

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

1580-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

JAMES "KIMO" APANA
Mayor

FLOYD S. MIYAZONO
Director

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(808) 270-7230
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RECEIVED

September 13, 2001

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OFF. OF ENVIRONMENTAL
QUALITY CONTROL

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

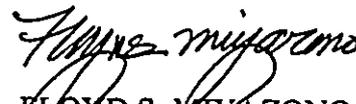
Dear Ms. Salmonson:

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT (FONSI)
FOR KAMAOLE III PARK IMPROVEMENTS, KIHEI, MAUI, HAWAII
TMK: (2) 3-9-04:por. 1 & 61

The County of Maui, Department of Parks and Recreation, has reviewed the comments received during the 30-day public comment period which began on August 8, 2001. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the October 8, 2001 OEQC Environmental Notice.

We are enclosing a completed OEQC Publication Form and four copies of the final EA. Please call Patrick Matsui, Parks Planning and Development, at (808) 270-7387 if you have any questions.

Sincerely,


FLOYD S. MIYAZONO
Director

- c. Patrick Matsui, Chief of Planning and Development
Carl Takumi, C. Takumi Engineering

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CHAPTER 343, Hawaii Revised Statutes (HRS)

**FINAL ENVIRONMENTAL ASSESSMENT
FINDING OF NO SIGNIFICANT IMPACT ANTICIPATED**

for the

(KAMAOLE III PARK IMPROVEMENTS)
KIHEI, MAUI, HAWAII
TMK: (2) 3-9-04: 1 & 61

**PROPOSED BY:
DEPARTMENT OF PARKS & RECREATION
COUNTY OF MAUI**

**PREPARED BY:
C. TAKUMI ENGINEERING, INC.
18 CENTRAL AVENUE
WAILUKU, HAWAII 96793**

September 2001

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September 2001

**FINAL ENVIRONMENTAL ASSESSMENT
FOR
KAMAOLE III PARK IMPROVEMENTS
KIHEI, MAUI, HAWAII
TMK: (2) 3-9-4: 1 & 61**

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**FINAL ENVIRONMENTAL ASSESSMENT
FOR
KAMAOLE III PARK IMPROVEMENTS
KIHEI, MAUI, HAWAII
TMK: (2) 3-9-4: por. 1 & 61**

1. SUMMARY

1.1. APPLICANT/PROPOSING AGENCY:

Department of Parks & Recreation
County of Maui
1580 Kaahumanu Avenue
Wailuku, Hawaii 96793

1.2. APPROVING AGENCY:

Department of Parks & Recreation
County of Maui
1580 Kaahumanu Avenue
Wailuku, Hawaii 96793

1.3. PROJECT DESCRIPTION:

The proposed project is expanding existing Kamaole III Park located in Kihei, Maui, Hawaii. The 5.35 acre parcel lies between the existing Kamaole Beach Park III on the north, South Kihei Road on the east, the Kihei Boat Ramp on the south and ocean on the west. The parcel has been designated as Lot 1 of the Kihei Boat Launching Ramp Subdivision. This project consists of constructing a parking lot with approximately 50 stalls including accessible parking stalls, comfort station, outdoor shower, landscaping and irrigation. Future improvements include picnic pavilion, grills and picnic tables. Most of the lot has been grassed and already considered as part of the park except that landscape irrigation is done manually. The shoreline is rocky except at the north end where approximately 60 feet of sandy beach occurs. The park will be limited to mainly day-time use. Gates will be installed at the driveway which will be closed and locked at nights.

The park will be designed primarily for passive activity maintaining the large grass area. Shade trees will be placed along the parking lot in accordance with Maui County off-street parking requirements. Work along the shoreline will mainly consist of installing a landscape irrigation system to replace the manual quick coupling system presently being used to irrigate the park. Irrigation sprinklers, waterlines and other fixtures will be kept away from the shoreline.

1.4. LOCATION:

Kihei, Maui, Hawaii; TMK: (2) 3-9-4: por. of 1 & 61. Recent tax map key of the project site still show that the site is a portion of parcels 1 & 61. The tax map key has not been changed to reflect the Kihei Boat Launching Ramp Subdivision. The site is on the northerly portion of the two parcels.

1.5. LAND USE DESIGNATION:

State Land Use:	Urban
County Community Plan Designation:	Park
County Zoning:	Park

1.6. NAME AND ADDRESS OF CONTACT PERSON:

Carl K. Takumi	Phone: (808) 249-0411
C. Takumi Engineering, Inc.	Fax: (808) 249-0311
18 Central Avenue	
Wailuku, Hawaii 96793	

1.7. PRE-CONSULTATION - AGENCIES CONSULTED:

State of Hawaii:

State Historic Preservation Division
Department Land & Natural Resources, Maui

County of Maui:

Department of Planning
Department of Water Supply
Department of Public Works & Waste Management

2. PROJECT DESCRIPTION

2.1 Introduction.

The proposed project to be undertaken by the Department of Parks & Recreation, County of Maui, will primarily serve the public and users of the existing Kamaole III Park. Major elements of the proposed improvements include construction of a new comfort station complete with exterior drinking fountain and shower, approximately fifty (50) stall parking lot, picnic tables, grills, pavilion, landscaping and irrigation. Water service for the new comfort station will be from an existing water service to the site. Electrical service for the project will come off the existing overhead power lines along South Kihei Road. All improvements for this project will be completed meeting applicable codes, standards and requirements of State and County agencies. The entrance to the parking area will have pipe gates which will be locked at nights.

Development of the site was previously proposed by the Kihei-Wailea Rotary and the County of Maui to be developed into the Maui Peace Park. The proposed public platform and beach walkway and other shoreline improvements have been deleted from the project and the County has no plans to develop the improvements in the foreseeable future. Improvements along the shoreline setback will consist primarily of landscaping and irrigation system.

2.2 Location of Project.

The project site is located in Kihei, Maui, Hawaii. The site is immediately adjacent to the southerly boundary of Kamaole III park and is identified as TMK 3-9-04: portions of parcels 1 and 61. The applicable TMK is attached.

2.3 Land Ownership.

The property is comprised of approximately 5.35 acres and was set aside to the County of Maui for park purposes by the State of Hawaii under Executive Order No. 3361.

2.4 Land Use.

The north half of the property is presently grassed and used for passive recreational activities. Irrigation of the grassed area is done manually by a quick coupling system and manual sprinkling. An existing drainage culvert from Kihei Road to the rocky shoreline passes through the site. The south half of the property is undeveloped.

2.5 Applicable Government Permits.

County Permits:

Special Management Area (SMA) Permit.
Grading Permit.
Building Permit.
Driveway Permit.
Work to Perform on County Highway Permit.

2.6 Proposed Improvements.

The project proposes to construct a parking lot with about 50 stalls including appropriate disabled parking stalls; comfort station and outdoor shower with ADA access; landscape irrigation. The parking lot will be paved and striped. The park is for day-light use only and no parking lot lighting is proposed. A gate will be installed at the entrance and closed at the end of each day. Future improvements may include additional landscaping and irrigation, picnic pavilion and other picnic facilities such as picnic tables and grills. Project site plan with proposed improvements are shown in Figure 2.

A 10 feet wide road widen reserve shall be set aside along South Kihei Road for future road widening improvements. In accordance with Maui County Code 16.26.3304, County capital improvement projects are exempt from street improvements and therefore, no curbs, gutters, sidewalk, pavement widening and drainage improvements on Kihei Road are anticipated for this project.

2.7 Development Schedule and Cost.

It is anticipated that the project will begin construction in 2001. The construction phase is expected to last six to eight months. The estimated construction cost of the project is approximately \$660,000.00. The project may be phased based upon availability of funding; however, all of the proposed improvements are anticipated to be completed as one project.

2.8 Need for the Project.

The existing 5.86 acre Kamaole III Park use is increasing and additional facilities are needed. The 5.3 acre park addition will extend the park about 700 feet to the south and double the park area. The parking stalls will be in addition to the existing parking lot where increasing park use indicate that additional parking stalls are needed.

The proposed comfort station will be located approximately 800 feet south of the existing comfort station in Kamaole III Park and in the center of the park site. About 900 feet to the south is the boat launching ramp comfort station; however, the area between the boat launching ramp parking lot and the project site is relatively undeveloped and used as a dirt parking area.

3. EXISTING CONDITIONS

3.1 Topography.

The site slopes from the southeast to the northwest at a 5% slope. The southeast corner of the site is at elevation 40 feet above mean sea level and at about the same elevation as South Kihei Road; the northeast corner of the site is at elevation 26 feet mean sea level and about 4 feet lower than South Kihei Road.

The entire western portion of the site is shoreline with about 450 feet of rocky shoreline on the south and 100 feet of sandy beach on the north. The sandy beach on the north extends into the existing Kamaole III Beach Park.

3.2 Drainage.

There is no drainage system for the parcel. Presently, storm discharge sheet flows to the ocean. Since the area is mainly grass, runoff from the site is minimal. An existing 72" storm drain passes through the site which outlets near the ocean. The drainage system is for Kihei Road and developments mauka of the park. No new drainage facilities are anticipated with the park improvements. Drainage from the parking area and other improvements will sheet flow to a siltation pond then through the site where landscape grassing will naturally filter sediments before reaching the beach. Appropriate erosion control measures will be taken during construction to minimize sedimentation impact to the ocean.

3.3 Soils.

The general soil classification for the site according to the *Soil Survey of Hawaii* prepared by the Soil Conservation Service, are Dune Lands (DL) and Jaucas Sand (JaC) 0 to 15 percent. Dune Lands consists of sand - sized particles which are dominantly from coral and seashells. Jaucas Sand are also developed in wind - and - water - deposited sand from coral and seashells and are excessively drained calcareous soils. Both type of soils are found in coastal areas adjacent to the ocean. Jaucas Sand has rapid permeability, runoff is very slow to slow and water erosion hazard is slight; but wind erosion is severe where vegetation has been removed.

3.4 Climate.

The project site is typical of the leeward lands of Kihei, receiving less than 15 inches of annual rainfall and experiencing average temperature ranges from the low 60's to the high 80's. Unrestricted trade winds are characteristic of the project site with high occurrences of land-sea breeze circulation. Typical of the Hawaiian Islands, storm winds are usually from the south or southeasterly direction.

3.5 Flood Hazard.

In accordance with the "Flood Insurance Rate Maps" for the Maui County, most of the project site falls within Zone "C". Zone "C" is designated as areas of minimal flooding. Approximately 150 feet inland along the sandy beach frontage is subject to coastal flood hazard, Zone "V10" and "A4". The improvements within the flood hazard area will consist of landscaping and landscape irrigation; no above ground improvements are proposed within these zones.

3.6 Surrounding Land Use.

Adjacent lands to the east of the project are several large condominiums and Kihei Road, to the north is existing Kamaole III Park, and the Kihei Boat Ramp and parking area approximately 350 to the south. The area between the Kihei Boat Ramp and the park is relatively undeveloped and being used for unpaved parking.

3.7 Flora and Fauna.

There is no indication of any rare or endangered plants or habitats associated with the project. The site has been previously cleared and landscaped. Flora on the site are common bermuda, weeds, coconut palms, kiawe trees, coconut, palm and other exotic shrubbery.

3.8 Archaeology.

A portion of the project site has been previously cleared and grubbed and grass planted and irrigated. A storm drain was installed by others passes through the site. The State Historic Preservation Division (SHPD) reported that cultural finds were recorded in the area (exact location not noted) and have indicated that an archaeological inventory survey be performed. Treatment of any significant cultural findings will be conducted in strict compliance with the requirements of the Department of Land and Natural Resources.

The results of an archaeological inventory survey performed for the project shows that no significant cultural sites were found. The report was sent to the SHPD for review. A response from SHPD is included with the report in Appendix "A."

4. ENVIRONMENTAL IMPACTS

4.1 Construction Impacts.

The proposed project will generate short-term impacts that are typical of site preparation and construction activities. These impacts include air quality, water quality, noise, and potential impacts to vehicular traffic. The impacts are short-term and usually temporary conditions that occur only during the construction period. Most of the impacts are mitigated through compliance with the applicable state and county regulations.

4.1.1 Air Quality.

Emissions from trucks and construction equipment with diesel engines could be cause for short-term air pollution impacts. These emissions are expected to be insignificant.

Dust generated from construction activities such as clearing and grubbing operations, excavation and vehicle movement is expected to be minimal and will be reduced by watering the construction site. The contractor shall be responsible for providing water for dust control. The contractor may obtain water for dust control from the County Kihei Wastewater facility or may make arrangements to use irrigation water from private sources.

4.1.2 Noise Impacts.

Noise impacts are associated with construction equipment working on the project. Most of the noise will take place only during actual construction. All of these sources will cease upon construction completion. The contractor shall be required to obtain a Noise Permit, if necessary.

The project is a public beach park designed for daytime passive recreation activities. Noise from beach park users are unavoidable; however, the park is designated for daytime use only and the parking area will be locked in the evenings.

4.1.3 Discharge.

No discharge from construction dewatering or hydro testing procedures is expected. A Best Management Practice Plan will have to be prepared to obtain a Maui County Grading Permit. The contractor will implement the plan to reduce non-point source pollution from reaching state waters during construction. It is anticipated that the disturbed area will be limited to less than 5 acres.

Storm discharge from the landscaped areas should not increase. Storm discharge due to the paved parking area and comfort station will increase; however, sediments and other pollutants will be naturally filtered by landscaping as the storm water sheet flows from the parking area to a siltation basin then sheet flow through landscaping to the shoreline.

4.1.4 Traffic.

Construction traffic will have minimal impact due to the nature of the project. There is sufficient area on the site to allow construction workers to park on-site. Deliveries such as concrete, plumbing fixtures, pipes, etc. will be occasional.

A traffic assessment performed by Traffic Engineer, Phillip Rowell and Associates, determines "a separate left turn storage lane along South Kihei Road for the project will not improve the level-of-service of the intersection. However, a left turn lane would improve traffic flow along South Kihei Road. It is recommended that the left turn storage lane be constructed concurrently with the South Kihei Road Improvement Project in the vicinity." See attached appendix "B".

4.2 Impacts on Public Facilities.

4.2.1 Water and Wastewater.

Once the project is completed, water for the site will be obtained through an existing 1½" water meter from the Maui Department of Water Supply. Low flow fixtures and appropriate planting will be incorporated into the design to conserve water.

Wastewater from the comfort station will be disposed by the County Kihei Wastewater System.

4.2.2 Electricity.

Maui Electric Company lines exist along Kihei Road and will be providing service to the comfort station.

4.2.3 Fire, Police, and Medical Services.

The Kihei Fire Station and Maui Police substation is located in the vicinity of Kalama Park in Kihei about a mile north of the project site. The Kihei area is served by Maui Memorial Hospital in Wailuku. The project will not impact fire, police and medical services.

4.3 Socio-Economic Conditions.

Short-term positive economic impact will result due to the increase in construction-related employment and revenues generated by the purchase of materials, equipment and supplies.

No long-term socio-economic impacts anticipated since this project will be improving existing park lands and is adjacent to an existing County Park. County park personnel will be maintaining the site along with the maintenance of the existing Kamaole III Park. The park is a County park, open to public use, and add additional lands for passive recreational use.

5. ALTERNATIVES

Beside the No-Action Alternative, three parking and comfort station layouts were examined. The following are the considerations for each alternative.

5.1 No-Action Alternative.

Kamaole III Park use is increasing. A no-action alternative will not reduce the increasing number of people using this public facility. The project will provide additional parking and comfort station facilities. An outdoor shower will also be added for users at the south end of the park. A landscape irrigation system will be added to the entire site to replace the existing quick coupler irrigation system which requires manual operation which should relieve maintenance personnel to pursue other tasks.

5.2 Recommended Site Plan (Figure 2).

The proposed site plan has the parking area running toward the ocean. The comfort station is located toward the center of the parking area. The end of the parking area is more than 150 feet from the shoreline. Even though the parking area divides the park site, this plan is recommended for the following reasons:

1. The parking area will be constructed in the "undeveloped" portion of the site and would allow for the existing "developed" passive recreation area from the park to remain unaffected.
2. The parking area would delineate the "undeveloped" area south of the parking lot from the "developed" area. The southern shoreline is rocky and other facilities such as picnic facilities, tables, benches and heavier landscaping will be used to attract users. The area will still be maintained for passive recreational activities.
3. The 5 acre site is approximately the same size as the existing Kamaole III park. The parking and comfort station is located in the approximate center of the site. The sandy beach is a major attraction for park users; the parking area and comfort station for this site is centrally located and close to the sandy beach as feasible. Parking being closer to the rocky shoreline would encourage shoreline fishing or exploring as an alternate activity.
4. The parking lot and comfort station would be constructed over a rocky area which would increase construction costs.
5. The existing slope runs at about 5% which means that additional grade adjustments would have to be made for the (2% maximum slope) ADA stalls and walkways increasing the construction cost.
6. The existing grassed area would remain relatively undisturbed significantly reducing site impacts of the existing useable park area during construction.

7. The comfort station will not be built significantly lower than existing ground since the comfort station elevation is dictated by the elevation needed for the wastewater connection to the existing County wastewater system along Kihei Road with out providing a wastewater pump station for the facility.
8. The Plan is based upon input from the Kihei Community Association, the local community group in the area, in a meeting with the Mayor's representative.

5.3 Alternate 1 (Figure 3).

Alternative 1 examines the site layout as shown in Figure 3 with the parking lot running toward the ocean. Many of the advantages and disadvantages discussed above would apply to this alternative; however, the major differences are:

1. The parking area would be closer to the sandy beach but the proposed parking area removes a large portion of the existing grassed passive recreation area from the site which is already being used.
2. The number of parking stalls would be reduced if the parking area is kept at least 150 feet away from the shoreline.

5.2 Alternate 2 (Figure 4).

The proposed parking stalls parallels South Kihei Road with the comfort station makai of the parking area. The parking configuration allows people to spread through out the park yet still be within reasonable distance to their vehicles.

1. Experience at Kamaole Park III has shown that the existing parking lot which parallels South Kihei Road has been effective. Park users have an unobstructed ocean view from within the park. Views from South Kihei Road and the mauka properties will be mitigated by constructing the parking area and comfort station lower than Kihei Road. The existing ground is already lower than Kihei Road and therefore, grading for the parking will not be excessive. The comfort station roof line will be above Kihei Road. Lowering the comfort station may mean that sewer ejectors or pumps will be necessary and would raise capital and maintenance costs.
2. The plan allows for landscape trees to be planted along the parking area as required by County Code; however, the trees would aid in road side landscaping along South Kihei Road.
3. The proposed improvements would significantly reduce the area already being used for passive recreation activity; however, the parking area would serve as a buffer between the street and the park. Additional landscaping, grassing and irrigation system expansion may have to replace the existing area being lost.
4. The parking area is located approximately the same distance to the sandy beach at the northwest corner of the site as the selected site plan.

5.3 RECOMMENDED ALTERNATIVE:

Community input has weighed heavily in selecting the recommended alternative as shown in Figure 2 and the Maui Department of Parks and Recreation and has selected the site plan shown in Figure 2 as being the recommended alternative.

6. MITIGATIVE MEASURES

6.1 MITIGATIVE MEASURES FOR SHORT-TERM IMPACTS

Short-term impacts will occur mainly during construction. Mitigative and environmental measures to be implemented during the design, construction, and post-construction phases of the project to minimize short-term impacts are as follows:

The use of mufflers on construction equipment, together with restricting construction activities to standard working hours, will help mitigate noise impacts. All operations will be in compliance with the State Department of Health's rules and regulations, including the need for a Noise Permit, if necessary.

Impacts from dust created by the movement of construction equipment and construction vehicles and excavation can be mitigated through frequent watering of the site. Watering will occur through the weekend, on holidays, and on other non-working days to reduce the impacts from dust and to limit the potential of a fire hazard.

7. FINDING OF NO SIGNIFICANT IMPACT (FONSI)

(1) Involve a loss or destruction of any natural or cultural resource;

The beach and rocky shoreline will not be altered and the project will enhance the area by installing landscaping and irrigation. The project is for County park purposes and will be open to the public to enjoy. Primary above ground improvements consisting of a parking area and comfort station will be kept lower than South Kihei Road and away from the shoreline.

As noted in Section 3.8, the project will have "no effect" on significant archaeological or historical sites. If any archaeologically significant artifacts or other indicators of activity be uncovered during the construction phases of development, their treatment will be conducted in strict compliance with the requirements of the Department of Land and Natural Resources. Inquiries were made with the Department of Hawaiian Home Lands, Office of Hawaiian Affairs and the Boating and Ocean Recreation Division of the State Department of Land & Natural Resources with no responses received. In addition, none of the comments received on the Draft Environmental Assessment made reference to loss or destruction of cultural resources.

(2) Curtail the range of beneficial uses of the environment;

The Project involves park improvements and is consistent with the land use designation in the Maui County Kihei-Makena Community Plan and provide additional passive recreational facilities for the public.

- (3) **Conflict with the State's long-term goals or guidelines as expressed in Chapter 343, HRS;**

The proposed improvements are for public use and do not conflict with the Environmental Policies established in Chapter 344, HRS, and the National Environmental Policy Act.

- (4) **Substantially affect the economic or social welfare of the community or state;**

The Project will not substantially affect the economic or social welfare of the community or state. The project, in itself, is not contributing to new population growth or economic benefit to any specific organization. The project will provide additional recreational lands along the shoreline.

- (5) **Substantially affect public health;**

Once the Project is completed, impacts from air, noise, and water quality impacts will be insignificant or not detectable. Overall, the improvements will be positive as compared to the "no-action" alternative since it will provide additional parking, comfort facilities and expand passive recreational shoreline area for the public.

- (6) **Involve substantial secondary effects, such as population changes or infrastructure demands;**

The proposed project will not in itself generate new population growth, but it will provide additional recreational facilities for the area. The comfort station will not significantly impact wastewater and potable water demands.

