Maui System with the Iao and Waihee aquifers, the Iao tunnel and the Iao-Waikapu Ditch as its main sources of water. As of July 21, 2003 the Commission on Water Resource Management (CWRM) has designated the Iao aquifer as Groundwater Management Area. DWS will not issue reservations for future meters until new sources are brought on-line. The property is served by a 5/8-inch water meter. Since there is no proposed change in land use, no increase in demand is anticipated. Should a larger meter be required, the applicant should be made aware that additional water for the property may not be available until new sources are on-line.

The project site is served by a 6-inch and a 12-inch waterline and two fire hydrants along Hana Highway. The first dwelling is exempt from fire flow requirements.

We encourage the applicant to integrate the water conservation measures in the project design and construction as well as adopt Best Management Practices (BMPs) information DWS provided during the EA early consultation process.

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

Sincerely,


George Y. Fengan
Director

eam
cc: Engineering Division
Applicant, with attachment:
DWS letter of June 15, 2004

By Water All Things Find Life

1-848 P. 03/03 F-858

808-242819

From-DEPT OF PLANNING COUNTY OF MAUI

Aug-25-04 12:08pm



August 27, 2004

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

SUBJECT: Draft Environmental Assessment for Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK (2) 2-6-8:19

Dear Mr. Tengan:

Thank you for your letter of August 23, 2004, commenting upon the proposed Community Plan Amendment and Change in Zoning for Property at 281 Hana Highway, Paia, Maui, TMK (2) 2-6-8:19. In response to your comments, we note the following:

1. There is no anticipated increase in water demand at the subject property. The applicant acknowledges that additional water may not be immediately available should demand increase.
2. The applicant also acknowledges that the current dwelling is exempt from fire flow requirements.
3. The applicant acknowledges your recommendations regarding water conservation measures and Best Management Practices (BMP's).

George Tengan, Director
August 27, 2004
Page 2

Thank you again for providing your input to the proposed action. Please feel free to contact me with any questions at (808) 244 2015.

Very truly yours,



Matthew Slepín, Planner

MS:yp
cc: Kivette Caigoy, Department of Planning
compdpal@dws.deares

LINDA LINGLE
GOVERNOR OF HAWAII



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

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

04 AUG 25 08:39

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

August 23, 2004

Mr. Michael W. Foley
Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawai'i 96793

Attention: Kivette A. Caigoy

Dear Mr. Foley:

Subject: Paia-Haiku Community Plan Amendment (Ueoka Residence)
TMK: (2) 2-6-008:019
EA 2004/0002, CPA 2004/0002, CIZ 2004/0008

Thank you for the opportunity to comment on the land use requests involving the Ueoka property. The following comments are offered:

The noise created during the construction phase of the project may exceed the maximum allowable levels as set forth in Hawaii Administrative Rules, Chapter 11-46 "Community Noise Control". A noise permit may be required and should be obtained before the commencement of work.

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

T-648 P:02/03 F-856

808-242819

From-DEPT OF PLANNING COUNTY OF MAUI

Aug-25-04 12:07pm

References

References

Chinen, Jon, The Great Mahele: Hawaii's Land Division of 1848, Honolulu: University of Hawaii, 1958.

County of Maui, The General Plan of the County of Maui 1990 Update, 1990.

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Mantokuji Mission of Paia, Maui, Ninetieth Anniversary: November 16-17, 1996.

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Appendices

Appendix A

***Planning and Land Use
Committee's Committee
Report No. 04-47***

COUNCIL OF THE COUNTY OF MAUI
PLANNING AND LAND USE COMMITTEE

March 5, 2004

Committee
Report No. 04-47

Honorable Chair and Members
of the County Council
County of Maui
Wailuku, Maui, Hawaii

Chair and Members:

Your Planning and Land Use Committee, having met on January 13, 2004 and February 17, 2004, makes reference to County Communication No. 03-285, from Councilmember Michael J. Molina, transmitting the following:

1. A draft bill entitled "A BILL FOR AN ORDINANCE TO AMEND THE PAIA-HAIKU COMMUNITY PLAN FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY FOR PROPERTY AT 281 HANA HIGHWAY, PAIA, MAUI (TMK: (2) 2-6-008:019)".

The purpose of the draft bill is to correct a mistaken community-plan designation for a 5,160-square-foot parcel currently in residential use.

2. A draft bill entitled "A BILL FOR AN ORDINANCE TO CHANGE ZONING FROM P-1 PUBLIC/QUASI-PUBLIC TO R-1 RESIDENTIAL FOR PROPERTY AT 281 HANA HIGHWAY, PAIA, MAUI (TMK: (2) 2-6-008:019)".

The purpose of the draft bill is to correct a mistaken zoning designation for a 5,160-square-foot parcel currently in residential use.

3. A draft resolution entitled "REFERRING TO THE MAUI PLANNING COMMISSION BILLS TO, RESPECTIVELY, AMEND THE PAIA-HAIKU COMMUNITY PLAN FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY AND CHANGE THE ZONING FROM P-1 PUBLIC/QUASI-PUBLIC TO R-1 RESIDENTIAL FOR PROPERTY AT 281 HANA HIGHWAY, PAIA, MAUI (TMK: (2) 2-6-008:019)".

