Final Environmental Assessment

MOLOKA`I PARKS BASEYARD AT DUKE MALIU REGIONAL PARK KAUNAKAKAI, MOLOKA`I, HAWAI`I TMK: 5-3-003:012

Prepared for:

County of Maui,
Department of Parks and Recreation

April 2008

MUNEKIYO & HIRAGA, INC.

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Preface

The County of Maui, Department of Parks and Recreation proposes the construction of a new parks baseyard facility at Kaunakakai, Moloka`i, on lands identified as Tax Map Key (2) 5-3-03:012. This new facility will be used to service all parks on Moloka`i managed and maintained by the County of Maui. An Environmental Assessment (EA) is required pursuant to Chapter 343, Hawai`i Revised Statutes and Chapter 200 of Title 11, Hawai`i Administrative Rules, Environmental Impact Statement Rules. The following EA documents the project's technical characteristics and environmental impacts, and advances findings and conclusions relative to the project.

Executive Summary

Project Name:	Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park
Type of Document:	Draft Environmental Assessment
Legal Authority:	Chapter 343, Hawai`i Revised Statutes
Agency Determination:	Anticipated Finding of No Significant Impact
Applicable Environmental Assessment Review "trigger":	Use of County Funds
Location:	Island of Moloka`i Kaunakakai, Moloka`i TMK (2)5-3-03:012
Proposing Agency:	County of Maui Department of Parks and Recreation 700 Hali`a Nakoa Street, Unit 2 Wailuku, Hawai`i 96793 Contact: Pat Matsui Phone No.: (808) 270-7230
Approving Agency:	County of Maui Department of Parks and Recreation 700 Hali`a Nakoa Street, Unit 2 Wailuku, Hawai`i 96793 Contact: Pat Matsui Phone No.: (808) 270-7230
Consultant:	Munekiyo & Hiraga, Inc. 305 High Street, Suite 104 Wailuku, Hawai`i 96793 Contact: Rowena Dagdag Phone No.: (808) 244-2015
Project Summary:	The County of Maui, Department of Parks and Recreation (DPR), proposes to construct a new parks baseyard at Kaunakakai, Moloka`i. The subject property is an approximately 13.145-acre parcel along Kamehameha V Highway, near its intersection with Oki Place. This new baseyard facility will provide the island with a centralized

maintenance facility for all the Parks Department operations. The County of Maui owns and maintains twelve (12) parks and recreational facilities on Moloka`i. The new baseyard facility is proposed to be constructed and located on a site within the existing Duke Maliu Regional Park and used to service all parks on Moloka`i, providing for a more organized maintenance program. Access to the project site is proposed from Kamehameha V Highway. The proposed project will require land use changes for implementation which will be initiated by the County of Maui.

I. PROJECT OVERVIEW

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A. PROJECT LOCATION, EXISTING USE AND OWNERSHIP

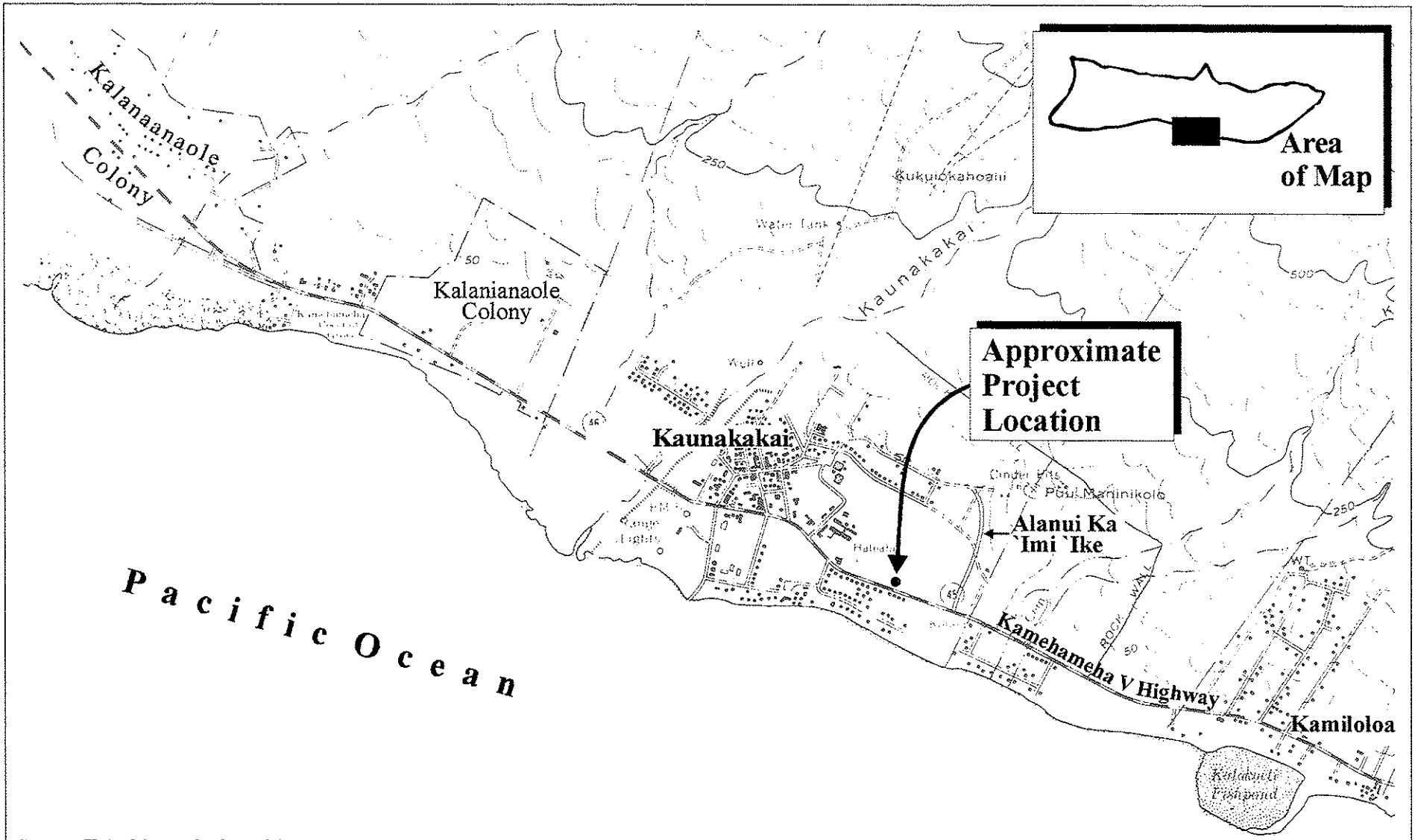
The County of Maui, Department of Parks and Recreation proposes the development of a baseyard and maintenance/storage facility for the Moloka`i District at the existing Duke Maliu Regional Park in the southeast edge of Kaunakakai, Moloka`i, Hawai`i. See **Figure 1**. The park is identified as Tax Map Key (TMK) (2)5-3-003:012 and encompasses an area of approximately 13.145 acres. The park lies mauka (north) of Kamehameha V Highway, with access provided via Kamehameha V Highway. The proposed maintenance/storage facility will be located east of the soccer field, near the property's northern boundary line. See **Figure 2**. The project site is an unused portion of the park. See **Figure 3**.

The subject property is currently utilized as the Duke Maliu Regional Park. The subject property is owned by the County of Maui.

B. PROPOSED ACTION

The proposed project calls for the construction of an approximately 5,000 square feet pre-engineered building that will have the following service areas:

- Building maintenance and repair shop with a lumber storage room and workshop;
- Maintenance staff area and lunch/meeting room;
- Locker area for maintenance staff;
- Accessible staff restroom;
- Maintenance supervisor's office;
- Two (2) interior storage rooms;
- Irrigation pipes and parts storage room; and



Source: United States Geological Survey

Figure 1

Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Regional Location Map

0 1000 Feet
500 2000

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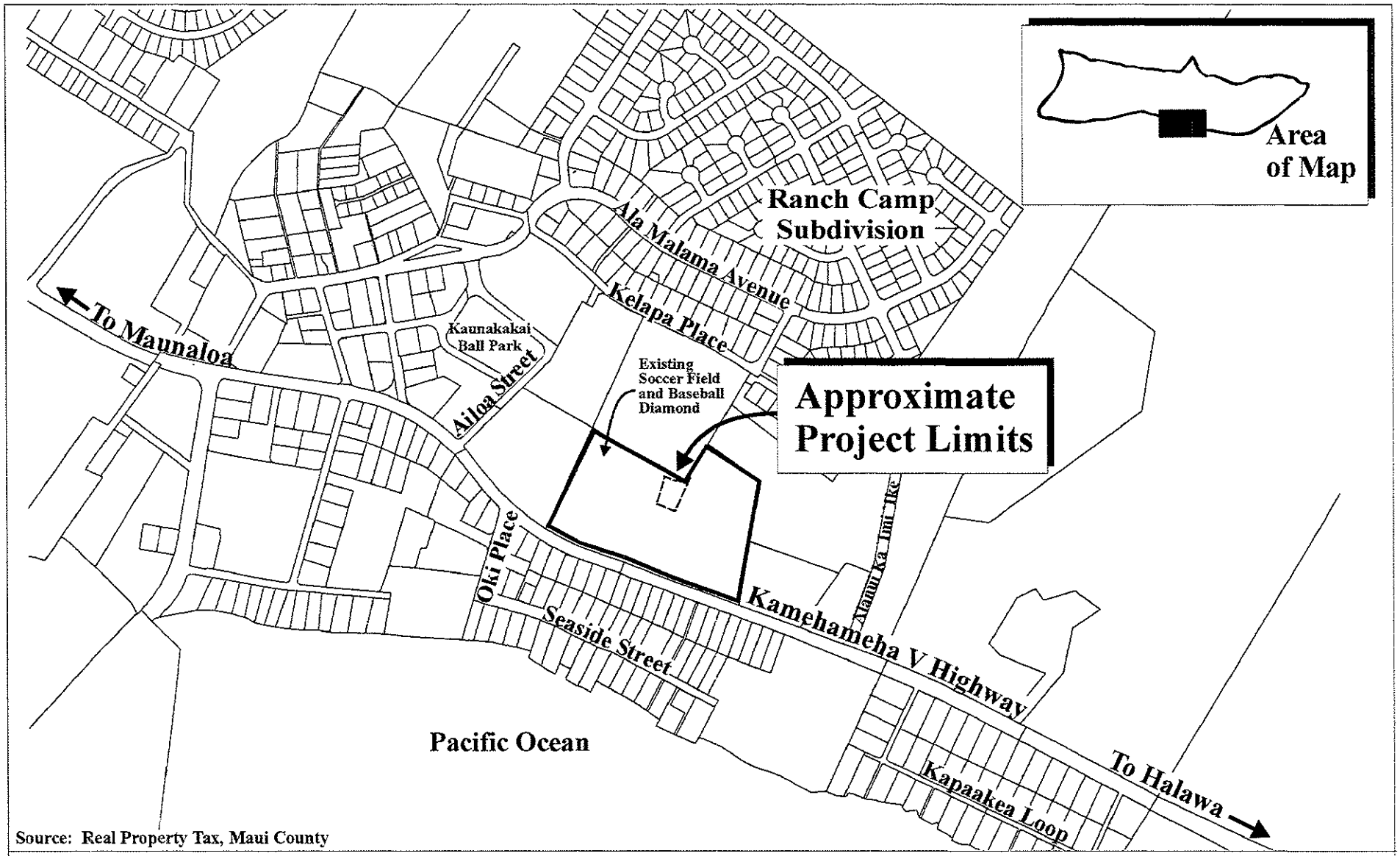
HHA\Duke Maliu 1243\RegionalLocation



Source: Real Property Tax, Maui County

Figure 2

Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Site Location Map

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HHA\Duke Maliu 1243\Site Location

View from Project Site Looking Towards the North Toward Homepumehana

View to the North, Proposed Location of Baseyard Facility

Source: Hiyakumoto + Higuchi Architects, Inc.

Figure 3 Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Site Photographs

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HHA\Duke Maliu 1243\Preliminary Landscape Plan

- A covered parking area with six (6) parking stalls and an emergency shower area.

See **Figure 4**, **Figure 5**, and **Figure 6**.

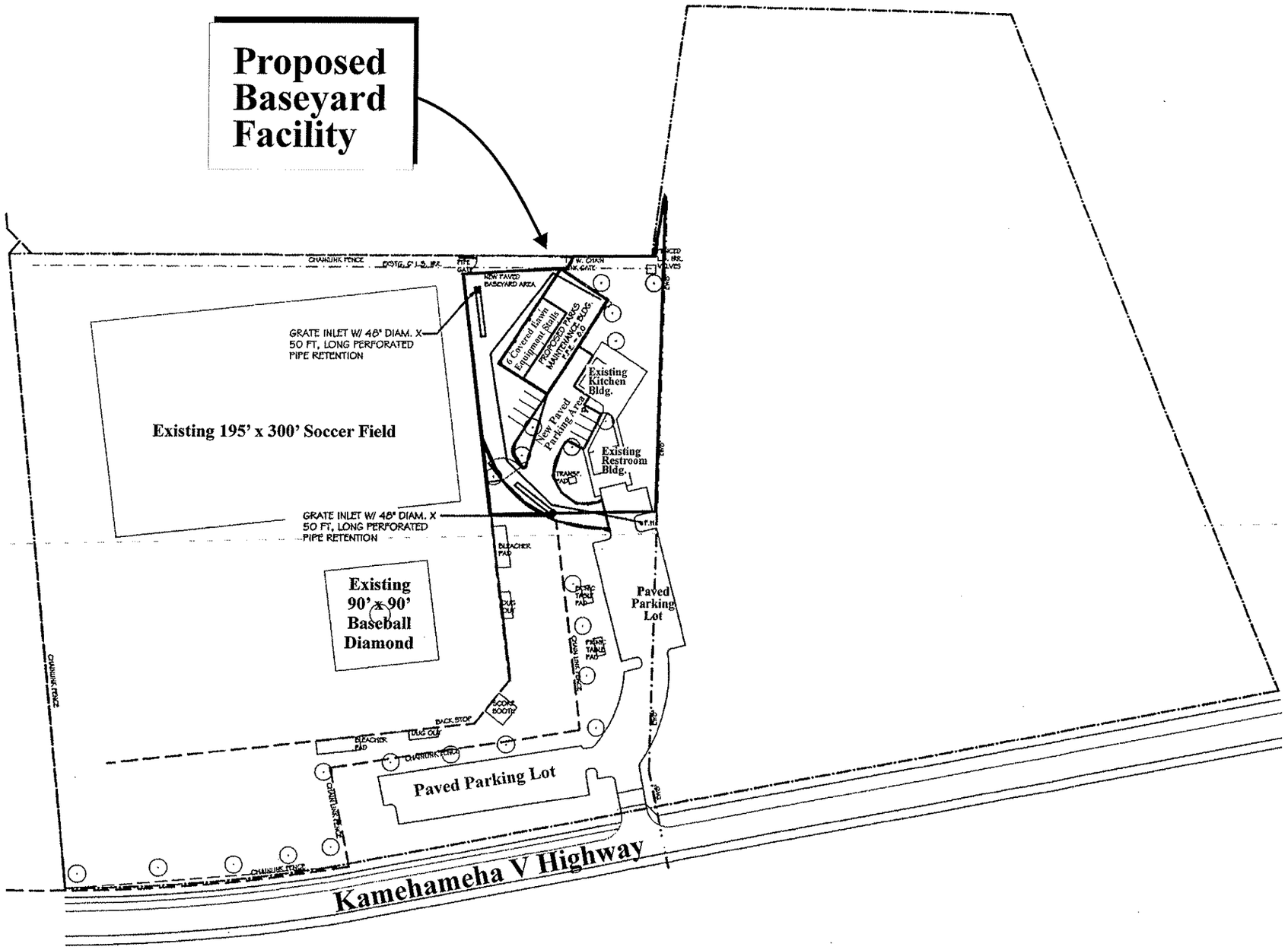
A new five (5) stall paved parking area for park maintenance staff and a four (4) stall public parking area adjacent to the existing kitchen/pavilion are also proposed. The paved area for the maintenance baseyard will be fenced with a 6 feet high chain link security fence. A gate will be installed to secure the fenced area.

Related improvements include site grading and installation of underground utilities. It also includes landscaping to comply with the Maui County Parking Ordinance. The landscape planting design is also intended to help visually integrate the baseyard facility with the surrounding community.

The landscape improvements designed for the Duke Maliu Regional Park takes into consideration its environment and the function of the existing and new facilities in the context of the park. Located in the south central part of Moloka`i, the park is subjected to warm, dry, and sometimes windy conditions. The choices of plant materials are those that are somewhat tolerant to salt air, brackish water, low annual rainfall, and wind. See **Figure 7**. An automatic irrigation system will be tied into the park's existing system and its design will also take into consideration the site conditions and plant types. Parking area lighting within the baseyard area will be provided with light fixtures mounted on the building.

In order to implement the project, land use entitlements will be required. The County of Maui will be initiating changes to the State Land Use classification and County Zoning designation so as to permit the new baseyard facility. The subject property is currently designated "Agricultural" by the State Land Use Commission. Accordingly, a reclassification to the "Urban" designation is required. Similarly, a change in zoning from the "Interim" district to the "Park, PK-2" zoning is required. It is noted that the State Land Use reclassification and County rezoning actions will cover the entire parcel area of 13.145 acres. The Moloka`i Community Plan designates the subject property for "Park" use.

Since the proposed action involves the use of County lands and funds, an Environmental Assessment (EA) has been prepared as required by Chapter 343, Hawai`i Revised Statutes. In addition, because the project site is situated within the limits of the Special Management Area (SMA) for the island of Moloka`i, an application for an SMA Use Permit has been prepared for review and approval by the Moloka`i Planning Commission.



Source: Hiyakumoto + Higuchi Architects, Inc.

Figure 4

Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Preliminary Site Plan

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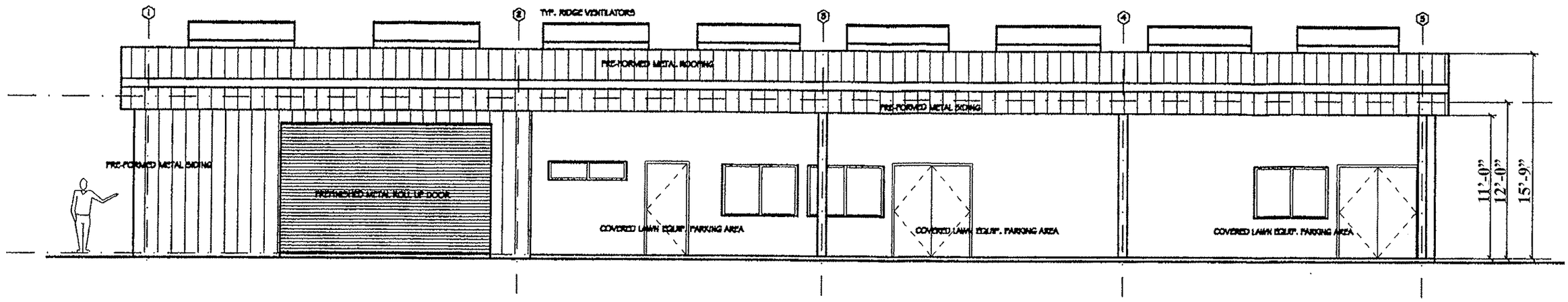
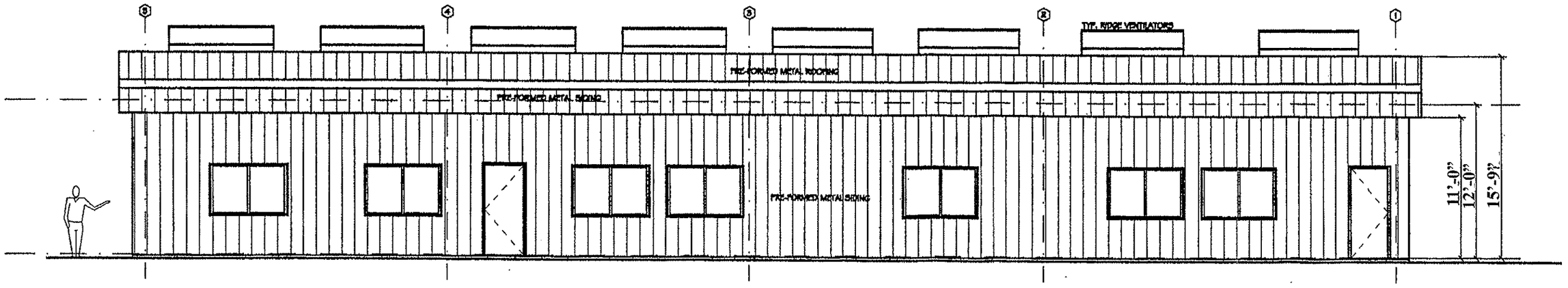
H3A\Duke Maliu 1243\Preliminary Site Plan



Preliminary Front Elevation



Preliminary Rear Elevation

Source: Hiyakumoto + Higuchi Architects, Inc.

Figure 5

Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Preliminary Exterior Elevations (1)
(Front and Rear Elevations)

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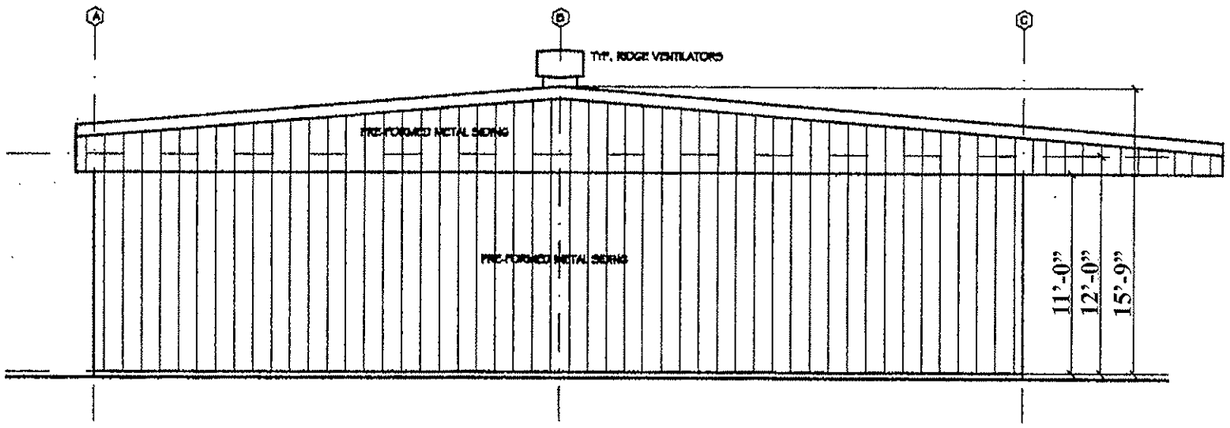
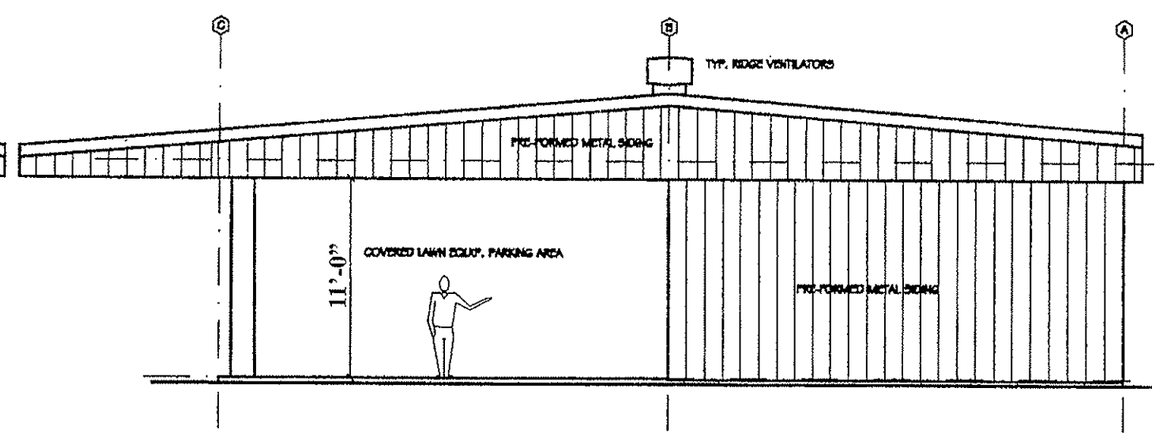
HHA\Duke Maliu 1243\Preliminary Exterior Elevations 1



Preliminary Left Elevation



Preliminary Right Elevation

Source: Hiyakumoto + Higuchi Architects, Inc.

Figure 6

Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Preliminary Exterior Elevations (2)
(Left and Right Elevations)

NOT TO SCALE

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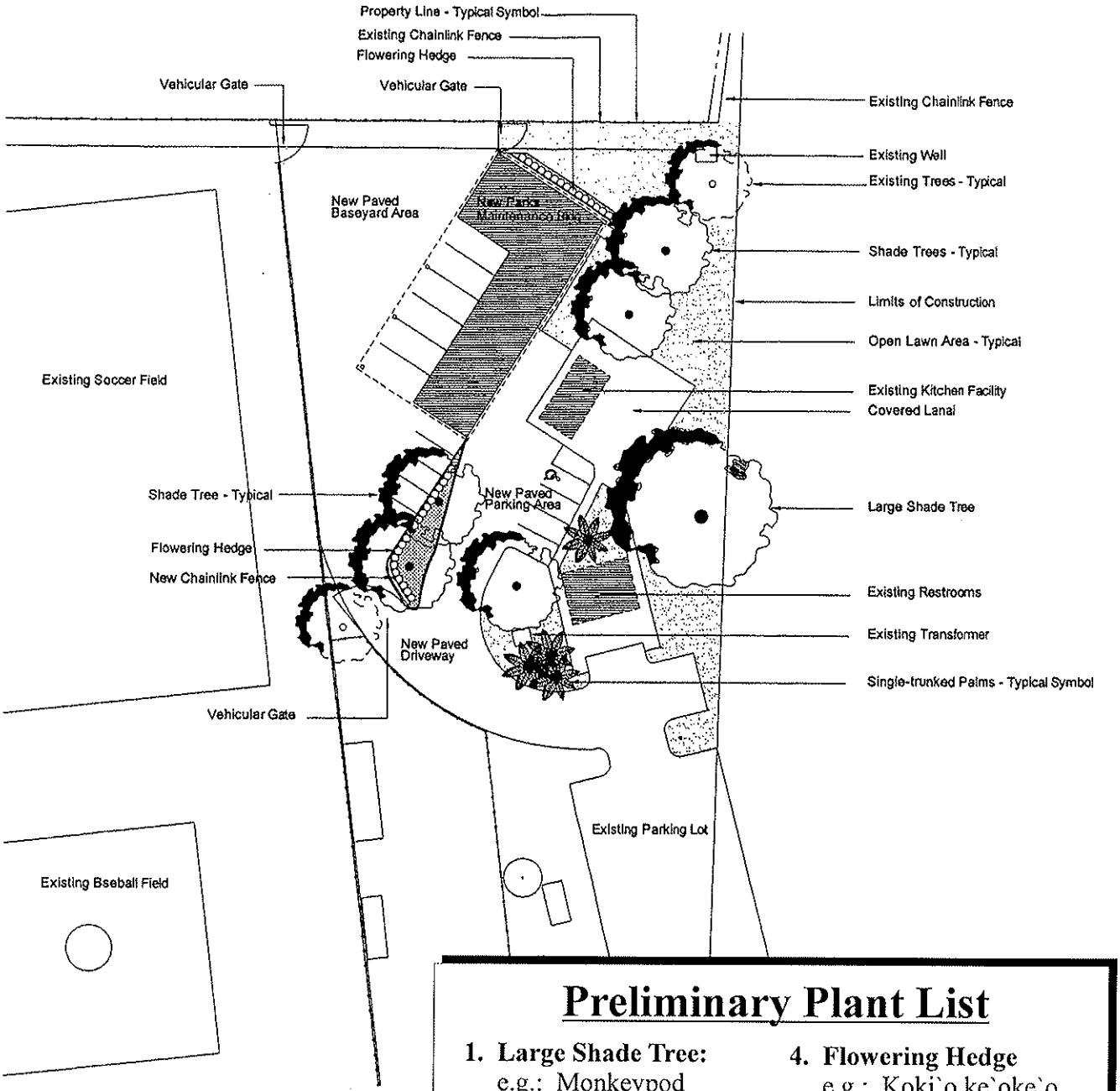

Preliminary Plant List

1. **Large Shade Tree:**
   e.g.: Monkeypod
   Banyan
2. **Shade Trees:**
   e.g.: Kou Milo
3. **Single-trunked Palms:**
   e.g.: Coconut Palm
   Loulu Palm
4. **Flowering Hedge**
   e.g.: Koki`o ke`oke`o
   Blue Vitex
   Ma`o hau hele
5. **Ground Covers:**
   e.g.: `Ilima Papa
   Golden Glory
   Naio Papa
6. **Grasses:**
   e.g.: Common Bermuda

Source: Russel Y. Gushi Landscape Architect

Figure 7 Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

NOT TO SCALE

Preliminary Landscape Plan

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MUNEKIYO & HIRAGA, INC.

HHA\Duke Maliu 1243\Preliminary Landscape Plan

C. PURPOSE AND NEED

The Moloka`i District Parks Department administrative staff presently works out of offices in the Mitchell Pauole Center building in Kaunakakai. Storage of maintenance and replacement parts for park facilities and equipment are stored in several small buildings at the various parks on the island. The development of a larger and centrally located baseyard for maintenance shops, storage of equipment, staff offices, employee lockers and meeting rooms is needed to provide for a more organized maintenance program for the services provided by the island's Park's Department staff.

D. PROJECT FUNDING AND SCHEDULING

The estimated cost of the proposed project is $1.0 million. Assuming all necessary approvals and entitlements are obtained, construction is expected to begin in the second half of 2008 with completion estimated in mid-2009.

II. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

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A. PHYSICAL SETTING

1. Surrounding Land Uses

a. Existing Conditions

The Duke Maliu Regional Park is located on the eastern edge of Kaunakakai Town. North of the project site is the Ranch Camp residential subdivision and the Pumehana Elderly Housing Project. Agricultural lands owned by Moloka`i Ranch are situated to the east. Immediately east of the site is Moloka`i Education Center. Kamehameha V Highway borders the project site to the south and across the highway is a single-family residential area. Across Kamehameha V Highway, east of its intersection with Alanui Ka `Imi `Ike, is a single-family residential area accessible via Kapaakea Loop. The Kapaakea Cemetery is located southeast of the proposed project area. To the west of Kamehameha V Highway's intersection with Alanui Ka `Imi `Ike is a single-family residential area accessible by Oki Place and Seaside Street. Kaunakakai Elementary School is situated to the west.

b. Potential Impacts and Mitigation Measures

The subject project is not anticipated to adversely impact surrounding land uses in the vicinity of the proposed roadway extension. The Duke Maliu Regional Park is in close proximity to Kaunakakai Town, its primary service point, but located sufficiently outside of the town core to facilitate ready access to surrounding service areas. The proposed baseyard and storage facility will not affect or displace recreational functions of the park.

2. Climate

a. Existing Conditions

Hawai`i's tropical location results in uniform weather conditions throughout the year. Climatic conditions on Moloka`i are characterized by mild and consistent year round temperatures, moderate humidity and steady northeasterly tradewinds. Variations in Moloka`i's weather are attributable to regional topographic and climatic conditions.

Kaunakakai is situated in the south central portion of the island, near sea level. Average annual rainfall is approximately 15 inches near the coast. At the upper reaches of the watershed, there is greater rainfall, which averages approximately 75 inches per year. The months of October through March are typically the wetter periods of the year, with April through September being typically the drier months. Mean temperatures range from 69 degrees Fahrenheit in January to 76 degrees Fahrenheit in August.

Wind conditions are predominantly characterized by northeasterly tradewinds. However, as these winds round the eastern tip of the island and veer west at the southern coast, they blow in an eastern direction.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to adversely affect climatic conditions in the area. The proposed baseyard facility will have a low profile and is not anticipated to alter wind patterns.

3. Topography and Soils

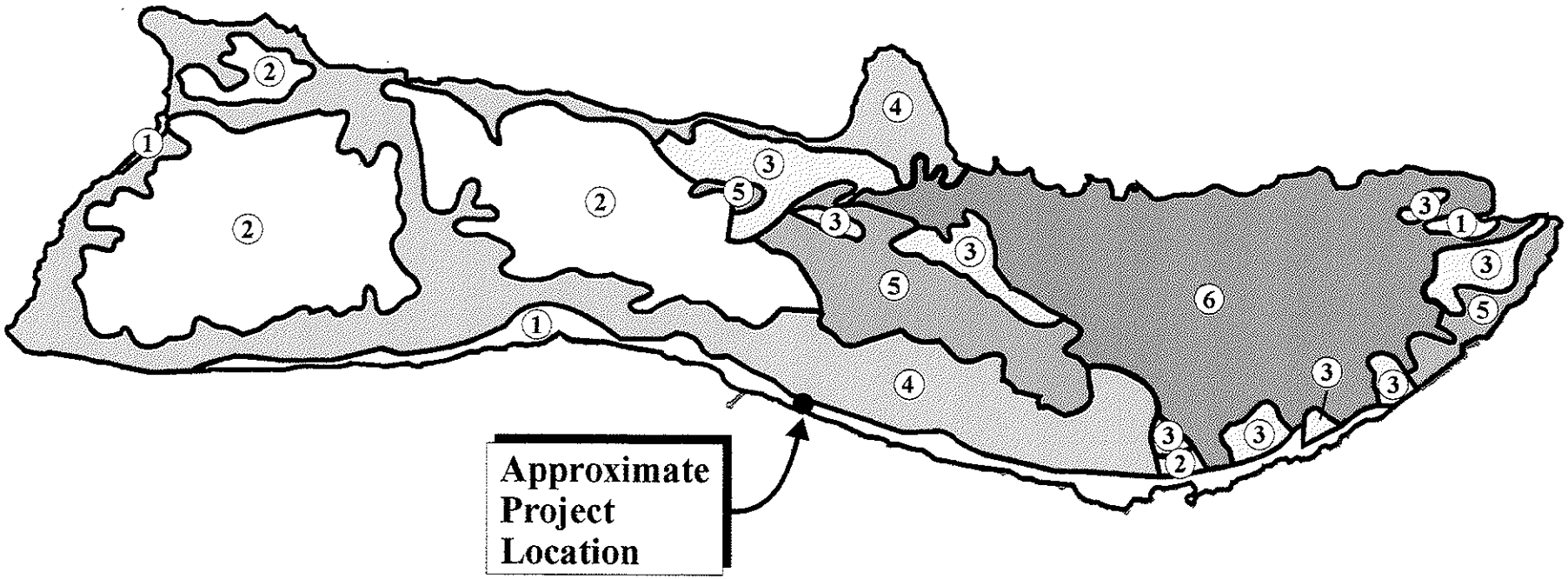
a. Existing Conditions

Topography in the region ranges from a flat coastal plain, to moderately steep slopes, and gulches in the mountains behind Kaunakakai Town. The project site ranges in elevation between 7 and 8 feet above mean sea level (amsl) and lies within the flat coastal plain in the Kaunakakai region.

Underlying the proposed project are soils belonging to the Jaucas-Mala-Pulehu Association. See **Figure 8**. The Jaucas-Mala-Pulehu Association is

LEGEND

① Jaucas-Mala-Pulehu association
② Molokai-Lahaina association
③ Kahanui-Kalae-Kanepuu association
④ Very stony land-Rock land association
⑤ Rough broken land-Oli association
⑥ Rough moutainous land-Amalu-Olokui association



Source: USDA, Soil Conservation Service

Figure 8

Proposed Moloka`i Baseyard at Duke Maliu Regional Park
Soil Association Map

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HHA\Duke Maliu 1243\Soil Association

characterized by deep, nearly level and gently sloping, excessively drained soils that has a coarse-textured to fine-textured underlying material, common to alluvial fan areas and drainage ways. The soils are common to upland areas, gulches and valleys.

The soil type found at the project site is Mala Silty Clay, 0 to 3 percent slopes (MmAa). Permeability is moderate, runoff is slow and the erosion hazard is no more than slight. See **Figure 9**. The Mala series consist of well-drained soils on bottoms of drainage ways and on alluvial fans on coastal plains.

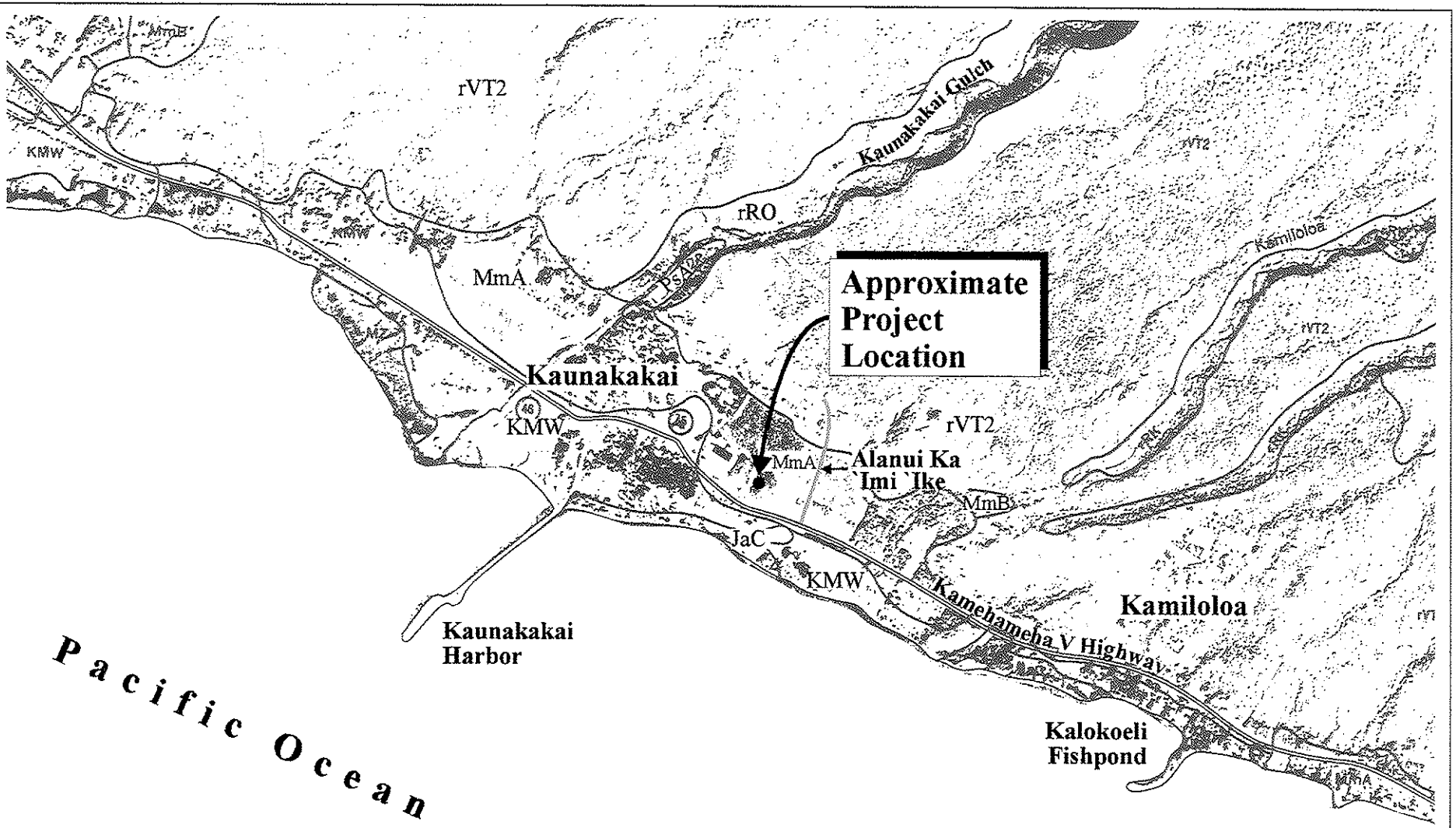
The State Department of Agriculture has established three (3) categories of Agricultural Lands of Importance to the State of Hawai`i (ALISH). The ALISH system classifies lands into "Prime", "Unique", and "Other Important Agricultural Land". The remaining lands are "Unclassified". Utilizing modern farming methods, "Prime" agricultural lands have the soil quality, growing season, and moisture supply needed to produce sustained crop yields economically, while "Unique" agricultural lands possess a combination of soil quality, location, growing season, and moisture supply currently used to produce sustained high yields of a specific crop. "Other Important Agricultural Land" includes those which have not been rated as "Prime" or "Unique". The subject property is located on lands within the "Prime" category. See **Figure 10**.

