

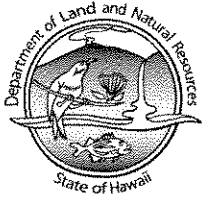
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**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**

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KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

December 29, 2004

Ms. Genevieve Salmonson, Director  
Office of Environmental Quality Control  
State Office Tower, Suite 702  
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

SUBJECT: Finding of No Significant Impact (FONSI) for Enhancement of Coastal  
Wetland at Makena State Park, Makawao, Maui  
TMK: 2-1-06: 32, 34, 35, and 74

The Department of Land and Natural Resources has reviewed the comments received during the 30-day public comment period which began on August 23, 2004. We have determined that the project will not have significant impacts to the environment and we are issuing a FONSI. Please publish notice of this determination in the January 8, 2005 OEQC Bulletin.

Enclosed are four copies of the publication form and copies of the Final Environmental Assessment. If you have questions or need additional information, please contact Martha Yent at 587-0287.

Sincerely,

A handwritten signature in black ink, appearing to read "PT Young".

Peter T. Young  
Chairperson

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OFC. OF ENVIRONMENT/  
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2005-01-08 FONSI

MAKENA STATE PARK COASTAL WETLAND ENHANCEMENT

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QUALITY CONTROL

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# Environmental Assessment for enhancement of an isolated coastal wetland at Mākena State Park, Mākena, Maui<sup>1</sup>

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December 14, 2004

Final

AECOS Consultants No. 036C

Eric Guinther & Reginald David<sup>2</sup>

AECOS Consultants, 45-309 Akimala Pl., Kaneohe, Hawai`i 96744

Phone: (808) 247-3426 Fax: (808) 236-1782 Email: guinther@hawaii.rr.com

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## Introduction and Summary

**Applicant:** Department of Land and Natural Resources (State Parks) and Puu Olai North Wetland Management Association

**Approving Agency:** State of Hawaii, Department of Land and Natural Resources (DLNR), Division of State Parks.

**Anticipated Determination:** FONSI

**Agencies and Groups Consulted:**

DLNR, DOFAW, Fern Duvall

DLNR, State Parks, Phil Ohta and Martha Yent

USFWS, Craig Rowland and Jannesse McBryde

USACOE, Regulatory Branch, Ft. Shafter, William Lennan

Makena Homeowners Association, Sam Garcia

Halau Maui Nui O Kama, Kimokeo Kapahulehua

Maui Outdoor Circle, Warren McCord

Holly McEldowney, former acting administrator of Historic Preservation

**Site Designations:**

TMK: 2-1-06: 30, 32, 74, 106, & 107

Ownership: LD, LLC and State of Hawaii

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<sup>1</sup> This EA was prepared for State Parks and Puu Olai North Wetland Management Association to satisfy requirements under Hawaii Revised Statutes, Chapter 343 as an Environmental Assessment for improvements to an isolated wetland at Mākena State Park.

<sup>2</sup> Reginald David is with Rana Productions, Ltd. of Kailua-Kona, Hawai'i.

Land Classifications:

State LUD: Rural.

County Zoning: Interim; Park and Apartment; Community Plan: Single Family and Park.

**Summary:**

This project involves removing living and dead trees presently obscuring a wetland located mostly within Mākena State Park (Maui) (Figures 1 & 2) and partly on adjacent property owned by LD, LLC. Enhancement of this wetland is of interest at this time because the Puu Olai North Wetland Management Association has a commitment from adjacent land owner LD, LLC to undertake the work on both its and State Parks' land. An overgrowth of kiawe trees, many of which, over the years, have toppled into the wetland, obscures significant parts of this habitat utilized by two endangered species: the Hawaiian Stilt or *ae`o* (*Himantopus mexicanus knudseni*) and the Hawaiian Coot or *alae ke`oke`o* (*Fulica alai*); and several other waterbird species and shorebirds. Significant improvement in the habitat could be realized by removing trees to allow the birds access to both the pond and marginal mudflats. Planting of low-growing native species adapted to the coastal environment and the poikilohaline (high and variable salt) pond is also proposed. The resulting enhanced wetland would become a valuable resource for endangered species management along the Kihei-Mākena coast, would benefit adjacent property owners by creating a more visually pleasing setting, and would benefit the public interest by creating a viable wildlife refuge at the north end of the State Park. Proposed additional enhancements include a surrounding predator control fence, a public viewing platform, and interpretive signage within the State Park.

## Project Description

The project (see Attachment A) entails removal of large kiawe trees (some dead, most alive) that border, and in many cases have toppled into (see Figure 3), a wetland located at the north end of Mākena State Park, near Mākena, on Maui's south shore. The exact number of trees is unknown (perhaps as many as 100), but the trees slated for removal are those that presently have caused the wetland to be degraded by obscuring most of the marginal habitat utilized by the endangered Hawaiian Stilt. Work is anticipated to begin sometime in December 2004 and be completed by mid-2005.

The project area encompasses the pond itself and the entire perimeter of the pond for a distance of approximately 50 ft (15 m) outwards from the pond shore. The north side of this area is land privately owned by LD, LLC and the east, west, and south sides are lands owned by the State of Hawaii. Tree removal could extend further away from the pond on the privately-owned parcel as house sites are developed, and would be less in the State Park beach area, where only those trees selected by park management would

be removed. The density of trees on the coastal dunes between the ponds and the ocean is low relative to other areas, and few have fallen into the pond.

The purpose of the tree removal is to enhance the wetland to encourage greater use by water birds. Because of the dense overstory and the saline soils that surround the pond, only minimal amounts of understory brush and herbaceous plants exist in the area where the clearing would occur. The cost of clearing would be borne by Puu Olai North Wetland Management Association and would improve the overall conditions of the natural environment in the surrounding area.

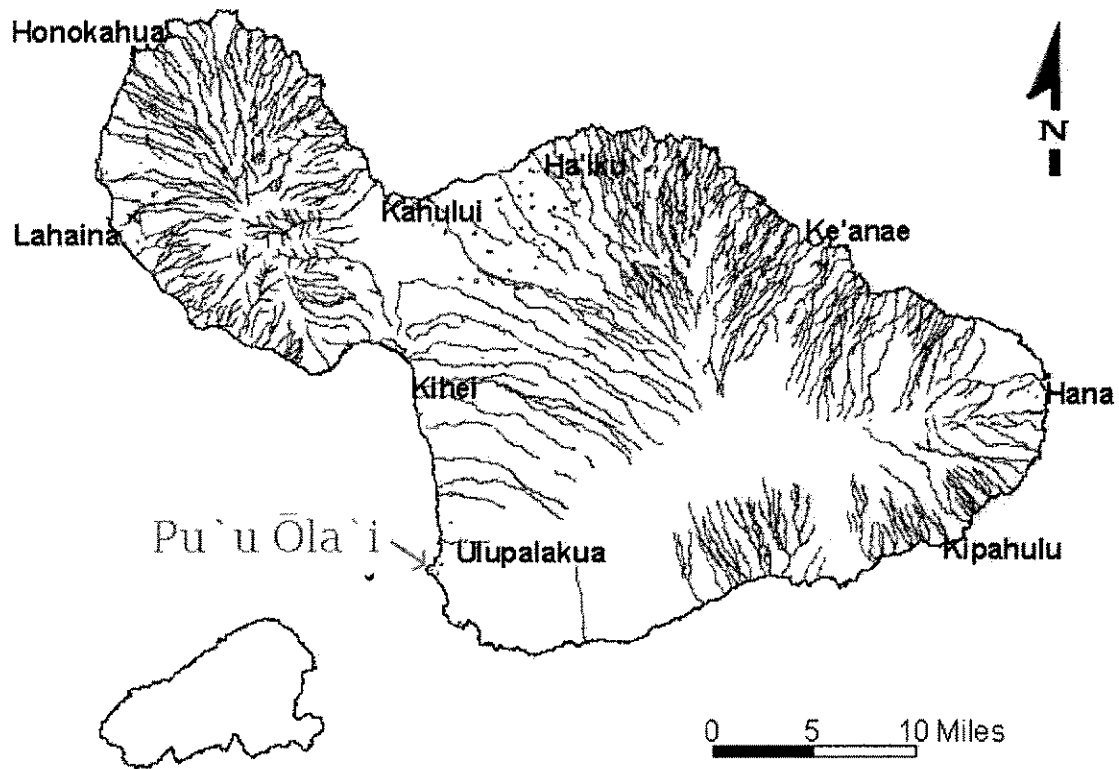


Figure 1. Maui and Kaho'olawe Islands showing Pu'u Ōla'i projecting from the coastline near the southwest corner of East Maui (Haleakalā).

In addition to clearing a buffer zone around the wetland other enhancement actions include replanting with native plants adapted to the saline environment and removal (and continued maintenance) of any invasive alien species such as Indian pluchea and pickleweed. A temporary irrigation system would be installed to facilitate the establishment of native plantings. Further, it is anticipated that a predator control

fence surrounding the site would greatly benefit use of the site by endangered species and minimize disturbance of the birds by park visitors and activities on the private parcels. This fence, which would surround the wetland, would be located above the salt encrusted ground at a minimum of 20 feet and generally closer to 30 ft (10 m) outside of the pond water line. The fence would be 4 ft (1.3 m) high and constructed of chain link material.

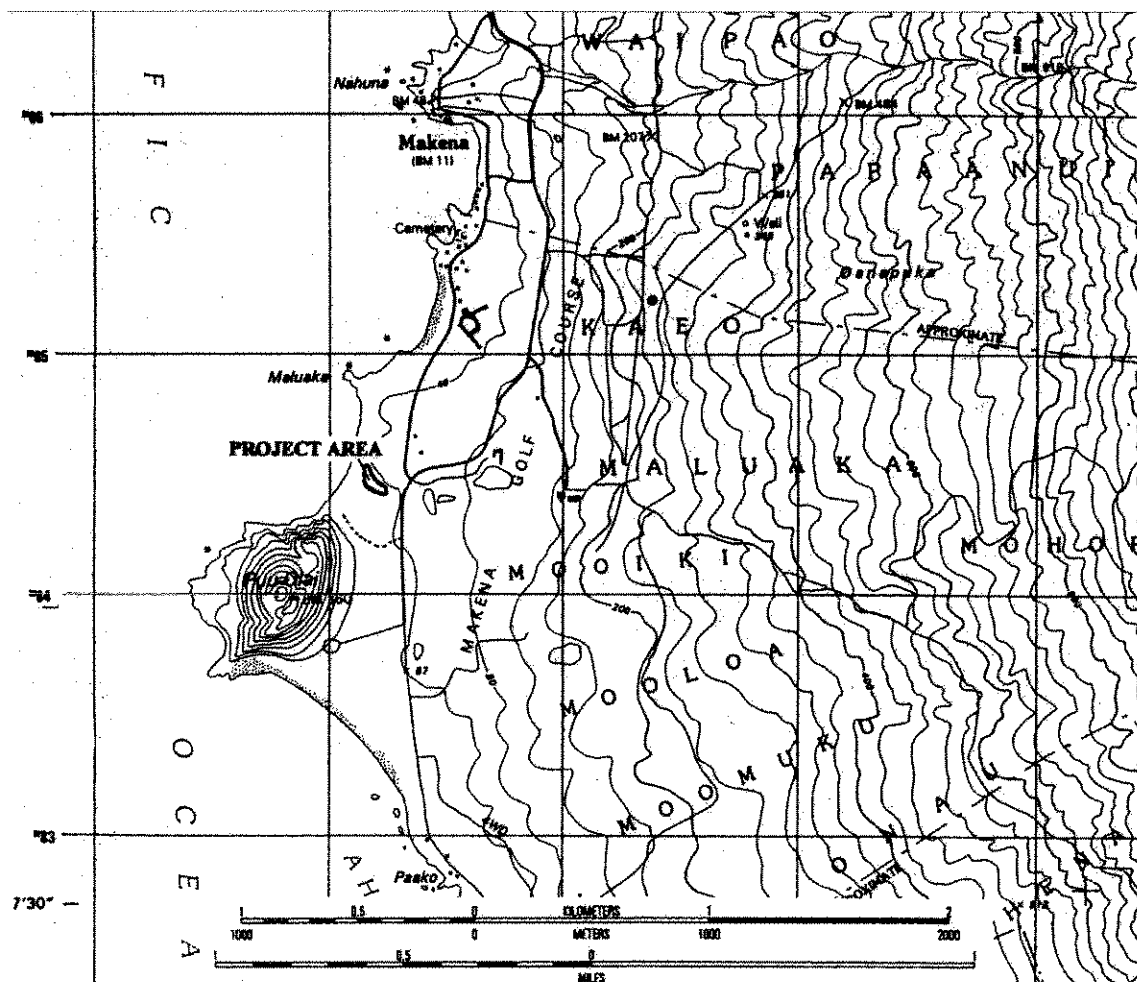


Figure 2. Portion of USGS topographic sheet showing project location south of Mākena and north of Pu'u Ōla'i , Maui.

Finally, some type of viewing platform and interpretive signage would be built within the State Park to enhance the visitor experience to the park and provide a way for the public to enjoy the wetland in a controlled manner sensitive to the needs of the wildlife.

Puu Olai North Wetland Management Association is seeking funding sources for the proposed improvements and will also provide funding to accomplish the tasks. No direct

funds from the State of Hawaii will be requested for this project. Instead, funding by various grants pertaining to wetlands enhancement are being sought, with the Association providing matching funds as required. It is hoped that the project can begin during the 2004-2005 wet season; activities may need to cease, or be reduced, once stilt begin their breeding season around April to minimize disturbance to this species, although utilization of the site for breeding by Hawaiian stilt has not been observed in recent years.

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Figure 3. Typical aspect of kiawe trees along the north, south, and east margins of the pond. Soil beneath trunks here is part of a (former) mudflat

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Two other wetlands in the same park (both on the south side of Pu'u Ōla'i; see below) show clear signs of degradation, ranging from access by off-road vehicles to overgrowth by alien plants (notably pickleweed). Protection from similar degradation is a goal of the proposed work on the northern pond.