- (7) **Involves a substantial degradation of environmental quality;**

The project proposes to develop the site into a park. Portions of the site has been grassed and is already used for park passive recreation purposes. Most of the improvements will be constructed in the undeveloped portion of the site to maintain the area already used for passive recreation. In addition, the southern portion of the site has exposed soils and subject to erosion, and grass which is not irrigated and maintained. Some of the existing trees will be replanted as part of the landscaping. The site will be used for passive recreational purposes and does not involve substantial degradation of environmental quality.

- (8) **Cumulatively have a considerable effect on the environment or involve a commitment to larger actions;**

The proposed project involves park development which ultimately expands the existing Kamaole III Park. The lands along the shoreline in this area is used for public recreational purposes, thus, substantial effects on the environment will not occur. A commitment to larger actions is not planned at the present time.

- (9) **Substantially affect a rare, threatened, or endangered species or its habitat;**

No endangered plant or animal species was observed within the project site.

- (10) **Detrimentially affect air or water quality or ambient noise levels;**

No streams exist within or near the Project area. Air and water quality will comply with the State Department of Health noise and clean water regulations. The comfort station is not noise generating and will not increase ambient noise levels.

- (11) **Affect an environmentally sensitive area, such as a flood plain, tsunami zone, erosion prone area, geologically hazardous land, estuary, freshwater area, or coastal waters;**

There is a tsunami zone along the shoreline of the project; however, effects upon this sensitive area are minimal since the improvements will consist of landscaping and irrigation. The project is a shoreline park with the proximity to the beach as the primary use. The park is in accordance with designated land uses.

- (12) **Substantially affect any scenic vista or view plane;**

The improvements will be constructed lower than South Kihei Road to mitigate and preserve scenic views from along South Kihei Road and the mauka properties.

- (13) **Require substantial energy consumption.**

The proposed project will not require substantial energy consumption once the Project has been completed since the comfort station and parking lot will be for daylight use only.

8. REFERENCES

Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, U.S. Department of Agriculture, Soil Conservation Service, August 1972.

FIRM Flood Insurance Rate Map, Maui County, Hawaii, March 16, 1995, Federal Emergency Agency.

Atlas of Hawaii (Second Edition). Department of Geography, University of Hawaii, University Hawaii Press, Honolulu, 1983.

Kihei-Makena Community Plan, County of Maui, March 1998.

9. FIGURES

9.1 TOPOGRAPHIC SURVEY (OF SITE)

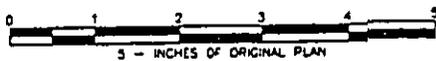
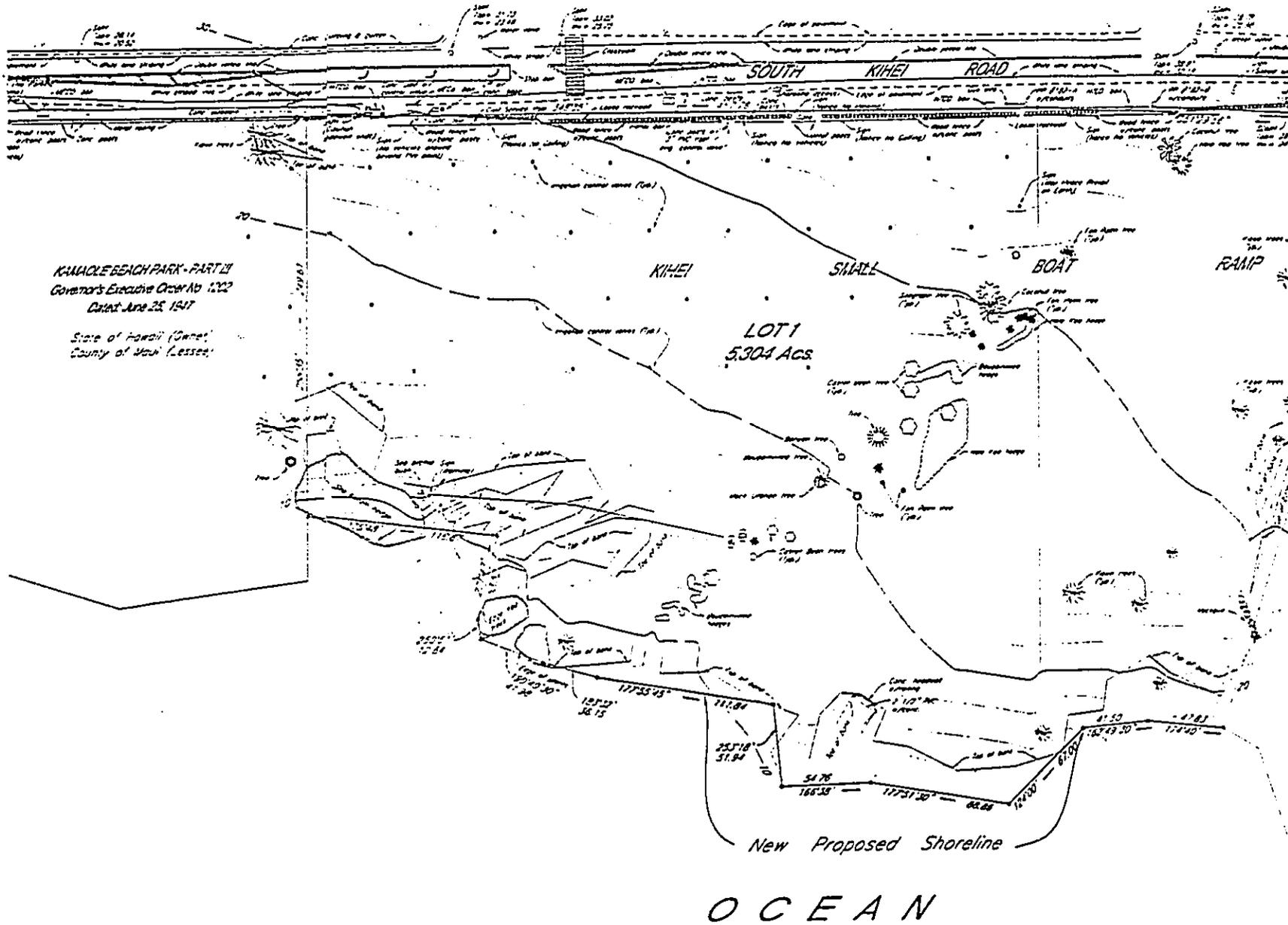
9.2 PROJECT LOCATION

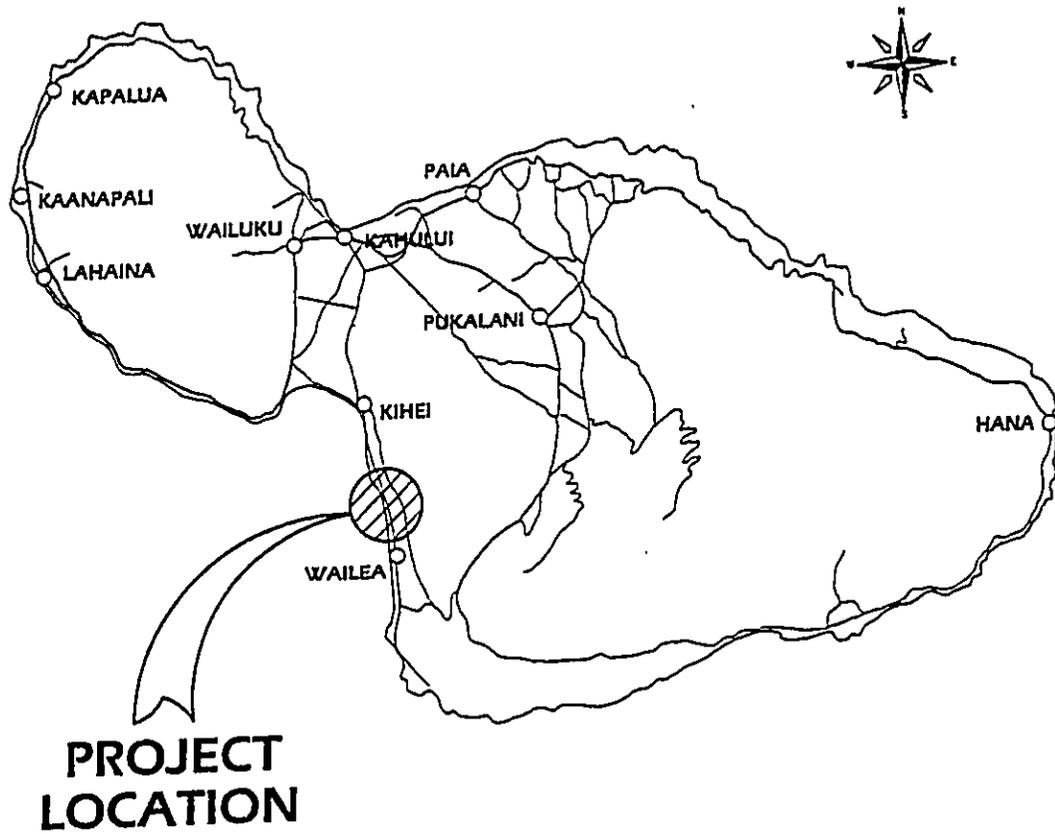
9.3 PROJECT TMK LOCATION

9.4 SITE PLAN

9.5 SITE PLAN - ALTERNATE 1

9.6 SITE PLAN - ALTERNATE 2

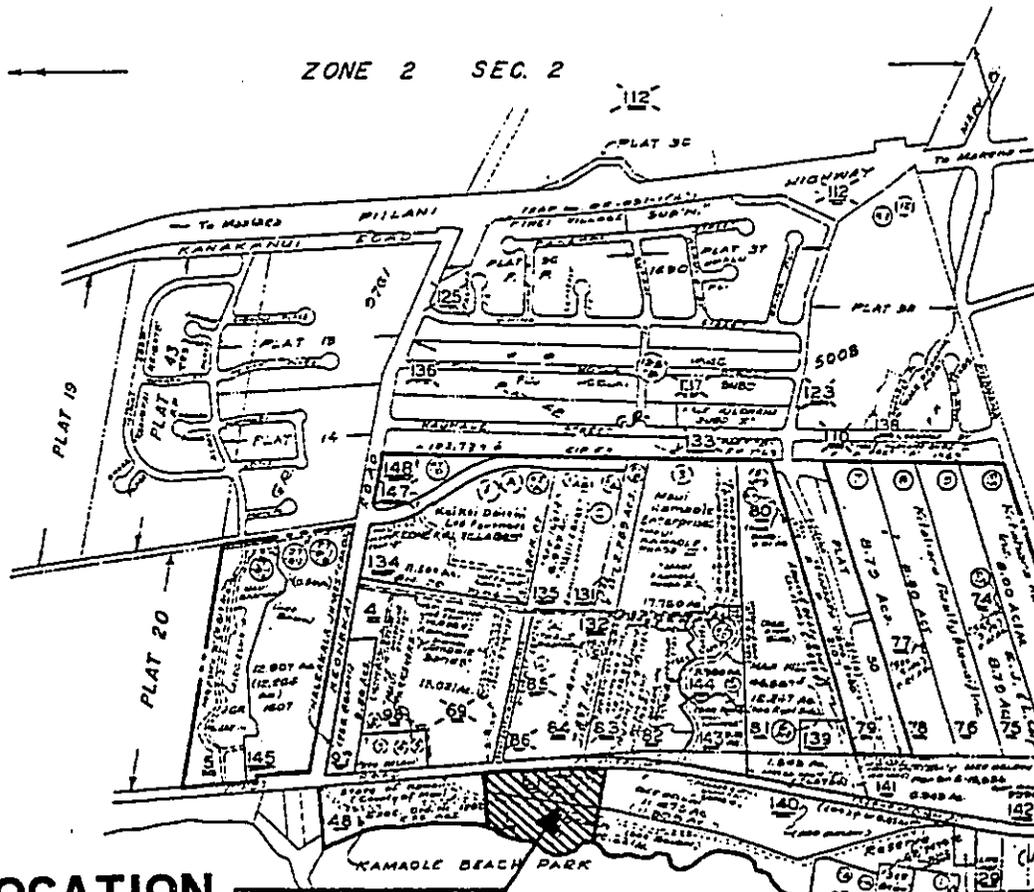




Project Location



ZONE 2 SEC. 2



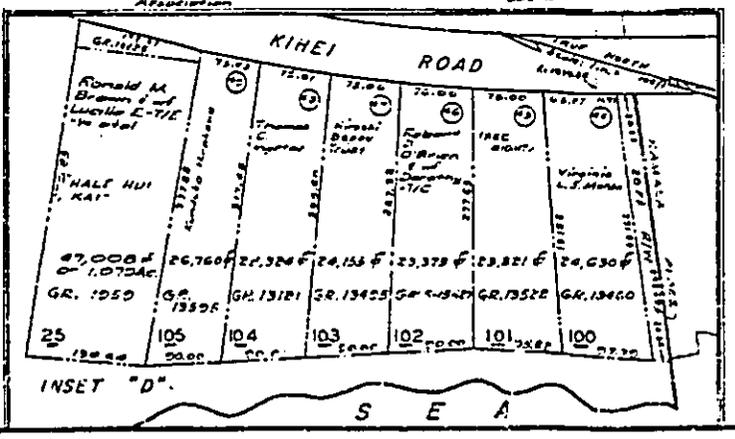
PROJECT LOCATION

132 Kane Enterprises Corp.-19
 Gulture Enterprises Inc.-19
 Hakanson Enterprises Inc.-19
 Malcom Enterprises Inc.-19
 Alabi Enterprises Inc.-19

82 Foodmaker Inc.

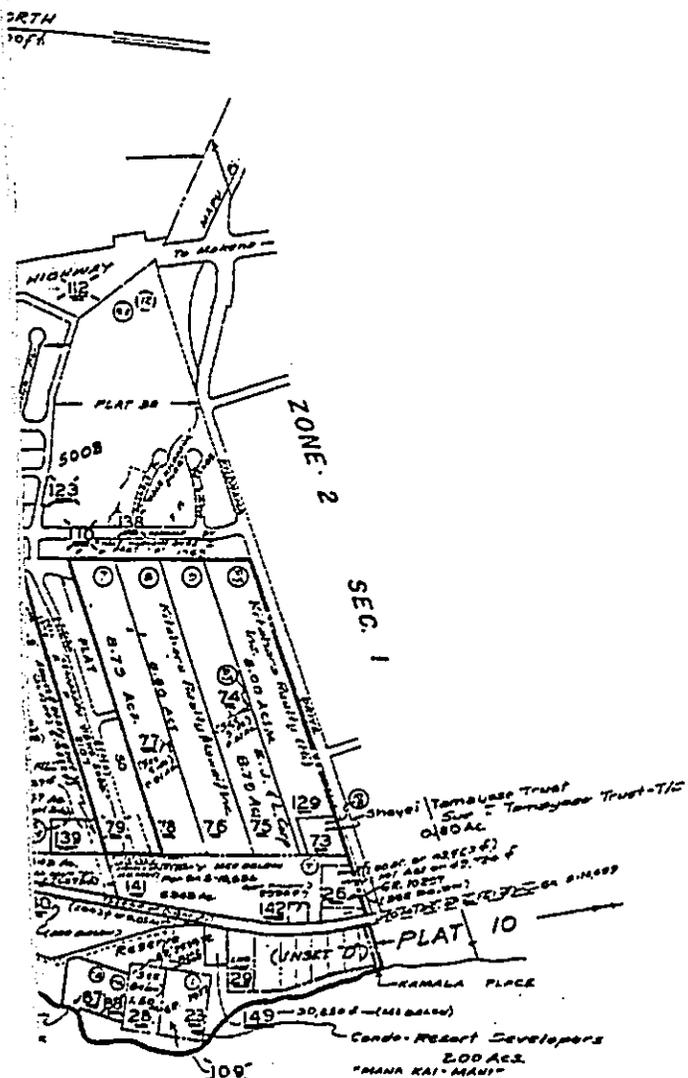
144 Nohol Dec Homeowners Assn

- 5 Maui Banyan Ltd. Partnership
- 61 State of Hawaii (Kane Enterprises Inc.) (Tower Development Corp.) (Maui Kamaole Enterprises I) sub-sub-1a
- 87 Kamaole Shores Development Co.
- 145 Bora (Maui) Corporation
- 98 Maui Parkshore Associates 77,889 sq ft
- 140 State of Hawaii (Kawakoa Homeowners Assn) (Rev. Prot. 5-2000 over 0.238 Ac (Maui Hill Condominiums) (Rev. Prot. 5-6775 over 1.805 Ac
- 29 State of Hawaii (Island Investment Ltd) (GL 5-4212 (Towa Shinya Hawaii Inc) sub-1a
- 28 Kitchi S Sub-1a
- 84 "Hale Kamaole" Honolulu Federal Savings & Loan Association
- 141 Kane Enterprises Inc.
- 142 State of Hawaii (Kane Enterprises Inc.) (Tower Development Corp.) (Maui Kamaole Enterprises I) sub-sub-1a
- 121 Kane Enterprises Inc.
- 26 Kane Enterprises Inc.



For KAMAOLE HOMESTEADS, WAILUKU, MAUI

BY: L. G. H. Feb. 1984 H.M. Jan. May 22 1980
 SOURCE: Tax Maps Bureau
 PASADENA
 [unclear]



81 Hill Enterprises Ltd.-54%
 Russell C Hill Trust-25%
 Clarence A Hill Trust-21%
 (Kraus-Anderson St Paul Dev) Inc

139 "Kamoaopu"

74 E. J. & L. Corp.-4%
 Kirihara Realty (Hawaii) Inc.-4%

123 Maui County Waterworks Board
 "KMS-TOWN OF 81"

77 Kirihara Realty (Hawaii) Inc.

80 Various Owners see TMB 1926 '67

135 Maui Court

143 Maui Kamoaopu Enterprises

NOTE

Parcels 17, 18, 19, 24, 34, 36, 37, 38, 39, 40, 41, 42, 43, 50, 68, 87, 91, 94, 95, 111, 113, 115, 116, 117, 6' 119, dropped into Plat 3-D-17.

Parcels 5, 11, 12, 20, 61, 67, 68, 66, 67, 90, 99, 120, 121, 126, 5' 125 dropped into Plat 3-D-18.

Parcels 13, 14, 15, 62, 124 & 127 dropped into Plat 3-D-19.

Parcels 6, 7, 8, 21, 22, 32, 52, 59, 54, 58, 56, 57, 75, 71, 72, 93, 96, 105, 107, 108, 114, 120 & 122, dropped into Plat 3-D-20.

Parcels 63 & 64 dropped into Plat 3-D-23.

Parcel 2 dropped into 3-D-25-22.

Parcel 9 dropped into 3-D-12-31.

Parcel 10 dropped into 3-D-12-1

Parcel 16, 58 drpd into 3-D-13 & 14

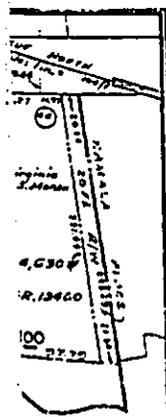
Parcel 30 dropped into 3-D-12-1, etc.

Dropped Parcels: 100, 123, 99, 110, 119, 97, 39, 129, 126, 125, 96, 112, 127, 127, 97, 126, 95, 127, 129

DEPARTMENT OF THE TAX COMMISSIONER		
TAXATION MAPS BUREAU		
STATE OF HAWAII		
TAX MAP		
SECOND	DIVISION	
ZONE	SEC.	PLAT
3	9	04
CONTAINING		PARCELS
SCALE: 1 IN. = 500 FT.		

