DRAFT ENVIRONMENTAL ASSESSMENT

SOLID WASTE TO ENERGY
AIR POLLUTION CONTROL SYSTEM IMPROVEMENTS PROJECT

Campbell Industrial Park, Kapolei, Hawaii

Proposing Agency:

City and County of Honolulu
Department of Environmental Services
Refuse Division
1000 Uluohia Street, Suite 212
Kapolei, Hawaii 96707

April 2008

DRAFT & FINAL ENVIRONMENTAL ASSESSMENT CHECKLIST

Title: Solid Waste to Energy - Air Pollution Control System Improvements Project

DRAFT ENVIRONMENTAL ASSESSMENT

Document received _____ DEA placed in nearest public library? ____

Conditions which triggered the EIS Law. Check all that apply:

- X Use of State or County Land or Funds
- ___ Amendment to a County General Plan
- ___ Use of Conservation District Lands
- ___ Reclassification of Lands from Conservation to Urban
- ___ Use of Shoreline Setback Area
- ___ Construction or Modif. of Helicopter Facilities
- ___ Use of Historic Site or District
- ___ Use of lands in the Waikiki Special District
- ___ Other

Comments/Recommendation/Justification:

Project necessitated to comply with Clean Air Act section 129 and newly promulgated emissions standards for large municipal waste combustors, 40CFR60 sub part Cb and the compliance schedule as established in 40CFR62 sub part FFF codified at 40CFR62.14100 et seq. / FONSI / Improves air quality

APPROVED FOR PUBLICATION: (sign) _____

DATE OF PUBLICATION: _____

DRAFT EA COMMENT DEADLINE: _____

FINAL ENVIRONMENTAL ASSESSMENT (FONSI)

Comments/Recommendation/Justification:

_____

_____

APPROVED FOR PUBLICATION: (sign) _____

DATE OF PUBLICATION: _____

DRAFT ENVIRONMENTAL ASSESSMENT

Summary ___ (1) Agency submittal letter and anticipated determination;

" x (2) Identification of applicant or proposing agency;

" x (3) Identification of approving agency, if applicable;

" x (4) Identification of agencies, citizen groups, and individuals consulted in making the assessment;

Sect 1 x (5) General description of the action's technical, economic, social, and environmental characteristics; time frame; funding/source

Sect 2 x (6) Summary description of the affected environment, including suitable and adequate regional, location and site maps such as Flood Insurance Rate Maps, Floodway Boundary Maps, or United States Geological Survey topographic maps;

Sect 3 x (7) Impacts to cultural practices and resources, past and current (Act 50)

Sect 4 x (8) Identification and summary of impacts and proposed mitigation measures;

Sect 5 x (9) Alternatives considered;

Sect 6 x (10) Discussion of findings and reasons supporting the agency anticipated determination;

Section 7 x (11) List of all required permits and approvals (State, federal, county);

Appendix (12) Written comments and responses to the comments under the early consultation provisions of sections 11-200-9(a)(1), 11-200-9(b)(1), or 11-200-15. - Appendix - MEETING 4/4/2008

FINAL ENVIRONMENTAL ASSESSMENT

____ **(13) Agency submittal letter;**

____ **(14) Agency determination;**

____ **(15) Discussion of findings and reasons supporting the agency determination;**

____ **(16) Written comments and responses to the comments under the statutorily prescribed public review periods.**

Table of Contents

SUMMARY

1.	APPLICANT:	City and County of Honolulu Environmental Services Department Refuse Division 1000 Uluohia Street, Suite 212 Kapolei, HI 96707
2.	APRROVING AGENCY	City and County of Honolulu Environmental Services Department 1000 Uluohia Street, Suite 308 Kapolei, HI 96707
3.	ANTICIPATED DETERMINATION	FONSI (Finding of No Significant Impact)
4.	CONTACTS	Federal EPA, Region 9 Mr. Wayne Nastri Regional Administrator State of Hawaii Department of Health Environmental Management Division Clean Air Branch Mr. Wifred Nagamine, Manager State of Hawaii Department of Health Environmental Management Division Clean Water Branch Mr. Reef Migata, Manager Ms. Joanna Seto State of Hawaii Department of Health Environmental Management Division Solid Waste Branch and Hazardous Branch Mr. Steven Y.K. Chang, PE, Chief AES Hawaii, Inc. Mr. Charles Butler, Plant Engineer Hawaiian Electric Company, Inc. Ms. Debbie Higashi Power Purchase Contracts Administrator