## Project Area Description

The project site is an isolated wetland (called North Pu'u Ōla'i Pond; AECOS Consultants, 2003; see Figure 4) located at Mākena State Park, between Mākena Landing and Pu'u Ōla'i on the leeward shore of East Maui (Figures 1 & 2). The wetland

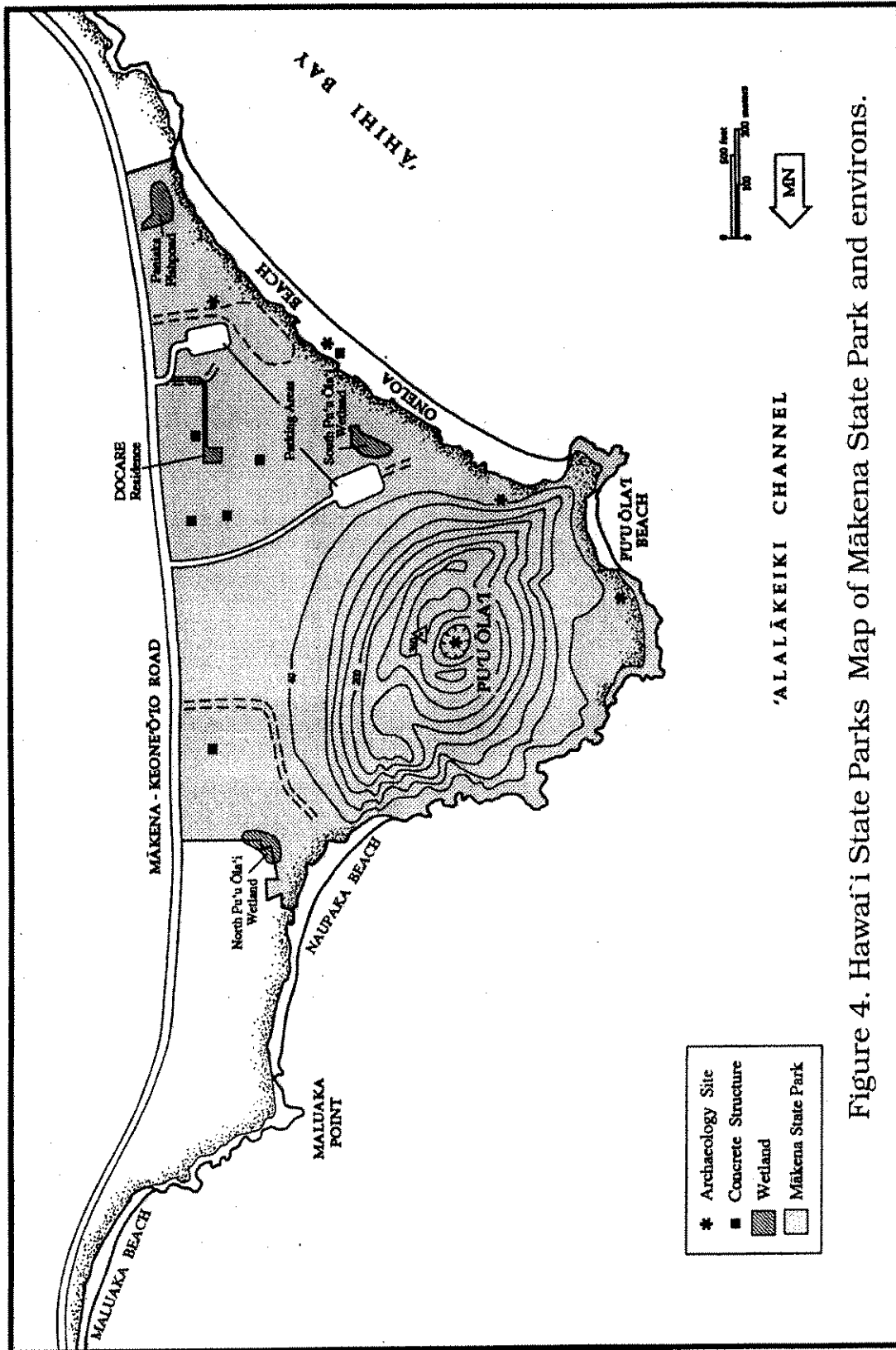


Figure 4. Hawai'i State Parks Map of Mākena State Park and environs.



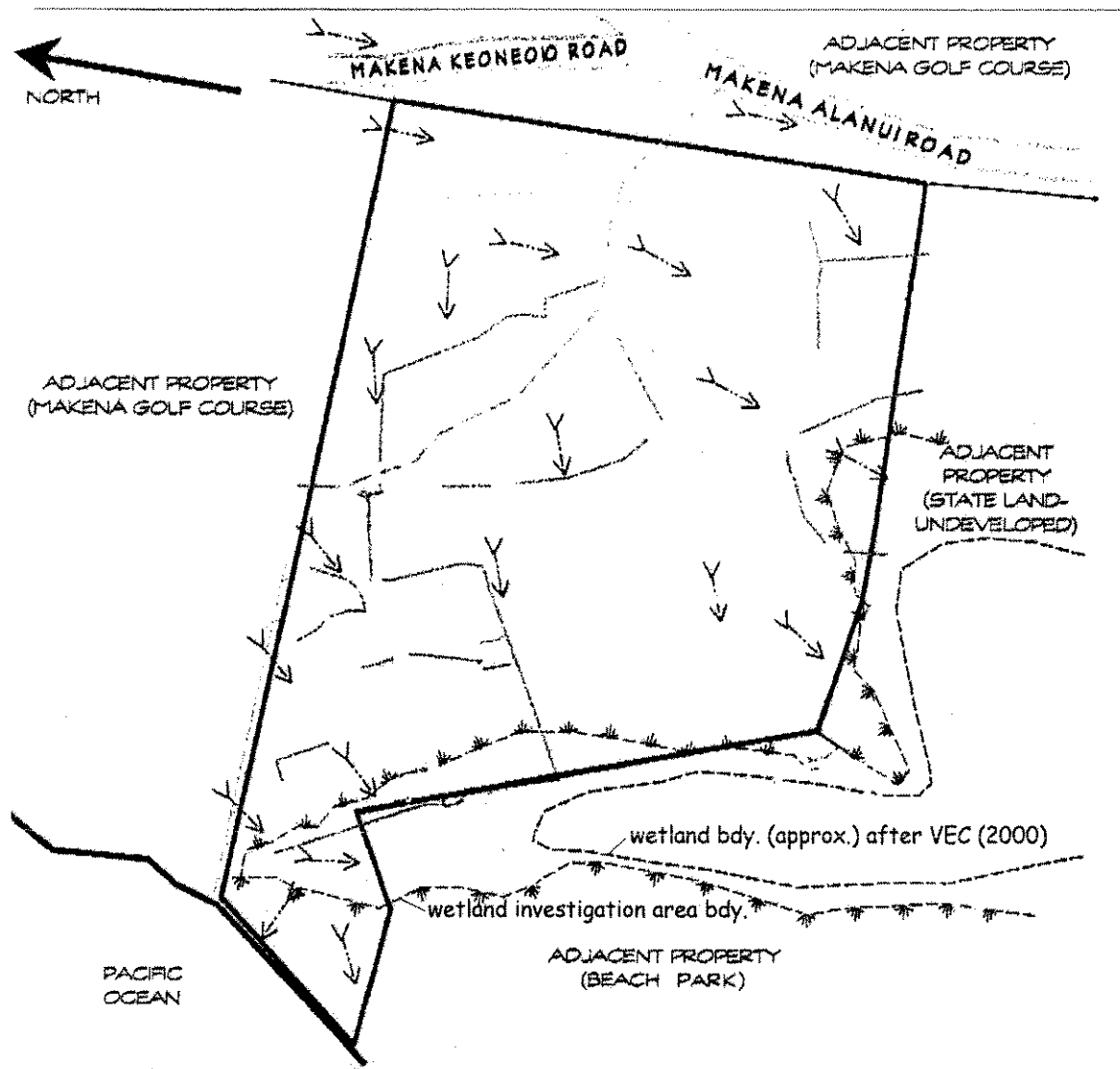


Figure 5. Early preliminary property drawing for LD, LLC parcels showing generalized drainage and location of North Pu`u Ōla`i wetland in relation to State and LD, LLC land. (See also Private Parcels map in Attachment A).

(Figure 5) is located mostly on State of Hawaii (State) property (TMK: 2-1-06: 32 & 74), with a smaller portion extending onto adjacent parcels (TMK: 2-1-06: 106 & 107) owned by LD, LLC. At one time coastal wetlands were very common in the Kihel area of Maui, formed by isolation of low-lying ground behind coastal dunes and kept wet by a water table close to the ground surface and by capture of infrequent run-off from the mauka slopes. In the relatively dry climate of Mā`alaea Bay and the lower southwest (leeward) slopes of Haleakalā, these wetlands were typically in whole or in part ephemeral, forming playas (dry lake beds): shallow features covered by saline water for some but

not all months of the year. The largest remaining example is Keālia pond at the north end of Mā`alaea Bay. Wetland features like this were once extensive south from Keālia Pond to Kalama Park at the southern end of Kihei, at which point the coastal plain narrows substantially and the shoreline further south is erosional into the southwest flank of Haleakalā—geological conditions not conducive to the formation of coastal wetlands because the land tends to rise directly from the shore and a low, coastal plain is lacking.

An exception occurs near Pu`u Ōla`i, a late stage cinder cone that erupted at or just off the shoreline (Figure 4). Now some 360 ft (110 m) tall, Pu`u Ōla`i served as an anchor for a tombolo-like formation: a sand-spit connecting an offshore islet or rock to the mainland. In this case, sand beaches developed along the shore, eventually extending south ("Big Beach") and north of the pu`u. The inland face of these sand formations constitute dunes. Here, as along the northern to eastern shore of Mā`alaea Bay, the dynamics of beach and dune formation created depressions at or a little above sea level. It is in these depressions that wetlands formed<sup>3</sup>. The wetland described herein is the northernmost of three located around Pu`u Ōla`i.

The North Pu`u Ōla`i Pond and mudflat is approximately 3 acres (1.2 ha) in area (VEC, 2000). The pond occupies a depression between coastal dunes and sloped land of volcanic origin. The basic physical characteristics of this feature can be listed as follows (for details, see AECOS Consultants, 2003):

- The pond or wetland is coastal and isolated: not connected to any stream or open to coastal waters under ordinary conditions.
- The depression reaches down to a basal groundwater body, and it is this exposure of groundwater that accounts for the presence of a pond and wet ground at this location.
- The feature is located in a part of Maui having low annual rainfall (less than 15 inches per year on average; Armstrong, 1983) and basal groundwater that is normally brackish to saline.
- The wetland is of a type known as poikilohaline: having a variable salinity regime (mixohaline to hyperhaline).

## Hydrology

The North Pu`u Ōla`i Pond is characterized by confinement in a flat-bottom basin or depression extending below the water table of a basal aquifer. There exists a subsurface hydrologic connection with the ocean some 300 feet (90 m) to the west and the water is saline and subject to some tidal fluctuation.<sup>4</sup> The larger, similar feature (South Pu`u Ōla`i Pond) in this area dries up completely at certain times of the year.

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<sup>3</sup> At least two other ponds are present: a small one behind the south end of Long Beach called Paniaka Fishpond and a large playa directly south of the main (south) parking lot for Mākena Beach Park.

<sup>4</sup> Diurnal or semidiurnal tidal changes in the water level of the pond would be less, perhaps much less, than the ocean tide.

These differences occur because each feature exists where the ground elevation is close to the groundwater elevation. A deep enough depression will always contain water. The salinity of the water will reflect a dynamic balance between terrestrial inputs (mainly local precipitation in this area) and infiltration of sea water through the dune. Rainwater or water of low salinity will float on the saline groundwater, resulting in the pond salinity reflecting the terrestrial influences, which may be rainfall and runoff in some months and evaporative concentration of salts at other times. Salts are stored on the dry surface and in the sediments when little or no water is present, and mix with fresh water when it rains. The result is a variable salinity regime (the technical term for which is poikilohalinity), but one that might typically vary about sea water salinity (~34 ppt) where the subsurface connection to the sea dominates the hydrology as seems to be the case at North Pu`u Ōla`i Pond.

North Pu`u Ōla`i Pond is not located in a drainage basin of any significant size. There is also no indication of an outlet or that storm waves have crossed over the dunes in recent time. A topographic survey by Warren S. Unemori (2002) shows a low point in the dune between the pond and the ocean shore of 13.3 ft above MSL. It is expected that water entering the pond depression from runoff will raise the pond level, but that equilibrium with the groundwater will be reached within hours by infiltration through the dunes.

## Water Quality

The water quality of this pond is dominated by its salinity. A dissolved salt content that is above sea water salinity (as is apparently the case throughout the dry season) will greatly influence water chemistries and have a significant impact on the plants and animals that will survive there (see Biological Observations section below).

On March 4, 2003, Oceanit Laboratories of Honolulu collected a water sample from the North Pu`u Ōla`i Pond at the behest of LD, LLC. This sample was sent to AECOS Inc. to be analyzed for salinity, turbidity, and total nutrient content. The results are reproduced here as Table 1.

Table 1. Analyses from a water sample obtained March 4, 2003 by Oceanit Laboratories from North Pu`u Ōla`i Pond and analyzed by AECOS Inc.

	Salinity	Turbidity	Total N	Total P
	(ppt)	(ntu)	(µg N/L)	(µg P/L)
N. Pu`u Ōla`i	35.0	98.2	> 14,400	2,200

The salinity in the sample reported in Table 1 is that of seawater and we note the water had later increased to 46 ppt when measured on April 22. Thus, the salinity on March

4 may just be coincidentally close to that of the ocean, passing from a lower (mixohaline) value during the wet months previous to higher values during the dry season. It is also possible that sea water exerts a particularly strong influence at certain times of the year, and represents a central tendency: a value towards which extreme values always return. A measurement made on June 10 gave a salinity of 40 ppt. In as much as no significant rainfall input<sup>5</sup> occurred between March 4 and June 10, the reduction in salinity must be tidally influenced.

Turbidity, total nitrogen, and total phosphorus values are all extreme compared to coastal water values. These extremes are the result of biological activity occurring in the pond. Given that the aquatic system is an unusual one, the extreme values are not of concern, and a series of measurements representing different seasons would be required to meaningfully explain the numbers.

### Biological Observations

Biological observations completed to date have been of a casual nature and are reported in more detail in AECOS Consultants (2003). Biologists Eric Guinther and Reginald David conducted surveys in April and May of 2003. The principal purpose of these surveys was to determine what aquatic animals, especially water birds, are currently using resources within the pond and the surrounding area, and suggest from observations what management measures might be undertaken to improve the habitat to benefit water birds.