COUNCIL OF THE COUNTY OF MAUI
PLANNING AND LAND USE COMMITTEE

March 5, 2004
Page 2

Committee
Report No. 04-47

The purpose of the draft resolution is to refer the above-referenced legislation to the Maui Planning Commission, pursuant to Charter Sections 8-8.4 and 8-8.6.

By correspondence dated December 8, 2003, the Chair of your Committee requested that the Corporation Counsel approve the draft resolution as to form and legality.

By correspondence dated December 17, 2003, the Department of the Corporation Counsel transmitted a proposed resolution entitled "REFERRING TO THE MAUI PLANNING COMMISSION BILLS TO, RESPECTIVELY, AMEND THE PAIA-HAIKU COMMUNITY PLAN FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY AND CHANGE THE ZONING FROM P-1 PUBLIC/QUASI-PUBLIC TO R-1 RESIDENTIAL FOR PROPERTY AT 281 HANA HIGHWAY, PAIA, MAUI", incorporating technical revisions. The purpose of the proposed resolution is to refer the draft bills to the Maui Planning Commission.

At its meeting of January 13, 2004, your Committee met with the Planning Director; the Planning Program Administrator, Long Range Planning Division, Department of Planning; and the Corporation Counsel.

Your Committee received testimony from the daughter of the subject property's owner in support of the proposed resolution. She said that the erroneous land-use designations have created hardships for her family.

The Department of Planning representatives advised that the current zoning and community-plan designations were adopted by mistake.

Your Committee expressed interest in the history of the subject property's land-use designations and in determining whether State law would require an environmental assessment before the draft bill to approve a Community Plan Amendment could be enacted.

Your Committee noted the County's moral responsibility to rectify the errors and voted to recommend adoption of the proposed resolution.

By correspondence dated January 15, 2004, the Chair of your Committee requested that the Corporation Counsel provide a legal opinion on whether an

COUNCIL OF THE COUNTY OF MAUI
PLANNING AND LAND USE COMMITTEE

March 5, 2004
Page 3

Committee
Report No. 04-47

environmental assessment is required for a Council-initiated Community Plan Amendment.

By correspondence dated January 15, 2004, the Chair of your Committee requested that the Planning Director provide information on the history of the subject property's land-use designations.

By correspondence dated January 21, 2004, the Planning Director informed your Committee, contrary to information previously provided, that the subject property is currently zoned Interim, rather than P-1 Public/Quasi-Public.

Your Committee notes that, as revealed by the new information provided by the Planning Director, the proposed resolution recommended for adoption on January 13, 2004 was technically flawed. Therefore, the Chair of your Committee decided to reschedule this matter for further consideration.

By correspondence dated February 2, 2004, the Chair of your Committee requested that the Corporation Counsel revise the proposed resolution and draft bills to reflect the subject property's current zoning.

By correspondence dated February 6, 2004, Deputy Corporation Counsel Dudley Akama transmitted a revised proposed resolution entitled "REFERRING TO THE MAUI PLANNING COMMISSION BILLS TO, RESPECTIVELY, AMEND THE PAIA-HAIKU COMMUNITY PLAN FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY AND CHANGE THE ZONING FROM INTERIM TO R-1 RESIDENTIAL FOR PROPERTY AT 281 HANA HIGHWAY, PAIA, MAUI". The purpose of the revised proposed resolution is to transmit the following proposed bills, identified as Exhibits "A" and "B", respectively, to the Maui Planning Commission for findings and recommendations pursuant to Charter Sections 8-8.4 and 8-8.6:

1. "A BILL FOR AN ORDINANCE TO AMEND THE PAIA-HAIKU COMMUNITY PLAN AND LAND USE MAP FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY FOR PROPERTY SITUATED AT 281 HANA HIGHWAY, PAIA, MAUI".
2. "A BILL FOR AN ORDINANCE TO CHANGE ZONING FROM INTERIM TO RESIDENTIAL FOR PROPERTY SITUATED AT 281 HANA HIGHWAY, PAIA, MAUI".

COUNCIL OF THE COUNTY OF MAUI
PLANNING AND LAND USE COMMITTEE

March 5, 2004
Page 4

Committee
Report No. 04-47

At its meeting of February 17, 2004, your Committee met with the Planning Director; the Deputy Planning Director; the Administrative Planning Officer, Department of Planning; a Staff Planner, Department of Planning; the Director of Public Works and Environmental Management; the Deputy Director of Transportation; three Police Officers, Department of Police; and a Deputy Corporation Counsel.

The Department of Planning representatives explained that the previously considered proposed resolution did not correctly identify the subject property's current zoning.

Your Committee voted to recommend adoption of the revised proposed resolution.

Your Planning and Land Use Committee **RECOMMENDS** that Resolution No. 04-33, as revised herein and attached hereto, entitled "REFERRING TO THE MAUI PLANNING COMMISSION BILLS TO, RESPECTIVELY, AMEND THE PAIA-HAIKU COMMUNITY PLAN FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY AND CHANGE THE ZONING FROM INTERIM TO R-1 RESIDENTIAL FOR PROPERTY AT 281 HANA HIGHWAY, PAIA, MAUI", be **ADOPTED**.