	City and County of Honolulu Department of Permitting and Planning Henry Eng, Director Timothy Hiu, Acting Chief Raymond Young, Planner 808-768-8049
	City and County of Honolulu Department of Permitting and Planning Jon Kurio, Plans Examining Engineer 808-768-8232
Tax Map Key Numbers	(1)9-1-026-030 H-POWER (1)9-1-026-033 Laydown (1)9-1-026-034 Laydown (1)9-1-026-035 Laydown
Property Owner	City and County of Honolulu
Land Use Classification	I-2 Intensive Industrial
Special Designation	Special Management Area (Portion of proposed laydown)

Sumary Project Description

The Solid Waste to Energy Air Pollution Systems Improvement Project (Project) is being undertaken to comply with recently promulgated regulations under the Federal Clean Air Act (40CFR60 subpart Cb). These regulations are specific to Large Municipal Waste Combustors (MWCs) constructed prior to September 1994 such as H-POWER. These regulations provide revised Emissions Guidelines relative to the control of certain pollutants including reduction in the allowable amounts of particulate matter, dioxins, furans and heavy metals including mercury.

The federal Environmental Protection Agency, (USEPA) has the responsibility for enforcing these guidelines and has established timelines for owners of existing MWC's to comply (40CFR62 subpart FFF).

To comply, the City and County of Honolulu, the owner of the H-POWER facility, has evaluated the existing air pollution control equipment and has determined the existing electro static precipitators, which filter the municipal waste combustor exhaust emissions, will need to be replaced with bag house filters. These bag house filters more efficiently capture and remove the particulate matter from the exhaust gas. Along with the particulate matter, dioxins, furans and

heavy metals, which are absorbed by or are carried by the suspended particles, are also removed thereby demonstrating that bag house filters satisfy the Maximum Achievable Control Technology (MACT) as required by the new Emissions Guidelines as promulgated by the USEPA.

To satisfy the higher filtering capacity of the bag houses, the capacity of the induced draft fans will be increased commensurate with the higher differential pressure as will be created by these more efficient filters.

Certain ancillary changes will be required including electrical power distribution and supply, possible reinforcement of the boilers and associated ductwork, and rerouting and reconfiguration of the ash conveying system which moves the captured particulate matter from the bag house filters to the ash conditioning and load out structure.

Despite these equipment changes, neither the through put capacity nor the electrical generation capability of the Waste to Energy facility will change. Therefore, the system and facility remains essentially as permitted with no additional or changed environmental, community, social, economic, cultural, historic, natural, scenic, coastal, energy consumptive or other adverse impacts or effects. The sole impact or effect is a positive change to air emissions thereby decreasing potential adverse effects on human health and the environment. Therefore, it is anticipated the project will be determined to be either Exempt or that a finding of No Significant Impact (FONSI) will be issued.

Chapter 343 of the Hawaii Revised Statues (HRS) and the Hawaii Administrative Rules (HAR),Title 11, "DEPARTMENT of HEALTH" Chapter 200 section 11-200-8 specifies certain exempt classes of actions including:

"(1) Operations, repairs or maintenance of existing ...facilities...involving negligible or no expansion or change of use beyond that previously existing;