The surrounding land is covered by a forest of *koa* trees (*Prosopis pallida*) which has an open canopy along the beach side, but forms a closed canopy nearly everywhere else. Understory vegetation is dominated by buffelgrass (*Cenchrus ciliaris*), with significant areas of *ilima* (*Sida fallax*) forming a shrub layer in some areas further upslope on LD, LLC land. A list of plant species identified from the wetland and vicinity is provided in Table 2. The only plant (besides algae) noted as growing in the pond at the time was widgeon grass (*Ruppia maritima*). This aquatic grass-like plant is very tolerant of saline conditions, although it is never found in the ocean. Two plants were observed in April 2003.

There are two significant characteristics with regard to the vegetation: 1) No plants were observed growing (that is, rooted in) the mudflats marginal to the pond; and 2) large, fallen *koa* trees have obscured the openness of the dunes, the mudflats, and much of the pond itself, in the latter case by growing laterally out from above the margin of the mudflat (Figure 3). These large trees have been blown down over time, most collapsing in towards the pond. Fallen trees have continued to grow upwards from horizontal

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<sup>5</sup> Reports for the central valley of Maui were that the area was experiencing a drought, with May 2003 the third lowest monthly rainfall total for Puunene in 79 years of record (Associated Press, 2003).

trunks, the canopy slowly obscuring the center of the depression. The situation is interesting because it appears that the saline mudflat will not support any of the typical vegetation of the surrounding area. Certainly the combination of saline water and relatively deep shade precludes even salt tolerant species such as *Sesuvium* and *Batis* that occur in similar wetlands elsewhere in this part of Maui (e.g., Keālia Pond and Paniaka Pond).

Table 2. Partial checklist of plants found in 2002-2003 around the North Pu`u Ōla`i wetland, Mākena, Maui.

Species	Common name	Status	ABUNDANCE	
			upland	wetland
<b>FLOWERING PLANTS</b>				
<b>DICOTYLEDONE</b>				
<b>ACANTHACEAE</b>				
<i>Asystasia gangetica</i> (L.) T. Anderson	Chinese violet	nat.	C	
<b>ASTERACEAE (COMPOSITAE)</b>				
<i>Pluchia carolinensis</i> (Jacq.) G. Don	sourbush	nat.	U	
<i>Pluchia indica</i> (L.) Less	Indian fleabane	nat.		O
<b>CHENOPODIACEAE</b>				
<i>Atriplex semibaccata</i> R. Br.	Australian saltbush	nat.	O	
<i>Chenopodium ambrosioides</i> L.	Mexican tea	nat.	O	
<b>FABACEAE</b>				
<i>Prosopis pallida</i> (Humb. & Bonpl. Ex Wild.) <small>Kunth</small>	kiawe	nat.	AA	
<b>LAMIACEAE</b>				
<i>Leonotis nepetifolia</i> (L.) R. Br.	lion`s ear	nat.	A	
<i>Ocimum</i> sp.	wild basil	nat.	C	
<b>MALVACEAE</b>				
<i>Abutilon grandifolium</i> (Willd.) Sweet	hairy abutilon	nat.	U	
<i>Sida fallax</i> Walp.	`ilima	ind.	A	
<b>NYCTAGINACEAE</b>				
<i>Boerhavia coccinea</i> Mill.	false `alena	nat.	U	
<b>STERCULIACEAE</b>				
<i>Waltheria indica</i> L.	`uhaloa	ind.	U	
<b>VERBINACEAE</b>				
<i>Lantana camara</i> L.	lantana	nat.	O	
<b>MONOCOTYLEDONE</b>				
<b>POACEAE (GRAMINEAE)</b>				
<i>Cenchrus ciliaris</i> L.	buffel grass	nat.	AA	
<i>Digitaria insularis</i> (L.) Mez ex Ekman	sourgrass	nat.	O	
<i>Panicum maximum</i> Jacq.	Guinea grass	nat.	O	

Table 2. Checklist of plants (continued).

Species	Common name	Status	ABUNDANCE	
			upland	wetland
<b>RUPPIACEAE</b>				
<i>Ruppia maritima</i> L.	widgeon grass	<b>ind.</b>	--	R

Legend for Tables 2 and 3

Status = distributional status	
<b>end.</b> =	endemic; native to Hawaii and found naturally nowhere else.
<b>ind.</b> =	indigenous; native to Hawaii, but not unique to the Hawaiian Islands.
<b>nat.</b> =	naturalized, exotic, plant introduced to the Hawaiian Islands since the arrival of Cook Expedition in 1778, and well-established outside of cultivation.
<b>om.</b> =	exotic, ornamental or cultivated; plant not naturalized (not well-established outside of cultivation).
<b>pol.</b> =	Polynesian introduction before 1778.
Abundance = occurrence ratings for plants by area (defined as: MSTF = MSTF site, surveyed on ; SB = developed areas of Schofield Barracks; KK – undeveloped areas, as along road to Kolekole Pass)	
R – Rare -	only one or two plants seen.
U - Uncommon -	several to a dozen plants observed.
O - Occasional -	found regularly, but not abundant anywhere.
C - Common -	considered an important part of the vegetation and observed numerous times.
A - Abundant -	found in large numbers; may be locally dominant.
AA - Abundant -	abundant and dominant; defining vegetation type.
P – Present -	noted just outside of study area; abundance not recorded.

A third significant observation is the clear demarcation around the basin below which vascular plants are not growing. Large, living *kiawe* trees occur here, but the trees are rooted in soil above the demarcation line. We interpret this line to represent the maximum elevation of salt-infused soil. That is, above this elevation around the wetland margin, buffel grass (and other upland species) are able to tolerate soil conditions with respect to salt content; below it, they are not.

Table 3. Checklist of aquatic animals found in and around the North Pu`u Ōla`i Pond (a poikilohaline pond), Mākena, Maui, 2003.

Species	Common name	Status	ABUNDANCE pond
<b>INVERTEBRATES</b>			
<b>ARTHROPODA, INSECTA</b>			
<b>DIPTERA, SYRPHIDAE</b>			
Indet.	(bee flies)		
	(adults)		C
<b>HEMIPTERA, CORIXIDAE</b>			
<i>Trichocorixa reticulata</i> (Guerin-Meneville)	(water boatman)	<b>nat.</b>	A
<b>ODONATA, AESHNIDAE</b>			
<i>Anax junius</i> (Drury)	(dragonflies)		
	green darner	<b>ind.</b>	U

Table 3. Checklist of aquatic animals (continued).

Species	Common name	Status	ABUNDANCE pond
<b>ODONATA, LIBELLULIDAE</b>			
	(dragonflies)		
<i>Orthemis ferruginea</i> (Fabricius)		nat.	U
<i>Pantala flavescens</i> (Fabricius)	globe skimmer	ind.	U
<i>Tramea lacerata</i> Hagen	black saddlebags	nat.	R

See Table 2 for legend; see Tables 4 & 5 for birds.

The most conspicuous inhabitants of the North Pu`u Ōla`i Pond are wetland birds. These birds are attracted to the other inhabitants: the invertebrates, specifically insects that inhabit the pond in large numbers. A listing of aquatic species observed during field visits in early 2003 are presented in Tables 3 (above) through 5.

Table 4. Avian Species Detected During  
Time Dependant Waterbird Counts Mākena State Park

Common Name	Scientific Name	ST	M#
<b>HERONS - Ardeidae</b>			
Black-crowned Night-Heron	<i>Nycticorax n. hoactli</i>	I	1
<b>RAILS &amp; ALLIES - Rallidae</b>			
Hawaiian Coot	<i>Fulica alai</i>	EE	2
<b>STILTS &amp; AVOCETS - Recurvirostridae</b>			
Black-necked Stilt (Hawaiian)	<i>Himantopus mexicanus knudseni</i>	EE	4
<b>SANDPIPERS &amp; ALLIES - Scolopacidae</b>			
Wandering Tattler	<i>Heterosceles incanus</i>	IM	3

Key to Table 4:

<b>ST</b>	Status
I	Indigenous (i.e. native to Hawai'i, but also found elsewhere naturally) species
EE	Endangered endemic (i.e., native and unique to the Hawaiian Islands) species
IM	Indigenous migratory species
<b>M#</b>	Maximum number recorded

The salinity of the water determines the kinds of invertebrates that can inhabit the pond. However, the salinity changes throughout the year. This situation leads to a progression of insects and crustaceans occurring at different times of the year. Because there are few species that can reproduce in hyperhaline waters (dry season conditions), the numbers of individuals of a species present at any one time can become quite large. Species adapted to hyperhalinity have little competition for algae growing in the water and few if any predators other than water birds. It is not certain if any of the adult

dragonflies (Odonata) observed over and around the pond can actually breed there during hyperhaline conditions, but the adults continue to be attracted to the water and even lay eggs in it.

Table 5. Avian species detected during eight-minute VCP counts, Mākena State Park

Common Name	Scientific Name	ST	RA
<b>HERONS - Ardeidae</b>			
Black-crowned Night-Heron	<i>Nycticorax n. hoactli</i>	I	1.00
<b>PHEASANTS &amp; ALLIES - Phasianidae</b>			
Grey Francolin	<i>Francolinus pondicerianus</i>	A	4.00
Red Junglefowl	<i>Gallus gallus</i>	AD	1.50
<b>RAILS &amp; ALLIES - Rallidae</b>			
Hawaiian Coot	<i>Fulica alai</i>	EE	0.50
<b>STILTS &amp; AVOCETS - Recurvirostridae</b>			
Black-necked Stilt (Hawaiian)	<i>Himantopus mexicanus knudseni</i>	EE	2.50
<b>SANDPIPERS &amp; ALLIES - Scolopacidae</b>			
Wandering Tattler	<i>Heterosceles incanus</i>	IM	2.50
Ruddy Turnstone	<i>Arenaria interpres</i>	IM	4.50
<b>PIGEONS &amp; DOVES - Columbidae</b>			
Spotted Dove	<i>Streptopelia chinensis</i>	A	2.50
Zebra Dove	<i>Geopelia striata</i>	A	5.50
<b>SILVEREYES - Zosteropidae</b>			
Japanese White-Eye	<i>Zosterops japonicus</i>	A	8.50
<b>MIMIC THRUSHES &amp; ALLIES - Mimidae</b>			
Northern Mockingbird	<i>Mimus polyglottos</i>	A	1.50
<b>STARLINGS - Sturnidae</b>			
Common Myna	<i>Acridotheres tristis</i>	A	3.00
<b>SALTATORS &amp; ALLIES - Cardinalidae</b>			
Red-crested Cardinal	<i>Paroaria coronata</i>	A	1.50
Northern Cardinal	<i>Cardinalis cardinalis</i>	A	4.00
<b>CARDULINE FINCHES &amp; ALLIES - Fringillidae</b>			
House Finch	<i>Carpodacus mexicanus frontalis</i>	A	3.50
<b>WAXBILLS &amp; ALLIES - Estrildidae</b>			
Nutmeg Manikin	<i>Lonchura punctulata topela</i>	A	3.00

Key to Table 5.

**ST** Status

**I** Indigenous (i.e. native to Hawai'i, but also found elsewhere naturally) species

**IM** Indigenous migratory species

**EE** Endangered endemic (i.e., native and unique to the Hawaiian Islands) species

**A** Alien (i.e., introduced to Hawai'i by humans) species – established in the wild on Maui

**AD** Alien domestic species – not established in the wild on Maui

**RA** Relative Abundance: Number of birds detected divided by the number of count stations (2)



During the course of time-dependant water bird counts, 15 individual birds, representing five avian species from four separate families, were recorded within and adjacent to the pond (Table 4). Two of the species detected—Hawaiian Coot and the endemic (i.e., native and unique to the Hawaiian islands) sub-species of the Black-necked Stilt—are listed as endangered species under both the State of Hawaii and the federal endangered species programs (DLNR 1998, Federal Register 1999a, 1999b, 2001, 2002). One species, the Black-crowned Night-Heron or *auku`u* (*Nycticorax n. hoactli*), is an indigenous (i.e. native to Hawai'i, but also occurs elsewhere naturally) resident breeding species, and the remaining two species—Ruddy Turnstone or *akekeke* (*Arenaria interpres*) and Wandering Tattler or *ulili* (*Heterosceles incanus*)—are indigenous migratory shorebirds, which spend winters in the central and south Pacific.

A total of 99 individual birds representing 16 avian species from 12 separate families were recorded during variable circular plot (VCP) station counts (Table 5). All species detected during the time dependant water bird counts were also detected during the VCP counts, though not all individuals present were recorded using this census technique. In addition to the water bird species discussed in the previous paragraph, an additional 11 species were documented using this methodology. All of these additional species are alien (i.e., introduced to Hawai'i by humans), all but one of these species is considered to be established on Maui. The Red Junglefowl or *moa* (*Gallus gallus*) is an alien domesticated species; the three birds seen within the site probably escaped from captivity.

Four mammalian species were detected during the course of the surveys. We saw one small Indian mongoose (*Herpestes a. auropunctatus*), and detected sign and scat of domestic dog (*Canis f. familiaris*), cat (*Felis catus*), and pig (*Sus s. scrofa*) within the site. All of these introduced mammalian species are deleterious to native habitats and their denizens.

## Jurisdictions and Permits

The project area is within the County of Maui, Special Management Area (SMA). As such, an SMA Assessment application for the project will be submitted to the County Planning Department for review and approval. Although, North Pu'u Ola'i Pond is a jurisdictional wetland, the Army Corps of Engineers (ACOE) has waived the Department of the Army permit requirement provided that removal of trees from the wetland is accomplished as described (see Attachment B: letters). Likewise, discussion with the Department of Health indicated that an NPDES permit would not be required as long as trees were cut and removed, with stumps and underground roots left in place (i.e., no grading or grubbing of the site).

## Archaeological and Historical Sites

An archaeological inventory survey of the LD, LLC property was undertaken from 1999 through 2001 (Rotunno-Hazuka, Sinoto, and Titchenal, 2002). Some six separate sites were recognized, some consisting of multiple features with walls, enclosures, and burials. These features were mapped and test pits were dug, in order to establish possible ages of occupation and use. The results of the surveys were used to settle disposition of three historic period burials on the LD, LLC property. The burial sites and indeed much of the archaeological work conducted on LD, LLC land involved parts of the property not impacted by activities described in this EA. Nonetheless, the thorough inventory of this land was useful to establish what kinds of historical/archaeological sites are present in the area and some of the work did involve sites located directly adjacent to the pond (termed an "unnamed fishpond" by the archaeologists).