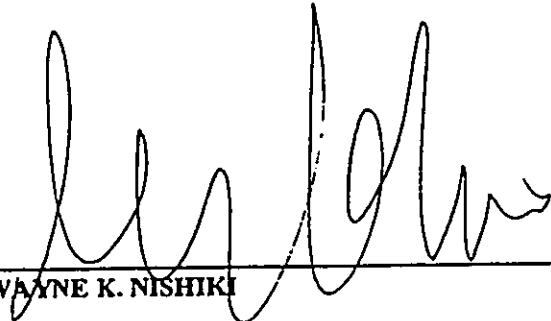
Adoption of this report is respectfully requested.

plu:cr:0447ca:dmr

COUNCIL OF THE COUNTY OF MAUI
PLANNING AND LAND USE COMMITTEE


March 5, 2004
Page 5

Committee
Report No. 04-47



WAYNE K. NISHIKI Chair

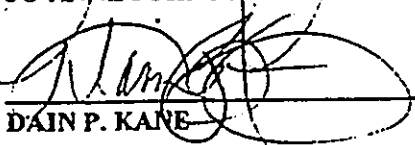
G. RIKI HOKAMA Vice-Chair




ROBERT CARROLL Member



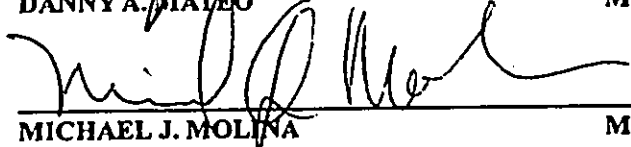
JO ANNE JOHNSON Member




DAIN P. KANE Member



DANNY A. MATEO Member



MICHAEL J. MOLINA Member



JOSEPH PONTANILLA Member



CHARMAINE TAVARES Member

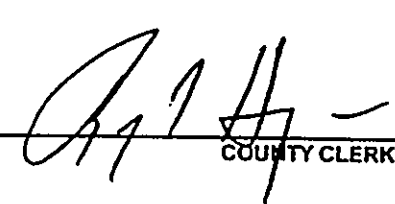
COUNCIL OF THE COUNTY OF MAUI

WAILUKU, HAWAII 96793

CERTIFICATION OF ADOPTION

It is HEREBY CERTIFIED that COMMITTEE REPORT NO. 04-47 was adopted by the Council of the County of Maui, State of Hawaii, on the 5th day of March, 2004, by the following vote:

MEMBERS	Dain P. KANE Chair	Robert CARROLL Vice-Chair	G. RIKI HOKAMA	Jo Anne JOHNSON	Dennis A. MATEO	Michael J. MOLINA	Wayne K. NISHIKI	Joseph PONTANILLA	Charmaine TAVARES
ROLL CALL	Aye	Aye	Excused	Aye	Aye	Aye	Aye	Aye	Aye



COUNTY CLERK

Resolution

No. 04-33

REFERRING TO THE MAUI PLANNING COMMISSION BILLS TO,
RESPECTIVELY, AMEND THE PAIA-HAIKU COMMUNITY PLAN FROM
PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY AND CHANGE THE ZONING
FROM INTERIM TO R-1 RESIDENTIAL FOR PROPERTY
AT 281 HANA HIGHWAY, PAIA, MAUI

WHEREAS, the Council is considering a community plan amendment from Public/Quasi-Public to Single-Family and a change in zoning from Interim District to R-1 Residential District for property at 281 Hana Highway, Paia, Maui, Hawaii, identified for real property tax purposes by Tax Map Key No. (2)2-6-008:019, comprising approximately 5,160 square feet; and

WHEREAS, Sections 8-8.4 and 8-8.6 of the Revised Charter of the County of Maui (1983), as amended, require that the appropriate planning commission review proposed land use ordinances and amendments to the General Plan and provide findings and recommendations to the Council; now, therefore,


BE IT RESOLVED by the Council of the County of Maui: .

1. That it hereby refers the proposed bill entitled "A BILL FOR AN ORDINANCE TO AMEND THE PAIA-HAIKU COMMUNITY PLAN AND LAND USE MAP FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY FOR PROPERTY SITUATED AT 281 HANA HIGHWAY, PAIA, MAUI", a copy of which is attached hereto as Exhibit "A" and made a part hereof, to the Maui Planning Commission for appropriate action pursuant to Sections 8-8.4 and 8-8.6 of the Revised Charter of the County of Maui (1983), as amended; and
2. That it hereby refers the proposed bill entitled "A BILL FOR AN ORDINANCE TO CHANGE ZONING FROM INTERIM TO RESIDENTIAL FOR PROPERTY SITUATED AT 281 HANA HIGHWAY, PAIA, MAUI", a copy of which is attached hereto as Exhibit "B" and made a part hereof, to the Maui Planning Commission for appropriate action pursuant to Sections 8-8.4 and 8-8.6 of the Revised Charter of the County of Maui (1983), as amended; and

Resolution No. 04-33

3. That the Maui Planning Commission is respectfully requested to review said proposed bills and to transmit its findings and recommendations to the Council as expeditiously as possible; and
4. That certified copies of this resolution be transmitted to the Mayor, the Planning Director, and the Maui Planning Commission.

