NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ESTHER KIA'AINA
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

FILE COPY

'12 NOV 25 A11:16

NOV 08 2012

DLNR: OCCL: SL

Correspondence: Draft EA for SSBN KA-13-1

MEMORANDUM

To: Mr. Gary Hooser
Office of Environmental Quality Control

From: Samuel J. Lemmo
Office of Conservation and Coastal Lands

Subject: Small-Scale Beach Nourishment Application for Kukuiula Bay Beach Located at Kukuiula Harbor, Koloa, Kauai, TMK: (4) 2-6-011:012, 14, and 15.

The Department of Land and Natural Resources has reviewed the Small-Scale Beach Nourishment Application for the proposed project. Please publish notice of availability for this project in the **November 8, 2012** issue of the Environmental Notice. We have enclosed the applicant's completed OEQC Bulletin Publication Form and one (1) copy of the document in pdf format on a CD; and one (1) hardcopy of the SSBN Application.

Should you wish to provide comments regarding this project please respond by the 30th Comment Day Deadline: December 10, 2012. If no response is received by the comment deadline, we will assume there are no comments. Please contact Brad Romine in the Office of Conservation and Coastal Lands at (808) 587-0049 should you have any questions.

Enclosures: *OEQC Bulletin Publication Form (hard copy)*
One (1) CD with pdf of the SSBN Application
One (1) hardcopy of the SSBN Application

LINDA LINGLE GOVERNOR

Revised
May, 2005

SSBN Cat II
General Application

Category II General Application
Small-Scale Beach Nourishment Projects (SSBN)

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

Before completing this form, read the Guidelines and Instructions for SSBN application.

Start date of proposed work: March 2013 .

DLNR USE ONLY
Permit No.: _____ Planner: _____
Date Received: _____

PROJECT NAME: KUKUI'ULA BAY BEACH Proposed Volume 2000cy .

For Category II beach nourishment projects less than 10,000 yd^3 total volume.
Attach additional sheets as necessary.

1) **Property Owner(s) Information** (see Guidelines for SSBN Application - Note 1)

Is this a community association or partnership project? Yes ___ No X
Attach additional owners information as needed.

Legal Name: Kukui'ula Development Company Hawaii, LLC

Street Address: McBryde Cane Haul Road

City, State and Zip+4 Code: Koloa , Hawaii 96756

Mailing Address: 2700 Ke Alaula, Suite B

City, State and Zip+4 Code: Koloa, Hawaii 96756

Contact Person & Title: Lindsay Crawford, Senior Project Manager

Phone No.: (808)742-6304 Fax No.: (808)742-5254

Legal Name: _____

Street Address: _____

City, State and Zip+4 Code: _____

Mailing Address: _____

City, State and Zip+4 Code: _____

Contact Person & Title: _____

2) **Primary Contractor Information** (see Guidelines - Note 2)

Name: Earthworks Pacific, Inc.

Scope of Work: Placing beach quality sand in designated area at project site

Street Address: 4180 Hoala Street, Lihue, Hawaii 96766

Contact Person & Position Title: Bryan Davidson

Phone No.: (808)246-8808 Fax No.: (808)246-8812

Name: _____

Scope of Work: _____

Street Address: _____

Contact Person & Position Title: _____

Phone No.: ( ) _____ Fax No.: ( ) _____

Name: _____

Scope of Work: _____

Street Address: _____

Contact Person & Position Title: _____

Phone No.: ( ) _____ Fax No.: ( ) _____

Name: _____

Scope of Work: _____

Street Address: _____

City, State and Zip+4 Code: _____

Phone No.: ( ) _____ Fax No.: ( ) _____

3) **Emergency Contact Information** (see Guidelines - Note 3)

Company/Organization Name: Kukui'ula Development Company Hawaii, LLC

Contact Person & Title: Lindsay Crawford, Senior Project Manager

Phone No.: (808)742-3046 Phone No.: (808)652-9379 Cell

Company/Organization Name: Kukui'ula Development Company Hawaii, LLC

Contact Person & Title: Art Nehf, Director of Horizontal Development

Phone No.: (808)742-3023 Phone No.: (602)321-9869 Cell

4) **Project Site Information** (see Guidelines - Note 4)

Project or community association name: Kukui'ula Bay Beach

Government Project/Job No. (as applicable): n/a

State/County Zoning. (as applicable): Open Zone

Street Address: Lawai Road, Kukui'ula Habor

City, State and Zip+4 Code: 96756

Contact Person & Title: Lindsay Crawford, Senior Project Manager

Phone No.: (808)742-3046 Fax No.: (808)652-9379

Tax Map Key Number(s)							
Zone	**Section**	**Plat**	**Parcel(s)**	**Ownership**	**Total Area (sq. ft)**	**Eroded Area (sq. ft)**	**Zoning**
2	6	11	13	Kukui'ula	17,6000	n/a	Open
2	6	11	14	Kukui'ula	20,000	n/a	Open
2	6	11	15	Kukui'ula	22,700	n/a	Open

5) Location Map and Shoreline Survey (see Guidelines - Note 5)

Provide and attach a regional, vicinity and parcel map of project area and include recent photograph(s) of relevant coast and shoreline:

a. Maps submitted: Parcel Map TMK 2-6-11-13, 14 & 15

b. Photos submitted: See Section 7. H. for photos

c. Shoreline Survey: (Date & Contractor)

Shoreline Delineation: Shoreline survey performed by Honua Engineering, Inc on 8/30/12

State Certification Map (If Applicable) : Map submitted to SOH-DNLR for certification on 9/19/12

d. Other surveys (Specify): _____

6) Receiving State Water Information (see Guidelines - Note 6)

a. Regional Name: _____

b. Classification: (check and explain appropriately)

1.Marine Waters:	Class A	X	Type:	
2. Marine Bottom Ecosystem:	Class II	X	Type:	Sand
3. Water-Quality-Limited Segment::	Yes		No	X

c. Explain any "other" classifications:

_____

_____

_____

_____

_____

_____

_____

_____

_____

7) **Project Description** (see Guidelines - Note 7)
Project Classification (Category I or II)

Note: Category II projects may require a seal from a certified civil engineer.
(Attach separate sheets as needed):

Primary Contractor and Type:Earthworks Pacific, Inc. (General Contractor

Attached Documents (If Applicable):2000cy of sand

a. Project Category (I or II): Category II

b. *Extraction* Site Street Address: Kawaiele Quarry, Kekaha

City, State and Zip+4 Code: Kekaha, Hawaii 96752

Tax Map Key (TMK):

Terrestrial extraction site is a permitted commercial quarry Company

Offshore Coordinates: Lat: ° ' " Lon: ° ' "

UTM: North: East:

c. *Nourishment* Site Street Address: Lawai Road, Kukui'ula Harbor

City, State and Zip+4 Code: Koloa, Hawaii 96756

Tax Map Key (TMK): 2-6-11:13, 14 & 15

d. Describe the overall project scope and purpose and evidence of need for proposed activities.
(Attach separate sheets as needed)

Beach sand replenishment at Kukui'ula Bay beach to enhance the beach for public use. Specifically, 1) demolish and remove existing low rock walls and wall foundations along and within beach area (small segment of wall adjacent to the existing rock revetment protecting Lawai Road will NOT be removed per recommendation of Sea Engineering, Inc in their study dated May 7, 2012 – copy attached), 2) remove aprox 3000sy of turf mauka of removed rock walls and line with geotextile fabric, 3) place beach quality sand (approx 1500cy) on geotextile fabric and in wall cavity, and 4) place additional beach quality sand (approx 500cy) makai of removed rock walls but mauka of MHHWM.

(see attached Plot Pan)

e. Provide a brief assessment of the primary causes of beach erosion or sand loss for the project site and describe the ability of the proposed project to correct or mitigate the problem. Provide an estimate of the designed residence time of the nourishment project and any anticipated follow up nourishment(s).

Tidal and wave action has, over the years, taken beach sand from the harbor beach. Replenishment of the lost sand will serve to enhance the beach experience. This same stretch of beach was last successfully replenished in 2001 (although another unsuccessful beach nourishment was attempted in 2011 by the applicant).

f. Describe the method of sediment extraction and delivery, type of equipment to be utilized and construction methods.

Sand will be sourced from the Kawaiele Quarry, washed and trucked to Kukui'ula Harbor and mechanically placed and spread with a small tractor. Placement of the sand is expected to take approx 3 days.

g. Provide scale drawings or photographs (with scale bar) of area to be excavated and filled. Include an estimate of the area (ft^2) to be nourished. Delineate property boundaries, certified shoreline (if available), location and cross-section of beach profiles, existing and proposed temporary structures with cross-sectional views of any proposed temporary structures. Provide an estimate of the elevations and dimensions of the project area and a range of water depths of proposed activities.

Reference Diagram: : See MHHWM vs Limit of Sand Deposition Plan and Typical Section for general information (attached). See detailed Site Plan and Sections for proposed excavation and sand depths (attached). Shoreline survey has not yet been 'certified' and therefore not shown on Site Plan (see Honua survey referenced later for surveyed shoreline). Total area to be nourished with sand is aprox 30,000sf. Proposed temporary structures are addressed later in Section 7. i. and j. of this application.

h. Provide photographs of area to be excavated and filled before, during and after the nourishment project.

Dates of photos submitted with this application: "Before" photos are dated 9/4/12. "During" and "After" photos will be submitted with the Beach Nourishment Project Report once work is completed

Additional survey work scheduled: none

i. Provide a description and engineering design of any proposed temporary structures including all retention or offshore structures. Include a design analysis of any offshore sand extraction.

With exception of silt fencing and temporary sand berm no temporary structures proposed.

j. Provide a temporary construction plan. If temporary retention structures are proposed provide the following:

1. Describe the potential effects to the marine substrate and local littoral processes.
2. Location, type and dimensions of proposed structure(s) (noted on drawings in section 7g).
3. Length of time retention structures will remain in place including a timeline of installation and removal efforts.
4. Proof of general liability insurance ($1,000,000 minimum).

No retention structures proposed - only temporary silt fencing and temporary sand berm.

See attached Temporary Construction Plan for construction equipment access and staging area location.

See attached Proof of general liability insurance.

k. Describe existing physical, chemical and biological environment of project site and any other pertinent characteristics of site. Include a description of major topographic/hydrographic features such as slope, ledges, holes, reefs. Provide a relevant hydrographic chart with site highlighted.

Chart Provided: : Kukui'ula Harbor ranges in depth from 0 to 2 fathoms – Hydrographic Charts provided via NOAA website (www.nauticalcharts.noaa.gov)

Erosion Chart provided via website (www.soest.hawaii.edu/coasts/erosion)

South facing portion of Kauai coastline with west facing harbor / embayment that is sheltered from northwest swells and trade wind waves but is exposed to refracted south pacific swells and Kona storms.

l. Describe the existing bottom type of the extraction and nourishment site. Include percent coverage and type.

Sand will be sourced from the Kawaiele Quarry, therefore there is no bottom to describe.

Kukui'ula Harbor has a sandy bottom with some rock outcroppings. However, the proposed nourtishment site is limited to mauka of the MHHWM.

m. Describe potential adverse environmental effects of proposed activity.

Despite mechanical washing of the proposed nourishment sand, a minor degree of

siltation may occur in the harbor waters following sand deposition. However, these effects will only be temporary.

n. Describe the current recreational use of the project site and describe the potential impacts the proposed project might have. (ie. Impacts on swimming, surfing, canoe clubs, diving, fishing, tourism, ect.) Briefly identify the development style and land use of the project area, (undeveloped, urban, residential, condominium, agricultural, commercial, etc..)

The current recreational activities (canoe club, swimming surf, etc) will not be affected.

Coastal access will be improved by widening the dry beach.

The area is currently undeveloped land with the exception of the adjacent County Park facilities and is currently zoned Open Space.

o. Identify and describe any known historic properties within or near the proposed project area and any mitigation commitments made to protect, restore, or data recover any of the identified properties. This could include properties such as stone features, fishponds, burial sites, cultural deposits, and traditional places.

No stone features, fishponds, burial sites cultural deposits or traditional places exist on the project site. The historic McBryde Sugar Plantation Manager's House was recently removed from the mauka portion of the site and relocated to Prince Kuhio Memorial Park. See attached memorandum of approval from KHPRC dated August 28, 2010.

p. Check Yes or No for the following items. Provide a detailed explanation for any "yes" answers. (see Instructional Guidelines)

	Yes	No	Contacted?
Is any proposed work within the shoreline setback area?[1]	X		County
Is any portion of this project within a Special Management Area?[1]	X		County
Is any portion of this project within an endangered species habitat?[2,3]		X	
Is any portion of this project within a wetlands or estuary?[2,3]		X	
Is any portion of this project within a Marine Life Conservation District?[4]		X	
Is any portion of this project within a historical or cultural site?[5]		X	
Letter of Public Notice of Proposed Action submitted to the Office of Environmental Quality Control (OEQC)?[6]			
Date OEQC Contacted:_____ Authorizations attached:			

Explanation: Project is within SMA therefore a SMA application and Shoreline Determination application has been submitted to Kauai County Planning Department.

Agencies Contacted: County of Kauai Planning Department

8) **Description of the Existing Sedimentary Environment and Compatibility of Proposed Nourishment Sediment.** (see Guidelines - Note 8)

a. Describe the **existing** sediment type including size, composition and quality. Include grain size distribution, percent fines and color.

See attached test results from Aecos, Inc. for the Kukui'ula Bay (Harbor) beach sand

b. Describe the ***proposed fill*** sediment type including size, composition and quality. Include grain size distribution, percent fines and color.

See attached PRELIMINARY test results from Aecos, Inc. for the proposed washed sand sourced from the Kawaiele Quarry in Kekaha. The sand washing process was (and will be) performed by Jas W Glover, Ltd at their 'halfway' bridge materials processing facility. A McLanahan 44" screw washer will be used to separate fines and silts from the sand. Wash water lifts and separates the lighter fines and silts via a flooded hopper and the heavier sand particles settle and are conveyed to a stockpile for drying and future transportation to the project site (see photos of the washing process attached).

IMPORTANT- Note that this PRELIMARY sand testing was for initial research only (specifically to confirm that washed Kawaiele Quarry sand was a close match to existing Kukui'ula Harbor beach sand). New independently collected and tested sand samples will be submitted to DNLR just prior to SSBN permit approval to again confirm that the proposed washed sand meets State standards and is compatible with the existing Kukui'ula Harbor beach sand.

c. Give an estimate of compatibility to fill site and evidence that proposed fill sediment meets the requirements for grain size ranges as specified in the Guidelines Section 8c. Indicate an overfill ratio and method of calculation (if applicable).

As evidenced by the similarity of the two grain size distribution graphs in the PRELIMARY test results from AECOS, the proposed sand is a very compatible with the existing sand.

d. Provide one separate, bagged and labeled (~0.5 lb) sediment sample of both the extraction site and nourishment site to the DLNR Lands Division. (see Guidelines Note 8)

Sample sent or delivered (Date): **Existing** Kukui'ula Harbor beach sand sample transmitted to DNLR with previous SSBN (Cat I) application on October 19, 2010. **Proposed** washed sand sample from Kawaiele Quarry provided with this application.

e. List name and contact numbers for laboratory to be used for sediment analysis:

Lab name, contact name and phone number.

AECOS, Inc., contact Chad Linebaugh at 808 234-7770

9) Project Schedule (see Guidelines - Note 9)

a. Provide the estimated date or dates on which the activity will begin and end:[1]

[1] See Article V.22 TERMS of the Guidelines

Exact schedule not yet established although anticipated to be March 2013. Exact date to be provided no less than 7 days prior to start of construction.

b. Provide the date or dates that the excavation and or nourishment(s) will take place:

Exact schedule not yet established although anticipated to be March 2013. Exact date to be provided no less than 7 days prior to start of construction. Excavation and nourishment will be conducted as close together in time as possible to avoid possible high tide wave run-up inundation of the excavated area. Periods of forecasted high tides and high waves will be avoided during the project.

10) Site-Specific Best Management Practices (BMP) Plan (see Guidelines - Note 10)

a. Separate maps are attached ____No Using existing map labeled "Temp Construction Plan"

b. Project monitoring and oversight responsibility (If different than Section 3 Emergency Contact).

Contact Person: same as Section 3 contacts

Title:

Contact number(s):

c. Construction sequence and duration.

Construction Sequence: 1) install BMPs (silt fence and temporary sand berm), 2) demolish and remove existing low rock walls, 3) remove turf in areas to be replaced with sand, 4) install geotextile liner, 5) place sand and spread evenly (including temp sand berm), 6) remove silt fence.

Construction Duration: 3 days

d. Construction or nourishment materials and equipment to be used and the anticipated dates of installation/mobilization and removal.

Sand will be sourced from the Kawaiele Quarry, washed and trucked to Kukui'ula Harbor and mechanically placed and spread with a small tractor. Placement of the sand is expected to take approx 3 days.