The adjacent Mākena State Park was previously surveyed in 1993 (Yent, 1993) and 1999 (Carpenter et al., 1999). Six concrete structures and four *ʻaʻa* mounds were recorded, as well as possible pre-contact sites. Apparently isolated human burials from the base of Puʻu Olaʻi were reported by the State (Griffin, 1988; Yent, 1989). An investigation of the State of Hawaii property surrounding the pond was recently undertaken to establish the total extent of features previously mapped on the LD, LLC land, yet known to extend beyond (Yent and Carpenter, 2004).

Although the majority of the archaeological survey work was in areas not directly in or even adjacent to the pond, some features were mapped and investigated within the project area as described for this EA. Notable are several rock walls or "rock wall complexes". Site 50-50-14-5209, as described by Rotunno-Hazuka, et al. (2002; see Figure 6 after Yent and Carpenter, 2004), is a short, single course, double alignment wall bordering the edge of the pond in TMK: 2-1-06: 34 (now 106, 107) & 74 (the latter parcel is part of Mākena State Park), which it is suggested may have been a perimeter wall for the fishpond although the remnant is only about 10 cm above the "wetland level" and as mapped perhaps 45-50 ft in length (no length-width dimensions given). This site was resurveyed in 2002 (O'Rourke, 2002) and a detailed drawing made of a 7 by 1 to 1.2 m (23 by ~3 ft) double alignment of rocks within 1 m of the shore of the pond. The site was described as continuing onto adjacent State property by Yent and Carpenter (2004), whose survey revealed there are actually some eleven ("A", "B", "C", "D", "F", "G", "I", "L", "M", "N", and "O" in Fig. 6). visible aligned stone or low wall segments that border the north through east to south margins of the pond (margins not buried by the dunes).

A portion of the Site 50-50-14-5210 rock walls in parcel TMK: 2-1-06: 34 (now 106), both free-standing and retaining are shown close to the north horn of the pond basin

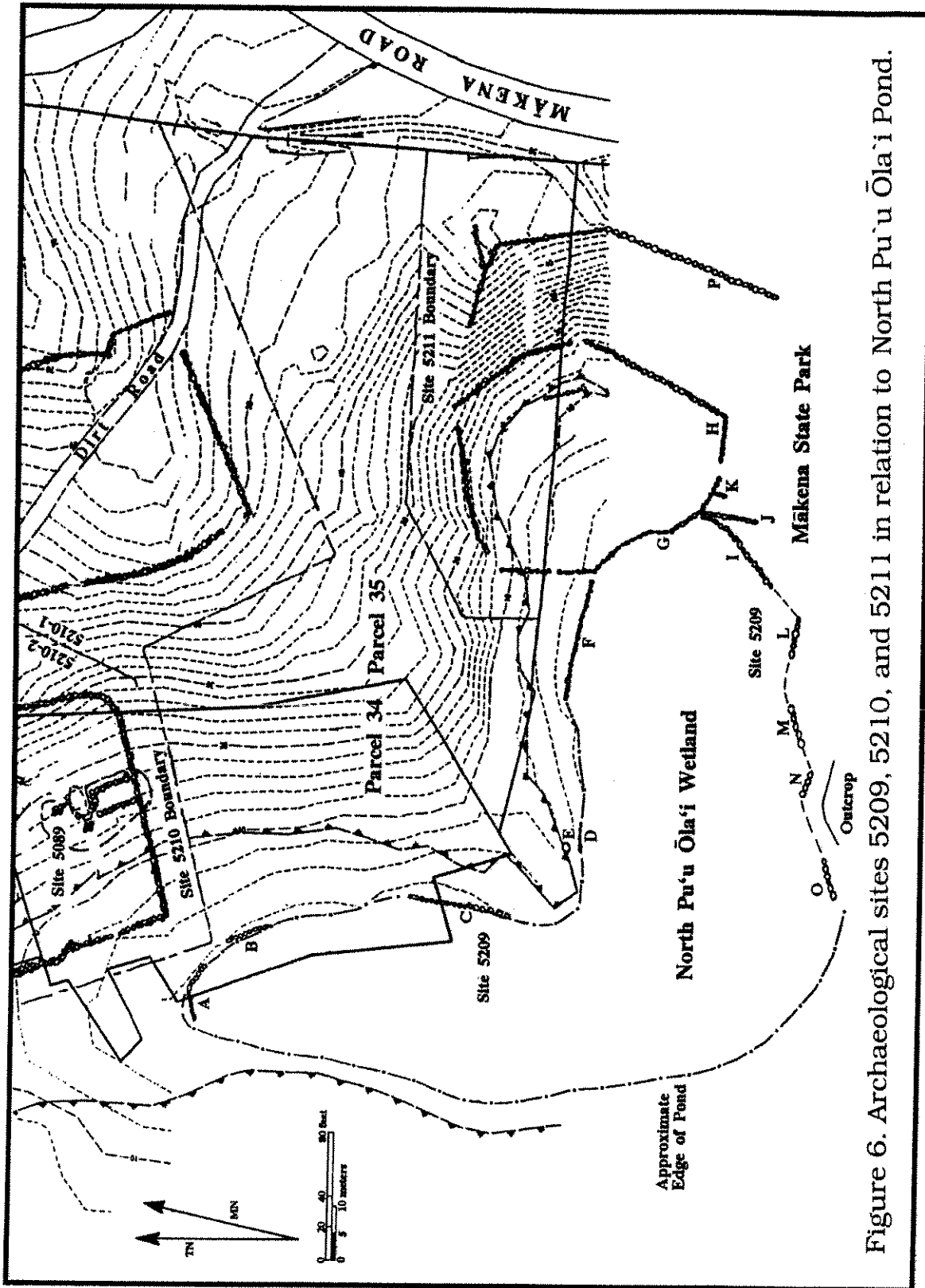


Figure 6. Archaeological sites 5209, 5210, and 5211 in relation to North Pu'u Ola'i Pond.

depression, built above the pond water level (as noted elsewhere, water level is probably responsive to sea level, but may go up or down depending upon balance between evaporation and precipitation for relatively brief periods of time). Finally, one or more free-standing walls associated with Site 50-50-14-5211 in parcel TMK: 2-1-06: 35 that clearly extend onto the Park parcel, TMK: 2-1-06: 32, and come close to the water line in the eastern horn of the depression (Rotunno-Hazuka, et al., 2002).

Yent and Carpenter (2004) agreed that the complex of walls recorded as Sites 50-50-14-5210 and 5211 and described as a crude walled enclosures, are historic. However, that portion of Site 5211, comprising a wall along the edge of the pond (Wall 7 in Rotunno-Hazuka, 2002), should be considered a part of Site 50-50-14-5209—the discontinuous wall feature that may have once surrounded all or much of North Pu`u Ōla`i Pond—as are several other walls possibly associated with site 5211, but located on State Parks land and not surveyed by Rotunno-Hazuka et. al. (2002).

Both reports describing the pond wall (Site 5209) recommend preservation of this feature as possibly of prehistoric significance (State Register of Historic Places, criteria C & D). A preservation plan for this feature on the LD, LLC parcel was prepared in 2003 (O'Rourke, 2003). The plan describes preservation of this feature in place and follows procedures as outlined in HAR (1996). The report by Yent and Carpenter (2004), also recommends preservation, and includes an "Interim Preservation Plan" pertinent to the entire Site 5209 complex (as well as site 5211), addressing the specific activity of removing *kiawe* trees as proposed in this EA. An archeological monitoring plan is being prepared for submittal to SHPD. Especially to be noted is the somewhat more extensive nature of the wall remnants based upon the most recent survey and shown in Figure 6. Also, the 2003 plan recommended leaving in place any trees within a buffer zone around a feature or leaning against a feature. It is being proposed that all trees around the pond be removed as the best ecological approach to restoring wetland functions. Further, if a few trees close to features are left standing without the protection of the surrounding forest, winds will eventually topple these trees, destroying or damaging the archaeological sites. Yent and Carpenter recommend modifying the preservation plan to allow removal of all trees as proposed, with the following considerations (2004, p. 29):

The wall sections have been schematically mapped, measured, and photographed as a means of documenting the condition of the walls prior to any removal of *kiawe* trees. It is proposed that these wall sections be mapped and documented in more detail once the trees are removed and the features are more visible.

Because of the dense growth of the *kiawe* trees in close proximity to the wall segments, extra caution must be exercised during the removal. For this reason, monitoring of the project [proposed in this EA] by a qualified archaeologist will be required during the clearing phase of the project...

The wall complex at Site 5210 is thought to be part of a house complex with the walls leveling portions of the site (retaining walls) and excluding livestock, perhaps dating to the period 1920-1940. State Register of Historic Places, criterion D. Preservation was deemed unnecessary, but it was suggested the walls be worked into future landscape plans if possible.

The walls at Site 5211 are interpreted as being a historic period livestock enclosure. A somewhat isolated alignment of rocks standing only about 10 cm. height and running parallel with the margin of the pond is suggested to have been a walking path (this is Wall 7 discussed above). It is interesting to note, and no discussion of this fact is provided in Rotunno-Hazuka, et al. (2002), that nearly half of the area enclosed by walls at Site 5211 is ground potentially influenced by the now salty conditions of the pond. One wonders if this is an indication that the water was once less saline, those that husbanded the stock purposely constructed it in an area where grass tended not to grow anyway, or use by livestock was seasonal. State Register of Historic Places, criterion D. Preservation was deemed unnecessary, but it was suggested the walls be worked into future landscape plans if possible. Yent and Carpenter (2004) recommend preservation of these walls as having significant potential to yield information about the past (criterion D), as well as their construction (criterion C).

## Impacts of the Project on the Environment

### Impact on Vegetation

The project involves the removal of a large number of trees from private and State lands. These trees are exclusively kiawe (*Prosopis pallida*)<sup>6</sup>. This species is non-native and extremely common in dry areas of the State. Most of the trees to be removed are previously toppled specimens, some of which have died, but many of which have continued to grow upwards from horizontal trunks. Other shrubs (generally few in number) that are not native to the Hawaiian Islands (or at least introduced by Polynesians before 1778) would also be removed from around the pond for a distance of approximately 50 ft (15 m) back from the water line. Grasses (found mostly on the north and east sides) may be damaged by tree removal, but would not be grubbed out and can be expected to recover quickly. Only in the area on dunes between the pond and the ocean would some trees be kept to insure that shade for beach-goers is preserved. The overall impact of this action is primarily the enhancement of habitat for water birds utilizing the pond. Along the pond shore and in areas of clearing of trees, mitigation will consist of replanting with native species to replace the vegetation loss. Close to the ponds this new vegetation will be low-growing species, but elsewhere would

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<sup>6</sup> Rotunno-Hazuka, et al., 2002 (repeated in O'Rourke, 2003) state that mangrove is present in the pond. This is probably an error, as the environment is not conducive to the American mangrove common in the Islands and no mangroves were observed in our survey. This non-native species is a pest and would be removed if encountered.

include trees like the native wiliwili (*Erythrina sandwicensis*). The wiliwili is found in scattered locations within the Park and elsewhere close by. A list of other species being considered is provided in AECOS Consultants (2003).

## Impact on other Natural Features

The purpose of the project is to improve on the natural environment in a way that is particularly favorable to native plants and animals. Thus, work that is particularly disturbing to the endangered species of water birds will need to be conducted in a sensitive manner. This may require ceasing the tree cutting and removal once the stilt breeding season begins. Project activity will be regularly monitored to ensure that disturbance to endangered species is avoided.

The final design and placement of the viewing platform, fence, and interpretive signs will be in consultation with the State Parks, giving due consideration of the needs and future development plans for the park as well as in consultation with wildlife biologists to ensure a location that minimizes impacts to the wildlife.

A portion of the project involves the coastal dune behind Naupaka Beach. As described on page 8, the beach and windblown sand (dune) inland from the beach establishes the pond itself. Dunes, and particularly native dune vegetation, can be sensitive to certain kinds of activities. The dune at North Pu'u Ōla'i Pond lacks significant vegetation, presumably because of dense kiawe growth: the trees shade and remove too much water from the sandy soil. Consequently, to the extent that these trees are removed, the native dune vegetation has an opportunity to recover. Disturbance of the surface by large equipment is also a concern, and removal of trees in the dune area will be limited to hand-cutting and removal from the dune by man-power alone. Finally, the proposed observation platform is proposed for an area at the back end of the dune adjacent to the pond. This structure will have no real impact on the dune, but cannot be moved further back owing to sensitivities to wildlife and cultural artifacts. However, the exact placement of the structure will attempt to balance all three sensitivities: minimizing impact of the access trail on the dune, avoiding any disturbance of the cultural resources, and positioning so as to minimize human presence on more remote parts of the pond.

## Impact on Water Quality

Disturbances within the surrounding mudflat and basin slopes are unavoidable and could have a short-term impact on water quality of the pond. In general, potential impacts would be temporary and would not extend to nearby marine waters (i.e., the Pacific Ocean) because the pond is clearly isolated from the ocean. However, where there is opportunity for land that is disturbed to potentially contribute sediment in runoff to the pond, silt fences will be erected. In general, this would be any area of steeply sloping ground (east and southeast sides of the pond) that has the vegetation

cover removed. Preventing excess silt or soil from running into the pond is extremely important as there can be no significant change in the bottom elevation of the pond as a result of the work. Any shoaling of the pond will impact on the hydrology and the viability of the site as water bird habitat. The contractor(s) should also use standard Best Management Practices (BMPs: e.g., proper maintenance of equipment, fueling in areas where spills can be dealt with, and having suitable fuel/oil spill clean-up materials on-hand) to insure that no fuel or oils are leaked into the pond, and that any spills of these or other chemicals on lands surrounding the pond be cleaned up immediately.