APPROVED AS TO FORM AND LEGALITY



DUDLEY G. AKAMA
Deputy Corporation Counsel
County of Maui

S:\CLERICAL\LJN\Reso\26008019.wpd

ORDINANCE NO. _____

BILL NO. _____ (2004)

A BILL FOR AN ORDINANCE TO AMEND THE
PAIA-HAIKU COMMUNITY PLAN AND LAND USE MAP
FROM PUBLIC/QUASI-PUBLIC TO SINGLE-FAMILY FOR
PROPERTY SITUATED AT 281 HANA HIGHWAY, PAIA, MAUI

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Pursuant to Chapter 2.80A, Maui County Code, the Paia-Haiku Community Plan and Land Use Map is hereby amended from Public/Quasi-Public to Single-Family for property situated at 281 Hana Highway, Paia, Maui, Hawaii, and identified for real property tax purposes by Tax Map Key No. (2)2-6-008:019, comprising approximately 5,160 square feet, and more particularly described in Exhibit "1", attached hereto and made a part hereof, and in Community Plan Amendment Map No. CP-_____, which is on file in the Office of the County Clerk of the County of Maui, and by reference made a part hereof.

SECTION 2. This ordinance shall take effect upon its approval.

APPROVED AS TO FORM
AND LEGALITY:



DUDLEY G. AKAMA
Deputy Corporation Counsel
County of Maui

S:\CLERICAL\LJN\ORD\CPA\26008019cpa.wpd

EXHIBIT " A "

All of that certain piece or lot of land, situated at Paia, Island and County of Maui, State of Hawaii, described as follows:

Commencing from the South-east corner of this lot running 60 feet west along the north side of the Haiku-Paia Government Road to a 3/4 inch pipe; thence running 86 feet north to a 3/4 inch pipe; thence running 60 feet east to a 3/4 inch pipe; thence running 86 feet south along Susumu Nakamoto's lot to the point of beginning, containing an area of 5,160 square feet, more or less.

TMK (2) 2-6-008:019

EXHIBIT " 1 "

ORDINANCE NO. _____

BILL NO. _____ (2004)

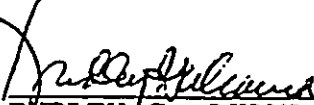
A BILL FOR AN ORDINANCE TO CHANGE ZONING FROM
INTERIM TO RESIDENTIAL FOR PROPERTY
SITUATED AT 281 HANA HIGHWAY, PAIA, MAUI

BE IT ORDAINED BY THE PEOPLE OF THE COUNTY OF MAUI:

SECTION 1. Pursuant to Chapters 19.08 and 19.510, Maui County Code, a change in zoning from Interim District to R-1 Residential District is hereby granted for that certain parcel of land situated at 281 Hana Highway, Paia, Maui, Hawaii, and identified for real property tax purposes by Tax Map Key Number (2)2-6-008:019, comprising approximately 5,160 square feet, and more particularly described in Exhibit "1", attached hereto and made a part hereof, and in Land Zoning Map No. _____, which is on file at the Office of the Clerk of the County of Maui, and by reference made a part hereof.

SECTION 2. This ordinance shall take effect upon its approval.

APPROVED AS TO FORM AND LEGALITY



DUDLEY G. AKAMA
Deputy Corporation Counsel
County of Maui

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EXHIBIT " B "

All of that certain piece or lot of land, situated at Paia, Island and County of Maui, State of Hawaii, described as follows:

Commencing from the South east corner of this lot running 60 feet west along the north side of the Haiku-Paia Government Road to a 3/4 inch pipe; thence running 86 feet north to a 3/4 inch pipe; thence running 60 feet east to a 3/4 inch pipe; thence running 86 feet south along Susumu Nakamoto's lot to the point of beginning, containing an area of 5,160 square feet, more or less.

TMK (2) 2-6-008:019

EXHIBIT " 1 "

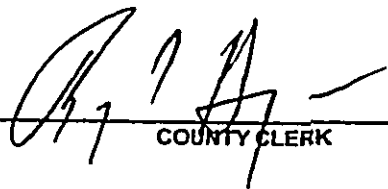
COUNCIL OF THE COUNTY OF MAUI

WAILUKU, HAWAII 96793

CERTIFICATION OF ADOPTION

It is **HEREBY CERTIFIED** that **RESOLUTION NO. 04-33** was adopted by the Council of the County of Maui, State of Hawaii, on the 5th day of March, 2004, by the following vote:

MEMBERS	Dain P. KANE Chair	Robert CARROLL Vice-Chair	G. Riki HOKAMA	Jo Anne JOHNSON	Dennis A. MATEO	Michael J. MOLINA	Wayne K. NISHIKI	Joseph PONTANILLA	Charmaine TAVARES
ROLL CALL	Aye	Aye	Excused	Aye	Aye	Aye	Aye	Aye	Aye