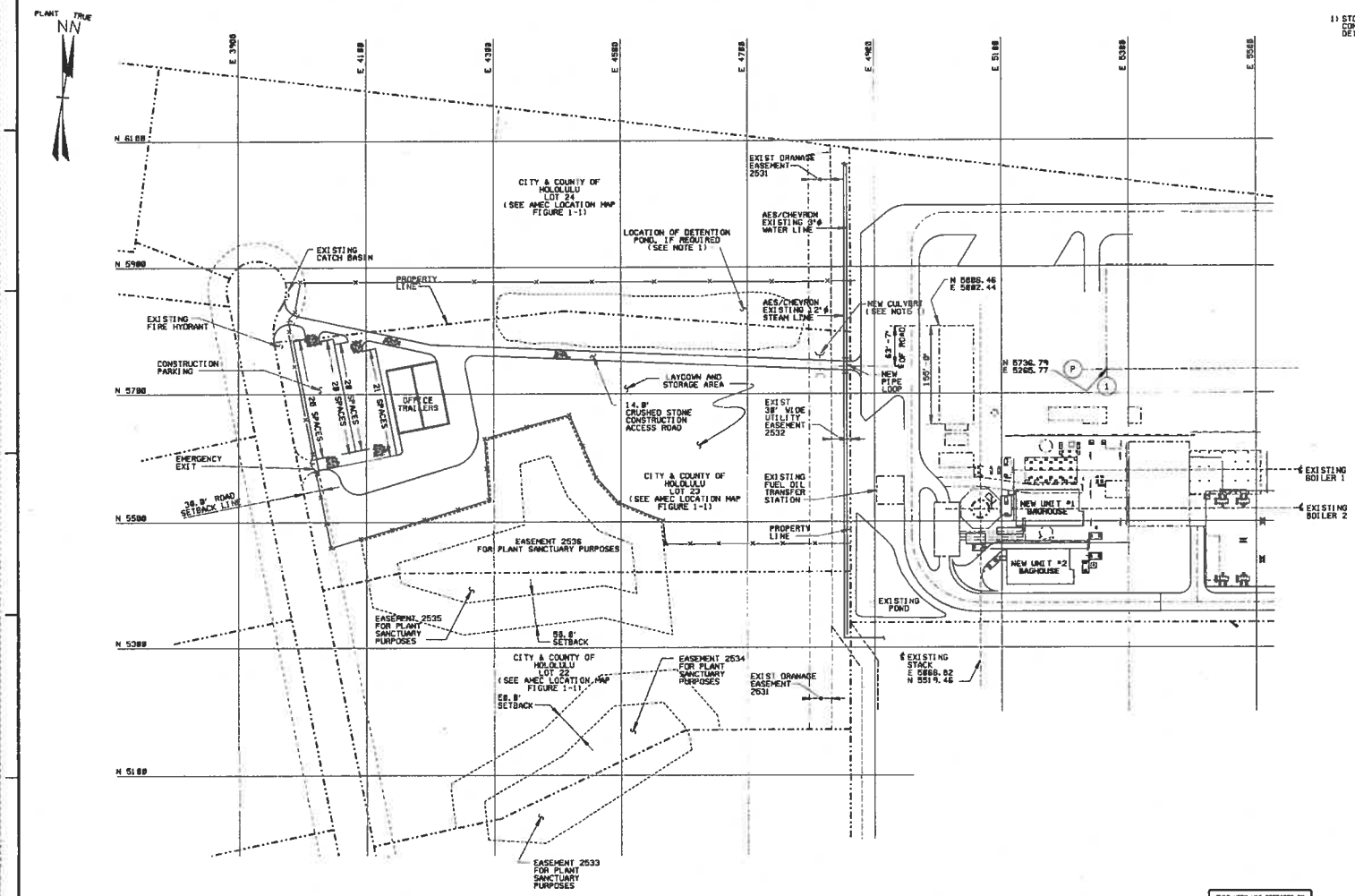
(2) Replacement .. of existing .. facilities where the new structure will be located on the same site and will have substantially the same purpose, capacity, density, height, and dimensions of the structure replaced".

For the above stated reasons, the proposed project also appears to satisfy the requirements of the Agency Comprehensive Exemption List, maintained by the Department of Environmental Services of the City and County of Honolulu as dated August 2007 (draft) under exemption class #1, item 8, "Existing public facility structures, facilities or equipment involving negligible expansion or change of use beyond that previously existing".

However, construction of the Project will require construction office space, parking for craft workers, construction access, storage space and room for pre-assembly. To meet these needs the Project intends to utilize approximately 8 acres of space on adjacent City-owned parcels as located on Kaomi Loop and depicted on drawing SKC 001, enclosed. Predominately for the additional need of using this space, an EA is deemed appropriate.