Exact schedule not yet established although anticipated to be March 2013. Exact date to be provided no less than 7 days prior to start of construction.

e. Characteristics of potential pollutants associated with the proposed nourishment or construction activity.

Source	Composition	Potential Pollutant	Quantity	Duration
Surface runoff	Silt fines	silt	minimal	3 days
Surface runoff	organics	Organic debri	minimal	3 days

f. Proposed pollution control measures and/or treatment(s).

Contractor shall construct a temporary silt fence at the high water mark prior to placing the new sand to prevent silt from entering Kukuiula Bay. All equipment shall be cleaned of pollutants such as silt and debris prior to entering the area makai of the existing rock wall. Potential fuel spills and leaks shall be prevented by using off-site facilities for maintenance; fueling in designated, contained areas only; enclosing or covering stored fuels; and implementing spill control and training to employees and subcontractors.

Existing beach sands will not be displaced as new sand is added on top of the existing topography. The nourishment sand will be added to the existing topography from mauka to makai with machinery operating atop the new sand material.

g. Describe the onsite public safety measures (i.e. Warning signs, barriers, cordon off area, safety personnel, etc..)

Public access to the beach will not be allowed during the placement of sand. Signs will be posted stating "NO BEACH ACCESS ALLOWED". Contractor's safety personnel will control access to the site during construction.

11) **Monitoring and Assessment Plan** (see Guidelines - Note 11)

The Monitoring and Assessment Plan shall, at a minimum, include the following:

a) Description of the methods and means being used or proposed to monitor the quality of the surrounding near shore waters. (Describe the planned monitoring program frequency)

Turbidity sampling will be performed before, during and after the sand placement. Samples will be taken at three locations and field analyzed. See attached Turbidity Sampling Location Plan.

Once the sand replenishment work is completed the applicant will prepare and submit to DNLR a Beach Nourishment Project Report detailing the completed work and monitoring.

b) Acknowledgement of required final compliance report to be submitted to the DLNR-OCC within two months of completion of authorized project. (See Guidelines note 11).

Authorized Signature: _____

Name and Title: Lindsay Crawford, Senior Project Manager Date: 9/19/12

12) **Summary of Supporting Documents** (see Guidelines - Note 12)

List and submit applicable maps, photos, plans, specifications, copies of associated permits or licenses, federal applications, Environmental Assessments or Environmental Impact Statements, as applicable, etc.

	Document Title	Page Referenced	Document Date
a)	Parcel Map TMK 2-6-11-13, 14 & 15	4 of 24	Sept 2012
b)	Site Photos	4 & 7 of 24	Sept 2012
c)	Shoreline Survey by Honua Engineering, Inc.	4 of 24	Sept 2012
d)	State Certified Shoreline Map	4 of 24	not yet submitted
e)	Plot Plan	5 of 24	Sept 2012
f)	Sea Engineering, Inc. Memorandum	5 of 24	May 2012
g)	MHHWM vs Limit of Sand Deposition & X-Section	7 of 24	Sept 2012
h)	Site Plan and Sections	7 of 24	Sept 2012
i)	Temporary Construction Plan	8 & 14 of 24	Sept 2012
j)	Proof of Insurance	8 of 24	Aug 2012
k)	Hydrographic & Erosion Charts	9 of 24	Sept 2010
l)	KHPRC Memorandum	11 of 24	Aug 2012
m)	AECOS Preliminary Test Results	13 of 24	July 2012
n)	AECOS Final Test Results and Compatibility Letter	13 of 24	not yet submitted
o)	Sand Washing Photos	13 of 24	July 2012
p)	Turbidity Sampling Location Plan	17 of 24	Sept 2012
q)	Authorization Statement	21 of 24	Aug 2012
r)			
s)			
t)			
u)			
v)			

13) **Additional Information** (see Guidelines - Note 13)

14) **Authorization of Representative** (see Guidelines - Note 14)
Check one and complete the appropriate space(s). Alteration of this item will result in the invalidation of the authorization statement(s).

a. This statement authorizes the named individual (s) or any individual occupying the named position of the company/organization listed below to act as our representative to process the following General Application for Small-Scale Beach Nourishment for the subject project. The Owner hereby agrees to comply with and be responsible for all permit terms and conditions.

Said representative is further authorized to fulfill all terms and conditions of this application:
Yes___X__ No_____

1. Company/Organization Name: Kukui'ula Development Company Hawaii, LLC_____

Street Address : 2700 Ke Alaula Street, Suite B_____

City, State and Zip Code+4: Koloa, Hawaii 96756_____

Authorized Person & Title: Lindsay Crawford, Senior Project Manager_____

Phone No.: (808) 742-3046 Fax No.: (808) 742-5254

Effective date(s).: (m/d/y)_____

b. A separate statement is attached. Yes ___X___ No _____

15) **Certification** (see Guidelines - Note 15)
Alteration of this item will result in the invalidation of this application.

_____ I certify that for a municipal agency, I am a principal executive officer or ranking elected official.

_____ I certify that for a state agency, I am a principal executive officer or ranking elected official.

_____ I certify that for a federal or other non-federal public agency, I am a principal executive officer or ranking elected official.

_____ I certify that for a federal agency, I am the chief executive officer of the agency, or I am the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

_____ I certify that I am a general partner for a partnership or association.

_____ I certify that I am the proprietor for a sole proprietorship.

_____ I certify that I am the legal owner of a private residence or property.

_____ I certify that for a corporation or association, I am the President, Vice President, Secretary, or Treasurer of the corporation or association and in charge of a principal business function, or I perform similar policy or decision-making functions for the corporation or association:

__X__ I certify that for a corporation, I am the Manager of one or more operating facilities and have the authority to sign documents has been assigned or delegated to me in accordance with corporate procedures.

_____ I certify that for a trust, I am a trustee.

In accordance with all applicable State of Hawaii and federal statues there is reasonable assurance that the proposed activity will be conducted in such a manner which will not violate basic water quality criteria applicable to all waters and in a manner consistent with the DLNR, COE, DOH and CZM programs where the proposed nourishment would take place.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Signature: _____ Date: 9/28/12

Printed Name & Title: Brent Herrington, President

Company/Organization Name: Kukui'ula Development Company Hawaii, LLC

Phone No.: (808) 742-3024 Fax No.: (808) 742-5254

16). **Filing Fee** (see Guidelines - Note 18)
Check one and complete the appropriate space(s). Non-refundable filing fee.

Check # _____

_____ Category I Project ($50)
__X__ Category II Project ($250)
__X__ Attached to application

Payable to: *State of Hawaii*

Inquiries and Submittals:

Contact Information

SSBN inquiries and submittals shall be directed to the street or mailing address listed below:

(1) ***Street Address***

State of Hawaii
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
1151 Punchbowl Street
Honolulu, Hawaii 96809
(808) 587-0377
(808) 587-0322 Fax
http://www.hawaii.gov/dlnr/occl/index.php

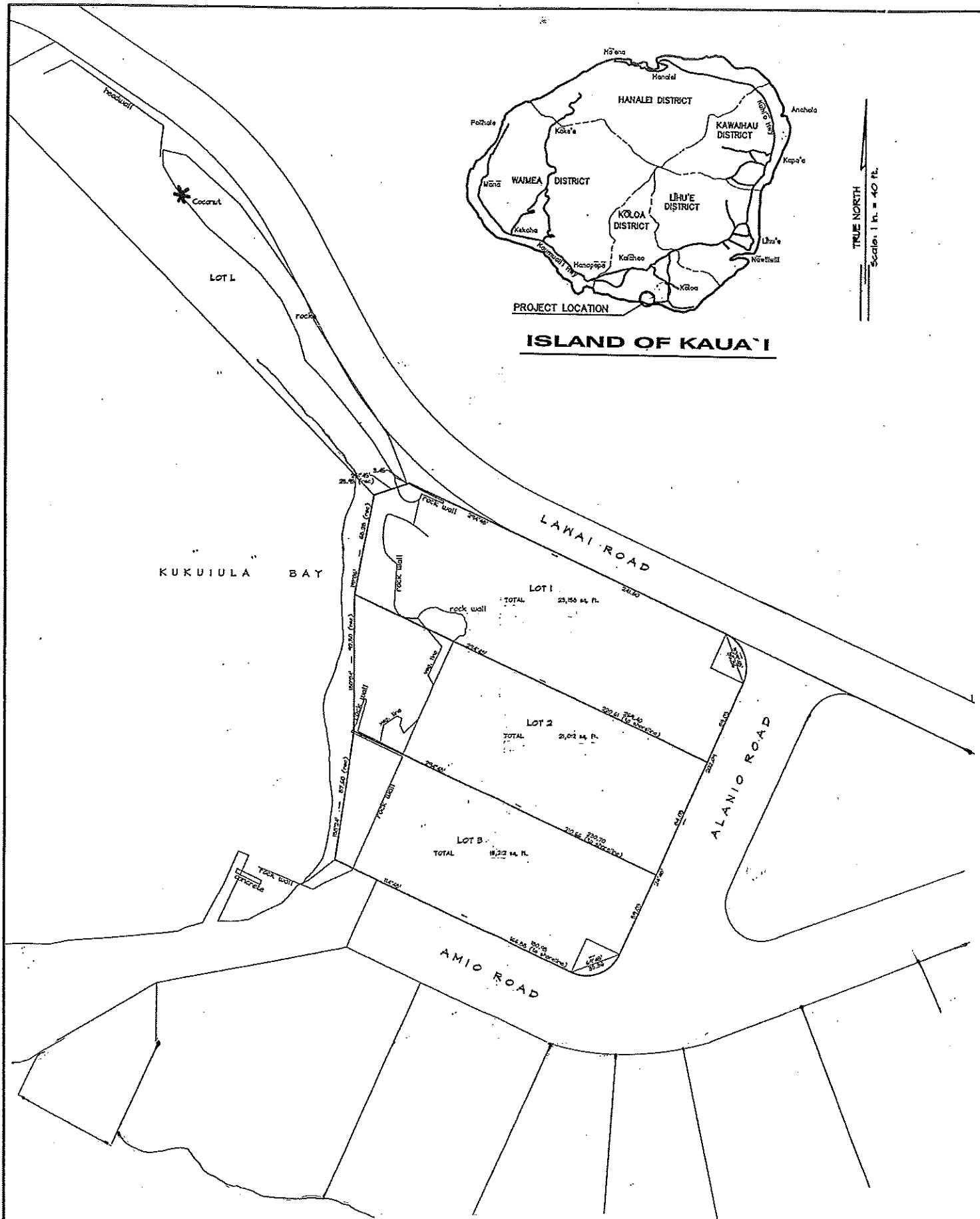
(2) ***Mailing Address***

State of Hawaii
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, Hawaii 96809

Questions should be directed to the DLNR OCCL.

Note: The length of time required to process this permit will be directly related to the complexity of the project and the adequacy and completeness of the information submitted by the applicant (see Section V.4 of the Guidelines manual).

SSBN Application Checklist		
If any item is listed as "no," attach a sheet with the reason for its exclusion from the application. Sections 10g, 12, 14 and 15 may be omitted (with a "N/A" answer) if applicable.		
Item Number	**Description**	**Item addressed? (yes/no)**
1.	Owner Information	yes
2.	General Contractor Information	yes
3.	Emergency Contact Information	yes
4.	Project Site Information	yes
5.	Location Map and Survey Information	yes
6.	Receiving State Water Information	yes
7.	Project Description	yes
	Proof of $1,000,000 Liability Insurance (attached)	yes
8.	Description of the Existing Sedimentary Environment and Compatibility of Proposed Nourishment Sediment	yes
9.	Project Schedule	yes
10.	Site-Specific BMP Plan	yes
	10.g Letter to Environmental Notice (Draft attached)	n/a
11.	Applicable Monitoring and Assessment Plan	yes
12.	Supporting Documents	yes
13.	Additional Information	yes
14.	Authorization of Representative	yes
15.	Certification	yes
16.	Filing Fee ($50 Category I; $250 Category II) is attached	yes
17.	Number of copies with supporting documents submitted	
	b) One (1) copy for projects on Oahu with owner's original signature	n/a
	c) Two (2) copies for projects on islands other than Oahu (one with owner's original signature)	yes

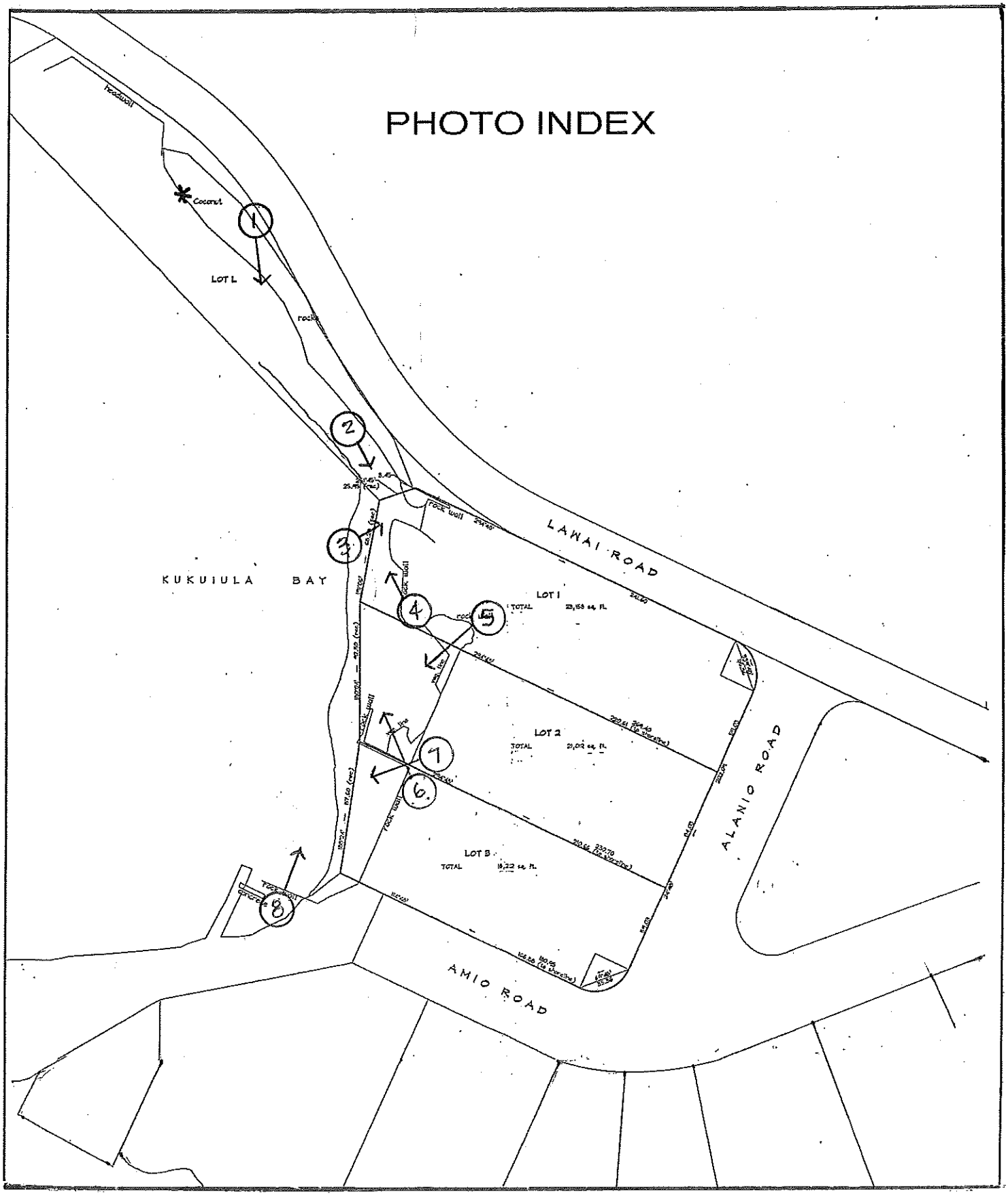


PARCEL MAP

TMK 2–6–11–13 14 & 15

Job Number: 06-100 EG

PHOTO INDEX


Headwall
Coconut
1
LOT L
rocks
2
3
KUKUIULA BAY
LAWAI ROAD
rock wall
LOT 1
TOTAL 23,158 sq. ft.
4
5
LOT 2
TOTAL 21,021 sq. ft.
7
6
LOT 3
TOTAL 9,22 sq. ft.
ALANIO ROAD
AMIO ROAD
8