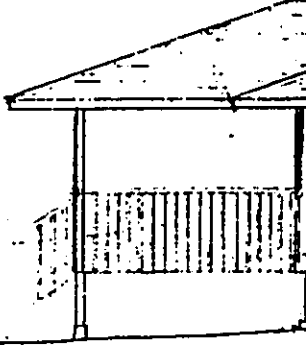
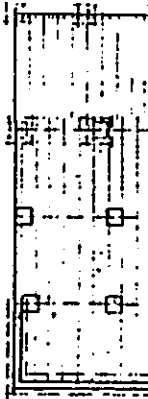
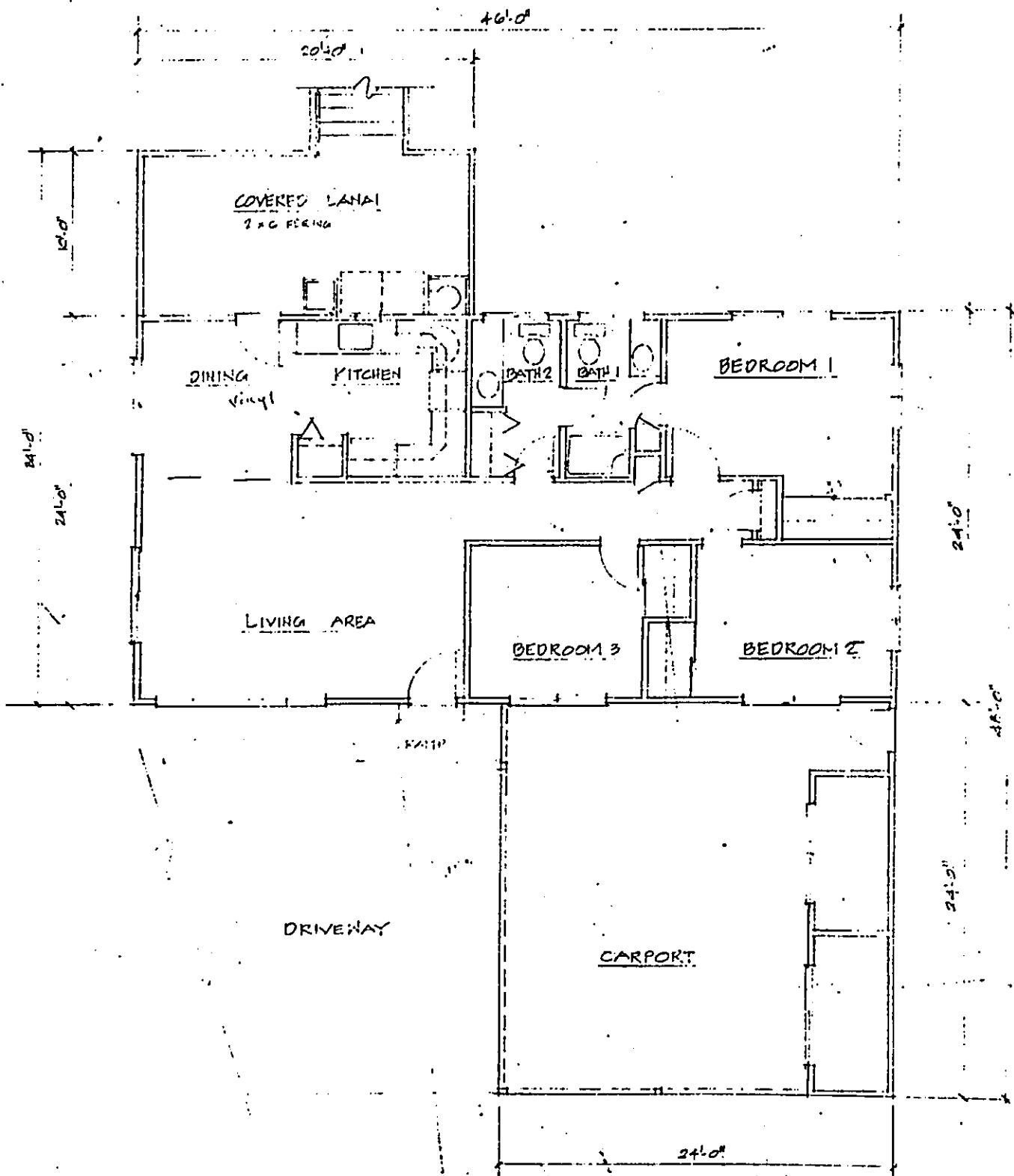


COUNTY CLERK

Appendix B

***Plans for Proposed
New Single-Family Dwelling***

RECEIVED AS FOLLOWS



Appendix C

***Archaeological
Field Inspection***

JUN 04 2004

XAMANЕК RESEARCHES
P.O. BOX 880131
PUKALANI, MAUI, HI 96788
Phone/Fax: 572-8900
Phone/Fax: 572-6118

State Historic Preservation Division Maui Office
Department of Land and Natural Resources Annex
Wailuku, Maui
Fax: 243-5838

Attn.: Dr. Melissa Kirkendall, SHPD Maui Office

1 June 2004

Subject: Letter report on an archaeological field inspection of a portion of land in Pa'ia, Hamakuapoko *Ahupua`a*, Makawao District, Maui (TMK: 2-6-008: 019).