The Land Study Bureau's Detailed Land classification, which rates the agricultural suitability of soils, identifies the project site as "A", on a scale of "A" to "E", with "E" being very poorly suited for agriculture production.

b. <u>Potential Impacts and Mitigation Measures</u>

Construction of the Duke Mali`u Regional Park will require minimal grading as the new buildings will be situated in areas where the grades are relatively flat. Based on the soils engineer's recommendation, some excavation and importing of structural fill will be necessary. See **Appendix "A"**. The finish floor elevation of the new building will be approximately nine (9) feet amsl.

The proposed action will involve the use of land which is no longer utilized for agricultural purposes. The use of this land for the proposed baseyard facility is not anticipated to affect the inventory of lands available for



Source: USDA Soil Conservation Service

Figure 9

Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Soil Classification Map

1000 0 Feet 500 2000

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HHA\Duke Maliu 1243\SoilClassification

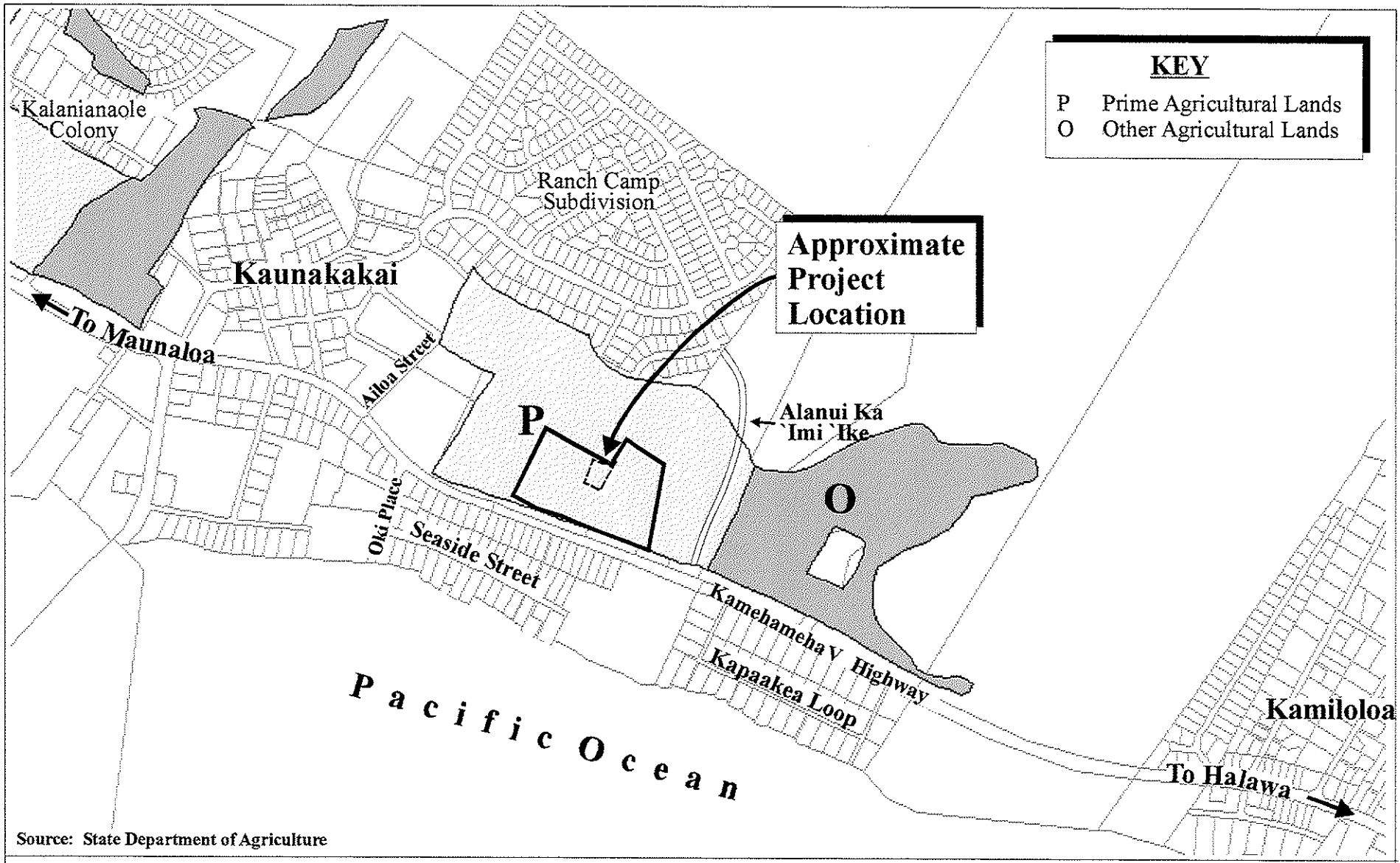

Figure 10

Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Agricultural Lands of Importance to the State of Hawai`i

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HHA\Duke Maliu 1243\ALISH

agricultural cultivation, nor is it expected to affect the inventory of land available for diversified agricultural use.

4. Flood and Tsunami Conditions

a. Existing Conditions

The project site is located in Flood Zones AH and C. The AH designations are areas of 100-year shallow flooding where depths are between one (1) and three (3) feet with an indicated elevation of five (5) feet while Flood Zone C is an area of minimal flooding. See **Figure 11**.

b. Potential Impacts and Mitigation Measures

As further discussed in Section D.4 of this chapter, onsite drainage mitigation measures will be implemented to address the increase in storm water associated with the development of the fire station. These improvements, coupled with the proposed grading plan will ensure that downstream or adjacent properties are not affected during large storm events. It is noted that the project site is not located within a tsunami evacuation zone.

5. Flora and Fauna

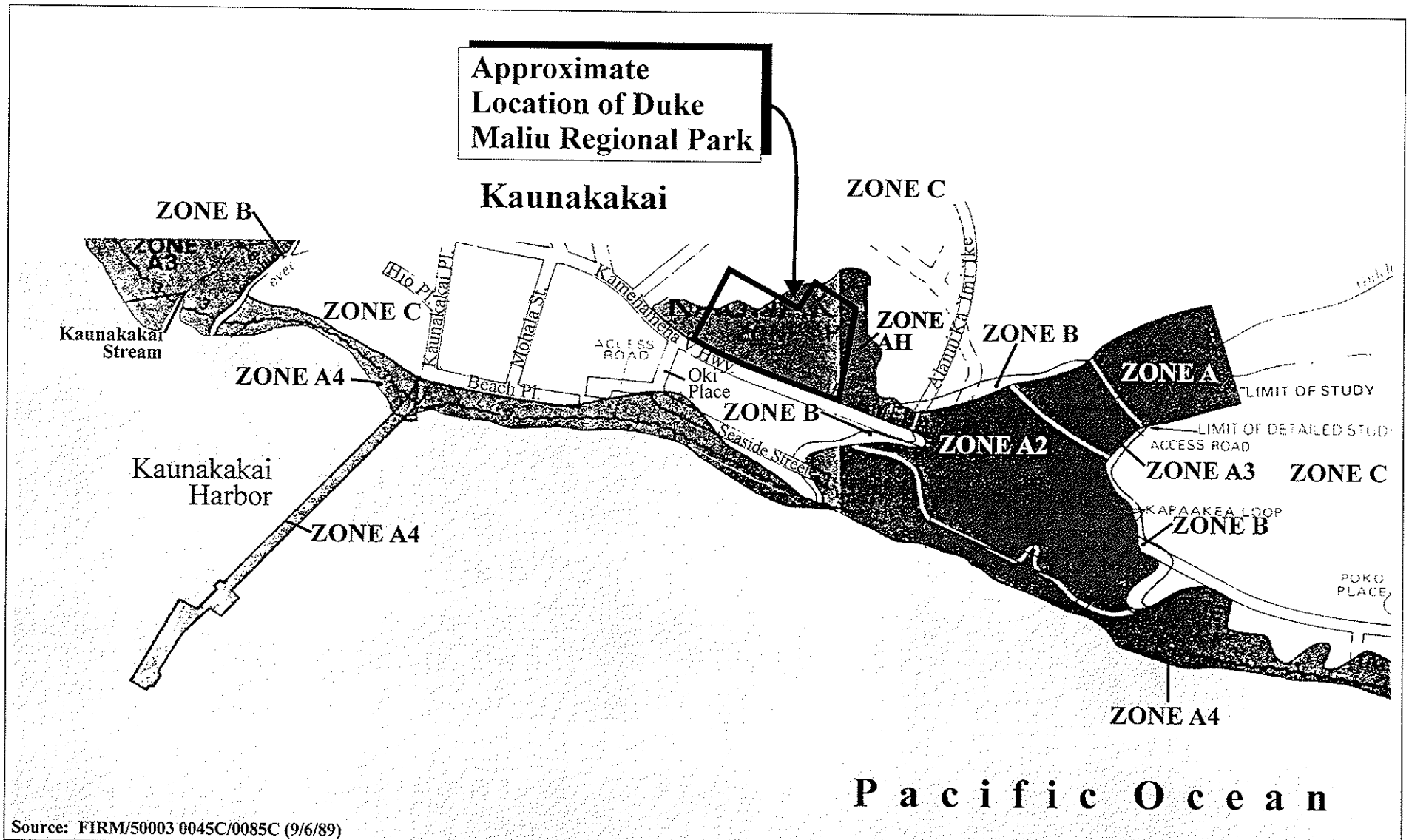
a. Existing Conditions

Vegetation in the vacant lands of the project area include introduced species of grasses and shrubs and trees such as Monkeypod, Milo and Kamani. There are no rare, threatened, or endangered plant species or habitats within the project area.

Avifauna and mammals common to the project site and surrounding areas include introduced birds and feral animals (deer, goat, mongoose, wild pig).

b. Potential Impacts and Mitigation Measures

There are no known or identified habitats of rare or endangered species of flora, fauna or avifauna located at the project site. Proposed landscaping will reflect the character of the area. Landscaping will be consistent with the area and include the addition of native coastal plants that are somewhat tolerant



Source: FIRM/50003 0045C/0085C (9/6/89)

Figure 11

Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

Flood Insurance Rate Map

0 500 Feet
250 1000

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to salt air, brackish water, low annual rainfall and wind. The proposed baseyard facility is not anticipated to have an adverse impact upon the biological environment.

6. Historical and Archaeological Resources

a. Existing Conditions

The site surface and subsurface has been extensively altered and disturbed as it was previously tilled for agricultural purposes and for the development of the existing Duke Maliu Regional Park. There are no surface indications of archaeological remains on the property.

b. Potential Impacts and Mitigation Measures

The State Historic Preservation Division (SHPD) issued a letter acknowledging that previous grubbing and grading has altered the land and that "no historic" properties will be affected by the proposed project. Refer to **Appendix "B"**.

As such, should any significant archaeological remains or cultural materials be encountered during earth altering operations, all work in the vicinity of the find will cease and be immediately reported. The State Historic Preservation Division (SHPD) will be contacted for establishment of appropriate mitigation measures in accordance with Chapter 6E Hawai`i Revised Statutes. The Division of Conservation and Resource Enforcement (DOCARE) shall be contacted in the event that the SHPD cannot be reached during the immediate time of discovery. The Office of Hawaiian Affairs (OHA) will be notified of any significant archaeological remains or cultural materials uncovered during ground disturbance.

7. Cultural Assessment

a. Existing Conditions

(i) Historical Overview

During the pre-contact era, the Moloka`i population base was primarily concentrated at the island's windward coasts. The area was

rich in ocean resources and the deep valleys with perennial streams supported a lifestyle based on subsistence agriculture, primarily associated with intensive taro production.

The 18th century saw great upheaval on Moloka`i as the island became subject to the ambitions of the rulers of neighboring islands. Political authority over Moloka`i passed back and forth between the chiefs of Maui and Oahu throughout the century, only ceasing with the unification of all the islands under Kamehameha I.

With the onset of western contact, a western influence began to permeate through the island's social environment. The result was a reduced reliance on subsistence lifestyles and an increased dependence on a plantation and ranching-based economy. As a result, the island of Moloka`i experienced a westward population movement from the windward coast to the leeward side of the island.

Several important changes for Moloka`i occurred in the 19th century. Herd animals were introduced at this time: cattle in 1833, followed by deer and sheep 30 years later. Cattle had profound socio-economic and, thus, cultural impacts through ranching activities. Sheep, on the other hand, had a notably adverse impact on the landscape because of their grazing (Wiesler and Kirch). The Moloka`i Ranch was founded at the end of the century, purchasing lands formerly owned by Kamehameha V.

The 19th century also saw the creation of the Hansen's Disease colony on Moloka`i by the government. The first habitants arrived at Kalawao on January 6, 1866 to live on approximately 800 acres purchased by the kingdom (De Loach). The association of Moloka`i and leprosy remains to this day.

During the westward movement, the island's political and commercial center developed in accordance with the population movement. The first western town was established at Puko`o, which included a County seat, a court house, a wharf, and several small stores. In 1925, `Ualapue became the island's new major commercial center, where a new hospital was constructed. Finally in 1935,

Kaunakakai was established as the political center and economic nucleus of the island.

In the 1920's, large pineapple plantations were established in the Maunaloa and Kualapu`u areas, further strengthening the westward movement. However, in the 1970's and 1980's, both plantations ceased operations and the island's economy became primarily dependent on diversified agriculture and ranching activities a with an emerging visitor industry (Moloka`i Community Plan, 2000).

The project site is located in the Kaunakakai area. The old name for this area, *Kaunakahakai*, means "resting (on) the beach". It was a location for canoes to come because of its abundant supply of fish. Moloka`i was a favored vacation spot for King Kamehameha V and located to the west of the existing Kaunakakai Wharf are the remains of Kamehameha V's vacation home, Malama. The beach fronting this site was reserved for the exclusive use of the *ali'i* in sunbathing (De Loach; Summers).

Further to the west lie the traditional salt pans, where sea water running during high tide was trapped and left to evaporate for up to three (3) weeks to produce salt. This salt was reputedly less strong than that made from deep sea water. Two (2) *heiaus* are also reported in the area, as well as a fishpond in the Kapa'akea area, which is now filled in. Moloka`i was well-known for the number of its fishponds; 58 of them once ringed the southern coast of the island.

(ii) <u>Geopolitical Organization</u>

Prior to Western contact in Hawai`i, land was divided into *moku*, or districts. Each of these was further subdivided into units called *ahupua'a.* Ideally, each *ahupua'a* was self-sufficient, running from *mauka*, the mountain, to *makai*, the ocean (MacKenzie). These divisions served as both cultural and settlement systems as traditional Hawaiian life was tied intimately to the land. Hunting, gathering, cultivation, and habitation took place within three (3) zones which characterized the *ahupua'a*: the *Mauka* Zone, the Agricultural Zone, and the Coastal Zone. The *Mauka* Zone provided access to a variety

of trees, plants, and herbs for various needs, customs and practices. Planting of yams, sweet potato, sugar cane, taro, and other foods took place in the Agricultural Zone, where gradual slopes of land allowed terraces to be constructed for more efficient irrigation. The Coastal Zone and low-lying areas was where most of the *kauhale*, group of houses, were found, as well as temples, fishing shrines, and fishponds (Minerbi).

Moloka`i was traditionally divided into two (2) moku: Ko`olau district and Kona district, although there is some evidence of a third district having been used at some point (Wiesler and Kirch; Summers). The Ko`olau district was centered on the windward coast of the island, with the Kona district essentially comprising the remainder of Moloka`i. These *moku* were subdivided into *ahupua`a* which ranged in size from 79 to 46,500 acres (Summers). Moloka`i is noted for having had some unusual *ahupua`a* which stretched from shore to shore, rather than the more usual *mauka* to makai; this is due to the shape of the central portion of the island (De Loach).

In 1859, the traditional *moku* divisions were eliminated and the entire island made into one district, called the Moloka`i district. Fifty years later, the island was redivided, this time into the Kalawao district, which is comprised of those areas known as Kalaupapa, Kalawao, and Waikolu and is administratively distinct from Maui County, and the remainder of the island, which is still designated as the Moloka`i district.

Western contact brought changes to the Hawaiian land system with the introduction of private ownership of land, a concept foreign to the Native Hawaiians. A Board of Land Commissioners was established in 1845 to uphold or reject all private land claims of both foreigners and Hawaiians. The Commission adopted rules pertaining to the proof of claims, right of tenants, and commutation to the government in attempts to achieve the goal of totally partitioning undivided lands. All lands not claimed by February 1848 were to be forfeited to the government (MacKenzie).

Following the enactment of these rules, the *Mahele* division of 1848

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

(iii) Stories and Traditions of Moloka`i

As is frequently the case with the islands, Moloka`i is the subject of multiple creation stories. Some say that all of the islands were born of the god Wakea and his wives; Moloka`i being the off-spring of that god and his third wife, Hina, after his previous wives had given birth to Hawai`i, Maui, Kahoolawe, and Lanai. A separate tradition gives the formation of all the islands as having resulted from pieces of coral tossed back into the sea by the fisherman Kapuhe'euanui (Fornander).

The traditional history of Moloka`i is only extant in fragmentary form. It begins with Kamauaua, reputedly the first *ali'i-nui* of the island, who is thought to have lived sometime in the 13th century. There are subsequently many stories which suggest that the island was repeatedly subject to domination by the rulers of Hawai`i and Maui, with lordship over Moloka`i passing back and forth between the kings of the other two (2) islands, as well as intervening periods of autonomy (Summers).

The famous kahuna, Lanikaula, is thought to have lived in the 16th century. He is reputed to have lived in seclusion, but to have been frequently visited by peoples from all the islands in search of his advice. It is said that he had an *'aumakua* in the form of a small bird, who spoke to the wise man. Stories tell that Lanikula predicted the defeat of a powerful Mauian king who attempted to invade Hawai`i

from Moloka`i.

At some point towards the late 18th century, Moloka`i acquired a reputation as being an *aina ho 'omana*, a land of sorcery and the island was sometimes called *Moloka'i pule o'o*, "Moloka`i of the potent prayers" (De Loach, Summers). This reputation is connected with the *kalaipahoa*, the poison-tree gods, whose introduction to Moloka`i are the subject of several legends. The poison-trees and their associated gods were thought to be so deadly that the mere touch of their wood or sap lead to instant death and the *kalaipahoa* could be used to invoke fatal illness in people; conversely, the *kahuna* associated with the *kalaipahoa* was granted great wealth from his *akua* (Summers).

(iv) Burial

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

(v) Religious

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

(vi) Informant Interviews

In order to obtain a wider array of cultural perspectives, interviews were conducted with individuals knowledgeable of and familiar with the project area and its history. Summaries of their interviews are presented below:

(1) Zachary Zane Helm

Mr. Helm was born in Hoolehua, Molokai, on April 1, 1951. His parents were George Jarrett Helm and Melanie Koko Helm, who had moved to Molokai from Maui. His father was a farmer and also a heavy equipment operator. In the later capacity, he worked for Del Monte's pineapple operations, as well as Hawaiian Dredging, for whom he helped dig out the irrigation tunnel through the mountains in the late 1950's. His mother was a substitute teacher and eventually a cafeteria administrator for Kaunakakai School. He had six (6) siblings, three (3) of whom are still living on Molokai.

Mr. Helm grew up on the island, leaving when he was sixteen (16) years old to attend high school in Seattle, Washington. He remained in Washington State after graduation, attending first a junior college and then transferring to Central Washington State University, where he graduated with a degree in Leisure Services in 1974. The interviewee then worked as a social worker for the State of Hawaii, then moved back to Washington to be employed by the Seattle Boys and Girls Club.

In 1980, Mr. Helm returned to Kaunakakai as a Youth Program Specialist for Alu Like Inc., an organization dedicated to helping those of Native Hawaiian descent through job opportunities and on-the-job training. He then worked through a Federal grant to create tutoring and recreation programs for older children (12 to 14 years old) who were underserved by more traditional programs. In 1982, Mr. Helm was hired by the County of Maui, Parks and Recreation Department as a District Supervisor and continues in that capacity.

The interviewee is well-acquainted with the project site. As a child, he attended Kaunakakai Elementary School, which is located adjacent to the site. He recalls that the current park

was agricultural land at that time, owned by the Molokai Ranch. The area was planted in alfalfa and Mr. Helm recalls the tractors coming through the area, baling the alfalfa for hay and tilling and replanting the crop. He also remembers a biplane which the ranch used to spray the fields, flying over while school was in session. He noted that this practice would never be allowed these days, but that no one was concerned about the possible effects back then.

Mr. Helm recalls being surprised when he moved back to Molokai to discover that the project area had been leased to Hawaiian Research sometime in the early 1970's and was no longer used by the Molokai Ranch. The interviewee was involved in the efforts of the community to turn the area into a regional park. Hawaiian Research and the Molokai Ranch were both involved in this effort, clearing the way for the development. The Duke Maliu regional park was finally developed in 1987 with two (2) play fields. Initially, the County of Maui leased the land from the Molokai Ranch, but has since purchased the land.

As far as the interviewee is aware, there are no cultural or religious practices associated with the subject property, which has been used solely for agricultural and later park, activities, for as long as he is aware.

(2) **Harriet "Auntie Nona" Fukuoka**

Ms. Fukuoka was born on Maui, in Puunene. Her paternal grandfather was Ikua Purdy, a champion roper from the Big Island, who eventually went to work at the Ulupalakua Ranch on Maui. Ms. Fukuoka's parents were William Purdy and Ella Kapaku. William worked for HC&S, the sugar company, as a blacksmith, shoeing the horses which were used in the cane fields at the time. He also worked for the wealthy, area landowners. Ella worked for Maui Land & Pineapple Company. Ms. Fukuoka noted that her parents moved around a great deal, living in Kula, Puunene, Haiku, Hamakuapoko, and Spreckelsville, and that she consequently attended many different schools in her youth.

Ms. Fukuoka has several siblings, five (5) of which still reside on Maui. A sister moved to Molokai and operated the island's only mortuary. Ms. Fukuoka moved to Molokai 27 years ago to join her sister. At first, she lived in the Kalai

area, later moving to Kaunakakai, and finally relocating to the Ranch Camp Subdivision immediately adjacent to the project site in approximately 1977, where she has resided ever since.

Ms. Fukuoka has been an active community participant over the years. She sat on the Public Safety Commission Board for five (5) years and has been an adult crossing guard at Kaunakakai School for approximately 20 years. The interviewee has strong connections to the island, including two (2) children who are residents and numerous nieces and nephews.

The interviewee spoke about the population changes on Molokai since she arrived. She noted the increased number of people from the mainland who have moved there. There are not enough restaurants, grocery stores, or parking places with the population influx to the island. Ms. Fukuoka wondered if Molokai might even need a traffic signal soon, which it has never had. She also spoke of the crowded nature of the public parks these days and the traffic congestion created by sporting events and public meetings.

The project area was previously used for corn seed cultivation by Funk Seeds/Hawaiian research, according to Mrs. Fukuoka. She is unaware if any use prior to that and notes that the area is subject to flooding during heavy rains.

Because of the community interest in sports, as mentioned earlier, the area was turned into a regional park to expand athletics opportunities. Duke Maliu was heavily involved in baseball events on Molokai, as an umpire. This involvement earned respect not only for himself, but for the game as a whole and the interviewee suggests that this was the reasoning behind naming the park after him. The park is currently used not only for baseball, but also Pop Warner football and soccer activities.

Subsequent to the park's development, a kitchen and restrooms were added. The kitchen area is used for parties, public meetings, fundraisers, and concession purposes. Mrs. Fukuoka noted that picnic tables have also been added to the park and are used frequently. She added that tournaments and all-star games have focused much attention on the park, accounting for its heavy use in the community.

The interviewee is unaware of any traditional or cultural practices associated with the subject property.

b. Potential Impacts and Mitigation Measures

The project area was used for agricultural purposes until its development as the Duke Maliu Regional Park in the 1980's. Since then, the property has been extensively disturbed and altered from both activities. There are no known traditional or cultural practices associated with the site. There are no adverse impacts to the cultural fabric of the project area associated with the proposed park improvements and baseyard.

With regard to the proposed baseyard facility, no adverse impact to cultural resources, practices, and traditions is anticipated.

8. Air and Noise Quality

a. Existing Conditions

Due to the low level of residential and commercial development in the Kaunakakai area, the lack of major point sources of air pollution, and the prevailing tradewind conditions, the Kaunakakai region has good air quality. The primary source of emissions may be attributed to motor vehicles traversing roadways in the area. However, these mobile sources have no adverse influence on air quality.

There are no significant noise generators in the vicinity of the project area. Noise generated in this locale may be attributed to traffic in the Kaunakakai area.

b. Potential Impacts and Mitigation Measures

Airborne particulates, including dust, may be generated during site preparation and construction activities. However, dust control measures, such as regular watering and sprinkling, will be implemented as needed to minimize wind-blown emissions.

In the long term, vehicle-generated emissions will not adversely impact local and regional ambient air quality conditions.

As with air quality, ambient noise conditions will be temporarily impacted by construction activities. Heavy construction equipment, such as bulldozers, front end loaders, and dump trucks and trailers will be the dominant source of noise during site construction. Construction generated noise will be mitigated through Best Management Practices (BMPs), and construction activities will be limited to daylight work hours only. The contractor will coordinate with the State Department of Health to ensure that noise permits are obtained, as appropriate.

9. Scenic and Open Space Resources

a. Existing Conditions

The project site is located near the southeastern boundary of Kaunakakai Town. North of the project site is the Home Pumehana Elderly housing project and Ranch Camp. Further north, vacant dry grasslands slope gradually higher up to the Puu Olelo area. West of the project site is Kaunakakai Town, Kaunakakai Stream, Manila Camp and Kalanianaole Colony, as well as Kaunakakai Elementary School. South of the project area is the Kamehameha V Highway. Further south are vacant lands, residential dwellings abutting Oki Place and Seaside Street, and the Pacific Ocean. Agricultural lands, vacant lands and the Kamiloloa residential subdivision lie east of the site.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to have a substantial, adverse impact to existing view corridors. The site is relatively flat and not part of a scenic corridor. The proposed building will be approximately the same height of the adjacent existing kitchen/pavilion building. There are no anticipated adverse impacts to the visual resources of the surrounding environment as a result of the proposed project's construction.

10. Traditional Beach and Mountain Access

a. Existing Conditions

The proposed project is located 1,000 feet away from the shoreline and is surrounded by residential areas and agricultural lands owned by Moloka`i

Ranch. There are no pathways adjacent to the project sites that are used to access the uplands or the beach.

b. Potential Impacts and Mitigation Measures

The proposed project is located in the area currently used as the Duke Maliu Regional Park. The project is not expected to adversely affect traditional beach and mountain access.

11. Use of Chemicals and Fertilizers

a. Existing Conditions

The use of landscaping herbicides will be generally limited to the initial plant establishment periods for the landscaping of the proposed project. Pesticides are expected to be used only as a treatment and not as a preventative measure. As a treatment, application will be minimal and will be conducted by a licensed commercial service provider, as required.

Nitrogen/Phosphorus/Potash mixed-fertilizers are anticipated to be applied to landscaped areas. Utilizing proper irrigation management practices, leaching and runoff of fertilizers are expected to be minimal.

b. Potential Impacts and Mitigation Measures

The proposed drainage plan will be designed to capture and retain all increases in surface storm water runoff within the project site boundaries. In addition, a grease and oil separator will be installed in the covered parking area and utilized to remove oil, grease and sediment from the wastestream and allow the remaining storm water to discharge into the drainage collection system. The project site is located approximately 1,000 feet from the shoreline. No adverse effects to surface, underground, and marine resources are anticipated.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population and Economy

a. Existing Conditions

The resident population of the island of Moloka`i (excluding Kalawao), as determined by the 1990 Census, was 6,587. In the year 2000, the resident population was 7,404, representing an increase of approximately 10 percent. Kaunakakai remains the population center of Moloka`i with 2,726 residents, followed by Kualapuu with 1,936 residents (Maui County Data Book, 2006).

Moloka`i experiences a higher unemployment rate compared to Lana`i and Maui. In May of 2007, the unemployment rate was 2.1 percent for the island of Maui, 2.5 percent for Lana`i, and 5.5 percent for the island of Moloka`i. In comparison, the unemployment rate for the State of Hawai`i was 2.6 percent (Hawai`i Workforce Informer).

In May of 2007, the total number of people employed in non-farming wage and salary jobs on Moloka`i was 1,900 and the total number in the private sector was 1,300. There were 600 people employed in government, 200 in retail, 350 in educational and health services, and 300 in leisure and hospitality (Hawai`i Workforce Informer).

The visitor industry continues to provide a valuable contribution to the Moloka`i economy. In 2005, a total of 73,487 visitors traveled to Moloka`i by air. Of those visitors, 58,496 were domestic, while 18,749 visitors were from foreign countries. However, the Moloka`i tourism market still has room for growth. In the year 2005, approximately 452 rental accommodations were available, with an average occupancy rate of 59.59 percent, and an average room rate of $119.94 per night. These figures are substantially lower than those of Maui, which had an average occupancy rate of 79.98 percent, and an average room rate of $256.07 in the same period (Maui County Data Book, 2006).

b. Potential Impacts and Mitigation Measures

Short-term economic benefits associated with construction expenditures are anticipated. The proposed project is not a population generator. Thus, there

are no anticipated long-term impacts on population parameters. While the project will not increase unemployment rates, it will provide the County Department of Parks and Recreation with the opportunity to expand the staff as the facilities for them become available.

C. PUBLIC SERVICES

1. Police and Fire Protection

a. Existing Conditions

Police services on Moloka`i are provided by the Maui County Police Department. The Moloka`i Police Station is located less than a quarter of a mile in the Mitchell Pauole Center in Kaunakakai.

Fire prevention, protection and suppression services are provided by the Maui County Fire Department. The Fire Department maintains stations in Kaunakakai and Hoolehua, with a substation in Pukoo. It is noted that the County Department of Fire and Public Safety proposes a new Kaunakakai station east of the Duke Maliu Park to replace its existing station located at the Mitchell Pauole Center.

b. Potential Impacts and Mitigation Measures

The proposed project is not anticipated to generate additional demand for police and fire protection services on Moloka`i.

2. Medical Facilities

a. Existing Conditions

Moloka`i General Hospital, which is operated by the Queen's Health Systems, is the only major medical facility on the island. Licensed for 30 beds, the hospital located in Kaunakakai provides acute, and obstetrics care services. The hospital also houses the Women's Health Center, which offers mid-wife and maternity services to local residents.

Other medical facilities include the Moloka`i Family Health Center in Kaunakakai.

b. **Potential Impacts and Mitigation Measures**

The proposed project is not anticipated to have adverse impacts on existing medical facilities or services on Moloka`i.

3. **Solid Waste**

a. **Existing Conditions**

Except for remote areas, single family solid waste collection service is provided by the County of Maui once weekly.

Solid waste is collected by County refuse collection crews and disposed at the County landfill at Pala`au. Commercial waste from private collection companies are also disposed of at the landfill.

b. **Potential Impacts and Mitigation Measures**

The proposed baseyard facility is not anticipated to adversely impact existing solid waste services on Moloka`i.

4. **Recreational Resources**

a. **Existing Conditions**

The island of Moloka`i offers a wide range of recreational opportunities. Outdoor activities include bicycling, boating, camping, diving, fishing, golfing, hiking, horseback riding, hunting, surfing, swimming, tennis, and windsurfing.

b. **Potential Impacts and Mitigation Measures**

The proposed baseyard facility will be used to service all parks on the island and provide for a centralized maintenance facility for all of the Parks Department operations.

The proposed project will be located on a vacant portion of the Duke Maliu Park and is not anticipated to adversely impact the existing recreational functions and operations of the park.

5. Educational Facilities

a. Existing Conditions

There are five (5) public schools on Moloka`i. Four (4) are public elementary schools, Kaunakakai, Kilohana, Kualapuu, and Maunaloa, providing elementary school education for children from Kindergarten through Grade 6. There is one (1) secondary school, Moloka`i High and Intermediate School, located in Hoolehua. School capacity, enrollment and projected enrollment are as follows in **Table 1**.

Table 1

ENROLLMENT ESTIMATES FOR MOLOKA`I SCHOOLS			
School	Capacity for 2006-2007 School Year	Enrollment 2006-2007 School Year	Projected Enrollment 2011-2012
Kaunakakai Elementary School (Grades K-6)	464	212	218
Kilohana Elementary School (Grades K-6)	209	98	87
Maunaloa Elementary School (Grades K-6)	121	57	51
Kualapuu Elementary Charter School (Grades K-6)	436	342	420
Moloka`i Intermediate School (Grades 7-8)	343	160	173
Moloka`i High School (Grades 9-12)	756	394	268
Source: State of Hawai`i, Department of Education.			

Private schools include Moloka`i Christian Academy (Grades K-12) and Moloka`i Mission School (Grades 1-8).

Moloka`i Education Center, a satellite facility of Maui Community College, offers post-secondary, vocational and technical credit courses, and is located at the intersection of Alanui Ka `Imi `Ike and Kamehameha V Highway.

b. Potential Impacts and Mitigation Measures

The proposed action is not a population generator and, therefore, is not anticipated to adversely impact existing education facilities or services on Moloka`i.

D. INFRASTRUCTURE

1. Roadways

a. Existing Conditions

The State of Hawai`i's Maunaloa Highway links Kaunakakai with the western portion of the island. Maunaloa Highway becomes Kamehameha V Highway at Kaunakakai and extends toward the shoreline, providing access to eastern portions of Moloka`i.

County roads run through residential, commercial, light industrial and public facility areas throughout the remainder of Kaunakakai. Due to the rural character of the town, traffic is generally light and there is no chronic traffic congestion.

b. Potential Impacts and Mitigation Measures

The baseyard facility will be staffed by approximately 14 employees who will utilize the facility each day. Given the low number of vehicle trips to and from the baseyard facility and the capacity of Kamehameha V Highway, the proposed project is not anticipated to result in any substantive, adverse impacts to traffic.

2. Water System

a. Existing Conditions

The County of Maui operates four (4) water systems on the island of Moloka`i. The water distribution system for Kaunakakai consists of a 1.0 million gallon reinforced concrete reservoir at an elevation of 232 feet. It is located approximately 2,500 feet northeast of the site. A network of 12-, 8- and 6-inch waterlines transport water from the reservoir to residential and commercial areas of Kaunakakai.

b. Potential Impacts and Mitigation Measures

The proposed project will connect to the Department of Water Supply's existing 12-inch waterline, situated along Kamehameha V Highway. The proposed baseyard facility will be served by a 1.5-inch domestic and 8-inch fire protection line. An existing 1.5-inch water meter currently serves the project site. The existing meter will serve the demand from the proposed action. See **Appendix "C"**. It is noted that the Department of Water Supply estimates the daily average consumption for the project to be approximately 703 gallons per day.

Appropriate Best Management Practices (BMPs) will be employed during construction in order to protect the integrity of groundwater and surface water resources in the vicinity of the project.

Water requirements will be coordinated with the Department of Water Supply to ensure that adequate supply is available at the time of development. In addition, calculations for domestic, irrigation and fire protection use will be submitted to the Department of Water Supply for building permit processing.

3. Wastewater System

a. Existing Conditions

The Kaunakakai Wastewater Treatment Plant, built in 1987, provides service to the Kaunakakai area. Residents within one (1) mile of the plant are linked to the wastewater system. The Kaunakakai facility has a capacity of 300,000 gallons per day (gpd) and a cumulative allocated capacity of 293,000 gpd.

Most regions of Moloka`i are not served by a wastewater treatment system. Residents situated beyond the Kaunakakai service area utilize either cesspools or septic systems. The County of Maui provides cesspool pumping services to readily accessible areas.

b. Potential Impacts and Mitigation Measures

The proposed project will generate approximately 400 gallons of wastewater per day. Refer to **Appendix "C"**. The Moloka`i sewer system will be able to accommodate the additional flow. There should be no adverse impact to

wastewater conditions and/or infrastructure.

4. Drainage

a. Existing Conditions

The onsite drainage sheet flows from the mauka areas to the makai edge of the property along Kamehameha V Highway. An existing grassed swale then directs runoff along the western property line within the park parcel and turns eastward into another grassed swale along the mauka edge of the highway. A culvert exists at the park entrance driveway to take flows toward the southeast edge of the park site. Two (2) culverts take flows across the highway; one is near the park entrance and the other at the Moloka`i Education Center. The existing runoff rate is approximately 0.45 cubic feet for a 50 year, 1-hour storm event.

b. Potential Impacts and Mitigation Measures

The project overlies the Kamiloloa Aquifer which has a sustainable and developable yield of 3 MGD. To protect the integrity of surface and groundwater resources, best management practices (BMPs) for construction designed to minimize infiltration and runoff during construction will be implemented through the construction documents.

The construction of the proposed improvements will increase the amount of impervious surface on the property and, therefore, increase the amount of drainage produced to a rate of 1.74 cfs. See **Appendix "D"**.

The increase in runoff will be collected with grate inlets and conveyed to an underground perforated pipe which will provide storage/retention for the increased flows. The underground storage/retention pipe will have perforations that will allow the increased runoff to slowly percolate into the ground below.

Based on the proposed drainage improvements there will be no adverse effects on any adjoining or downstream properties as a result of this project.

5. Electrical and Telephone

a. Existing Conditions

Electrical and telephone services are provided by Maui Electric Company, Ltd. Molokai Division and Hawaiian Telcom, respectively, from existing overhead lines on Kamehameha V Highway. An overhead line enters the park site to a pole situated in the parking lot fronting the highway. It then proceeds underground to a transformer located adjacent and to the east of the existing restroom building. The service to the existing restroom building and kitchen/pavilion buildings are underground from that transformer.