SUBJECT TO CHANGE

141 George P. Ferguson, Jr. & Eleanor B. Tye
 142 State of Hawaii (County of Maui - Dept. of Public Works) "SEWERage PLANT STATION SITE No. 8" Area. Draw 8280
 143 Joseph C. Denton - L/I, Curtis D. Anderson - L/I, Cheryl C. Anderson, James G. Anderson, Abraham H. Anderson, Linda A. Anderson & Albert P. Anderson and Lucinda M. Anderson
 149 (Tama Shinyo Maui, Inc) Rev. Pmt. 3-6-14 "FLOATING PARCEL"



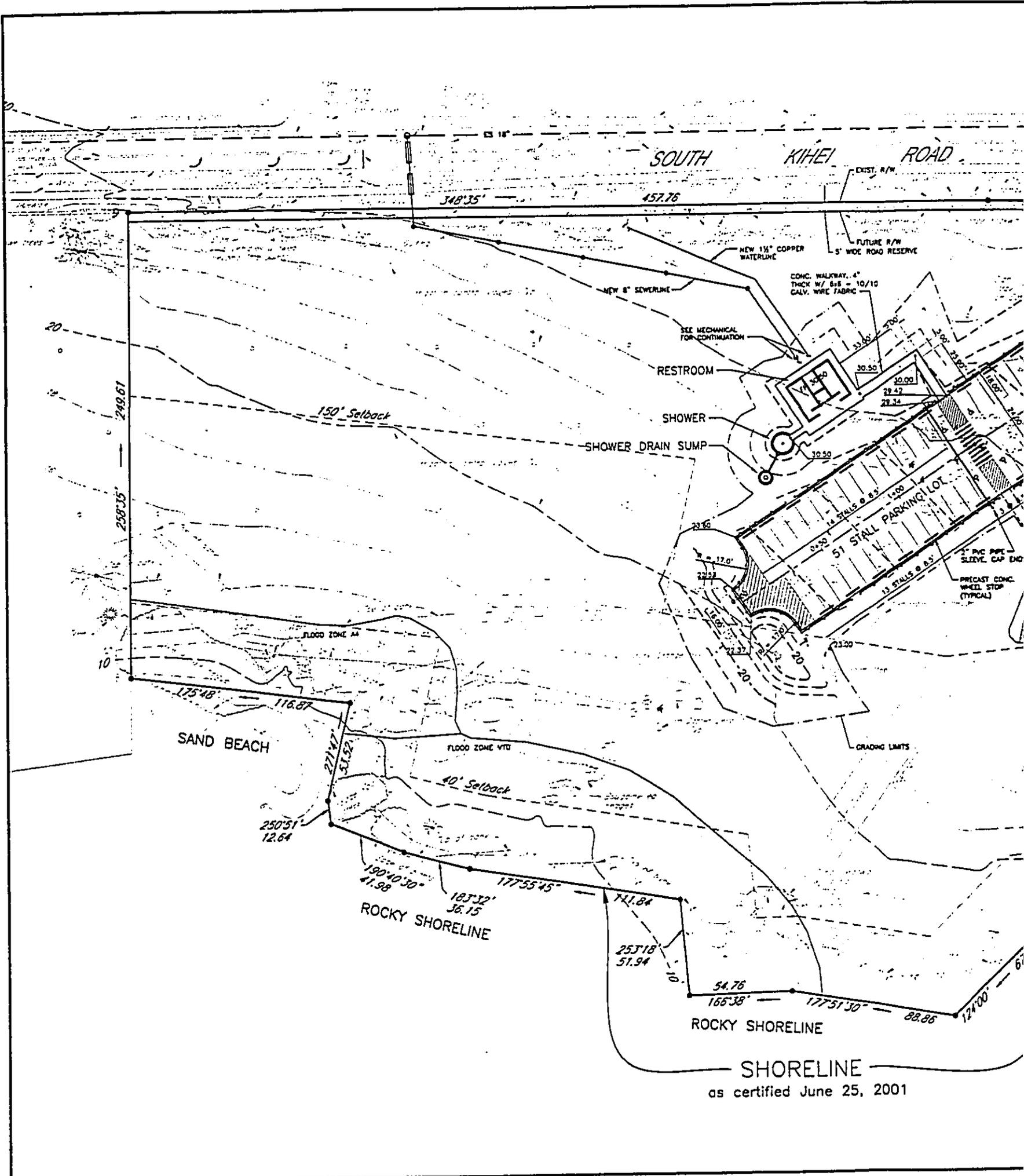
141 George P. Ferguson, Jr. & Eleanor B. Tye

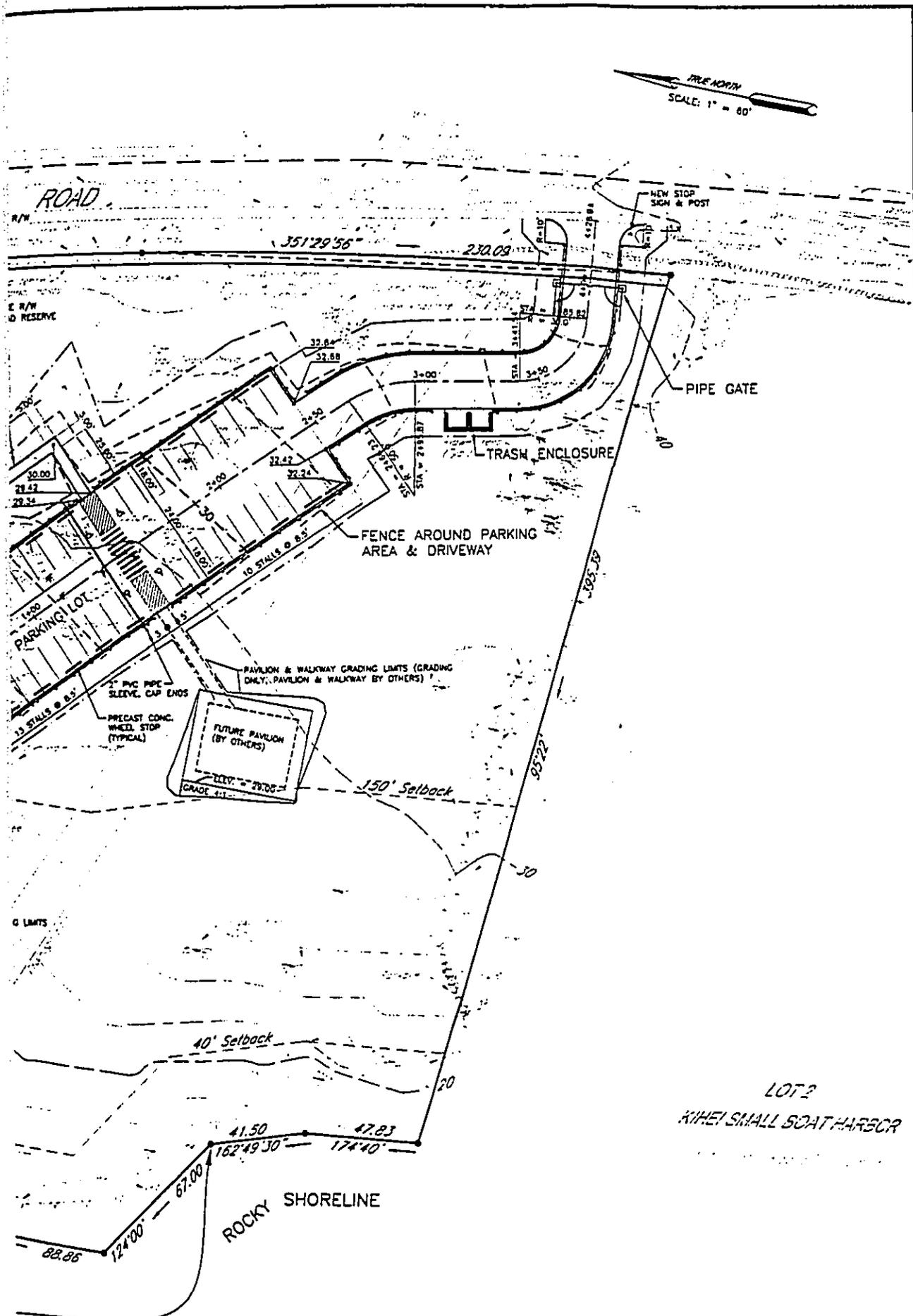
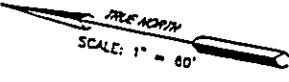
142 State of Hawaii (County of Maui - Dept. of Public Works) "SEWERage PLANT STATION SITE No. 8" Area. Draw 8280

143 Joseph C. Denton - L/I, Curtis D. Anderson - L/I, Cheryl C. Anderson, James G. Anderson, Abraham H. Anderson, Linda A. Anderson & Albert P. Anderson and Lucinda M. Anderson

149 (Tama Shinyo Maui, Inc) Rev. Pmt. 3-6-14 "FLOATING PARCEL"

↓ Note of Name





REVISED:	
DATE:	

KAMAOLE III PARK EXPANSION
 KIHEI, MAUI, HAWAII

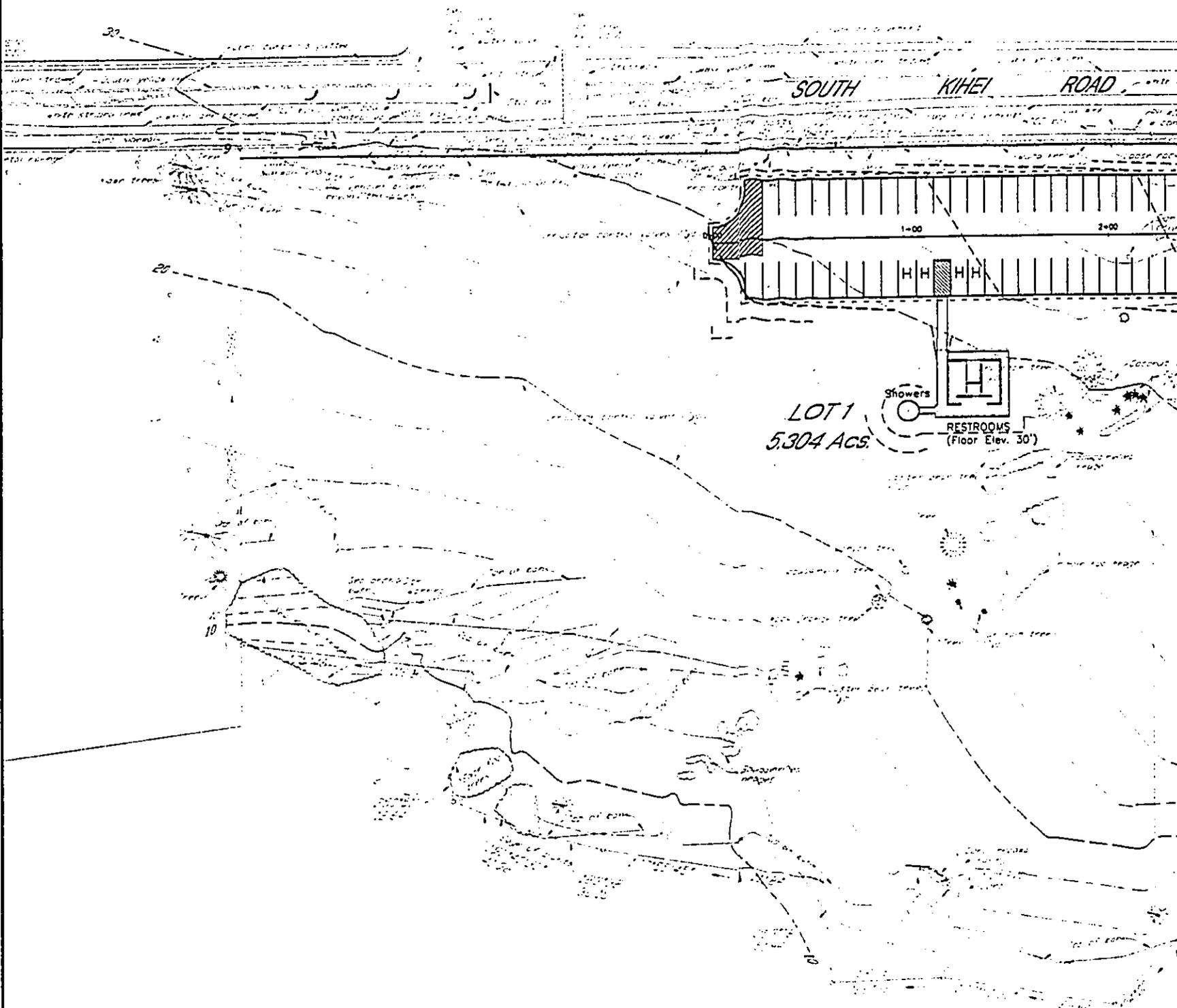
COUNTY OF MAUI, DEPARTMENT OF PARKS & RECREATION
 PROJECT NO. P001/006

SITE PLAN

C. TAKUMI ENGINEERING, INC.
 718 CENTRAL AVENUE
 WAILUKU, MAUI, HAWAII

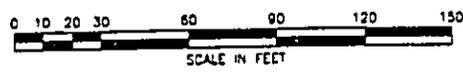
DATE:	09/18/01
SCALE:	1" = 60'
FILE NO.:	CPK-006
DESIGN BY:	C.F.
DRAWN BY:	C.F.
CHECKED BY:	C.T.
SHEET	OF _____ SHEETS

001



SHORELINE (as certified
June 25, 2001)

OCEAN



**APPENDIX A: ARCHAEOLOGICAL INVENTORY SURVEY
and
STATE HISTORICAL PRESERVATION DIVISION RESPONSE**

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



OLEBERT S. GOLOMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
JANET E. KAWILO
LINNELL NISHIOKA

Proj. 277

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhikawa Building, Room 655
601 Kamehaha Boulevard
Kapolei, Hawaii 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

August 28, 2001

Robert Spear, Ph.D.
Scientific Consultant Services, Inc
711 Kaplolani Boulevard, Suite 777
Honolulu, Hawaii 96813

LOG NO: 28082
DOC NO: 0108MK18

Dear Dr. Spear,

**SUBJECT: Review of An Archaeological Inventory Survey for Kama'ole Beach
Park No. 3 Project,
Kama'ole Ahupua'a, Makawao District, Maui
TMK 3-9-4:1 and 61 (pors)**

Thank you for the opportunity to review this report which our staff received on July 21, 2001
(Callis 2001, *Archaeological Inventory Survey for Kama'ole Beach Park No. 3 Project, Kama'ole
Ahupua'a, Kula District, Island of Maui, Hawaii, TMK 3-9-4:1 and 61 pors...SCS ms.*).

The background section provides a summary of the ahupua'a settlement pattern. The
historical information provided briefly summarizes the history of the post-contact period land
uses. This section needs a map of the ahupua'a showing the locations of the LCA awards to
support the claim that no LCAs are in the project area. Also a map is needed indicating the
location of previous archaeological investigations near the project area. For your information,
there have been numerous other archaeological studies in this area in recent years. They do
not affect the settlement patterns that you portray, but in the future, please be sure to review
this additional work. With the understanding that the two maps will be provided, we can
complete this review at this time.

The survey has adequately covered the project area documenting no historic properties in the
project area.

Thus, the report is acceptable with the understanding that the above-noted two maps will be
submitted to our Maui and Honolulu offices for inclusion in the report.

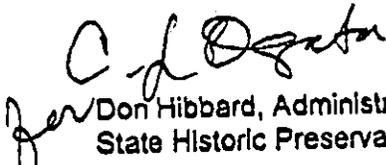
We believe that undertakings on this parcel will have "no effect" on significant historic sites.
However, we do believe that the sandy areas of the project should be archaeologically
monitored during construction, to cover the slight possibility that human skeletal remains might

Robert Spear, Ph.D.
Page 2

be uncovered. Such sand areas – even those altered by past land use – have contained skeletal remains. Monitoring would be a contingency measure. A brief monitoring plan (scope of work) addressing documentation and treatment procedures for any skeletal remains that might be found should be submitted to our office for review and approval.

Should you have any questions, please contact Dr. Melissa Kirkendall (Maui/Lana'i SHPD 243-5169) as soon as possible to resolve these concerns.

Aloha,


Don Hibbard, Administrator
State Historic Preservation Division

MK:jen

c: John Min, Director, Department of Planning, County of Maui, FAX 270-7634
Bert Ratte, County of Maui, Land Use and Codes, FAX 270-7972
Glen Ueno, County of Maui, Land Use and Codes, FAX 270-7972

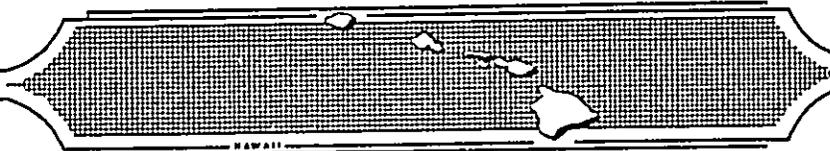
SCS Project No. 277-1

**ARCHAEOLOGICAL INVENTORY SURVEY FOR
KAMA'OLE BEACH PARK NO. 3 PROJECT,
KAMA'OLE AHUPUA'A,
KULA DISTRICT, ISLAND OF MAUI, HAWAII
[TMK: 3-9-4:1 and 61 (pors.)]**

Prepared by:
Irene Calis, M.A.
July 2001

Prepared for:
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, HI 96793

SCIENTIFIC CONSULTANT SERVICES Inc.



711 Kapiolani Blvd. Suite 1475 Honolulu, Hawaii'i 96813

ABSTRACT

Scientific Consultant Services, Inc. (SCS) conducted Archaeological Inventory Survey of approximately 5.50 acres of land located in the *ahupua`a* of Kama`ole, Kula District, Maui Island, Hawai`i [TMK:3-9-4:1 and 61 (pors.)]. The goal of this project was to investigate the presence/absence of archaeological structures and/or deposits across this coastal area prior to construction work on Kama`ole Beach Park III.

A thorough surface inspection of the project parcel was conducted prior to the mechanical excavation of eleven stratigraphic trenches and produced negative results. Following, eleven stratigraphic trenches were distributed to reflect representative sampling coverage of the project area.

No archaeological sites, features, artifacts, or deposits were identified on the surface or in subsurface contexts. The lack of surface or subsurface remains may be attributed to historic land alterations as well as a lack of cultural activity within the immediate vicinity of Kama`ole Beach Park III.

No sites were identified anywhere in the project area. No further archaeological work is deemed necessary for the project parcel.

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INTRODUCTION

At the request of C. Takumi Engineering, Inc., Scientific Consultant Services, Inc. (SCS) conducted Archaeological Inventory Survey for the Kama`ole Beach Park III Project. The project area encompassed 5.35 acres of Kama`ole Beach Park III and is located in Kama`ole Ahupua`a, Kula District, Māui Island, Hawai`i [TMK:3-9-4:1 and 61 (pors.)] (Figure 1).

This Inventory Survey was done to assess the presence/absence of significant archaeological sites or deposits in the project area that could be affected during construction activities. Archaeological methods included 100% pedestrian survey of the project area and representative subsurface testing of the parcel. Based on the location of the project area occurring near the coastline and background research, it was thought that significant archaeological resources could be identified during the project. As discussed below however, the results of these investigations were negative.

PROJECT AREA ENVIRONMENT

Māui is the second largest island of the Hawaiian chain and was formed from two volcanoes, Haleakalā forming east Māui and Pu`u Kukui on west Māui. Kama`ole Beach Park III is situated on the southeastern (leeward) shore of Māui, where rainfall averages ten inches annually (Price 1983). The project area is located approximately 150 m from the ocean (see Figure 1). The eastern boundary of the parcel was delineated by South Kihei Road; the west boundary was demarcated by a county property line; the northern boundary composed a grassy tract at the mid-section of Kama`ole Beach Park III; and the south boundary was delimited by an existing gravel parking lot for the Kihei Small Boat Harbor (Figures 2 through 6).

The dominant soil type within the project area is classified as Jaucus sand (JaC) of the Jaucus series. Jaucus sand occurs within narrow strips along coastal plains and is characterized by its rapid permeability and very slow runoff (Foote *et al.* 1972). Recent infilling and grading of portions of the project area involved the laying down of crushed basalt, silty clay, and asphalt over the ubiquitous subsurface sand strata. In the southern portion of the project area, rock outcrops (pahoehoe) were common, many eroding from the surface and impeding excavation depth (see Figure 5).

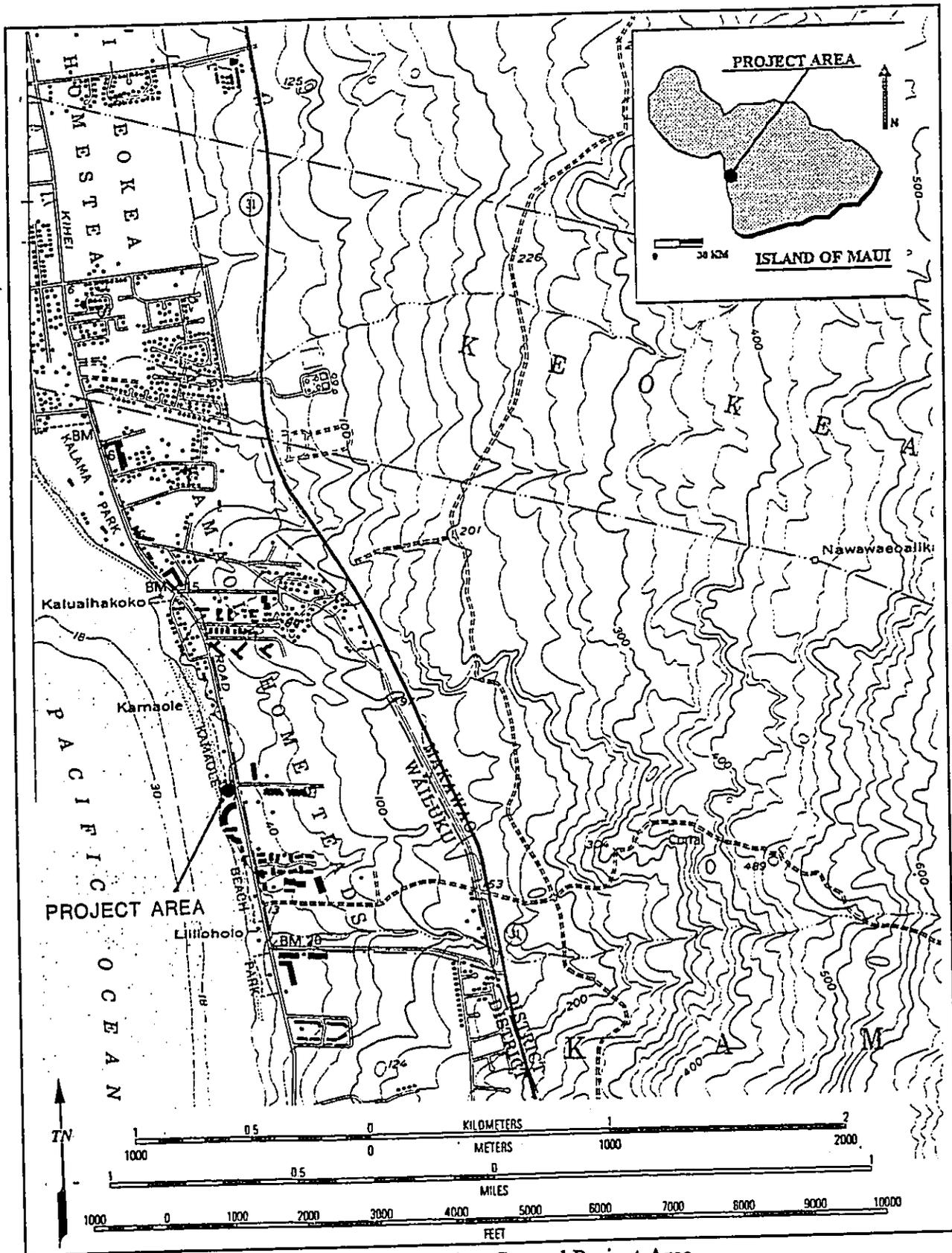


Figure 1: USGS Topographical Map Depicting General Project Area.