Per our recent conversation, I am providing you with a letter report on the field inspection that I conducted of the subject parcel in Pa'ia, Maui last week (TMK: 2-6-008: 019). This field inspection has been carried out because the owner of the existing home on this c. 4,000 square foot parcel wishes to demolish/rebuild the structure. Due to some previous errors, this action requires a change in zoning as well as a community plan amendment. The field inspection was undertaken on behalf of the County of Maui Planning Department. The following summarizes the results of my field inspection of the parcel on 27 May 2004.

The subject parcel is located in a developed residential neighborhood of the community of Pa'ia, and lies along the *makai* side of Hana Highway (Figures 1 and 2). The highway, a portion of the Mantokuji Mission grounds, and a private residence border the study area. An existing structure on the subject parcel is over 50 years of age (Photos 1-3). The mission grounds contain a marked cemetery that lies an estimated 80 meters to the southwest of the study area (Photos 4 and 5). It is estimated that the project area is located about 70 meters southeast of the shoreline. The parcel lies an estimated 18-22 feet AMSL. The study area contains one older home that exhibits some exterior evidence of dry rot and termite damage. The current owner—Mrs. Fukiyo Ueoka—plans to rebuild a new home of approximately the same size. According to Mrs. Ueoka, the structure was built around 1935.

The study area was walked over during the field inspection and visibility was generally good. There was no surface evidence of significant material culture remains noted during the inspection of the parcel. There was no subsurface investigation carried out in conjunction with this field inspection. However, it is important to point out that this portion of land is located relatively closely to the Pa'ia shoreline. In addition, previously identified precontact habitation sites and human burials have been located in the general area.

In summary, there were no significant material culture remains noted during the surface inspection of this developed parcel. However, precautionary archaeological monitoring is nevertheless recommended in the event that subsurface earthmoving activities occur on the subject parcel in the future. This recommendation is deemed appropriate, because near costal habitation sites as well as human burials have been located in the Pa'ia/Kuau area in the past. In addition, the State Historic Preservation Division Architecture Branch as well as the County of Maui Planning Department should be contacted about the status of the structure, which is nearly 70 years old.

Please feel free to contact me @ 572-6118 should you have any questions or need additional information about this field inspection of TMK: 2-6-008: 019.

Sincerely,



Erik M. Fredericksen

c. Ms. Cathleen Dagher, SHPD O'ahu office (Fax: 808-692-8020)
Mr. Michael Munekiyo, Munekiyo & Hiraga, Inc. (Fax: 244-8729)

Photographs



Photo 1 – General view of the study area to the northeast, Mantokuji Mission property in foreground.

RECEIVED AS FOLLOWS



Photo 2 – View to the north of the existing structure, built in c. 1935.



Photo 3 – View of the structure and property to the east-northeast. Note boundary stake near center of photograph.

RECEIVED AS FOLLOWS



Photo 4 - View to the southwest of the existing Mantokuji Mission Cemetery that lies c. 80 meters from the study area.