## Impact on Archaeological Features

Archaeological surveys of the area have identified remains of structures within the project area. These are considered significant for their information content (criterion D). The recent DLNR survey (Yent and Carpenter, 2004) confirms that two sites (5209 and 5211) described from the LD, LLC land extend well onto the state parcel. Conclusions of the archaeological surveys on the TMK: 2-1-06: 34 & 35 have been accepted by the State Historic Preservation Division (SHPD; DLNR, 2003a), as has the Site Preservation Plan (DLNR, 2003b). An interim preservation plan that addresses sites 5209 and 5211 has been prepared (Yent and Carpenter, 2004) and submitted to SHPD. An archaeological monitoring plan will be prepared, submitted to SHPD, and approved prior to any removal of kiawe. The final preservation plan will be adhered to. The plan requires that the wall remnants be marked and that work around them be monitored to insure that rock work is not disturbed. Care will be taken to ensure that the old walls of historic origin located near the pond or in the project area are also not disturbed by the tree removal activities. Additional archaeological mapping and testing is proposed on State Parks land after the trees are removed. This work will precede any additional work, such as fencing and construction of the proposed viewing platform. The proposed activities, if done with sensitivity to the archaeological remains, will improve the preservation of the features.

The predator control fence will be placed far back from pond margin (at least 20 ft or 7 m in most places) and will avoid the remnant pond wall, Site 5209), but may need to cross one or two historic period rock walls (Site 5211 as now described). In this event, the wall structure will be carefully and minimally removed to allow the fence to cross, and rocks replaced to the extent possible. This approach is in keeping with the conclusion of the archaeological survey reports that these features be retained on the landscape if possible.

## Cultural Impacts Assessment

The proposed activity is not anticipated to have any impacts on community activities of cultural significance. The site is located partly on private land and partly in a part of Mākena State Park that is little utilized by the public. Access through the area will not

be impacted because all existing roads, parking areas, and coastal and pu'u access routes will be unaffected (some inconveniences may occur during removal of cut logs; see below). Access to and along the shoreline will not be affected.

The project involves removal of a non-native species of tree that is harmful—in the situation as it exists at the Park—to the ecology of numerous species of both native wetland birds and native coastal (strand) vegetation. Therefore the proposed action is an enhancement of resources and opportunities for cultural activities related to dry coastal environments. One goal of the project is to increase public awareness of native Hawaiian ecosystems by providing a viewing area from within the park of the enhanced wetland and native plantings. The proposed predator fence will limit access to the pond as it is considered important for enhancing the potential for breeding by endangered Hawaiian stilt and possibly other species. Access to the wetland area for active Hawaiian cultural practices will be available through State Parks land.

### Impact on Park Use

For the most part, the impact on Mākena State Park and park use is anticipated to be minimal. The vast majority of park use is at the south end (Big Beach and Pu'u Ōla'i) where there exists a paved entrance road and paved parking area. The proposed activities are remote from that area, off an unimproved road to a small parking area directly on the north side of Pu'u Ōla'i. This road is used primarily by those wishing to either visit the small beach north of the pu'u, or sightseers. It is possible that there may be times when this road needs to be closed or at least traffic monitored if trucks are used to haul away the cut wood. Another haul away is across LD, LLC land and this will have no impact on the public other than minimal truck and equipment traffic on the public road (Makena Alanui Road).

Most of the activity, including temporary storage of felled trees, can be accomplished without interfering with public access to the north side of Pu'u Ōla'i. Removal of trees from the areas proscribed will not decrease or adversely impact on the value of the park to the public and will not alter (either improve or otherwise) the view from public roadways outside the park because tree removal is limited to a 50-foot wide perimeter around the pond. The cleared zone will be visible only from LD, LLC land and in the park (Naupaka Beach and associated parking area). Nearly all of the trees are in places little used by the public. The only exception being trees located on the dunes behind the beach. These can provide shade for beach-goers. Therefore, not all trees in this area will be removed. Those clearly providing benefit to beach-goers will be left alone. Because this area is all on State land, the decision to remove some or none of these trees will rest entirely with State Parks. Their removal is not viewed as critical to improving water bird habitat except where the trees have fallen into the pond. In these cases, it is unlikely that public benefit of either shade or view is important.



Although some noise will be generated by the activity, especially the use of chain saws to fell trees, this action is short term and no residences are located near the project (the closest is the DOCARE residence south of Pu`u Ola`i—over 650 m or 2100 ft distant; see Fig. 4). The work day will be a standard 8 am to 5 pm; no night work is required. Other surrounding properties are either undeveloped or developed in golf courses.

## Alternatives

There are three ponds or playas at Mākena State Park, any of which could be enhanced to improve use by water birds. The North Pu`u Ōla`i Pond has the greatest potential to successfully increase native waterbird habitat in the area. The proposed enhancement of this wetland provides opportunity for a significant cooperative activity between Puu Olai North Wetland Management Association and the State DLNR. The opportunity is primarily one of willingness of one party to provide funds for a common goal of enhancing an existing wetland. Additionally, the contribution of private funds can be significant for obtaining matching Federal money through grants to improve Mākena State Park and restore native wildlife use of a presently degraded wetland. Because the enhancement effort is very site specific, this project as described could not be moved to another location.

Various elements of the project as proposed could be modified to minimize impacts identified. However, these reductions in scope could seriously jeopardize success in terms of creating a viable refuge for the water birds.

Finally, alternatives exist with respect to both the proposed predator fence and public viewing platform. Alternatives include no construction as well as design and location variations. These aspects of the project are included to enhance utilization of the area by bird species and the public, best achieved by providing clear separation for the safety and minimization of disturbances to the avian inhabitants and an information/observation point for park visitors.

## Discussion and Conclusion

North Pu`u Ōla`i Pond is a small gem of a wetland tucked away and protected on State land at Mākena State Park. Although of small size (2-3 acres at most), this wetland is a significant natural feature because its ecology (a coastal poikilohaline pond) supports significant invertebrate resources, which in turn attract several species of water birds, including two of four extant endangered waterbird species known from Maui: the endemic sub-species of the Black-necked Stilt or *ae`o* and the Hawaiian Coot or *ala`e keokeo*.

The dominant vegetation is *kiawe*, an introduced tree, which forms a monotypic forest around the pond margin. Presently, the pond and surrounding mudflats are so dominated by fallen, but still-growing, *kiawe* trees that no other plants occur within the saline mudflat zone. *Kiawe* only survives close to and within the pond because the trunks have fallen across the flats, the trees still rooted in upland soil beyond. These trees pose a threat to use of the wetland by water birds: once the canopy has completely closed over the open water, access will be denied these birds.

Were the *kiawe* to be removed, the flats could support an *'Akulikuli* (*Sesuvium*) *Herbland* community type. This native plant community is dominated by *'akulikuli* (*Sesuvium portulacastrum*), a mat-forming, succulent halophyte (Gagne and Cuddihy, 1990). Other species usually seen in this community are *Fimbristylis cymosa* (a sedge, *mau`u`aki`aki*), *Lycium sandwicense* (*'ohelo kai*), and *Heliotropium curassavicum* (*kīpūkaī*). The community is displaced by non-native pickleweed (*Batis maritima*) in most occurrences of the habitat in the Hawai'i. This is the case at the largest poikilohaline pond system on O`ahu at Nu`upia (Mōkapu Peninsula, windward O`ahu; AECOS, 1985). Pickleweed also dominates most or all of the coastal wetlands in the Kihai area of Maui, including Keālia Pond NWR. Indeed, since pickleweed is somewhat more shade tolerant than the native herbs, it is surprising that this plant is not already established at Mākena Beach Park. It is not uncommon to find a *Prosopis/Batis* association in dry areas where the soils are salty and subjected to occasional flooding by saline water. Given the isolation of the North Pu`u Ōla`i wetland, pickleweed could probably be kept out and the native community established without much difficulty once full exposure to sunlight is restored. The native species described for this environment (*'akulikuli*, *mau`u`aki`aki*, *kīpūkaī*, and *'ohelo kai*) are relatively common in coastal regions of the main islands.

From a water bird perspective the pond in its current condition represents a good loafing and foraging site for Black-necked Stilts, and a marginal foraging area for Hawaiian Coots. The lack of aquatic vegetation along the perimeter of the pond all but excludes usage of the site by the endangered endemic sub-species of the Common Moorhen or *'alae`ula* (*Gallinula chloropus sandwicensis*), which is a secretive species usually absent from wetlands that do not support dense edge vegetation. The absence of safe places for either stilt or coot nest construction likely precludes nesting by either of these two endangered water bird species. The shoreline of the pond with its dense concentration of insect life represents a wonderful loafing and foraging area for migratory shorebirds. More than 50 species of migratory and extralimital shorebirds have been recorded from the Hawaiian Islands (Pyle, 2002). The current *kiawe* thicket obscures most of the shoreline reducing access to these resources by avian species.

Puu Olai North Wetland Management Association and State Parks are proposing that improvements to the wetland and its margin on State property and to the upland pond

margin on adjacent LD, LLC property could mutually benefit all parties and the public as well by creating an improved natural asset at the State Park.

## Expected Determination

Finding of no significant impact (FONSI).

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Attachment A: Conceptual wetlands enhancement plan and drawings prepared by North Pu`u Ōla`i Wetland Management Association. New Private Parcels map showing current parcel layout for the private parcels around the North Pu`u Ōla`i wetland.

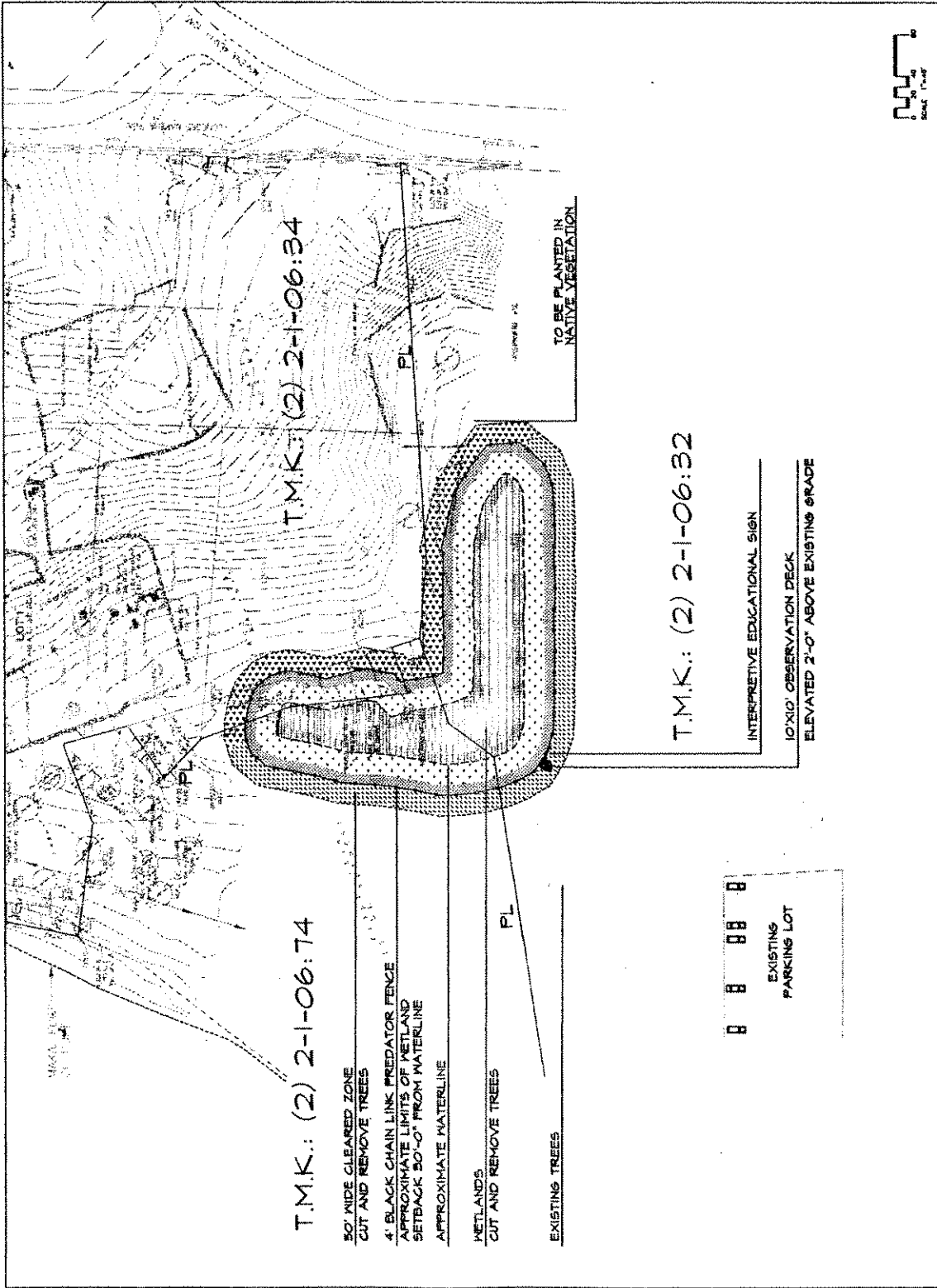
Attachment A: Conceptual wetlands enhancement plan and drawings prepared by North Pu`u Ōla`i Wetland Management Association. New Private Parcels map showing current parcel layout for the private parcels around the North Pu`u Ōla`i wetland.