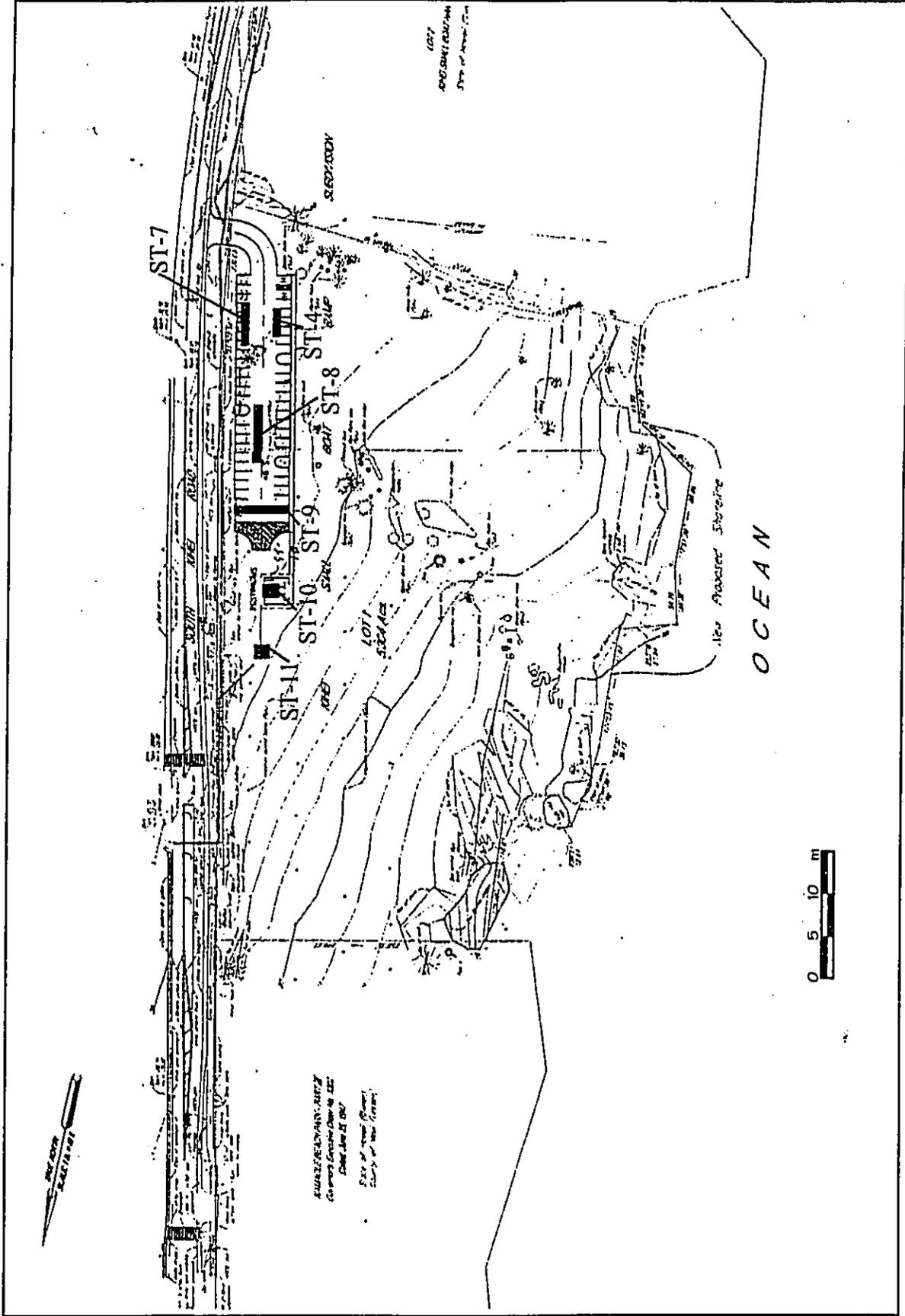


Figure 3: Construction Plans for Proposed Northern Work Areas and Stratigraphic Trench Locations (From C. Takumi Engineering).



Figure 4: Photograph of General Project Area Overview, Southeastern Flank. View to West.

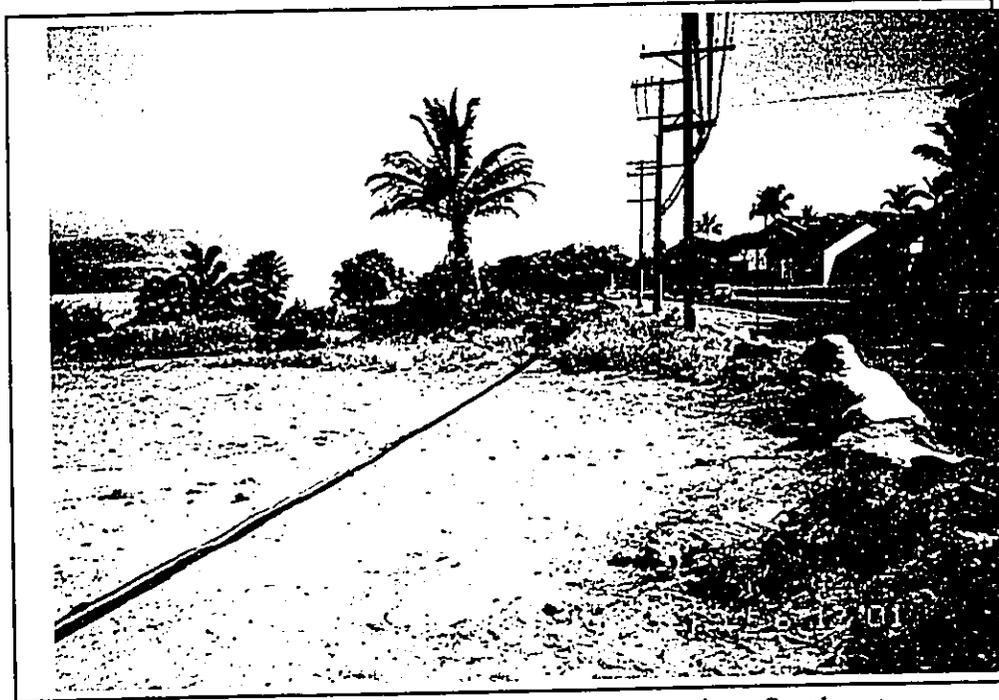


Figure 5: Photograph of General Project Area Overview, Southeastern Flank. View to Northwest. Note: South Kihei Road at Right.

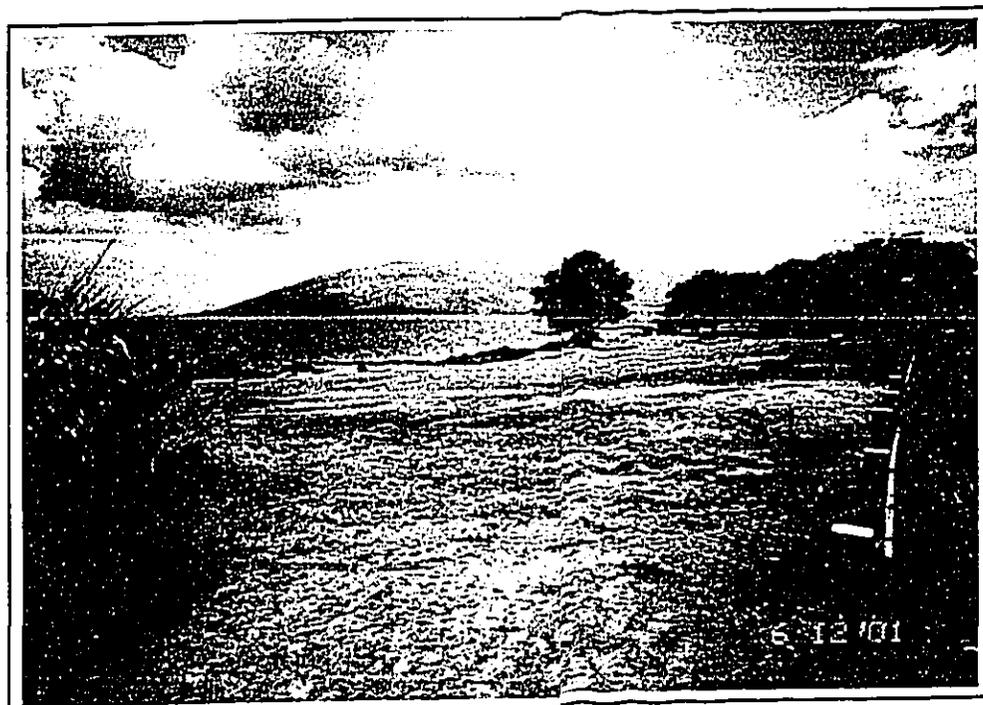


Figure 6: Photograph of General Project Area Overview, Northern Flank. View to Northwest.

Surface vegetation in the project parcel primarily consisted of two indigenous tree species (although not endemic to Hawai'i), *'ilima* (*Sida fallax*) and *niu* (*Cocos L.*), as well as grasses and secondary growth shrubs. The most common introduced vegetation was represented by *kiawe* (*Prosopis pallida*) and common Bermuda grass cover.

TRADITIONAL AND HISTORIC SETTING

The project area is situated within the *ahupua'a* of Kama'ole, Kula District. The plains region of Kula, the latter term meaning "open country" or "plain," is predominantly devoid of perennial streams. It is from this characteristic that the term *kula* is often used to differentiate between dry (*kula*) taro and wet-land taro. Handy and Handy (1972:510-511) have described the district as follows:

"Kula was always an arid region, throughout its long, low seashore, vast stony *kula* lands, and broad uplands. Both on the coast, where fishing was good, and on the lower slopes of Haleakalā a considerable population existed. So far as we could learn Kula supported

no Hawaiian taro, and the fisherman in this section must have depended for vegetable food mainly on poi brought from the wet lands of Waikapu and Wailuku to westward across the plain to supplement their usual sweet-potato diet. . . Kula was widely famous for its sweet-potato plantations."

The indigenous cultivation activities of native Hawaiians remained essentially unchanged until the introduction of the Irish potato in 1840, during which time the Kula district in particular experienced a boom in potato cultivation (Kuykendall 1968). As the demand for cultivation declined during the 1950's, the region was used by a growing Chinese population as an agricultural hub for many other crops like corn, beans, onions and grains (*ibid*).

Prior to the Māhele or land division in 1848, two areas were selected as an experiment for the new land reform system: Makawao on Māui and Mānoa Valley on O`ahu. Land in Makawao was put up for sale to the local people under fee simple terms. For a price of \$1 an acre, almost 100 parcels were sold, ranging in size from five to ten acres (Kuykendall and Day 1961). These parcels were registered as Grants and are, therefore, not listed in the records of Land Commission Awards that began in 1848. In the late 1840s-early 1850's, native Hawaiian tenants were allowed to claim the lands they had been occupying and cultivating.

Settlement patterns for the Kama`ole III area are reconstructed from native and foreign testimony, documented during the Māhele. As no Land Commission Awards were awarded within the immediate current project area parcel, adjacent land use records provide evidence for land use in the area. These records reveal that house lots most often occurred along the coast, with only one house lot claimed in the inland portion (Kennedy *et al.* 1992). The Kama`ole area was predominantly used for the cultivation of sweet potato, Irish potato, and for pasture lands. In traditional times, the coastal area of Kama`ole, with direct access to marine resources and upland trails, would have provided a suitable environment for permanent habitation bordering the surrounding arid district.

By the 1880s, economic emphasis along the coast of Kula shifted from agriculture to ranching. In the early 20th century, land use would again change. In 1911, large portions of public land were put up for sale, during which time citizens were able to purchase property in the Kula district. A number of farmers in Kula were subsequently forced to leave during the parceling of homesteads and population within the district decreased (Donham 1990). By the

mid 20th century, a majority of the district had been developed for commercial use; the Kihei area near the project area was mainly developed for housing projects, tourist resorts, and commercial buildings. Construction for this project, including the installation of a parking lot and comfort stations, is being conducted to alleviate pressures of recreational use in the area.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

The earliest archaeological investigation in the Kama'ole area was conducted by Walker (1931). He recorded three sites in upland areas, near the present day Kula Road. Three *heiau* were identified: Wailuku *Heiau* (State Site #50-50-14-1031), Kolea *Heiau* (State Site #50-50-14-1032) and Walker 207 *Heiau* (State Site #50-50-14-1033).

A number of more recent archaeological investigations have been conducted within the coastal areas of Kihei. From these inquiries, several settlement models for leeward east Māui have been proposed. These models have been based on the delineation of three environmental or resource zones: 1) the 1/4 mile wide strip of coastal zone; 2) the inland barren or transitional zone that is characteristically dry and not well-suited for agriculture; and 3.) the upland/more inland zone marked by the 30 inch rainfall contour and lush vegetation (Kennedy *et al.* 1992).

During his investigation of two site complexes at Palauea, Kirch (1971) postulated that habitation along the southeastern coastline occurred when temporary access to marine resources was required. He suggested that the upland areas, where agriculture was viable, were used for permanent habitation. A radiocarbon date from carbonized wood of a burnt post at a coastal site yielded a date range of A.D. 1545-1745.

Cordy (1977) documented twelve archaeological sites during his investigation of nine drainage gullies and an inland corridor between Kealia Pond and Wailea. Four of these sites were delineated as prehistoric and eight as historic. Based on his findings and on historical research, Cordy proposed an alternative settlement model for leeward east Māui: permanent habitation occurred on the coast and coastal-inland patterns varied depending on the distance to the inland zone. Under this model, Kama'ole *ahupua`a*, situated at an intermediate distance from the coast, was thought to have contained a population based on the coast with minimal inland occupation.

Cordy and Athens (1988) work in Mākena revealed agricultural features within lower elevations of the barren zone. These features highlighted that the barren zone was utilized by Hawaiian planters more than was previously assumed. Cordy (1981) proposed that prehistoric permanent housing in the Makena area, occurring several kilometers southeast of the current project area, dated to A.D. 1600 or "no further back than the mid-A.D. 1500s" (Cordy and Athens 1988:10). Recently acquired data from Gosser *et al.* (1996) and Cordero and Dega (2001:47) suggest, however, that permanent habitation in the coastal-inland zone may have commenced from approximately A.D. 1200, with an increase in settlement by the A.D. 1600s.

Closer to the project area, during a reconnaissance survey of the Kihei Boat Launching Ramp, Sinoto (1978) documented a traditional enclosure, a cairn, a U-shape, and several wall features. Kennedy *et al.* (1992) identified four sites during an inventory survey of 17.60 acres of property in coastal Kama`ole. The traditional and historic sites included a cluster of C-shapes, surface midden scatter and two walls. Subsurface excavation failed to yield any cultural deposits amenable to dating.

Thus, prior to subsurface testing during the present phase of investigations, it was thought that archaeological evidence representing traditional coastal habitation, agriculture, and historic-period use of the parcel (e.g., ranching walls) could be identified within the project area. This would accord with settlement pattern data for the area.

SETTLEMENT PATTERN

Based on archaeological and archival evidence, settlement of the Leeward Kihei-Makena area has been fairly deep. Initial occupation of the area is suggested to have occurred during the c. A.D. 1200s, several habitation sites (permanent and temporary) along the coast and slightly inland having been documented to this time period. Marine resource acquisition and supplemental sweet potato cultivation are suggested as subsistence resources from this time. From the mid-A.D. 1500s, population density significantly increased along the coast and slightly inland, with more habitation structures and agricultural fields being concomitantly constructed. Basic resources remained the same yet agricultural crops were intensified (sweet potato) and upland areas were exploited and utilized on a more extensive basis. During historic times, the population was settled along the coastline, much as today. Land Commission Award records

reveal that house lots most often occurred along the coast, with only one house lot claimed in the inland portion of Kama`ole (Kennedy *et al.* 1992). The Kama`ole area was predominantly used for the cultivation of sweet potato, Irish potato, and for pasture lands.

By the 1880s, the economy along the Kula District coast shifted from agriculture to ranching, as evidenced by the many documented walls in the area (see Kennedy *et al.* 1992). By 1911, large portions of public land were put up for sale, during which time citizens were able to purchase property in the Kula district. Modern land use was established in the mid 20th century as a majority of the district, particularly in Kihei along the coast, was developed for housing projects, tourist resorts, and commercial buildings.

Concerning Kama`ole Ahupua`a exclusively, one may suggest many of the same settlement patterns for the parcel as a whole. Coastal settlement and non-intensive use of the barren zone and uplands occurred from the A.D. 1200s. Population density in the *ahupua`a* increased between A.D. 1200-1500, with the primary economic and habitation zone still being along coastal reaches of this Leeward environment. Significant occupation of upland area commenced in the A.D. 1300-1400s with residential structures, agricultural fields, and religious sites being constructed during this time.

Post-1500, several hundred years before European contact, population numbers increased in the coastal zone and upland forest peripheries were occupied. Numerous structures were built along the coast, within portions of the barren zone (c. 400-1,500 ft. above mean sea level), and in upland forest peripheries. These structures included agricultural features (terraces, garden enclosures), residential sites (terraces, platforms, enclosures, modifications to rock shelters), and other features (boundary walls, cairns, mounds, *heiau* (see Dixon *et al.* 1997; Kirch 1997).

The A.D. 1600s bore witness to an "intensification period" in which residences and agricultural fields were expanded primarily along the coast and in upland reaches receiving enough rainfall to sustain an increase in production (in conjunction with deeper soils amenable to such cultivation). In Kama`ole Ahupua`a, the most popular occupation zones were along the coast and in upland forest areas, the barren area between containing evidence for small-scale agricultural endeavors, temporary and permanent habitation, and religious sites, yet, not on the scale or level seen in the aforementioned zones. This trend of almost exclusive coastal and

upland forest occupation distribution continued through historic times, until ranching became the dominant activity in the barren and upland forest zones. The historic period marked a change in the economy of the *ahupua`a*. However, the primary economic and occupation zone of the *ahupua`a* remained along the coast, a trend continuing today.

RESEARCH METHODOLOGY

A 100% pedestrian surface survey of the project area was conducted by SCS archaeologists J. Pickett and M. Dega on June 13th, 2001 prior to subsurface testing. Representative subsurface sampling was conducted within select areas of the project parcel through mechanically excavated stratigraphic trenches (ST). These sampling areas were selected based on suggested stratigraphy and that they contained the highest possibility of containing significant archaeological sites (i.e sand substrata). Excavation locations were demarcated during surface survey. The distinguished areas were situated directly within proposed construction zones. As illustrated in Table 1, eleven representative stratigraphic trenches of varying size were mechanically excavated with a backhoe within various portions of the project area (see Figures 2 and 3).

Table 1: Stratigraphic Trenches and Excavated Volume

Trench No.	Length (m)	Width (m)	Depth (m)	m ² Excavated	m ³ Excavated
ST-1	22.00	1.30	0.67	28.60	19.16
ST-2	3.00	1.30	0.66	3.90	2.57
ST-3	6.35	1.30	0.97	8.25	8.00
ST-4	5.00	1.30	0.05	5.00	0.32
ST-5	5.00	1.30	0.05	5.00	0.32
ST-6	11.50	1.60	1.02	18.40	18.76
ST-7	9.10	1.30	0.73	11.83	8.63
ST-8	12.50	1.30	1.23	16.25	19.98
ST-9	11.50	1.30	1.75	14.95	26.16
ST-10	3.00	2.20	1.40	6.60	9.24
ST-11	3.00	2.00	1.60	6.00	9.60
TOTALS	—	—	—	avg. 11.34 m ²	avg. 11.15 m ³

Each trench was visually inspected for the presence of cultural deposits and/or skeletal material. None of the sediment from any trench was screened. A stratigraphic profile of at least one wall of each excavated trench was measured and illustrated. The general project area and excavated trenches were photographed. Plan view maps and stratigraphic profiles were drafted and digitized in the SCS laboratory. All field notes and other documents pertaining to the project are being curated in the SCS laboratory, Honolulu.

FIELDWORK RESULTS

A complete pedestrian survey of the project area returned negative results. From survey, it was clear that the subject property had been subject to modern land modifications. These included grading of the surface and the installation of asphalt along the eastern flanks. These modifications are partially attributed to the construction of South Kihei Road, a major thoroughfare, being adjacent to the project area. The presence of rock outcrops eroding through the surface in the southern half of the parcel also reduced the potential that surface archaeological resources would be identified. While no significant resources were identified on the surface of the parcel, several areas amenable to excavation were chosen to analyze the presence/absence of subterranean cultural materials.

A total of eleven stratigraphic trenches were mechanically excavated across a representative portion of the site (see Figures 2 and 3). No cultural deposits were encountered within any of the trenches. The subsurface stratigraphy of the trenches was variable across the parcel. Both modern fill layers and natural strata were identified in the various trenches. All soil color designations were made using Munsell Color Charts. The nature of each trench is discussed below.