1


2


3


4


5


6

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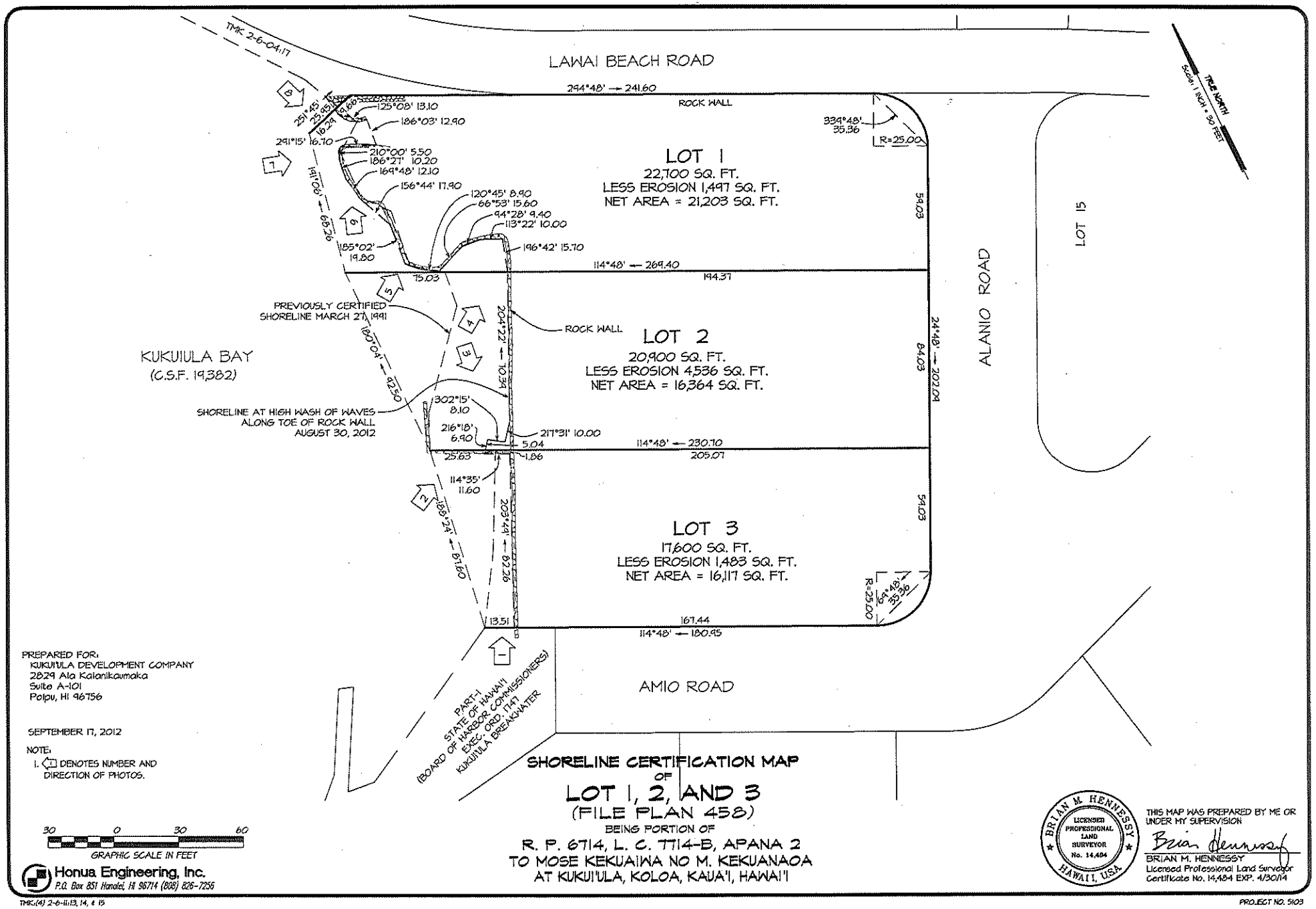
8



PREPARED FOR:
KUKUI'ULA DEVELOPMENT COMPANY
2829 Ala Kalanikaumaka
Suite A-101
Poipu, HI 96756

SEPTEMBER 17, 2012

NOTE:
1. ⟨1⟩ DENOTES NUMBER AND DIRECTION OF PHOTOS.

30 0 30 60
GRAPHIC SCALE IN FEET

Honua Engineering, Inc.
P.O. Box 851 Hanalei, HI 96714 (808) 826-7256

SHORELINE CERTIFICATION MAP
OF
LOT 1, 2, AND 3
(FILE PLAN 458)
BEING PORTION OF
R. P. 6714, L. C. 7714-B, APANA 2
TO MOSE KEKUAIWA NO M. KEKUANAOA
AT KUKUI'ULA, KOLOA, KAUA'I, HAWAI'I

BRIAN M. HENNESSY
LICENSED PROFESSIONAL LAND SURVEYOR
No. 14,484
HAWAII, U.S.A.

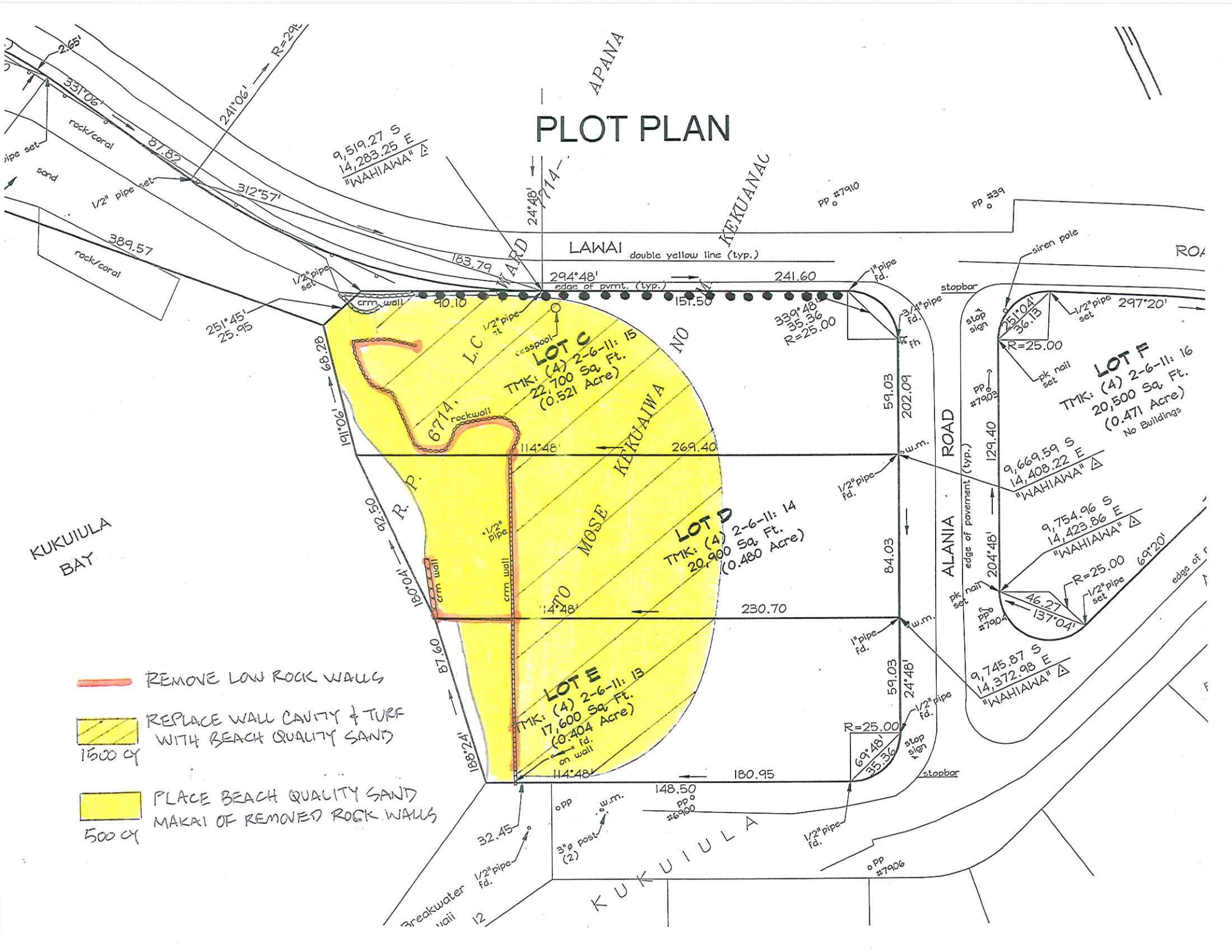
THIS MAP WAS PREPARED BY ME OR UNDER MY SUPERVISION

Brian Hennessy

BRIAN M. HENNESSY
Licensed Professional Land Surveyor
Certificate No. 14,484 EXP. 4/30/14

TMK: (4) 2-6-11:13, 14, & 15

PROJECT NO. 5103


PLOT PLAN
APANA
KEKUANAO
WARD
LAWAI
double yellow line (typ.)
ROAD
ALANIA ROAD
edge of pavement (typ.)
KUKUIULA BAY
KUKUIULA
LOT C
TMK: (4) 2-6-11: 15
22,700 Sq. Ft.
(0.521 Acre)
LOT D
TMK: (4) 2-6-11: 14
20,900 Sq. Ft.
(0.480 Acre)
LOT E
TMK: (4) 2-6-11: 13
17,600 Sq. Ft.
(0.404 Acre)
LOT F
TMK: (4) 2-6-11: 16
20,500 Sq. Ft.
(0.471 Acre)
No Buildings
REMOVE LOW ROCK WALLS
REPLACE WALL CAVITY & TURF WITH BEACH QUALITY SAND
1500 cy
PLACE BEACH QUALITY SAND MAKAI OF REMOVED ROCK WALLS
500 cy
9,519.27 S
14,283.25 E
"WAHIAWA"
9,669.59 S
14,408.22 E
"WAHIAWA"
9,754.96 S
14,423.86 E
"WAHIAWA"
9,745.87 S
14,372.98 E
"WAHIAWA"
crm wall
rockwall
cesspool
w.m.
pp #7910
pp #39
pp #7903
pp #7904
pp #6900
pp #7906
siren pole
stop sign
stopbar
pk nail set
1/2" pipe set
1" pipe fd.
3/4" pipe fd.
1/2" pipe fd.
3"ø post (2)
Breakwater
R=25.00
241.60
294°48'
151.50
90.10
339°48'
35.36
R=25.00
59.03
202.09
84.03
59.03
129.40
204°48'
24°48'
69°48'
35.36
R=25.00
46.27
137°04'
69°20'
25°04'
36.13
297°20'
114°48'
269.40
230.70
180.95
148.50
32.45
68.28
191°06'
180°40'
87.60
188°24'
251°45'
25.95
389.57
183.79
312°57'
87.82
331°06'
241°06'
R=291.
2.65'
24°48'
9,519.27 S
14,283.25 E
"WAHIAWA"

Sea Engineering, Inc.
Makai Research Pier
41-305 Kalanianaole Hwy.
Waimanalo, Hawaii 96795-1820
Ph: (808) 259-7966 Fax: (808) 259-8143
Email: sei@seaengineering.com
Website: www.seaengineering.com

MEMORANDUM

DATE:	May 7, 2012
TO:	Lindsay Crawford, Kukuiula Development Company
FROM:	Marc Ericksen
SUBJECT:	Kukuiula Rock Wall Removal

Introduction

The Kukuiula Development Company (KDC) is planning to remove existing low rock walls that currently line the backshore of Kukuiula Bay, separating the sand beach from the grass lawn. To help determine the limits of this proposed low rock wall removal, Sea Engineering was asked by KDC to conduct a site assessment of the segment of rock walls adjacent to the rock revetment protecting Lawai Road. The purpose of the assessment was to evaluate the function of this segment of rock walls adjacent to Lawai Road, the level of protection it is providing to Lawai Road, and the risks of removing it.

Project Site Description

Kukuiula Bay is located on the south shore of Kauai, approximately 2 miles to the west of Poipu (Figure 1). The bay is approximately 500 feet wide and 600 feet long and is partially sheltered from direct wave attack by Kaulala Point and a rubblemound breakwater. The breakwater was constructed to protect a single-lane boat launch ramp and a 250-foot loading dock within the bay. The bottom substrate is composed of basalt, limestone reef and scattered sand. The head of the bay is lined by a narrow sand beach with outcrops of beach rock exposed along the water line (Figure 2, Figure 3). A concrete drainage culvert bounds the north end of the beach (Figure 4). Lawai Road is located immediately inland of the beach on the north side of the bay. The road is protected by a rock revetment composed of armor stone boulders up to 3 to 5 feet in diameter (Figure 5). The road edge is only 5 feet landward of the revetment in some locations. Along the southern half of the beach, rock walls separate the beach from grassy lawn areas (Figure 6). The grassy lawn area was previously the site of single family homes and a swimming pool, as shown in Figure 7. These were recently demolished and removed.

Rock Wall Description

The KDC is planning on removing the rock walls illustrated in Figure 6 and Figure 7 to create a more natural beach in the bay. Concern has been expressed regarding removal of the rock wall segment abutting the rock revetment in the middle of the beach adjacent to Lawai Road. Figure 2 shows the location of this wall segment. The wall segment of interest has two components: an east-southeast trending vertical boundary wall running alongside Lawai Road (Figure 7), and a vertical, curved planter wall at the beach end of the boundary wall (Figure 8). The boundary wall used to rise approximately 4 feet above ground level, and separated the home property from Lawai Road. The planter wall forms a semi-circle with the boundary wall, and encloses dirt fill. The walls are cemented-rubble-masonry (CRM) composed of 2 to 3-foot diameter basalt boulders, with small rocks grouted into the voids. The walls are founded on a concrete base overlying a red clay/dirt substrate (Figures 10 through 12). The walls are about 5 feet high at the seaward end and diminish in height landward, as the red clay/dirt substrate slopes upward. The red clay/dirt substrate is pervasive in the area, and is visible underlying the beach rock exposed at the water line.

Figure 13 illustrates the junction between the rock revetment and the boundary wall. The revetment does not appear to wrap inland, but rather appears to terminate directly against the boundary wall. A 2-foot diameter concrete drainage pipe is located at the base adjacent to the boundary wall.

Shoreline History

Historical aerial photographic analysis of the shoreline position in Kukuiula Bay, conducted by the University of Hawaii Coastal Geology Group, indicates that the shoreline position has been stable over the 1928-2008 study period. Figures 14 to 19 are aerial photographs of the bay in 1924, 1975, 1982, 1987, 1992 and 2007. The figures show a narrow beach present since 1924, but that has varied in width. The aerial photograph from 1982 indicates little sand beach in the bay. The boundary and planter wall are first clearly identifiable in the 1987 photograph. The revetment is not apparent in this photograph. Figure 18 shows the condition of the bay immediately after Hurricane Iniki in September 1992. Lawaii Road appears washed out at the north end of the bay, but the boundary and planter walls are visible and appear intact.

Assessment

The boundary and planter wall were constructed prior to 1987 and withstood the direct impact of Hurricane Iniki in 1992. The walls appear to be in good condition, with no evidence of undermining or loss of stones. The walls are founded on the dense red clay/dirt substrate. The substrate is erodible, however, it appears to be pervasive and continuous in the area, and there is no evidence that it has been eroding beneath the walls. The seaward base of the walls were

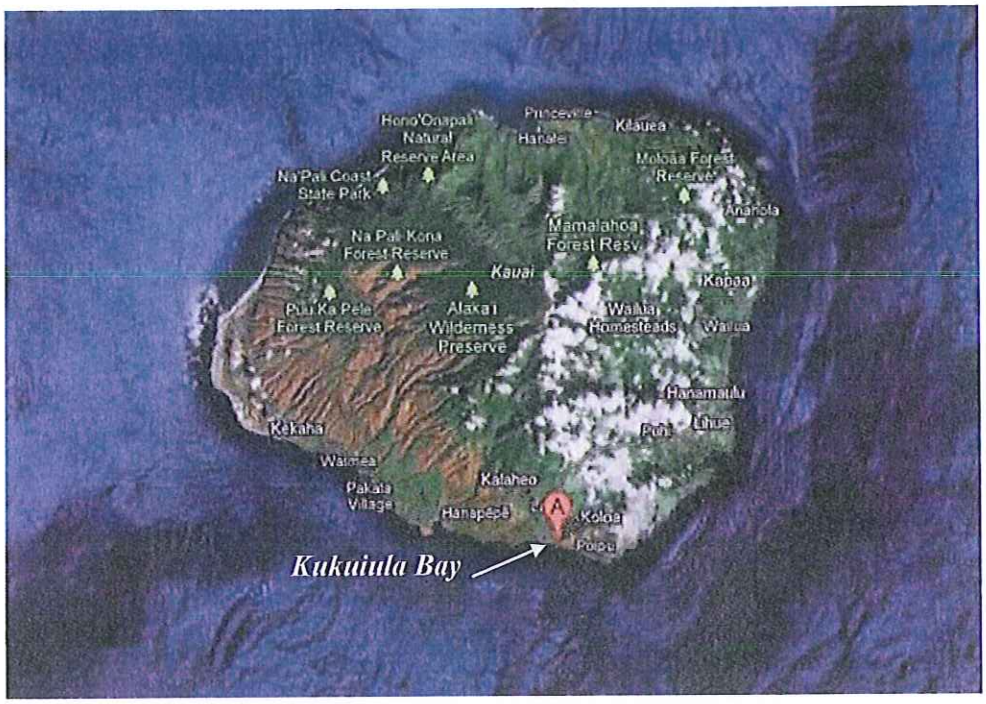


Figure 1. Kukuiula Bay on the south shore of Kauai.