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**Makena Park Wetland Enhancement**  
 Kula, Maui, Hawaii  
 115 Kawela Place

Project No.	11512
Project Name	Makena Park Wetland Enhancement
Client	
Scale	1" = 20'
Date	10/1/06
Sheet No.	1-4
Total Sheets	4
Author	
Checker	
Engineer	
Surveyor	
Photographer	
Printer	
Plotter	
Scale	
Date	



T.M.K.: (2) 2-1-06:74

50' WIDE CLEARED ZONE  
CUT AND REMOVE TREES

4' BLACK CHAIN LINK PREDATOR FENCE  
APPROXIMATE LIMITS OF METLAND  
SETBACK 50'-0" FROM WATERLINE  
APPROXIMATE WATERLINE

METLANDS  
CUT AND REMOVE TREES

EXISTING TREES

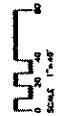
EXISTING  
PARKING LOT

T.M.K.: (2) 2-1-06:32

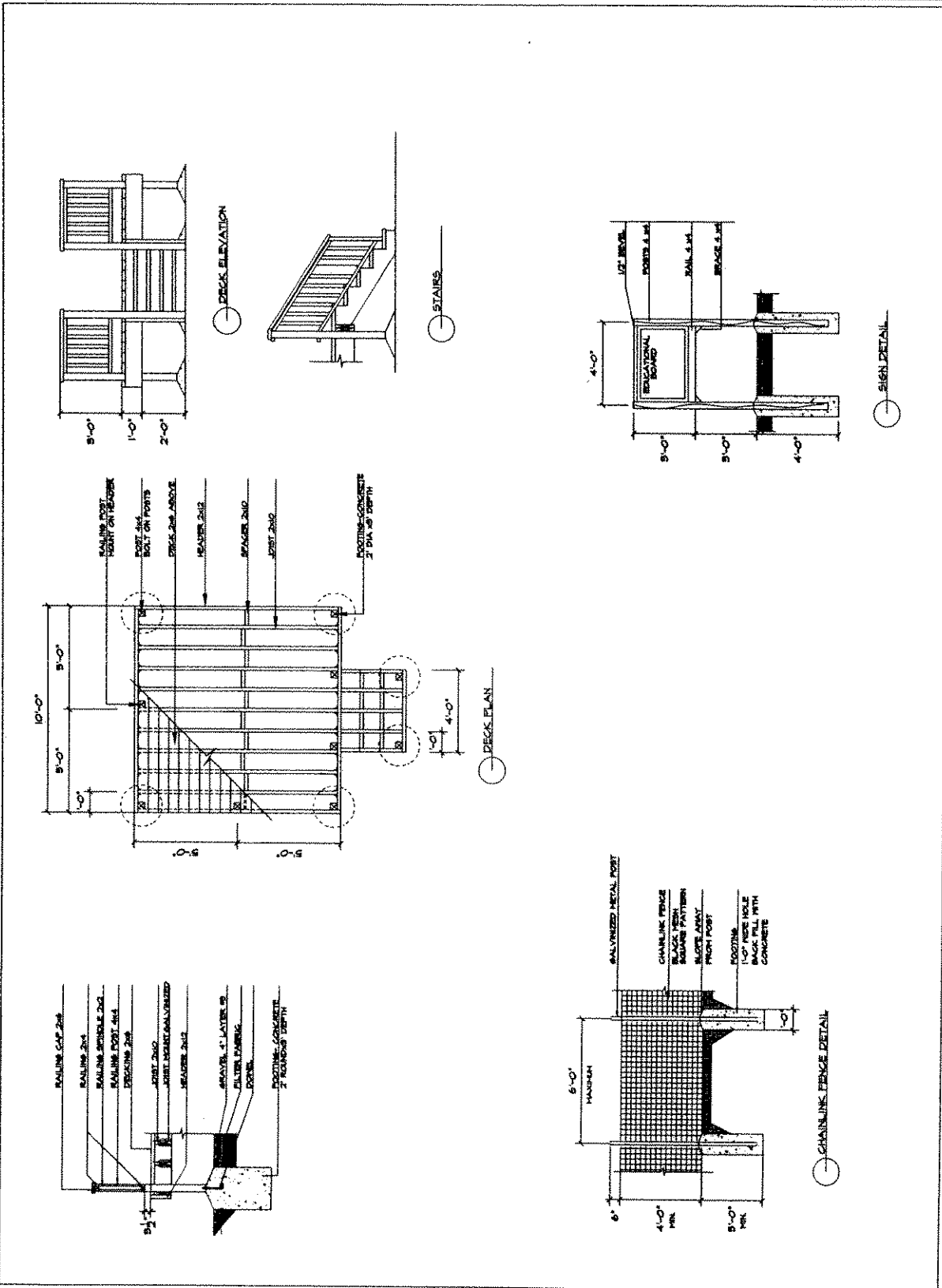
INTERPRETIVE EDUCATIONAL SIGN

10'x10' OBSERVATION DECK  
ELEVATED 2'-0" ABOVE EXISTING GRADE

TO BE PLANTED IN  
NATIVE VEGETATION







DATE	
DRAWN BY	
CHECKED BY	
APPROVED BY	
PROJECT NO.	
SHEET NO.	
TOTAL SHEETS	
DATE	
BY	
FOR	

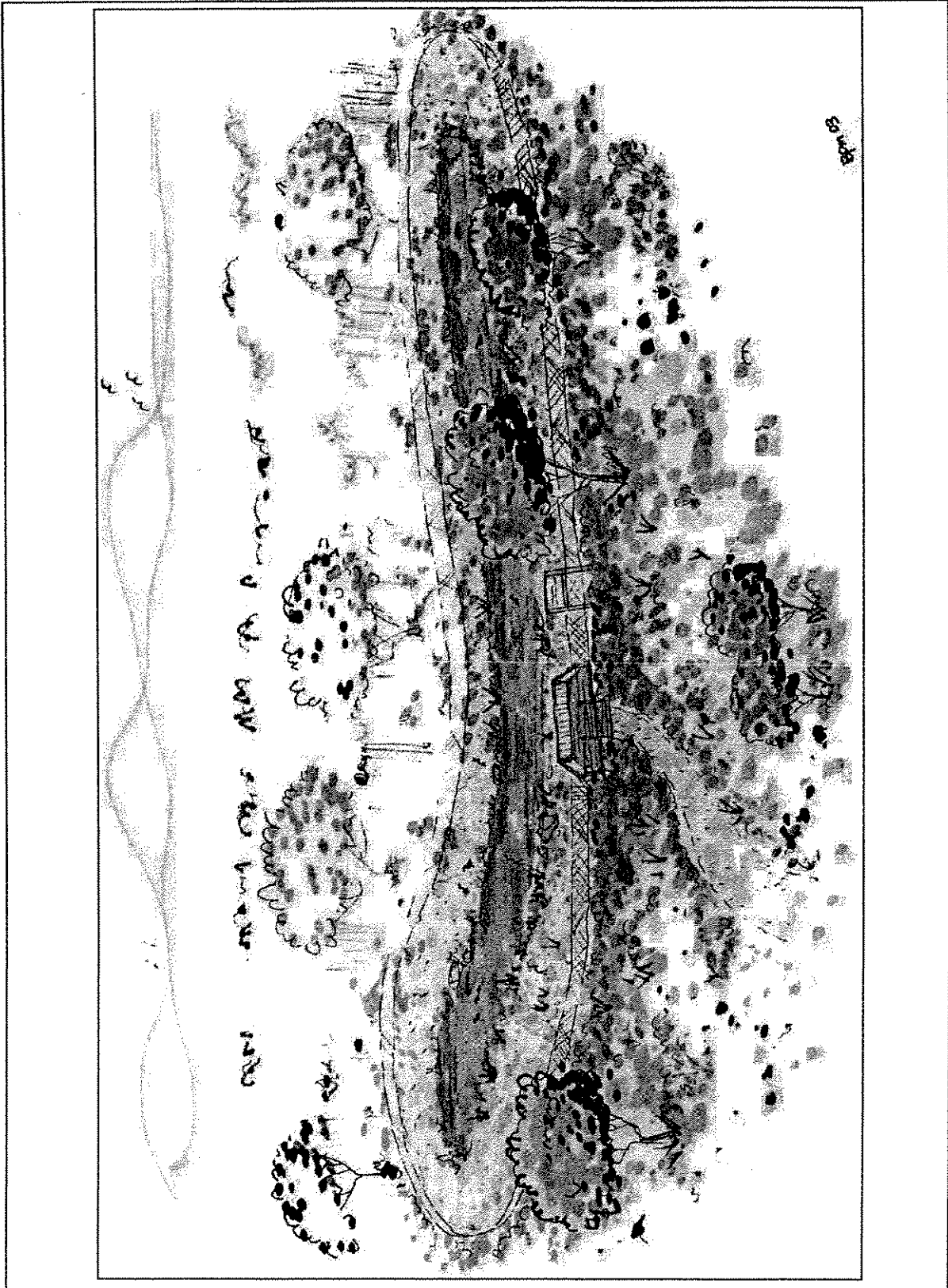
Project No. Landscape Architecture Change Proposals

### Makena Park Wetland Enhancement

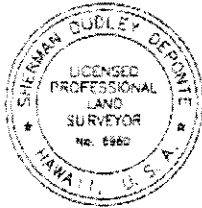
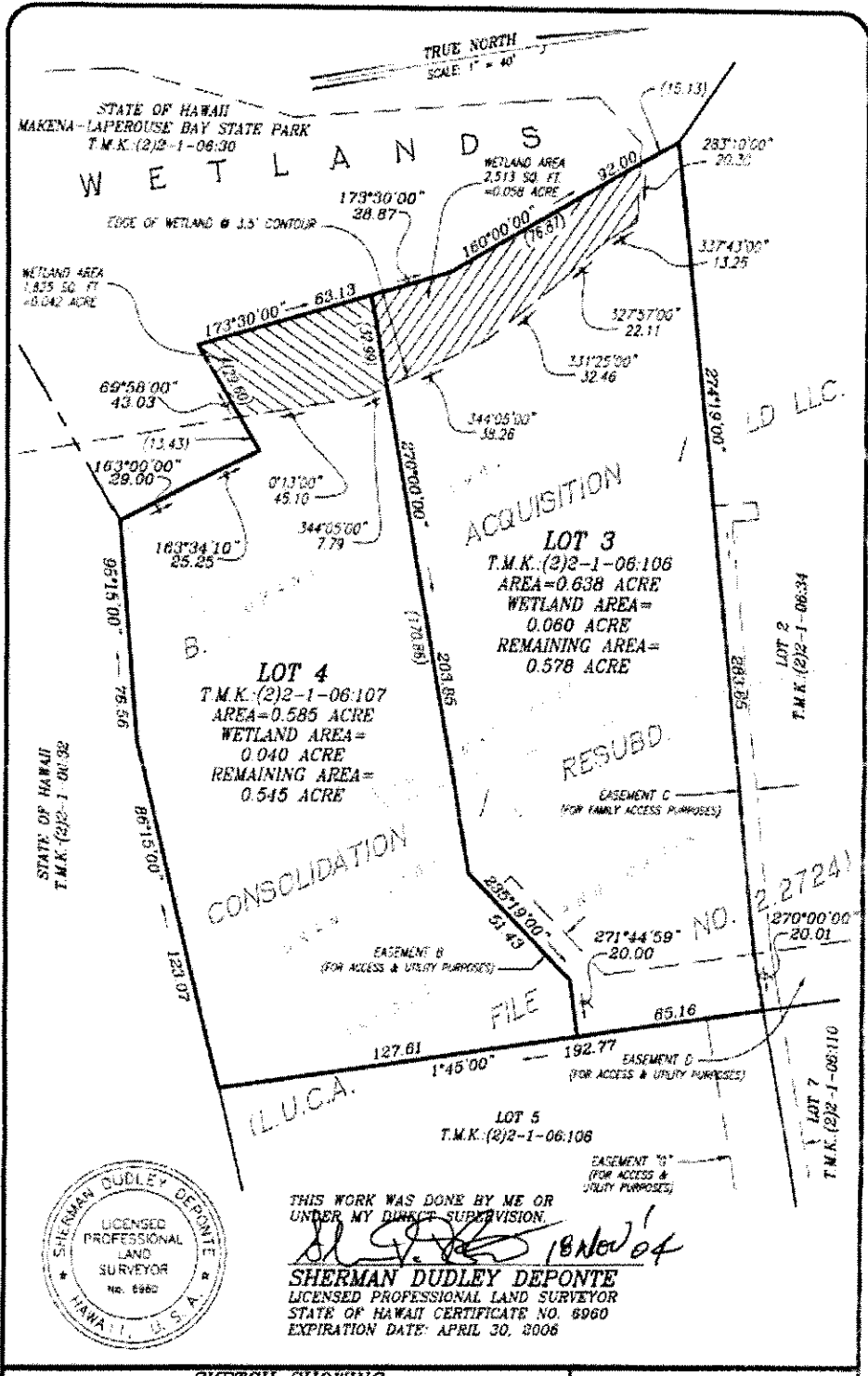
115 Kaweli Place  
Kula, Maui, Hawaii



**Maaxwell Design Group, Inc.**  
 115 Kaweli Place  
 Kula, Maui, Hawaii 96753  
 Phone: (808) 233-1155  
 Fax: (808) 233-1156  
 E-mail: info@maaxwell.com  
 Website: www.maaxwell.com



Sheet 17



THIS WORK WAS DONE BY ME OR UNDER MY DIRECT SUPERVISION.  
*Sherman Dudley Deponte*  
**SHERMAN DUDLEY DEPONTE**  
 LICENSED PROFESSIONAL LAND SURVEYOR  
 STATE OF HAWAII CERTIFICATE NO. 6960  
 EXPIRATION DATE: APRIL 30, 2006

<b>SKETCH SHOWING</b>	
WETLANDS TO PROPERTY BOUNDARY LINE RELATIONSHIP FOR LOTS 3 & 4 OF THE "B. ACQUISITION/LD LLC. CONSOLIDATION/RESUBDIVISION" (L.U.C.A. FILE NO. 2,2724)	
<b>AKAMAI LAND SURVEYING, INC.</b> P.O. BOX 1748 MAKAWAO, MAUI, HAWAII 96789	
JOB NO. 203587W	SCALE: 1" = 40'
T.M.K.: (2)2-1-06:106 & 107	
DATE: 11/11/04 SHEET 1 OF 1	

**Attachment B: Correspondence**

# AECOS Consultants

- 45-309 Akimela Pl. ~ Kāne'ohe ~ 96744 ~ 808-236-1782

March 22, 2004

George Young, Chief  
Regulatory Branch (CEPOH-EC-R)  
U.S. Army Engineer District Honolulu  
Bldg. 320  
Ft. Shafter, Honolulu 96858-5440

Dear Mr. Young,

This letter is a request for a determination of Department of the Army requirements for a tree removal project by Pacific Rim Land and LD, LLC at Makena, on the island of Maui. A map is attached showing the project plans. The project would involve removal of kiawe trees from a specified distance around an isolated, poikilohaline, coastal wetland located partly on private property and partly on state land at Makena State Park. While the kiawe trees do not root in the salty soils or sediment of the pond, a great many of the trees surrounding the pond have fallen into the water and across the "mudflats" over period of decades or longer. Some of these trees continue to grow if their roots remain viable in soil above the influence of the pond (others have died). The result is that this ~3 acre wetland with tremendous potential as Hawaiian stilt habitat is over 60% obscured by fallen trunks of small to large kiawe trees. Removal would be done entirely by hand using saws (pruning saws and chain saws). Trees would be hand cut near the base and removed. Stumps would NOT be pulled out to avoid excessive disturbance of the ground that could result in excessive runoff into the pond during the wet season. Living stumps (all outside of the wetland) may need to be poisoned in some cases to prevent regrowth, and some toppled trunks would be removed where exposed roots can be cut.