STRATIGRAPHIC TRENCH 1 (ST-1): This trench was located along the southeastern flank of the project area and was oriented on an east-west axis at 85°/265°. The east end of the trench occurred 2.0 m from the western edge of South Kihei Road. ST-1 measured 22.0 m long, 1.30 m wide, and was excavated to a maximum depth of 0.67 meters below surface (mbs). Two stratigraphic layers were identified in the trench (Figure 7). Layer I consisted of a 0.40 m brown (7.5YR 4/3) silty clay fill deposit. Layer II was comprised of bedrock and decomposing bedrock commingled

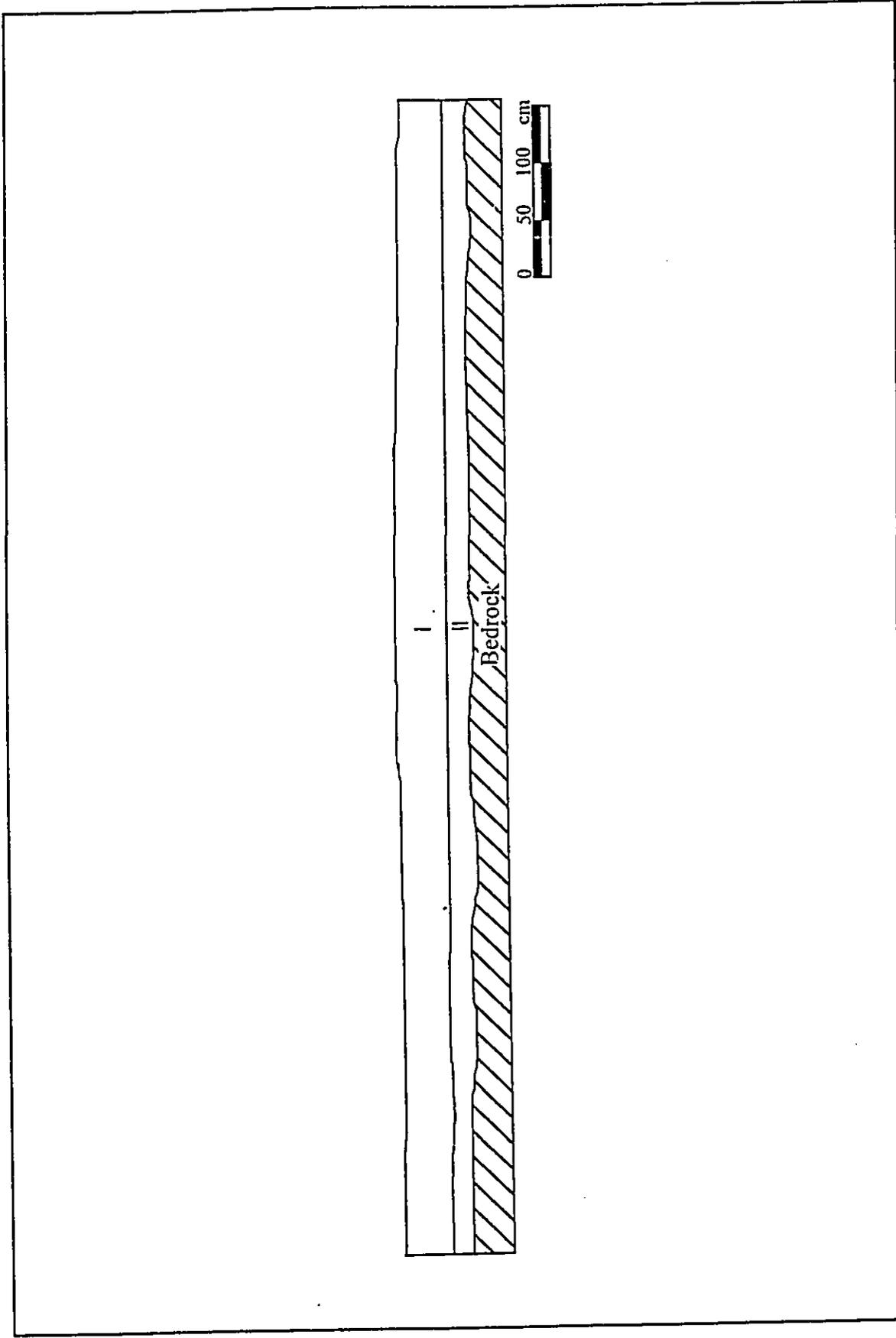


Figure 7: Stratigraphic Profile of ST-1, North Wall.

with a greyish brown (10YR 5/2) silty sand. It is possible that more extensive sand deposits overlay bedrock in the past but was truncated during modern activities. No cultural materials were identified in ST-1.

STRATIGRAPHIC TRENCH 2 (ST-2): ST-2 was located to the west of ST-1 and was oriented on an east-west axis at $115^{\circ}/295^{\circ}$. The trench measured 3.0 m long, 1.30 m wide, and was excavated to a maximum depth of 0.66 mbs. Two stratigraphic layers were identified in ST-2 (Figures 8 and 9). Layer I (0-0.40 mbs) consisted of crushed basalt rock fill commingled with brown (7.5YR 4/3) silty clay fill. Layer II (0.40-0.66 mbs) was composed of greyish brown (10YR 5/2) silty sand and contained many roots. Pahoehoe bedrock underlay this stratum. No cultural materials were identified in ST-2.

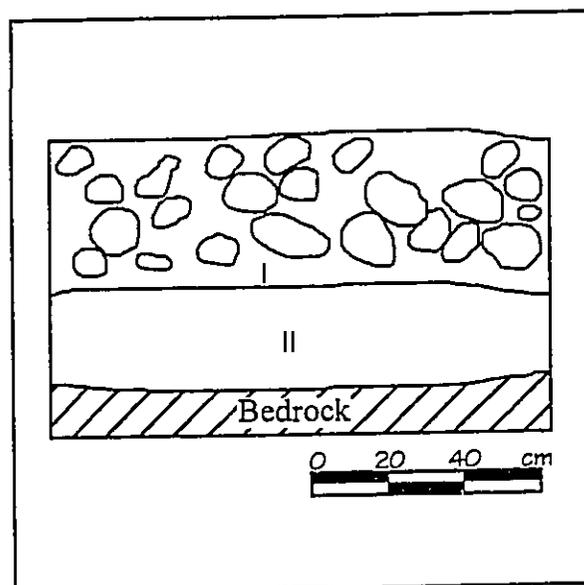


Figure 8: Stratigraphic Profile of ST-2, North Wall.

STRATIGRAPHIC TRENCH 3 (ST-3): ST-3 was located perpendicular to ST-2 and was oriented on a north-south axis at $175^{\circ}/355^{\circ}$. The trench measured 6.35 m long, 1.30 m wide, and was excavated to a maximum depth of 0.97 mbs. Two stratigraphic layers were identified in ST-3 (Figures 10 and 11). Layer I (0-0.60 mbs) was composed of light greyish brown (10YR 5/2) silty sand. Layer II (0.60-0.97 mbs) consisted of dark brown (7.5YR 3/3) silty sand commingled with decomposing saprolitic bedrock. Pahoehoe bedrock underlay this stratum. No cultural materials were identified in ST-3.



Figure 9: Photograph of ST-2, North Wall. View to North. Note: Decomposing Pahoehoe Base.

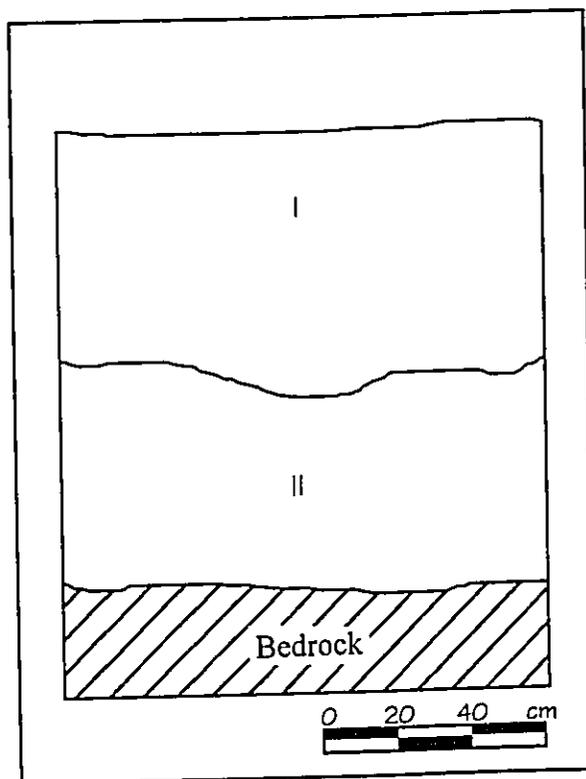


Figure 10: Stratigraphic Profile of ST-3, South Wall.

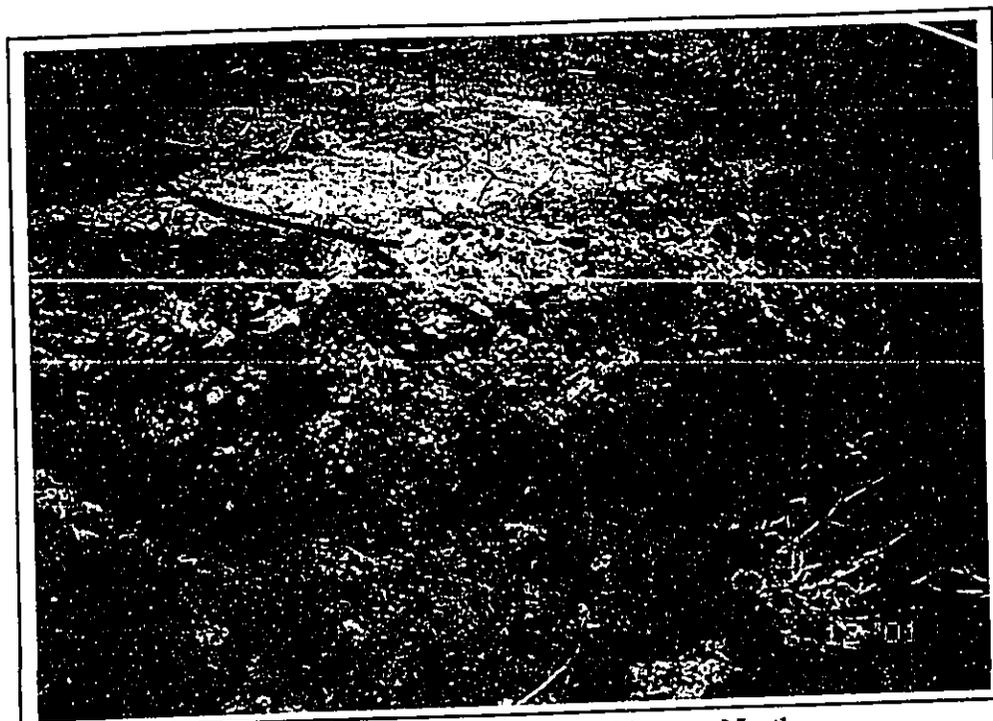


Figure 11: Photograph of ST-3, North Wall. View to North.

STRATIGRAPHIC TRENCH 4 (ST-4): ST-4 was located to the northeast of ST-2 and ST-3 and was oriented on a north-south axis at $175^{\circ}/355^{\circ}$. The trench was to measure 5.0 m long and 1.30 m wide. ST-4 was excavated to only a maximum 0.05 mbs pahoehoe bedrock was encountered almost immediately near surface level. Excavation of the trench was discontinued.

STRATIGRAPHIC TRENCH 5 (ST-5): To more fully investigate the bedrock area near ST-4, ST-5 was located parallel and slightly to the west of ST-4. ST-5 was also oriented on a north-south axis at $175^{\circ}/355^{\circ}$. The trench was to measure a similar 5.0 m long and 1.30 m wide. However, ST-5 was also excavated to only a maximum 0.05 mbs. Like ST-4, pahoehoe bedrock was encountered almost immediately near surface level. Excavation of the trench was also discontinued.

STRATIGRAPHIC TRENCH 6 (ST-6): This trench was located perpendicular to ST-3 along the southwestern flank of the parcel and was oriented on a east-west axis at $100^{\circ}/280^{\circ}$. ST-6 measured 11.50 m long, 1.60 m wide, and was excavated to a maximum depth of 1.02 mbs. Two stratigraphic layers were identified in the trench. Layer I (0-0.20 mbs) was composed of pale brown (10YR 7/4) sand; this sand was of the Jaucus (JaC) series. Layer II (0.20-1.02 mbs) consisted of compact, brown (7.5YR 5/3) silty sand with clay peds. No cultural materials were identified in ST-6.

STRATIGRAPHIC TRENCH 7 (ST-7): ST-7 was located to the northeast of ST-4 and ST-5 and was oriented on a north-south axis at 155°/335°. The trench measured 9.10 m long, 1.30 m wide, and was excavated to a maximum depth of 0.73 mbs. Five stratigraphic layers were discerned in this trench (Figures 12 and 13). Layer I (0-15 mbs) consisted of brown (7.5YR 4/3) silty clay commingled with roots and leaves. This layer represented a typical O-horizon. Layer II (0.15-0.37 mbs) was composed of light grey (10YR 7/2) fine-grained sand and contained many rootlets. Layer III (0.37-0.46 mbs) was composed of greyish brown (10YR 5/2) fine-grained sand with minimal silt infiltration. Layer IV (0.46-0.54 mbs) was comprised of a brown (7.5YR 4/3) silty sand deposit. Small pebbles were common in this stratum. Layer V (0.54-73 mbs) was composed of reddish brown (5YR 4/4) silty clay overlaying bedrock. No cultural deposits were identified in ST-7.

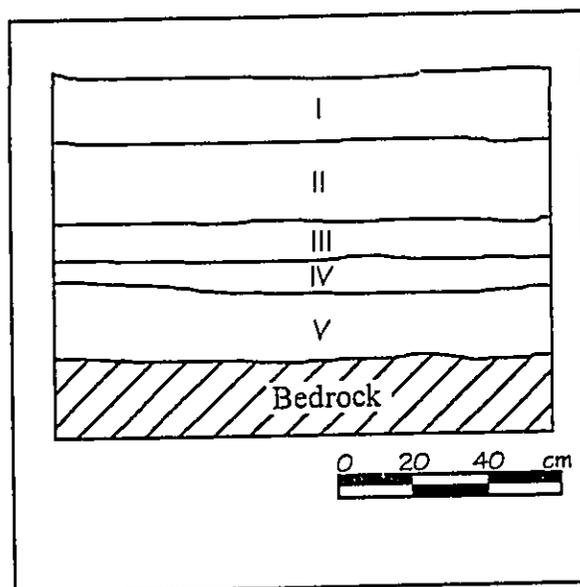


Figure 12: Stratigraphic Profile of ST-7, East Wall.

STRATIGRAPHIC TRENCH 8 (ST-8): ST-8 was located in the mid-section of the northern project area, to the northwest of ST-7. The trench was oriented on a north-south axis at 155°/335° and measured 12.50 m long, 1.30 m wide, and was excavated to a maximum depth of 1.23 mbs. Four stratigraphic layers were identified in the trench (Figure 14). Layer I (0-0.19 mbs) consisted of a humic horizon composed common lawn grass (Bermuda grass) and associated root matting. Layer II (0.19-0.49 mbs) was composed of light brownish grey (10YR 6/2) fine-grained sand and associated rootlets. Layer III (0.49-1.20 mbs) consisted of light grey (10YR 7/2) lithified sand.

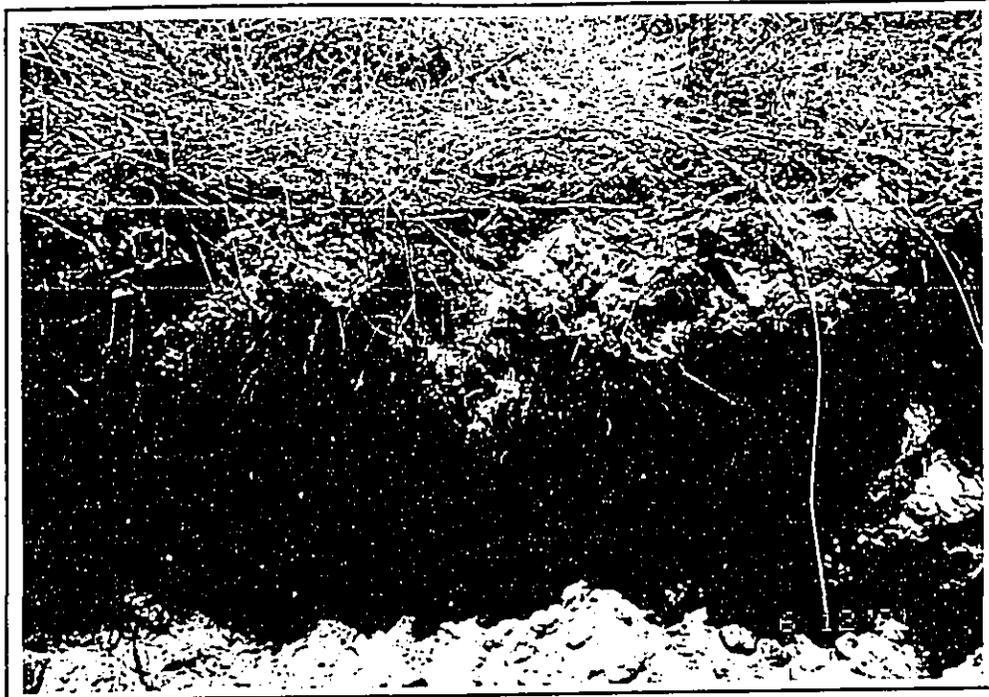


Figure 13: Photograph of ST-7, East Wall. View to East.

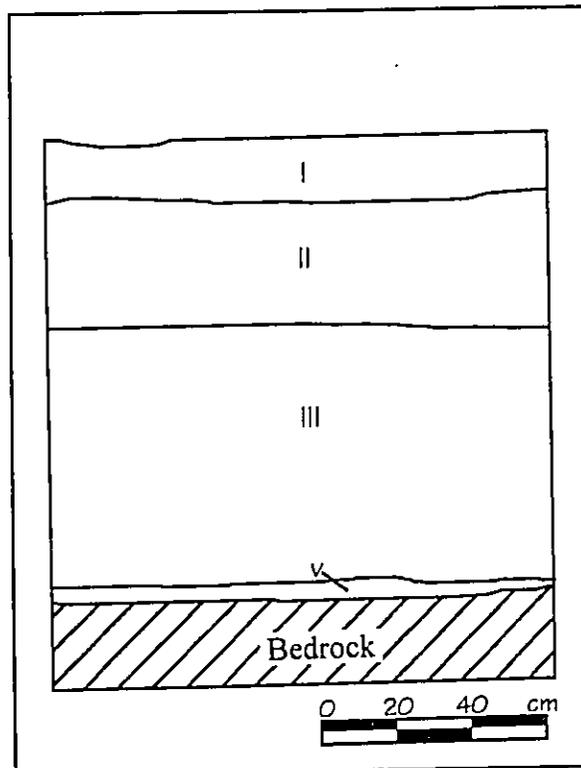


Figure 14: Stratigraphic Profile of ST-8, West Wall.

Lithification was likely the result of water percolation and the subsequent cementation of the sand. Layer IV (1.20-1.22 mbs) was composed of dark brown (7.5YR 3/3) silty clay. This layer contained decomposing bedrock (saprolitic rock) inclusions. No cultural deposits were discerned in ST-8.

STRATIGRAPHIC TRENCH 9 (ST-9): This trench was located perpendicular and to the north of ST-8. ST-9 was oriented in a east-west axis at 85°/265° and measured 11.50 m long, 1.30 m wide, and was excavated to a maximum depth of 1.75 mbs. Two stratigraphic layers were identified in the trench. Layer I (0-0.08 mbs) consisted of common lawn grass and associated root matting. Layer II (0.08-1.75 mbs) was composed of natural beach sand. The very pale brown (10YR 8/3) sand was fine-grained. Excavations terminated at 1.75 mbs near bedrock as the trench slumped considerably. No cultural materials were identified in the sandy stratum.

STRATIGRAPHIC TRENCH 10 (ST-10): This trench was located approximately 12 meters to the north/northwest of ST-9 and was oriented on a east-west axis at 85°/265°. ST-10 measured 3.0 m long, 2.20 m wide, and was excavated to a maximum depth of 1.40 mbs. Two stratigraphic layers were identified in ST-10 (Figures 15 and 16). Layer I (0-0.14 mbs) consisted of common lawn grass and associated root matting. Layer II (0.14-1.40 mbs) consisted of natural, fine-grained beach sand with a very pale brown (10YR 8/3) coloration. Excavations terminated near bedrock due to slumping of trench walls. No cultural materials were identified in the trench.

STRATIGRAPHIC TRENCH 11 (ST-11): The final trench, ST-11, was located approximately 8 m to the north/northwest of ST-10 and defined the northern extent of the project area. The trench was oriented on a east-west axis at 85°/265° and measured 3.0 m long, 2.0 m wide, and was excavated to a maximum depth of 1.60 mbs. Containing a similar stratigraphy to ST-9 and ST-10, two stratigraphic layers were identified in ST-11. Layer I (0-0.10 mbs) consisted of common lawn grass and associated root matting. Layer II (0.10-1.60 mbs) was composed of natural, fine-grained beach sand, with very pale brown (10YR 8/3) coloration, overlaying bedrock. This trench was also sterile.

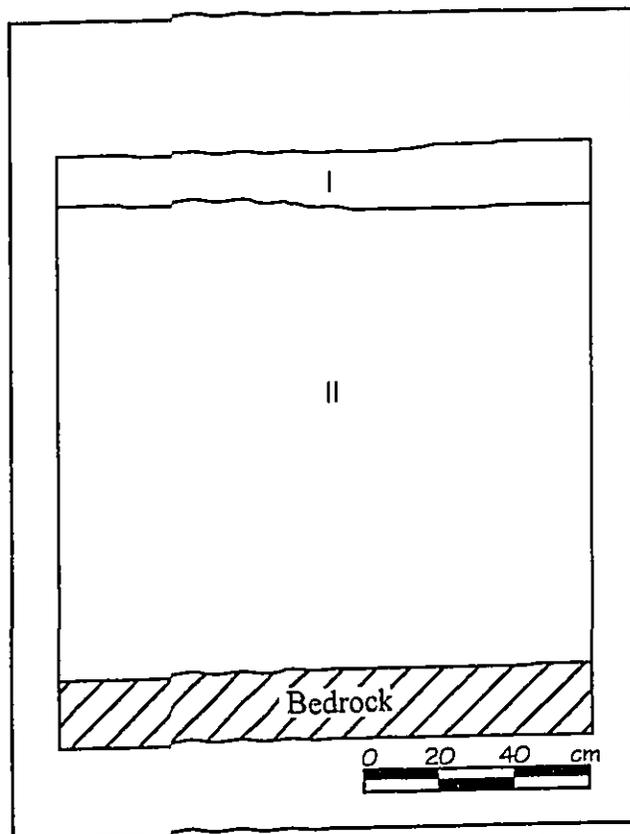


Figure 15: Stratigraphic Profile of ST-10, North Wall.