The telephone and cable service routing will follow the electrical power routing.

b. Potential Impacts and Mitigation Measures

Coordination is being undertaken with the respective utility companies to ensure that electrical, telephone and cable TV services are provided to the site. Service utility lines will be extended to the project site via the existing overhead distribution system. From a joint utility pole which fronts the subject property, underground duct systems will be installed for extension of service up to the proposed baseyard.

The electrical service for the proposed baseyard and maintenance building will be from an underground 12.47 KV system within the park. This service is presently 120/208 volts, three phase, four wire through an existing 300 KVA transformer located adjacent and east of the existing restroom building.

There will be an increase in power usage because of the new building. This increase will not be significant as the building is not proposed to be air conditioned except for possibly the office and the staff area where split system air conditioning units would be used. The roof and some walls will be insulated to cut down on the heat gain. Through ventilation will be encouraged in the design. The work shop will be for repair, maintenance, and for building of small items as may be needed in the parks and facilities. Its power usage would not be as high as a full-time manufacturing work shop.

Therefore, the project's impact on the electrical and telephone service will be minimal.

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICTS

Chapter 205, Hawai`i Revised Statutes, relating to the Land Use Commission (LUC), establishes the four (4) major land use districts in which lands in the State are placed. These districts are "Urban", "Rural", "Agricultural", and "Conservation".

The subject property is located within the State "Agricultural" district. See **Figure 12**. The proposed action involves a County-initiated District Boundary Amendment (DBA) to the "Urban" district to permit the proposed action.

B. LAND USE COMMISSION RULES, CHAPTER 15, HAWAI` ADMINISTRATIVE RULES

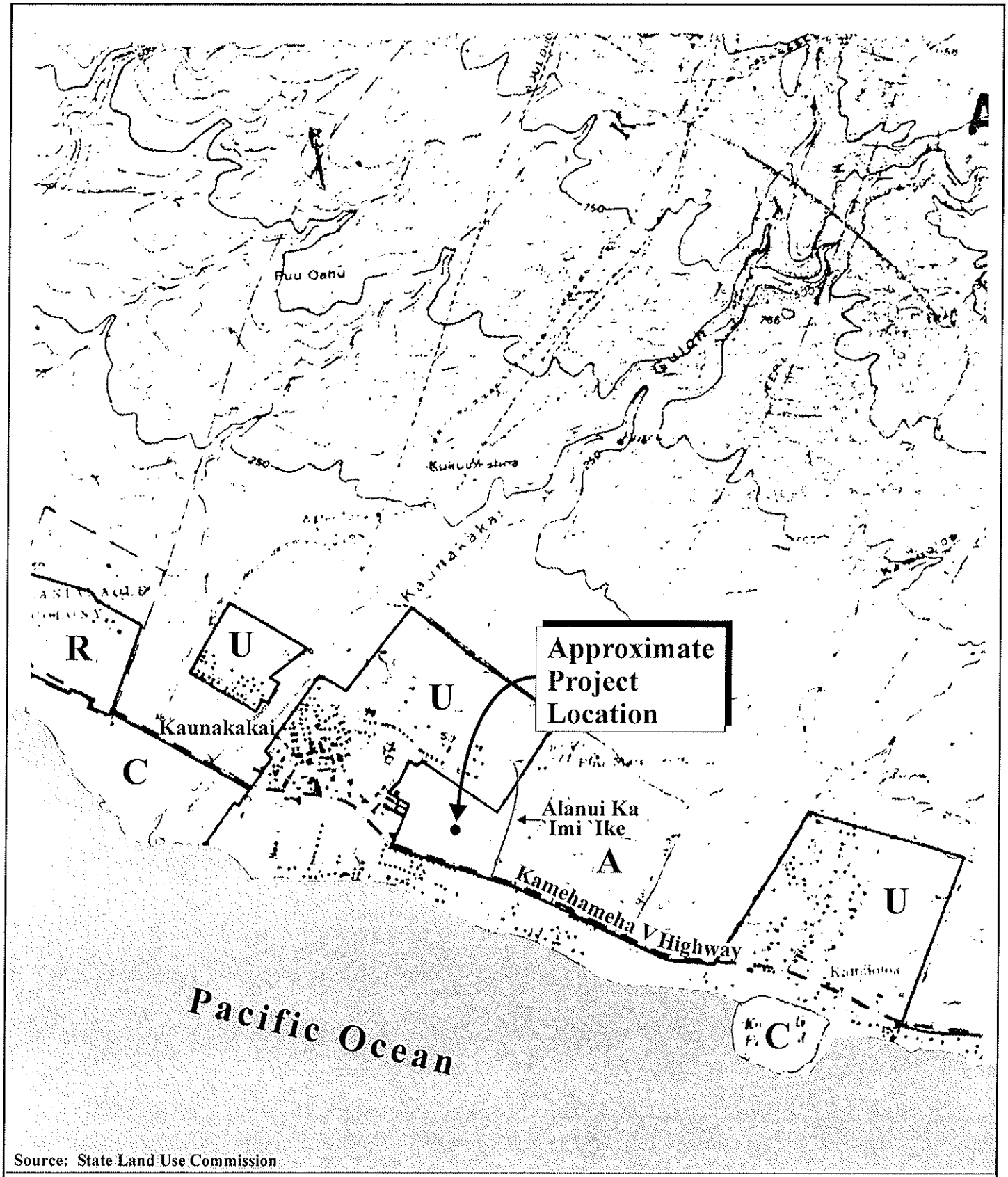
A State Land Use District Boundary Amendment from the Agricultural district to the Urban district will be initiated by the Maui County Council as part of the entitlement application to bring consistency with the State Land Use District Boundaries for the development of the proposed base yard facility. Criteria considered in the reclassification of lands are set forth in the State Land Use Commission Rules (Chapter 15-15, Hawai`i Administrative Rules).

The proposed reclassification of the 13.145-acre project site from Agricultural to Urban district is in conformance with the following standards of the Urban district set forth in Chapter 15-15-18, Hawai`i Administrative Rules:

Chapter 15-15-18

(1) It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses.

Comment: The area proposed for reclassification is located south of the Ranch Camp residential subdivision. It is also in close proximity to Kaunakakai Town, which consists of single-family residential, commercial, public/quasi-public and recreational uses.



Source: State Land Use Commission

Figure 12 Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park
State Land Use Classifications

NOT TO SCALE

Prepared for: County of Maui, Department of Parks and Recreation

MUNEKIYO & HIRAGA, INC.

HHA\Duke Maliu 1243\SLUC

(2) It shall take into consideration the following specific factors:

A. Proximity to centers of trading and employment except where the development would generate new centers of trading and employment.

Comment: The area proposed for reclassification is located approximately 0.5 mile from Kaunakakai Town, the island's center of trade and employment.

B. Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities, and police and fire protection.

Comment: Basic infrastructure, such as transportation systems, sewer, water, drainage and public utility hook-ups are available in close proximity to the project area. Drainage improvements will comply with County of Maui standards. Schools and parks are located in close proximity to the project site.

C. Sufficient reserve areas for foreseeable urban growth.

Comment: The area of proposed reclassification involves the development of a parks baseyard facility. Development of the property is anticipated to provide improved County service relating to parks without significantly affecting reserve areas for urban growth. Additional areas for future urban growth are delineated in the Moloka`i Community Plan.

(3) It shall include lands with satisfactory topography, drainage, and reasonably free from the danger of any flood, tsunami, unstable soil condition, and other adverse environmental effects.

Comment: The site has been engineered to provide a functional parks baseyard without compromising natural geographic and environmental parameters. According to the Federal Emergency Management Agency (FEMA) flood insurance rate maps, the subject property is located in Zones "C" and "AH" which are defined as areas of minimal flooding and areas of 100-year shallow flooding. This land area is not subject to tsunami inundation. The average slope of the area to be reclassified ranges from 0 to 3 percent.

(4) Land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on state or

county general plans.

Comment: The 13.145-acre area proposed to be reclassified is contiguous with existing Urban District lands. The proposed reclassification of land is also adjacent to areas designated for residential and commercial use.

(5) It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the state and county general plans.

Comment: The subject property is an appropriate location for an Urban District classification as reflected by the underlying Park designation established in the Moloka`i Community Plan.

(6) It may include lands which do not conform to the standards in paragraphs (1) to (5):

A. When surrounded by or adjacent to existing urban development; and

B. Only when those lands represent a minor portion of this district.

Comment: The subject property conforms with standards in paragraphs (1) to (5). Moreover, it lies in close proximity to Kaunakakai Town, an existing urban area. The proposed project site represents a small portion of the Agricultural District on the island of Moloka`i.

(7) It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services.

Comment: The proposed area for reclassification lies in close proximity to Kaunakakai Town and is adjacent to other parks, schools and residential areas. As such, the area proposed for reclassification will be developed in the context of existing park uses and will not contribute towards scattered and spot development.

(8) It may include lands with a general slope of twenty percent or more if the commission finds that those lands are desirable and suitable for urban purposes and that the design and construction controls, as adopted by any federal, state or county agency, are adequate to protect the public health, welfare and safety, and the public's interest in the aesthetic quality of the landscape.

Comment: The project area contains slopes ranging between zero (0) to three (3)

percent. County grading regulations will be followed to ensure the protection of public health and welfare.

C. CHAPTER 226, HRS, HAWAI`I STATE PLAN

Chapter 226, HRS, also known as the Hawai`i State Plan, is a long-range comprehensive plan which serves as a guide for the future long-range development of the State by identifying goals, objectives, policies, and priorities, as well as implementation mechanisms. The proposed reclassification and rezoning actions are consistent with the following goals of the Hawai`i State Plan.

- A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai`i's present and future generations.

- A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.

- Physical, social, and economic well-being, for individuals and families in Hawai`i, that nourishes a sense of community responsibility, of caring, and of participation in community life.

1. Objectives and Policies of the Hawai`i State Plan

The proposed reclassification is consistent with the following objectives and policies of the Hawai`i State Plan:

Chapter 226-5, HRS, Objectives and Policies for Population

226-5(a), HRS: It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter.

226-5(b)(7), HRS: Plan the development and availability of land and water resources in a coordinated manner so as to

provide for the desired levels of growth in each geographic area.

Chapter 226-11, HRS, Objectives and Policies for the Physical Environment - Land-Based, Shoreline, and Marine Resources.

226-11(b)(9), HRS: Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.

Chapter 226-13, HRS, Objectives and Policies for the Physical Environment - Land, Air, and Water Quality.

226-13(b)(7), HRS: Encourage urban developments in close proximity to existing services and facilities.

Chapter 226-23, HRS, Objectives and Policies for Socio-Cultural Advancement - Leisure.

226-23(a), HRS: Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.

226-23(b)(3), HRS: Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.

2. **Priority Guidelines of the Hawai`i State Plan**

The proposed action coincides with the following priority guidelines of the Hawai`i State Plan.

Chapter 226-104, HRS, Population Growth and Land Resources Priority Guidelines.

226-104(a)(1), HRS: Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai`i's people.

226-104(b)(1), HRS: Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.

226-104(b)(12), HRS: Utilize Hawai`i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline conservation lands, and other limited resources for future generations.

D. GENERAL PLAN OF THE COUNTY OF MAUI

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

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

matters related to development.

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

Environment

Objective:

To use the County's land-based physical and ocean-related coastal resources in a manner consistent with sound environmental planning practice.

Policy:

Evaluate all land based development relative to its impact on the County's land and ocean ecological resources.

Social Infrastructure: Recreation and Open Space

Objective:

To provide high-quality recreational facilities to meet the present and future needs of our residents of all ages and physical ability.

Policies:

Maintain and upgrade existing recreational facilities to meet community needs.

Maintain recreational facilities for both active and passive pursuits.

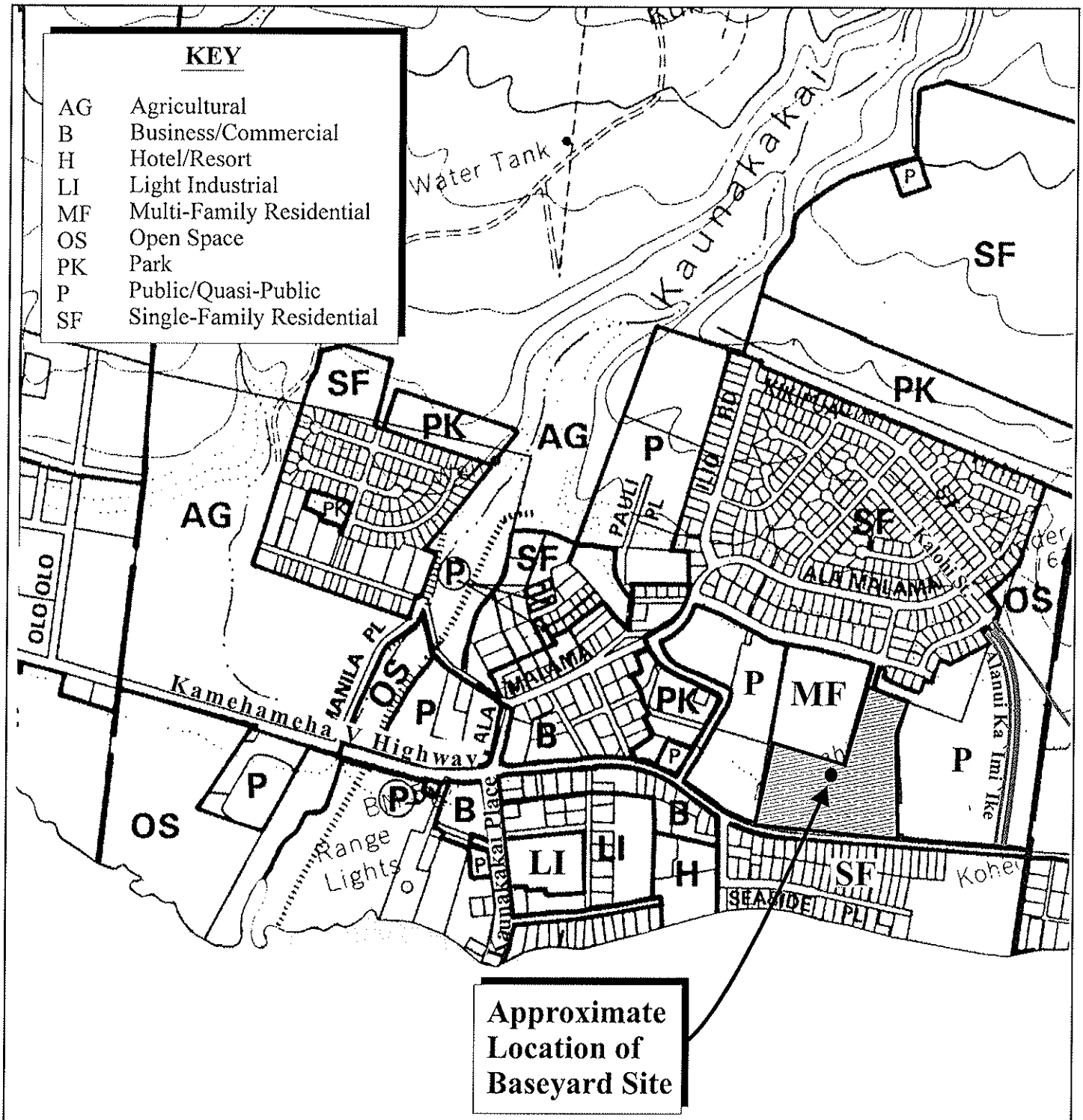
Develop facilities that will meet the different recreational needs of the various communities.

Develop multi-purpose recreational facilities.

E. MOLOKA`I COMMUNITY PLAN

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

The 13.145-acre Duke Maliu Regional Park site is located within the Moloka`i region and occupies lands designated as "Park" in the Community Plan. See **Figure 13**.



Source: County of Maui

Figure 13 Proposed Moloka`i Parks Baseyard at Duke Maliu Regional Park

NOT TO SCALE

Community Plan Land Use Designations

Prepared for County of Maui, Department of Parks and Recreation

MUNEKIYO & HIRAGA, INC.

HHA\Duke Maliu 1243\CPLUD

The proposed project is consistent with the following goals, policies, and objectives, of the Community Plan:

Land Use

Goal:

Enhance the unique qualities of the island of Moloka`i to provide future generations the opportunity to experience rural and traditional lifestyles.

Objectives and Policies:

Require all zoning, discretionary land uses, and development approvals to be consistent with the Community Plan and be subject to public review.

Social Infrastructure - Recreation

Goal:

An efficient and responsive system of people-oriented public services which enable residents to live a safe, healthy and enjoyable lifestyle.

Objectives and Policies:

Provide and maintain recreational opportunities which address the needs of residents while respecting the rural character of Moloka`i.

F. ZONING

The zoning designation for the subject property is "Interim". The County of Maui will initiate a Change in Zoning (CIZ) to the "PK2, Park" designation so that the proposed action is a compatible use.

G. COASTAL ZONE MANAGEMENT OBJECTIVES AND POLICIES

The Hawai`i Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, HRS, establishes objectives and policies for the preservation, protection, and restoration of natural resources of Hawai`i's coastal zone. The subject property lies within the County of Maui's Special Management Area (SMA).

1. **Recreational Resources**

Objective:

Provide coastal recreational opportunities accessible to the public.

Policies:

(A) Improve coordination and funding of coastal recreational planning and management; and

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:

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

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

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

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

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

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

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

(viii) Encouraging reasonable dedication of shoreline areas with

recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of Section 46-6.

Response: The proposed project is not anticipated to result in adverse impacts to existing coastal or inland recreational resources. The project is not anticipated to limit or compromise any existing shoreline recreational activity.

2. **Historic Resources**

Objective:

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

Policies:

(A) Identify and analyze significant archeological resources;

(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and

(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Response: As the site was graded and improved for the development of the Duke Maliu Regional Park in the early 1990's, there was no evidence of existing archaeological or historical landmarks. The building foundations will be excavated to about 2 feet deep and the building slabs will be in areas above the existing grade so deep excavations will be minimal; possibly just into the fill layers. The State Historic Preservation Division (SHPD) has issued an opinion that "no historic properties will be affected" by the proposed project. Refer to **Appendix "B"**.

Should any cultural or historical materials be uncovered during construction-related activities, work shall be halted in the area of the find and the State Historic Preservation Division shall be notified for determination of appropriate mitigation measures.

The proposed project is not anticipated to have an adverse effect on historic or

cultural resources.

3. **Scenic and Open Space Resources**

Objective:

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

Policies:

(A) Identify valued scenic resources in the coastal zone management area;

(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;

(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

(D) Encourage those developments that are not coastal dependent to locate in inland areas.

Response: The proposed baseyard facility is set back from the adjacent Kamehameha V Highway about 400 feet, is proposed to be approximately 16 feet to the ridge and will be situated behind the existing kitchen/pavilion building. Existing and proposed landscape trees serve as a buffer to mitigate the impact on visual resources. From the Home Pumehana development, there exists minimal or no views to the ocean as the area is relatively flat. Residential areas which exist on the mauka side of that development are situated at a relatively higher elevation than this development and, therefore, will continue to maintain their views of the ocean. The balance of the areas immediately adjacent to the development and within the park will remain in open space park areas as playfields.

4. **Coastal Ecosystems**

Objective:

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

Policies:

(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

(B) Improve the technical basis for natural resource management;

(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Response: The proposed project is not anticipated to result in substantive, adverse impacts to coastal ecosystems. There will be no increase to the offsite drainage runoff as a result of this project. The additional runoff be directed to drop inlets on the site and to proposed underground perforated storage/retention pipes. Mitigation measures to contain soil erosion and surface runoff will be implemented during construction of the project to protect surrounding areas and drainage ways. Best Management Practices (BMPs) and appropriate drainage design will mitigate potential impacts to the coastal environment.

5. **Economic Uses**

Objective:

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

Policies:

(A) Concentrate coastal dependent development in appropriate areas;

(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone

management area; and

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

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

(ii) Adverse environmental effects are minimized; and

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

Response: During the construction of the project, a short-term economic effect will be the construction-related employment. The proposed facility will provide the opportunity to expand the maintenance service to the parks on Moloka`i and will be able to accommodate additional parks maintenance personnel to fill that need.

6. Coastal Hazards

Objective:

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

Policies:

(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;

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

(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

(D) Prevent coastal flooding from inland projects.

Response: The development area of the proposed project is located within Flood Zone AH and C. Zone AH is an area of 100-year shallow flooding where depths are between one (1) and three (3) feet, with an indicated elevation of 5 feet while Flood Zone C is an area at minimal floodings. Base flood elevations are shown, but no flood hazard factors are determined.

Large grass areas in the playfields of the park are maintained and provide for percolation of runoff and help to control erosion. Additional runoff from the site will be directed on site to proposed drop inlets within the project area and to underground storage/retention perforated pipes. The building pad is proposed to be above the 5 feet flood elevation and between 7 or 8 feet above MSL.

7. Managing Development

Objective:

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

Policies:

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

(B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and

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

Response: The proposed project will be developed in accordance with applicable Federal, State, and County requirements. The project is subject to the Environmental Assessment review process through the State Office of Environmental Quality Control and the Special Management Area permitting process through the Moloka`i Planning Commission. Both processes provide the opportunity for public review and consideration. In addition, a public informational meeting was held in Kaunakakai to provide the opportunity for public input. Additionally, public input will be received during the County-initiated State Land Use reclassification and County Change in Zoning processes.

8. Public Participation

Objective:

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

Policies:

(A) Promote public involvement in coastal zone management processes;

(B) Disseminate information on coastal management issues by means of

educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Response: Review of the proposed action by the public and governmental agencies was provided through public notifications, review, and comment processes during the Environmental Assessment process, as well as the County Special Management permitting process. Both processes provide the opportunity for public review and consideration. In addition, a public informational meeting in Kaunakakai provided the opportunity for public input. Refer to **Appendix "E"**.

9. **Beach Protection**

Objective:

Protect beaches for public use and recreation.

Policies:

(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;

(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and

(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.

Response: The proposed development does not involve any construction work near the shoreline. Onsite runoff is proposed to be directed to drop inlets and underground storage/retention perforated pipes on the park site. The project will not

have any effect on beach processes.

10. Marine Resources

Objective:

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

Policies:

(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;

(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

(C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;

(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and

(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Response: The use of appropriate BMPs and drainage designs will mitigate any potential impacts to marine resources.

IV. SUMMARY OF UNAVOIDABLE IMPACT ON THE ENVIRONMENT AND RESOURCES

IV. SUMMARY OF UNAVOIDABLE IMPACT ON THE ENVIRONMENT AND RESOURCES

Project construction will result in a certain amount of unavoidable construction-related impacts. These impacts include noise-generated impacts and air quality impacts associated with the operation of construction equipment. Air quality will also be impacted by dust generated from site work. The construction-related impacts will be temporary and mitigated through implementation of appropriate BMPs.

The development of the proposed project will involve the commitment of vacant and undeveloped lands. In addition, the proposed action would involve a commitment of fuel, labor, funding, and material resources. However, the commitment of resources necessary to implement the proposed project will be justified, given the eventual benefits to be realized through the completion of the new baseyard facility.

In the long term, the construction of the new baseyard facility is not anticipated to create any significant, long-term adverse environmental effects.

V. ALTERNATIVES TO THE PROPOSED ACTION

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A. NO ACTION ALTERNATIVE

The "no action" alternative would result in continuing inefficiencies in the maintenance of the parks on Moloka`i. The Parks Department's administrative staff in the Moloka`i District presently works out of offices in the Mitchell Pauole Center building in Kaunakakai. Storage of maintenance and replacement parts for parks department facilities and equipment is done in several small buildings at the various parks on the island. The development of a larger and centrally located baseyard for maintenance shops, maintenance staff offices, employee lockers, meeting rooms, and storage areas for equipment is needed to provide for a more organized maintenance program.

B. DEFERRED ACTION ALTERNATIVE

The "deferred action" alternative would have similar consequences to the "no action" alternative in terms of the inefficiencies in the maintenance of parks on the island of Moloka`i. This alternative could result in potentially higher development costs due to increases in labor and material costs.

C. ALTERNATIVE DESIGNS

Alternative locations of the baseyard facility were also analyzed. The Duke Maliu Regional Park was determined appropriate for the baseyard site given the availability of land, infrastructure, and central locations for access to the island's parks.

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed action would involve a commitment of fuel, labor, funding, and material resources. Funding for the parks baseyard facility will be provided by the County of Maui. Development of the proposed project will involve the commitment of land for a needed public facility which would preclude other land use options for the site. This commitment of land resources, however, is consistent with existing and future land uses in and around the project area.

VII. SIGNIFICANCE CRITERIA ASSESSMENT

VII. SIGNIFICANCE CRITERIA ASSESSMENT

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

1. **Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.**

   The project will not involve significant loss or destruction of natural or cultural resources. The site of the proposed building is mauka and adjacent to the kitchen/pavilion building and the restroom building. A cultural assessment concluded that this project will not significantly impact cultural resources in the area. The area has been filled when it was developed as a park site over ten (10) years ago and the subgrade was previously tilled for agricultural purposes. Based on this, archaeological or historical items would not likely be found. Construction work will be suspended if archaeological or historic items are uncovered and the Parks Department, the Burial Council and the State Historic Preservation Office will be notified. No endangered flora or fauna have been found on the site as the proposed development area is either paved or developed into grassed play areas.

2. **Curtails the range of beneficial uses of the environment.**

   The project will not curtail the beneficial uses of the environment. The proposed building will be located over a vacant and undeveloped area within the park.

3. **Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.**

   The development will promote the goals and guidelines by:

   (1) Providing for a better quality of life for the residents through improved recreational facilities,

(2) Planning the development with minimal impact and possibly enhancement of the environment with landscaping, and

(3) By maintaining park and recreation areas for public recreation.

4. **Substantially affects the economic welfare, social welfare, and cultural practices of the community or State.**

The proposed project will have a beneficial impact on the social welfare of the community by providing for much needed maintenance support for existing recreational facilities for the island. Adverse impacts associated with the proposed action are not anticipated.

5. **Substantially affects public health.**

The project will benefit public health in terms of maintaining facilities which provide for recreational and social needs for residents in the community. In terms of sanitation, wastewater disposal from the facilities will be planned in an environmentally safe and regulated means through the existing sewer lines and regional treatment plant. Construction specifications will require the contractor to provide for noise and dust controls during construction.

6. **Involves substantial secondary impacts, such as population changes or effects on public facilities;**

The project will not cause any population changes and is anticipated to enhance and improve existing park facilities used by the population. There will not be significant demands on the infrastructure in the area. The drainage at the site will be addressed in the development of drainage retention/storage facilities on site in conjunction with the design of the project.

7. **Involves a substantial degradation of environmental quality.**

This project will not involve substantial degradation of the environmental quality. Its design is limited in scope and scale to the 5,000 s.f. pre-engineered building. Landscape planting and trees will also upgrade the area to shade and screen the parking areas.

8. **Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.**

The proposed development does not represent a commitment to larger actions. The project is not expected to result in cumulative impacts on the environment.

9. **Substantially affects a rare, threatened or endangered species, or its habitat.**

The proposed development area is in a fully developed park and there is no evidence of rare, threatened or endangered species on or immediately adjacent to the project.

10. **Detrimentally affects air or water quality or ambient noise levels.**

The project is not expected to have any adverse long-term effects on the air or water quality or the ambient noise levels in the area. Short-term impacts on air and water quality and noise levels will be apparent during construction. Measures to mitigate these impacts are already required by existing laws and will be emphasized in the construction documents for the project. As applicable, a noise permit will be secured by the contractor prior to commencement of work. There will be occasional short-term higher noise levels when lawn equipment is started up and when shop machinery is used. This temporary effect of operations will be mitigated by limiting work hours to normal day time shifts.

11. **Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.**

The project site is not in an environmentally sensitive area. The playfields which are adjacent to the proposed building are at a lower elevation and may flood during the rainy season. This area is, therefore, identified as a flood zone AH with a flood elevation of 5 feet whereas the building pad is proposed to be at 7 to 9 feet above MSL.

12. **Substantially affects scenic vistas and viewplanes identified in county or state plans or studies.**

The proposed building is set back from the adjacent Kamehameha V Highway about 400 feet and the proposed building is proposed to be 16 feet high to the ridge. The existing and proposed landscape trees is expected to maintain the quality of the scenic resource of the area. From the development immediately mauka, there exists minimal or no views to the ocean. The balance of the areas immediately adjacent to the development will remain in open space park areas.

13. **Requires substantial energy consumption**

The project will not require substantial energy consumption. Power will be required for the proposed building. The buildings will be designed to provide for natural lighting during the day. Smaller interior enclosed rooms will be designed with energy efficient light fixtures. Air conditioning will be provided only in offices and other smaller rooms which are not naturally ventilated. Air conditioned spaces will be fully insulated and comply with the county's Model Energy Code.

Based on the foregoing findings, the proposed action is anticipated to result in a Finding of No Significant Impact.

VIII. LIST OF PERMITS AND APPROVALS

VIII. LIST OF PERMITS AND APPROVALS

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

County of Maui

1. County Change in Zoning (County initiated)
2. Construction Permits (Grading and Building)
3. Special Management Area Use Permit

State of Hawai`i

1. State Land Use Commission District Boundary Amendment (County initiated)
2. National Pollutant Discharge Elimination System (NPDES) Permit
3. Department of Health Noise Permit (as applicable)

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

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

The following agencies were consulted during the preparation of the Draft Environmental Assessment and contacted by Hiyakumoto + Higuchi Architects, Inc. Agency comments received during the early consultation phase, as well as responses to substantive comments are included in this section. In addition, comments received after the early consultation comment period deadline and letters responding to substantive comments are contained in this section.

Federal Agencies

1. District Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawai`i 96793

2. Commander & Division Engineer
U.S. Army Corps of Engineers
Pacific Ocean Division
Building 230
Fort Shafter, Hawai`i 96858

State Agencies

3. Herbert Matsubayashi
District Environmental Health
Program Chief
State of Hawai`i
Department of Health
54 High Street
Wailuku, Hawai`i 96793

4. Peter Young, Chairperson
State of Hawai`i
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawai`i 96809

5. Melanie Chinen, Administrator
State of Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawai`i 96707

6. Rodney Haraga, Director
State of Hawai`i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai`i 96813

7. Mr. Ferdinand Cajigal
Maui District Engineer
Department of Transportation
650 Palapala Drive
Kahului, Hawai`i 96732

8. Genevieve Salmonson, Director
Office Of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawai`i 96813

9. Mr. Peter L. Yee, Director
Nationhood and Native Rights Division
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Ste.1250
Honolulu, Hawai`i 96813

10. Dr. Melissa Kirkendahl
Department of Land & Natural Resources
Historic Preservation Division, Maui Office
130 Mahalani Street
Wailuku, Hawai`i 96793

11. Mr. Meyer L. Ueoka, Wildlife Biologist
Department of Land and Natural Resources
54 South High Street
Wailuku, Hawai`i 96793

12. Ms. June Harrington-Lum, Manager
Department of Health
Environmental Planning Office
919 Ala Moana Blvd., Suite 203
Honolulu, Hawai`i 96814

13. Mr. Wilfred Nagamine, Manager
Department of Health
Clean Air Branch
919 Ala Moana Blvd., Suite 203
Honolulu, Hawai`i 96814

14. Mr. Russell S. Takata, Program Manager
Department of Health
Noise, Radiation and Indoor Air Quality Branch
591 Ala Moana Blvd.
Honolulu, Hawai`i 96813

15. Mr. Harold K. Yee, P.E., Chief
Department of Health
Wastewater Branch
919 Ala Moana Blvd., Room 309
Honolulu, Hawai`i 96814

16. Mr. David Blane, Director
Department of Business Economic Development and Tourism
Office of Planning
235 South Beretania Street
6th Floor
Honolulu, Hawai`i 96813

17. **Department of Health**
Clean Water Branch
P.O. Box 3378
Honolulu, Hawai`i 96801

County Agencies

18. Carl Kaupololo, Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai`i 96732

19. Glenn Correa, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2
Wailuku, Hawai`i 96793

20. Michael Foley, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawai`i 96793

21. Thomas Phillips, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai`i 96793

22. Gilbert Coloma-Agaran, Director
County of Maui
Department of Public Works and Environmental Management
200 South High Street
Wailuku, Hawai`i 96793

23. Lynn Araki, Director
County of Maui
Department of Economic Development
200 South High Street
Wailuku, Hawai`i 96793

24. George Tengan, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawai`i 96793

25. **Kaunakakai Elementary School**
Principal Janice Espiritu
P.O. Box 1950
Kaunakakai, Hawai`i 96748

Other Consulted Parties

26. **Maui Electric Company, Ltd.**
P.O. Box 398
Kahului, Hawai`i 96733

27. **Moloka`i Public Library**
P.O. Box 395
Kaunakakai, Hawai`i 96748

REC'D. 3/21/05

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

REPLY TO
ATTENTION OF

March 17, 2005

Regulatory Branch

Mr. Calvin S. Higuchi, AIA
Hiyakumoto + Higuchi Architects, Inc.
1860 Main Street
P.O. Box 922
Wailuku, Hawaii 96793

Dear Mr. Higuchi:

This is written in regards to your request for comments on the Molokai Parks Baseyard at Duke Maliu Regional Park, located in Kaunakakai, Molokai. We have reviewed the project information you provided with respect to the Corps' authority to issue Department of the Army permits under Section 404 of the Clean Water Act (33 USC 1344). Based on the information submitted and office reference material, it does not appear to be any waters of the U.S. to include wetlands located on these parcels. Therefore, a Department of the Army permit will not be required.

A copy of this letter is being sent to the State Department of Health, Clean Water Branch for comments on other authorizations which may be required for the proposed park facility improvements.

File number **POH-2005-125** is assigned to this project. Should you have questions, you may contact Ms. Lolly Silva at 808-438-7023 or by FAX at 808-438-4060.

Sincerely,

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

Hiyakumoto + Higuchi
ARCHITECTS • INC.

March 31, 2005

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

Re: File No. POH-2005-125
Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, T.M.K.: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Mr. Young:

We are in receipt of your letter dated March 17, 2005 providing comments for early consultation on the environmental assessment. We appreciate your review and comments and thank you for verifying that a Department of the Army permit will not be required. Thank you also for forwarding a copy of the letter to the State Department of Health, Clean Water Branch.

Any questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of DOA letter
Draft E.A. w/copy of DOA letter

1860 Main Street • P.O. Box 922 • Wailuku, Maui, Hawaii 96793 • (808) 242-9705

LINDA LINGLE
GOVERNOR OF HAWAII

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

HAWAI'I HISTORIC PRESERVATION DIVISION REVIEW

Log #: 2005.2516
Doc #: 0511NM45

Applicant/Agency: Calvin S. Huguchi, Architect
For: County of Maui, Department of Parks and Recreattion

Fax: 808-242-2898

Address: 2145 Wells Street, Suite 403
Wailuku, HI 96793

SUBJECT: Chapter 6E-42 Historic Preservation Review – DEA Molokai Parks Baseyard at Duke Mallu Regional Park

Ahupua`a: Kaunakakai
District, Island: Kawela, Molokai
TMK: (2) 5-3-03: 12

1. We believe there are no historic properties present, because:
__a) intensive cultivation has altered the land
__b) residential development/urbanization has altered the land
__✓__ c) previous grubbing/grading has altered the land
__d) an acceptable archaeological assessment or inventory survey found no historic properties
__e) other:

2. This project has already gone through the historic preservation review process, and mitigation has been completed___.

__✓__ Thus, we believe that "no historic properties will be affected" by this undertaking

Staff: Nancy McMahon Date: 11/21/05

Title: Archaeologist for Kaua'i

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Hiyakumoto + Higuchi
ARCHITECTS • INC.

December 2, 2005

Ms. Nancy McMahon, Archaeologist
State Historic Preservation Division
Department of Land and Natural Resources
P. O. Box 621
Honolulu, HI 96809

Re: Early Consultation Review for Draft Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, T.M.K.: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Ms. McMahon:

We are in receipt of your letter dated 11/21/05 providing comments for early consultation on the draft environmental assessment. We appreciate your review and comments and thank you for verifying that you believe no historic properties are present on the site since previous grubbing/ grading has altered the site, and therefore historic properties will not be affected.

Any questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of SHPD letter
Draft E.A. w/copy of SHPD letter

1860 Main Street • P.O. Box 922 • Wailuku, Maui, Hawaii 96793 • (808) 242-9705

REC'D. 3/10/05

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

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

March 8, 2005

Mr. Calvin S. Higuchi, AIA
Hiyakumoto + Higuchi Architects, Inc.
P. O. Box 922
Wailuku, Hawai`i 96793

Dear Mr. Higuchi:

Subject: **Molokai Parks Baseyard**
TMK: (2) 5-3-3:012, Kaunakakai, Hawaii

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

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

2. HAR, Chapter 11-46, sets maximum allowable sound levels from stationary equipment such as compressors and HVAC equipment. The attenuation of noise from these sources may depend on the location and placement of these types of equipment. This should be taken into consideration during the planning, design, and construction of the building and installation of these types of equipment.

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

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

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Hiyakumoto + Higuchi
ARCHITECTS • INC.

March 31, 2005

Mr. Herbert Matsubayashi
District Environmental Health Program Chief
State of Hawaii, Department of Health
Maui District Health Office
54 High Street
Wailuku, HI 96793-2102

Re: Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, TMK: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Mr. Matsubayashi:

We are in receipt of your letter dated March 8, 2005 providing comments for early consultation on the environmental assessment. We appreciate your review and comments and provide the following responses:

1. A noise permit from the Health Dept. will be required of the contractor by the construction document specification, if applicable. The contractor will be required to obtain the permit prior to construction.
2. We will review our plans for any noise producing equipment as they relate to HAR, Chapter 11-46 and provide for installation according to its requirements as necessary.

Thank you again for your review and comments. Any further questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of DOH letter
Draft E.A. w/copy of DOH letter
Doug Gomes " " " "

1860 Main Street • P.O. Box 922 • Wailuku, Maui, Hawaii 96793 • (808) 242-9705

REC'D 3/9/05

DOT 4-72
(HWY-M 11/87

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MAUI DISTRICT
TRANSMITTAL MEMORANDUM

TO: Hiyakumoto + Higuchi Architects, Inc. Letter No. DATE: March 7, 2005

Attn: Mr. Calvin Higuchi, AIA

SUBJECT: Molokai Parks Baseyard
ME 05-28

We are forwarding the following: ☒ attached ☐ under separate cover

☐ shop drawing ☐ print/sketches ☐ mix design

☐ calculations ☐ change order ☐ plans

☐ _____ ☐ letter/memo

☐ COPIES ☐ SETS	DESCRIPTION
1	Draft Environmental Assessment

These are transmitted as checked below:

☐ for approval ☐ approved as submitted

☐ for review and comments ☐ approved as noted

☐ for your information and file ☒ returned for corrections

☐ appropriate attention and action ☐ resubmit _____ copies for approval

☐ as requested

REMARKS: Please forward a copy of the DEA to our Central Planning Office in Honolulu. If there are any questions or concerns, do not hesitate to call me at 873-3535.