Because of the size of the trees, equipment such as a backhoe and/or small crane would be needed to recover the larger cut trunks from the wet areas. The equipment would not need to enter the wetland to accomplish this task, although some large trunks would have to be dragged from the wetland using cables. Dragging would have no adverse impact on the pond ecosystem, which is shallow, entirely silty-sand, and without any wetland plants (because of the salinity) other than a few scattered specimens of Widgeon grass. The project will be funded entirely by LD, LLC and/or grants obtained by LD, LLC. Because of rock walls in the area, the State of Hawaii, Department of Parks (under DLNR) will be sponsoring an Environmental Assessment

through the State HRS 243 process. We can provide your office with a copy of the draft EA once it is completed.

The purpose of this tree removal is to improve the habitat for endangered waterbirds. The pond, called the North Pu'u Ola'i Pond, is one of the last coastal wetlands in the Kihei-Makena area not adversely impacted by introduced plants (such as pickleweed or *Batis*) or fishes (such as tilapia and poeciliids), with the exception of the large numbers of introduced kiawe. While this tree is not typically associated with wetlands, it is relatively salt tolerant and drought resistant; large numbers of trees have toppled over the years, presumably because of sandy soils and occasional strong winds in the area. The project would greatly enhance the view for both the private land holder and visitors to Makena State Park. Eventually a predator control fence and a viewing platform would be added to enhance the area for water birds and persons visiting the park interested in viewing waterbirds.

We note that Bill Lennon of your office has visited the site to help determine where on the private land construction should not occur to avoid the wetlands. Also, a wetland determination was undertaken by Vuich Environmental Consultants (2000), later revised by AECOS Consultants (2003). The project is currently under review by the County of Maui as part of an SMP application.

We look forward to your determination for this very worthy project.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Guinther". The signature is fluid and cursive, with a large initial "E" and "G".

Eric Guinther

Cc: John Maloney, Pacific Rim Land



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

March 29, 2004

REPLY TO  
ATTENTION OF

Regulatory Branch

Mr. Eric Guinther  
AECOS Consultants  
45-Akimala Place  
Kaneohe, Hawaii 96744

Dear Mr. Guinther:

This letter responds to your request on behalf of Pacific Rim Land and LD, LLC (LD, LLC), dated March 22, 2004 for a jurisdictional determination for the removal of trees from a wetland in Makena on Maui. Based on the information you provided and a site visit by a member of my staff on June 12, 2003, I have determined that the wetland is a water of the U.S. within the Department of the Army (DA) jurisdiction.

Provided the removal of trees is accomplished as described in your letter (by hand/chain saw, stumps left in place, cut trunks removed by hand or with backhoe or small crane), a permit will not be required for the work. If the removal methods change, you must re-coordinate with this office to determine permit requirements. This does not relieve LD, LLC from obtaining other authorizations from the State of Hawaii or the County of Maui.

If you have any questions concerning this determination, please contact Mr. William Lennan of my staff at 438-6986 or FAX 438-4060, and reference File No. 200400252.

Sincerely,

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

State of Hawai'i  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of State Parks  
Honolulu, Hawai'i 96813

February 27, 2004

Board of Land and Natural Resources  
State of Hawai'i  
Honolulu, Hawai'i

**SUBJECT: Establishment of Curatorship Agreement for the North Pu'u Ola'i Wetland,  
Makena State Park, Maui**

The Curator Program began as a joint effort of the Historic Preservation Division and State Parks in 1987 to encourage community involvement in the care and management of historic and cultural sites on State-owned properties. As these groups have become established, the curator responsibilities have expanded to include interpretation, assistance with visitor services, and site restoration. There are currently nine (9) curator organizations statewide under State Parks. With this proposed curatorship agreement for the care, management, and interpretation of a wetland and waterbird habitat, the program is expanding to incorporate the natural resources in the state park system.

The North Pu'u Ola'i wetland is one of three (3) such features within Makena State Park along the shoreline of southwest Maui. This 3-acre wetland or pond is located behind the coastal dune and to the north of Pu'u Ola'i, the large cinder cone in the park. This wetland is significant as a potential habitat for Hawai'i's endangered waterbirds, specifically the Hawaiian Coot and the Hawaiian stilt. The saline pond and surrounding mudflat is currently covered by a dense growth of *Kiawe* trees. Also referred to as a fishpond, an archaeological survey located a low, stacked rock wall along the northern side of the pond. A preservation plan for this wall (Site 6209) was prepared in 2003 and approved by the State Historic Preservation Division.

The Pu'u Ola'i Wetland Management Association proposes to restore and manage the pond that encompasses mostly state-owned land within Makena State Park (TMK: 2-1-08: 32 and 74) and a small area of privately owned land (TMK: 2-1-08: 34 and 35). The current owner of the private parcels is LD, LLC who believes that it is in their best interest to restore and manage the pond. As curators, the Association agrees to work closely with State Parks, the State Historic Preservation Division and the Division of Forestry and Wildlife on the restoration, management, and interpretation of the wetland. They have also agreed to obtain all required permits, including an SMA permit and a revised Preservation Plan, and will consult with the Army Corps of Engineers on the project. The required approvals will be obtained prior to initiating any restoration work at the wetland.

A restoration plan and an Environmental Assessment (EA) have been prepared by the Pu'u Ola'i Wetland Management Association. In the plan, the Association proposes to remove the dense growth of *Kiawe* from the pond area, approximately 100 trees, and thin out the *Kiawe* along the coastal dune. Native vegetation will be planted along the edges of the pond to encourage the return of the waterbirds. The Association plans to install a chain-link fence around the pond to control predators and bird counts will be taken to assess the success of this project. An annual report will be prepared and submitted to DLNR.

Item E-5



The wetland will be available for public viewing from the park. To reduce the impacts of visitation on the waterbirds, the Association proposes to install pathways, viewing platforms, and interpretive signs in consultation with DLNR. Community groups will be encouraged to participate in the restoration, interpretation, and bird counts.

The Association plans to fund the restoration and management costs through grants matched with their own funds. They will not request or require any State funds. Although the curatorship agreement is for a 5-year period, the Association has indicated their intention of caring for the wetland in perpetuity. Successors of each lot owner will be members of the Association as outlined in the legal documents of the Association.

**RECOMMENDATION:**

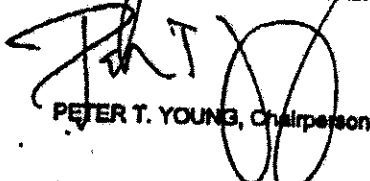
State Parks encourages community involvement and assistance with the care, management, and interpretation of the natural and cultural resources in the parks through the curator program. The Pu'u Ola'i Wetland Management Association has indicated a willingness to carry out their responsibilities as curators and to work closely with State Parks to insure that the guidelines established in the curator agreement are followed. Therefore, we recommend that the Pu'u Ola'i Wetland Management Association be approved as the curators for the North Pu'u Ola'i Wetland within Makana State Park for a 5-year term.

Respectfully submitted,



DANIEL S. QUINN  
State Parks Administrator

APPROVED FOR SUBMITTAL:



PETER T. YOUNG, Chairperson

Attachment: Draft Curatorship Agreement

ALAN M. ARAKAWA  
Mayor  
GILBERT S. COLOMA-AGARAN  
Director  
MILTON M. ARAKAWA, A.I.C.P.  
Deputy Director



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

RALPH M. NAGAMINE, L.S., P.E.  
Development Services Administration  
TRACY TAKAMINE, P.E.  
Wastewater Reclamation Division  
LLOYD P.C.W. LEE, P.E.  
Engineering Division  
BRIAN HASHIRO, P.E.  
Highways Division  
JOHN D. HARDER  
Solid Waste Division

September 22, 2004

Eric B. Guinther  
AECOS Consultants  
45-309 Akimala Pl.  
Kaneohe, Hawaii 96744

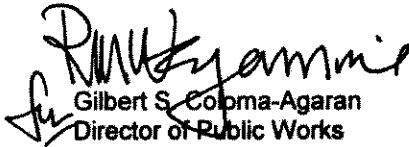
Subject: Draft Environmental Assessment for Makena State Park  
TMK (2) 2-1-006: 032, 034, & 074

Dear Mr. Guinther:

We reviewed the subject application and have no comments at this time.

Please call Milton Arakawa at 270-7845 if you have any questions regarding this letter.

Very truly yours,

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

RMN/bs  
S:\LUCA\CZM\Draft Comments\21006032\_Makens\_State\_Park\_dca\_no\_comments.wpd

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# AECOS Consultants

45-309 Akimala Pl.  
Kaneohe, Hawaii 96744  
(808) 247-4906 FAX: (808) 236-1782 Email: Guinther@hawaii.rr.com

---

November 1, 2004

County of Maui  
Department of Public Works and Environmental Management  
Development Services Administration  
250 South High Street  
Wailuku, Maui, Hawaii 96793  
Attn: Gilbert S. Coloma-Agaran  
Director of Public Works

October 25, 2004

**Subject: Draft Environmental Assessment (DEA) for  
Enhancements of an Isolated Coastal Wetland,  
Makena State Park, Makena, Island of Maui  
TMK: Nos.: (2) 2-1-006:032, 034 & 074.**

Dear Mr. Coloma-Agaran,

We are in receipt of your letter responding to the subject Environmental Assessment document. Thank you for reviewing the document.

Sincerely,



Eric B. Guinther

LINDA LINGLE  
GOVERNOR OF HAWAII



**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**  
HISTORIC PRESERVATION DIVISION  
KAKUHIHEWA BUILDING, ROOM 555  
601 KAMOKILA BOULEVARD  
KAPOLEI, HAWAII 96707

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

DAN DAVIDSON  
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU  
DEPUTY DIRECTOR - WATER

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

October 4, 2004

Eric B. Guinther  
AECOS Consultants  
45-309 Akimaha Place  
Kaneohe, Hawaii 96744

LOG NO: 2004.2958  
DOC NO: 0409CD63

Dear Mr. Guinther,

**SUBJECT: Chapter 6E-8 Historic Preservation Review – Draft Environmental Assessment:  
Environmental Assessment for Enhancement of an Isolated Coastal Wetland at  
Makena State Park, Makena, Maui  
Mo'oiki Ahupua'a, Makawao District, Island of Maui  
TMK: (2) 2-1-006:032, 034, & 074**

Thank you for the opportunity to review and comment on the Draft Environmental Assessment: Environmental Assessment (Draft EA) for Enhancement of an Isolated Coastal Wetland at Makena State Park, Makena, Maui, which was received by our staff August 31, 2004.

Based on the submitted Draft EA, we understand the proposed undertaking consists of improvements to wetland habitat for native water and shore birds at Makena Beach Park and an adjacent private parcel. The proposed improvements include the removal of a large number of alien kiawe trees that have toppled into an isolated coastal wetland. The proposed improvements would include replanting with native vegetation, enclosing the wetland with a predator control fence, and construction of a small visitor viewing platform.

State Parks has recently submitted a report documenting the supplemental archaeological inventory survey and includes an interim preservation plan. This document is currently under review by this office. Thus, we are unable to provide comments pertaining to the proposed undertaking at this time. We will be better able to provide comments upon the completion of our review of the report.

Given the above information, we recommend that no action be taken on the proposed undertaking until we have completed our review of the archaeological inventory survey report, and advise you of our findings and recommendations.

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

Aloha,

P. HOLLY MCELLOWNEY, Administrator  
State Historic Preservation Division

CD:jen

c: Michael Foley, Director, Dept of Planning, 250 S. High Street, Wailuku, HI 96793  
Maui Cultural Resources Commission, Dept of Planning, 250 S. High Street, Wailuku, HI 96793

---

# AECOS Consultants

45-309 Akimala Pl.

Kaneohe, Hawaii 96744

(808) 247-4906 FAX: (808) 236-1782 Email: Guinther@hawaii.rr.com

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November 1, 2004

State of Hawaii  
Department of Land and Natural Resources  
Historic Preservation Division  
Kakuhihewa Building, Room 555  
601 Kamokila Blvd.  
Kapolei, Hawaii 96707

Attn: P. Holly McEldowney, Administrator

**Subject: Draft Environmental Assessment (DEA) for  
Enhancements of an Isolated Coastal Wetland,  
Makena State Park, Makena, Island of Maui  
TMK: Nos.: (2) 2-1-006:032, 034 & 074.**

Dear Ms. McEldowney,

We have received your comment letter regarding the proposed tree clearing at and adjacent to Makena State Park on Maui. As you can understand, we are anxious to get the EA for this project completed (timing could be critical to best protect endangered species), so that the all of the permits can be obtained in a timely manner. We also fully support your concerns that an acceptable preservation plan be in place for all significant archaeological features before work begins on clearing of trees. We therefore intend to proceed with completion of the EA process, but will hold off on any site work on the project until such time as we receive your final findings and recommendations. Concern for preservation of archaeological sites was one principal reason for having an EA completed for this project, so the applicants (including State Parks) will be receptive to such recommendations.

Sincerely,



Eric Guinther

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 / CHW

09051CEC.04

September 16, 2004

Mr. Eric Guinther  
AECOS Consultants  
45-309 Akimala Place  
Kaneohe, Hawaii 96744

Dear Mr. Guinther:

**Subject: Comments on Draft Environmental Assessment (DEA) for  
Enhancement of an Isolated Coastal Wetland  
Makena State Park, Makena, Island of Maui  
TMK Nos.: (2) 2-1-006:032, 034 & 074**

Thank you for the opportunity to review and comment on the subject DEA. The following are our comments based on the information contained in the DEA:

1. The Honolulu Engineer District (HED) of the Army Corps of Engineers (COE) should be contacted at (808) 438-9258 to identify whether a Federal license or permit (including a Department of Army permit) is required if the method of removing the Kiawe trees has changed from what was described in your letter of March 22, 2004 to the HED/COE. Pursuant to Section 401(a)(1) of the Federal Water Pollution Control Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters....".
2. As stated in the DEA, the subject "coastal wetland" is located within the Makena State Park. Therefore, the coastal wetland is classified by the Department of Health as "Inland Waters, Class 1.a" in accordance with Hawaii Administrative Rules (HAR), §11-54-05.1(b)(1)(B).

As specified in HAR, §11-54-03(b)(1):

(1) Class 1.