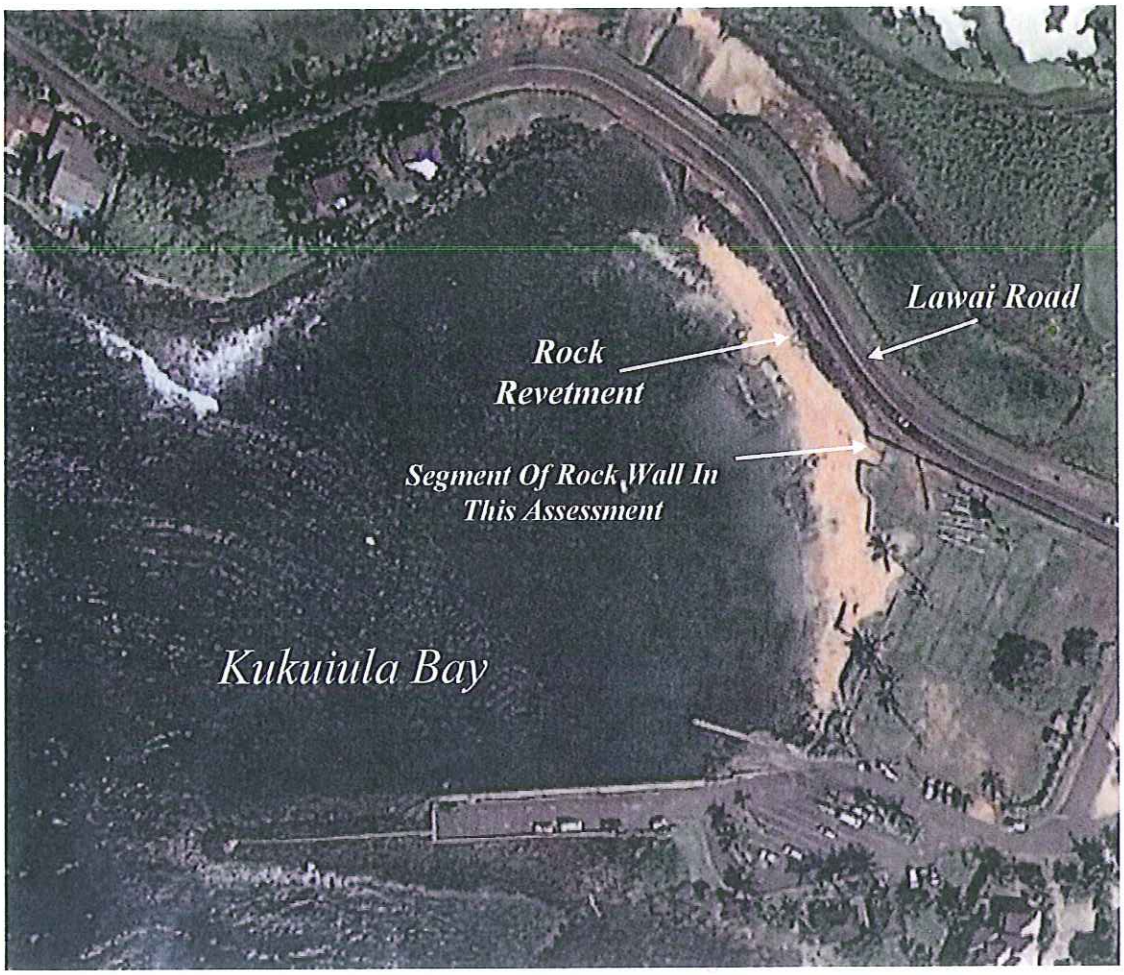


Figure 2. Kukuiula Bay.

Figure 3. Exposed beach rock along the beach.

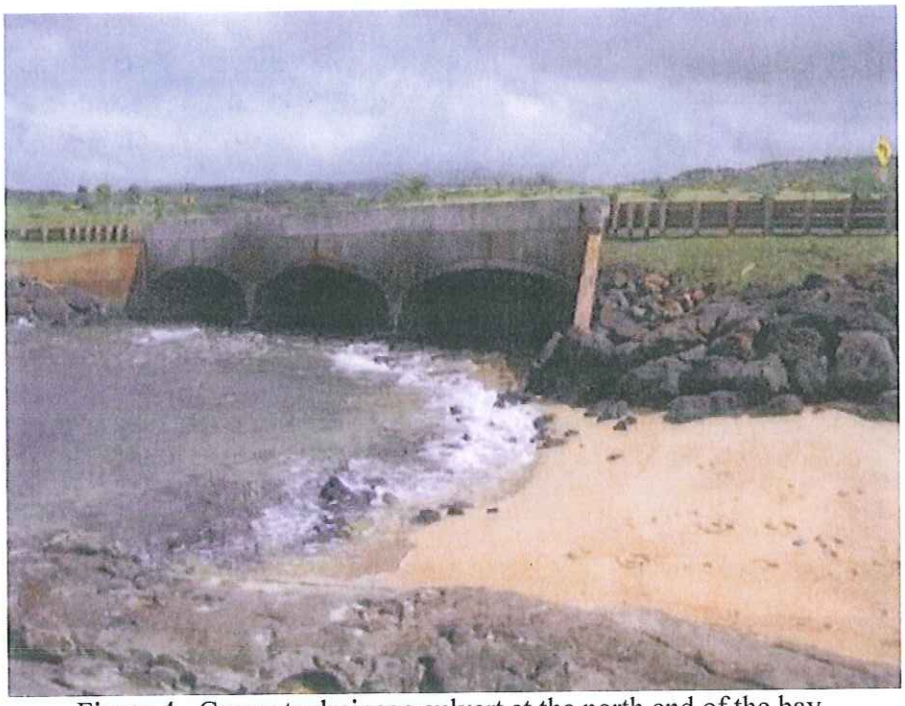


Figure 4. Concrete drainage culvert at the north end of the bay.

Figure 5. Rock revetment protecting Lawai Road.

Figure 6. Rock walls separating sand beach from grassy lawn.

Figure 7. Prior backshore use in Kukuiula Bay.

Figure 7. Vertical boundary wall alongside Lawai Road.

Figure 8. Curved planter wall.

Figure 9. Original wall configuration.

Figure 10. Concrete and red clay/dirt substrate underlying wall.

Figure 11. Concrete and red clay/dirt substrate underlying wall.

Figure 12. Concrete and red clay/dirt substrate underlying wall.

Figure 13. Termination of rock revetment against boundary wall.

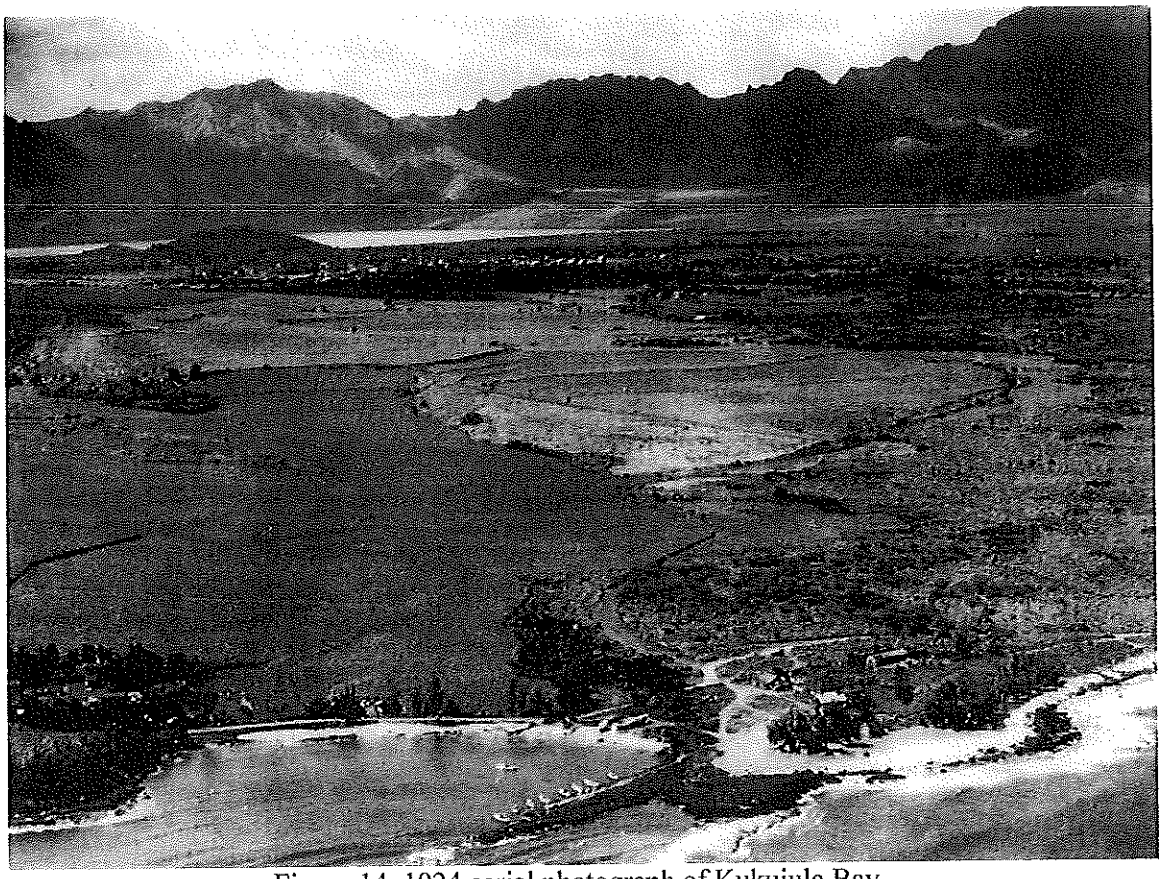


Figure 14. 1924 aerial photograph of Kukuiula Bay.

Figure15. April 1975 aerial photograph of Kukuiula Bay.

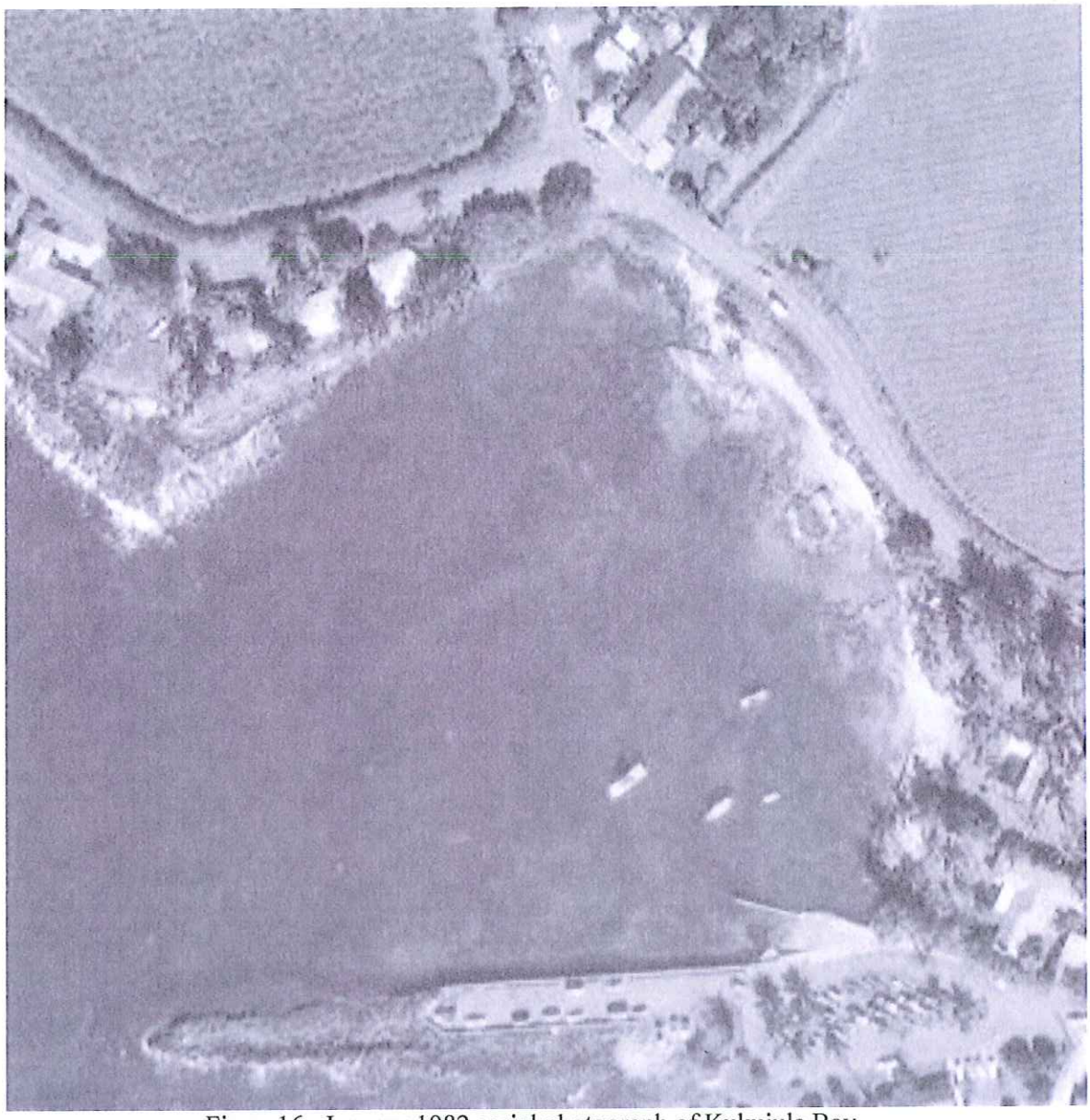


Figure16. January 1982 aerial photograph of Kukuiula Bay.

Figure17. July 1987 aerial photograph of Kukuiula Bay.