Copies sent to:

This space for reply:

Signed _____
Paul M. Chung, P.E.

RECEIVED
FROM STATE HWY.
PAUL CHOW
3/7/05

EARLY CONSULTATION ADVANCE COPY 1/25/05

of

DRAFT

ENVIRONMENTAL ASSESSMENT

MOLOKA'I PARKS BASEYARD

at

Duke Maliu Regional Park

Kaunakakai, Moloka'i, Hawaii

T.M.K.: 5-3-03: 12

for the

County of Maui

Department of Parks & Recreation

(Applicant / Approving Agency)

_____, 2005

Prepared for the
Department of Parks & Recreation
County of Maui
by
Hiyakumoto + Higuchi Architects Inc.

Intensity

Length = 150 ft
Slope = 1%
Tc = 13 minutes
I = 4.7

Q = 0.28 x 4.7 x 0.34 = 0.45 cfs

Post-Construction Conditions

Infiltration	Negligible		0.20
Relief	Rolling (0-5%)		0.00
Vegetal Cover	Poor (> 10%)		0.05
Development Type	Industrial		0.55
		Total	0.80

Need A weighted C

$C_W = \frac{C_{PAVED} A_{PAVED} + C_{GRASS} A_{GRASS}}{A_{TOT}}$

Difference C = 0.80 - 0.28 = 0.52

Intensity Post Construction

Length = 150 ft
Slope = 10 minutes
I = 6.4

Q = 0.80 x 6.4x 0.34 = 1.74 cfs

14300 + 5000 = 19,400 ?

Required volume of storage/retention

Volume required for retention :

V = 14,900 sf x 2.5 in /12 in/ft x 0.52 = **1,614 cubic feet**

Δc ?

Volume to be provided with **36-inch diameter** perforated pipe with 2 ft crushed rock cushion around pipe.

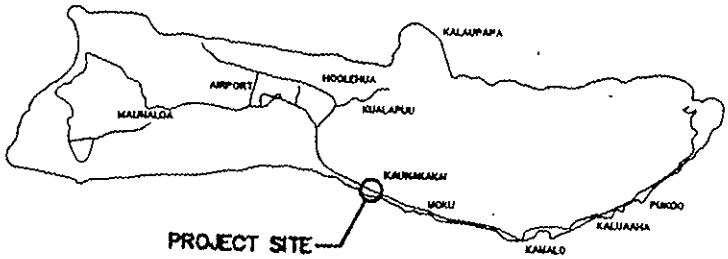
V pipe = 7.1 cubic feet/ linear ft.

Volume of void space in crushed rock

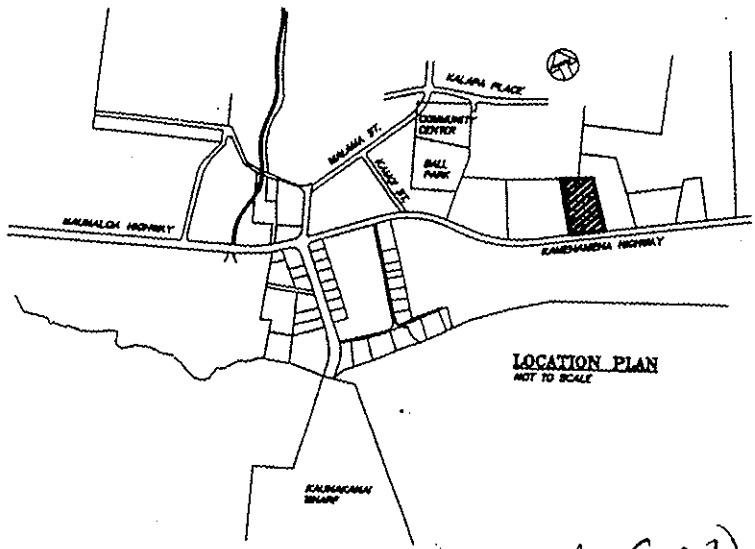
V = (5 x 5) - 7.1 x .35 x .5 = 3.1 cubic feet/linear feet

Volume Available for storage/retention

V = 7.1 + 3.1 = 10.2 cubic feet/linear feet



VACINITY MAP
ISLAND OF MOLOKAI



LOCATION PLAN
NOT TO SCALE

Road → 14300
Shed → 5000
19300

vs 14,900 sf
report

PARTIAL TOPOGRAPHIC SURVEY
DUKE MAILUA PARK MOLOKAI
TMK 2ND 5-3-03: 01 (PORTION OF)

DITIONS

10 4 of 4

EXHIBIT 1

Hiyakumoto + Higuchi
ARCHITECTS • INC.

March 31, 2005

Mr. Paul Chung, P.E.
State of Hawaii, Department of Transportation
Highways Division, Maui District
650 Palapala Drive
Kahului, HI 96732

Re: Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, TMK: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Mr. Chung:

We are in receipt of your transmittal dated March 7, 2005 providing comments for early consultation on the environmental assessment. We appreciate your review and comments and provide the following responses:

1. A copy of the advance copy of the Draft E.A. was sent to the D.O.T. Director. A copy of the D.E.A. will be sent to your ~~Control~~ Central Planning Office in Honolulu.
2. The Drainage and Soil Erosion Control Report will be revised per your comments. We will have our mechanical engineer correct the calculations as necessary and include the revised report in the D.E.A.

Thank you again for your review and comments. Any further questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of DOT letter
Draft E.A. w/copy of DOT letter
Doug Gomes " " " "

1860 Main Street • P.O. Box 922 • Wailuku, Maui, Hawaii 96793 • (808) 242-9705

PHONE (808) 594-1888

FAX (808) 594-1865

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

HRD05/1746

April 12, 2005

Mr. Calvin S. Higuchi, AIA
Architect
Hiyakumoto & Higuchi, Architects, Inc.
P.O. Box 922
Wailuku, Hawai'i 96793

Re: Advance Copy, Draft Environmental Assessment Report, Molokai Parks Baseyard, Duke Maliu Regional Park, Kaunakakai, Island of Molokai TMK: 5-3-003:012

Dear Mr. Higuchi:

The Office of Hawaiian Affairs (OHA) is in receipt of your request for early consultation regarding the draft environmental assessment being prepared for the proposed Molokai Parks Baseyard at the Duke Maliu Regional Park in Kaunakakai, on the island of Molokai. The proposed building would be approximately 5000 square feet and consist of a pre-engineered metal building. There are also nine new paved parking stalls proposed and a paved loading area.

From the submitted information, it appears that the park, created over a decade ago, consists of primarily fill. In the event any historic properties are encountered during construction, particularly unmarked human burial sites, please cease all work in the immediate area and notify the State Historic Preservation Division and the local police department. In the event of a weekend discovery, please notify the Division of Conservation and Resource Enforcement (DOCARE) of the Department of Land and Natural Resources. Also please ensure the contractor is aware of these requirements of State of Hawai'i law.

If you have any questions or concerns, please contact Kai Markell, Policy Advocate, at 594-1945 or kaim@oha.org. Once again, thank you for your patience during our review and assessment of this important matter.

'O wau iho nō,

Clyde W. Nāmu'o
Administrator

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Hiyakumoto + Higuchi
ARCHITECTS • INC.

April 15, 2005

Mr. Clyde W. Nāmu'o, Administrator
Office of Hawaiian Affairs, State of Hawaii
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Re: Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, T.M.K.: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Mr. Nāmu'o:

We are in receipt of your letter dated April 12, 2005 providing comments for early consultation on the environmental assessment. We appreciate your review and comments.

To respond to your concerns regarding any historic properties uncovered during construction, we have included in our Draft E.A. under Archaeological Resources the following:

"Any significant archaeological findings during earth altering operations will be immediately reported to the Parks Department, the State Historic Preservation Division, and the work shall be stopped in the area until determination and further instructions are received by the contractor." To this, we will add the Police Department and Division of Conservation & Resource Enforcement. We will include these requirements in the construction plans and specifications which the contractor will be required to follow.

Any further comments or questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of OHA letter
Draft E.A. w/copy of OHA letter

REC'D 3/7/05

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
EPO

July 1, 2004

To: Persons Requesting Department of Health
Comments on Land Use Documents

From: June F. Harrigan-Lum, Manager
Environmental Planning Office

Our land use review coordinator position will be vacant beginning July 1, 2004. We will be filling this position as soon as possible. In the meantime, starting July 1, 2004, the Environmental Planning Office (EPO) will not be accepting any land use documents for coordinated replies.

If you would like to request to have staff in a specific branch or office to comment on your proposal, you are welcome to contact the staff directly. If a document has already been received by EPO and you wish to have us send it to a specific branch, you may call 586-4337 and ask for the clerical staff to send it to the appropriate branch. Please describe the document and the date of your cover letter.

You may call the above number and check with the clerical staff to see when coordinated responses from this office will resume.

Thank you for your cooperation and patience in this matter.

Enclosure

C: DDEH

Branches and Offices in the Environmental Health Administration

Hazard Evaluation and Emergency Response Office	586-4249
Environmental Planning Office	586-4337
Clean Air Branch	586-4200
Clean Water Branch	586-4309
Safe Drinking Water Branch	586-4258
Solid & Hazardous Waste Branch	586-4226
Wastewater Branch	586-4294
Noise, Radiation, Indoor & Air Quality Branch	586-4700
Sanitation Branch	586-8000
Food and Drug Branch	586-4725
Vector Control Branch	831-6767

Hiyakumoto + Higuchi
ARCHITECTS • INC

March 31, 2005

Ms. June Harrington-Lum, Manager
Environmental Planning Office
State of Hawaii, Department of Health
P. O. Box 3378
Honolulu, HI 96801-3378

Re: Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, T.M.K.: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Ms. Harrington-Lum:

We are in receipt of your letter dated July 1, 2004 (received 3/7/05) notifying us of your office (E.P.O.) not accepting land use documents for coordinated replies. We will be transmitting the draft environmental assessment report to the appropriate Health Department branches directly.

Thank you for informing us of this policy.

Any questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of EPO letter
Draft E.A. w/copy of EPO letter

REC'D. 3/7/05

ALAN M. ARAKAWA
Mayor

GLENN T. CORREA
Director

JOHN L. BUCK III
Deputy Director

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

DEPARTMENT OF PARKS & RECREATION

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

March 4, 2005

Calvin Higuchi
Hiyakumoto & Higuchi Architects, Inc.
1860 Main Street
Wailuku, Hawaii 96793

Dear Mr. Higuchi:

SUBJECT: **MOLOKAI PARKS BASEYARD**

We have reviewed the advance copy of the Draft Environmental Assessment Report and find that we have no comments or objections.

Thank you for the opportunity to review and comment. Should you have any questions or concerns, please feel free to call me, or Patrick Matsui, Chief of our Planning and Development Division at extension 7387.

Sincerely,

GLENN T. CORREA
Director

c: Patrick Matsui, Chief of Planning and Development Division
File

Hiyakumoto + Higuchi
ARCHITECTS • INC.

March 31, 2005

Mr. Glenn Correa, Director
Department of Parks & Recreation
County of Maui
700 Hali'a Nakoa Street, Unit 2
Wailuku, HI 96793

Re: Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, T.M.K.: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Mr. Correa:

We are in receipt of your letter dated March 4, 2005. We acknowledge that you have no comments at this time and would like to express our appreciation for your time and effort in reviewing this report.

Any questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev.
Draft E.A. w/copy of Parks Dept. letter

REC'D 3/21/05

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

March 15, 2005

Mr. Calvin Higuchi, AIA
Hiyakumoto & Higuchi Architects
1860 Main Street
Wailuku, Hawaii 96793

Dear Mr. Higuchi:

RE: Pre-Consultation Comments in Preparation of a Draft Environmental Assessment for the Proposed Molokai Parks Baseyard located at the Duke Maliu Regional Park, Kaunakakai, Island of Molokai, Hawaii (LTR 2005/0506)

The Maui Planning Department (Department) is in receipt of the above referenced request and provides the following comments:

1. Chapter I, General Information

   a. The project area has the following land use designations:

      i. Land Use Commission, Chapter 205, HRS – State Agricultural District

      ii. Molokai Community Plan – Park; and

      iii. Zoning, Title 19, MCC – Interim

      As further discussed in Chapter IV, the proposed project requires a Change in Zoning from "Interim" to "Park."

   b. The project area is located within the Special Management Area (SMA) of the Island of Molokai. As such, a SMA Use Permit is required.

   c. Provide the estimated cost of the project.

d. Label and identify the Flood Zone Map enclosed behind Figure 2 and delineate the property boundaries.

2. Chapter III, Existing Environments, Potential Impacts & Mitigative Measures

a. Provide a discussion of potential impacts to air and noise quality from construction related activities. Discuss proposed mitigative measures.

b. The proposed facility is intended to serve as the central baseyard for park maintenance activities island-wide. As such, discuss the rationale used to determine that the proposed project would not significantly increase traffic in the area. What is the estimated number of vehicles anticipated to use the facility on a daily basis? How many vehicles will be stored over-night? List the types and location of large equipment, machinery, and/or vehicles to be stored on-site.

c. Discuss the estimated usage of potable water for the proposed project and provide a breakdown of the quantity used for irrigation and domestic use.

d. Page 11 – The second paragraph is not applicable and should be deleted.

e. Drainage

i. Confirm the area of impervious surfaces (building and parking areas).

ii. Provide a discussion of the net increase in stormwater runoff from the proposed project.

iii. Discuss alternatives of using pervious surfaces.

iv. Provide further discussion of the proposed drainage plan.

3. Chapter IV, Relationship to Governmental Zoning and Land Use Policies

a. Page 17 – Correct the last paragraph to state the *Molokai Planning Commission* and not the *Maui Planning Commission.*

b. Page 20, No. 8 – The paragraph mentions a "gymnasium phase and proposed parking areas" within the actual footprint of the construction area. However, the project description and site plans do not indicate a gymnasium or multiple parking areas. Please clarify.

Thank you for the opportunity to comment. Please include the Department on the mailing list for the Draft Environmental Assessment. Should you require further clarification, please contact Ms. Kivette Caigoy, Environmental Planner, at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar
c: Wayne Boteilho, Deputy Planning Director
Clayton Yoshida, Planning Program Administrator
Kivette Caigoy, Environmental Planner
Nina Lehua-Kawano, Molokai Planning Office
Parks Department
TMK File
General File
K:\WP_DOCS\PLANNING\EA\PreConComments\2005\0506_MolokaiBaseyard.wpd

Hiyakumoto + Higuchi
ARCHITECTS • INC.

April 1, 2005

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

Re: Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, T.M.K.: 5-3-03:12
Kaunakakai, Molokai, HI (LTR 2005/0506)

Dear Mr. Foley:

We are in receipt of your March 15, 2005 letter providing comments for early consultation on the environmental assessment report. We appreciate your review and comments and provide the following responses:

1. Chapter 1 – General Information
   a. Thank you for confirming the land use designations. The Parks Department is aware of the requirement for a Change in Zoning and will be working with your staff on that process.
   b. The Parks Department is also aware of the requirement for an S.M.A. Use Permit.
   c. We will be providing a preliminary project construction cost estimate in the Draft E.A.
   d. The project site will be delineated on Figure 2 (Flood Map).

2. Chapter III – Existing Environments, Potential Impacts, & Mitigative Measures
   a. We will be expanding the section on air and noise quality to discuss construction related activities and measures to mitigate those short-term impacts.
   b. We have received some figures relative to vehicles on the site from the Molokai Parks staff and those will be included in the report.
   c. We will be providing in the Draft E.A., domestic, irrigation, and fire flow calculations prepared by our engineering consultant. According to the Parks Dept., the park is irrigated by a well on the site.

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d. Paragraph will be deleted.
e. The section on drainage will be expanded to summarize the information from the Drainage and Soil Erosion Report included in the E.A.

3. Chapter IV – Relationship to Governmental Zoning and Land Use Policies
   a. Correction to "Molokai" Planning Commission will be made.
   b. Applicable paragraph will be inserted on Page 20, Item No. 8 relative to commitment to a larger action or cumulative impact of the project.

Thank you again for your careful review and attention to this project. We will be submitting a copy of the Draft E.A. when the notification of publication in the OEQC newsletter is issued.

Any questions or further concerns in the meantime, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of Planning Dept. letter
Draft E.A. w/copy of Planning Dept. letter
Doug Gomes " " " " "

REC'D. 4/4/05

POLICE DEPARTMENT
COUNTY OF MAUI

ALAN M. ARAKAWA
MAYOR

OUR REFERENCE
YOUR REFERENCE tj

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

THOMAS M. PHILLIPS
CHIEF OF POLICE

KEKUHAUPIO R. AKANA
DEPUTY CHIEF OF POLICE

March 24, 2005

Mr. Calvin S. Higuchi, AIA
Hiyakumoto & Higuchi Architects, Inc.
P.O. Box 922
Wailuku, HI 96793

Dear Mr. Higuchi:

SUBJECT: Molokai Parks Baseyard
Duke Maliu Regional Park, Kaunakakai, Molokai

Thank you for your letter of February 18, 2005, requesting comments on the above subject.

We have reviewed the information submitted for this project and have enclosed a copy of our comments. Thank you for giving us the opportunity to comment on this project.

Very truly yours,

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

c: Michael Foley, Maui County Planning Department

Enclosure

COPY

TO : THOMAS M. PHILLIPS, CHIEF OF POLICE
: MAUI COUNTY POLICE DEPARTMENT

VIA : CHANNELS 02/23/05

FROM : KEITH KAWANO, SERGEANT, DISTRICT V

SUBJECT : CONSULTATION REVIEW FOR ENVIRONMENTAL ASSESSMENT
MOLOKAI PARKS BASE YARD
DUKE MALIU REGIONAL PARK
KAUNAKAKAI, MOLOKAI HAWAII

SIR,

This written communication is being submitted with regards to the County's assessment for the Molokai Parks Base Yard, at the existing Duke Maliu Regional Park.

PROPOSAL;

The County of Maui Department of Parks & Recreation proposes to develop a Parks base yard and maintenance/storage building for Molokai at the existing Duke Maliu Regional Park, encompassing approximately ½ an acre.

The use of the building will be mainly for an office/locker room, storage and maintenance for the Molokai Parks personnel.

LOCATION:

The location of the proposed site is located to the rear of the existing kitchen building located on the north side of the park complex. (Refer to Fig #2 of assessment packet)

Upon reviewing the preliminary site plan Figure #2. , in addition to the building, a six stall covered parking area will be included to service the building. Nine (9) new parking stalls will also be added for the staff and public.

FLOOD HAZARD:

As mentioned in the proposal flooding is one concern. Raising the building and parking area would remedy the proposed area, however other areas in the park would remain the same.

NOISE:

There should be no significant rise in noise, that would be of concern. If the hours of operation do not exceed normal working hours.

PUBLIC SERVICES:

Upon looking at the preliminary site plan, access to the building should be of concern to both Police/Medics and Fire. If figures calculated involved these specifications (vehicle & tuck size) I see no problem in this area.,

ROADWAY & TRAFFIC:

Just on suggestion in this matter, With the existing parking stalls already in place. Parking during sporting events has always been a problem, with vehicles parked out on the highway (KAMEHAMEHA V HIGHWAY (450)) which are designated no parking areas. This has been a problem both during day and night events.

Over all more parking are needed to compliment the existing stalls., with this new project hopefully the community gain these needed services.

The addition of the proposed site will not significantly increase traffic in the area.

MOLOKAI COMMUNITY PLAN:

With the community trend leaning towards ***health*** and with the growing interest in same. A walking path should also be implemented in this proposal to benefit both young and old.

CONCLUSION:

After reviewing the draft submitted by the county with respect to the Molokai Base Yard building. I foresee no short term or long term problems arising from same.

Noted -
Alcan. 3.19.05

Respectfully Submitted,

Keith Kawano, Sergeant 7005
District V, Molokai
03.18.05 2200hours

Hiyakumoto + Higuchi
ARCHITECTS • INC.

April 4, 2005

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

Re: Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, T.M.K.: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Chief Phillips:

We are in receipt of your March 24, 2005 letter providing comments for early consultation on the environmental assessment report. We appreciate Sergeant Keith Kawano's memo outlining his review of the E.A. and provide the following responses:

1. Your suggestion on the need for additional parking for sporting events is being forwarded to the Parks Planning and Development Division. Four additional stalls are included in this project for public use adjacent to the existing kitchen building.
2. Thank you for your recommendation on the walking path which is also being forwarded to the Parks Department for future planning.

Any further comments or questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of MPD letter
Draft E.A. w/copy of MPD letter

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REC'D. 3/9/05

ALAN M. ARAKAWA
Mayor

GEORGE Y. TENGAN
Director

JEFFREY T. PEARSON, P.E
Deputy Director

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

March 3, 2005

Mr. Calvin Higuchi, AIA
Hiyakumoto & Higuchi Architects, Inc.
1860 Main Street
Wailuku, HI 96793

Re: Early Consulation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park
Kaunakakai, Molokai, Hawaii

Dear Mr. Higuchi:

Thank you for the opportunity to comment on this project in your preparation for a Draft Environmental Assessment.

Source Availability and Consumption
The project site is served by the Kaunakakai-Kawela System. Water for the system comes from the Kualapu'u and Kawela aquifers with sustainable and developable yields of 5 MGD and 3 MGD, respectively.

Daily average consumption is 902 gallons which is well under the average consumption for parks.

In 1992, Molokai was designated a Water Management Area for groundwater by the State's Commission on Water Resource Management (COWRM) to regulate existing and future uses of Molokai's limited groundwater resources.

System Infrastructure
The project site is served by a 8-inch waterline within the site, a 12-inch waterline fronting the site on Kamehameha V Highway, a 1 1/2-inch water meter and a fire hydrant within the site. Storage is provided by a 1 MGD reinforced concrete reservoir at an elevation of 232 feet. It is located approximately 2,500 feet northeast of the site. With the addition of another structure, a parks baseyard and maintenance/storage building, the applicant should be required to submit domestic, irrigation and fire flow calculations to determine water meter capacity and adequate fire protection for each structure on the project site. Actual fire demand for the structures is determined by using fire flow calculations prepared, signed and stamped by a certified engineer or architect. The approved fire flow calculation methods for use include Guidance for Determination of Fire Flow-Insurance Service Office, 1974 and Fire Flow-Hawaii Insurance Bureau, 1991. Required fire flow protection for parks is 2000 gpm at 250 feet spacing for a 2 hour duration. A reduced pressure back-flow preventer already exists on the project site.

Pollution Prevention
The project overlies the Kamiloloa Aquifer which has a sustainable and developable yield of 3 MGD. The Depart- strives to protect the integrity of surface and groundwater resources by encouraging the applicant to adopt best management practices (BMPs) for construction designed to minimize infiltration and runoff during construction. Please refer to the Source Water Protection Practices Bulletin - Managing Storm Water Runoff to Prevent Contamination of Drinking Water.

Conservation
We recommend that the applicant consider the following water conservation measures:

Eliminate Simple-Pass Cooling:
Single-pass water cooled systems should be eliminated per Maui County Code Subsection 14.21.20. Although prohibited by code, single-pass cooling systems are still manufactured into some models of air conditioners, freezers and commercial refrigerators.

Utilize Low-Flow Fixtures and Devices:
Maui County Code Subsection 16.20A.680 requires the use of low-flow fixtures and devices in faucets, showerheads, urinals, water closets and hose bibs. Other water conserving devices are also available.

Maintain Fixtures to Prevent Leaks:
A simple program of repair and maintenance can prevent loss of hundreds or even thousands of gallons of water per day.

Utilize Climate-Adapted Plants:
The project is located in the "Maui County Planting Plan"-Plant Zone 3. Native plants adapted to the area conserve water and protect the watershed from degradation due to invasive alien species. Please refer to the attached brochure: "Saving Water in the Yard - What and How to Plant in Your Area".

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

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

Sincerely,

George Tengan
Director
ayi

c: Engineering Division
attachments:
Source Water Protection Practices Bulletin - Managing Storm Water Runoff to Prevent Contamination of Drinking Water
The Costly Drip
Maui County Planting Plan - Saving Water in the Yard - What and How to Plant in your Area
Ordinance No. 2108 - A Bill for an Ordinance Amending Chapter 16.20 of the Maui County Code, Pertaining to the Plumbing Code

United States Environmental Protection Agency | Office of Water (4606) | EPA 816-F-01-020 July 2001

EPA

Source Water Protection Practices Bulletin

Managing Storm Water Runoff to Prevent Contamination of Drinking Water

Storm water runoff is rain or snow melt that flows off the land, from streets, roof tops, and lawns. The runoff carries sediment and contaminants with it to a surface water body or infiltrates through the soil to ground water. This fact sheet focuses on the management of runoff in urban environments; other fact sheets address management measures for other specific sources, such as pesticides, animal feeding operations, and vehicle washing.

SOURCES OF STORM WATER RUNOFF

Urban and suburban areas are predominated by impervious cover including pavements on roads, sidewalks, and parking lots; rooftops of buildings and other structures; and impaired pervious surfaces (compacted soils) such as dirt parking lots, walking paths, baseball fields and suburban lawns.

During storms, rainwater flows across these impervious surfaces, mobilizing contaminants, and transporting them to water bodies. All of the activities that take place in urban and suburban areas contribute to the pollutant load of storm water runoff. Oil, gasoline, and automotive fluids drip from vehicles onto roads and parking lots. Storm water runoff from shopping malls and retail centers also contains hydrocarbons from automobiles. Landscaping by homeowners, around businesses, and on public grounds contributes sediments, pesticides, fertilizers, and nutrients to runoff. Construction of roads and buildings is another large contributor of sediment loads to waterways. In addition, any uncovered materials such as improperly stored hazardous substances (e.g., household cleaners, pool chemicals, or lawn care products), pet and wildlife wastes, and litter can be carried in runoff to streams or ground water. Illicit discharges to storm drains (e.g., used motor oil), can also contaminate water supplies.

Parking lot runoff

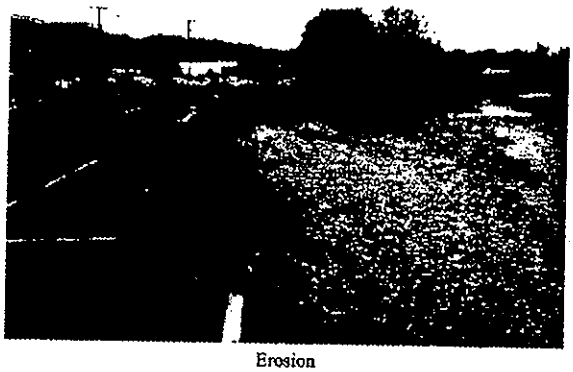
Storm water is also directly injected to the subsurface through Class V storm water drainage wells. These wells are used throughout the country to divert storm water runoff from roads, roofs, and paved surfaces. Direct injection is of particular concern in commercial and light industrial settings (e.g., in and around material loading areas, vehicle service areas, or parking lots).

WHY IS IT IMPORTANT TO MANAGE STORM WATER RUNOFF NEAR THE SOURCES OF YOUR DRINKING WATER?

Impervious areas prohibit the natural infiltration of rainfall through the soil, which could filter some contaminants before they reach ground water. Also, impervious surfaces allow the surface runoff to move rapidly. Development reduces the amount of land available for vegetation, which can mitigate the effects of rapid runoff and filter contaminants. When the percentage of impervious cover reaches 10 to 20 percent of a watershed area, degraded water quality becomes apparent.

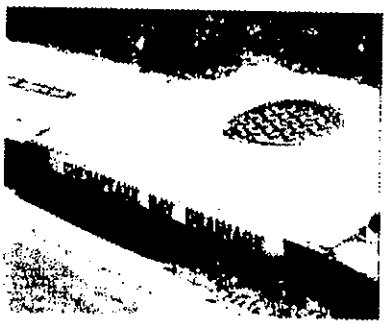
There are three primary concerns associated with uncontrolled runoff: (1) increased peak discharge and velocity during storm events resulting in flooding and erosion; (2) localized reduction in recharge; and (3) pollutant transport.

When runoff is confined to narrow spaces, such as streets, the velocity at which water flows increases greatly with depth. This contributes to erosion in areas without vegetation cover, increased flooding in low lying areas, and sedimentation in surface water bodies. Sediment deposited in streams can increase turbidity, provide transport media for pathogenic bacteria and viruses, and decrease reservoir capacity. Sediments also smother aquatic species, leading to habitat loss and decreased biodiversity of aquatic species. The fast-running runoff is not afforded an opportunity to infiltrate into the subsurface, and ground waters are not recharged by rain events.



Erosion

EPA considers nonpoint source pollution, including storm water runoff, to be one of the most important sources of contamination of the nation's waters. According to a nationwide study, 77 of 127 priority pollutants tested were detected in urban runoff. Some of the principal contaminants found in storm water runoff include heavy metals, toxic chemicals, organic compounds, pesticides and herbicides, pathogens, nutrients, sediments, and salts and other de-icing compounds. Some of these substances are carcinogenic; others lead to reproductive, developmental, or other health problems that are associated with long-term exposure. Pathogens can cause illness, even from short-term exposure, that can be fatal to some people.



Urban runoff is commonly collected in storm sewers and discharged to waterways untreated, so that any contaminants carried by the storm water are discharged to surface water bodies that are used as the sources of drinking water. In addition, about 20 percent of the population in the U.S. is served by combined sewer systems (for both sanitary waste and storm water) that, during heavy storm events, allow contaminants from sanitary sewage to discharge directly to waterways untreated.

AVAILABLE PREVENTION MEASURES TO ADDRESS STORM WATER RUNOFF

A variety of management practices, including pollution prevention and treatment devices, are available to abate storm water pollution. The most effective storm water pollution prevention plans combine these measures and reflect local soil, precipitation, and land use conditions. Some of the more widely-used management measures are described below.

Please keep in mind that individual prevention measures may or may not be adequate to prevent contamination of source waters. Most likely, individual measures should be combined in an overall prevention approach that considers the nature of the potential source of contamination, the purpose, cost, operational, and maintenance requirements of the measures, the vulnerability of the source waters, the public's acceptance of the measures, and the community's desired degree of risk reduction.

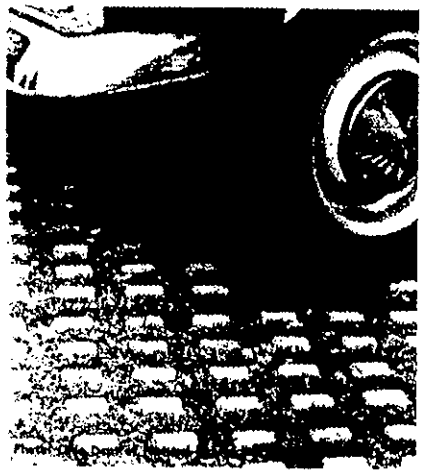
Pollution source control and prevention measures include public education to homeowners and business owners on good housekeeping, proper use and storage of household toxic materials, and responsible lawn care and landscaping; storm drain stenciling; hazardous materials collection; and eliminating illicit discharges. The incorporation of best management practices (BMPs) in building and site-development codes, if feasible, should be encouraged. On roadways, proper maintenance of rights-of-way, control of chemical and nutrient applications, street cleaning or sweeping, storm drain cleaning, use of alternative or reduced de-icing products, and equipment washing can reduce the pollutant content of runoff.

Without appropriate ***erosion and sedimentation control (ESC) measures***, construction activities can contribute large amounts of sediment to storm water runoff. Erosion can be controlled by planting temporary fast-growing vegetation, such as grasses and wild flowers. Covering top soil with geotextiles or impervious covers will also protect it from rainfall. Good housekeeping measures for construction sites include construction entrance pads and vehicle washing to keep sediment and soil on-site. Construction should be staged to reduce soil exposure, or timed to coincide with periods of low rainfall and low erosion potential, such as in the fall, rather than during spring rains. Other measures include sediment traps and basins; sediment fences; wind erosion controls; and sediment, chemical, and nutrient control.

If available, ordinances and regulations on construction activities can require plan reviews to ensure that erosion during construction is minimized or require ESC measures during construction. Inspections of ESC measures and repair of controls where needed will maintain the working order of these controls and maximize their benefit.

Local governments can use a variety of ***land use controls*** to protect source water from potential contamination. For example, subdivision controls help to ensure that expected development will not compromise drinking water quality or ground water recharge. Requiring proper storm water management in new developments and redevelopments will ensure that runoff does not become excessive as areas of paved surfaces increase. ***Low impact development*** incorporates maintaining pre-development hydrology, considering infiltration technology, and re-routing water to recharge the aquifer.

Minimizing directly connected impervious areas (DCIAs) is important to reducing the flow and volume of runoff. Planners should direct runoff from roofs, sidewalks, and other surfaces over grassed areas to promote infiltration and filtration of pollutants prior to surface water deposition. Porous design of parking lots also provides places for storm water to infiltrate to soils. ***Concrete grid pavement*** is typically placed on a sand or gravel base with void areas filled with pervious materials such as sand, gravel, or grass. Storm water percolates through the voids into the subsoil. Planting landscaped areas lower than the street level encourages drainage.



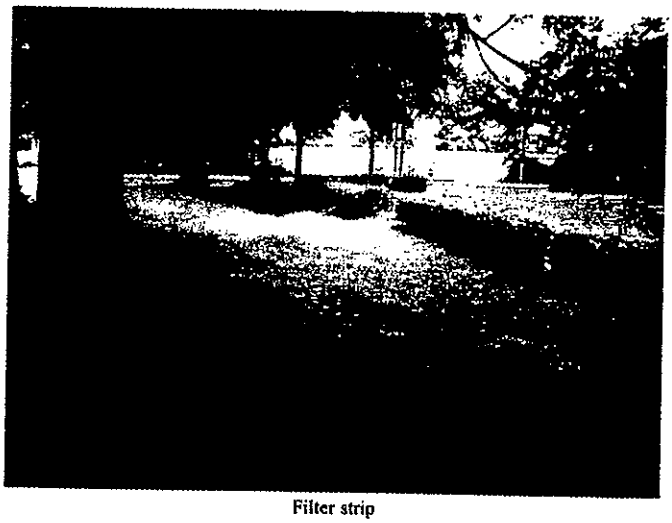
Concrete grid pavement

Structural designs are used to control runoff or temporarily store storm water on site. A number of structural devices have been developed to encourage filtration, infiltration, or settling of suspended particles. Some of the more commonly-used practices are described below.

Grassed swales are shallow, vegetated ditches that reduce the speed and volume of runoff. Soils remove contaminants by infiltration and filtration. Vegetation, or turf, prevents soil erosion, filters out sediment, and provides some nutrient uptake. Maintenance of grassed swales involves regular mowing, re-seeding, and weed control, along with inspections to check for erosion and ensure the integrity of the vegetative cover. To function properly, the inflow to the swale must be sheet flow from a filter strip or an impervious surface (i.e., not from the end of a pipe). Swales have demonstrated solids removals exceeding 80 percent. Apart from grassed swales, ***grassed waterways*** (wide, shallow channels lined with sod) are often used as outlets for runoff from terraces.

Buffer strips are combinations of trees, shrubs, and grasses planted parallel to a stream. Buffer strips should consist of three zones—about four or five rows of trees closest to the stream, one or two rows of shrubs, and a 20 to 24 foot wide grass zone on the outer edge. They decrease the velocity of runoff, thus moderating flooding and preventing stream bank erosion. The vegetation and soils also strain and filter sediments and chemicals. Buffer strips should be maintained by controlling weeds and mowing grasses once or twice annually. In the long term, each zone should be harvested and replanted. About 10 to 20 percent removal of solids has been demonstrated in buffer zones. These buffer strips, however, do not necessarily increase infiltration.

Filter strips are areas of close-growing vegetation on gently sloped land surfaces bordering a surface water body. They work by holding soils in place, allowing some infiltration, and filtering solid particles out of the runoff from small storms. Plants with dense root systems are preferred; the ideal species and mixes of vegetation are specific to the region. The width and length of the filter strip depends on the size and grade of the slope it drains. Maintenance activities include inspections, mowing, and removal of sediment build-up. Filter strips can remove nitrogen and phosphorus, but are less effective in filtering pesticides. They are most effective when water flow is even and shallow and if grass can regrow between rains.



Filter strip

Storm water pond

Storm water ponds (wet ponds) consist of a permanent pond, where solids settle during and between storms, and a zone of emergent wetland vegetation where dissolved contaminants are removed through biochemical processes. Wet ponds are usually developed as water features in a community, increasing the value of adjacent property. Other than landscape maintenance, only annual inspection of the outlets and shoreline is required. Vegetation should be harvested every 3 to 5 years, and sediment removed every 7 to 10 years. Wet ponds can achieve 40 to 60 percent phosphorus removal and 30 to 40 percent total nitrogen removal.

Constructed wetlands are similar to wet ponds, with more emergent aquatic vegetation and a smaller open water area. Storm water wetlands are different from natural wetlands in that they are designed to treat storm water runoff, and typically have less biodiversity than natural wetlands. A wetland should have a settling pond, or forebay, if significant upstream soil erosion

is anticipated. Coarse particles remain trapped in the forebay, and maintenance is performed on this smaller pool. Wetlands remove the same pollutants as wet ponds through settling of solids and biochemical processes, with about the same efficiency. Maintenance requirements for wetlands are similar to those of wet ponds.

Infiltration basin

Infiltration practices (basins and trenches) are long, narrow stone-filled excavated trenches, 3 to 12 feet deep. Runoff is stored in the basin or in voids between the stones in a trench and slowly infiltrates into the soil matrix below, where filtering removes pollutants. Infiltration devices alone do not remove contaminants, and should be combined with a pretreatment practice such as a swale or sediment basin to prevent premature clogging. Maintenance consists of inspections annually and after major rain storms and debris removal, especially in inlets and overflow channels. Infiltration devices and associated practices can achieve up to 70 to 98 percent contaminant removal.

Swirl-type concentrators are underground vaults designed to create a circular motion to encourage sedimentation and oil and grease removal. The currents rapidly separate out settleable grit and floatable matter, which are concentrated for treatment, while the cleaner, treated flow discharges to receiving waters. Swirl concentrators have demonstrated total suspended solids and BOD removal efficiencies exceeding 60 percent.

BMPs for Class V storm water drainage wells address siting, design, and operation of these wells. Siting BMPs for storm water drainage wells include minimum setbacks from surface waters, drinking water wells, or the water table. Storm water drainage wells may also be prohibited from areas of critical concern, such as source water protection areas, or from areas where the engineering properties of the soil are not ideal for their performance. Available design BMPs for storm water drainage wells include sediment removal devices (such as oil/grit separators or filter strips), oil and grease separators, and pretreatment devices such as infiltration trenches or wetlands (described above). Maintenance of these BMPs is crucial to their proper operation. Management measures related to operation include spill response, monitoring, and maintenance procedures. Source separation, or keeping runoff from industrial areas away from storm water drainage wells, involves using containment devices such as berms or curbs (see the fact sheets on vehicle washing and small quantity chemical use for more information on these devices).