It is the objective of class 1 waters that these waters remain in their natural state as nearly as possible with an absolute minimum of pollution from any human-caused source. To the extent possible, the wilderness character of these areas shall be protected. Waste

discharge into these waters is prohibited. Any conduct which results in a demonstrable increase in levels of point or nonpoint source contamination in class 1 waters is prohibited.

HAR, §11-54-03(b)(1)(A), further stated that:

(A) Class 1.a.

The uses to be protected in class 1.a waters are scientific and educational purposes, protection of native breeding stock, baseline references from which human-caused changes can be measured, compatible recreation, aesthetic enjoyment, and other nondegrading uses which are compatible with the protection of the ecosystems associated with waters of this class;

3. Effective on March 10, 2003, and except as in compliance with Title 40, Code of Federal Regulations, Section 122.3 requirements, a National Pollutant Discharge Elimination System (NPDES) permit is required for any 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 commencement of the construction activities.
4. Pursuant to HAR, Chapter 11-54 (titled Water Quality Standards), Site-Specific Construction Best Management Practices shall be designed, implemented, operated, and maintained by the Puu Olai north Wetland Management Association, Division of State Parks of the Department of Land and Natural Resources (DLNR), and the contractor, if any, in a manner to properly isolate and confine the construction activity(ies) and to contain and prevent any potential pollutant(s) discharges from adversely impacting the State waters.

The NPDES Application forms may be picked up at our office or downloaded from our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>.

5. There is no discussion on the disposal operation of the solid waste/green waste (the removed trees.)

As a reminder, Subsection 342D-50(a) of the Hawaii Revised Statutes requires that, "No person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this chapter, or a permit or variance issued by the director."

Mr. Eric Guinther  
September 16, 2004  
Page 3

If you have any questions, please contact Mr. Edward Chen of the Engineering Section, Clean Water Branch, at (808) 586-4309.

Sincerely,



DENIS R. LAU, P.E., CHIEF  
Clean Water Branch

EC:bt

c: Regulatory Branch, HED/COE  
CZM Program, Office of Planning/DBEDT  
DEP/DLNR  
OCCL/DLNR  
Chief, DEHP/Maui



---

# AECOS Consultants

45-309 Akimala Pl.

Kaneohe, Hawaii 96744

(808) 247-4906 FAX: (808) 236-1782 Email: Guinther@hawaii.rr.com

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November 1, 2004

State of Hawaii

Department of Health

P.O. Box 3378

Honolulu, Hawaii 96801-3378

Attn: Dennis R. Lau, P.E., Chief

Clean Water Branch

**Subject: Draft Environmental Assessment (DEA) for  
Enhancements of an Isolated Coastal Wetland,  
Makena State Park, Makena, Island of Maui  
TMK: Nos.: (2) 2-1-006:032, 034 & 074.**

Dear Mr. Lau,

This response is to comments provided by Edward Chen of your office on the subject draft EA prepared by AECOS Consultants for DLNR (State Parks) and Puu Olai North Wetland Management Association.

1. As noted in the EA (page 15 and Appendix B: Correspondence) the U.S. Army Corps of Engineers has been contacted, has inspected the subject wetland area, and has concluded that the project as described will not require a Dept. of the Army permit. No changes involving federal jurisdictional waters or state waters as described in our letter to the Corps dated March 22, 2004 are anticipated.
2. We are aware of the wetlands classification under Hawaii Administrative Rules (HAR).
3. We are also aware of the NPDES regulations with respect to clearing, grading, and excavation. We contacted your office by phone in June 2004 to establish if cutting and removing trees (without removing the stumps) would qualify as requiring an NPDES permit, and were told that only clearing activities that substantially disturbed the ground surface (i.e., root and stump removal) would so qualify. Please contact me if the information provided to us by DOH earlier is in error.

4. We shall inform the contractors that they must implement measures (best management practices) to minimize runoff impacts into the subject wetland. This subject is identified as a potential impact on page 20 of the DEA.
5. You are correct, it appears that discussion of the disposal of the trees is not addressed, in part because it is yet to be firmly established. This would not be a water quality issue, nor an adverse impact. Much of the smaller material will be chopped on site and the resulting mulch stockpiled elsewhere in the park for later use by State Parks. Larger trunks will be cut into logs and hauled off, potentially to be given away or sold for making *kiawe* charcoal.

We trust that you had no serious concerns about the project as described given that the tenor of your comments was a reminder of potentially pertinent state regulations.

Sincerely,

A handwritten signature in black ink, appearing to read 'EB Guinther', written in a cursive style.

Eric B. Guinther

cc: Martha Yent, State Parks  
John Maloney, Pacific Rim Land

ALAN M. ARAKAWA  
Mayor  
MICHAEL W. FOLEY  
Director  
WAYNE A. BOTEILHO  
Deputy Director



COUNTY OF MAUI  
**DEPARTMENT OF PLANNING**

September 17, 2004

Mr. Eric Guinther  
AECOS Consultants  
45-309 Akimala Pl.  
Kaneohe, Hawaii 96744

Dear Mr. Guinther:

RE: Draft Environmental Assessment for the Enhancement of an Isolated Coastal Wetland located at Makena State Park, TMK: 2-1-006: 032, 034, and 074, Puu Olai, Makena, Island of Maui, Hawaii (LTR 2004/3324)

The Maui Planning Department (Department) is in receipt of the Draft Environmental Assessment (EA) prepared for enhancement activities of a coastal wetland located within the boundaries of TMK: 2-1-006: 32, 34, and 74. Parcels 32 and 74 are both owned by the State of Hawaii, and Parcel 34 is privately owned. According to the Draft EA, enhancement activities include invasive tree removal, an observation deck, educational signage, and the construction of a predator fence around the wetland. The Department offers the following comments on the proposed action:

1. The Zoning and Enforcement Division of the Department confirms the land use designations as follows:

	State Land Use District	Kihel-Makena Community Plan	Title 19, MCC, Zoning District
Parcel 32	Rural	Park	Park*
Parcel 34	Rural	Single Family	Interim
Parcel 74	Rural	Park	Park*

\* Note: Per Section 19.06.030, MCC, apply Interim Zoning District standards.

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

2. According to County records Parcel 34 has applied for subdivision approval for the consolidation and resubdivision of the property into seven (7) single family residential lots. Further, a Special Management Area (SMA) exemption has been issued for the construction of a single family residence and related improvements.
  - a. Is LD, LLC the current owner of Parcel 34 given the recent subdivision? Have any potential new lot owners been consulted regarding the proposed action?
  - b. Preservation easements are identified for Parcel 34. Discuss these easements in relation to the proposed action.

Further, during the Department's SMA review for the single family residence, the application indicated the wetland boundaries were limited to Parcels 32 and 74. However, Figures 5 and 6, and Attachment A of the Draft EA indicate the wetland boundaries/buffer zone and predator fence traverse Parcel 34. Please clarify which Parcels are affected by the proposed action. If Parcel 34 is affected, discuss entitlements required for the proposed action.

3. The proposed action in its entirety is subject to review in accordance with Chapter 202, SMA Rules of the Maui Planning Commission, and Chapter 203, Shoreline Setback Rules for the Maui Planning Commission. Applications can be accessed on the County's website at <http://www.co.maui.hi.us/departments/Planning/planningforms.htm>.

Please be advised that review and approval are required prior to the commencement of any activity.

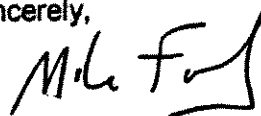
4. Observation Platform:
  - a. Discuss how public access and parking will be accommodated.
  - b. The construction plans do not indicate ADA accessibility. Will this be a requirement for construction and how does that effect the design of the structure?
  - c. Will the construction of the public accessway and observation deck impact any coastal sand dunes?
5. Identify the responsible party and funding mechanism for continued maintenance of the project.

Mr. Eric Guinther  
September 17, 2004  
Page 3

6. The Draft EA concludes that no cultural impacts will result from the proposed action. Identify those parties consulted in this analysis.
7. Include site plans depicting the location of the sand dunes in relation to the wetland area.
8. Include a proposed wetland restoration planting plan.
9. The letter addressed to the Army Corps of Engineers (Attachment B of the Draft EA) indicates a backhoe will be used to remove the large trees. Discuss potential impacts and proposed mitigative measures to protect the surrounding environment, including the sand dunes, nearshore coastal waters, etc., from the use of such equipment.
10. Discuss any potential impacts to public health in regards to mosquitos and dengue fever. Discuss potential mitigative measures.
11. Discuss how the proposed action complies with the significance criteria in §11-200-12, HAR.
12. The Department recommends consulting with Ms. Megan Toasperm, University of Hawaii, Sea Grant Extension Agent, at P. O. Box 791545, Paia, Hawaii, or by email at [toasperm@hawaii.edu](mailto:toasperm@hawaii.edu).

Thank you for the opportunity to comment. Should you require additional clarification, please contact Ms. Kivette A. Caigoy, Environmental Planner, of my office at 270-7735.

Sincerely,



MICHAEL W. FOLEY  
Planning Director

MWF:KAC:lar

c: Wayne Boteilho, Deputy Planning Director  
Kivette A. Caigoy, Environmental Planner  
OEQC  
Megan Toasperm  
TMK File (w/ original report)  
General File  
K:\WP\_DOCS\PLANNING\EA\DEAComments\2004\3324\_MakenaWetlandRestoration.wpd

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# AECOS Consultants

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November 29, 2004

County of Maui  
Department of Planning  
250 South High Street  
Wailuku, Maui, Hawaii 96793

Attn: Michael W. Foley  
Planning Director

**Subject: Draft Environmental Assessment (DEA) for  
Enhancements of an Isolated Coastal Wetland,  
Makena State Park, Makena, Island of Maui  
TMK: Nos.: (2) 2-1-006:032, 034 & 074.**

Dear Mr. Foley,

We have received your letter listing comments on the subject DEA. We offer the following by way of response:

- 1.) Thank you for the zoning confirmation.
- 2.a.) LD, LLC was the original owner of parcel 34 consisting of lots 2, 3 and 4 that were created through an approved Consolidation Re-subdivision. LD, LLC sold lot 2 to BSB Estate, Inc. LD, LLC is presently in the process of selling lot 3 and lot 4 to other owners. The new lot owner and the future owners have been informed of the proposed action.
- 2.b.) There exists no relationship between those easements related to archaeological sites and the proposal for removal of alien vegetation as described in the DEA. They are in different areas of the properties.

Apparently the SMA to which you are referring is that for the State lands (Makena Beach Park). The wetland boundaries and the project activities for this project traverse portions of Parcels 32 and 74 (State Land) and

the redesignated Lots 3 and 4 of the private parcel (now TMK: (2)2-1-06: 106 & 107). A new map is included in Attachment A to clarify the redesignation in relation to the project.

3.) The proposed project is under review by the County of Maui for SMA and Shoreline Setback Rules as applicable. The document provides the Environmental Assessment (compliance with State environmental laws) for all such applications.

4.a.) Public access will be by a short trail from an existing parking lot in the State Park.

4.b.) A ramp will be constructed instead of stairs to allow easier access to the platform.

4.c.) The coastal dunes merge into the non-dune landscape to the east of the parking lot. It is not proposed to construct more than a short walking trail from the parking lot to the observation platform to be located near this mauka boundary of the coastal dune. It would be possible to build both the access trail and the platform outside of the dunes entirely, although this would have two potentially negative impacts: a) access would need to come off the access roadway (presently unpaved), perhaps 50 yds from the parking area, resulting in considerable inconvenience to the public; and b) moving the platform further into the wetland away from the parking and beach areas where public activities are already common, would significantly expand on the portion of wetland area subject to human disturbance on a regular basis. There would also be potential for disturbance of archaeological features if the platform were moved much further south than indicated in the DEA. The platform is not expected to have any adverse impacts on the dune, which (because of overgrowth by kiawe) supports no native dune plants.

5.) Puu Olai North Wetland Management Association; The owners of Lot 3 and Lot 4 make up the association (map shown in Appendix A of EA). All costs for maintaining the wetland are funded from this association. A list of Maui volunteer groups in the Curatorship documents with State Parks indicate others from whom assistance will be requested on maintenance to help defray some labor costs from time to time.

- 6.) State Parks, cultural resources specialists. The proposal is to remove alien vegetation, not to limit access in any way. The predator control fence is there to define public access and keep out feral and pet animals. However, a gate will allow access by care-takers and any others seeking cultural values in the wetlands located on public lands. Responsibility for access to the wetland remains with State Parks.
- 7.) The dunes define the ocean or makai side of the wetland (see EA page 8). We will add additional description to the EA concerning their extent.
- 8.) A proposed wetland restoration planting plan will be provided.
- 9.) Some equipment such as a backhoe may be required to lift the heavier trunks for removal from the site. No digging is contemplated. It is suggested in the DEA (p. 20) that silt fences should be erected where disturbances from removing trunks result in the potential for silt to be carried down slope into the pond. To avoid damage to the dunes, the few trees there can be cut in place into smaller logs that can be carried away without accessing the area with vehicular equipment.
- 10.) The subject wetland is a poikilohaline pond (DEA, page 8), meaning it is characterized by variable, but generally high, salinity. This water feature would not support mosquitoes.
- 11.) We would be happy to consult with Ms. Megan Toasperm and will send her a copy of the EA for her review.

Thank you for the extensive review of the DEA and the many thoughtful comments on the project.

Sincerely,



Eric Guinther

cc: Martha Yent, State Parks  
John Maloney, Pacific Rim Land



LINDA LINGLE  
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON  
DIRECTOR

**STATE OF HAWAII**  
**OFFICE OF ENVIRONMENTAL QUALITY CONTROL**

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September 22, 2004

Ms. Martha Yent  
Department of Land and Natural Resources  
Division of State Parks  
P.O. Box 621  
Honolulu, Hawaii 96809

Mr. Eric Guinther  
AECOS Consultants  
45-309 Akimela Place  
Kaneohe, Hawaii 96744

Dear Ms. Yent and Mr. Guinther:

The Office of Environmental Quality Control has reviewed your draft environmental assessment for the Makera State Park Wetland Enhancement, TMK 2-1-06:32, 34, 35, and 74, in the judicial district of Makawao, and would like to commend you for submitting a well-prepared environmental assessment whose analyses buttress the conclusions in the analysis of significance.

Thank you for the opportunity to comment. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist, at (808) 586-4185.

Sincerely,

  
GENEVIEVE SALMONSON  
Director