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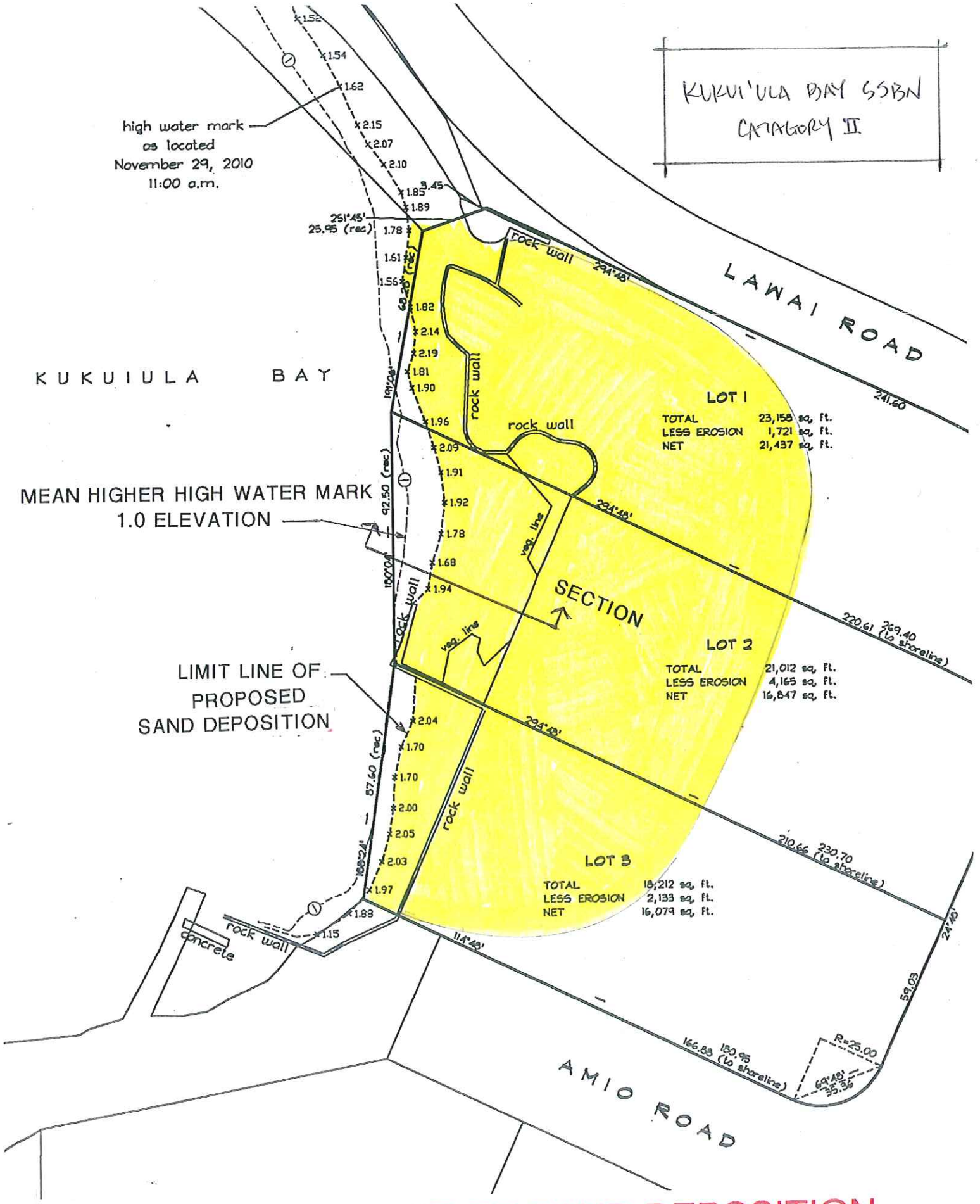
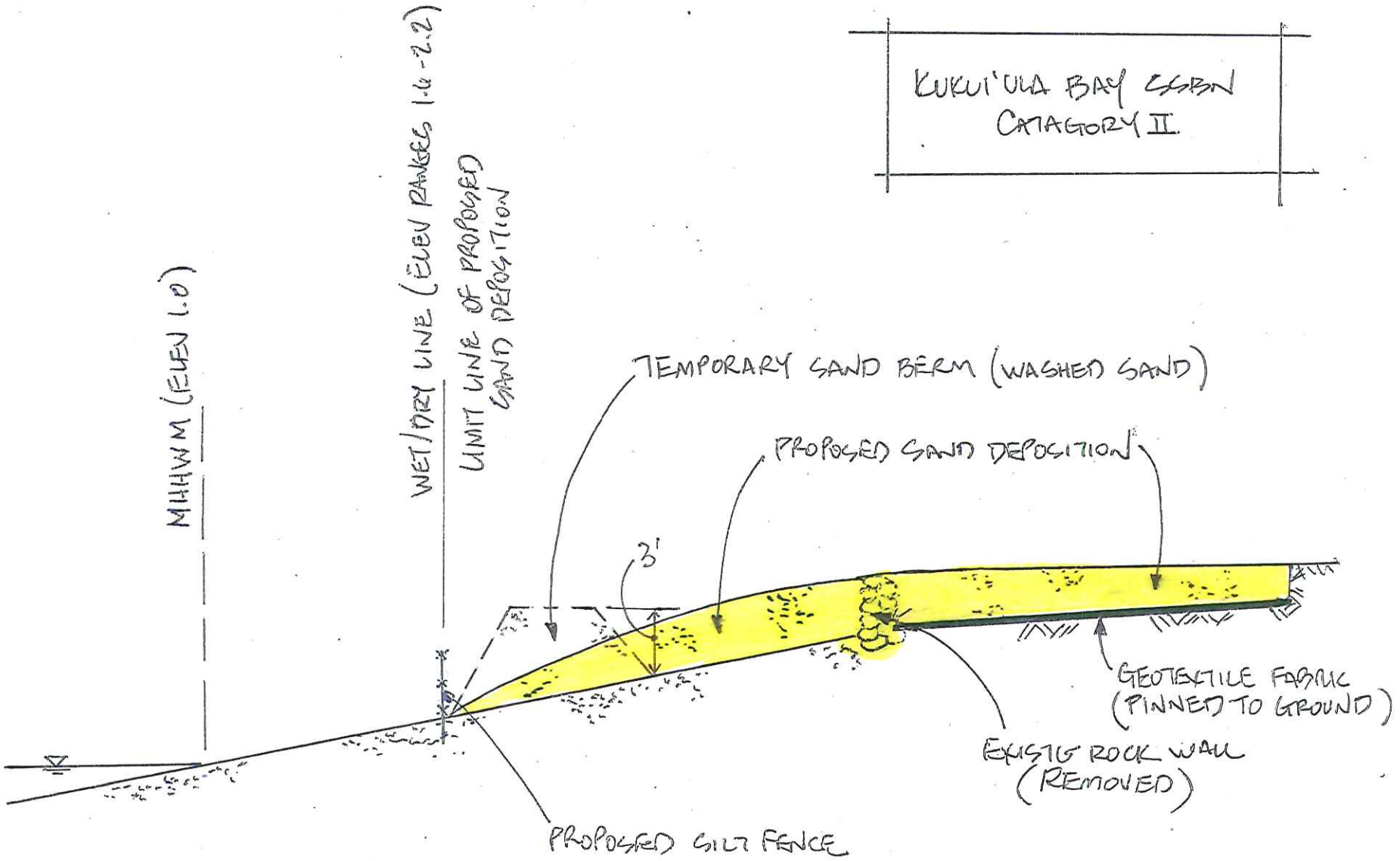
Figure 18. September 1992 post Hurricane Iniki aerial photograph of Kukuiula Bay.

Figure 19. October 2007 aerial photograph of Kukuiula Bay.

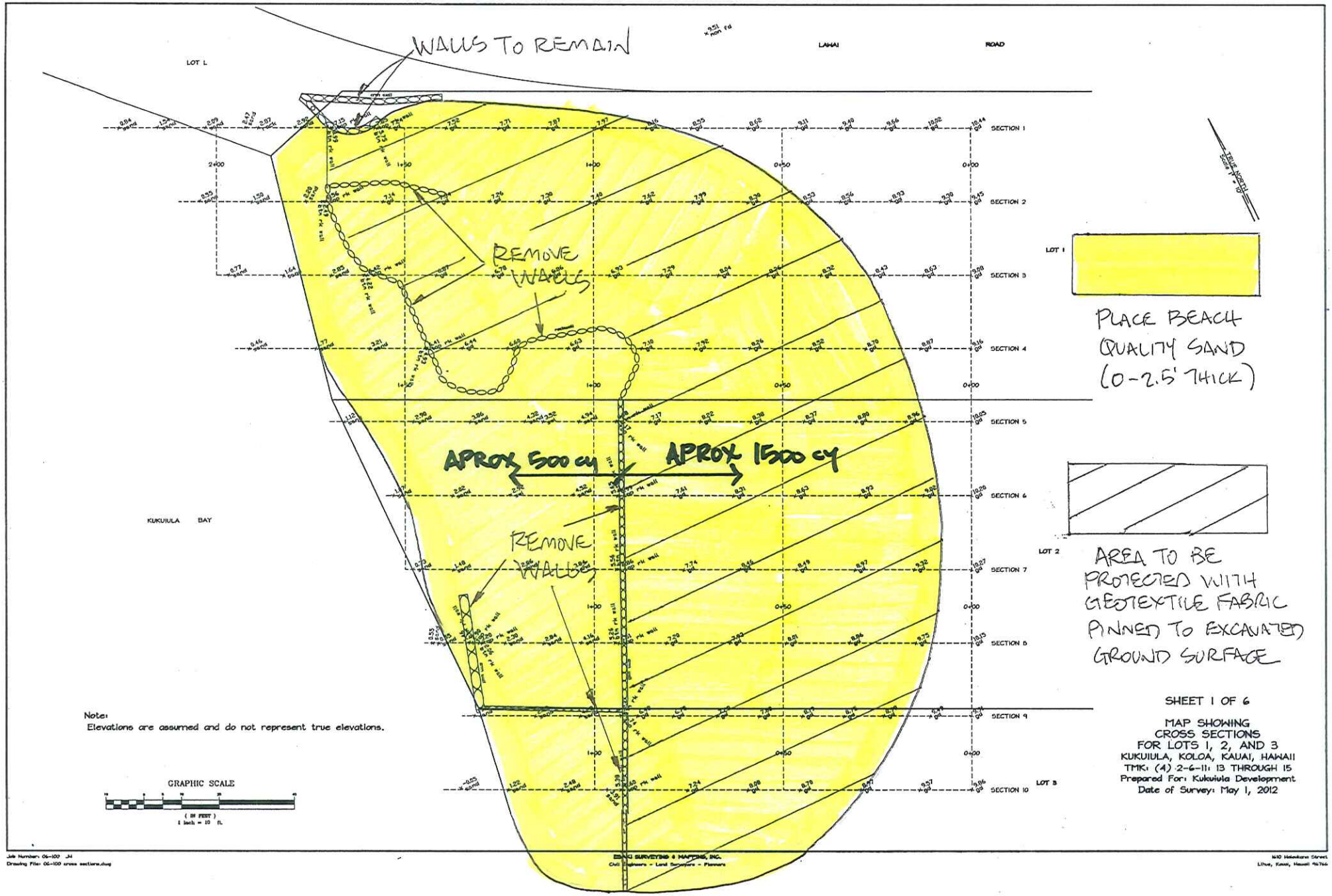

KUKUI'ULA BAY SSBN
CATAGORY II
high water mark
as located
November 29, 2010
11:00 a.m.
KUKUIULA BAY
LAWAI ROAD
AMIO ROAD
MEAN HIGHER HIGH WATER MARK
1.0 ELEVATION
LIMIT LINE OF
PROPOSED
SAND DEPOSITION
SECTION
rock wall
veg. line
concrete
LOT 1
TOTAL 23,158 sq. Ft.
LESS EROSION 1,721 sq. Ft.
NET 21,437 sq. Ft.
LOT 2
TOTAL 21,012 sq. Ft.
LESS EROSION 4,165 sq. Ft.
NET 16,847 sq. Ft.
LOT 3
TOTAL 18,212 sq. Ft.
LESS EROSION 2,133 sq. Ft.
NET 16,079 sq. Ft.
241.60
269.40 (to shoreline)
230.70 (to shoreline)
180.95 (to shoreline)
59.03
R=25.00
MHHWM VS LIMIT OF SAND DEPOSITION

KUKUI'ULA BAY CSRSN
CATAGORY II.



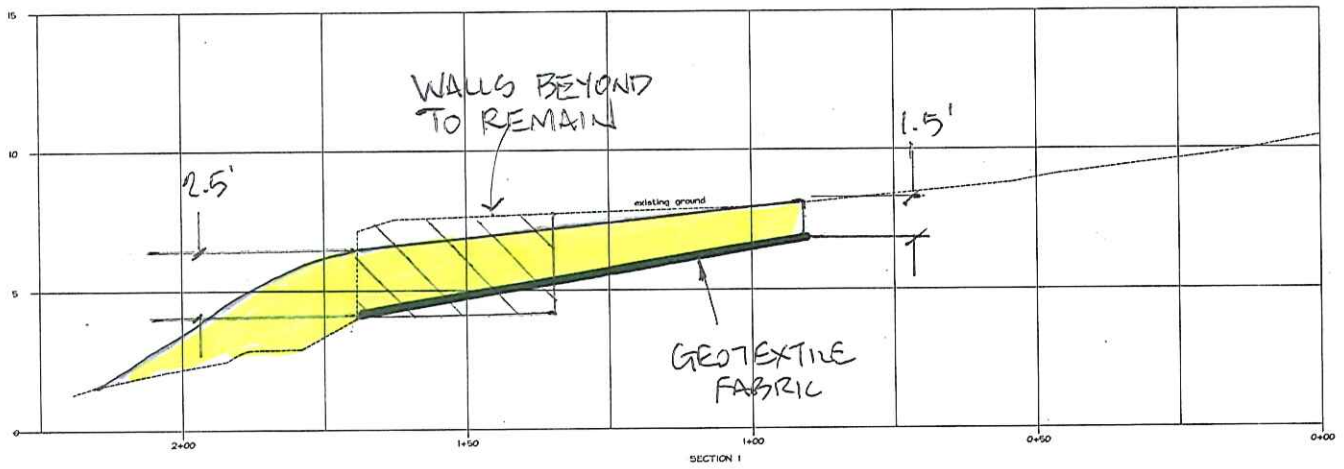
TYPICAL CROSS SECTION (NTS)

SITE PLAN

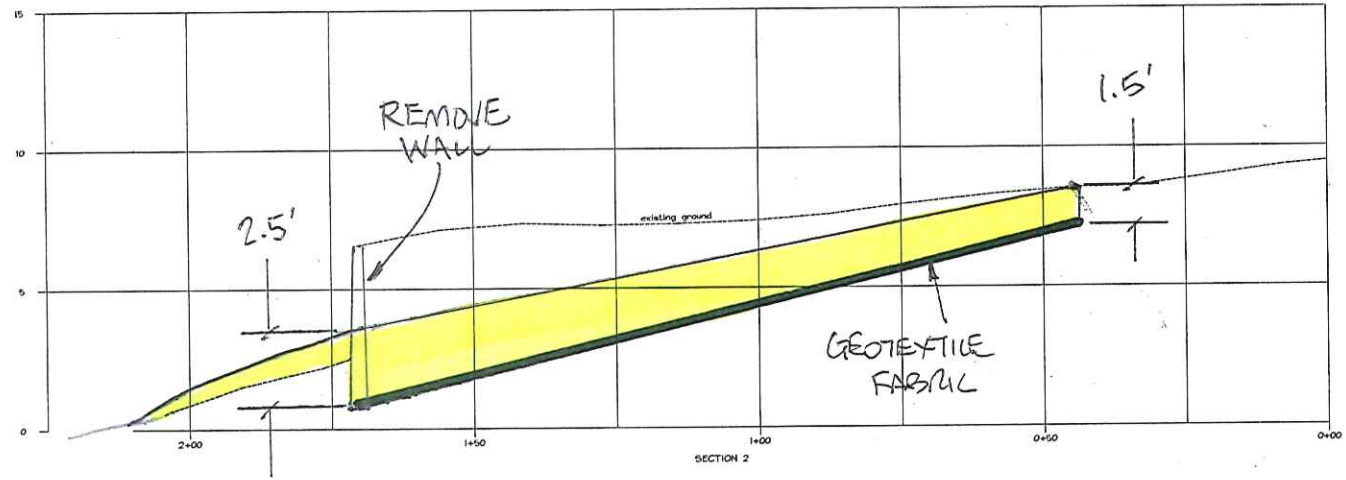

WALLS TO REMAIN
LOT L
LAHAI
ROAD
SECTION 1
SECTION 2
SECTION 3
SECTION 4
SECTION 5
SECTION 6
SECTION 7
SECTION 8
SECTION 9
SECTION 10
REMOVE WALLS
REMOVE WALLS
APROX 500 cy
APROX 1500 cy
KUKUIULA BAY
LOT 1
LOT 2
LOT 3
PLACE BEACH QUALITY SAND (0-2.5' THICK)
AREA TO BE PROTECTED WITH GEOTEXTILE FABRIC PINNED TO EXCAVATED GROUND SURFACE
Note:
Elevations are assumed and do not represent true elevations.
GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.
SHEET 1 OF 6
MAP SHOWING
CROSS SECTIONS
FOR LOTS 1, 2, AND 3
KUKUIULA, KOLOA, KAUAI, HAWAII
TMK: (4) 2-6-11: 13 THROUGH 15
Prepared For: Kukuiula Development
Date of Survey: May 1, 2012

SECTIONS

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=2'



SECTION 1

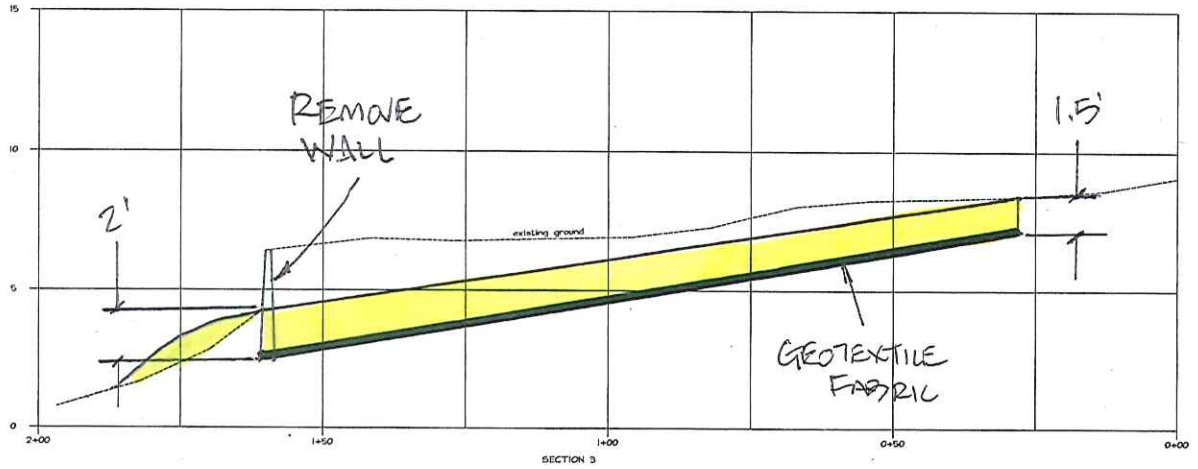


SECTION 2

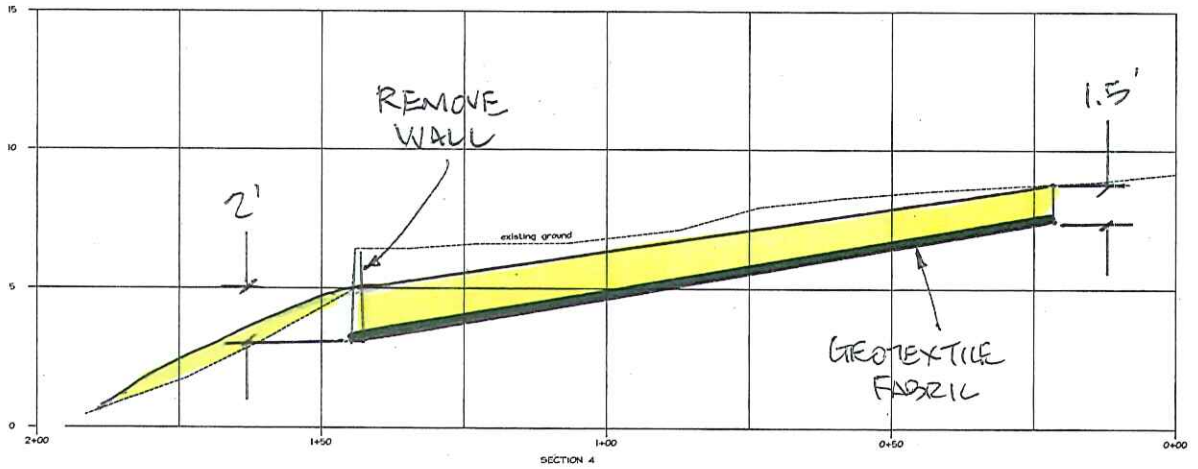
SHEET 2 OF 6

MAP SHOWING
CROSS SECTIONS
FOR LOTS 1, 2, AND 3
KUKUIULA, KOLOA, KAUAI, HAWAII
TMK: (4) 2-6-11: 13 THROUGH 15
Prepared For: Kukuiula Development
Date of Survey: May 1, 2012