EPA's National Pollutant Discharge Elimination System (NPDES) Permitting Program regulates storm water runoff from municipal separate storm sewer systems (MS4s) and industrial activity (including construction). The current rules establish permit requirements for more than 5,000 MS4s nationwide. NPDES storm water permits issued to MS4s require these MS4s to develop the necessary legal authority to reduce the discharge of pollutants in storm water to the maximum extent practicable and to develop and implement a storm water management program that includes:

- Structural and source control measures to reduce pollutants from runoff from commercial and residential areas, including maintenance, monitoring, and planning activities;
- Detection and removal of illicit discharges and improper disposal into the storm sewer;
- Monitoring and control of storm water discharges from certain industrial activities; and
- Construction site storm water control.

In addition, the storm water rule for certain small MS4s requires post-construction storm water management controls. These local controls are in addition to existing federal regulations that require NPDES permits of all construction activities disturbing greater than one acre.

Recently, EPA developed a menu of BMPs that provides more than 100 fact sheets on measures that small MS4s could use to control urban storm water runoff. The menu is available from EPA's Web site at www.epa.gov/npdes.

FOR ADDITIONAL INFORMATION

These sources contain information on storm water management measures. All of the documents listed are available for free on the Internet. State departments of transportation or agriculture, whose contact information can be found on the Internet or in the phone book, are also good sources of information.

To pass local ordinances or regulations to affect storm water controls, contact city or county public works departments, zoning offices, permitting offices, or transportation departments, who typically have the authority to pass local ordinances. Contact local government authorities in your area to see if there are ordinances in place to manage storm water. Numerous examples of local source water protection-related ordinances for various potential contaminant sources can be found at http://www.epa.gov/r5water/ordcom/, http://www.epa.gov/owow/nps/ordinance/, and http://www.epa.gov/owow/nps/ordinance/links.htm.

The following resources provide information on selection and design of specific management measures:

The Center for Watershed Protection's Stormwater Manager's Resource Center (www.stormwatercenter.net) provides technical assistance storm water management issues.

Northern Arizona University offers a course on wet weather flow management, materials are available at http://jan.ucc.nau.edu/~dmh3/egr499/.

Texas Nonpoint SourceBOOK (www.txnpsbook.org) contains four manuals on storm water Best Management Practices, including "Urban Nonpoint Source Management," and an interactive BMP selector.

U.S. EPA, Office of Ground Water and Drinking Water. (September 1999). *The Class V Underground Injection Control Study. Volume 3: Storm Water Drainage Wells.* EPA/816-R-99-014c. Retrieved May 2, 2001, from the World Wide Web: http://www.epa.gov/safewater/uic/classv/stw-fact.pdf

U.S. EPA, Office of Science and Technology. (August 1999). *Preliminary Data Summary of Urban Stormwater Best Management Practices.* EPA-821-R-99-012. Retrieved February 7, 2001, from the World Wide Web: http://www.epa.gov/OST.

U.S. EPA, Office of Wastewater Management. (September 1992). *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and BMPs.* Retrieved February 6, 2001, from the World Wide Web: http://www.epa.gov/owm/sw/indguide/index.htm

U.S. EPA, Office of Wetlands, Oceans, and Watersheds. (January 1993). *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters.* EPA-840-B-93-001c. Retrieved February 15, 2001, from the World Wide Web: http://www.epa.gov/OWOW

Washington State Department of Transportation. (February 1995). *Highway Runoff Manual.* M 31-16. Retrieved February 15, 2001, from the World Wide Web: http://www.wsdot.wa.gov/fasc/engineeringpublications/manuals/highway.pdf

Wyoming Department of Environmental Quality. (February 1999). *Urban Best Management Practices for Nonpoint Source Pollution.* Draft. Retrieved February 21, 2001, from the World Wide Web: http://deq.state.wy.us/wqd/urbbmpdoc.htm

University extension services are excellent sources for information on water quality issues, including storm water management. The Oregon Department of Agriculture offers comprehensive list of links to many of these on its Web site (http://www.oda.state.or.us/Natural_Resources/wq_ces.htm).

Following are examples of extension services that offer fact sheets on a variety of storm water management measures, including best management practices:

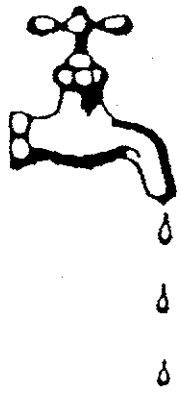
Iowa State University Extension (http://www.extension.iastate.edu/Pages/pubs/).

North Carolina Cooperative Extension Service (http://www.ces.ncsu.edu/resources/).

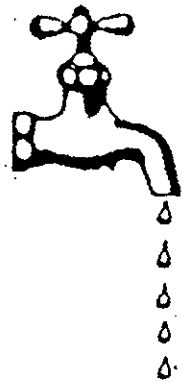
Oklahoma State University. Division of Agricultural Sciences and Natural Resources (http://agweb.okstate.edu/pearl/wqs).

Purdue University Cooperative Extension Service (http://www.agcom.purdue.edu/AgCom/Pubs/menu.htm).

"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.

Zone-specific Native and Polynesian plants for Maui County

Zone 3

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

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
F	Psilotum nudum	moa, moa kula	1'	1'	sea to 3,000'	Dry to Wet
G	Colubrina asiatica	'anapanapa	3'	10'	sea to 1,000'	Dry to Wet
G	Eragrostis monticola	kalamalo	1'	2'	sea to 3,000'	Dry to Medium
G	Eragrostis variabilis	'emo-loa	1'	2'	sea to 3,000'	Dry to Medium
G	Fimbristylis cymosa ssp. spathacea	mau'u'aki'aki fimbristylis	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	Boerhavia repens	alena	0.5'	4'	sea to 1,000'	Dry to Medium
Gr	Chamaesyce celastroides var. laehiensis	'akoko	2'	3'	sea to 1,000'	Dry to Medium
Gr	Cressa truxillensis	cressa	0.5'	1'	sea to 1,000'	Dry to Medium
Gr	Heliotropium anomalum var. argenteum	hinahina ku kahakai	1'	2'	sea to 1,000'	Dry to Medium
Gr	Ipomoea tuboides	Hawaiian moon flower, 'uala	1'	10'	sea to 3,000'	Dry to Medium
Gr	Jacquemontia ovalifolia ssp. sandwicensis	pa'u o hi'iaka	0.5'	6'	sea to 1,000'	Dry to Medium
Gr	Lipochaeta integrifolia	nehe	1'	5'	sea to 1,00'	Dry to Medium
Gr	Peperomia leptostachya	'ala'ala-wai-nui	1'	1'	sea to 3,000'	Dry to Medium
Gr	Plumbago zeylanica	'ilie'e	1'			
Gr	Sesuvium portulacastrum	'akulikuli, sea-purslane	0.5'	2'	sea to 1,000'	Dry to Wet
Gr	Sida fallax	'ilima	0.5'	3'	sea to 1,000'	Dry to Medium
Gr	Tephrosia purpurea var. purpurea	'auhuhu	2'	2'	sea to 1,000'	Dry to Medium
Gr - Sh	Hibiscus calyphyllus	ma'o hau hele, Rock's hibiscus	3'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	Lipochaeta rockii	nehe	2'	2'	sea to 3,000'	Dry to Medium
Gr - Sh	Lipochaeta succulenta	nehe	2'	5'	sea to 1,000'	Dry to Wet
Gr - Sh	Lycium sandwicense	'ohelo-kai, 'ae'ae	2'	2'	sea to 1,000'	Dry to Medium
P	Cocos nucifera	coconut, niu	100'	30'	sea to 1,000'	Dry to Wet
P	Pritchardia hillebrandii	lo'ulu, fan palm	25'	15'	sea to 1,000'	Dry to Wet
S	Mariscus javanicus	marsh cypress, 'ahu'awa	0.5'	0.5'	sea to 1,000'	Dry to Medium

Zone-specific Native and Polynesian plants for Maui County

Zone 3

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Sh	Argemone glauca var. deciplens	pua kala	3'	2'	sea to 3,000'	Dry to Medium
Sh	Bidens mauiensis	ko'oko'olau	1'	3'	sea to 1,000'	Dry to Medium
Sh	Bidens menziesii ssp. menziesii	ko'oko'olau	1'	3'		
Sh	Bidens micrantha ssp. micrantha	ko'oko'olau	1'	3'		
Sh	Chenopodium oahuense	'aheahea, 'aweoweo	6'		sea to higher	Dry to Medium
Sh	Dianella sandwicensis	'uki	2'	2'	1,000' to higher	Dry to Medium
Sh	Gossypium tomentosum	mao, Hawaiian cotton	5'	8'	sea to 1,000'	Dry to Medium
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 anthyllidifolia	'ulei, eluehe	4'	6'	sea to 3,000'	Dry to Medium
Sh	Scaevola sericea	naupaka, naupaka-kahakai	6'	8'	sea to 1,000'	Dry to Medium
Sh	Senna gaudichaudii	kolomana	5'	5'	sea to 3,000'	Dry to Medium
Sh	Solanum nelsonii	'akia, beach solanum	3'	3'	sea to 1,00'	Dry to Medium
Sh	Styphelia tameiameiae	pukiawe	6'	6'	1,000' to higher	Dry to Medium
Sh	Vitex rotundifolia	pohinahina	3'	4'	sea to 1,000'	Dry to Medium
Sh	Wikstroemia uva-ursi kauaiensis kauaiensis	'akia, Molokai osmanthus				
Sh - Tr	Broussonetia papyrifera	wauke, paper mulberry	8'	6'	sea to 1,000'	Dry to Medium
Sh - Tr	Myoporum sandwicense	naio, false sandalwood	10'	10'	sea to higher	Dry to Medium
Sh - Tr	Nototrichium sandwicense	kulu'i	8'	8'	sea to 3,000'	Dry to Medium
Sh-Tr	Dodonaea viscosa	'a'ali'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	Canthium odoratum	Alahe'e, 'ohe'e, walahe'e	12'	8'	sea to 3,000'	Dry to Medium
Tr	Cordia subcordata	kou	30'	25'	sea to 1,000'	Dry to Wet
Tr	Diospyros sandwicensis	lama	12'	15'	sea to 3,000'	Dry to Medium
Tr	Erythrina sandwicensis	wiliwili	20'	20'	sea to 1,000'	Dry
Tr	Metrosideros polymorpha var. macrophylla	ohi'a lehua	25'	25'	sea to 1,000'	Dry to Wet

Zone-specific Native and Polynesian plants for Maui County

Zone 3

Type	Scientific Name	Common Name	Height	Spread	Elevation	Water req.
Tr	Morinda citrifolia	Indian mulberry, noni	20'	15'	sea to 1,000'	Dry to Wet
Tr	Nesoluma polynesicum	keahi	15'	15'	sea to 3,00'	Dry
Tr	Nestegis sandwicensis	olopua	15'	15'	1,000' to 3,000'	Dry to Medium
Tr	Pandanus tectorius	hala, puhala (HALELIST)	35'	25'	sea to 1,000'	Dry to Wet
Tr	Pleomele auwahiensis	halapepe	20'			
Tr	Rauvolfia sandwicensis	hao	20'	15'	sea to 3,000'	Dry to Medium
Tr	Reynoldsia sandwicensis	'ohe makai	20'	20'	1,000' to 3,000'	Dry
Tr	Santalum ellipticum	coastal sandalwood, 'ili-ahi	8'	8'	sea to 3,000'	Dry to Medium
Tr	Thespesia populnea	milo	30'	30'	sea to 3,000'	Dry to Wet

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 glabra	Boraginaceae
broomsedge, yellow bluestem	Andropogon virginicus	Poaceae
buffelgrass	Cenchrus ciliaris	Poaceae
butterfly bush, smoke bush	Buddleja madagascariensis	Buddlejaceae
cats claw, Mysore thorn, wait-a-bit	Caesalpinia decapetala	Caesalpiniaceae
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
klu, popinac	Acacia farnesiana	Mimosaceae
logwood, bloodwood tree	Haematoxylon campechianum	Caesalpiniaceae
loquat	Eriobotrya japonica	Rosaceae
meadow ricegrass	Ehrharta stipoides	Poaceae
melaleuca	Melaleuca quinquenervia	Myrtaceae
miconia, velvet leaf	Miconia calvescens	Melastomataceae
narrow-leaved carpetgrass	Axonopus fissifolius	Poaceae
oleaster	Elaeagnus umbellata	Elaeagnaceae
oriental mangrove	Bruguiera gymnorrhiza	Rhizophoraceae
padang cassia	Cinnamomum burmanii	Lauraceae
palmgrass	Setaria palmifolia	Poaceae
pearl flower	Heterocentron subtriplinervium	Melastomataceae
quinine tree	Cinchona pubesens	Rubiaceae
satin leaf, caimitillo	Chrysophyllum oliviforme	Sapotaceae
silkwood, Queensland maple	Flindersia brayleyana	Rutaceae
silky oak, silver oak	Grevillea robusta	Proteaceae
strawberry guava	Psidium cattleianum	Myrtaceae
swamp oak, saltmarsh, longleaf ironwood	Casuarina glauca	Casuarinaceae
sweet vernalgrass	Anthoxanthum odoratum	Poaceae
tree of heaven	Ailanthus altissima	Simaroubaceae
trumpet tree, guarumo	Cecropia obtusifolia	Cecropiaceae
white ginger	Hedychium coronarium	Zingiberaceae
white moho	Heliocarpus popayanensis	Tiliaceae
yellow ginger	Hedychium flavescens	Zingiberaceae

DO NOT PLANT THESE PLANTS !!!

Common name	Scientific name	Plant family
	Jasminum fluminense	Oleaceae
	Arthrostema ciliatum	Melastomataceae
	Dissotis 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	
	Oxyspora paniculata	Melastomataceae
	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
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 mirocarpa	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	Maratliaceae
New Zealand laurel, karakaranut	Corynocarpus laevigatus	Corynocarpaceae
New Zealand tea	Leptospermum scoparium	Myrtaceae
Pampas grass	Cortaderia jubata	Poaceae
Panama rubber tree, Mexican rubber tree	Castilloa elastica	Moraceae
Shoebutton 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 porus soil. They will not grow well with frequent cloud cover, high rainfall and heavy soil.

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

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

Keep seasons in mind when you are selecting your plants. Not all plants look good year round, some plants such as 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)

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[1] K. Nagata, P.6

[2] K. Nagata, P.9

[3] Nagata, P.9

Soil

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

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

Irrigation

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

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

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

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

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[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.

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[7] Bornhorst, p. 19-20

[8] Nagata, p. 6

Propagation

There are many ways to propagate and plant-out native Hawaiian species. One of the most thourough 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, trimm 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

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[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.

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[10] Bornhorst, p. 24

[11] Nagata, p. 7

ZONES

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

Zone 1:
Wet areas on the windward side of the island. More than 40 inches of rain per year. Higher than 3,000 feet.

Zone 2:
Cool, dry areas in higher elevations (above 1,000 feet). 20 to 40 inches of rain per year.

Zone 3:
Low, drier areas, warm to hot. Less than 20 inches of rain per year. Sea level to 1,000 feet.

Zone 4:
Lower elevations which are wetter due to proximity of mountains. 1,000 to 3,000 feet.

Zone 5:
Salt spray zones in coastal areas on the windward side.

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

PLACES TO SEE NATIVES ON MAUI:

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.

1. Hoolawa Farms
   P O Box 731
   Haiku HI 96708
   575-5099

2. The Hawaiian Collection
   1127 Manu Street
   Kula HI 96790
   878-1701

3. Kula Botanical Gardens
   RR4, Box 228
   Kula HI 96790
   878-1715

4. Maui Botanical Gardens
   Kanaloa Avenue, Kahului
   across from stadium
   249-2798

5. Kula Forest Reserve
   access road at the end of Waipoli Rd
   Call the Maui District Office
   984-8100

6. Wailea Point, Private Condominium residence
   4000 Wailea Alanui, Kihei
   public access points at Four Seasons Resort or
   Polo Beach
   875-9557

7. Kahanu Gardens, National Tropical Botanical Garden
   Alau Place, Hana HI 96713
   248-8912

8. Kahului Library Courtyard
   20 School Street
   Kahului HI 96732
   873-3097

PLACES TO BUY NATIVE PLANTS ON MAUI

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

   * The largest and best collection of natives in the state. They will deliver, but worth the drive to go and see! Will propagate upon request

2. Kahanu Gardens
   National Tropical Botanical Garden
   Alau Place, Hana
   248-8912

3. Kihana Nursery
   1708 South Kihei Road
   Kihei HI 96753
   879-1165

4. Kihei Garden and Landscape
   Waiko Road, Wailuku
   P O Box 1058
   Puunene HI 96784
   244-3804

5. Kula Ace Hardware and Nursery
   3600 Lower Kula Road
   Kula HI 96790
   876-0734
   * many natives in stock
   * get most of their plants from Ho'olawa Farms
   * they take special requests

6. Kulamanu Farms - Ann Carter
   Kula HI 96790
   878-1801

7. Maui Nui Botanical Gardens
   Kanaloa Avenue
   (Across from stadium)
   Kahului HI 96732
   249-2798

8. Native Gardenscapes
   Robin McMillan
   1330 Lower Kimo Drive
   Kula HI 96790
   870-1421

   * grows native plants and installs landscapes including irrigation.

9. Native Hawaiian Tree Source
   1630 Piiholo Road
   Makawao HI 96768
   572-6180

10. Native Nursery, LLC
    Jonathan Keyser
    250-3341

11. New Moon Enterprises - Pat Bily
    47 Kahoea Place
    Kula HI 96790
    878-2441

12. Waiakoa Tree Farm - Kua Rogoff
    Pukalani HI 96768
    Cell - 264-4166

Hiyakumoto + Higuchi
ARCHITECTS • INC

March 31, 2005

Mr. George Tengan, Director
Department of Water Supply
County of Maui
200 S. High Street
Wailuku, HI 96793-2155

Re: Early Consultation Review for Environmental Assessment
Molokai Parks Baseyard
Duke Maliu Regional Park, T.M.K.: 5-3-03:12
Kaunakakai, Molokai, HI

Dear Mr. Tengan:

We are in receipt of your March 3, 2005 letter providing comments for early consultation on the environmental assessment report. We appreciate your review and comments and provide the following responses:

1. Thank you for the information on the Source Availability and Consumption. This data will be incorporated into the Draft E.A.
2. We appreciate the information on the System Infrastructure as well and will incorporate it into the E.A. Calculations for domestic, irrigation and fire flows will be provided by our mechanical engineering consultant and will be included in the Draft E.A. to verify adequacy of the water meter and fire protection for the site.
3. Our construction documents will include and require the contractor to follow best management practices (BMP) during construction.
4. Design and construction of this project will consider the appropriate and applicable water conservation measures which you note in your letter.

Thank you again for your review and comments. Any further questions, please feel free to call me.

Very truly yours,

Hiyakumoto + Higuchi Architects, Inc.

Calvin S. Higuchi AIA

cc: Tony Medeiros – Parks Planning & Dev. w/copy of DWS letter
Draft E.A. w/copy of DWS letter
Doug Gomes " " " "

X. LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT REVIEW PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

X. LETTERS RECEIVED DURING THE DRAFT ENVIRONMENTAL ASSESSMENT REVIEW PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

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

Federal Agencies

1. Ranae Ganske-Cerizo
Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawai`i 96793

2. George Young
Chief, Regulatory Branch
U.S. Department of the Army
U. S. Army Engineer District, Honolulu
Regulatory Branch
Building 230
Fort Shafter, Hawai`i 96858

State Agencies

3. Herbert Matsubayashi
District Environmental Health
Program Chief
State of Hawai`i
Department of Health
54 High Street
Wailuku, Hawai`i 96793

4. Laura Thielen, Interim Chairperson
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawai`i 96813

5. Melanie Chinen, Administrator
State of Department of Land and
Natural Resources
State Historic Preservation Division
601 Kamokila Blvd., Room 555
Kapolei, Hawai`i 96707

6. Barry Fukunaga, Director
State of Hawai`i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai`i 96813

7. Mr. Ferdinand Cajigal
Maui District Engineer
Department of Transportation
650 Palapala Drive
Kahului, Hawai`i 96732

8. Laurence Lau, Interim Director
Office Of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawai`i 96813

9. Mr. Peter L. Yee, Director
Nationhood and Native Rights Division
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Ste.1250
Honolulu, Hawai`i 96813

10. Jenny Pickett, Archaeologist
Department of Land & Natural Resources
Historic Preservation Division, Maui Office
130 Mahalani Street
Wailuku, Hawai`i 96793

11. Mr. Meyer L. Ueoka, Wildlife Biologist
Department of Land and Natural Resources
54 South High Street
Wailuku, Hawai`i 96793

12. State of Hawaii
Department of Health
Environmental Planning Office
919 Ala Moana Blvd., Suite 312
Honolulu, Hawai`i 96814

13. Mr. Wilfred Nagamine, Manager
Department of Health
Clean Air Branch
919 Ala Moana Blvd., Suite 203
Honolulu, Hawai`i 96814

14. Mr. Russell S. Takata, Program Manager
Department of Health
Noise, Radiation and Indoor Air Quality Branch
591 Ala Moana Blvd.
Honolulu, Hawai`i 96813

15. Mr. Harold K. Yee, P.E., Chief
Department of Health
Wastewater Branch
919 Ala Moana Blvd., Room 309
Honolulu, Hawai`i 96814

16. Mr. Theodore E. Liu, Director
Department of Business Economic Development and Tourism
Office of Planning
235 South Beretania Street
6th Floor
Honolulu, Hawai`i 96813

17. Alec Wong, P.E., Acting Chief
Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, Hawai`i 96801

County Agencies

18. Carl Kaupololo, Chief
County of Maui
Department of Fire and Public Safety
200 Dairy Road
Kahului, Hawai`i 96732

19. Tamara Horcajo, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2
Wailuku, Hawai`i 96793

20. Jeffrey Hunt, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawai`i 96793

21. Thomas Phillips, Chief
County of Maui
Police Department
55 Mahalani Street
Wailuku, Hawai`i 96793

22. Milton Arakawa, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawai`i 96793

23. Deidre Tegarden, Director
County of Maui
Department of Economic Development
200 South High Street
Wailuku, Hawai`i 96793

24. Jeffrey Eng, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Hawai`i 96793

25. Cheryl Okuma, Director
Department of Environmental Management
200 South High Street
Wailuku, Hawai`i 96793

26. **Kaunakakai Elementary School**
Principal Janice Espiritu
P.O. Box 1950
Kaunakakai, Hawai`i 96748

Other Consulted Parties

27. **Maui Electric Company, Ltd.**
P.O. Box 398
Kahului, Hawai`i 96733

28. **Moloka`i Public Library**
P.O. Box 395
Kaunakakai, Hawai`i 96748

29. Vanessa Medeiros, Director
Department of Housing and Human Concerns
County of Maui
200 South High Street
Wailuku, Hawai`i 96793

30. **Moloka`i Soil and Water Conservation District**
P.O. Box 396
Hoolehua, Moloka`i 96729

NOV 1 9 2007

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

In reply, please refer to
EMD / CWB

11048PKP.07

November 14, 2007

Ms. Rowena Dagdag
Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Dagdag:

Subject: Draft Environmental Assessment (EA), Special Management Area (SMA), Change in Zoning (CIZ), and District Boundary Amendment (DBA) Applications for Proposed Parks Baseyard at Duke Maliu Regional Park Kaunakakai, Molokai, Hawaii

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project. Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters

(HAR, Chapter 11-55). For the following types of discharges into Class 2 State inland waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

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

b. Hydrotesting water.

c. Construction dewatering effluent.

You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

3. If the above-mentioned types of discharges enter Class AA State marine waters (Pacific Ocean south of the proposed project), then you must apply for an NPDES individual permit. Applications for NPDES individual permits must be submitted 180 calendar days before the start of construction activities. Application forms may be picked up at our office or downloaded from the website address above.

4. You must also submit a copy of the NOI to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the CWB that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD's determination letter for the project along with your NOI or NPDES permit application, as applicable.

5. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 Water Quality Certification are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

for ALEC WONG, P.E., CHIEF
Clean Water Branch

KP:np

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Alec Wong, P.E., Chief
State of Hawai`i
Clean Water Branch
P.O. Box 3378
Honolulu, Hawai`i 96801-3378

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Moloka`i (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Wong:

Thank you for your letter of November 14, 2007 providing comments regarding the subject project. We wish to provide the following information in response to your comments presented in your memorandum.

1. The applicant will comply with the requirements of Hawai`i Administrative Rules (HAR), Sections 11-54-1.1, 11-54-3, and 11-54-4 through 11-54-8, relating to the State Water Quality Standards, as applicable.

2-3. The applicant will comply with the requirements of Hawai`i Administrative Rules (HAR), Sections 11-55, relating to the National Pollutant Discharge Elimination System, as applicable and acknowledges the timeline of the application processing for individual NPDES permit applications.

4. The applicant will undertake coordination efforts with the State Department of Land and Natural Resources (DLNR), State Historic Preservation Division (SHPD), and the Department of Health (DOH) regarding NPDES notification. As required by HAR, Section 11-55-38, appropriate coordination and documentation will be secured from SHPD. A copy of SHPD's comment letters will be provided with the NPDES permit application.

5. Project construction and operations will comply with HAR, Chapter 11.54 as well as permitting requirements, specified in HAR, Chapter 11-55 as applicable.

Thank you again for your comments. Should you have any questions or require additional information, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
F:\DATA\HHA\Duke Maliu 1243\wong.drafteares.wpd

OCT 1 6 2007

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
File: EHSD/NRIAQ

October 15, 2007

TO: Rowena Dagdag
Munekiyo & Hiraga, Inc.

FROM: FOR Russell S. Takata, Program Manager
Noise, Radiation & Indoor Air Quality Branch

SUBJECT: **Comments to Draft Environmental Assessment, Special Management Area (SMA), Change in Zone (CIZ), & District Boundary Amendment (DBA) applications for Proposed Parks Baseyard at Duke Maliu Regional Park at TMK 5-2-003:012, Kaunakakai, Molokai, Hawaii (DBA 2007/006)(CIZ 2007/0013)**

Our comments should be printed as follows:

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

- Chapter 11-46 Community Noise Control.

Should there be any questions, please contact me at 586-4701.

cc: Tamara Horcajo, Department of Parks and Recreation
Jeffrey Hunt, Department of Planning

6

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Russell S. Takata, Program Manager
Department of Health
Noise, Radiation & Indoor Air Quality Branch
State of Hawai`i
P.O. Box 3378
Honolulu, Hawai`i 96801

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Takata:

Thank you for your letter of October 15, 2007 providing comments on the Draft Environmental Assessment.

We acknowledge your comment regarding the possible need for a noise permit during construction. Coordination will also be carried out with the Noise, Radiation & Indoor Air Quality Branch to ensure that applicable permits are secured prior to the start of construction.

Thank you again for your comments. Should you have any questions, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
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NOV 1 6 2007

PHONE (808) 594-1888

FAX (808) 594-1865

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

HRD07/3265

November 13, 2007

Rowena Dagdag
Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

RE: Draft Environmental Assessment (DEA), Special Management Area (SMA), Change in Zoning (CIZ), and District Boundary Amendment (DBA) applications for Proposed Parks Baseyard at Duke Maliu Regional Park, TMK (2) 5-2-003: 012, Kaunakakai, Moloka'i, Hawai'i

Dear Rowena Dagdag,

The Office of Hawaiian Affairs (OHA) is in receipt of your October 4, 2007 submission concerning the proposed improvements to the Duke Maliu Regional Park and offers the following comments:

We request that any future submissions to the Office of Hawaiian Affairs be addressed to our Administrator, Clyde Nāmu'ō. Also, our policy is to only accept hard copy and not digital format submissions for official consultation.

The project proposes ground disturbance in an area that has previously been altered for the construction of the Duke Maliu Regional Park. We request that the State Historic Preservation Division (SHPD) be the agency that is first notified in an event that cultural or historic resources are uncovered during ground disturbance. In our previous letter, dated April 12, 2005, we requested that the Division of Conservation and Resources Enforcement (DOCARE) be contacted in the case that SHPD cannot be reached. DOCARE does not have any regulatory responsibility for making determinations on cultural resources, but should be contacted in case SHPD cannot be reached on the weekends. SHPD is the agency responsible to make any preliminary determinations if any cultural resources are uncovered.

We recommend that in the discussion of the *Existing Environmental, Potential Impacts and Mitigation Measures Part II. Subpart A. Section 6(b), Historical and Archeological Resources, Potential Impacts and Mitigation Measures*, it should be clarified that the "SHPD shall be contacted for the establishment of appropriate mitigation measures in accordance with Chapter 6E Hawai'i Revised Statues." It should be clarified that "DOCARE shall be contacted in a case when SHPD cannot be reached during the immediate time of discovery."

OHA asks that, in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if the project moves forward, and if any significant cultural deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State Historic Preservation Division (SHPD/DLNR) shall be contacted. OHA would also like to be notified.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jason Jeremiah, Policy Advocate-Preservation, Native Rights, Land and Culture, at (808) 594-1816 or jasonj@oha.org.

Aloha,

Clyde W. Nāmu'o
Administrator

C: Irene Kaahanui
Community Resource Coordinator
OHA Maui Office
P.O. Box 1717
Kaunakakai, HI 96748

Tamara Horcajo
Director
Department of Parks and Recreation
700 Hali'a Nakoa Street, Unit 2
Wailuku, Hawai'i 96793

Jeffrey S. Hunt
Director
Department of Planning
250 South High Street
Wailuku, Hawai'i 96793

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Clyde Namu`o
State of Hawai`i
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawai`i 96813

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Moloka`i (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Namu`o:

Thank you for your letter dated November 13, 2007 providing comments on the subject Draft Environmental Assessment (EA). We would like to provide the following information in response to your office's comments in the same order as they appear of your office's letter.

We acknowledge your comment regarding future submissions to the Office of Hawaiian Affairs (OHA) and will address these submissions to the OHA Administrator, Clyde Namu`o. We also acknowledge your policy in accepting hard copy documents for official consultations.

Your comments regarding notification of cultural or historic findings during any ground altering activities have been noted. The Final EA will clarify that the State Historic Preservation (SHPD) will be contacted for establishment of appropriate mitigation measures in accordance with Chapter 6E, Hawaii Revised Statutes. The Division of Conservation and Resources Enforcement (DOCARE) will be contacted in the event that the SHPD cannot be reached during the immediate time of discovery. In addition, the Final EA will note that OHA will also be notified when significant archaeological remains or cultural materials are uncovered during ground disturbance.

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

Thank you once again for your comments. Should you have any questions, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
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OCT 3 0 2007

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
INTERIM CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

October 25, 2007

Rowena Dagdag, Planner
Munekiyo & Hiraga Inc
305 High St. Suite 104
Wailuku, Hawaii 96793

Log. No. 2007.3517
Doc. No. 0710NM21
Archaeology

Dear Ms. Dagdag:

SUBJECT: **Chapter 6E-42 - Historic Preservation Review – DEA, SMA, CIZ 2007-0013 and DBA 2007-006**
Proposed Parks Baseyard at Duke Maliu Regional Park
Kauanakakai, Island of Moloka'i
TMK: (2) 5-2-003: 012

The aforementioned permit is for a baseyard at Duke Maliu Regional Park.

We believe that "**no historic properties will be affected,**" because:
- ☒ Intensive cultivation has altered the land
- ☒ Residential development/urbanization has altered the land
- ☒ Previous grubbing/grading has altered the land
- ☐ An accepted archaeological inventory survey (AIS) found no historic properties
- ☐ SHPD previously reviewed this project and mitigation has been completed
- ☐ Other:

In the event that historic resources, including human skeletal remains, are identified during routine construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Kauai Section, needs to be contacted immediately at (808) 742-7033.

Aloha,

Melanie Chinen, Administrator
State Historic Preservation Division

NM:oap

12

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Bryan Flower, Acting Administrator
State of Hawai`i
Department of Land and Natural Resources
State Historic Preservation Division
601 Kamokila Boulevard
Room 555
Kapolei, Hawai`i 96707

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Flower:

A memorandum October 25, 2007 was provided to our office commenting on the proposed park baseyard in Kaunakakai, Molokai. We wish to provide the following information in response to the comments presented in the memorandum.

The Department of Parks and Recreation (DPR) acknowledges the comment that "no historic properties will be affected" by the proposed project. As such, should any significant archaeological remains or cultural materials be encountered during construction activities, all work in the vicinity of the find will cease and be reported and protected from additional disturbance. The State Historic Preservation Division, will be contacted for establishment of appropriate mitigation measures in accordance with Chapter 6E Hawaii Revised Statutes.

We would like to thank the division for the comments provided on the subject project. Should you have any questions, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
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NOV 0 8 2007

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 6, 2007

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

Attention: Ms. Rowena Dagdag

Gentlemen:

Subject: Special Management Area Use Permit for Proposed Molokai Parks Baseyard, Kaunakakai, Molokai, Tax Map Key: (2) 5-3-3:12

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Engineering Division, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Morris M. Atta
Administrator

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 8, 2007

MEMORANDUM

RECEIVED
LAND DIVISION
2007 OCT 12 P 4:27
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
~~Div. of Boating & Ocean Recreation~~
x Engineering Division
~~Div. of Forestry & Wildlife~~
Div. of State Parks
x Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division – Morris Atta

FROM: Russell Y. Tsuji
SUBJECT: Application for Special Management Area Use Permit for Proposed Molokai Parks Baseyard
LOCATION: Kaunakakai, Molokai, Tax Map Key: (2) 5-3-3:12
APPLICANT: Munekiyo & Hiraga, Inc. on behalf of County of Maui, Department of Parks & Recreation

'07 OCT 09 AM 11:09 ENGINEERING

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by November 1, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

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

Signed:
Date: 10/11/07

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/RYT
Ref.: SMAUPMolokaiParksBaseyardKauanakakai
Maui.372

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zones C and AH. The National Flood Insurance Program does not have any regulations for development within Zone C, however, it does regulate developments within Zone AH as indicated in bold letters below.**

( ) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

(X) **Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.**

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

( ) Mr. Robert Sumitomo at (808) 768-8097 or Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.

(X) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments:_____

_____

( ) Other: _____

_____

Should you have any questions, please call Ms. Suzie Agraan of the Planning Branch at 587-0258.

Signed: _____
ERIC T. HIRANO, CHIEF ENGINEER

Date: 10/11/07

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Morris M. Atta
State of Hawai`i
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawai`i 96809

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Atta:

Thank you for your letter of November 6, 2007 providing the Engineering Division's comments on the subject project. We wish to provide the following information in response to your comments presented in your memorandum.

1. The Department of Parks and Recreation (DPR) acknowledges your comment confirming the location of the project site in Zones C and AH, as indicated on the Flood Insurance Rate Map (FIRM) for the island of Molokai. We also note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) as presented in Title 44 of the Code of Federal Regulations (44CFR). This information has been provided to the DPR and its project architect.

2. The DPR acknowledges your comment with regards to compliance with the rules and regulations of the NFIP and confirms that the project will comply with any permitting requirements pertaining to flood hazard districts. Coordination with the County of Maui, Department of Planning will be carried out regarding permitting requirements relating to local flood ordinances, as applicable.

Again, thank you for your comments. Should you have any questions, or require additional information, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
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NOV 1 4 2007

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 9, 2007

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

Attention: Ms. Rowena Dagdag

Gentlemen:

Subject: Special Management Area Use Permit for Proposed Molokai Parks Baseyard, Kaunakakai, Molokai, Tax Map Key: (2) 5-3-3:12

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Commission on Water Resource Management, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Charlene E. Unoki

for Morris M. Atta
Administrator

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 8, 2007

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
x Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division – Morris Atta

FROM: Russell Y. Tsuji

SUBJECT: Application for Special Management Area Use Permit for Proposed Molokai Parks Baseyard

LOCATION: Kaunakakai, Molokai, Tax Map Key: (2) 5-3-3:12

APPLICANT: Munekiyo & Hiraga, Inc. on behalf of County of Maui, Department of Parks & Recreation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by November 1, 2007.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: W. Roy Hardy
Date: 11/6/07

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

November 7, 2007

REF:

TO: Morris Atta, Acting Administrator
Land Division

FROM: Ken C. Kawahara, P.E., Deputy Director
Commission on Water Resource Management

SUBJECT: Molokai Parks Baseyard SMAP

FILE NO.:

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at *http://www.hawaii.gov/dlnr/cwrm*.

Our comments related to water resources are checked off below.

☒ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

☐ 3. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM: Additional information and forms are available at *www.hawaii.gov/dlnr/cwrm/forms.htm*.

☐ 4. The proposed water supply source for the project is located in a designated ground-water management area, and a Water Use Permit is required prior to use of ground water.

☐ 5. A Well Construction Permit(s) is (are) required before the commencement of any well construction work.

☐ 6. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

☐ 7. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.

☐ 8. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

☐ 9. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a stream channel.

☐ 10. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.

☐ 11. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.

☐ 12. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☐ 13. We recommend that the report identify feasible alternative non-potable water resources, including reclaimed wastewater.

☒ OTHER:

The project proposes to use a total of 1,282 gallons per day, although it is not clear from Appendix C how this number is derived.

If there are any questions, please contact Charley Ice at 587-0251.

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Morris Atta, Acting Administrator
State of Hawai`i
Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 621
Honolulu, Hawai`i 96809

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Atta:

Thank you for your letter of November 9, 2007 providing comments from the Commisson on Water Resource Management on the subject project. We wish to provide the following information in response to your comments presented in your memorandum.

1. We appreciate your comment regarding the project's incorporation into the county's Water Use and Development Plan. Domestic and fire flow calculations were submitted to the County Department of Water Supply (DWS) for review and comment. The DWS has indicated that a1½ -inch water meter proposed to serve the facility is sufficient and will meet the demand and fire flow needed for the project. The applicant will also submit construction plans to the DWS engineering division for review prior to the issuance of a building permit.

2. We also note your comment regarding the project's projected daily water use. It is noted that the Department of Water Supply estimates that the daily average consumption for the project to be approximately 703 gallons per day. While for preliminary engineering purposes, this figure is deemed appropriate. Final water demand calculations will be prepared for building permit submittal purposes.

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

Thank you for your comments. Should you have any questions, or require additional information, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
Douglas Gomes, Engineering Dynamics, Inc.
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LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.2666

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

November 13, 2007

Ms. Rowena Dagdag
Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Dagdag:

Subject: Molokai Parks Baseyard at Duke Maliu Regional Park –
Draft Environmental Assessment (DEA), Special Management Area (SMA) Use Permit, District Boundary Amendment (DBA) and Change of Zone (CIZ) Applications
TMK: 5-2-003: 012

Thank you for requesting our review of the subject project by the Department of Parks and Recreation.

This letter is provided as a follow-up to earlier verbal comments provided by DOT staff. Our primary concern is the handling of the drainage flow resulting from this and other projects mauka of Kamehameha V Highway. We recommend the applicant's consultant for the revised Drainage and Soil Erosion Control Report meet with the Highways Division Maui District Office to address and resolve concerns regarding the report.

We appreciate the opportunity to provide comments.