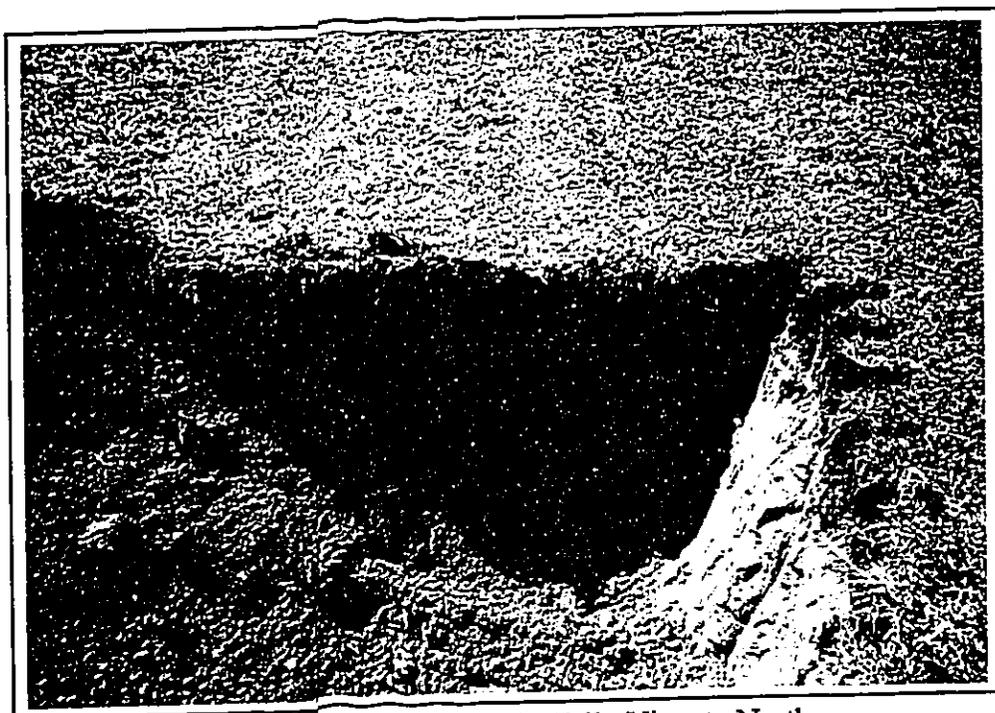


Figure 16: Photograph of ST-10, North Wall. View to North.

DISCUSSION AND CONCLUSIONS

An Archaeological Inventory Survey consisting of pedestrian survey and representative subsurface testing for potential cultural deposits (cultural layers and/or burials) at a proposed location for the construction of a parking lot and comfort station was recently completed by SCS, Inc. The project area occurred across a small, elevated plateau near the coastline and contiguously to the north, within a portion of an existing beach park (Kama'ole Beach Park III).

Pedestrian survey failed to reveal traditional or historic land use within the recently modified landscape area. Eleven stratigraphic trenches were mechanically excavated within a representative portion of the project area, the trenches having been placed in proposed locations requiring the deepest excavations during construction and to analyze the presence/absence of subterranean deposits in the area (see Figures 2 and 3). Excavations occurred on a small elevated area near the coast in which pahoehoe bedrock was ubiquitous near the surface. The second location was more to the north/northwest, within a beach park containing natural, sterile sand deposits forming the top and backslope of natural beach dunes. These dunes have been stabilized for some time by grasses and secondary growth vegetation. All eleven trench excavations failed to reveal the presence of cultural materials, including burials. As such, no pre-Contact nor historic remains or features were identified within any of the trenches. The lack of archaeological resources occurring within the project area may be attributable to several factors.

First, it is suggested that *if* pre-Contact/historic occupational or burial activity did previously occur within this natural zone, it would have been altered through time (recent landscape modifications) or the remnants of such activity could have been transported by water and/or wind action to another deposition location (e.g., downslope nearer the ocean). Both cultural and natural formation processes could have alleviated traces of past activity. Second and the more likely of the two, no structures, deposits, or burials occurred on the subject parcel as the project area did, in fact, represent a volatile natural zone with ubiquitous bedrock in one area and deep sandy strata on a slope at the other end of the area. Neither location seems particularly amenable to long-term burial or occupation. In both cases, the natural environment of the loci has been one deterrent for the lack of materials and/or remains recovered during this project. The other liability is the modern cultural environment of the area which has been much altered in the past few decades.

Due to the shallow depths proposed for construction of the parking lot(s) and comfort station(s), it is unlikely that cultural materials or remains will be recovered from this location.

SIGNIFICANCE ASSESSMENTS

As no cultural remains, features, or burials were identified within the project area, no significance assessments are warranted. Following, the total of the project area is considered as very unlikely to contain significant cultural and/or historic remains.

RECOMMENDATIONS

No further archaeological work is deemed necessary within the project area due to the negative findings of the present research. However, as burials and habitation loci have been identified in the general Kihei-Makena area in the past several years, archaeological inventory survey and/or monitoring should be conducted in areas not previously subject to such archaeological investigations so as to mitigate any impacts on identified cultural resources. It is recommended that the present project area be excluded from additional archaeological investigations.

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APPENDIX B: TRAFFIC IMPACT REPORT

Phillip Rowell and Associates

47-273 'D' Hui Iwa Street Kaneohe, Hawaii 96744 Phone: (808) 239-8206 FAX: (808) 239-4175 Email: prowell@gte.net

July 9, 2001

Mr. Carl K. Takumi
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Maui, HI 96732

Re: **Traffic Impact Assessment
Proposed Parking Improvements
Kamaole Park 3 in Kihei, Maui, Hawaii**

Dear Mr. Takumi:

Phillip Rowell and Associates are pleased to submit this Traffic Impact Assessment for proposed improvements at Kamaole 3 Park in South Kihei, Maui. The following letter report describes the proposed project, the anticipated traffic impact of the project, summarizes the conclusions of our analysis and presents recommendations.

A. Purpose and Objective of Study

The purpose of the traffic impact assessment is to assess the adequacy of proposed street improvements to provide adequate access to and egress from the proposed project.

B. Project Description

For purposes of this traffic assessment, the proposed improvements consist of a new parking lot with a driveway along South Kihei Road. Two site plans have been provided. Both indicate two-lane, two-way driveways. These site plans also indicate either 43 or 52 parking stalls.

No improvements, such as sidewalks or curb and gutters, have been proposed along South Kihei Road.

C. Existing Peak Hour Traffic Conditions

Existing conditions are based on data collected during May and June, 2001.

All traffic into and from the park will be via a driveway between the parking lot and South Kihei Road. South Kihei Road is a north-south major urban collector. In the vicinity of the project, South Kihei Road is one-way in each direction. The peak hour traffic volumes are summarized in Table 1.

Table 1 Summary of Peak Hour Traffic Volumes Along South Kihei Road

<u>Period</u>	<u>Peak Hour Traffic in Vehicles per Hour</u>		
	<u>Northbound</u>	<u>Southbound</u>	<u>Total</u>
AM Peak Hour	240	300	540
PM Peak Hour	455	365	820

D. Estimated Project Generated Traffic

The amount of traffic that will use the new parking lot and driveway is based on the larger parking lot plan, which is 52 spaces. Typically, the amount of peak hour traffic is estimated using standard trip generation rates provided by the Institute of Transportation Engineers. However, these rates are based on other

parameters than the number of parking spaces, such as area, picnic sites and employees. None of these parameters are appropriate for the proposed design. Therefore, peak hour traffic was estimated using assumptions that would establish worse-case condition. These assumptions are:

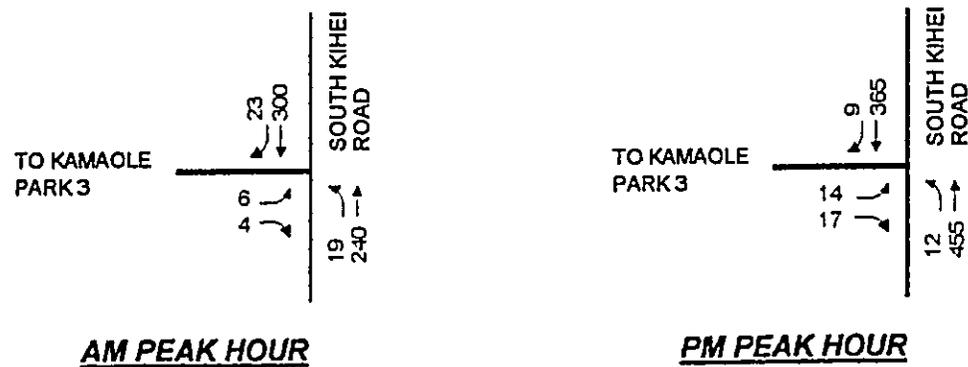
- a. There are 52 useable parking stalls.
- b. The parking lot is 100% occupied. Typically, the maximum capacity of a parking lot is 85 to 90 percent of the number of spaces because some spaces are lost the maneuvering, double parking, etc. Using 100% will result is a higher estimate of peak hour traffic and therefore a more conservative evaluation of peak hour traffic conditions.
- c. The typical stay at the park is approximately one hour. Based on observations at the adjacent Kamaole Park 3 parking lot located north of the proposed lot, park users stay longer than one hour. A higher turnover on park users also results in a higher estimate of park generated traffic.
- d. The in versus out directional split during the morning and afternoon peak hours is 80/20 and 40/60, respectively. This is based on data for County Parks provided by the Institute of Transportation Engineers in *Trip Generation*.
- e. The northbound/southbound directional split of traffic along South Kihei Road is 45/55 and 55/45, based on the traffic data presented in Table 1 above.

Using these assumptions, the morning and afternoon peak hour trips to and from the proposed parking lot are estimated in Table 2.

<u>Direction</u>	<u>Peak Hour Volumes In Vehicles per Hour</u>	
	<u>AM Peak Hour</u>	<u>PM Peak Hour</u>
Inbound	42	21
Outbound	10	31
Total	52	52

E. Anticipated Peak Hour Traffic Conditions

These volumes were assigned to the traffic movements at the proposed driveway and superimposed onto background peak hour traffic volumes. The resulting background plus project peak hour traffic projections are as follows:



Mr. Carl Takumi
 July 9, 2001
 Page 3

A level-of-service analysis was performed for background plus project conditions to determine if the proposed intersection configuration of the driveway at South Kihei Road would provide as acceptable level-of-service. The resulting delays and levels-of-service are shown in Table 3. The level-of-service for northbound left turns from South Kihei Road into the park is expected to be A without or with a separate left turn storage lane. This analysis confirms that a separate left turn lane is not warranted based on level-of-service.

Table 3 Level-of-Service Analysis

Intersection and Movement	Without Left Turn Lane			With Left Turn Lane		
	V/C ⁽²⁾	Delay ⁽³⁾	LOS ⁽⁴⁾	V/C	Delay	LOS
<i>AM Peak Hour</i>						
Northbound Left	0.02	8.1	A	0.02	8.1	A
Eastbound Left & Right	0.02	13.1	B	0.02	13.1	B
<i>PM Peak Hour</i>						
Northbound Left	0.01	8.3	A	0.01	8.3	A
Eastbound Left & Right	0.10	15.9	C	0.10	15.9	C

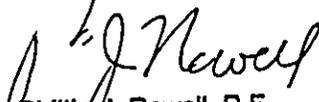
NOTES:
 1. Peak hour conditions analyzed are "worst-case" conditions, which is the sum of the peak hour of the adjacent street plus the peak hour of the generator.
 2. V/C denotes ratio of volume to capacity.
 3. Delay is in seconds per vehicle.
 4. LOS denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*. LOS is based on delay.

E. Conclusions and Recommendations

1. The proposed project will generate a maximum of 52 trips during the morning and afternoon peak hours.
2. Left turns into the project from South Kihei Road will have a negligible impact on the level-of-service of traffic flow along South Kihei Road.
3. A separate left turn storage lane along South Kihei Road for the project will not improve the level-of-service of the intersection. However, a left turn lane would improve traffic flow along South Kihei Road. It is recommended that the left turn storage lane be constructed concurrently with the South Kihei Road Improvement Project in the vicinity.

I trust that the above provides the information required. If you have questions or require additional information, please contact me.

Very truly yours,
PHILIP ROWELL AND ASSOCIATES


 Phillip J. Rowell, P.E.
 Principal

APPENDIX C: PRE-CONSULTATION LETTERS

Department of Planning, County of Maui, July 6, 2001.

Department of Public Works & Waste Management, County of Maui, July 13, 2001

Department of Water Supply, County of Maui, July 12, 2001.

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 6, 2001

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Maui, Hawaii 96793

Dear Mr. Takumi:

RE: Draft Environmental Assessment (DEA) Pre-Consultation –
Kamaole III Park Improvements, TMK: 3-9-04:01 and 61, Kihei,
Maui, Hawaii

Thank you for the opportunity to review and comment on the preliminary DEA for the above-referenced project. The Maui Planning Department has the following comments to offer at this time:

- A master plan for the future development of this area should be provided by the Department of Parks and Recreation. The master plan should include future plans for the further development of the current project site, if any, as well those for the undeveloped area to the south of the project site.
- Because of past opposition to the development of this area, surrounding property owners should be consulted before plans are finalized for the project.
- Underground irrigation systems should be kept out of the 40-foot shoreline setback area.

JAMES "KIMO" APANA
Mayor

DAVID C. GOODE
Director

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

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



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

July 13, 2001

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

RON R. RISKA, P.E.
Wastewater Reclamation Division

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

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Hawaii 96793

Dear Mr. Takumi:

**SUBJECT: PRE-CONSULTATION FOR DRAFT ENVIRONMENTAL
ASSESSMENT
KAMAOLE III PARK IMPROVEMENTS
TMK: (2) 3-9-004:POR. OF 001, 061**

We have reviewed the subject application and have the following comments:

1. Construction waste shall be transported to the C & D Landfill.
2. Although wastewater system capacity is currently available as of July 5, 2001, the developer should be informed that wastewater system capacity cannot be ensured at the time of building permit final approval or if the project completion is delayed.
3. Wastewater contribution calculations are required (gpd) before building permit is issued.
4. Developer is not required to pay assessment fees for County facilities.

CORRECTION

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

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 6, 2001

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Maui, Hawaii 96793

Dear Mr. Takumi:

RE: Draft Environmental Assessment (DEA) Pre-Consultation –
Kamaole III Park Improvements, TMK: 3-9-04:01 and 61, Kihei,
Maui, Hawaii

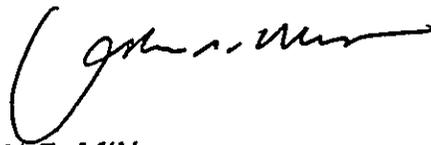
Thank you for the opportunity to review and comment on the preliminary DEA for the above-referenced project. The Maui Planning Department has the following comments to offer at this time:

- A master plan for the future development of this area should be provided by the Department of Parks and Recreation. The master plan should include future plans for the further development of the current project site, if any, as well those for the undeveloped area to the south of the project site.
- Because of past opposition to the development of this area, surrounding property owners should be consulted before plans are finalized for the project.
- Underground irrigation systems should be kept out of the 40-foot shoreline setback area.

Mr. Carl K. Takumi, P.E.
July 6, 2001
Page 2

Thank you for your cooperation. If additional clarification is required, please contact Matt Niles, Staff Planner, of this office at 270-7735.

Very truly yours,



JOHN E. MIN
Planning Director

JEM:MCN:cmb
c: Clayton Yoshida, AICP, Deputy Director of Planning
Matt Niles, Staff Planner
Project File
General File
S:\ALL\Matt\sm1\Kamaole III\preconsultation_letter.wpd

JAMES "KIMO" APANA
Mayor

DAVID C. GOODE
Director

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

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



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

July 13, 2001

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

RON R. RISKA, P.E.
Wastewater Reclamation Division

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

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Hawaii 96793

Dear Mr. Takumi:

**SUBJECT: PRE-CONSULTATION FOR DRAFT ENVIRONMENTAL
ASSESSMENT
KAMAOLE III PARK IMPROVEMENTS
TMK: (2) 3-9-004:POR. OF 001, 061**

We have reviewed the subject application and have the following comments:

1. Construction waste shall be transported to the C & D Landfill.
2. Although wastewater system capacity is currently available as of July 5, 2001, the developer should be informed that wastewater system capacity cannot be ensured at the time of building permit final approval or if the project completion is delayed.
3. Wastewater contribution calculations are required (gpd) before building permit is issued.
4. Developer is not required to pay assessment fees for County facilities.

Mr. Carl K. Takumi, P.E.
July 13, 2001
Page 2

5. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.
6. Indicate on the plans the ownership of each easement (in favor of which party). Note: County will not accept sewer easements that traverse private property.
7. Provide standard frontage improvements (i.e., curb, gutter, sidewalk pavement widening) along the property frontage of South Kihei Road.
8. Provide traffic assessment for proposed access off South Kihei Road. Check left-turn storage requirement.
9. In compliance with Hawaii Revised Statutes, Chapter 103-50, Americans with Disabilities Act Accessibility Guidelines, a review and compliance letter from the Disability and Communication Access Board is required prior to issuance of the building permit.
10. The parking lot shall be designed so that the runoff will sheetflow through the landscaped area and not be concentrated at any one point. Having the runoff sheetflow through landscaping areas is an effective measure to filter out hydrocarbon pollutants, and it also helps to prevent erosion which may occur if the runoff was a concentrated point source.
11. A site specific erosion control plan shall be submitted for review and approval prior to issuance of a grading permit. The erosion control plan shall show the location and details of structural and non-structural best management measures to be utilized to control dust, erosion, and siltation during the construction period.

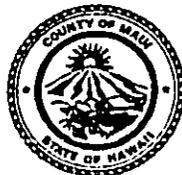
Mr. Carl K. Takumi, P.E.
July 13, 2001
Page 3

If you have any questions, please feel free to call Milton Arakawa at
270-7845.

Sincerely,


for DAVID GOODE
Director of Public Works
and Waste Management

MA:jso
S:\LUCA\CZM\Kamaole\IPark.wpd



DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-7109
Telephone (808) 270-7816 • Fax (808) 270-7833

July 12, 2001

Mr Carl K Takumi
C Takumi Engineering Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku HI 96793

RE: Preliminary Draft Environmental Assessment for Kamaole III Park Improvements
TMK: 3-9-4:por 1 and 61

Dear Mr Takumi:

Thank you for the opportunity to review the above-mentioned draft EA. The Department of Water Supply has the following comments:

Using State standards for consumption for park usage, this project would use approximately 9,000 gallons per day (gpd). However, current average usage is about 25,000 gpd. This project are is being served by the Central Maui System. The major source of water for this system is the Iao Aquifer. Rolling annual average groundwater withdrawals from the Iao aquifer as of May 1, 2001 were 17.397 MGD. The regulatory sustainable yield of this aquifer is 20 MGD. If rolling annual average withdrawals exceed 20 MGD, the State Commission on Water Resource Management will designate Iao Aquifer. DWS is implementing a plan to bring new source on-line and to mitigate withdrawals. Two wells in North Waihee were brought on-line in July, 1997 and another two adjacent wells were brought on-line during the year 2000. The Department is continuing to implement the plan to bring new sources on-line and to mitigate withdrawals. Nevertheless, the applicant should be aware that the timing of this project may be affected with possible delays until new sources can be brought on-line. No guarantee of water is granted or implied as a result of these comments. Water availability will be reviewed at the time of application for water meter or meter reservation.

The project will need to conform to DWS rules for fire flow. A 12-inch waterline fronts the length of the property along Kihei Road. Two fire hydrants are in proximity of the property. Actual fire demand is determined by fire flow calculations performed by a licensed engineer. The approved fire flow calculation method for use is the "Guide for Determination of Required Fire Flow" - Insurance Service Office , 1974.

Domestic, fire and irrigation calculations will be reviewed in detail during the development process. The applicant indicated that new water service for the new comfort station will be providing

water to the site. We encourage the applicant to contact our Engineering Division at 270-7835 to discuss the required system improvements.

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

Where possible, brackish and/or reclaimed water should be used for non-potable uses. We encourage the applicant to consider the following water conservation measures:

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.

Limit Irrigated Turf: Limit irrigated turf to 25% or less of total landscaped area. Low-water use shrubs and ground covers can be equally attractive and require substantially less water than turf.

Prevent Over-Watering By Automated Systems: Provide rain-sensors on all automated irrigation controllers. Check and reset controllers at least once a month to reflect the monthly changes in evapotranspiration rates at the site. As an alternative, provide the more automated, soil-moisture sensors on controllers.

In order to protect the ground water quality, DWS recommends that the applicant utilize Best Management Practices (BMPs) designed to minimize infiltration from all construction operations. We have attached sample BMPs for principle operations for reference. Additional information is available from the State Department of Health.

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

Sincerely,



David Craddick
Director

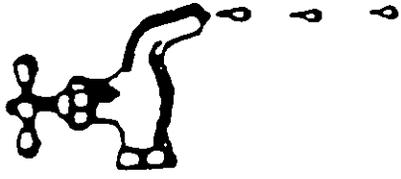
cam

c: engineering division
applicant, with attachments:

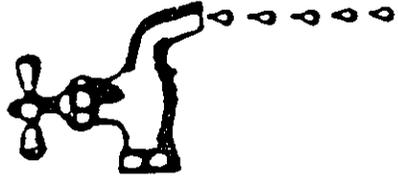
"The Costly Drip"

Maui County Planting Plan-Plant Zones 3 & 5 "Saving Water in the Yard: What & How to Plant in Your Area"
BMPs for Erosion Prevention and Sediment Control During Construction from the Residential and Commercial Control Programs, WERF 1998

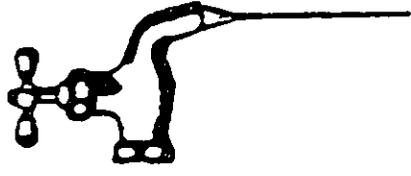
"THE COSTLY DRIP"



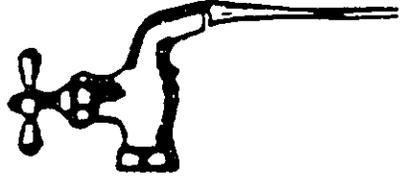
Slowly Dripping
Spigot Wastes
15 Gallons a day.