NOTES

1) STORMWATER RUNOFF CONTROL MEASURES SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE PENDING DETAILED DESIGN AND REGULATORY REVIEW.



GRAPHIC SCALE

0 40' 80' 160' 240'
1" = 80.0'

Rev No	Revision	Date	Dwn	Chkd	Approved Chief Engr

Drawing Control				
Purpose	Approved By	Date	Released By	Date
For Information				
For Comment				
For Bid				
For Fabrication				
For Construction				

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND THE EXPIRATION DATE OF THE LICENSE

PE WAVE

STATE PROFESSIONAL ENGINEER NO. NUMBER

Engineering Review		
Disc	Engr	Date
Mech		
Elec		
Civil		
Arch		
Instr		

Drawn	Designed	Checked
HC		

Lead Engineer — Date

Approved for Construction: Chief Engineer — Date

COVANTA
HONOLULU RESOURCE RECOVERY VENTURE
KAPOLEI, HAWAII

AIR POLLUTION CONTROL SYSTEM IMPROVEMENTS PROJECT
C-00064

FOR
REFUSE DIVISION
CITY AND COUNTY OF HONOLULU

CONSTRUCTION LAYDOWN AREA SITE PLAN

BURNS AND ROE ENTERPRISES, INC.
Engineers and Constructors - Oradell, NJ

Work Order	Drawing No	Sh	Rev
2892	SKC001		A

DRAFT ENVIRONMENTAL ASSESSMENT
SOLID WASTE TO ENERGY
AIR POLLUTION CONTROL SYSTEM IMPROVEMENTS PROJECT

Section 1-General Description

1.1 Technical Characteristics

The H-POWER facility is a large Municipal Waste Combustor (MWC) wherein Municipal Solid Waste is prepared by magnetically removing metal, shredding and screening the remaining waste and thereby producing a Refuse Derived Fuel, RDF. The RDF is combusted in two large water wall type furnaces wherein steam is produced. Steam drives a turbine generator for the recovery of energy through the production of electricity. The H-POWER process is depicted on Figure 1.1-1.

The products of combustion include incinerator ash and flue gas. As originally designed, each of the two large municipal waste combustors is equipped with a dedicated air pollution control system, basically consisting of an electro static precipitator for the removal of particulate matter from the flue gas by ionizing the particles and collecting them through electro static attraction onto filter plates. Prior to initial operation, the system was upgraded through the addition of semi dry scrubbers for the chemical neutralization of acid forming gases through the addition of calcium carbonate in the form of lime to the flue gas steam.

Discharge of the flue gas is subject to environmental control and regulation under the federal Clean Air Act, CAA. The CAA is under the purview of the federal Environmental Protection Agency, USEPA. The flue gas can contain acid forming chemicals, generally in the form of chlorine and sulfur, particulate matter or fly ash, organic compounds including dioxins and furans, and heavy metals. The emissions guidelines are designed to control emissions of these Hazardous Air Pollutants, HAPs.

Under the CAA, USEPA promulgated air emissions standards for flue gas in 1995 which were implemented in 2000. In accordance with section 129 and section 111 of the CAA, these standards are reviewed at five year increments and may be amended to reflect the actual emissions standards achieved at existing facilities more commonly referred to as Maximum Achievable Control Technology, MACT, standards.

For H-POWER, the specific MACT standard emissions guidelines are incorporated in the Code of Federal Regulations, 40 CFR 60, subpart Cb, applicable to large Municipal Waste Combustors constructed prior to September 1994. These revised emissions guidelines became law on May 10, 2006 by USEPA publishing a Final Rule (71 Fed. Reg. 27,324).

Basically, these revised emissions guidelines effect the following components of the flue gas stream emissions:

Particulate Matter	reduced from 27 to 25 mg/dry standard cubic meter;
Dioxin / Furans	reduced from 60 to 30 ng/dry standard cubic meter;
Lead	reduced from 0.44 to 0.40 mg/dry standard cubic meter;
Mercury	reduced from 0.08 to 0.05 mg/dry standard cubic meter;

Cadmium	reduced from 0.040 to 0.035 mg/dry standard cubic meter (all corrected to 7% oxygen).