Very truly yours,

BARRY FUKUNAGA
Director of Transportation

c: Tamara Horcajo, Maui Department of Parks and Recreation
Jeffrey Hunt, Maui Department of Planning

24

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Brennon Morioka, Acting Director
State of Hawai`i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai`i 96813-5097

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Moloka`i (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Morioka:

A letter from the State Department of Transportation was transmitted to our office on November 13, 2007 providing comments for the proposed County of Maui Parks Department baseyard at the Duke Maliu Regional Park in Kaunakakai, Molokai.

Written comments were made based on the information provided in the Draft EA. In response to these comments, we would like to note that a copy of your letter has been provided to the project's civil engineer for further review. The civil engineer will coordinate with the Highways Division of the Maui District Office to address the handling of drainage flows from the project area and surrounding properties and to address comments to the revised Drainage and Soil Erosion Control Report.

Thank you again for your comments. Should you have any questions or require additional information, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
Douglas Gomes, Engineering Dynamics Corp.
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LINDA LINGLE
GOVERNOR OF HAWAII

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

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

In reply, please refer to:
EPO-07-194

October 30, 2007

Mr. Rowena Dagdag
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Mr. Dagadag:

SUBJECT: DBA 2007/006 and CIZ 2007/0013
Draft Environmental Assessment and Special Management Area (SMA), Change in Zone (CIZ), and District Boundary Amendment (DBA) Applications for Proposed Parks Baseyard at Duke Maliu Regional Park
Kaunakakai, Molokai, Hawaii
TMK: (2) 5-2-003: 012

Thank you for allowing us to review and comment on the subject application. The application was routed to the various branches of the Environmental Health Administration. We have the following Wastewater Branch and General comments.

Wastewater Branch

The project proposes to develop a 5000 square foot building for maintenance, storage, and office facilities for Molokai District, Parks Department. The property is currently utilized as the Duke Maliu Regional Park. Located on the property is a kitchen facility with an open lanai, as well as a soccer field and baseball field.

The current facilities at the park are connected to the County's sewer system. Therefore, we concur with the proposed actions provided that wastewater generated by the proposed facilities are disposed of into the County's sewer system.

All wastewater plans must meet Department's Rules, HAR Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. If you have any questions, please contact the Planning & Design Section of the Wastewater Branch at 586-4294.

General

We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

If there are any questions about these comments please contact Jiacai Liu with the Environmental Planning Office at 586-4346.

Sincerely,

KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
WWB
EH-Maui

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Kelvin H. Sunada, Manager
Department of Health
Environmental Planning Office
State of Hawai`i
P.O. Box 3378
Honolulu, Hawai`i 96801

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Sunada:

Thank you for your memorandum of October 30, 2007 commenting on the subject project. We wish to provide the following information in response to your comments presented in your memorandum.

A copy of your letter will be forwarded to the project engineer who will ensure compliance regarding applicable rules for Wastewater Systems.

As requested, standard comments to the State Department of Health have been reviewed and comments specifically applicable to this project will be adhered to. In this regard, we note that the Department of Army has been provided the opportunity to review the proposed action. Coordination will also be carried out with the Noise, Radiation & Indoor Air Quality Branch regarding the possible need for a noise permit during construction. As required by the Clean Air Branch, Best Management Practices (BMPs) will be carried out to control fugitive dust during construction activities.

Again, thank you for your comments. Should you have any questions, or require additional information, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
Doug Gomes, Engineering Dynamics
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OCT 1 9 2007

LINDA LINGLE
GOVERNOR OF HAWAII

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

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

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

October 18, 2007

Ms. Rowena Dagdag
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawai`i 96793

Dear Ms. Dagdag:

Subject: **Proposed Parks Baseyard at Duke Maliu Regional Park**
TMK: (2) 5-3-003: 012, Kaunakakai, Molokai

Thank you for the opportunity to comment on the proposed Parks Baseyard at Duke Maliu Regional Park. The comments that were offered during the early consultation process for the environmental assessment were adequately addressed by Mr. Calvin Higuchi on March 31, 2005.

It is strongly recommended that the Standard Comments found at the Department's website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html be reviewed, and any comments specifically applicable to this project should be adhered to.

Should you have any questions, please call me at 808 984-8230.

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

c: Tamara Horcajo
Jeffrey S. Hunt

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Herbert S. Matsubayashi
District Environmental Health Program Chief
Department of Health
State of Hawai`i
54 High Street
Wailuku, Hawai`i 96793

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Moloka`i (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Matsubayashi:

Thank you for your letter of October 18, 2007 providing comments on the Draft Environmental Assessment.

As requested, standard comments to the State Department of Health have been reviewed and comments specifically applicable to this project will be adhered to. In this regard, we note that the Department of Army has been provided the opportunity to review the proposed action. Coordination will also be carried out with the Noise, Radiation & Indoor Air Quality Branch regarding an application for a noise permit during construction. As required by the Clean Air Branch, Best Management Practices (BMPs) will be carried out to control fugitive dust during construction activities.

Thank you again for your comments. Should you have any questions, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
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DEC 2 4 2007

CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA, Esq.
Director

GREGG KRESGE
Deputy Director

TRACY TAKAMINE, P.E.
Solid Waste Division

DAVID TAYLOR, P.E.
Wastewater Reclamation Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET, SUITE 175
WAILUKU, MAUI, HAWAII 96793

December 19, 2007

Ms. Rowena Dagdag
Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

SUBJECT: PARKS BASEYARD AT DUKE MALIU REGIONAL PARK
DRAFT EA
TMK (2) 5-3-003:012, KAUNAKAKAI, MOLOKAI

Dear Ms. Dagdag,

We reviewed the subject project as a pre-application consultation and have the following comments:

1. Solid Waste Division comments

   a. None.

2. Wastewater Reclamation Division comments:

   a. Although wastewater system capacity is currently available as of 12/6/07, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.
   b. Wastewater contribution calculations are required before building permit is issued.
   c. Developer is not required to pay assessment fees for this area at the current time.
   d. Plans should show the existing single service lateral, advanced riser, and property cleanout/manhole for the property.
   e. Non-contact cooling water and condensate should not drain to the wastewater system.

f. The TMK indicated on the cover letter (no date available), from Rowena Dagdag of Munekiyo & Hiraga, Inc. to Cheryl Okuma of the Department of Environmental Management, is incorrect.

g. The Kaunakakai Wastewater Reclamation Facility has a cumulative allocated capacity of 293,000 gpd. Please make the change on Sheet 36 of the document.

If you have any questions regarding this memorandum, please contact Gregg Kresge at 270-8230.

Sincerely,

Cheryl K. Okuma

Cheryl Okuma, Director

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Cheryl Okuma, Director
Department of Environmental Management
County of Maui
2200 Main Street, Suite 175
Wailuku, Hawaii 96793

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Moloka`i (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Ms. Okuma:

Thank you for your memorandum of December 19, 2007 commenting on the subject project. We wish to provide the following information in response to your comments presented in your memorandum.

1. The applicant confirms wastewater system capacity cannot be ensured until the issuance of the building permit.

2. The applicant confirms wastewater calculations for the proposed project will be carried out by a licensed civil engineer and shall be submitted with the building permit application.

3. The applicant acknowledges that assessment fees for this area are not required at this time.

4. The plans will show the connection details as required.

5. The applicant confirms that non-contact cooling water, condensate, etc. will not drain into the wastewater system.

6. The applicant acknowledges the incorrect TMK number on the cover letter to the agencies regarding concurrent agency review of Draft Environmental Assessment (DEA), Special Management Area (SMA), District Boundary Amendment (DBA) and

Change in Zoning (CIZ) applications. The applicant confirms that the correct TMK is (2) 5-3-003:012 as indicated on the Draft Environmental Assessment. This TMK number will be used on final documents.

7. The applicant acknowledges the correction to the cumulative allocated capacity of the Kaunakakai Wastewater Reclamation Facility. The correction has been made in the Final EA.

Again, thank you for your comments and participation in the Draft EA review.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
Douglas Gomes, Engineering Dynamics, Inc.
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NOV 2 0 2007

POLICE DEPARTMENT
COUNTY OF MAUI

CHARMAINE TAVARES
MAYOR

OUR REFERENCE
tj
YOUR REFERENCE

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

THOMAS M. PHILLIPS
CHIEF OF POLICE

GARY A. YABUTA
DEPUTY CHIEF OF POLICE

November 6, 2007

Ms. Rowena Dagdag, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Ms. Dagdag:

SUBJECT: DEA, SMA, CIZ, and DBA applications for Proposed Parks Baseyard at Duke Maliu Regional Park at TMK 5-2-003:012, Kaunakakai, Molokai, Hawaii (DBA 2007/006) (CIZ 2007/0013)

Thank you for your letter of October 4, 2007, requesting comments on the above subject.

Please refer to a copy of the enclosed memorandum with our comments and/ or recommendations.

Thank you for giving us the opportunity to comment on this project.

Very truly yours,

Assistant Chief Wayne T. Ribao
for: Thomas M. Phillips
Chief of Police

c: Jeffrey Hunt, Planning Department

COPY

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

CONCUR WITH MOLOKAI PERSONNEL
AC Wayne Ritte
11/02/07

VIA : PROPER CHANNELS

FROM : STAFFORD CAPARIDA, COMMUNITY POLICE OFFICER, MOLOKAI DISTRICT

SUBJECT : DRAFT ENVIRONMENTAL IMPACT STATEMENT AND APPLICATION FOR SPECIAL AREA USE PERMIT-MOLOKAI PARKS BASE YARD DUKE MALIU REGIONAL PARK KAUNAKAKAI, MOLOKAI, HAWAII

The following communication is relative to the Draft Environmental Assessment (EA) and Application for Special Management Area Use Permit prepared and submitted by Munekiyo & Hiraga, Inc. on behalf of the County of Maui, Department of Parks and Recreation for the Proposed Molokai Parks Baseyard at Duke Maliu Regional Park.

LOCATION/DESCRIPTION OF PROJECT:

The Molokai Parks and Recreation 5,000 square foot building for maintenance, storage and office facilities project site is located at the Duke Maliu Regional Park, Kamehameha V Highway, Kaunakakai, Hawaii. The subject property is on approximately 13.145-acre parcel along Kamehameha V Highway. This new baseyard facility will provide the island with a centralized maintenance facility for all the Parks Department operations and access to the project will be from Kamehameha V Highway.

Duke Maliu Regional Park lies mauka (north) of Kamehameha V Highway. The proposed maintenance/storage facility will be located east of the soccer field, near the property's northern boundary line. The project site is an unused portion of the park.

The proposed project calls for the construction of an approximately 5,000 square feet pre-engineered building that will have the following service areas:

- Building maintenance and repair shop with a lumber storage room and workshop;
- Maintenance staff area and lunch/meeting room;
- Locker area for maintenance staff;
- Accessible staff restroom;
- Maintenance supervisor's office;
- Two (2) interior storage rooms;
- Irrigation pipes and parts storage room; and
- A covered parking area with six (6) parking stalls and an emergency shower area.

ROADWAYS AND TRAFFIC:

Access to the project will be from Kamehameha V Highway. Parking stalls during sporting events has been a ongoing problem and with the designated "NO PARKING ANYTIME" signs located outside the fenced area of the Duke Maliu Regional Park (Kamehameha V Highway), the parking structure has presented a significant problem due to insufficient number of parking stalls used to accommodate vehicles during a sporting event.

POLICE SERVICES:

The Molokai District is staffed with (2) two patrol officers and (1) Sergeant per (8) eight-hour shifts that service Molokai. The primary beats are divided into two sections covering central-east and central-west of the island. Duke Maliu Regional Park is located less then a quarter of a mile east of the Molokai Police Station, therefore, having a emergency response time between 1-2 minutes.

COMMENT/SUGGESTIONS:

- The Draft (EIS) does not address any type of street/parking lot lighting throughout the Project area. We are concerned with the existing lighting within Duke Maliu Regional Park and are concerned that in the past, problems has occurred that led to Disorderly Conduct, Assaults and Under age Drinking type cases. The park has only two street/parking lot lights located within the existing parking lots that yield inadequate lighting throughout these areas.

- We suggest additional street/parking lot lighting to help deter loitering and trespassing within the Duke Maliu Regional Park's pre and post construction stages of the project.

- We also suggest additional lighting be added to address the parking stalls located on the west near the entrance of the Duke Maliu Regional Park, closest to Kamehameha V Highway.

- The Draft (EIS) does not address any type of gate within the Duke Maliu Regional Park for the proposed Baseyard. We suggest that during after **working hours** and **weekends**, that a gate be placed to deter loitering by vehicles and trespassing near the proposed Baseyard project.

- We suggest that additional parking be reviewed and considered to help alleviate vehicle traffic/congestion during sporting events.

CONCLUSION:

After reviewing the Draft Environmental Assessment (EA) and Application for Special Management Area Use Permit, the above stated Comments/Suggestions has been submitted for your review and consideration.

I RECOMMEND THAT THE SUGGESTIONS BE IMPLEMENTED DURING THE CONSTRUCTION PHASE IN THE INTEREST OF SAFETY.
Sgt. [illegible] 11-5554

Respectfully Submitted,

2253

Stafford CAPARIDA E#2253
Community Police Officer
102307@0900 hours

PARKING AND A WALKING PATH HAD BEEN NOTED IN A PREVIOUS REPORT BY SGT KEITH KAWANO. BOTH SUGGESTIONS WERE FORWARDED TO THE PARKS PLANNING & DEVELOPMENT DIVISION FOR FUTURE PLANNING. OFC STAFFORD CAPARIDA RECOMMENDED ADDITIONAL PARKING AND INCLUDED LIGHTING AND AN ENTRANCE GATE INTO THE PARK. OUR SAFETY CONCERNS SHOULD BE ADDRESSED; HOWEVER IN KEEPING WITHIN THE SCOPE OF THIS DRAFT ENVIRONMENTAL ASSESSMENT AND APPLICATION FOR SPECIAL MANAGEMENT AREA USE PERMIT, OUR RECOMMENDATIONS MOST LIKELY WILL BE FORWARDED TO THE PARKS PLANNING & DEVELOPMENT DIVISION FOR FUTURE CONSIDERATION. SAFETY SHOULD BE A PRIORITY!

[illegible] Lopez, EE63
10/26/07 1740 Hrs

Lighting and a gate should address security issues for the building and equipment. If lighting is not feasible, I recommend a gate be placed at the entrance to the building.

Capt. [illegible] B467
10/30/07 1300 Hrs.

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLIE GINOZA

April 11, 2008

Thomas Phillips, Chief
Maui Police Department
County of Maui
55 Mahalani Street
Wailuku, Hawai`i 96793

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Chief Phillips:

Thank you for your memorandum dated November 6, 2007 providing comments on the subject Draft Environmental Assessment (EA). We wish to provide the following information in response to your comments.

Your comments regarding adequate street/parking lot lighting throughout the project area and the provision of a gate are noted. A copy of your memorandum will be forwarded to the Department of Parks and Recreation (DPR) and the project's architect for their consideration of design factors which include additional street/parking lot lighting and a locked gate to address issues relating to crime prevention and safety when the park is not occupied after working hours and after sporting events. We also acknowledge your comment relating to the provision of additional parking to help alleviate vehicle traffic/congestion during supporting events.

Thank you again for your comments. Should you have any questions, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
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OCT 2 5 2007

CHARMAINE TAVARES
Mayor

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

MICHAEL M. MIYAMOTO
Deputy Director

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

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

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

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

October 19, 2007

Ms. Rowena Dagdag
MUNEKIYO & HIRAGA, INC.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Ms. Dagdag:

SUBJECT: APPLICATION FOR DRAFT ENVIRONMENTAL ASSESSMENT, SPECIAL MANAGEMENT AREA, CHANGE IN ZONING AND DISTRICT BOUNDARY AMENDMENT FOR PROPOSED PARKS BASEYARD AT DUKE MALIU REGIONAL PARK; TMK: (2) 5-3-003:012

We reviewed the subject application and have the following comments:

1. The architect and owner are advised that the project is subject to possible tsunami and flood inundation. As such, said project must conform to Ordinance No. 1145, pertaining to flood hazard districts.

2. A verification shall be provided by a Registered Civil Engineer that the grading and runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties.

3. A detailed and final drainage report and a Best Management Practices (BMP) Plan shall be submitted with the grading plans for review and approval prior to issuance of grading permits. The drainage report shall include hydrologic and hydraulic calculations and the schemes for disposal of runoff waters. It must comply with the provisions of the "Rules and Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The BMP plan shall show the location and details of structural and non-

structural measures to control erosion and sedimentation to the maximum extent practicable.

4. All existing features such as structures, driveways, drainage ways, edge of pavement, etc. shall be shown on the project plat plan.

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

Sincerely,

MILTON M. ARAKAWA, A.I.C.P.
Director of Public Works

MMA:MMM:ls
xc: Highways Division
Engineering Division
S:\LUCA\CZM\Prop_Parks_Baseyard_at_Duke_Maliu_dba_ciz_53003012_ls.wpd

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Milton M. Arakawa, AICP, Director
County of Maui
Department of Public Works
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Arakawa:

Thank you for your memorandum of October 19, 2007 providing us with comments to our request for review of the Draft EA, SMA application, DBA, and CIZ application for the proposed project. We wish to provide the following information in response to your comments in the order presented in your memorandum.

1. The applicant acknowledges your comment with regards to possible tsunami and flood inundation and confirms the project will comply to any permitting requirements pertaining to flood hazard districts.

2. The applicant will provide verification by a Registered Civil Engineer that grading and runoff water generated by the project will not have an adverse impact on the adjacent and downstream properties during the building permit application process.

3. The applicant confirms that a detailed and final drainage report and Best Management Practices (BMP) plan will be submitted with the grading plans for review and approval prior to the issuance of grading permits. The plans will comply with the provisions of the "Rules and Design of Storm Drainage Facilities in the County of Maui".

4. The applicant confirms the project plat plan will show all existing features such as structures, drainage ways, and edge of pavement, as applicable.

Again, thank you for your comments. Should you have any questions or require additional information, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
Douglas Gomes, Engineering Dynamics
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NOV 1 3 2007

CHARMAINE TAVARES
Mayor

JEFFREY K. ENG
Director

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

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

November 1, 2007

Ms. Rowena Dagdag, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

RE: Draft Environmental Assessment (EA), Special Management Area (SMA), Change in Zoning (CIZ), and District Boundary Amendment (DBA) applications for Proposed Parks Baseyard at Duke Maliu Regional Park at TMK 5-2-003:012, Kaunakakai, Molokai, Hawaii, DBA 2007/0006 and CIZ 2007/0013

Dear Ms. Dagdag:

Thank you for the opportunity to comment on these applications.

Source Availability and Consumption
Since our last comments on March 3, 2005, the daily average consumption has gone from 902 gpd (gallons per day) to 703 gpd.

System Infrastructure
Domestic and fire flow calculations have been submitted. The existing 1 ½-inch water meter will meet the demand and fire flow is adequate.

Should you have any questions, please contact our Water Resources and Planning Division at 244-8550.

Sincerely,

FOR Jeffrey K. Eng, Director
ayi
c: DWS Engineering Division

"By Water All Things Find Life"

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Jeffrey Eng, Director
Department of Water Supply
County of Maui
200 South High Street
Wailuku, Hawai`i 96793

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Eng:

Thank you for your letter dated November 1, 2007 providing comments on the proposed park baseyard at Kaunakakai, Moloka`i. We wish to provide the following information in response to your comments presented in your letter.

Your comment relating to the reduction in the daily average consumption from 902 gpd (gallons per day) to 703 gpd is noted and will be reflected in the Final Environmental Assessment (EA). We also acknowledge your comment that the existing 1 1/2-inch water meter will meet the domestic water and fire flow demand for the proposed project.

Thank you once again for your feedback. Should you have any additional comments or require more information regarding the proposed project, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
Douglas Gomes, Engineering Dynamics, Inc.
F:\DATA\HHA\Duke Maliu 1243\dws.drafteares.wpd

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

NOV 0 5 2007

November 1, 2007

Ms. Rowena Dagdag, Planner
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Ms. Dagdag,

Subject: Draft Environmental Assessment (EA), Special Management Area (SMA), Change in Zoning (CIZ), and District Boundary Amendment (DBA) applications for Proposed Parks Baseyard at Duke Maliu Regional Park
Kaunakakai, Molokai, Hawaii
TMK: (2) 5-2-003:012
(DBA 2007/006) (CIZ 2007/0013)

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

We have no objections to the proposed project at this time. In reviewing our records and the information received, we would like to advise that the reference made regarding Molokai Electric Company is presently under the ownership of Maui Electric Company, Limited - Molokai Division (MECO).

MECO may be requiring access and electrical easements for our facilities to serve the subject project. We encourage the customer's electrical consultant to meet with us as soon as practical to verify the project's electrical demand requirements so that any upgrades can be provided on a timely basis.

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

Sincerely,

Neal Shinyama
Manager, Engineering

NS/ro:lh

MUNEKIYO & HIRAGA, INC.

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

MARK ALEXANDER ROY
KYLE GINOZA

April 11, 2008

Neal Shinyama
Manager, Engineering
Maui Electric Company, Ltd.
210 West Kamehameha Avenue
Kahului, Hawai`i 96732

SUBJECT: Draft Environmental Assessment (EA), Special Management Area (SMA) Use Permit Application, State Land Use District Boundary Amendment (DBA), and Change in Zoning (CIZ) Application for the Proposed Park Baseyard at Duke Maliu Regional Park at TMK (2)5-3-003:012, Kaunakakai, Molokai (DBA 2007/006), (CIZ 2007/0013), (SM12007/0010)

Dear Mr. Shinyama:

Thank you for your letter dated November 1, 2007 commenting on the proposed parks baseyard in Kaunakakai, Molokai. We wish to provide the following information in response to your comments in the order presented in your letter.

Your comment regarding reference to the electrical service company as the Molokai Division of Maui Electric Company, Limited has been noted. This correction will be made in the Final Environmental Assessment.

We will be forwarding your letter to the project's architect who will coordinate with your office and the electrical design engineer to verify access and easement requirements, as well as electrical demand and time schedule requirements in preparation for any potential upgrade of electrical service.

Thank you again for your comments. Should you have any questions, please do not hesitate to call me at 244-2015.

Very Truly Yours,

Rowena Dagdag, Planner

RD:lh
cc: Calvin Higuchi, Hiyakumoto + Higuchi Architects, Inc.
Tamara Horcajo, Department of Parks & Recreation
Jeffrey Hunt, Department of Planning
Lyman Morikawa, Morikawa & Associates
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Munekiyo & Hiraga, Inc., Final Environmental Assessment for the Proposed Kaunakakai Fire Station, November 2006.

Munekiyo & Hiraga, Inc., Makena Alanui Improvements, Draft Environmental Assessment, June 2001.

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Wilson Okamoto & Associates, Inc., Final Environmental Assessment for the Proposed Kaunakakai Town Drainage Improvements, January 1995.

APPENDIX A.

Soils Investigation Report

REPORT
SOILS INVESTIGATION

PROPOSED
DUKE MALIU PARK BASEYARD
KAMEHAMEHA V HIGHWAY

KAUNAKAKAI, MOLOKAI, HAWAII
TMK: (2) 5-3-03: 12

for

HIYAKUMOTO HIGUCHI ARCHITECTS, INC.
Architect

Project No. 04777-FM
February 14, 2005

ISLAND GEOTECHNICAL ENGINEERING, INC.
Geotechnical Consultants

222-A Kawaipuna Place
Wailuku, Maui, Hawaii 96793
Phone: (808) 243-9355
Fax: (808) 244-8997

February 14, 2005
Project No. 04777-FM

Hiyakumoto Higuchi Architects, Inc.
1860 Main Street
Wailuku, Hawaii 96793

The attached report presents the results of a soils investigation at the site of the proposed Duke Maliu Park Baseyard to be located in Kaunakakai, Molokai, Hawaii.

A summary of the findings is as follows:

1) The subsurface conditions at the site were explored by excavating 5 test pits to depths of 7.25 to 8.25 feet below existing grade. The general subsurface conditions at each test pit location are as follows:

   Test Pit 1 encountered moderately stiff to very stiff CLAY from the surface to a depth of 3 feet below existing grade followed by soft to very soft CLAY to a depth of 4 feet below existing grade followed by very loose SAND with clay and gravel to a depth of 5 feet below existing grade followed by loose to moderately dense clayey SAND to a depth of 6.5 feet below existing grade followed by loose clayey SAND to the final depth of the test pit at 8.25 feet below existing grade.

   Test Pit 2 encountered moderately stiff to very stiff CLAY from the surface to a depth of 2 feet below existing grade followed by soft CLAY to a depth of 4.5 feet below existing grade followed by loose SAND with clay to a depth of 5.5 feet below existing grade followed by moderately dense clayey SAND to the final depth of the test pit at 7.25 feet below existing grade.

   Test Pit 3 encountered stiff CLAY with sand from the surface to a depth of 0.25 feet below existing grade followed by moderately dense clayey SAND with gravel to a depth of 1.5 feet below existing grade followed by moderately stiff CLAY to a depth of 2 feet below existing grade followed by soft to very soft CLAY to a depth of 5.5 feet below existing grade followed by loose clayey SAND with gravel to a depth of 7 feet below existing grade followed by moderately dense clayey SAND with gravel to the final depth of the test pit at 7.5 feet below existing grade.

   Test Pit 4 encountered moderately stiff to very stiff CLAY from the surface to a

depth of 2.25 feet below existing grade followed by soft to very soft CLAY to a depth of 5 feet below existing grade followed by soft sandy CLAY to a depth of 6 feet below existing grade followed by moderately dense clayey SAND to the final depth of the test pit at 7.5 feet below existing grade.

Test Pit 5 encountered moderately stiff to stiff CLAY with sand from the surface to a depth of 0.5 feet below existing grade followed by moderately stiff to stiff CLAY to a depth of 1 feet below existing grade followed by soft to very soft CLAY to a depth of 4.5 feet below existing grade followed by moderately dense SAND with clay to the final depth of the test pit at 7.5 feet below existing grade.

2) Groundwater was encountered in all of the explorations at depths of 4.5 to 6 feet below existing grade. Excavations into the underlying soils are susceptible to caving, especially at or near the groundwater level. Protection of all excavations shall be provided in accordance with applicable OSHA standards.

3) Spread footings bearing on properly compacted structural fill may be used to support the proposed structures. Allowable bearing capacity is 1,000 pounds per square foot. The bottom of footing elevation should be +7.5 feet msl. See item 4) below.

4) The subsurface soils on this site become soft/loose with increasing depth. In structural areas (and to 3' beyond the edge of the structure), it is recommended that following clearing and grubbing, the existing ground be excavated to elevation +6.0' msl and compacted with a compaction machine weighing not less than 5,000 pounds. Following compaction of the exposed ground at elevation +6.0' msl, place 1 layer of Amoco 2016 geotextile fabric (or equivalent) over the subgrade soil; overlapping pieces of the geotextile fabric shall be lapped a minimum of 24 inches. Following placement of the geotextile fabric, fill the building pad with properly compacted granular structural fill (1.5" minus select borrow or equivalent). The first lift of structural fill shall be placed and compacted in a 12 inch thick compacted lift and compacted to 95% of the maximum dry density (ASTM D 1557). All subsequent lifts of structural fill shall be placed and compacted in 6 inch thick compacted lifts and compacted to 95% of the maximum dry density (ASTM D 1557). Following grading of the building pad up to elevation +8.5' msl with select borrow, the footings can be excavated with the bottom of building footings being at elevation +7.5 feet msl (not more, not less). This embedment depth: A) will insure that all footings are bearing on at least 18 inches of structural fill and B) assumes the finished floor elevation is +9.0 feet msl.

5) The on-site CLAY soil has low to moderate expansion potential. For slab-on-grade

construction, this CLAY soil should be removed to a depth of 12 inches below the bottom of the slab and replaced with properly compacted imported structural fill (select borrow or similar) material. The mass grading operation outlined in item 4) above will result in the select borrow already being in-place. See Plate A for Slab-On-Grade detail.

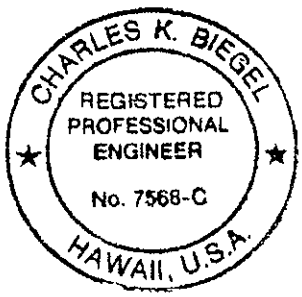
Details of the findings and recommendations are presented in the attached report.

This investigation was made in accordance with generally accepted engineering procedures and included such field and laboratory tests considered necessary for the project. In the opinion of the undersigned, the accompanying report has been substantiated by mathematical data in conformity with generally accepted engineering principles and presents fairly the design information requested by your organization. No other warranty is either expressed or given.

Respectfully submitted,

ISLAND GEOTECHNICAL ENGINEERING, INC.

Charles K. Biegel, P.E.
President



This work was prepared by me
or under my supervision.

TABLE OF CONTENTS

INTRODUCTION

This investigation was made for the purpose of obtaining information on the subsurface conditions from which to base recommendations for foundation design for the proposed Duke Maliu Park Baseyard to be located in Kaunakakai, Molokai, Hawaii. The location of the site, relative to the existing streets and landmarks, is shown on the Vicinity Map, Plate 1.

SCOPE OF WORK

The services included excavating 5 test pits to depths of 7.25 to 8.25 feet, performing 5 dynamic cone penetration test to a depth of 13 feet, obtaining samples of the underlying soils, performing laboratory tests on the samples, and performing an engineering analysis from the data gathered. In general, the following information is provided for use by the Architect and/or Engineer:

1. General subsurface conditions, as disclosed by the explorations.
2. Physical characteristics of the soils encountered.
3. Recommendations for foundation design, including bearing values, embedment depth and estimated settlement.
4. Recommendations for placement of fill and backfill.
5. Special considerations.

PLANNED DEVELOPMENT

From the information provided, the project will consist of constructing a new one-story

maintenance building on the site. Gholkar & Associates states the maximum column loads are on the order of 28,000 pounds and maximum strip footing loads are on the order of 1,000 pounds per lineal foot. Finished floor elevation of the new building will be 9.00 feet.

SITE CONDITIONS

Surface

The property, designated by Tax Map Key (2) 5-3-03: 12, is located at the existing Duke Maliu Regional Park complex in Kaunakakai, Molokai, Hawaii. The ground cover throughout the site consisted of mostly bare soil with scattered shrubs.

The site is relatively flat. From the topographic map by provided, the existing elevation on the site is +8.0 feet.

Subsurface

Five (5) test pits were excavated to depths of 7.25 to 8.25 feet below existing grade to determine the subsurface conditions at the site. The locations of the explorations are shown on the Plot Plan, Plate 2. Detailed logs of the explorations are presented in the Appendix to this report.

Test Pit 1 encountered moderately stiff to very stiff CLAY from the surface to a depth of 3 feet below existing grade followed by soft to very soft CLAY to a depth of 4 feet below

existing grade followed by very loose SAND with clay and gravel to a depth of 5 feet below existing grade followed by loose to moderately dense clayey SAND to a depth of 6.5 feet below existing grade followed by loose clayey SAND to the final depth of the test pit at 8.25 feet below existing grade.

Test Pit 2 encountered moderately stiff to very stiff CLAY from the surface to a depth of 2 feet below existing grade followed by soft CLAY to a depth of 4.5 feet below existing grade followed by loose SAND with clay to a depth of 5.5 feet below existing grade followed by moderately dense clayey SAND to the final depth of the test pit at 7.25 feet below existing grade.

Test Pit 3 encountered stiff CLAY with sand from the surface to a depth of 0.25 feet below existing grade followed by moderately dense clayey SAND with gravel to a depth of 1.5 feet below existing grade followed by moderately stiff CLAY to a depth of 2 feet below existing grade followed by soft to very soft CLAY to a depth of 5.5 feet below existing grade followed by loose clayey SAND with gravel to a depth of 7 feet below existing grade followed by moderately dense clayey SAND with gravel to the final depth of the test pit at 7.5 feet below existing grade.

Test Pit 4 encountered moderately stiff to very stiff CLAY from the surface to a depth of 2.25 feet below existing grade followed by soft to very soft CLAY to a depth of 5 feet below

existing grade followed by soft sandy CLAY to a depth of 6 feet below existing grade followed by moderately dense clayey SAND to the final depth of the test pit at 7.5 feet below existing grade.

Test Pit 5 encountered moderately stiff to stiff CLAY with sand from the surface to a depth of 0.5 feet below existing grade followed by moderately stiff to stiff CLAY to a depth of 1 feet below existing grade followed by soft to very soft CLAY to a depth of 4.5 feet below existing grade followed by moderately dense SAND with clay to the final depth of the test pit at 7.5 feet below existing grade.

Groundwater was encountered in all of the explorations at depths of 4.5 to 6 feet below existing grade.

From the USDA Soil Conservation Service "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii", the site is located in an area designated as Mala silty clay, 0 to 3 percent slopes (MmA). The Mala series consist of well-drained soils on bottoms of drainageways and on alluvial fans on the coastal plains. These soils occur on the islands of Molokai and Lanai. These soils formed in recent alluvium. The shrink-swell potential is moderate (USDA, 1972, Plate 77 and pp. 92-93 & 162-163).

Geology

The site is located on the south/southwesterly flank of the East Molokai Volcanic Dome (Stearns, 1947). The dome was formed during the Tertiary Period (more than 12 million years ago) by pahoehoe and aa basalt flows followed by andesites and trachytes. These flows erupted from rift zones roughly paralleling the existing mountain crest trends.

As the lavas flowed westward, they banked against the older West Molokai Volcanic Dome to generate the Hoolehua Plain saddle between them. The juncture is downfaulted into graben (downdropped blocks of rock bounded by faults).

During the late Tertiary and Pleistocene, valleys like Wailua and Kaunakakai were eroded on the wet windward side. Shallower gulches, like Manawainui and Kalaupeelua developed on the leeward side. Gradual submergence and emergence of the island from changes in sea level resulted in alluviation of valley floors, development of narrow fringing coral reefs and sedimentation of the coastline.

CONCLUSIONS AND RECOMMENDATIONS

General

Based on the findings and observations of this investigation, it is concluded that the proposed structures may be supported on spread footings bearing on properly compacted structural fill.

Special Considerations

1) The subsurface soils on this site become soft/loose with increasing depth. In structural areas (and to 3' beyond the edge of the structure), it is recommended that following clearing and grubbing, the existing ground be excavated to elevation +6.0' msl and compacted with a compaction machine weighing not less than 5,000 pounds. Following compaction of the exposed ground at elevation +6.0' msl, place 1 layer of Amoco 2016 geotextile fabric (or equivalent) over the subgrade soil; overlapping pieces of the geotextile fabric shall be lapped a minimum of 24 inches. Following placement of the geotextile fabric, fill the building pad with properly compacted granular structural fill (1.5" minus select borrow or equivalent). The first lift of structural fill shall be placed and compacted in a 12 inch thick compacted lift and compacted to 95% of the maximum dry density (ASTM D 1557). All subsequent lifts of structural fill shall be placed and compacted in 6 inch thick compacted lifts and compacted to 95% of the maximum dry density (ASTM D 1557). Following grading of the building pad up to elevation +8.5' msl with select borrow, the footings can be excavated with the bottom of building footings being at elevation +7.5 feet msl (not more, not less). This embedment depth: A) will insure that all footings are bearing on at least 18 inches of structural fill and B) assumes the finished floor elevation is +9.0 feet msl.

2) The on-site CLAY soil has low to moderate expansion potential. For slab-on-grade

construction, this CLAY soil should be removed to a depth of 12 inches below the bottom of the slab and replaced with properly compacted imported structural fill (select borrow or similar) material. The mass grading operation outlined in item 4) above will result in the select borrow already being in-place. See Plate A for Slab-On-Grade detail.

3) Groundwater was encountered in all of the explorations at depths of 4.5 to 6 feet below existing grade. Excavations into the underlying soils are susceptible to caving, especially at or near the groundwater level. Protection of all excavations shall be provided in accordance with applicable OSHA standards.

Foundations

An allowable bearing value of 1,000 pounds per square foot may be used for footings bearing on properly compacted structural fill. See Special Considerations section of this report, item 1) for more foundation information. The bottom of footing elevation should be +7.5' msl.

For footings located adjacent to new or existing utility trenches, the bottom of the footing shall be deepened below a 1 horizontal to 1 vertical plane projected upwards from the edge of the utility trench. In light of the fact that this project has a fixed bottom of footing elevation, this office should be contacted to evaluate any footing adjacent to a utility trench.

For footings located on or adjacent to slopes, the footing shall be deepened such that there is a minimum horizontal distance of 5 feet from the edge of the footing to the slope face.

The bearing value is for dead plus live loads and may be increased by one-third for momentary loads due to wind or seismic forces. If any footing is eccentrically loaded, the maximum edge pressure shall not exceed the bearing pressure for permanent or for momentary loads.

All loose and disturbed soil at the bottom of footing excavations shall be removed to firm soil or the disturbed soil shall be compacted prior to laying of steel or placing of concrete. The bottom of all footings should be mechanically compacted to a minimum of 90 percent of the maximum dry density as determined by the ASTM D 1557 test procedure.

Backfill around the perimeter of all foundations should be mechanically compacted to a minimum of 90 percent of the maximum dry density as determined by the ASTM D 1557 test procedure.

Site grading should be designed to prevent ponding of water adjacent to slab and footing areas.

Settlement

Under the fully applied recommended bearing pressure, it is estimated that settlement of footings up to 2 feet continuous or 5.5 feet square bearing on firm on-site soils or properly compacted fill will be less than ½ inch.

Differential settlement between footings will vary according to the size, bearing pressure and bearing material of the footing.

Lateral Resistance

For resistance of lateral loads, such as wind or seismic forces, an allowable passive resistance equivalent to that exerted by a fluid weighing 300 pounds per cubic foot may be used for footings, or other structural elements, provided the vertical surface is in direct contact with undisturbed soil or properly compacted fill.

Frictional resistance between footings and the underlying materials may be assumed as 0.5 times the dead load for the imported granular select borrow soils.

Lateral resistance and friction may be combined.

Retaining Walls

Foundations for retaining walls shall be designed as per the foundation section of this

report.

Depending on the type of backfill material within a 1H:2V plane projected upwards from the bottom edge of the retaining wall footing, the following active earth pressures may be used for design of free-standing retaining walls:

Imported granular soil (1.5" minus, well-graded) as retaining wall backfill material:

Backfill Slope	Horizontal Component	Vertical Component
Level Backfill	30 pcf	0
3H:1V Backfill	35 pcf	10 pcf
2H:1V Backfill	40 pcf	20 pcf

Free-standing walls are defined as walls that are allowed to rotate between 0.005 to 0.01 times the wall height. The rotation of the wall away from the backfill develops "active earth pressures". If the wall is not allowed to move as in the case of basement walls or walls that are restrained at the top, the soil pressure that will develop is known as an "at rest" pressure; for restrained walls, the above active earth pressures shall be increased by 50 percent for "at-rest" conditions.

For granular retaining wall backfill, the top 1 foot of the backfill shall be "capped" with an impervious clay or silt type soil, or capped by an impervious surface such as concrete or asphaltic concrete.