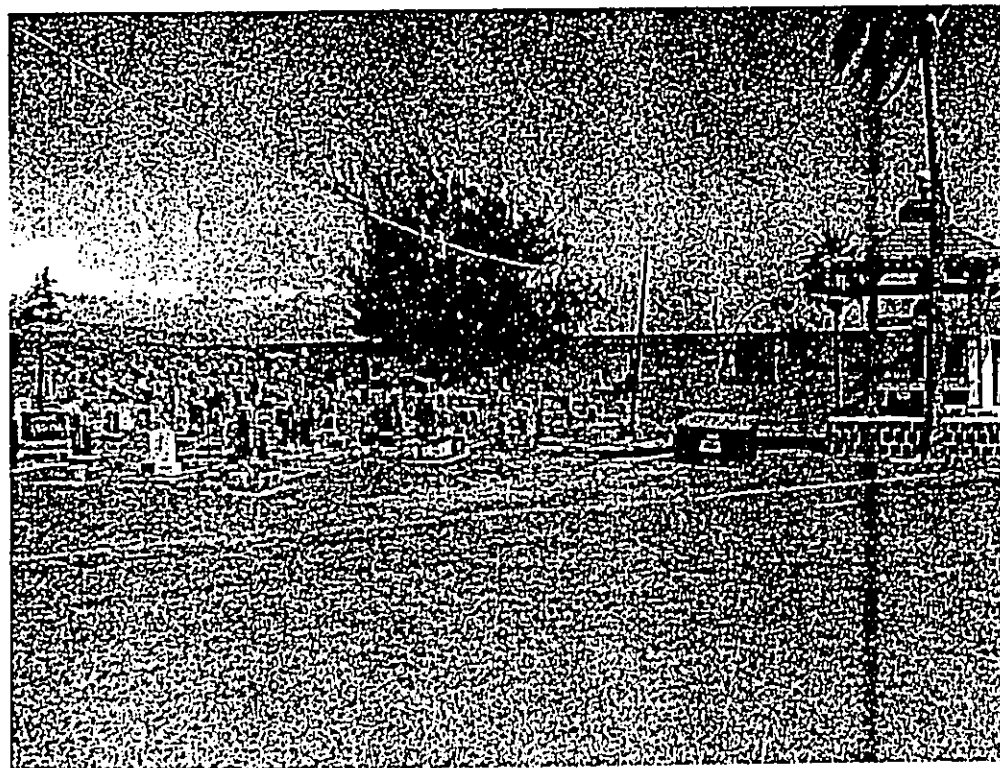
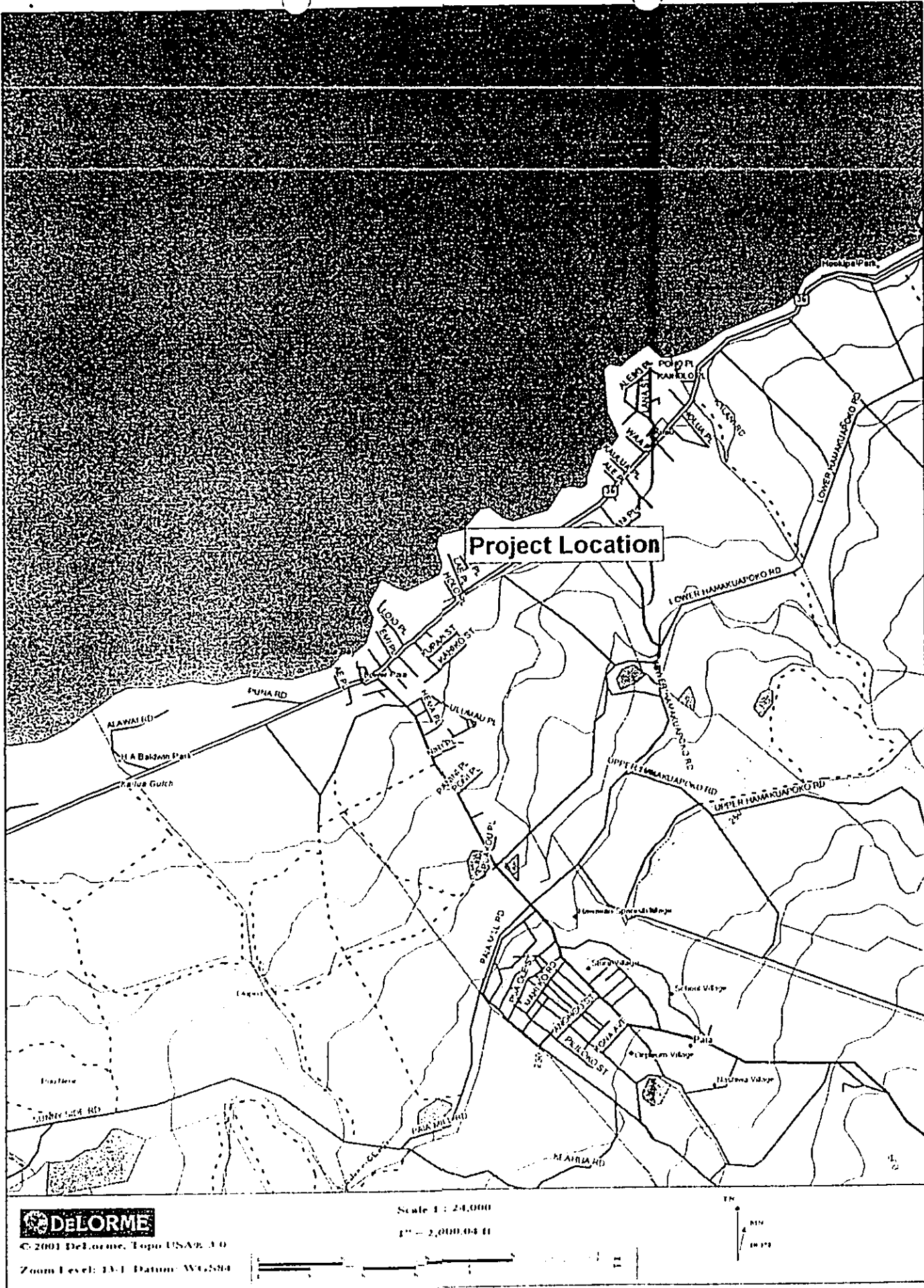


Photo 5 - View to the west-northwest across existing Mantokuji Mission Cemetery. Note relative proximity of the ocean.