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=2'



SECTION 3

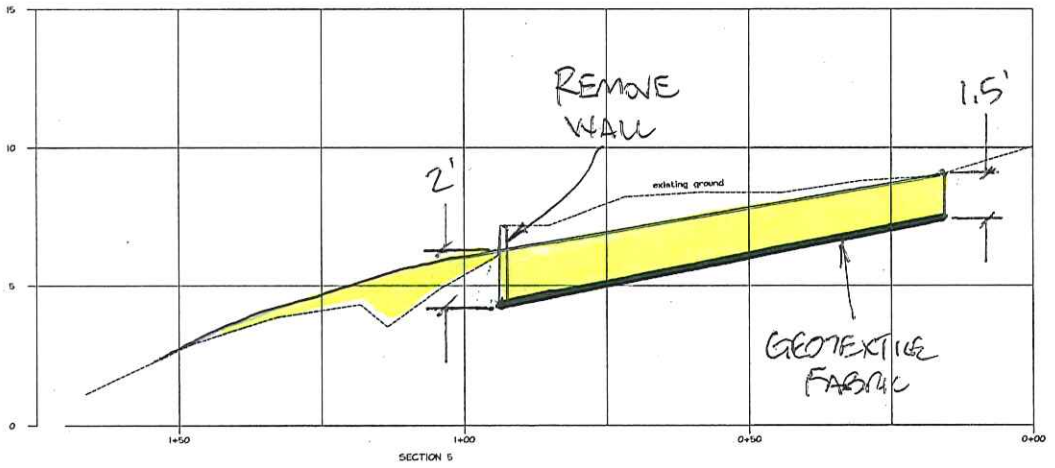


SECTION 4

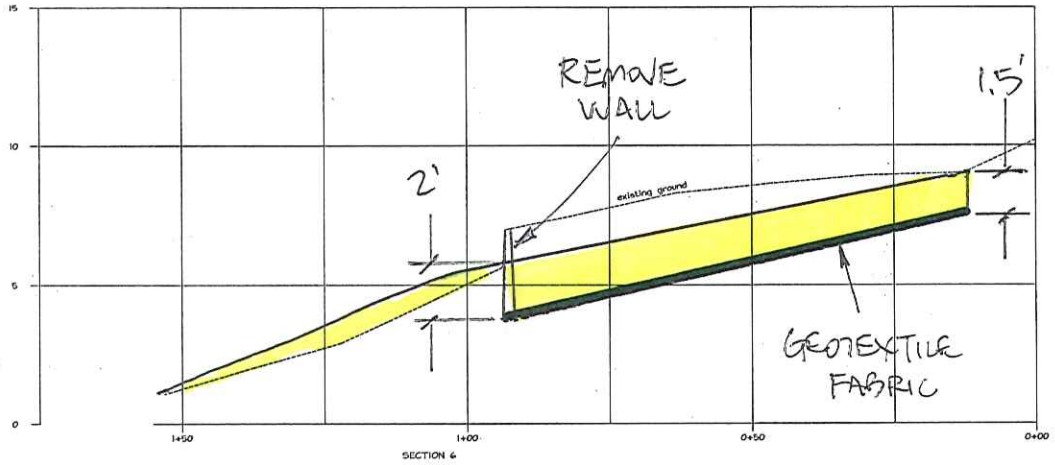
SHEET 3 OF 6

MAP SHOWING
CROSS SECTIONS
FOR LOTS 1, 2, AND 3
KUKUIULA, KOLOA, KAUAI, HAWAII
TMK: (4) 2-6-11: 13 THROUGH 15
Prepared For: Kukuiula Development
Date of Survey: May 1, 2012

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=2'



SECTION 5

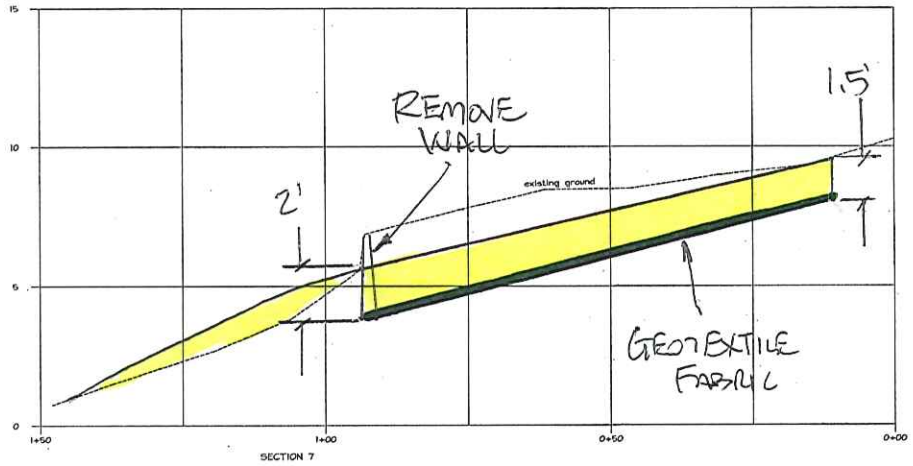


SECTION 6

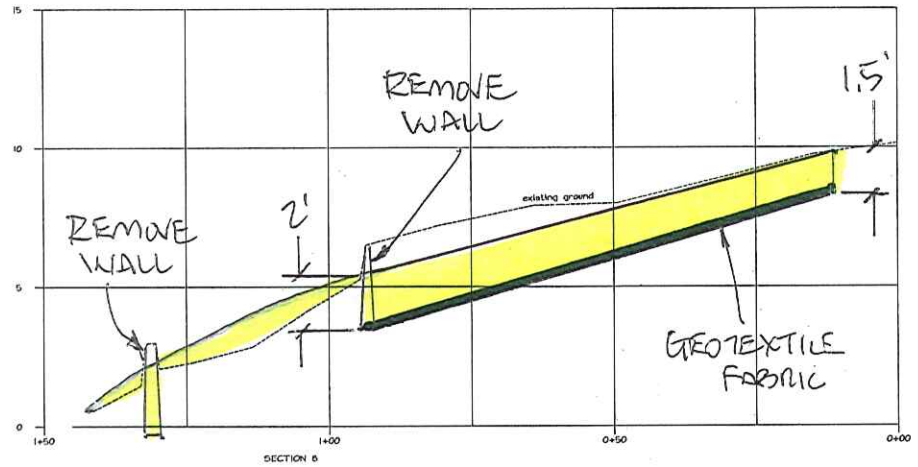
SHEET 4 OF 6

MAP SHOWING
CROSS SECTIONS
FOR LOTS 1, 2, AND 3
KUKUIULA, KOLOA, KAUAI, HAWAII
TMK: (4) 2-6-11: 13 THROUGH 15
Prepared For: Kukuiula Development
Date of Survey: May 1, 2012

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=2'



SECTION 7

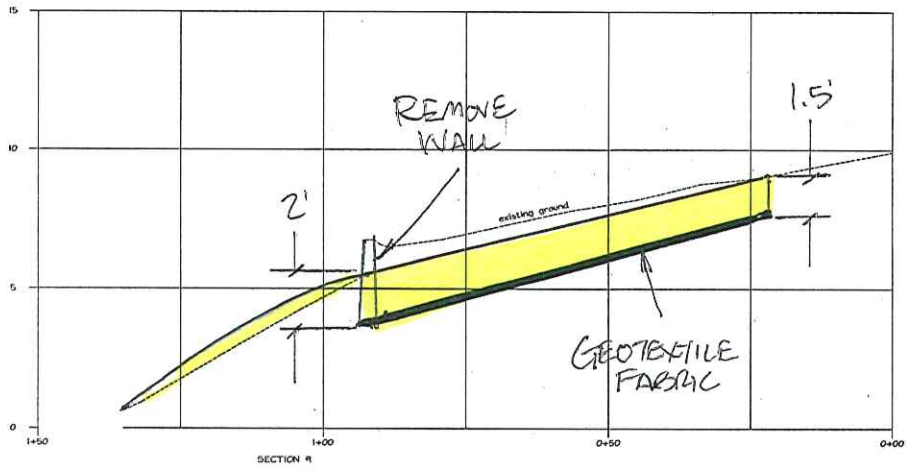


SECTION 6

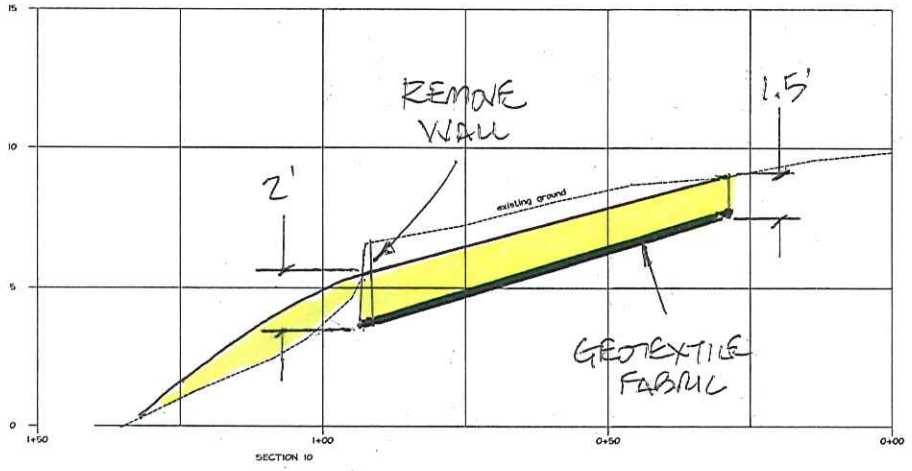
SHEET 5 OF 6

MAP SHOWING
CROSS SECTIONS
FOR LOTS 1, 2, AND 3
KUKUIULA, KOLOA, KAUAI, HAWAII
TMK: (4) 2-6-11: 13 THROUGH 15
Prepared For: Kukuiula Development
Date of Survey: May 1, 2012

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=2'



SECTION 9



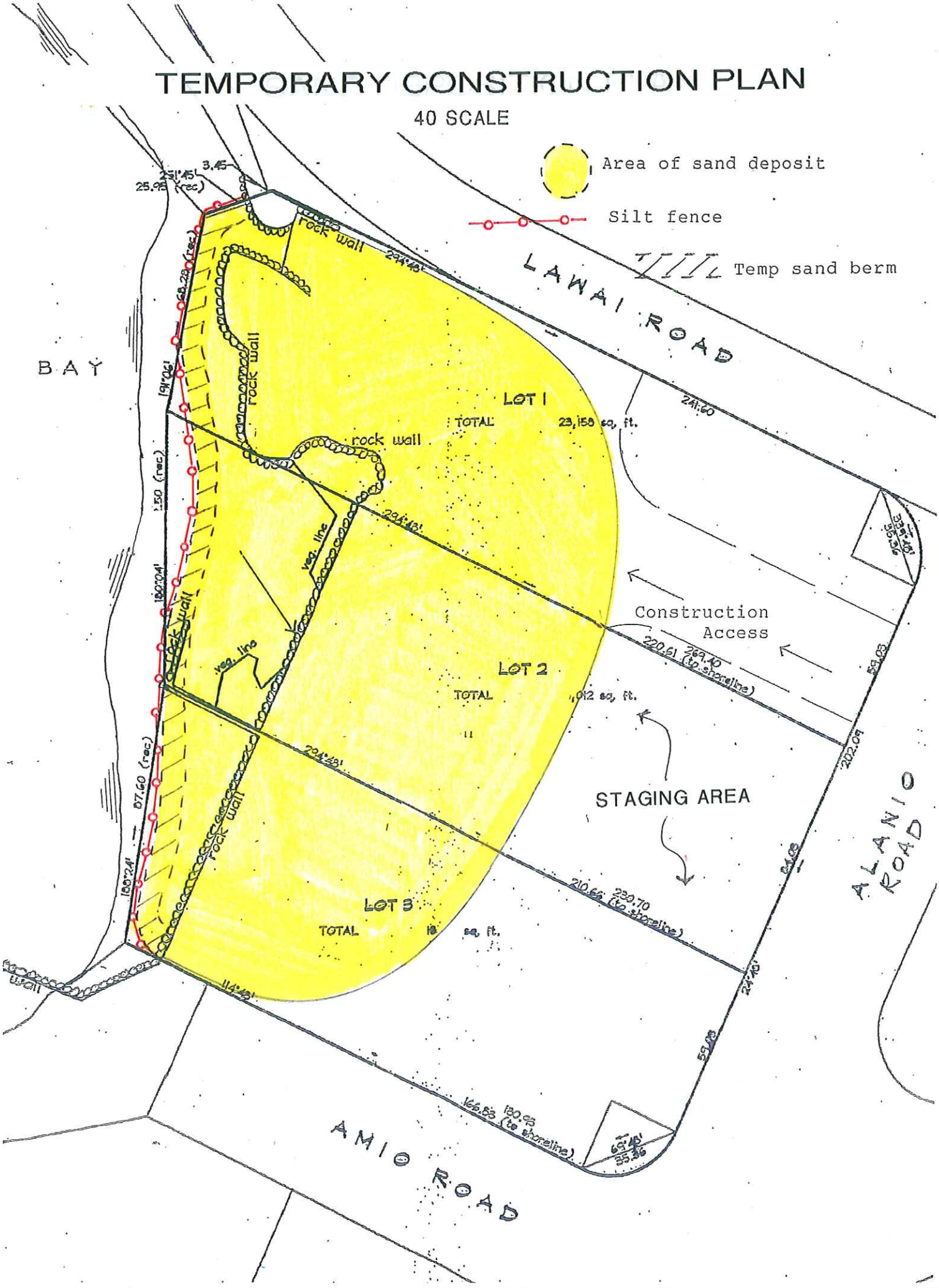
SECTION 10

SHEET 6 OF 6

MAP SHOWING
CROSS SECTIONS
FOR LOTS 1, 2, AND 3
KUKUIULA, KOLOA, KAUAI, HAWAII
TMK: (4) 2-6-11: 13 THROUGH 15
Prepared For: Kukuiula Development
Date of Survey: May 1, 2012

TEMPORARY CONSTRUCTION PLAN

40 SCALE



2866

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 8/27/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Diane Staley
Commercial Lines - (602) 381-2800 Wells Fargo Insurance Services USA, Inc. 4742 North 24th Street, Suite 270 Phoenix, AZ 85016-4853	PHONE (A/C, No, Ext): 602-381-2891 FAX (A/C, No): 602-381-2929 E-MAIL ADDRESS: Diane.Staley@wellsfargo.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Lloyd's of London	
INSURER B : Travelers Indemnity Company	25658
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Kukui'ula Development Company (Hawaii), LLC
2700 Ke Alaula Street, Suite B
Koloa, HI 96756

COVERAGES **CERTIFICATE NUMBER:** 4768654 **REVISION NUMBER:** See below

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY			595XO03205Z	9/23/2010	9/23/2012	EACH OCCURRENCE	$ 2,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$
	X 50,000 SIR						PERSONAL & ADV INJURY	$ 2,000,000
	X Each Occurance						GENERAL AGGREGATE	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$ 2,000,000
	POLICY PRO-JECT LOC							$
B	AUTOMOBILE LIABILITY			BA4824A66312CAG	5/1/2012	5/1/2013	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS X SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
							$1,000 Comprehensive Ded	$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						WC STATU-TORY LIMITS OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N/A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

The liability insurance evidenced above includes as insureds only persons or organizations that the Named Insured agrees by written contract or written agreement to add as insureds. The coverage provided to such insureds applies only to work performed for the Named Insured under such written contract or written agreement at the Named Insureds' worksite.