1/32" Leak Wastes
25 Gallons a day.

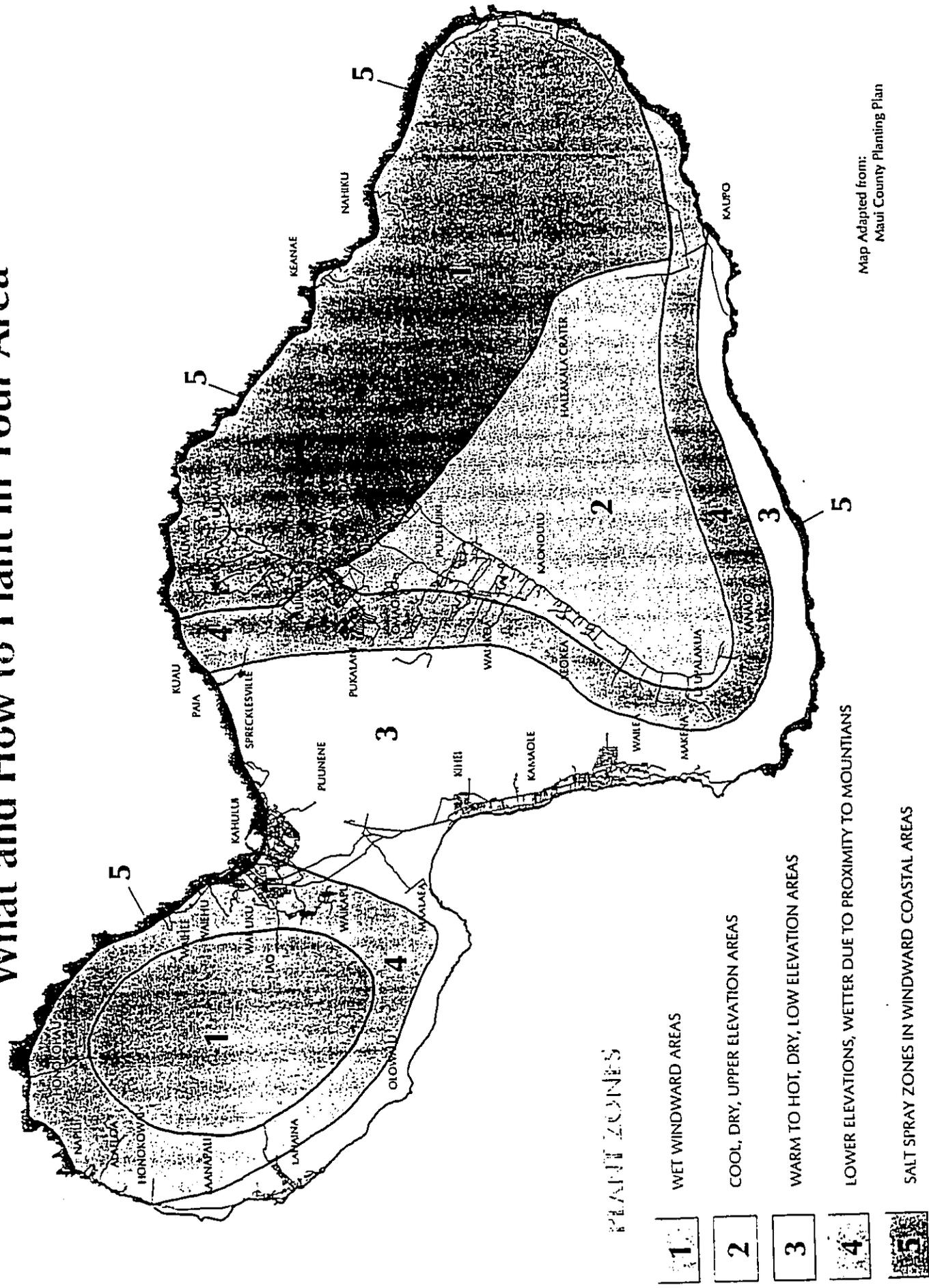


1/16" Stream Wastes
100 Gallons a Day.



1/8" Stream Wastes
400 Gallons a day.

Saving Water in The Yard What and How to Plant In Your Area



From the Maui County Department of Water Supply

Zone 3

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	Water req.
Type	Scientific Name	Common Name	Height	Spread	Elevation				
F	<i>Psilotum nudum</i>	moa, moa kula	1'	1'	sea to 3,000'				Dry to Wet
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-foa	1'	2'	sea to 3,000'				Dry to Medium
G	<i>Fimbristylis cymosa</i> ssp. <i>spalhacea</i>	mau'u'aki'aki fimbriatylis	0.5'	1'	sea to 1,000'				Dry to Medium
Gr	<i>Boerhavia repens</i>	alena	0.5'	4'	sea to 1,000'				Dry to Medium
Gr	<i>Chamaesyce celastroides</i> var. <i>laehiensis</i>	'akoko	2'	3'	sea to 1,000'				Dry to Medium
Gr	<i>Cressa truxillensis</i>	cressa	0.5'	1'	sea to 1,000'				Dry to Medium
Gr	<i>Heliotropium anomalum</i> var. <i>argenteum</i>	hinahina ku kahakai	1'	2'	sea to 1,000'				Dry to Medium
Gr	<i>Ipomoea tuboides</i>	Hawaiian moon flower, 'uala	1'	10'	sea to 3,000'				Dry to Medium
Gr	<i>Jacquemontia ovalifolia</i> ssp. <i>sandwicensis</i>	pa'u o hi'iake	0.5'	6'	sea to 1,000'				Dry to Medium
Gr	<i>Lipochaeta integrifolia</i>	nehe	1'	5'	sea to 1,000'				Dry to Medium
Gr	<i>Peperomia leptostachya</i>	'ala'ala-wai-nui	1'	1'					
Gr	<i>Plumbago zeylanica</i>	'i'ie'e	1'	1'					
Gr	<i>Sesuvium portulacastrum</i>	'akulikuli, sea-purslane	0.5'	2'	sea to 1,000'				Dry to Wet
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 Wet
Gr - Sh	<i>Lipochaeta succulenta</i>	nehe	2'	5'	sea to 1,000'				Dry to Medium
Gr - Sh	<i>Lycium sandwicense</i>	'ohelo-kai, 'ae'ae	100'	30'	sea to 1,000'				Dry to Wet
P	<i>Cocos nucifera</i>	coconut, niu	25'	15'	sea to 1,000'				Dry to Wet
P	<i>Pritchardia hillebrandii</i>	'o'ulu, fan palm	0.5'	0.5'	sea to 1,000'				Dry to Medium
S	<i>Mariscus javanicus</i>	marsh cypress, 'ahu'awa							

Zone 3

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	<i>Argemone glauca</i> var. <i>decipiens</i>	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	<i>Bidens mauiensis</i>	ko'oko'olau	1'	3'	sea to 1,000'	Dry to Medium
Sh	<i>Bidens menziesii</i> ssp. <i>menziesii</i>	ko'oko'olau	1'	3'		
Sh	<i>Bidens micrantha</i> ssp. <i>micrantha</i>	ko'oko'olau	1'	3'		
Sh	<i>Chenopodium oahuense</i>	'aheahea, 'aweoweo	6'		sea to higher	Dry to Medium
Sh	<i>Dianella sandwicensis</i>	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	<i>Gossypium tomentosum</i>	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium
Sh	<i>Hedyotis</i> spp.	au, pilo	3'	2'	1,000' to 3,000'	Dry to Wet
Sh	<i>Lipochaeta lavarum</i>	nehe	3'	3'	sea to 3,000'	Dry to Medium
Sh	<i>Osteomeles anthyllifolia</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>Senna gaudichaudii</i>	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	<i>Solanum nelsonii</i>	'akia, beach solanum	3'	3'	sea to 1,00'	Dry to Medium
Sh	<i>Styphelia tameiameia</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>Nototrichium 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>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>Cordia subcordata</i>	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	<i>Diospyros sandwicensis</i>	lama	12'	15'	sea to 3,000'	Dry to Medium
Tr	<i>Erythrina sandwicensis</i>	wiluwili	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

Zone 3

Zone-specific Native and Polynesian plants for Maui County

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	<i>Morinda citrifolia</i>	indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	<i>Nesoluma polynesianum</i>	keahi	15'	15'	sea to 3,000'	Dry
Tr	<i>Nestegis sandwicensis</i>	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	<i>Pandanus tectorius</i>	hala, puhala (HALELIST)	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>Reynoldsia sandwicensis</i>	'ohe makai	20'	20'	1,000' to 3,000'	Dry
Tr	<i>Santalum ellipticum</i>	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	<i>Thespesia populnea</i>	milo	30'	30'	sea to 3,000'	Dry to Wet

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-loa	1'	2'	sea to 3,000'	Dry to Medium		
G	<i>Fimbristylis cymosa</i> ssp. <i>spathacea</i>	mau'u'aki'aki fimbriatylis	0.5'	1'	sea to 1,000'	Dry to Medium		
Gr	<i>Boerhavia repens</i>	alena	0.5'	4'	sea to 1,000'	Dry to Medium		
Gr	<i>Chamaesyce celastroides</i> var. <i>laehtiensis</i>	'akoko	2'	3'	sea to 1,000'	Dry to Medium		
Gr	<i>Cressa truxillensis</i>	cressa	0.5'	1'	sea to 1,000'	Dry to Medium		
Gr	<i>Heliotropium anomalum</i> var. <i>argenteum</i>	hinahina ku kahakai	1'	2'	sea to 1,000'	Dry to Medium		
Gr	<i>Jacquemonia ovalifolia</i> ssp. <i>sandwicensis</i>	pa'u o hi'iaka	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>	'akulikuli, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet		
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>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'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>Argemone glauca</i> var. <i>deciptens</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>	'aheahea, 'aweoweo	6'		sea to higher	Dry to Medium		
Sh	<i>Dianella sandwicensis</i>	'uki	2'	2'	1,000' to higher	Dry to Medium		
Sh	<i>Gossypium tomentosum</i>	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium		

Zone 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 1,000'	Dry to Medium
Sh	Vifex rotundifolia	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	Wikstroemia uva-ursi kauaiensis kauaiensis	'akia, Molokai osmanthus				
Sh - Tr	Myoporum sandwicense	naio, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh-Tr	Dodonaea viscosa	'a'ai'i	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 furcellatus	'akiohala, hau-hele	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	miio	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
black wattle	Acacia mearnsii	Mimosaceae
blackberry	Rubus argutus	Rosaceae
blue gum	Eucalyptus globulus	Myrtaceae
bocconia	Bocconia frutescens	Papaveraceae
broad-leaved cordia	Cordia alliodora	Boraginaceae
broomsedge, yellow bluestem	Andropogon virginicus	Poaceae
buffelgrass	Cenchrus ciliaris	Poaceae
butterfly bush, smoke bush	Buddleia madagascariensis	Buddleiaceae
cats claw, Mysore thorn, wait-a-bit	Caesalpinia decapetala	Caesalpinaceae
common ironwood	Casuarina equisetifolia	Casuarinaceae
common velvet grass, Yorkshire fog	Holcus lanatus	Poaceae
fiddlewood	Citharexylum spinosum	Verbenaceae
fire tree, faya tree	Myrica faya	Myricaceae
glorybower	Clerodendrum laponicum	Verbenaceae
hairy cat's ear, gosmore	Hypochoeris radicata	Asteraceae
haole koa	Leucaena leucocephala	Fabaceae
ivy gourd, scarlet-fruited gourd	Coccinia grandis	Cucurbitaceae
juniper berry	Citharexylum caudatum	Verbenaceae
kahili flower	Grevillea banksii	Proteaceae
kiu, popinac	Acacia farnesiana	Mimosaceae
logwood, bloodwood tree	Haematoxylon campechianum	Caesalpinaceae
loquat	Eriobotrya japonica	Rosaceae
meadow ricegrass	Ehrharta stipoides	Poaceae
melaleuca	Melaleuca quinquenervia	Myrtaceae
miconia, velvet leaf	Miconia calvenscens	Melastomataceae
narrow-leaved carpetgrass	Axonopus fissifolius	Poaceae
oleaster	Elaeagnus umbellata	Elaeagnaceae
oriental mangrove	Bruguiera gymnorhiza	Rhizophoraceae
padang cassia	Cinnamomum burmannii	Lauraceae
palmgrass	Setaria palmifolia	Poaceae
pearl flower	Heterocentron subtripplinervium	Melastomataceae
quinine tree	Cinchona pubescens	Rubiaceae
satin leaf, caimitillo	Chrysophyllum oliviforme	Sapotaceae
silkwood, Queensland maple	Findersia brayleyana	Rutaceae
silky oak, silver oak	Grevillea robusta	Proteaceae
strawberry guava	Psidium cattleianum	Myrtaceae
swamp oak, salmarsh, longleaf ironwood	Casuarina glauca	Casuarinaceae
sweet vernalgrass	Anthoxanthum odoratum	Poaceae
tree of heaven	Ailanthus altissima	Simarubaceae
trumpet tree, guarumo	Cecropia obtusifolia	Cecropiaceae
white ginger	Hedychiium coronarium	Zingiberaceae
white moho	Heliconia popayanensis	Tiliaceae
yellow ginger	Hedychiium flavescens	Zingiberaceae

DO NOT PLANT THESE PLANTS !!!

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

Selection

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

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

A large, dense canopied tree such as the kukui is a good shade tree for a lawn. However, 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

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

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*:

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

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

⁴ Nagata, p. 6

⁵ Nagata, p. 8

⁶ Nagata, p. 8

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

Fertilizer

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

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

⁷ Bornhorst, p. 19-20

⁸ Nagata, p. 6

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. Hoolawa Farms, P.O. Box 731, Haiku, Hawaii, 96708 572-4835
The largest and best collection of natives in the state
They will deliver, but it's worth the drive to go and see!
Will propagate upon request
2. Kula True Value Nursery 878-2557
Many natives in stock
Get most of their plants from Hoolawa farms
They take special requests
3. Kihei Garden and Landscape 244-3804
4. Maui Garden and Hardware 877-0447
Will bring in special orders
5. Kihana Nursery, Kihei 879-1165
6. Pukalani Plant Company, Jimmy Jones 572-8950
Commercial wholesale only
7. The Hawaiian Collection 878-1701
Specialize in Sandalwood propagation
Will propagate special requests

LAND_USE: Construction

SOURCE: Painting, solvent and adhesive application;
roadwork, landscaping; heavy equipment operation,
concrete

EFFECTS: Erosion and runoff prevention

REFERENCE: Residential & Commercial Source Control
Programs..WERF 1998

PICTURE:

PRACTICE: Erosion Prevention and Sediment Control

Minimize the area disturbed and the time of disturbance. This is accomplished through effective site planning and design. The smallest area of land should be exposed for the shortest period of time practical during construction. Mass grading (e.g., topsoil removal) should be performed only when construction activities are imminent and should not be performed on areas that will not be constructed during the current season. In addition, development should follow the natural contours of the land whenever possible to create the least potential for erosion. Natural vegetation, such as woodlands, should be preserved whenever possible. This is particularly important for areas immediately adjacent to natural waterbodies and wetlands.

Stabilize disturbed soils as soon as possible. To minimize erosion, soils should be stabilized within 7 days following the end of active disturbance (grading, construction, etc). Erosion controls should be implemented and maintained during the entire construction project on all areas not undergoing active disturbance. This includes areas with stockpiled soil and landscape materials. Stabilization is accomplished by protecting exposed soil from the impact of rainfall and from water running off the surface of the land. It is best achieved by re-establishing vegetation through seeding or sodding. Temporary measures also include using mulch or erosion blankets.

Trap and filter eroded sediments before they leave the site. The objective of sediment control is to prevent eroded soil particles from leaving the construction site. The most effective sediment controls reduce runoff velocity and trap runoff allowing sediment to settle out. Eroded sediments are trapped by capturing runoff in a sediment basin and providing sufficient detention time for settling of sediment particles. Eroded sediments can also be filtered by forcing runoff waters to drain slowly through silt fences, straw bale barriers, or vegetated filter strips. Areas that require special attention are storm sewer inlets, culverts, and entrance roads. Storm sewer inlets and culverts should be protected with traps or filters. Roads and parking areas should be stabilized with gravel or the equivalent. In addition, a temporary stone pad with a filter fabric underliner should be installed near the site exit. This device removes dirt and mud and prevents construction vehicle tires from tracking soil onto nearby streets.

Control runoff onto and through construction sites: It is important that runoff from adjacent properties be controlled to prevent water from running across eroded areas. Off-site flow is typically addressed by diverting flow around or through disturbed areas using a stabilized channel and a stabilized outlet. In addition, provisions should be made for increased runoff caused by construction activities.

Routinely inspect construction sites and maintain control measures. Inspections will assess the adequacy of installed erosion and sediment control measures and verify that sediment is not causing onsite or off-site impacts. Maintenance is necessary to assure the continued effectiveness of erosion and sediment control measures.

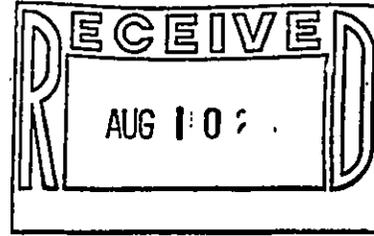
APPENDIX D: COMMENT LETTERS AND RESPONSES

Organization or Person	Comments Received	Response
FEDERAL:		
Natural Resource Conservation Service	August 10, 2001	August 10, 2001
STATE:		
Office of Environmental Quality Control	August 2, 2001	September 7, 2001
State Historic Preservation Division	September 18, 2001	September 19, 2001
Land Division - Wailuku Dept. of Land & Natural Resources.	August 23, 2001	September 8, 2001
Land Division - Honolulu Dept. Of Land & Natural Resources	No Comments Received	
Division of Boating and Ocean Recreation, Dept. of Land & Natural Resources	No Comments Received	
COUNTY:		
Department of Fire Control	August 24, 2001	August 27, 2001
Department of Planning	September 21, 2001	September 22, 2001
Dept. of Public Works & Waste Management	September 5, 2001	September 8, 2001
Department of Water Supply	August 30, 2001	September 8, 2001
PRIVATE/OTHERS:		
Kihei Community Association	No comments received	
Maui Electric Co., Ltd.	August 10, 2001	August 10, 2001
LIBRARY		
Kihei Library		

United States
Department of
Agriculture

Natural
Resources
Conservation
Service

210 Iml Kala St.
Suite 209
Wailuku, HI 96793



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

DATE: August 9, 2001

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Hawaii 96793

Dear Mr. Takumi,

SUBJECT: Kamaole III Park Improvements
TMK: 3-9-004: por. 1 & 61

We do not have any comment on the subject Draft Environmental Assessment.

Thank you for the opportunity to comment.

Sincerely,

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

Neal S. Fujiwara
District Conservationist

**C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311**

August 10, 2001

Mr. Neal S. Fujiwara, District Conservationist
Natural Resources Conservation Service
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii

Job No. CPK-006

Dear Sir:

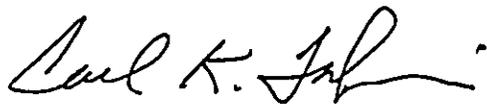
Thank for your review and no comment on the subject project.

Again, we appreciate your response to the Draft Environmental Assesment No Significant Impacts Anticipated.

If you have any questions, please do not hesitate to call me at (808) 249-0411.

Very truly yours,

C. Takumi Engineering, Inc.



Carl K. Takumi, P.E.

BENJAMIN J. CAYETANO
GOVERNOR



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4186
FACSIMILE (808) 586-4186

August 2, 2001

Floyd Miyazono
Department of Parks & Recreation
1580-C Kaahumanu Ave.
Wailuku HI 96793

Attn: Patrick Matsui

Subject: Draft Environmental Assessment (EA) for Kamaole III Park Improvements

Dear Mr. Miyazono:

We have the following comments:

1. Two-sided pages: In order to reduce bulk and save on paper, please consider printing on both sides of the pages in the final document.
2. Maps: On one of the maps provided in the draft EA indicate the mauka boundary of the shoreline setback so that the relation is clear between the setback and the proposed facilities.
3. Paving; landscaping: HRS 103D-407 requires the use of recycled glass in paving materials whenever possible, and HRS 103D-408 requires the use of native Hawaiian flora whenever and wherever possible. For the text of these sections of HRS contact our office for a paper copy or go to our homepage at <http://www.state.hi.us/health/oeqc/index.html>.
4. Cultural impacts assessment:

Act 50 was passed by the Legislature in April of 2000. This mandates an assessment of impacts to local cultural practices by the proposed project. In the final EA include such an assessment. Please keep in mind that this assessment examines *existing* cultural practices, not *past* cultural practices, as in an archeological/historical assessment.

If the subject area is in a developed urban setting, cultural impacts must still be assessed. Many incorrectly assume that the presence of urban infrastructure effectively

Floyd Miyazono
August 2, 2001
Page 2

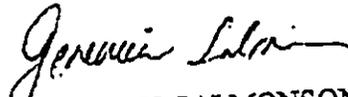
precludes consideration of current cultural factors. For example, persons are known to gather kauna'oa, 'ilima, 'uhaloa, noni or ki on the grassy slopes and ramps of the H-1 freeway and some state highways on the neighbor islands. Certain landmarks and physical features are used by Hawaiian navigators for sailing, and the lines of sight from landmarks to the coast by fisherman to locate certain fishing spots. Blocking these features by the construction of buildings or tanks may constitute an adverse cultural impact.

For assistance in the preparation refer to our *Guidelines for Assessing Cultural Impacts*. Contact our office for a paper copy or go to our homepage at <http://www.state.hi.us/health/oeqc/index.html>. You will also find the text of Act 50 linked to this section of our homepage.