After diligent review, the City and County of Honolulu, owner of H-POWER, determined that compliance with these revised emissions guidelines would require modification of the existing Air Pollution Control System consisting of semi dry scrubbers for acid gas neutralization and electro static precipitators, ESPs, for removal of particulate matter along with the absorbed or attached dioxins, furans and heavy metals, by replacing the ESP filters with bag house filters.

Along with issuing the new MACT standard emissions guidelines, the USEPA established a timeline for modification of existing control technologies to comply with the revised emissions guidelines. The timeline is established under 40 CFR62, subpart FFF wherein the facility must be in compliance no later than May 2011.

Bag House Filters

The Bag House filters (baghouses) are fabric type filters wherein particulate matter is captured from the flue gas stream by mechanical filtration achieved when passing the flue gas through tightly woven fiberglass filter bags. Acid forming gases are controlled by the semi dry scrubbers.

The bag house filters as selected for H-POWER are as manufactured by SPE Amerex, model RA-35-185 D12 consisting of two parallel assemblies, one for each boiler, each consisting of 10 individual filter compartments.

Each filter compartment is equipped with 180 filter bags, each 35 feet long and with a nominal diameter of 12 inches providing a total net filter cloth area of 19,080 square feet per compartment.

The design flow rate of flue gas is 323,980 actual cubic feet per minute providing a gross air to cloth ratio of 1.7:1.

The bag house assemblies are designed to operate with one compartment out of service for cleaning.

Cleaning is accomplished by isolating compartments using damper valves and reversing air flow through the isolated compartment using a reverse air fan thus collapsing the bag and forcing the collected particulate matter or fly ash to drop from the bags into a hopper located below the bag house compartment.

A dedicated air compressor assists in the cleaning operation by providing compressed air for damper operation and vibration of the collection hoppers.

The emptied bag house contents are removed from the hopper by conveyors and transported to the ash conditioning and removal equipment.

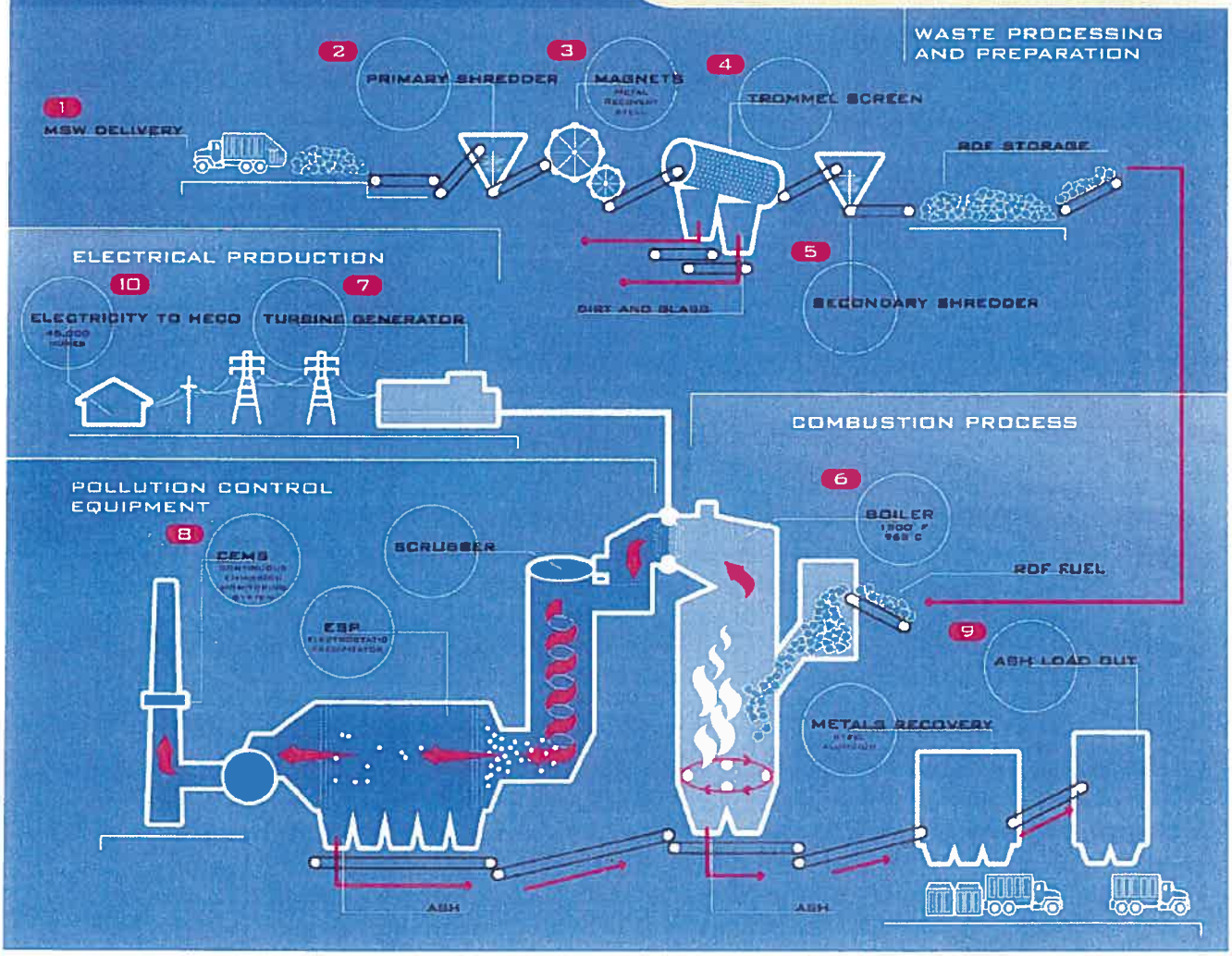
STEP INSIDE THE HPOWER FACILITY AND YOU CAN FEEL THE ENERGY.