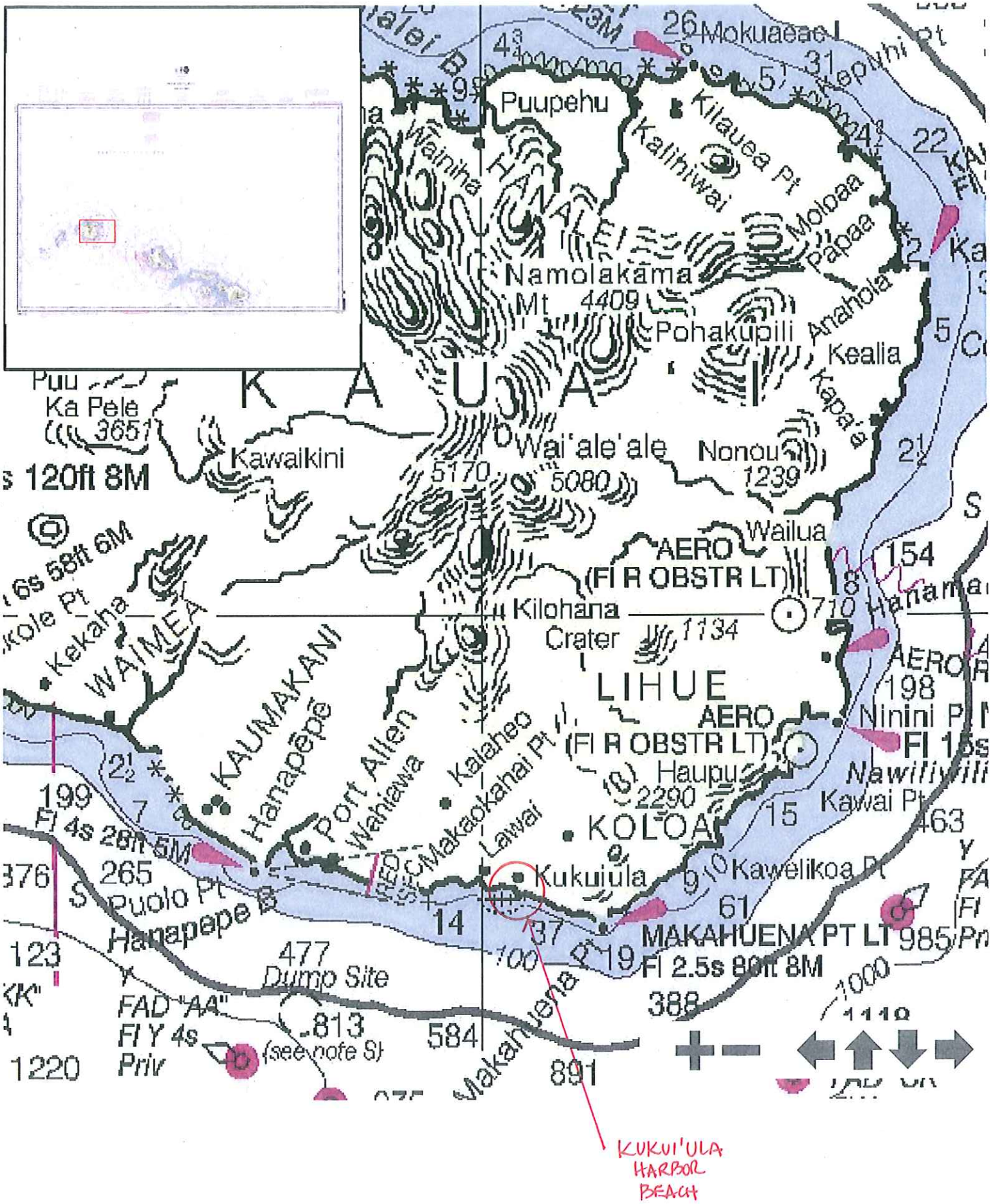
CERTIFICATE HOLDER

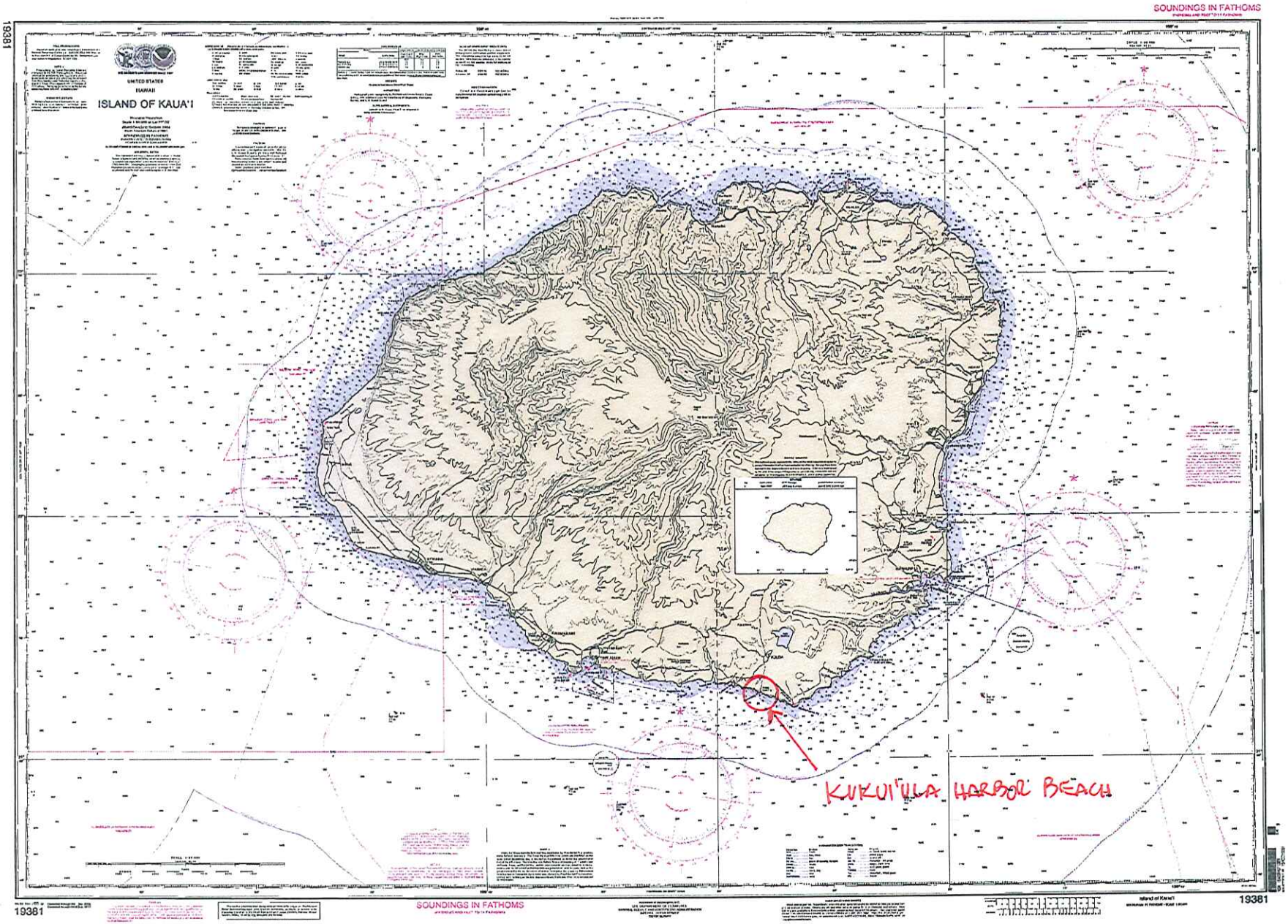
State of Hawaii
Department of Land and Natural Resources
Office of conservation and Coastal Lands
PO Box 621
Honolulu, HI 96809

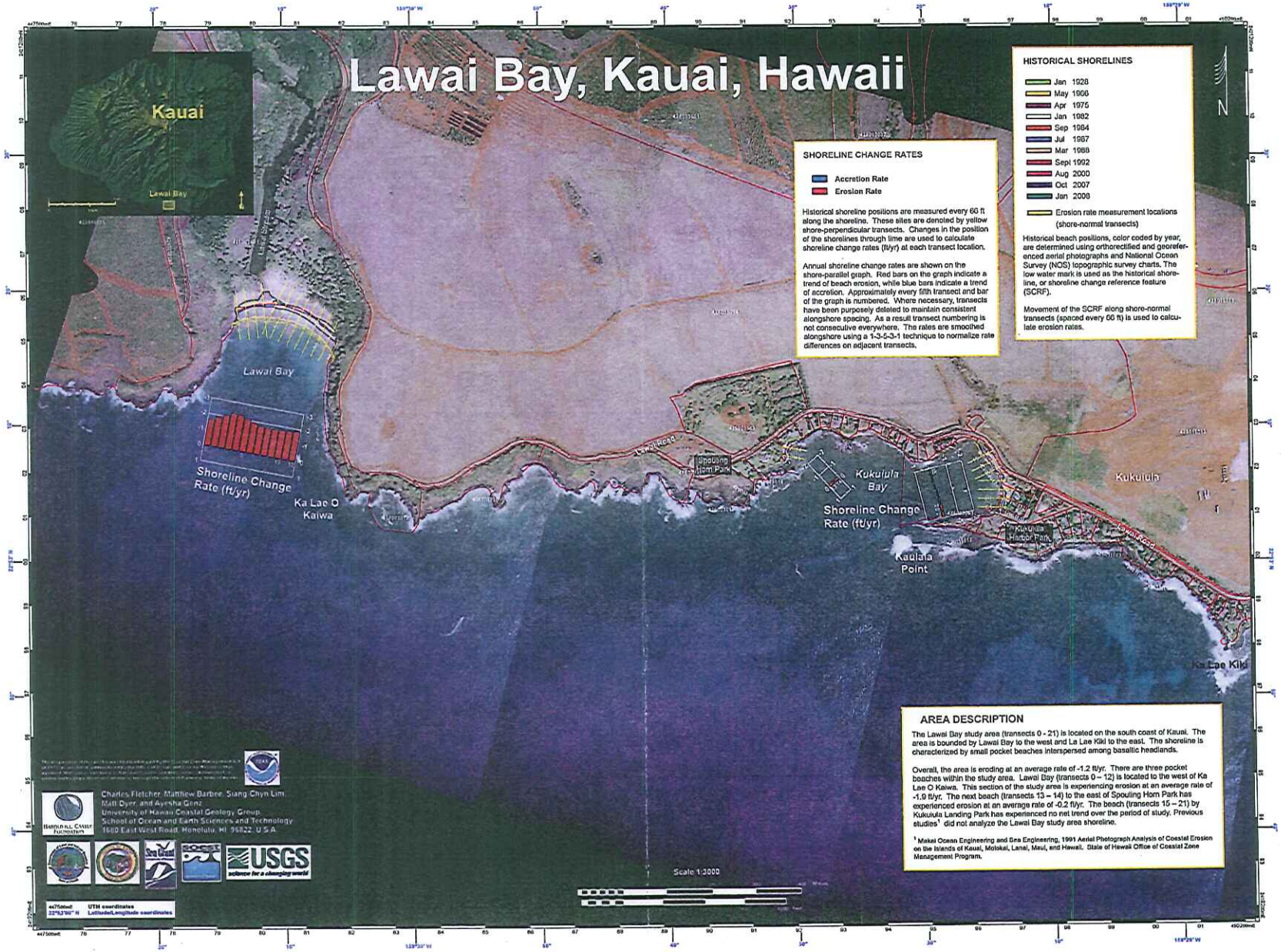
CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE


Mokuaeae
Puupehu
Kilauea Pt
Kalihiwai
Waiinha
Moloaa
Papaa
Namolakama
Mt 4409
Pohakupili
Anahola
Kealia
Kapa'a
Puu
Ka Pele
3651
K A U A I
Kawaikini
5170
Wai'ale'ale
5080
Nonou
1239
s 120ft 8M
Wailua
AERO
(FI R OBSTR LT)
710
Kilohana
Crater
1134
LIHUE
AERO
(FI R OBSTR LT)
Haupu
2290
KOLOA
Kukuiula
Kawelikoa Pt
MAKAHUENA PT LT
Fl 2.5s 80ft 8M
985
Kawai Pt
Ninini Pt
Nawiliwili
Fl 4s 28ft 5M
Puolo Pt
Hanapepe
Port Allen
Waiawa
Kalaheo
Makaokahai Pt
Lawai
KAUMAKANI
Hanapēpē
WAIMEA
Kekaha
Dump Site
813
(see note S)
FAD "AA"
Fl Y 4s
Priv
Makahuena
891
584
388
1220
123
265
199
376
477
100
1000
KUKUI'ULA HARBOR BEACH


SOUNDINGS IN FATHOMS
19381
UNITED STATES
HAWAII
ISLAND OF KAUA'I
KUKUI'ULA HARBOR BEACH
SOUNDINGS IN FATHOMS
19381


Lawai Bay, Kauai, Hawaii
Kauai
Lawai Bay
SHORELINE CHANGE RATES
Accretion Rate
Erosion Rate
Historical shoreline positions are measured every 60 ft along the shoreline. These sites are denoted by yellow shore-perpendicular transects. Changes in the position of the shorelines through time are used to calculate shoreline change rates (ft/yr) at each transect location.
Annual shoreline change rates are shown on the shore-parallel graph. Red bars on the graph indicate a trend of beach erosion, while blue bars indicate a trend of accretion. Approximately every fifth transect and bar of the graph is numbered. Where necessary, transects have been purposely deleted to maintain consistent alongshore spacing. As a result transect numbering is not consecutive everywhere. The rates are smoothed alongshore using a 1-3-5-3-1 technique to normalize rate differences on adjacent transects.
HISTORICAL SHORELINES
Jan 1928
May 1966
Apr 1975
Jan 1982
Sep 1984
Jul 1987
Mar 1988
Sept 1992
Aug 2000
Oct 2007
Jan 2008
Erosion rate measurement locations (shore-normal transects)
Historical beach positions, color coded by year, are determined using orthorectified and georeferenced aerial photographs and National Ocean Survey (NOS) topographic survey charts. The low water mark is used as the historical shoreline, or shoreline change reference feature (SCRF).
Movement of the SCRF along shore-normal transects (spaced every 60 ft) is used to calculate erosion rates.
N
Lawai Bay
Shoreline Change Rate (ft/yr)
Ka Lae O Kaiwa
Spouting Horn Park
Kukuiula Bay
Shoreline Change Rate (ft/yr)
Kukuiula
Kukuiula Harbor Park
Kaulala Point
Ka Lae Kiki
AREA DESCRIPTION
The Lawai Bay study area (transects 0 - 21) is located on the south coast of Kauai. The area is bounded by Lawai Bay to the west and La Lae Kiki to the east. The shoreline is characterized by small pocket beaches interspersed among basaltic headlands.
Overall, the area is eroding at an average rate of -1.2 ft/yr. There are three pocket beaches within the study area. Lawai Bay (transects 0 – 12) is located to the west of Ka Lae O Kaiwa. This section of the study area is experiencing erosion at an average rate of -1.9 ft/yr. The next beach (transects 13 – 14) to the east of Spouting Horn Park has experienced erosion at an average rate of -0.2 ft/yr. The beach (transects 15 – 21) by Kukuiula Landing Park has experienced no net trend over the period of study. Previous studies[1] did not analyze the Lawai Bay study area shoreline.
[1] Makai Ocean Engineering and Sea Engineering, 1991 Aerial Photograph Analysis of Coastal Erosion on the Islands of Kauai, Molokai, Lanai, Maui, and Hawaii. State of Hawaii Office of Coastal Zone Management Program.
Charles Fletcher, Matthew Barbee, Siang Chyn Lim, Matt Dyer, and Ayesha Grinz
University of Hawaii Coastal Geology Group
School of Ocean and Earth Sciences and Technology
1680 East West Road, Honolulu, HI 96822, U.S.A.
USGS
Scale 1:3000
UTM coordinates
Latitude/Longitude coordinates

LINDA LINGLE
GOVERNOR OF HAWAII

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

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

COUNTY OF KAUAI
'10 SEP -2 P2:44
PLANNING DEPT

DATE: August 28, 2010

LOG: 2010.2992
DOC: 1008RS59

TO: Planning Department
County of Kauai
4444 Rice Street, Unit A473
Lihue, HI 96766

SUBJECT: **Chapter 6E-8 Historic Preservation Review / Relocation of McBryde Sugar Plantation Manager's House**
Permit # (None)
Building Owner: Kukuiula Development Company /Supporting the Language of Kauai, Inc.
Location: 4637 Amio Road
Tax Map Key: (4) 2-6-011:013

This letter is in response to materials sent to our office on August 24, 2010, re the potential relocation of the McBryde Sugar Plantation Manager's House from 4637 Amio Road. The project is part of an agreement between the County of Kauai and Kuikuiula Development Company to dedicate for park use parcels (4) 2-6-011:013, :014, :015, and :016. The Manager's House and a 1983 structure would temporarily be moved to Prince Kuhio Park [(4) 2-6-006:002] and another location until a permanent site is ready. The area of potential effect would be the original lot, the area immediately adjacent, Prince Kuhio Park, and the final location.