Drainage for the retaining wall backfill shall be accomplished by providing 4-inch diameter weepholes spaced 8-feet on-center (horizontally as well as vertically) or by using a minimum 4-inch diameter perforated PVC footing drain pipe. A 2-foot thick layer of crushed gravel, which is wrapped with geotextile filter fabric, shall be placed above the pipe; the crushed gravel shall be continuous from weephole to weephole, or in the case of a footing drain pipe, laid throughout the full length of the pipe. Geotextile fabric shall be AMOCO 4545 or similar.

The backfill for the retaining wall shall be placed in layers not exceeding 6 inches in compacted thickness. Each layer of retaining wall backfill shall be compacted to at least 90 percent of the maximum dry density (ASTM D 1557). The appropriate size equipment should be used to avoid damage to the retaining wall. Site grading should be designed to drain surface water away from the backfill area.

The above active pressures do not include surcharge loads such as footings located within a 45 degree plane projected upwards from the heel of the footing, fine-grained soil as backfill and/or from hydrostatic pressures. If such conditions occur, the active pressure shall be increased accordingly.

Slabs-on-Grade

Laboratory testing indicates the on-site soils have low to moderate expansion potential

(see Plate 14 for test results). Slab-on-grade construction shall be in accordance with Plate A of this report.

Site grading should be designed to prevent ponding of water adjacent to slab and footing areas.

Slopes

Cut and fill slopes into soil materials shall not exceed 2 horizontal to 1 vertical.

Exposed slopes shall be covered as soon as practical after construction to minimize erosion.

Fill slopes shall be constructed by overfilling and cutting back to compacted soil.

Flexible Pavement Design for the Driveway/Parking Areas

In areas that will be subjected to passenger vehicles and light pick-up trucks, it is recommended that flexible pavements consist of 2 inches of asphalt concrete, 6 inches of base course gravel and 6 inches of compacted subgrade.

In areas that will be subjected to heavier trucks, it is recommended that flexible pavements consist of 2 ½ inches of asphalt concrete, 9 inches of base course gravel and 6 inches of

compacted subgrade.

Prior to placing the base course gravel, the on-site subgrade soil should be moisture conditioned to between 0 and 3 percent above optimum moisture content and compacted to at least 90 percent of the maximum dry density as determined by the ASTM D 1557 test procedure. The base course gravel shall be compacted to at least 95 percent of the maximum dry density as determined by the ASTM D 1557 test procedure.

Rigid Pavement Design for the Driveway/Parking Areas

Concrete pavement sections may consist of a minimum of 5 inches of concrete poured on compacted subgrade. Minimum concrete strength shall be 3,500 psi. Joint spacing shall not exceed 30 times the slab thickness.

Prior to placing the concrete, the on-site subgrade soil should be moisture conditioned to between 0 and 3 percent above optimum moisture content and compacted to at least 90 percent of the maximum dry density as determined by the ASTM D 1557 test procedure.

Site Preparation and Grading

It is recommended that the site be prepared in the following manner:

1. All vegetation, weeds, brush, roots, stumps, rubbish, lumber, debris, soft soil and other deleterious material shall be removed and disposed of off-site. See Special

Considerations section of this report, item 1) for more Site Preparation and Grading information.

2. In areas to receive fill and at finished subgrade in cut areas, the exposed surface shall then be scarified to a depth of 6 inches, moisture conditioned to near optimum moisture and then compacted to at least 90 percent of the maximum dry density (ASTM D1557). If soft or loose spots are encountered, the loose/soft areas shall be removed to firm material and the resulting depression shall be filled with properly compacted fill.

3. Where fill is placed on existing ground that is steeper than 5 horizontal to 1 vertical, the existing ground surface shall be benched into firm soil as the fill is placed.

4. Fill and Backfill in Structural Areas Structural areas shall be defined as A) pavement areas and B) areas beneath buildings & 3 feet beyond the edges of buildings.

Structural fill and backfill material shall consist of soil which is free of organics and debris. The material shall be granular & well-graded with no particle larger than 1.5 inches in greatest dimension. The on-site soils are not acceptable for use as structural fill.

Each layer shall be placed in lifts not exceeding 6 inches in compacted thickness. Prior to compacting the soil, the soils moisture content shall be adjusted to near optimum moisture content. Each layer shall be thoroughly compacted to at least 95 percent of the maximum dry density (ASTM D1557) prior to placing of any subsequent lifts.

5. Fill and Backfill in Non-Structural Areas Non-structural areas shall be defined as A) areas beyond 3 feet from the edge of any building, and B) non-pavement areas.

Non-structural fill and backfill material shall consist of material which is free of organics and debris. In the upper 3 feet from finished grade, the material shall be less than 3 inches in greatest dimension. Below 3 feet from finished grade, the material shall be less than 12 inches in greatest dimension, provided there is sufficient fines to fill the interstices. The on-site soils are acceptable for use as non-structural fill at any depth provided the above gradation requirements are met and the material is free of organics and man made debris.

Each layer shall be placed in lifts not exceeding 12 inches in loose thickness. Prior to compacting the soil, the soils moisture content shall be adjusted to near optimum moisture content. Each layer shall be thoroughly compacted prior to placing of any subsequent lifts to at least 90 percent of the maximum dry density as determined

by the ASTM D 1557 test procedure.

6. During construction, drainage shall be provided to prevent ponding of water adjacent to or on foundation and pavement areas. Ponded areas shall be drained immediately or water pumped out without damaging adjacent structures and property. If water accumulation softens the subgrade materials, the affected soils shall be removed and replaced with properly compacted fill.

It is particularly important to see that all fill and backfill soils are properly compacted in order to maintain the recommended design parameters provided in this report.

ON-SITE OBSERVATION

During the progress of construction, so as to evaluate general compliance with the design concepts, specifications and recommendations contained herein, a representative from this office should be present to observe the following operations:

1. Site preparation.
2. Placement of fill and backfill.
3. Footing excavations and slab subgrade moisture conditioning and compaction.

REMARKS

The conclusions and recommendations contained herein are based on the findings and observations made at the exploration locations. If conditions are encountered during construction which appear to differ from those disclosed by the explorations, this office shall be notified so as to consider the need for modifications.

This report has been prepared for the exclusive use of Hiyakumoto Higuchi Architects, Inc. and their respective design consultants. It shall not be used by or transferred to any other party or to another project without the consent and/or thorough review by this facility. Should the project be delayed beyond the period of one year from the date of this report, the report shall be reviewed relative to possible changed conditions.

Samples obtained in this investigation will deteriorate with time and will be unsuitable for further laboratory tests within one (1) month from the date of this report. Unless otherwise advised, the samples will be discarded at that time.

The following are included and complete this report:

Slab-On-Grade Detail ---------- Plate A

Vicinity Map ---------- Plate 1

Plot Plan ---------- Plate 2

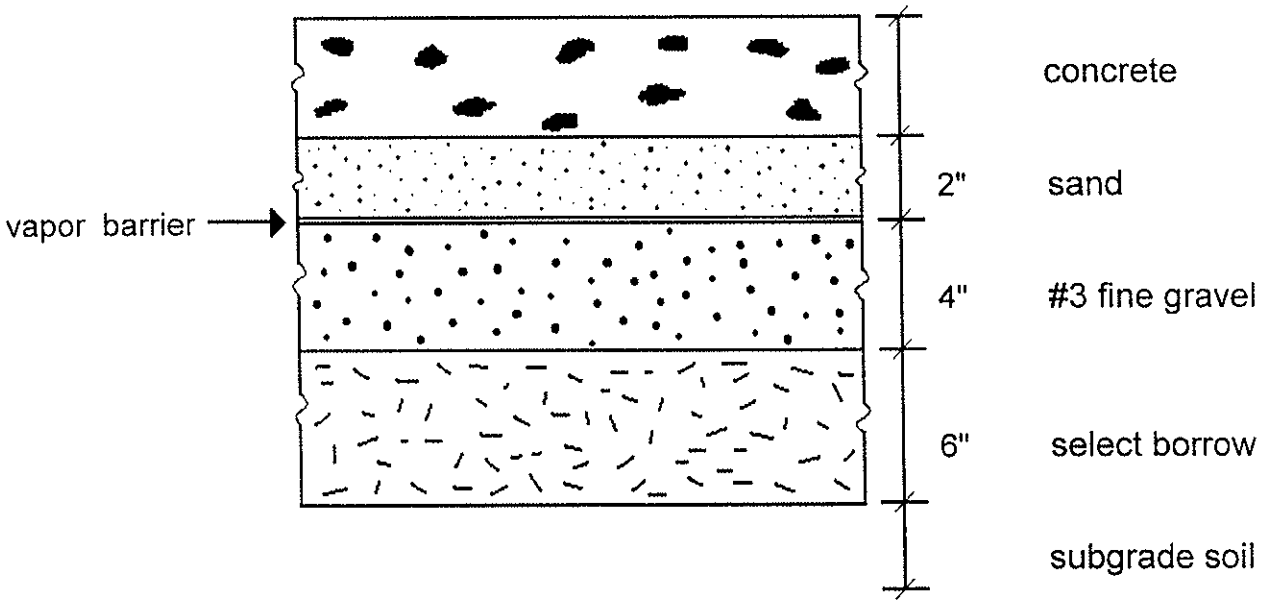
Appendix: Field Investigation and Laboratory Testing

Logs of Test Pits

Logs of Dynamic Cone Penetration Test

Results of Laboratory Tests

SLAB-ON GRADE DETAIL



Notes:

1. The subgrade soil should be moisture conditioned to within 3 percent of optimum moisture content and compacted to a minimum of 95% of the maximum dry density as determined by the ASTM D 1557 test procedure.

2. The select borrow shall be compacted to a minimum of 95% of the maximum dry density as determined by the ASTM D 1557 test procedure.

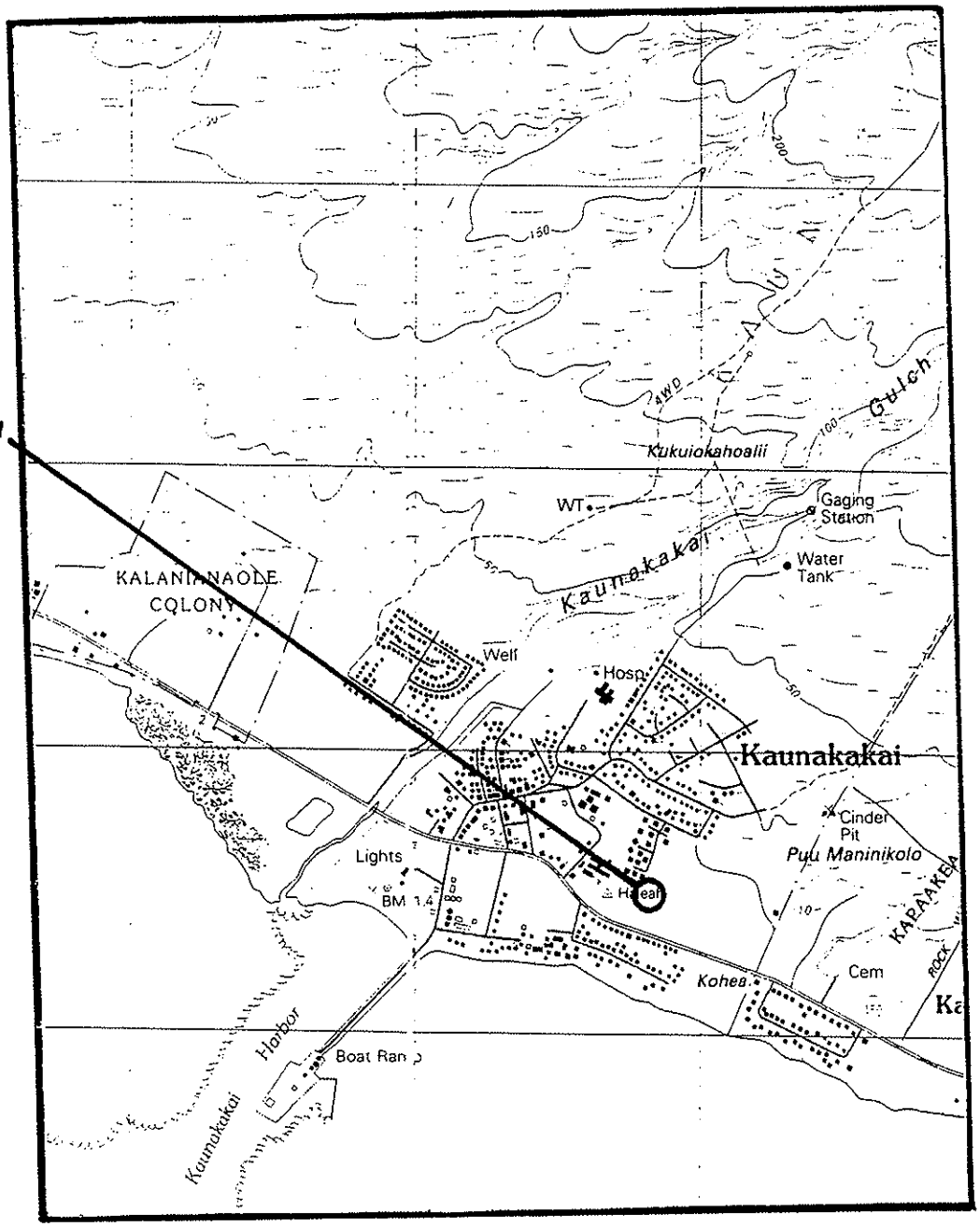
3. The #3 fine gravel shall be compacted by means of a vibratory plate compactor making a minimum of 4 passes.

4. The SAND shown above is for concrete curing purposes and should be moist prior to placement of the concrete. In the event the slab designer eliminates the 2 inches of sand, the select borrow thickness should be increased to 8 inches.

5. The concrete thickness, reinforcing and curing compound recommendations are to be provided by others.

6. Exterior slabs may eliminate the #3 fine gravel, vapor barrier and sand; concrete may be placed on 6 inches of select borrow.

VICINITY MAP



REFERENCE:

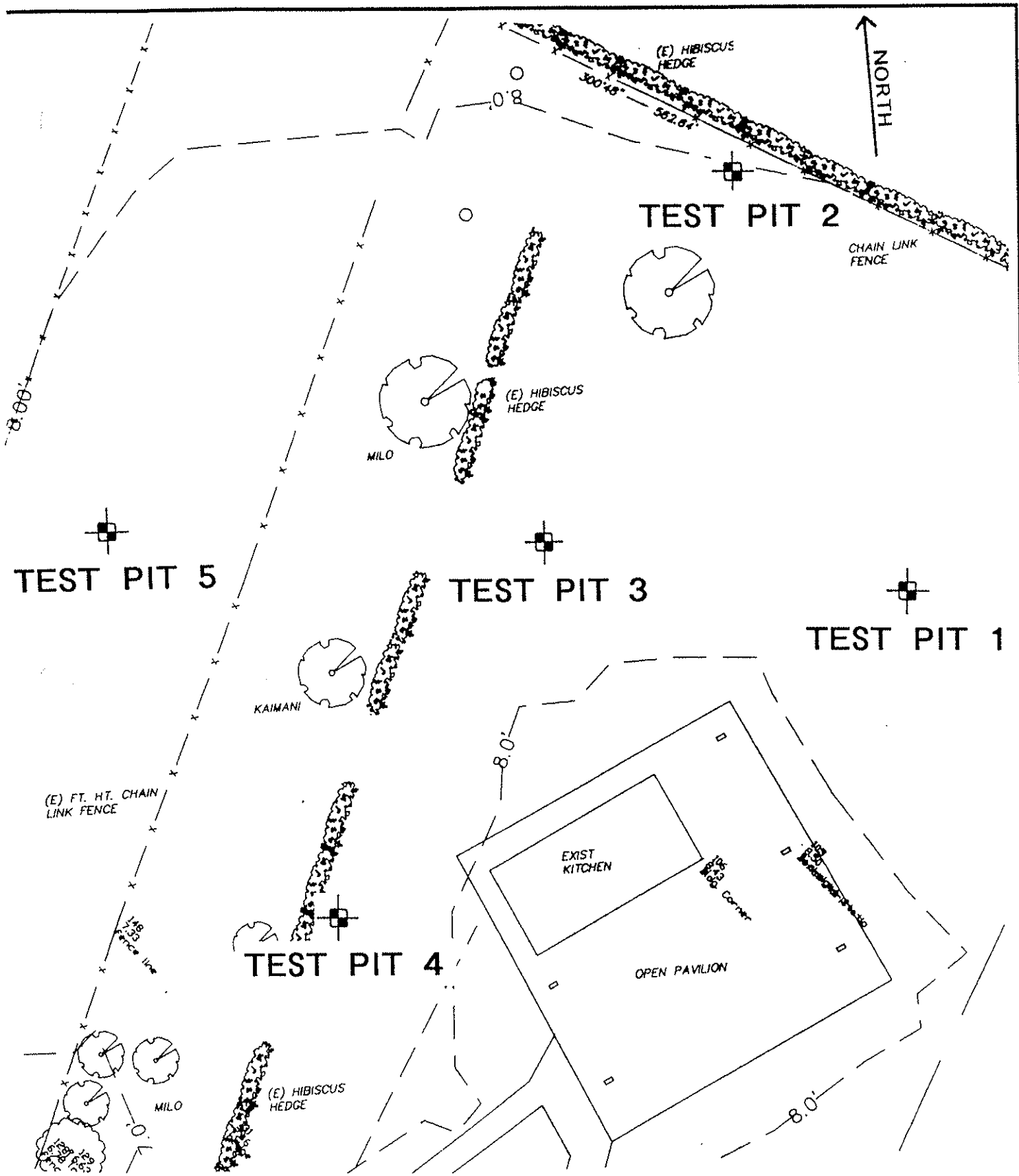
USGS TOPOGRAPHIC MAP
MOLOKAI WEST, HAWAII

Dated: 1983

DUKE MALIU PARK BASEYARD

ISLAND GEOTECHNICAL ENGINEERING, INC.
Geotechnical Consultants

PROJECT NO.	04777-FM
DATE	Jan. 2005
SCALE	1 : 25000
PLATE	1



Plot Plan
Scale: 1" = 20' (±)

Project: DUKE MALIU PARK BASEYARD	Project No.: 04777-FM
ISLAND GEOTECHNICAL ENGINEERING, INC.	PLATE 2

APPENDIX

FIELD INVESTIGATION AND LABORATORY TESTING

FIELD INVESTIGATION

General

The field investigation consisted of performing explorations at the locations shown on the Plot Plan. The method used for the exploratory work is shown on the respective exploration log. A description of the various method or methods used is presented below.

Test Borings Using Truck-Mounted Drilling Equipment

Truck-mounted borings are drilled using a gas-powered drilling rig. The hole is advanced using continuous flight augers, wash boring and/or NX coring.

Auger drilling is used in soils where caving does not occur. The augers are 4-1/2 inch diameter continuous helical flight augers with the lead auger having a head equipped with changeable cutting teeth. Soil cuttings are brought to the surface by the continuous flights. After the bore hole is advanced to the required depth and cleaned of cuttings by additional rotation of the augers, the augers are retracted for soil sampling or in-situ testing.

In soils where caving of the bore hole occurs, the hole is advanced by wash boring or hollow-stem augering. Wash boring consists of advancing steel casing by rotary action and water pressure to flush the soil from the casing. The lead section of the casing is equipped with a carbide or diamond casing bit. After the casing has been advanced to the required depth, soil samples are obtained through the inside of the casing. Hollow-stem drilling consists of advancing the hole with 7-5/8 inch outside diameter and 4-1/4 inch inside diameter augers. The leading drill bit is connected to drilling rods through the central portion of the auger. At the required sampling depth, the interior drill rods and lead bit are removed, and the soil sample is taken by driving a sampler

through the "hollow" section of the augers.

Coring is used for hard formations such as rock, coral or boulders. The core barrel, consisting of a 5-foot long double tube, hardened steel barrel with either a carbide or diamond bit, is attached to drilling rods and set on the hard formation. The core barrel is advanced through the formation by rotation of the core barrel. Water is used to flush out the cuttings. Upon completion of the core run, the sample is removed from the core barrel and inspected. The total core recovery length and the sum of all intact pieces over 4-inch in length are measured. The length of core recovery divided by the length of the core run is the recovery ratio. The combined length of the 4-inch or longer pieces divided by the length of core run is the Rock Quality Designation (RQD). The values provide an indication of the quality of the formation.

Test Borings Using Portable Drilling Equipment

In areas inaccessible to truck-mounted equipment, portable drilling equipment is used to drill the test boring. The boring is advanced by either 1) continuous drive sampling or by 2) using a small gas-powered drill rig with continuous flight augers, wash boring or NX coring.

Soil samples are obtained with a tripod and cathead assembly using soil sampling methods described below.

Test Pits Using Excavators/Backhoes

Test pits are excavated using a excavator or backhoe. Material excavated from the pit and the sides and bottom of the pit are visually inspected and a continuous log of the hole is kept.

Explorations Using Hand Tools

In inaccessible areas requiring only shallow explorations, borings and test pits are made using hand equipment. Borings are drilled using hand augers. Test pits are excavated using hand tools. Cuttings from the boring and/or pit are inspected and visually classified.

Soil Sampling

Relatively undisturbed samples of the underlying soils are obtained from borings by driving a sampling tube into the subsurface material using a 140-pound safety hammer falling from a height of 30 inches. Ring samples are obtained using a 3-inch outside diameter, 2.5 inch inside diameter steel sampling tube with an interior lining of one-inch long, thin brass rings. The tube is driven approximately 18 inches into the soil and a section of the central portion is placed in a close fitting waterproof container in order to retain field conditions until completion of the laboratory tests. Standard Penetration Test (SPT) values and disturbed soil samples are obtained with a 2-inch (outside diameter) split-barrel sampler instead of the 3-inch sampler. The number of blows required to drive the sampler into the ground is recorded at 6-inch intervals. The blow count for the last 12-inches is shown on the boring logs.

From test pit excavations, relatively undisturbed soil samples are obtained by pushing the 3 inch outside diameter sampling tube (mentioned above) into the ground with the backhoe bucket. In addition, undisturbed bulk samples are retained from cohesive type soil formations and disturbed bulk samples are retained from friable and cohesionless soil formations.

The soil samples are visually classified in the field using the Unified Soil Classification System. Samples are packed in moisture proof containers and transported to the laboratory for testing.

Dynamic Cone Penetrometer (DCP)

There are two types of DCP test used in the field. One test is generally used for pavement design and the other test is generally used for foundation design.

The DCP test for pavement design is an in-place test generally performed on the near surface soils. The DCP consist of a steel rod with a steel cone attached to one end which is driven into the soil by means of a sliding hammer. The angle of the cone is 60 degrees. The depth of the cone penetration is recorded at selected penetration or hammer drop intervals. The standard DCP test is designed to penetrate soils to a total depth of 1 meter (39.4 inches), however, extension rods may be used to reach greater depths. The recorded data from the DCP test can be converted to CBR values for use in pavement design.

The DCP test for foundation design (aka Wildcat DCP) is used to evaluate the consistency of the subsurface soils to depths of 25 feet. The test is performed by driving a 1.4 inch diameter (10 square centimeter area) steel cone (cone is connected to 1.1" diameter steel rods) into the ground using a 35 pound slide hammer that is dropped from a height of 15 inches. The number of blows required to drive the steel cone 10 centimeters is recorded and the process is continued until the desired depth is reached.

LABORATORY TESTING

General

Laboratory tests are performed on various soil samples to determine their engineering properties. Description of the various tests are listed below.

Unit Weight and Moisture Content

The in-place moisture content and unit weight of the samples are used to correlate similar soils at various depths. The sample is weighed, the volume determined, and a portion of the sample is placed in the oven. After oven-drying, the sample is again weighed to determine the moisture loss. The data is used to determine the wet-density, dry-density and in-place moisture content.

Direct Shear

Direct shear tests are performed to determine the strength characteristics of the representative soil samples. The test consists of placing the sample into a shear box, applying a normal load and then shearing the sample at a constant rate of strain. The shearing resistance is recorded at various rates of strain. By varying the normal load, the angle of internal friction and cohesion can be determined.

Consolidation Test

Consolidation tests are performed to obtain data from which time rates of consolidation and amounts of settlement may be estimated. The test is performed by placing a specimen in a consolidation apparatus. Loads are applied in increments to the circular face of a one (1) inch high sample. Deformation or changes in thickness of the specimen are recorded at selected time intervals. Water is introduced to or allowed to drain from the sample through porous disks placed against the top and bottom faces of the specimen. The data is then used to plot a stress-volume strain curve which is used in estimating settlement.

Expansion Index Test

Expansion Index of fine-grained soils is determined in accordance with ASTM D 4829-88 test

procedure. The soil specimen is compacted into a metal ring so that the degree of saturation is between 40 and 60 percent. The specimen and the ring are placed in a consolidometer. A vertical confining pressure of 1 psi is applied to the specimen and then the specimen is inundated with water. The deformation of the specimen is recorded for 24 hours. The data is used to determine the expansion potential of the soil.

One-Dimensional Swell Test

Another procedure for determining the expansion potential of fine-grained soils is ASTM D 4546-90 (Method B) test procedure. The soil specimen is compacted into a 2.5 inch diameter (1 inch height) metal ring using a 10 pound hammer. The specimen and the ring are placed in an expansion apparatus. A vertical confining pressure of 155 psf is applied to the specimen and then the specimen is inundated with water. The deformation of the specimen is recorded for 24 hours.

This test is similar in principle to the Expansion Index Test (see above) with the primary difference being the soil specimen in the One-Dimensional Swell Test is usually compacted to a higher dry density than the Expansion Index and, therefore, generally produces a higher degree of expansion.

Classification Tests

The soil samples are classified using the Unified Soil Classification System. Classification tests include sieve and hydrometer analysis to determine grain size distribution, and Atterberg Limits to determine the liquid limit, plastic limit and plasticity index.

California Bearing Ratio Test

California Bearing Ratio (CBR) tests are performed on materials to determine the bearing strength

of the soil for determination of pavement sections. The sample is compacted into a 6-inch diameter mold in 5 equal layers. Each layer is compacted with a 10-pound hammer falling from a height of 18-inches, with each layer receiving 56 blows. The mold is then placed in a water bath for 4-days and the vertical swell is measured under a surcharge weight of 10 pounds. After the soaking period, the sample is placed in a CBR apparatus that has a 3-square inch penetrometer. The penetrometer is pressed vertically into the soil at constant strain and the loads required to press the penetrometer are recorded. A plot of the load-strain relationship is made to determine the CBR value.

Maximum Dry Density/Optimum Moisture Content

The maximum dry density and optimum moisture content of the material is determined in accordance with the ASTM D1557-91 test procedure. The sample is compacted into a mold in 5 equal layers using a 10 pound hammer falling from a height of 18 inches. The diameter of the mold is either 4-inches or 6-inches depending on the proportion of gravel in the sample. The sample is compacted at various moisture contents to develop a compaction curve for the soil. The curve is usually bell-shaped with a peak indicating the maximum dry density and optimum moisture content.

Penetrometer Test

Penetrometer tests are performed on clayey soils to determine the consistency of the material and an approximate value of the unconfined compressive strength.

Torvane

Torvane tests are used to determine the approximate undrained shear strength of clayey soils.

The torvane apparatus consists of a torque device with a small diameter plate that has vanes situated perpendicular to the plate. The vanes are pushed into the soil and torque is applied until failure occurs. The torque required to cause failure is converted to approximate undrained strength of the soil.

LOG OF TEST PIT NO. 1

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: Case 580 C

DEPTH OF TEST PIT (feet): 8.25

DATE EXCAVATED: January 25, 2005

DEPTH OF GROUNDWATER: 5.0 feet

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	CONSISTENCY	MOISTURE	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		CL	CLAY		dark reddish brown	stiff to very stiff	moist		26.3	4.5 1.5			
1.5						mod. stiff	very moist		29.3	2.25			
3					very dark brown	soft to very soft			47.0		45	25	20
4.5		SP-SC	SAND with clay and gravels			very loose							
		SC	clayey SAND		brown	loose to mod. dense	sat.		45.7				
6						loose							
7.5			---water rushing into pit										
			END OF TEST PIT										
9													
10.5													

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PLATE 3

LOG OF TEST PIT NO. 2

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: Case 580 C

DEPTH OF TEST PIT (feet): 7.25

DATE EXCAVATED: January 25, 2005

DEPTH OF GROUNDWATER: 5.0 feet

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	CONSISTENCY	MOISTURE	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		CL	CLAY		dark reddish brown	stiff to very stiff	moist						
1.5						mod. stiff	moist to very moist						
						soft							
3													
4.5							very moist						
		SP-SC	SAND with clay		dark gray	loose							
							sat.						
6		SC	clayey SAND		brownish yellow	mod. dense							
7.5			END OF TEST PIT water rushing into pit										
9													
10.5													

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PLATE 4

LOG OF TEST PIT NO. 3

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: Case 580 C

DEPTH OF TEST PIT (feet): 7.5

DATE EXCAVATED: January 25, 2005

DEPTH OF GROUNDWATER: 5.0 feet

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	CONSISTENCY	MOISTURE	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		CL	CLAY with sand		reddish brown	stiff	moist						
		SC	clayey SAND with gravel		dark reddish brown	mod. dense			14.2				
1.5		CL	CLAY			mod. stiff	moist to very moist			1.25			
						soft to very soft							
3													
4.5							sat.						
		SC	clayey SAND with gravel		dark gray	loose			57.7				
6													
						mod. dense							
7.5			END OF TEST PIT water rushing into pit			loose							
9													
10.5													

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PLATE 5

LOG OF TEST PIT NO. 4

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: Case 580 C

DEPTH OF TEST PIT (feet): 7.5

DATE EXCAVATED: January 25, 2005

DEPTH OF GROUNDWATER: 6.0 feet

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	CONSISTENCY	MOISTURE	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		CL	CLAY		dark reddish brown	mod. stiff to very stiff	moist						
1.5		CL	CLAY with gravel (3" size angular gravels)							2.5			
		CL	CLAY			soft			28.9				
3						very soft				0.0			
							moist to very moist			0.0			
						soft				0.5			
4.5		CL	sandy CLAY				very moist		38.6				
6		SC	clayey SAND ---water rushing into pit		gray	mod. dense	sat.						
7.5			END OF TEST PIT										
9													
10.5													

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PLATE 6

LOG OF TEST PIT NO. 5

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: Case 580 C

DEPTH OF TEST PIT (feet): 7.5

DATE EXCAVATED: January 25, 2005

DEPTH OF GROUNDWATER: 4.5 feet

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	CONSISTENCY	MOISTURE	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		CL	CLAY with sand		dark reddish brown	mod. stiff to stiff	moist			2.0			
		CL	CLAY			soft	moist to very moist			0.5			
1.5										0.5			
			---Specific Gravity = 2.94							0.5			
						very soft			38.3	0.0			
3							very moist			0.0			
4.5		SP-SC	SAND with clay		dark gray	mod. dense	sat.						
6			---water rushing into pit										
7.5			END OF TEST PIT						40.3				
9													
10.5													

PROJECT NAME: DUKE MALIU PARK BASEYARD

PROJECT NO.: 04777-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

Geotechnical Consultants

PLATE 7

WILDCAT DYNAMIC CONE LOG

Island Geotechnical Engineering, Inc.
222-A Kawaipuna Place
W[illegible]ku, Maui, Hawaii 96793

PROJECT NUMBER: 04777-FM
DATE STARTED: 01-13-2005
DATE COMPLETED: 01-13-2005

HOLE #: DCP at Test Pit 1
CREW: JC/MD
PROJECT: DUKE MALIU PARK BASEYARD
ADDRESS: Kamehameha Highway
LOCATION: Kaunakakai, Molokai, Hawaii

SURFACE ELEVATION: see Plate 2
WATER ON COMPLETION: see Test Pit Log
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY SAND & SILT	TESTED CONSISTENCY CLAY
	9	40.0	••••••••••	11	MEDIUM DENSE	STIFF
	29	128.8	••••••••••••••••••••••••••••••••••	-	DENSE	HARD
1 ft	15	66.6	••••••••••••••••••	19	MEDIUM DENSE	VERY STIFF
	14	62.2	••••••••••••••••••	17	MEDIUM DENSE	VERY STIFF
	7	31.1	•••••••••	8	LOOSE	MEDIUM STIFF
2 ft	7	31.1	•••••••••	8	LOOSE	MEDIUM STIFF
	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
3 ft	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
1 m	2	8.9	••	2	VERY LOOSE	SOFT
	2	7.7	••	2	VERY LOOSE	SOFT
4 ft	1	3.9	•	1	VERY LOOSE	VERY SOFT
	1	3.9	•	1	VERY LOOSE	VERY SOFT
	4	15.4	••••	4	VERY LOOSE	SOFT
5 ft	8	30.9	••••••••	8	LOOSE	MEDIUM STIFF
	9	34.7	•••••••••••	9	LOOSE	STIFF
	13	50.2	••••••••••••••	14	MEDIUM DENSE	STIFF
6 ft	22	84.9	••••••••••••••••••••••••	24	MEDIUM DENSE	VERY STIFF
	16	61.8	••••••••••••••••••	17	MEDIUM DENSE	VERY STIFF
2 m	10	38.6	••••••••••••	11	MEDIUM DENSE	STIFF
7 ft	7	23.9	•••••••	6	LOOSE	MEDIUM STIFF
	5	17.1	••••	4	VERY LOOSE	SOFT
	6	20.5	•••••	5	LOOSE	MEDIUM STIFF
8 ft	9	30.8	••••••••	8	LOOSE	MEDIUM STIFF
	7	23.9	•••••••	6	LOOSE	MEDIUM STIFF
	7	23.9	•••••••	6	LOOSE	MEDIUM STIFF
9 ft	7	23.9	•••••••	6	LOOSE	MEDIUM STIFF
	6	20.5	•••••	5	LOOSE	MEDIUM STIFF
	6	20.5	•••••	5	LOOSE	MEDIUM STIFF
3 m 10 ft	5	17.1	••••	4	VERY LOOSE	SOFT
	6	18.4	•••••	5	LOOSE	MEDIUM STIFF
	6	18.4	•••••	5	LOOSE	MEDIUM STIFF
	7	21.4	•••••••	6	LOOSE	MEDIUM STIFF
11 ft	4	12.2	•••	3	VERY LOOSE	SOFT
	2	6.1	•	1	VERY LOOSE	VERY SOFT
	2	6.1	•	1	VERY LOOSE	VERY SOFT
12 ft	2	6.1	•	1	VERY LOOSE	VERY SOFT
	2	6.1	•	1	VERY LOOSE	VERY SOFT
	3	9.2	••	2	VERY LOOSE	SOFT
4 m 13 ft	9	27.5	•••••••	7	LOOSE	MEDIUM STIFF

WILDCAT.XLS

Plate 8

WILDCAT DYNAMIC CONE LOG

Island Geotechnical Engineering, Inc.
222-A Kawaipuna Place
W[illegible]u, Maui, Hawaii 96793

PROJECT NUMBER: 04777-FM
DATE STARTED: 01-13-2005
DATE COMPLETED: 01-13-2005

HOLE #: DCP at Test Pit 2
CREW: JC/MD
PROJECT: DUKE MALIU PARK BASEYARD
ADDRESS: Kamehameha Highway
LOCATION: Kaunakakai, Molokai, Hawaii

SURFACE ELEVATION: see Plate 2
WATER ON COMPLETION: see Test Pit Log
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY SAND & SILT	TESTED CONSISTENCY CLAY
-	13	57.7	•••••••••••••••	16	MEDIUM DENSE	VERY STIFF
-	16	71.0	••••••••••••••••••	20	MEDIUM DENSE	VERY STIFF
- 1 ft	15	66.6	•••••••••••••••••	19	MEDIUM DENSE	VERY STIFF
-	8	35.5	•••••••••	10	LOOSE	STIFF
-	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
- 2 ft	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
-	2	8.9	••	2	VERY LOOSE	SOFT
-	2	8.9	••	2	VERY LOOSE	SOFT
- 3 ft	2	8.9	••	2	VERY LOOSE	SOFT
- 1 m	2	8.9	••	2	VERY LOOSE	SOFT
-	2	7.7	••	2	VERY LOOSE	SOFT
- 4 ft	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
-	4	15.4	••••	4	VERY LOOSE	SOFT
-	4	15.4	••••	4	VERY LOOSE	SOFT
- 5 ft	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
-	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
-	11	42.5	•••••••••••	12	MEDIUM DENSE	STIFF
- 6 ft	24	92.6	•••••••••••••••••••••••••	-	MEDIUM DENSE	VERY STIFF
-	29	111.9	•••••••••••••••••••••••••••••	-	DENSE	HARD
- 2 m	25	96.5	•••••••••••••••••••••••••	-	MEDIUM DENSE	VERY STIFF
- 7 ft	26	88.9	••••••••••••••••••••••••	25	MEDIUM DENSE	VERY STIFF
-	20	68.4	••••••••••••••••••	19	MEDIUM DENSE	VERY STIFF
-	12	41.0	•••••••••••	11	MEDIUM DENSE	STIFF
- 8 ft	11	37.6	•••••••••••	10	LOOSE	STIFF
-	7	23.9	••••••	6	LOOSE	MEDIUM STIFF
-	7	23.9	••••••	6	LOOSE	MEDIUM STIFF
- 9 ft	9	30.8	•••••••••	8	LOOSE	MEDIUM STIFF
-	8	27.4	••••••••	7	LOOSE	MEDIUM STIFF
-	7	23.9	••••••	6	LOOSE	MEDIUM STIFF
- 3 m 10 ft	6	20.5	•••••	5	LOOSE	MEDIUM STIFF
-	8	24.5	••••••••	6	LOOSE	MEDIUM STIFF
-	7	21.4	•••••••	6	LOOSE	MEDIUM STIFF
-	5	15.3	••••	4	VERY LOOSE	SOFT
- 11 ft	6	18.4	•••••	5	LOOSE	MEDIUM STIFF
-	3	9.2	••	2	VERY LOOSE	SOFT
-	2	6.1	•	1	VERY LOOSE	VERY SOFT
- 12 ft	4	12.2	•••	3	VERY LOOSE	SOFT
-	4	12.2	•••	3	VERY LOOSE	SOFT
-	3	9.2	••	2	VERY LOOSE	SOFT
- 4 m 13 ft	2	6.1	•	1	VERY LOOSE	VERY SOFT

WILDCAT.XLS

WILDCAT DYNAMIC CONE LOG

Island Geotechnical Engineering, Inc.
222-A Kawaipuna Place
W[illegible]u, Maui, Hawaii 96793

PROJECT NUMBER: 04777-FM
DATE STARTED: 01-13-2005
DATE COMPLETED: 01-13-2005

HOLE #: DCP at Test Pit 3
CREW: JC/MD
PROJECT: DUKE MALIU PARK BASEYARD
ADDRESS: Kamehameha Highway
LOCATION: Kaunakakai, Molokai, Hawaii