RECEIVED AS FOLLOWS



RECEIVED AS FOLLOWS

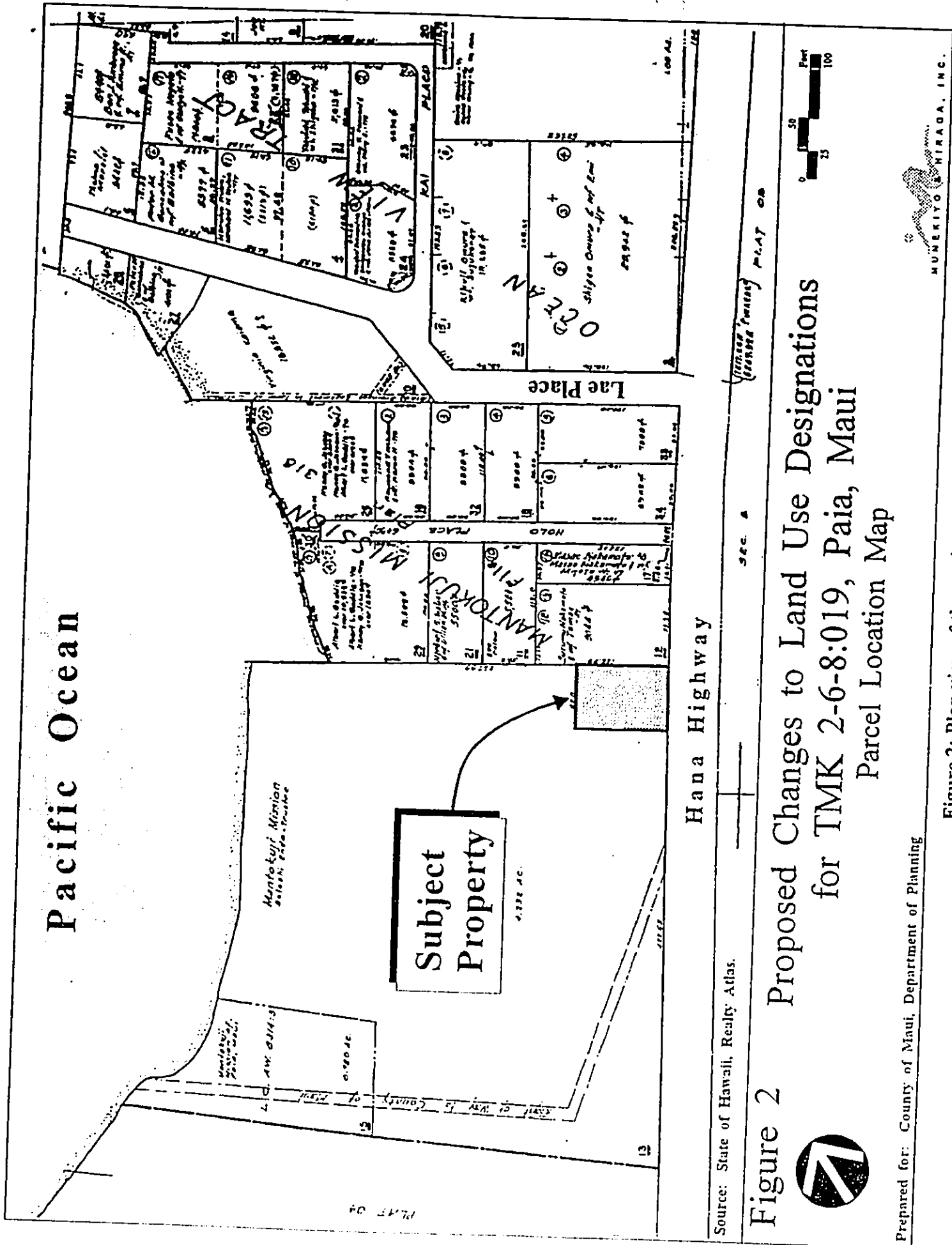


Figure 2 Proposed Changes to Land Use Designations
for TMK 2-6-8:019, Paia, Maui
Parcel Location Map

Source: State of Hawaii, Realty Atlas.

Prepared for: County of Maui, Department of Planning

MUNEKIYO SHIRAGA, INC.

Figure 2: Plan view of the project area.

Appendix D

***Letter to Paia Mantokuji Mission
Dated August 18, 2004***



August 18, 2004

Mr. Meyer Ueoka, President
Paia Mantokuji Mission
5636 Hana Highway
Paia, Hawaii 96779

SUBJECT: Proposed Community Plan Amendment and Change In Zoning for the Ueoka Property Located at TMK: (2) 2-6-08:19, Paia, Maui, Hawaii

Dear Mr. Ueoka:

Thank you very much for speaking with me on August 3, 2004 regarding the proposed Community Plan Amendment and Change in Zoning action for the property located at TMK (2) 2-6-08:19 in Paia, Maui, Hawaii. The purpose of this conference was to seek feedback from the Paia Mantokuji membership regarding the proposed community plan amendment and change in zoning. As I mentioned in our discussion, the Robert and Fukiyo Ueoka property was incorrectly mapped as "Public\Quasi-Public" in the Paia-Haiku Community Plan. The community plan amendment will amend their property's designation to "Single-Family Residential" and the change in zoning process will change their zoning from "Interim" to "R-1, Residential." The County of Maui is currently processing a Draft Environmental Assessment (DEA), which is required by law because a community plan amendment is one of the nine (9) identified "triggers" for environmental review.

Further, as I noted, the Ueoka family plans to demolish the existing residence on their property and build a new single-story home, which will have a building footprint similar to the existing residence. However, before the work can be done, consistency with the community plan designation and zoning must be completed.

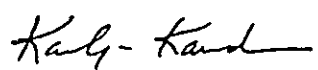
305 High Street, Suite 104 - Wailuku, Hawaii 96793 - ph: (808)244-2015 - fax: (808)244-8729 - planning@mhinconline.com

environment
planning
government

Mr. Meyer Ueoka, President
August 18, 2004
Page 2

Should you or any member of the Paia Mantokuji Mission have any further questions about this action, please do not hesitate to contact me at 244-2015.

Very truly yours,



Karlynn Kawahara, Planner

KK:yp
cc: Michael W. Foley, Department of Planning
com\pdpala\mueoka.tr