Documentation provided shows that local architect Thomas Vierra designed the house in 1957. County online records show its date of completion as 1959. The house would be potentially eligible for the Hawaii Register of Historic Places as an example of late plantation architecture.

Unfortunately, we have not received any photographs of the building. We do, however, applaud the effort of the County, Kuikuiula Development Company, and Supporting the Language of Kauai, Inc., in their efforts to save this structure.

By National Register Standards, moving the building will affect its historic integrity. Thus we must determine that **the project will affect a historic property, with proposed mitigation.** We suggest that (1) exterior photographs be taken of each side of the dwelling before moving and also of the existing grounds; (2) a site map of the existing location be provided; (3) photographs be taken to document how the building is sectionalized; and (4) the future permanent location of the house be provided to this office.

Any questions should be addressed to Ross W. Stephenson, SHPD Historian, at (808) 692-8028 (office), (808) 497-2233 (cell) or ross.w.stephenson@hawaii.gov.

Mahalo for the opportunity to comment.

Pua Aiu, Administrator, Hawaii Historic Preservation Division (SHPD)

8/31/10
Date

D. I.

SEP 2 2010

In the event that historic resources, including human skeletal remains, lava tubes, and lava blisters/bubbles are identified during construction activities, all work should cease in the immediate vicinity of the find, the find should be protected from additional disturbance, and the State Historic Preservation Division should be contacted immediately at (808) 692-8015.

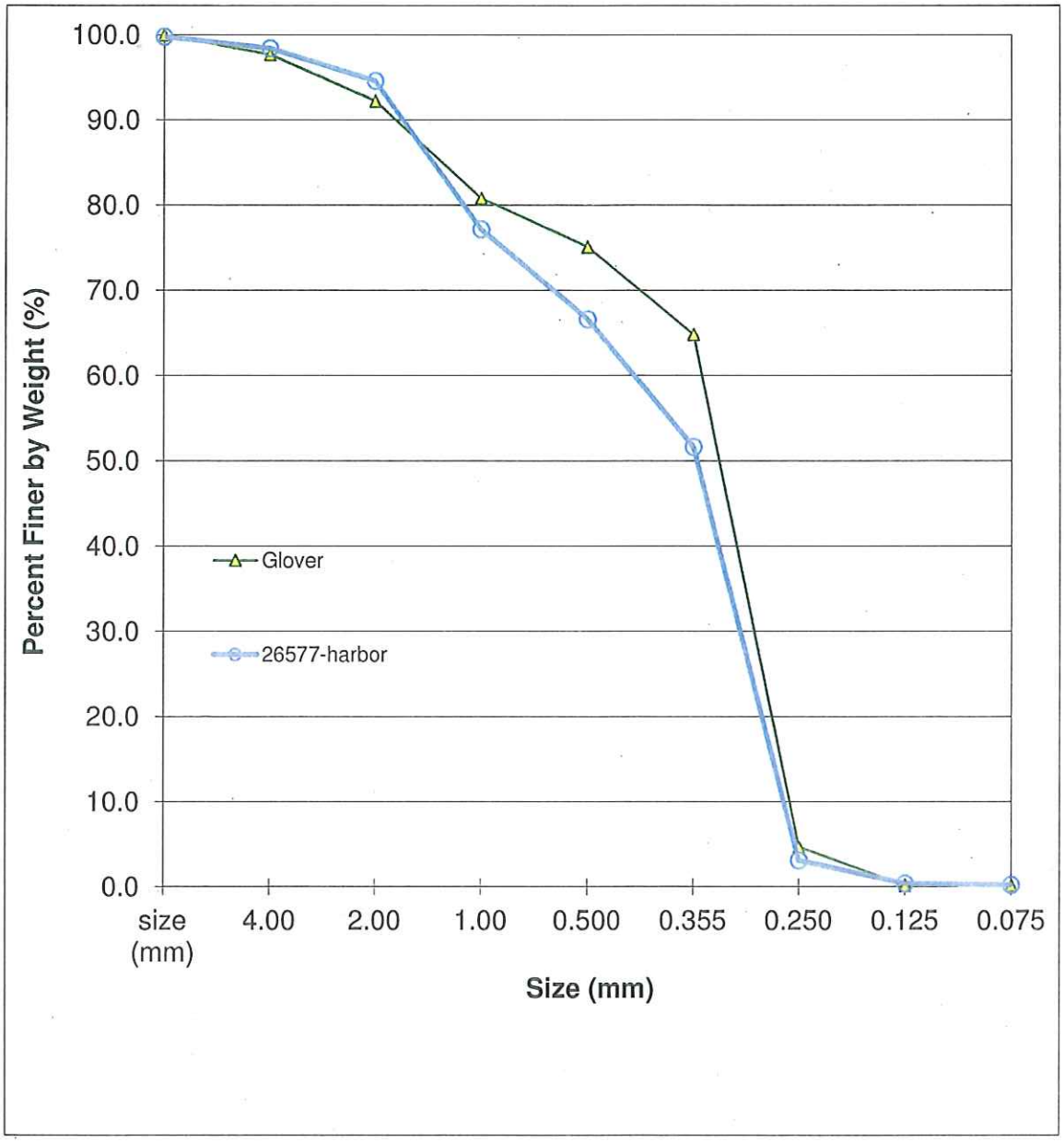
AECOS, Inc.
45-939 Kamehameha Highway, Suite 104

CLIENT: Kukuiula Development Company(Hawaii), LLC
Ke Alaula Street, Suite B
Koloa HI 96756
ATTN: Lindsay Crawford

AECOS Job No.:	**2012-MI**
REPORT DATE:	7/31/2012
PAGE:	2 of 2

AECOS Log No.: **28411**

GRAIN SIZE DISTRIBUTION



SAMPLES:

Glover - Kawaiele Quarry screened, then washed at Glover
26577 - Kukuiula Harbor Sand (for comparison)

PRELIMINARY TEST RESULTS

AECOS, Inc.
45-939 Kamehameha Highway, Suite 104

CLIENT: Kukuiula Development Company(Hawaii), LLC
Ke Alaula Street, Suite B
Koloa HI 96756
ATTN: Lindsay Crawford 808-742-6293
lcrawford@dnbinc.com

AECOS Job No.:	**2012-MI**
REPORT DATE:	7/31/2012
PAGE:	1 of 2

GRAIN SIZE ANALYSIS RESULTS

Date Sampled: 07/10-13/12 Analyzed by: cl AECOS Log No.: **28411**
Date Received: 7/18/2012 Sample Type: sand

Fraction dry weight (g)

size (mm)	>4.00	4.00 - 2.00	2.00 - 1.00	1.00 - 0.500	0.500 - 0.355	0.355 - 0.250	0.250 - 0.125	0.125 - 0.075	0.075 - 0.063	<0.063	TOTAL
phi	-2	-1	0	1						pan	
Glover	0.00	1.02	2.44	5.07	2.55	4.57	26.76	2.00	0.00	0.06	44.47
26577-harbor	0.10	0.70	2.00	9.10	5.50	7.80	25.30	1.40	0.10	0.10	52.10

Fraction Percent (%)

size (mm)	>4.00	4.00 - 2.00	2.00 - 1.00	1.00 - 0.500	0.500 - 0.355	0.355 - 0.250	0.250 - 0.125	0.125 - 0.075	0.075 - 0.063	<0.063	TOTAL
phi	-2	-1	0	1	0	0	0	0	0	pan	
Glover	0.00	2.29	5.49	11.40	5.73	10.3	60.2	4.50	0.00	0.13	100.0
26577-harbor	0.19	1.34	3.84	17.47	10.56	15.0	48.6	2.69	0.19	0.19	100.0

Percent Finer by Weight (%)

size (mm)	4.00	2.00	1.00	0.500	0.355	0.250	0.125	0.075	0.063
Glover	100.0	97.7	92.2	80.8	75.1	64.8	4.6	0.1	0.1
26577-harbor	99.8	98.5	94.6	77.2	66.6	51.6	3.1	0.4	0.2

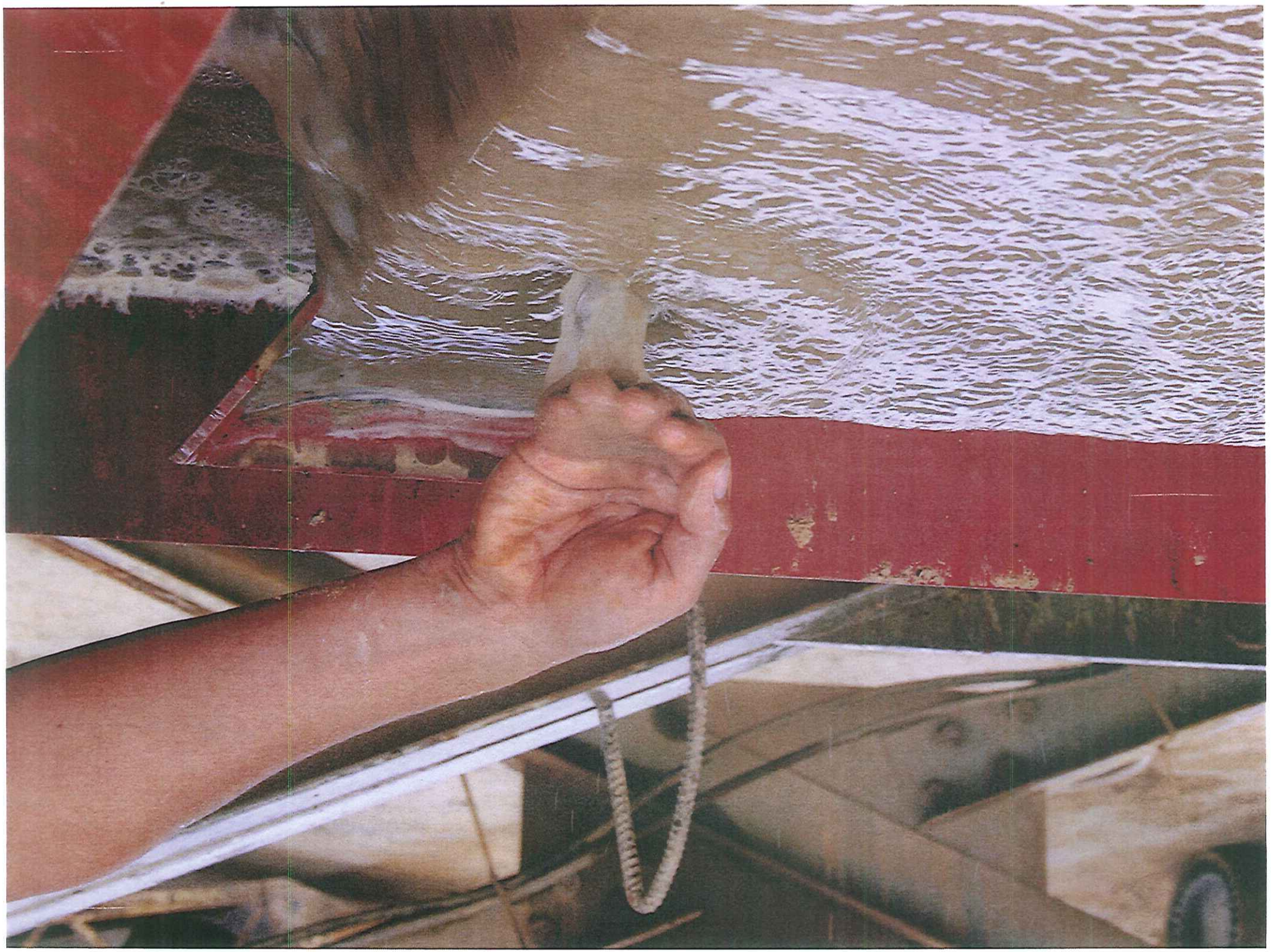
SAMPLES:

Glover - Kawaiele Quarry screened, then washed at Glover
26577 - Kukuiula Harbor Sand (for comparison)

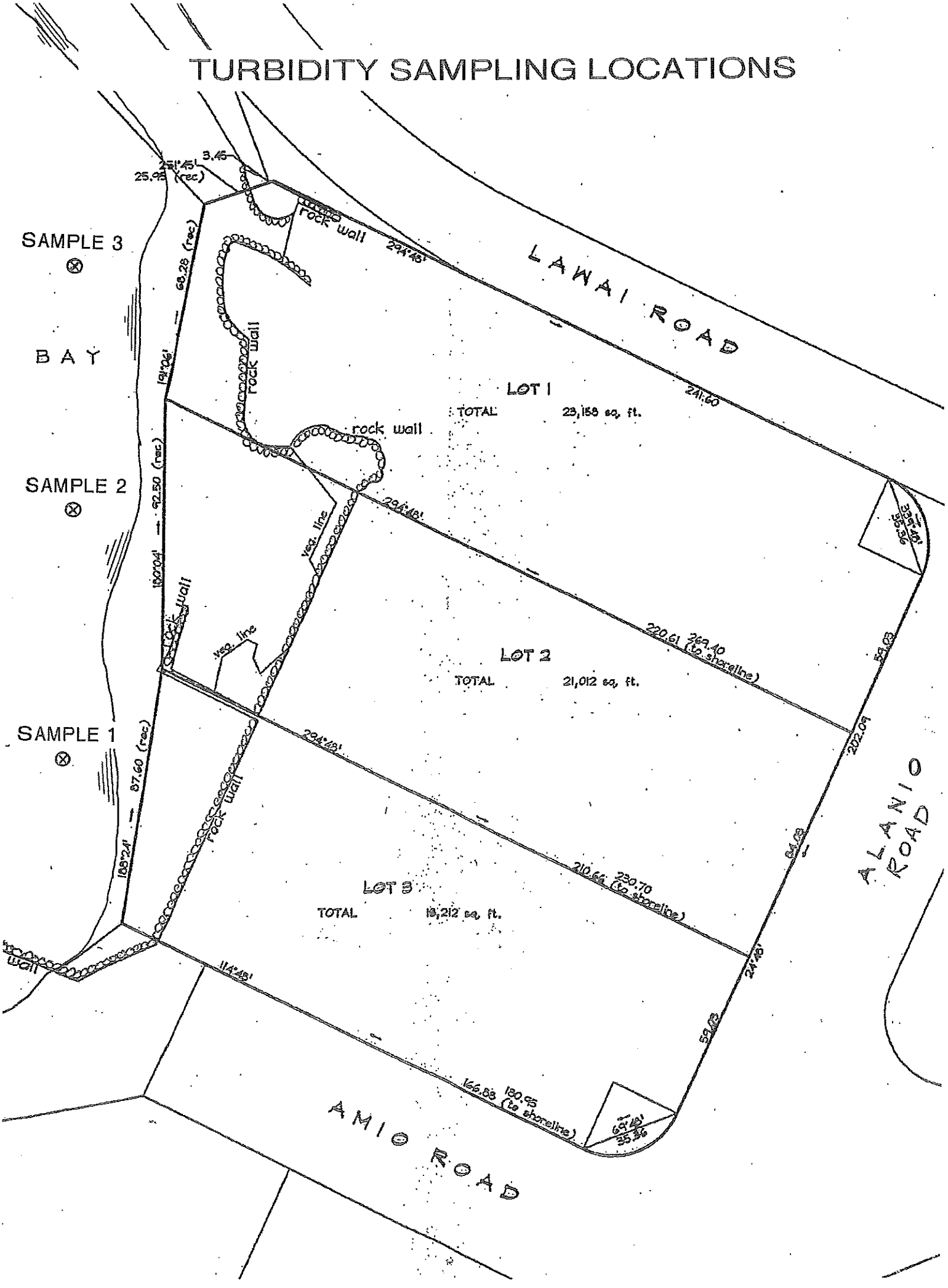
Jacqueline F Mello

J. Mello, Laboratory Director


McLanahan



TURBIDITY SAMPLING LOCATIONS



Kukui'ula

KAUA'I, HAWAI'I

August 28, 2012

Mr. Bradley Romine
State of Hawaii
Department of Land & Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, Hawaii 96809

RE: Small-Scale Beach Nourishment
Kukui`ula Bay Beach
Koloa, Kauai, Hawaii

Dear Mr. Romine:

Kukui`ula Development Company (Hawaii), LLC, a Hawaii Limited Liability Company ("Applicant") does hereby authorize Lindsay Crawford, its Senior Project Manager, to act as its agent for the filing and processing of the subject Small-Scale Beach Nourishment Application with the State of Hawaii.

Sincerely,

Brent E. Herrington
President

BEH:sg

KUKUI`ULA DEVELOPMENT COMPANY (HAWAII), LLC
2700 KE ALAULA STREET, SUITE B, KŌLOA, HI 96756
WWW.KUKUIULA.COM | P(808) 742.6304 F(808) 742.6378