SURFACE ELEVATION: see Plate 2
WATER ON COMPLETION: see Test Pit Log
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY SAND & SILT	TESTED CONSISTENCY CLAY
-	12	53.3	••••••••••••••	15	MEDIUM DENSE	STIFF
-	22	97.7	••••••••••••••••••••••••••••	-	MEDIUM DENSE	VERY STIFF
- 1 ft	15	66.6	••••••••••••••••••	19	MEDIUM DENSE	VERY STIFF
-	12	53.3	••••••••••••••	15	MEDIUM DENSE	STIFF
-	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
- 2 ft	3	13.3	•••	3	VERY LOOSE	SOFT
-	2	8.9	••	2	VERY LOOSE	SOFT
-	1	4.4	•	1	VERY LOOSE	VERY SOFT
- 3 ft	2	8.9	••	2	VERY LOOSE	SOFT
- 1 m	2	8.9	••	2	VERY LOOSE	SOFT
-	3	11.6	•••	3	VERY LOOSE	SOFT
- 4 ft	1	3.9	•	1	VERY LOOSE	VERY SOFT
-	3	11.6	•••	3	VERY LOOSE	SOFT
-	3	11.6	•••	3	VERY LOOSE	SOFT
- 5 ft	1	3.9	•	1	VERY LOOSE	VERY SOFT
-	4	15.4	••••	4	VERY LOOSE	SOFT
-	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
- 6 ft	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
-	4	15.4	••••	4	VERY LOOSE	SOFT
- 2 m	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
- 7 ft	14	47.9	••••••••••••••	13	MEDIUM DENSE	STIFF
-	14	47.9	••••••••••••••	13	MEDIUM DENSE	STIFF
-	11	37.6	•••••••••••	10	LOOSE	STIFF
- 8 ft	7	23.9	•••••••	6	LOOSE	MEDIUM STIFF
-	4	13.7	•••	3	VERY LOOSE	SOFT
-	5	17.1	••••	4	VERY LOOSE	SOFT
- 9 ft	6	20.5	•••••	5	LOOSE	MEDIUM STIFF
-	6	20.5	•••••	5	LOOSE	MEDIUM STIFF
-	8	27.4	••••••••	7	LOOSE	MEDIUM STIFF
- 3 m 10 ft	10	34.2	•••••••••	9	LOOSE	STIFF
-	7	21.4	•••••••	6	LOOSE	MEDIUM STIFF
-	6	18.4	•••••	5	LOOSE	MEDIUM STIFF
-	5	15.3	••••	4	VERY LOOSE	SOFT
- 11 ft	4	12.2	•••	3	VERY LOOSE	SOFT
-	4	12.2	•••	3	VERY LOOSE	SOFT
-	4	12.2	•••	3	VERY LOOSE	SOFT
- 12 ft	4	12.2	•••	3	VERY LOOSE	SOFT
-	2	6.1	•	1	VERY LOOSE	VERY SOFT
-	3	9.2	••	2	VERY LOOSE	SOFT
- 4 m 13 ft	3	9.2	••	2	VERY LOOSE	SOFT

WILDCAT XLS

Plate 10

WILDCAT DYNAMIC CONE LOG

Island Geotechnical Engineering, Inc.
222-A Kawaipuna Place
W[illegible]u, Maui, Hawaii 96793

PROJECT NUMBER: 04777-FM
DATE STARTED: 01-13-2005
DATE COMPLETED: 01-13-2005

HOLE #: DCP at Test Pit 4
CREW: JC/MD
PROJECT: DUKE MALIU PARK BASEYARD
ADDRESS: Kamehameha Highway
LOCATION: Kaunakakai, Molokai, Hawaii

SURFACE ELEVATION: see Plate 2
WATER ON COMPLETION: see Test Pit Log
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY SAND & SILT	TESTED CONSISTENCY CLAY
-	9	40.0	••••••••••	11	MEDIUM DENSE	STIFF
-	7	31.1	•••••••••	8	LOOSE	MEDIUM STIFF
- 1 ft	7	31.1	•••••••••	8	LOOSE	MEDIUM STIFF
-	18	79.9	••••••••••••••••••••••	22	MEDIUM DENSE	VERY STIFF
-	21	93.2	••••••••••••••••••••••••••	-	MEDIUM DENSE	VERY STIFF
- 2 ft	16	71.0	••••••••••••••••••••	20	MEDIUM DENSE	VERY STIFF
-	12	53.3	••••••••••••••	15	MEDIUM DENSE	STIFF
-	7	31.1	•••••••••	8	LOOSE	MEDIUM STIFF
- 3 ft	6	26.6	•••••••	7	LOOSE	MEDIUM STIFF
- 1 m	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
-	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
- 4 ft	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
-	5	19.3	•••••	5	LOOSE	MEDIUM STIFF
-	4	15.4	••••	4	VERY LOOSE	SOFT
- 5 ft	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
-	9	34.7	••••••••••	9	LOOSE	STIFF
-	9	34.7	••••••••••	9	LOOSE	STIFF
- 6 ft	6	23.2	••••••	6	LOOSE	MEDIUM STIFF
-	12	46.3	••••••••••••	13	MEDIUM DENSE	STIFF
- 2 m	15	57.9	••••••••••••••	16	MEDIUM DENSE	VERY STIFF
- 7 ft	21	71.8	••••••••••••••••••••	20	MEDIUM DENSE	VERY STIFF
-	14	47.9	••••••••••••••	13	MEDIUM DENSE	STIFF
-	12	41.0	••••••••••••	11	MEDIUM DENSE	STIFF
- 8 ft	10	34.2	•••••••••	9	LOOSE	STIFF
-	8	27.4	•••••••	7	LOOSE	MEDIUM STIFF
-	8	27.4	•••••••	7	LOOSE	MEDIUM STIFF
- 9 ft	8	27.4	•••••••	7	LOOSE	MEDIUM STIFF
-	15	51.3	••••••••••••••	14	MEDIUM DENSE	STIFF
-	15	51.3	••••••••••••••	14	MEDIUM DENSE	STIFF
- 3 m 10 ft	9	30.8	•••••••••	8	LOOSE	MEDIUM STIFF
-	8	24.5	•••••••	6	LOOSE	MEDIUM STIFF
-	12	36.7	••••••••••	10	LOOSE	STIFF
-	9	27.5	•••••••	7	LOOSE	MEDIUM STIFF
- 11 ft	9	27.5	•••••••	7	LOOSE	MEDIUM STIFF
-	9	27.5	•••••••	7	LOOSE	MEDIUM STIFF
-	6	18.4	•••••	5	LOOSE	MEDIUM STIFF
- 12 ft	5	15.3	••••	4	VERY LOOSE	SOFT
-	6	18.4	•••••	5	LOOSE	MEDIUM STIFF
-	4	12.2	•••	3	VERY LOOSE	SOFT
- 4 m 13 ft	4	12.2	•••	3	VERY LOOSE	SOFT

WILDCAT.XLS

WILDCAT DYNAMIC CONE LOG

Island Geotechnical Engineering, Inc.
222-A Kawaipuna Place
Wa[illegible], Maui, Hawaii 96793

PROJECT NUMBER: 04777-FM
DATE STARTED: 01-13-2005
DATE COMPLETED: 01-13-2005

HOLE #: DCP at Test Pit 5
CREW: JC/MD
PROJECT: DUKE MALIU PARK BASEYARD
ADDRESS: Kamehameha Highway
LOCATION: Kaunakakai, Molokai, Hawaii

SURFACE ELEVATION: see Plate 2
WATER ON COMPLETION: see Test Pit Log
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY SAND & SILT	TESTED CONSISTENCY CLAY
-	11	48.8	••••••••••••••	13	MEDIUM DENSE	STIFF
-	9	40.0	••••••••••••	11	MEDIUM DENSE	STIFF
- 1 ft	6	26.6	••••••••	7	LOOSE	MEDIUM STIFF
-	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
-	3	13.3	•••	3	VERY LOOSE	SOFT
- 2 ft	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
-	7	31.1	•••••••••	8	LOOSE	MEDIUM STIFF
-	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
- 3 ft	2	8.9	••	2	VERY LOOSE	SOFT
- 1 m	1	4.4	•	1	VERY LOOSE	VERY SOFT
-	2	7.7	••	2	VERY LOOSE	SOFT
- 4 ft	7	27.0	•••••••	7	LOOSE	MEDIUM STIFF
-	11	42.5	•••••••••••	12	MEDIUM DENSE	STIFF
-	13	50.2	••••••••••••••	14	MEDIUM DENSE	STIFF
- 5 ft	14	54.0	••••••••••••••	15	MEDIUM DENSE	STIFF
-	19	73.3	••••••••••••••••••••	20	MEDIUM DENSE	VERY STIFF
-	12	46.3	•••••••••••••	13	MEDIUM DENSE	STIFF
- 6 ft	19	73.3	••••••••••••••••••••	20	MEDIUM DENSE	VERY STIFF
-	21	81.1	••••••••••••••••••••••	23	MEDIUM DENSE	VERY STIFF
- 2 m	18	69.5	•••••••••••••••••••	19	MEDIUM DENSE	VERY STIFF
- 7 ft	18	61.6	•••••••••••••••••	17	MEDIUM DENSE	VERY STIFF
-	16	54.7	••••••••••••••••	15	MEDIUM DENSE	STIFF
-	12	41.0	••••••••••••	11	MEDIUM DENSE	STIFF
- 8 ft	11	37.6	•••••••••••	10	LOOSE	STIFF
-	9	30.8	••••••••	8	LOOSE	MEDIUM STIFF
-	8	27.4	•••••••	7	LOOSE	MEDIUM STIFF
- 9 ft	9	30.8	••••••••	8	LOOSE	MEDIUM STIFF
-	7	23.9	•••••••	6	LOOSE	MEDIUM STIFF
-	16	54.7	••••••••••••••••	15	MEDIUM DENSE	STIFF
- 3 m 10 ft	11	37.6	•••••••••••	10	LOOSE	STIFF
-	12	36.7	•••••••••••	10	LOOSE	STIFF
-	17	52.0	••••••••••••••••	14	MEDIUM DENSE	STIFF
-	12	36.7	•••••••••••	10	LOOSE	STIFF
- 11 ft	9	27.5	•••••••	7	LOOSE	MEDIUM STIFF
-	10	30.6	••••••••	8	LOOSE	MEDIUM STIFF
-	5	15.3	••••	4	VERY LOOSE	SOFT
- 12 ft	3	9.2	••	2	VERY LOOSE	SOFT
-	3	9.2	••	2	VERY LOOSE	SOFT
-	3	9.2	••	2	VERY LOOSE	SOFT
- 4 m 13 ft	3	9.2	••	2	VERY LOOSE	SOFT

WILDCAT.XLS

APPENDIX B.

State Historic Preservation Division Letter Dated November 21, 2005

LINDA LINGLE
GOVERNOR OF HAWAII

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

HAWAI'I HISTORIC PRESERVATION DIVISION REVIEW

Log #: 2005.2516
Doc #: 0511NM45

Applicant/Agency: Calvin S. Huguchi, Architect
For: County of Maui, Department of Parks and Recreattion

Fax: 808-242-2898

Address: 2145 Wells Street, Suite 403
Wailuku, HI 96793

SUBJECT: Chapter 6E-42 Historic Preservation Review – DEA Molokai Parks Baseyard at Duke Mallu Regional Park

Ahupua`a: Kaunakakai
District, Island: Kawela, Molokai
TMK: (2) 5-3-03: 12

1. We believe there are no historic properties present, because:
__a) intensive cultivation has altered the land
__b) residential development/urbanization has altered the land
__✓__ c) previous grubbing/grading has altered the land
__d) an acceptable archaeological assessment or inventory survey found no historic properties
__e) other:

2. This project has already gone through the historic preservation review process, and mitigation has been completed__.

__✓__ Thus, we believe that "no historic properties will be affected" by this undertaking

Staff: Nancy McMahon Date: 11/21/05

Title: Archaeologist for Kaua'i

APPENDIX C.

Domestic and Fire Flow Requirements

DOMESTIC & FIRE FLOW REQUIREMENTS

for

The County of Maui Department of Parks and Recreation

MOLOKAI PARKS BASE YARD

at

DUKE MALIU REGIONAL PARK

at

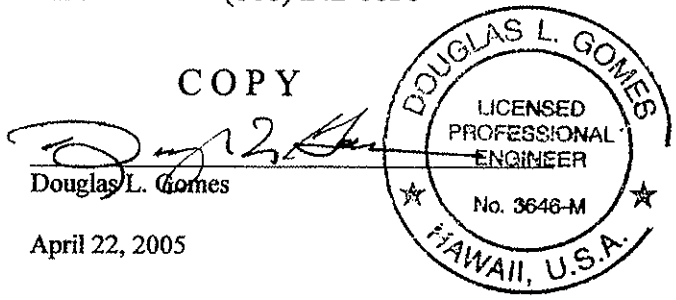
TMK: 2ND 5-3-03: 12

Molokai, Hawaii, Hawaii

Prepared by:

Engineering Dynamics Corp.
66 Wailani Street.
Wailuku, Maui, Hawaii
Phone: (808) 242-1644
Fax: (808) 242-0838

COPY



Douglas L. Gomes

April 22, 2005

This report is an "instrument of service" and is part of an integrated process of technical design. Use outside this process is inappropriate and transfer of its observations, conclusions, or methodology to any other work may have serious consequences. Definitions used have only the meanings in the context employed.

DOMESTIC FLOW CALCULATIONS

Fixtures	*No. of Fixtures*	*FU/fixture*		*FU*
Existing Fixtures (Public)				
Water Closet (Valve)	5	5.6		28.0
Lavatory	2	1.2		2.4
Urinals	1	2.8		2.8
Hand Sink	1	3.2		3.2
3-comp Sink	1	3.2		3.2
Mop Sink	1	3.2		3.2
Drinking Fountain	1	5.0		35.0
			Subtotal	77.8
New Fixture (Public)				
Water Closet (Tank)	1	2.8		2.8
Lavatory	1	1.2		1.2
Hand Sink	1	3.2		3.2
Shower	1	3.2		3.2
Drinking Fountain	1	2.0		2.0
			Subtotal	*12.4*
			Total FU	***90.2***

Demand Per Hunter Curve: 65.0 gpm
Irrigation: 0.0 gpm (use of brackish water for irrigation)
Total Demand: 65.0 gpm

Requirements: 1-1/2" Water Meter (100 gpm)

Existing Water Meter Size: 1-1/2" Water Meter
Existing Water Meter Number: #95374422
Existing Account Number: #1013100-1020066

Existing Water Meter will meet the demand.

FIRE FLOW REQUIREMENTS

Description: The project consist of a single story base yard, workshop building. This facility will be pre-engineered, rigid framed building with concrete flooring, metal walls and metal roof.

Ref: Fire Suppression Rate Schedule
Insurance Services Office, 1980

Ci	=	$18F (Ai)^{0.5}$
Ai	=	3,250 sq. ft.
F	=	1.0 (Class 2 - Joisted Masonry)
Ci	=	$18 \times 1.0 \times (3,250)^{0.5}$
	=	1,026 gpm round to nearest 250 gpm
Use		1,000 gpm

Occupancy Factor: Oi = 1.0 (Combustible)

Exposure Factor: Xi = 0.0

Direction	Distance	Length/Height	Class	Factor
North	>100'	-	-	0.00
East	>100'	-	-	0.00
South	>100'	-	-	0.00
West	>20'	29' X 1	2	0.11
			Total	0.11

WSR Factor: 0.0 - metal roof

Needed Fire flow $1,000 \times 1.00 \times 1.11 \times 1.0 = 1,110$ gpm round to nearest 250 gpm

Use 1,000 gpm

ENGINEERING DYNAMICS CORP.
CIVIL AND MECHANICAL ENGINEERING SERVICES

April 22, 2005

Department of Public Works and Waste Management
County of Maui
200 South High Street
Wailuku, HI 96793

Attn: Mr. Scott Rollins

Ref: County of Maui, Molokai Parks Base Yard
Located at Duke Maliu Regional Park
TMK: (2) 5-3-03: 12 Kaunakakai, Molokai, Hawaii

The proposed project will consist of warehouse, office space. This 3250 sq. ft. space will serve as an office, staff meeting area, lockers, storage and maintenance shop. The general office hours will be from 7am to 4:30 pm. The office space will have one (1) restroom available for employees only. The sewage flow estimate is as follows.

Estimated Sewage Flow:

20 employees	@	20 gpd	=	400 gpd
		Total	=	400 gpd

Sincerely,

DOUGLAS L. GOMES
LICENSED PROFESSIONAL ENGINEER
No. 3646-M
HAWAII, U.S.A.

Douglas L. Gomes,
Principal

Maui • 66 Wailani Street • Wailuku, HI 96793 • Phone: (808) 242-1644 • Fax: (808) 242-0838
Oahu • 126 Queen Street, Suite 307A • Honolulu, HI 96813 • Phone: (808) 523-6020 • Fax: (808) 523-6022

VIII. LIST OF REFERENCES (not included in this report)

County of Maui – General Plan 1990

Maui County Data Book 2003, September, 2003, County of Maui, Office of Economic Development.

Molokai Community Plan 2001

IX. PROJECT DIRECTORY

Agency:

Department of Parks & Recreation, County of Maui
Planning & Development Division
Attn: Anthony Medeiros, Project Manager
700 Hali'a Nakoa Street, Unit 2, Wailuku, HI 96793
Phone: (808) 270-7981; Fax: (808) 270-7168

Molokai District
Supervisor: Zachary Helm
P. O. Box 1055, Kaunakakai, Molokai, HI 96748
Phone: (808) 553-3204; Fax: (808) 553-3206

Prime Consultant:

Calvin S. Higuchi AIA
Hiyakumoto + Higuchi Architects, Inc.
1860 Main Street, Wailuku, HI 96793
Phone: (808) 242-9705, Fax: (808) 242-2898

Cultural Assessment Consultant:

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

Civil Engineer:

Douglas Gomes, P. E.
Engineering Dynamics Corp.
66 Wailani Street, Wailuku, HI 96793
Phone: (808) 242-1644; Fax: (808) 242-0838

Landscape Architect:

Russell Gushi ASLA
44 South Market Street, Wailuku, HI 96732
Phone: (808) 242-6503, Fax: (808) 244-0131

Soils Engineer:

Charles Biegel, P.E.
Island Geotechnical Engineering, Inc.
222-A Kawaipuna Place, Wailuku, HI 96793
Phone: (808) 243-9355, Fax: (808) 244-8997

Structural Engineer:

Satish Gholkar, P.E.
Gholkar & Associates, Inc.
95 Lunalilo Street, Wailuku, HI 96793
Phone: (808) 248-7888; Fax: (808) 248-7880

Mechanical Engineer:

Douglas Gomes, P. E.
Engineering Dynamics Corp.
66 Wailani Street, Wailuku, HI 96793
Phone: (808) 242-1644; Fax: (808) 242-0838

Electrical Engineer:

Lyman Morikawa, P. E.
Morikawa & Associates, LLC
431 Aulii Drive
Pukalani, HI 96768
Phone: (808) 572-1745; Fax: (808) 572-6323

APPENDIX D.

Drainage and Soil Erosion Control Report

DRAINAGE and SOIL EROSION CONTROL REPORT

for

Moloka'i Parks Baseyard

at

Duke Maliu Regional Park

Kaunakakai, Moloka'i, Hawaii

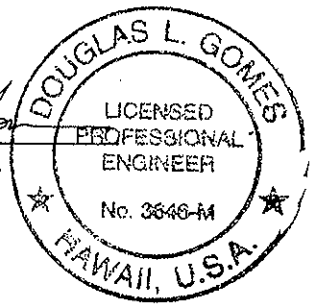
TMK: 2nd 5-3-03: 12

Kaunakakai, Moloka'i, Hawaii

Prepared by:

Engineering Dynamics Corp.
66 Wailani St.
Wailuku, Hawaii 96793

This work was prepared by me
or under my supervision.



Douglas L. Gomes, P.E.

January 25, 2005
Resvied April 26, 2005

This report is an "instrument of service" and is part of an integrated process of technical design. Use outside this process is inappropriate and transfer of its observations, conclusions, or methodology to any other work may have serious consequences. Definitions used have only the meanings in the context employed.

TABLE OF CONTENTS

SOIL EROSION ANALYSIS

EXHIBITS

1. Location Map
2. Existing Site Conditions
3 Drainage Plan

INTRODUCTION

This report has been prepared to address the impacts the proposed project may have on the existing drainage conditions and the potential for soil erosion due to rainfall and surface runoff during the construction of the project.

PROJECT DESCRIPTION

The project site is located in the existing Duke Maliu Regional Park on Kamehameha V Highway in Kaunakakai. The park site has an area 13.125 acres and has two baseball fields, a soccer field, restrooms, and a pavilion with a small kitchen. See Exhibit 1 - Location Plan.

The project will consist of a 5,000 square foot, rigid frame metal buildings which will contain covered lawn equipment parking area, offices, parts storage, workshop, locker room, a restroom, and maintenance staff area. The maintenance building will be constructed adjacent to the existing kitchen facilities and the soccer field.

Other improvements will include paved driveway and parking (14,400 sq.ft.), and a drainge run-off collection system consisting of grate inlets and horizontal perforated pipe to contain any increase in run off resulting from the construction of the project. See Exhibits 2.

EXISTING CONDITIONS

The proposed building and other site improvements will be constructed in a portion of the park that is currently landscaped with some trees, hibiscus hedges and grass. The site ranges in elevation between 7 and 8 feet mean sea level and is relatively level. Existing water, sewer, electric and telephone utilities are already available at the site. The existing drainge run off sheets flows into a open ditch adjacentto Kamehameha V Highway on the west side of the park.

FLOOD HAZARD

Based on the Floor Insurance Rate Map Community Panel 150003 0085 C dated September 6, 1989, the park site is located in a C and AH zone. The AH designation are areas of 100-year shallow flooding where depth are between one and three feet and base flood elevations are show and the C zone is areas of minium flooding.

The FIRM map indicated that the base flood elevation for the AH zone areas in the park site is 5 ft. MSL. The actual building site within the park is located at an elevation of 7 to 8 ft MSL therefore the proposed building will not be subject to the *Flood Hazard District Ordinance*, Chapter 19.62 of the Maui County Code.

GENERAL DRAINAGE SCHEME

The construction of the proposed improvements will increase the amount of impervious surface on the property an therefore increase the amount of drainage run-off. The increase in run-off will be collected with grate inlets and conveyed to an underground perforated pipe which will provide storage/retention for the increase run-off. The underground storage/retention pipe will have perforations that will allow the increased run-off to slowly percolate into the surrounding area. There will be no direct connection into the adjacent drainage channel

A silt fence will also be installed along the lower portion of the project site during construction to insure capture of soil and sediments.

Water wagons and water sprinklers will be utilized to control dust and soil erosion from leaving the property. A silt screen will be provided along the lower lying areas of the property to capture all soils in the run off during the construction period.

BASIS OF DESIGN

The hydrologic calculations are based on the formulas, charts and tables from the *Drainage Master Plan for the County of Maui* and *Storm Drainage Standards*, Department of Public Works. The drainage runoff was computed by using the rational formula for 10 and 50-year, 1-hour duration rainfall. The rational formula is:

$$Q = C\ I\ A$$

Where Q = Rate of flow in cfs

C = Runoff Coefficient

I = Rainfall intensity in inches per hour or as adjusted by a factor related to the time of concentration

A = Drainage area in acres

HYDROLOGIC CALCULATIONS

Lot Areas

The park site has a total area of 14.125 acres. The proposed project for the maintenance building and paved parking will cover an area of only 19, 400 sq. ft. (0.44 acres)

Pre-Construction Conditions

From Rainfall Frequency Atlas of the Hawaiian Islands", for Kaunakakani, Molokai is R(10 Yr.-1Hr.) = 2.0 inches, and R(50 Yr.-1Hr.) = 2.5 inches

Pre-Development Runoff Coefficient

Infiltration	Medium		0.07
Relief	Rolling (5 to 15%)		0.06
Vegetal Cover	High (50 to 90%)		0.00
Development Type	Agricultural		0.15
		Total	0.28

Intensity

Length = 150 ft
Slope = 1%
Tc = 13 minutes
I = 4.7

Q = 0.28 x 4.7 x 0.44 = 0.58 cfs

Post-Construction Conditions

Infiltration	Negligible		0.20
Relief	Rolling (0-5%)		0.00
Vegetal Cover	Poor (> 10%)		0.05
Development Type	Industrial		0.55
		Total	0.80

Difference C = 0.80 - 0.28 = 0.52

Intensity Post Construction

Length = 150 ft
Slope = 10 minutes
I = 6.4

Q = 0.80 x 6.4x 0.44 = 2.25 cfs

Required volume of storage/retention

Volume required for retention :

V = 19,400 sf x 2.5 in /12 in/ft x 0.52 = **2,102 cubic feet**

Volume to be provided with **36-inch diameter** perforated pipe with 2 ft crushed rock cushion around pipe.

V pipe = 7.1 cubic feet/ linear ft.

Volume of void space in crushed rock

V = (5 x 5) - 7.1 x .35 x .5 = 3.1 cubic feet/linear feet

Volume Available for storage/retention

V = 7.1 + 3.1 = 10.2 cubic feet/linear feet

Length of pipe required

L = 2,102 cf / 10.32 cf/lf = 204 linear feet

Length of pipe to be provided = 160 linear feet

Volume to be provided with **48-inch diameter** perforated pipe with 2 ft crushed rock cushion around pipe.

V pipe = 12.6 cubic feet/ linear ft.

Volume of void space in crushed rock

V = (8 x 8) - 12.6 x .35 x .5 = 9.0 cubic feet/linear feet

Volume Available for storage/retention

v = 12.6 + 9.0 = 21.6 cubic feet/linear feet

Length of pipe required

L = 2,102 cf / 21.6 cf/lf = 97 linear feet

Length of pipe to be provided = 100 linear feet

CONCLUSION

The existing conditions will have a run-off rate of approximately 0.45 cfs for the 50 year 1 hour storm event. The post-development condition will produce a run-off rate of 1.74 cfs. Despite the higher flow rate, the proposed drop inlets will intercept all of the increase drainage run off and direct the flow into an underground storage/retention system which will result in no increase in the amount or rate of run-off from the post construction period. Based on the proposed drainage improvements there will be no adverse effects on any adjoining or downstream properties as a result of this project.

SOIL EROSION CONTROL

Soil Erosion and sedimentation Control requirements are set by Maui County Code (MCC) Chapter 20.08 and Public Health Regulations, Chapter 37-B, Conservation Standards.

Soil Erosion and Sedimentation control regulates and controls grubbing and grading as well as cut and fill slopes operation within the County. By enforcing regulations, damage by sedimentation to streams, flood plains, watercourses, natural areas and property of others can be prevented. Sedimentation occurs as a result of erosion.

Soil Erodibility

The soils of the site are classified as Mala Series (Mma) which consist of well-drained soils on coastal plains as indicated by the Soil Conservation Service of the United States Department of Agriculture. The soil is slightly acid to neutral. Permeability is moderate. Run off is slow , and the erosion hazard in no more that slight.

Soil Loss and Erosion Rate Estimates

Soil loss and erosion rates are estimated for an average year under an assumed set of conditions using the Universal Soil Loss Equation, as set forth by the Hawaii Environmental Simulation Laboratory (HESL) per MCC 20.02.020.K. HESL soil loss and erosion rates for the project during construction are calculated as the product of 6 variables:

$$\mathbf{E = RK(LS)(CP)}$$

where:
- E = uncontrolled erosion rate in tons/acre/year
- R = average rainfall erosion factor = 160 tons/acre/year
- K = soil erodibility factor = 0.17
- L = slope length = 150 feet
- S = slope gradient = 1%
- LS = slope length factor = 0.14
- C = protective cover factor - use bare soil = 1.0
- P = control measures factor - construction site = 1.0

Therefore the uncontrolled erosion rate is estimated as:

$$E = 160 \times 0.17 \times 0.14 \times 1 = 3.8 \text{ tons/acre/year}$$

The **Allowable Erosion Rate** is determined by dividing the total permissible erosion (found on the Maximum Allowable Construction Area x Erosion Rate table) by the total area distributed by construction. This provides an allowable yearly erosion rate per acre.

where: a. Potential sediment hazard to coastal waters
(D) = Class A (other than harbors) = 2

b. Downstream hazard factor
(F) = 4

c. Duration of site work (T) = 1 year maximum

d. Maximum allowable construction area x erosion rate
= 3,571 tons/year

e. Graded Area (A) = 0.34 acres

f. Allowable erosion rate = 3,571/0.34 = 10,503 tons/acre/year

The allowable erosion rate ("E") is 10,503 tons/acre/year. An erosion rate of 3.8 tons/acre/year for the graded area is well within the allowable 10,503 tons/acre/year limit and therefore does not require special control measures.

Severity Rating Number

A severity rating number ("H") assesses the comparative degree of downstream hazard for potential erosion and sedimentation damage; this is used to establish the need for and/or level of mitigation required. H is calculated according to the formula:

$$H = (2FT + 3D)\,AE$$

where: F = downstream hazard factor = 4

T = duration of disturbance = 1 year

D = potential sediment damage to coastal waters = 2

A = area of disturbance = 0.34 acres

E = soil erosion rate = 3.8 tons/acre/year

H = [(2 x 4 x 1) + 3 x 2] x 0.34 x 3.8 = 18.0

A severity rating of 18.0 is well below the allowable maximum tolerable value of 50,000, therefore no unusual level of hazard is present and special measures are not required.

Erosion Control Measures

Notwithstanding that indicators above are well within mandated standards, contractors will be required to comply with several measures to minimize erosion:

a. Areas of exposed ground will be strictly controlled and limited.

b. Dust control shall be accomplished by watering with trucks or a temporary sprinkler system.

c. Graded areas shall be thoroughly watered after construction activity has ceased for the day and on weekends and holidays.

d. Upon completion of final grading, all areas shall be paved, grassed or landscaped. These areas will be maintained for a sufficient period to establish the ground cover and prevent any future dust and soil erosion problems.

REFERENCES

1. *Rainfall Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43*, Cooperative Studies Section, Hydrological Services Division, U.S. Weather Bureau, U.S. Department of Commerce, dated 1962.

2. *Drainage Master Plan for the County of Maui, State of Hawaii*, R. M. Towill Corporation, October 1971.

3. *Storm Drainage Standards*, Department of Public Works, City and County of Honolulu, March 1969.

4. *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*, U. S. Department of Agriculture, Soil Conservation Service, in cooperation with the University of Hawaii, August 1972.

5. *Erosion and Sediment Control Guide for Urbanizing Area in Hawaii*, U. S. Department of Agriculture, Soil Conservation Service, Hawaii association of Soil and Water Conservation Districts, Soil Conservation Society of America, Hawaii Chapter, March 1981.

6. *Flood Insurance Rate Map, Maui County, Hawaii*, U. S. Department of Housing and Urban Development, Federal Insurance Administration.

7. *Drainage of Highway Pavements, Hydraulic Engineering Circular No. 12*, U. S. Department of Transportation, Federal Highway Administration, March 1984.

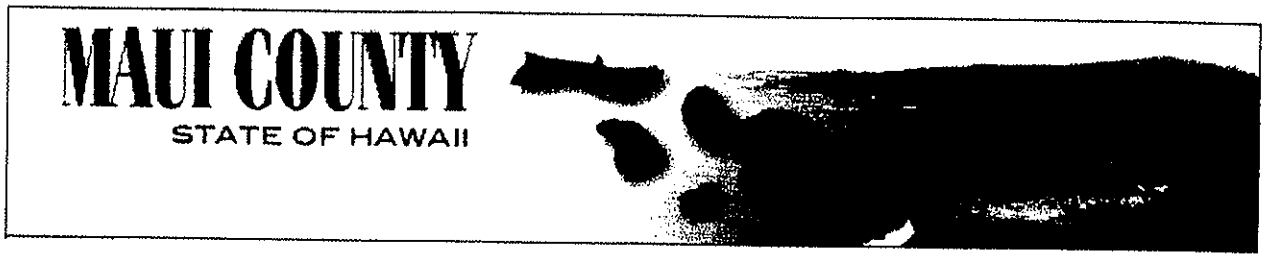
8. *Rules for the Design of Storm Drainage Facilities in the County of Maui, Chapter 4, Title MC-15*, Department of Public Works and Waste Management, County of Maui, State of Hawaii, July 1995.

9. *Drainage & Soil Erosion Control Report for 5th Maui Country Club Subdivision*, A&B Properties, Inc., June 1988.

APPENDIX E.

Public Information Meeting on June 15, 2005

From : Press Releases <webmaster@co.maui.hi.us>
Sent : Thursday, June 9, 2005 2:32 PM
To : hha01cal@hotmail.com
Subject : Molokai DPR informational meeting set



Molokai DPR informational meeting set
Department of Parks & Recreation/Public Information Office
The Department of Parks & Recreation (DPR) will host an informational meeting on Wednesday, June 15, at 7 p.m., at the Mitchell Pauole Center, Kaunakakai, to discuss the proposed construction of a central Molokai Baseyard at the Duke Maliu Regional Park. The public is invited to attend.

The scope of the Molokai Baseyard project includes construction of a 5,000 square foot pre-engineered steel building mauka of the existing pavilion / kitchen building in the center of the park and a paved and fenced parking area, adjacent to the new building, for county parks vehicles and equipment.

The Molokai district does not currently have a central base yard; DPR facilities on the island – as well as DPR operations there – are segmented at different parks and in Mitchell Pauole Center offices.

Questions or comments may be forwarded to Tony Medeiros, project manager for the Parks Planning & Development Division at 270-7388, or Zachary Helm Molokai District chief at 553-3204.

Press Releases are available via e-mail; To Unsubscribe or change your mail List please visit the on-line form at the url: http://www.co.maui.hi.us/optin.php?idnum=20021024085730

DEPARTMENT OF
PARKS AND RECREATION
COUNTY OF MAUI

700 HALI'A NAKOA STREET, UNIT 2
WAILUKU, HAWAII 96793
PLANNING and DEVELOPMENT

MEMO SHEET

FAX

To: Calvin Higuchi, H+H Architects
Fax:
Subject: Molokai Park Baseyard at Duke Maliu Regional Park
Date: June 27, 2005
Pages: 3, including this cover sheet.

Calvin:

Attached are the following:

1. Sign-in Sheet for the June 15, 2005 Public Meeting
2. Comment Sheet from attendee, Ella Alcon

The only verbal comment made was a question from Nazario Ragonton, Park Maintenance, regarding an area for paint and gas storage. Pat informed him that he would review the plan to see where these items could be stored.

Please call me if there are any questions. Thanks!

FROM THE DESK OF:
KARLA PETERS
Parks Planning & Development
270-7931
270-7162 FAX

Department of Parks & Recreation
Molokai Parks Baseyard at Duke Maliu Regional Park
Mitchell Pauole Center Hall
June 15, 2005 - 7:00 P.M.

	NAME	CONTACT PHONE #
1	NAZARIO G. RAGONTON, JR.	553-3863
2	ELLA ALCON	553-5012
3	Zachary Helm	553-3201
4		
5		
6		
7		
8		
9		
10		
11		
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18		

Molokai Parks Baseyard at Duke Maliu Park
Notes of Public Informational Meeting
Mitchell Pauole Center Hall – June 15, 2005, 7:00 p.m.

Attendees: Patrick Matsui (Chief of Parks Planning & Development), Jean Miyazono (Parks Planning & Development), Francis Miyazono (Parks Dept Arborist), Zack Helm (Parks Dept Molokai District Supervisor), Ella Alcon (representing Council member Danny Mateo), Nalario Ragonton Jr. (Parks Dept. staff).

Patrick Matsui, opened the meeting stating that the purpose of meeting of the meeting was to provide the public with information on the proposed project and to accept comments and input for the Environmental Assessment process. The project presentation with colored drawings was made and details follows:

The County of Maui Department of Parks & Recreation is proposing to develop a Parks base yard and maintenance / storage building for the Moloka'i District at the existing Duke Maliu Regional Park on Kamehameha V Highway in Kaunakakai. The proposed area of development is approximately ½ acre of the existing park.

The project site is on approximately ½ acre in the 13 acre Duke Maliu Regional Park on Kamehameha V Highway on the east end of Kaunakakai on Molokai. Kaunakakai Elementary School is situated to the west, Home Pumehana to the mauka and north side, agricultural lands owned by Molokai Ranch to the east, and the highway on the makai south side of the property.

Location of new base yard and the maintenance building is mauka of the kitchen / pavilion. On the site adjacent to the proposed building are 6 covered parking stalls for vehicles and equipment within the building, new driveway to the fenced base yard from the existing parking lot, new chain link fence and gates, new parking lot (5 stalls) within the fenced base yard, new public parking stalls (4 stalls including one accessible) next to kitchen/ pavilion building, and new loading stall next mauka and adjacent to the kitchen / pavilion building.

The proposed maintenance building will be a 5,000 square feet pre-engineered metal building. Included in the building will be: a building maintenance and repair shop with a lumber storage room and workshop, a maintenance staff area and lunch/meeting room, a locker area for maintenance staff , an accessible staff toilet, a maintenance supervisor's office, two interior storage rooms, an irrigation pipes and parts storage room, and a covered parking area with 6 stalls.

The exterior of the building will be finished with preformed metal siding and metal roofing.
The covered vehicle and equipment parking area will be open on two sides on the front and right side elevation. A 12' deep roof overhang is planned on the front to provide more protection for the covered vehicle area. The shop area will have a large roll up door on the front side to accommodate loading and unloading of materials and shop built items. Ridge ventilators are proposed to ventilate the building.

Some of the elements on the landscape plan include: some existing larger trees and shade trees to remain; some will be relocated, large shade trees will be monkey pod or banyan, parking lot trees to be kou, or milo tree, hedge planting will be koki'o ke'o ke'o, blue vitex, ma'o hau hele, ground covers proposed ilima papa, golden glory, naio papa, grasses will match existing common Bermuda, and the landscape irrigation is existing and will be modified

The construction of the base yard facilities is anticipated in 2006 or 2007 and is contingent on funding of the project in the County budget. The preliminary estimate of construction cost based on the conceptual plans is $1,000,000.

Questions or comments from attendees included the storage of fuel and flammable materials for equipment repairs, painting, and maintenance. This comment will be forwarded to the consultant to include in the plans as necessary.

Request for any other comments on handouts were requested. One comment sheet was returned with some positive comments (attached).

Meeting concluded at 8:00 p.m.

PUBLIC INFORMATIONAL MEETING - **Molokai Parks Baseyard at Duke Maliu Regional Park**
June 15, 2005 - 7:00 pm - Mitchell Pauole Center Hall, Kaunakakai, Molokai

ALL ATTENDEES:
PLEASE KOKUA AND PROVIDE YOUR NAME AND COMMENTS BELOW

After the presentation by the Maui County Dept. of Parks & Recreation, please fill out the information below and leave it with the Jean Miyazono of the Parks Dept. before you leave. Your comments are welcomed and appreciated and will be used in conjunction with developing the design of the project further as well as for the environmental assessment and Special Management Area permit process.

Thank you.

(Please print)
Name: ELLA ALCON - Maui County Council aide
Address: P.O. BOX 1346, Kaunakakai, HI 96748
Other contact info (phone, email, etc.): ella-alcon@maui.county.us.
Affiliation (group or organization) or your interest in the project:

Comments:

Thankyou for allowing us to see the future plans of the Parks Maintenance Building. I will share this info with our Councilman.