HERE, ORDINARY HOUSEHOLD GARBAGE IS CONVERTED INTO ENVIRONMENTALLY SOUND, RENEWABLE ELECTRICITY THAT POWERS THOUSANDS OF OAHU HOUSEHOLDS. IN THE PROCESS, PRECIOUS LANDFILL SPACE IS PRESERVED. 800,000 BARRELS OF IMPORTED OIL PER YEAR ARE SAVED, AND THE BEAUTY OF OUR ISLAND HOME IS PROTECTED.

THE HPOWER PROCESS:

(MATCHES UP TO NUMBERS ON DIAGRAM)

1. TRUCKS DELIVER MUNICIPAL SOLID WASTE
2. PRIMARY SHREDDERS OPEN AND SPREAD WASTE
3. ELECTROMAGNETS REMOVE METALS FOR RECYCLING
4. SCREENS REMOVE DIRT, SAND AND GLASS
5. SECONDARY SHREDDER PROCESSES REMAINING WASTE
6. WASTE IS COMBUSTED IN BOILER PRODUCING STEAM
7. STEAM DRIVES TURBINE TO GENERATE ELECTRICITY
8. AIR POLLUTION CONTROL EQUIPMENT CLEANS EXHAUST GAS
9. ASH IS HAULED TO LANDFILL FOR DISPOSAL
10. RENEWABLE ELECTRICITY POWERS 45,000 HAWAII HOMES



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Simplified Process Flow Diagram of the Proposed Expansion