5. Preferred alternative: In section 5.3 of the final EA clearly indicate whether alternative 1 or alternative 2 is the preferred alternative. Also indicate the types and dates of the referenced community input (town meeting, survey, etc.) and the number of people participating.
6. Significance criteria: There are 13 criteria listed in the statute. One criterion is missing from your discussion in section 7. In the final EA include the following in your discussion: "Involves substantial degradation of environmental quality."

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

Sincerely,


GENEVIEVE SALMONSON
Director

c: Carl Takumi

**C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311**

September 7, 2001

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

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii
TMK: (2) 3-9-004: Por. 1 & 61

Job No. CPK-006

Dear Sir:

Thank for your review and comments on the Draft Environmental Assessment No Significant Impacts Anticipated for the subject project. We respond to your comments as follows:

1. Two sided pages: The Findings of No Significant Impact (FONSI) will be printed on both sides to reduce printing.
2. Maps: A site plan showing the proposed improvements and shoreline showing the 40 feet setback along the shoreline is attached.
3. Paving and landscaping: the County of Maui recently adopted County Ordinance No. 2942 which requires recycled glass products for use in County roadways, parking lots, etc. in conformance with HRS 103D-407 for all County Projects. The project is a County Project and conformance is required.
4. Cultural Impact Assessment: We know of no impacts to cultural practices. We have sent letters to Office of Hawaiian Affairs, Division of Boating and Ocean Recreation of the Department of Land and Natural Resources, and to the Department of Hawaiian Homelands. We have had no response to our inquiries.
5. Preferred Alternative: The preferred alternative has been added to the Final Environmental Assesement/ Finding of No Significant Impact.
6. Significance Criteria: Discussion on "Involves substantial degradation of environmental quality" has been included in the Final Environmental Assesement/ Finding of No Significant Impact.

Kamaole III Park Improvements
Environmental Assessment
Office of Environmental Quality Control
September 7, 2001
Page 2

Again, we thank you for your review and comment on our Draft Environmental Assessment and will be proceeding with completing the Final Environmental Assessment.

If you have any questions, please do not hesitate to call me at (808) 249-0411.

Very truly yours,

C. Takumi Engineering, Inc.



Carl K. Takumi, P.E.

cc: Patrick Matsui, Parks & Recreation

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



GILBERT S. COLOMA-JAGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
JANET E. KAWELO
LINNEL NISHIOKA

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

September 10, 2001

C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 97693

LOG NO: 28141 ✓
DOC NO: 0109CD09

Dear Mr. Takumi,

**SUBJECT: Chapter 6E-8 Historic Preservation Review Pertaining to the Draft Environmental Assessment Finding of No Significant Impact Anticipated for the Kama`ole III Park Improvements
Kama`ole Ahupua`a, Wailuku District, Island of Maui
TMK: 3-9-04:por 001 & 061**

Thank you for the opportunity to review and comment on the Draft Environmental Assessment Finding of No Significant Impact Anticipated for the Kama`ole III Park Improvements. Based on the submitted Draft Environmental Assessment (Draft EA), we understand the proposed undertaking consists of the construction of a parking lot with approximately 50 stalls including accessible parking stall, comfort station, outdoor shower, picnic tables, grills, pavilion, landscaping and irrigation.

Scientific Consultant Services has recently completed an archaeological inventory survey of the subject property, during which no historic properties were identified. The report documenting the findings has been accepted by this office provided two requested maps are submitted to this office (SHPD DOC NO.: 0108MK18/LOG NO.: 28082).

Given the negative findings of the inventory survey, we believe the proposed undertaking will have "no effect" on significant historic sites. However, we believe that the sandy areas of the project area should be archaeologically monitored during construction, given the possibility that human skeletal remains may be present in the subsurface deposits. An acceptable monitoring plan will need to be submitted to this office for review prior to the commencement of any ground-altering activities.

Please call Cathleen Dagher, at 692-8023, if you have any questions.

Aloha,

A handwritten signature in black ink, appearing to read "Don Hibbard".

Don Hibbard, Administrator
State Historic Preservation Division

CD:jen

**C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311**

September 19, 2001

Mr. Don Hibbard, Administrator
Historic Preservation Division
Department of Land & Natural Resources
Kakuhihewa Building, Room 555
601 Kamokola Boulevard
Kapolei, Hawaii 96707

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii
TMK: (2) 3-9-004: Por. 1 & 61

Job No. CPK-006

Dear Sir:

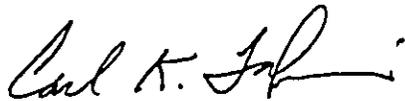
Thank for your review and comments to the subject project. A monitoring plan shall be submitted to your office for review prior to commencement of any ground altering activities.

We understand that the maps were already submitted to your office by Scientific Consultant Services, Inc.

Again, we appreciate your response to the Draft Environmental Assessment No Significant Impacts Anticipated. If you have any questions, please do not hesitate to call me at (808) 249-0411.

Very truly yours,

C. Takumi Engineering, Inc.



Carl K. Takumi, P.E.

cc: Patrick Matsui, Parks & Recreation



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
54 South High Street, Room 101
Wailuku, Hawaii 96793-2198

AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

August 22, 2001

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Hawaii 96793

Dear Mr. Takumi:

SUBJECT: Draft Environmental Assessment (DEA) for the Kamaole III Park
Improvements, TMK: (2) 3-9-004: Pors. 001 & 061

The Maui District Land Office of the Department of Land and Natural Resources' Land Division, has the following comment(s) on the subject Draft Environmental Assessment and Finding of No Significant Impact Anticipated:

1. There exists a perpetual, non-exclusive drainage easement [L.O.D. S-27491] on the subject parcels in favor of Maui Kamaole Enterprises I and II.

Thank you for allowing us to review and comment on the DEA. You may contact us at 984-8100 should you have any questions.

Yours truly,

Louis Wada
Land Agent

c: Maui Land Board Member
District Files

**C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311**

September 8, 2001

Mr. Louis Wada, Land Agent
Maui District Land Office
54 South High Street, Room 101
Wailuku, Hawaii 96793-2188

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii

Job No. CPK-006

Dear Sir:

Thank for your review and comment on the subject project.

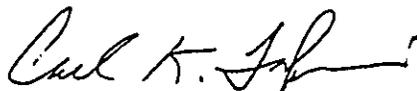
We will add the perpetual, non-exclusive drainage easement to the site and construction plans as attached.

Again, we appreciate your response to the Draft Environmental Assessment No Significant Impacts Anticipated.

If you have any questions, please do not hesitate to call me at (808) 249-0411.

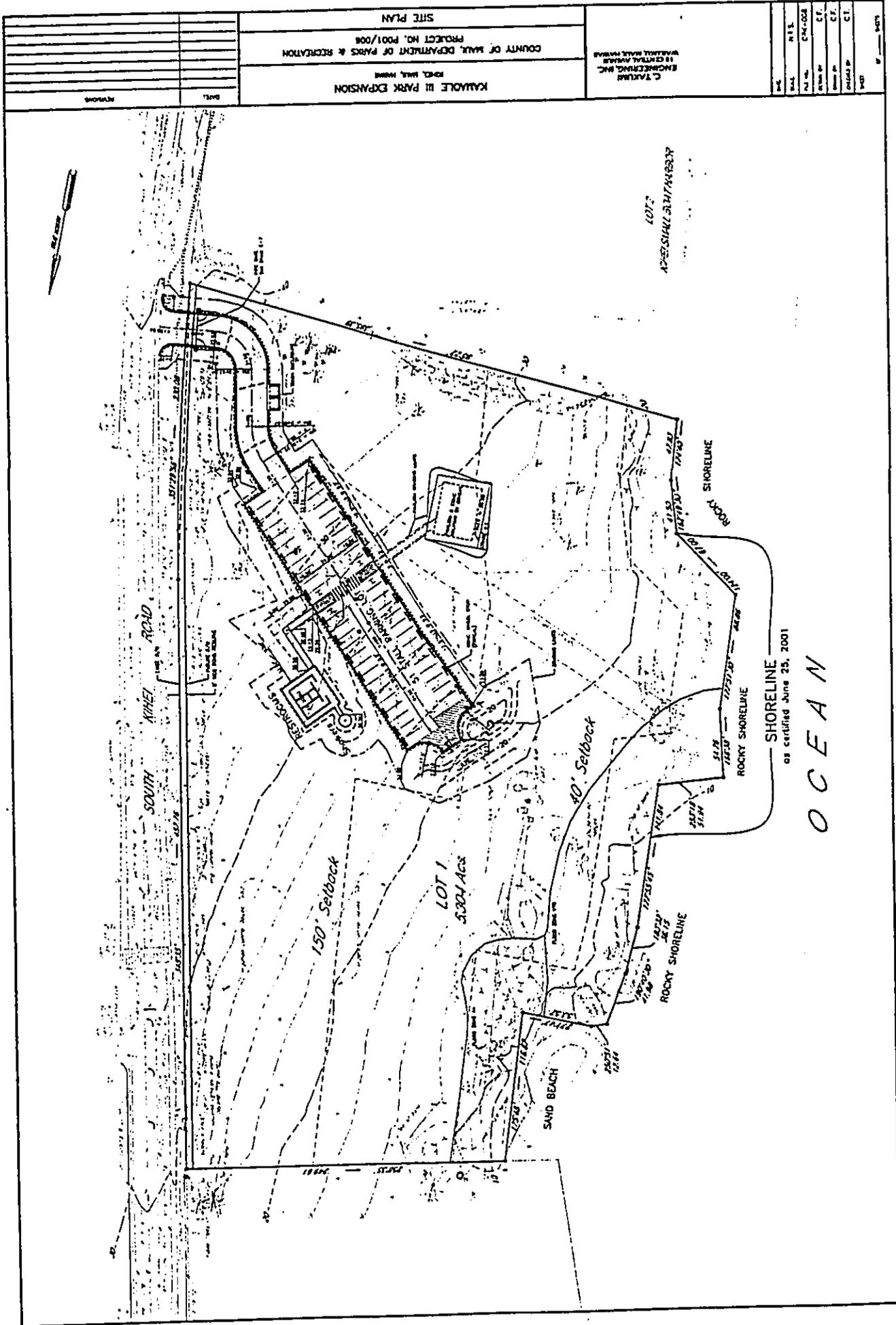
Very truly yours,

C. Takumi Engineering, Inc.

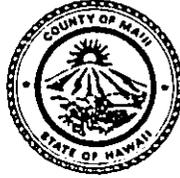


Carl K. Takumi, P.E.

cc: Patrick Matsui, Parks & Recreation



13562
JAMES "KIMO" APANA
MAYOR



COUNTY OF MAUI
DEPARTMENT OF FIRE CONTROL

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

August 10, 2001

C. Takumi
C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hi, 96793

Subject: I.D. Job # CPK-006
TMK: 2-3-9-004:Por. 1&61
Project Name: Kamaole III Park Improvements

Dear Mr. Takumi:

Thank you for the opportunity to comment on the Kamaole III Park Improvement project.

The Department of Fire Control has reviewed the literature for the park site project and has no comment at this time, however, the department wishes to reserve the right to comment upon submittal of plans and specifications.

If you have any questions, please call me at 270-7122.

Sincerely,

A handwritten signature in cursive script that reads "Lance Wendel".

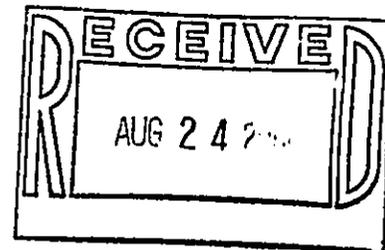
Lance Wendel
Fire Plans Examiner

CLAYTON T. ISHIKAWA
CHIEF

FRANK E. FERNANDEZ, JR.
DEPUTY CHIEF

'01 AUG 13 P1:02

DEPT OF PLANNING
COUNTY OF MAUI
RECEIVED



**C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311**

August 27, 2001

Mr. Lance Wendel
Department of Fire Control
200 Dairy Road
Kahului, Hawaii 96732

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii
TMK: (2) 3-9-004: Por. 1 & 61

Job No. CPK-006

Dear Sir:

Thank for your review and no comments to the subject project.

We will certainly meet with you as the design of the project proceeds.

Again, we appreciate your response to the Draft Environmental Assessment No Significant Impacts Anticipated.

If you have any questions, please do not hesitate to call me at (808) 249-0411.

Very truly yours,

C. Takumi Engineering, Inc.



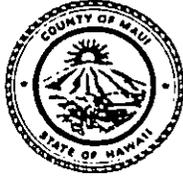
Carl K. Takumi, P.E.

cc: Patrick Matsui, Parks & Recreation

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

September 20, 2001

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Hawaii 96793

Dear Mr. Takumi:

RE: Draft Environmental Assessment (DEA) Comments -- Kamaole III
Park Improvements, TMK: 3-9-04:01 and 61, Kihei, Maui, Hawaii

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the above-referenced project. The Maui Planning Department (Department) has the following comments to offer at this time:

- The Department acknowledges that the final site location selected for the parking lot was the result of meetings with the Kihei Community Association. This location appears to balance the need for accessible parking and the desire of the community to maintain as much of the existing grassed recreation area as possible.
- Potential adverse impacts on coastal processes and the surrounding environment will be minimized by this site location, as the parking lot will be fronted by a relatively stable rocky shoreline rather than the more dynamic, sandy regions of shoreline fronting the other potential locations considered for the project.
- Underground irrigation systems should be kept out of the 40-foot shoreline setback area.
- Potential archaeological impacts appear to have been addressed by the archaeological inventory survey included in the DEA. However, please be advised that the degree to which potential impacts of the final site location have been addressed by the survey may need to undergo additional review during the Special Management Area permit review process, subject to the requirements of the State Historic Preservation Division.

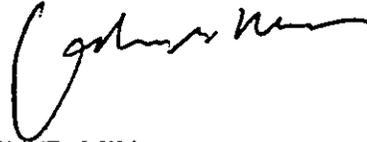
250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 270-7735; ZONING DIVISION (808) 270-7253; FACSIMILE (808) 270-7634

Quality Seamless Service - Now and for the Future

Mr. Carl K. Takumi, P.E.
September 20, 2001
Page 2

Thank you for your cooperation. If additional clarification is required, please contact Mr. Matt Niles, Staff Planner, of this office at 270-7735.

Very truly yours,



JOHN E. MIN
Planning Director

JEM:MCN:tlm

c: Clayton Yoshida, AICP, Deputy Director of Planning
Matt Niles, Staff Planner
Project File
General File
S:\ALL\Matt\sm1\Kamaole III\Idea_comments.wpd

C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311

September 22, 2001

Director
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii
TMK: (2) 3-9-004: Por. 1 & 61

Job No. CPK-006

Dear Sir:

Thank for your review and comments to the subject project. We respond to your comments as follows:

1. Your comments favoring the recommended site plan is sincerely appreciated.
2. Underground Irrigation Systems. We will make every attempt to keep underground irrigation system out of the 40-foot shoreline setback as much as feasible; however, the final irrigation plans may be depended upon the available water pressure and other factors.
3. Archaeological inventory report has been submitted to the State Historic Preservation Division for review. A response from the State Historical Preservation Division has been received; we note that a copy of the response has been forwarded to your Department.

Again, we appreciate your response to the Draft Environmental Assessment No Significant Impacts Anticipated. If you have any questions, please do not hesitate to call me at (808) 249-0411.

Very truly yours,

C. Takumi Engineering, Inc.



Carl K. Takumi, P.E.

cc: Patrick Matsui, Parks & Recreation

JAMES "KIMO" APANA
Mayor

DAVID C. GOODE
Director

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

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



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

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

RON R. RISKA, P.E.
Wastewater Reclamation Division

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

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

September 5, 2001

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Hawaii 96793

Dear Mr. Takumi:

**SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
KAMAOLE III PARK IMPROVEMENTS
TMK: (2) 3-9-004:POR. OF 001, 061**

We have reviewed the subject application and have the following comments:

1. Construction waste to go to C & D landfill or be recycled.
2. Although wastewater system capacity is currently available as of August 21, 2001, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.
3. Wastewater contribution calculations are required before building permit is issued.
4. Developer is not required to pay assessment fees (County project.)
5. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.
6. Plans should show the installation of a property line cleanout.

Mr. Carl K. Takumi, P.E.
September 5, 2001
Page 2

7. Indicate on the plans the ownership of each easement (in favor of which party). Note: County will not accept sewer easements that traverse private property.
8. The parking lot shall be designed so that the runoff will sheetflow through the landscaped area and not be concentrated at any one point. Having the runoff sheetflow through landscaping areas is an effective measure to filter out hydrocarbon pollutants, and it also helps to prevent erosion which may occur if the runoff was a concentrated point source.
9. A site specific erosion control plan shall be submitted for review and approval prior to issuance of a grading permit. The erosion control plan shall show the location and details of structural and non-structural best management measures to be utilized to control dust, erosion, and siltation during the construction period.

If you have any questions, please feel free to call Milton Arakawa at 270-7845.

Sincerely,


for DAVID GOODE
Director of Public Works
and Waste Management

MA:jso
S:\LUCA\CZM\KamaoleIII\Park.wpd

C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311

September 8, 2001

Director
Department of Public Works & Waste Management
200 South High Street
Wailuku, HI 96793

Job No. CPK-006

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii
TMK: (2) 3-9-004: Por. 1 & 61

Dear Sir:

Thank for your review and comments to the subject project. We your comments has been noted and shall be considered during the design phase of the project. We will certainly meet with you as the design of the project proceeds.

Again, we appreciate your response to the Draft Environmental Assessment No Significant Impacts Anticipated.

If you have any questions, please do not hesitate to call me at (808) 249-0411.

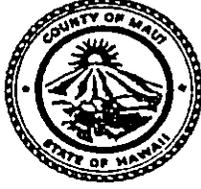
Very truly yours,

C. Takumi Engineering, Inc.



Carl K. Takumi, P.E.

cc: Patrick Matsui, Parks & Recreation



DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
P.O. BOX 1109
WAILUKU, MAUI, HAWAII 96793-6109
Telephone (808) 270-7816 • Fax (808) 270-7199

August 30, 2001

Mr. Carl K. Takumi, P.E.
C. Takumi Engineering, Inc.
18 Central Avenue
Wailuku, Maui, Hawaii 96793

Subject: Kamaole III Park Improvements,
Kihei, Maui, Hawaii

Dear Mr. Takumi,

Thank you for the opportunity to provide comments to this Draft Environmental Assessment (DEA).

Please refer to our comments in pre-consultation letter of July 12, 2001. We are pleased to note that low flow fixtures and appropriate water conserving planting will be incorporated into project design. We further recommend that additional water conservation measures proposed in our pre-consultation letter be implemented, including utilization of non-potable water for dust control during construction, maintenance of a leak repair and maintenance program, and provision of rain-sensors on irrigation systems.

If you need additional information, please call our Water Resources and Planning Division at 270-7199.

Sincerely,

David Craddick
Director
emb

cc: engineering division

S:\PLANNING\EMB\Kamaole III Park Impr DEA.wpd

By Water All Things Find Life

C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311

September 8, 2001

Director
Department of Water Supply
200 South High Street
Wailuku, HI 96793

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii
TMK: (2) 3-9-004: Por. 1 & 61

Job No. CPK-006

Dear Sir:

Thank for your review and comments to the subject project. We your comments has been noted and shall be considered during the design phase of the project.

The project specifications will require the contractor to use R-1 water from the Kihei Wastewater Treatment Facility for dust control during construction. Leak repair and maintenance will be by Department of Parks & Recreation personnel who will maintain the park. Rain sensors will be taken under consideration during the design phase of the project.

Again, we appreciate your response to the Draft Environmental Assessment No Significant Impacts Anticipated.

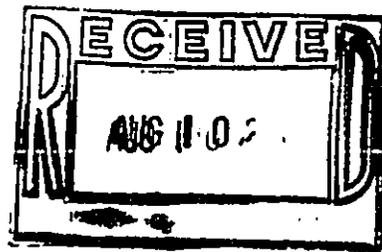
If you have any questions, please do not hesitate to call me at (808) 249-0411.

Very truly yours,

C. Takumi Engineering, Inc.



Carl K. Takumi, P.E.



August 7, 2001

C. Takumi Engineering, Inc.
Attn: Carl K. Takumi
18 Central Avenue
Wailuku, HI 96793

Dear Mr. Takumi:

Subject: Kamaole III Park Improvements
Kihei, Maui, Hawaii

Thank you for allowing us to comment on the subject project.

In reviewing the information transmitted and our records, we have no objection to the subject project. We encourage the developer's electrical consultant to meet with us as soon as practical to verify the project's electrical requirements so that service can be provided on a timely basis

If you have any questions or concerns, please call Dan Takahata at 871-2385.

Sincerely,

A handwritten signature in cursive script that reads "Neal Shinyama".

Neal Shinyama
Manager, Energy Delivery

C. Takumi Engineering, Inc.
Civil Engineering Consultants
18 Central Avenue
Wailuku, Hawaii 96793
Phone: (808) 249-0411
Fax: (808) 249-0311

August 10, 2001

Mr. Neal Shinyama
Maui Electric Company, Ltd.
P.O. Box 396
Kahului, Hawaii 96733-6896

SUBJECT: Kamaole III Park Improvements
Kihei, Maui, Hawaii

Job No. CPK-006

Dear Sir:

Thank for your review and no objection to the subject project.

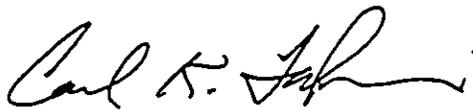
We will certainly meet with you as the design of the project proceeds.

Again, we appreciate your response to the Draft Environmental Assessment No Significant Impacts Anticipated.

If you have any questions, please do not hesitate to call me at (808) 249-0411.

Very truly yours,

C. Takumi Engineering, Inc.



Carl K. Takumi, P.E.