FIGURE 1.1-1

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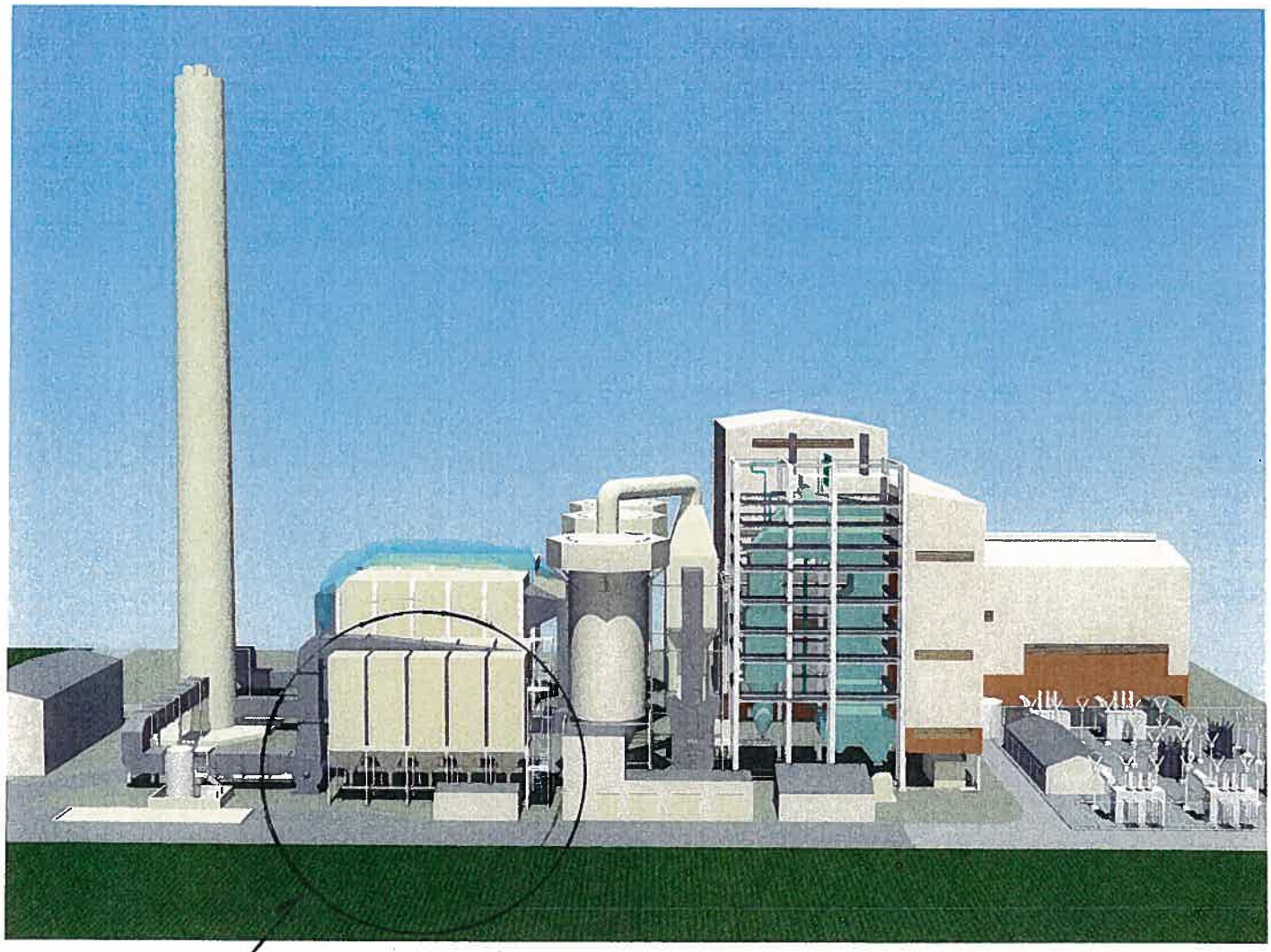
H:/H-POWER/Export/Environmental/SimpFlow.pdf
May 20, 2005 DWN: RLO CHKD:



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Elevation View of the Proposed Expansion

FIGUR
1.1-2

H:/H-POWER/MXD_Current/Environmental/Elevmxd
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April 5, 2005 DWN: RLO CHKD:

The bag house assemblies are designed to fit with in the foot print of the existing ESPs. However, due to the length of the filter bags, the assemblies will be taller than the existing ESP filters.

The bag house assemblies will be supported by a structural steel framework in turn supported on isolated concrete footings and or piles. The bag house filter is depicted adjacent to the smokestck on Figure 1.1-2.

Induced Draft Fans

The bag house assemblies offer more resistance to flue gas flow than the ESPs. Therefore it is also necessary to increase the capacity of the induced draft flue gas fans. Therefore each boiler/bag house assembly will be provided with a new induced draft fan as follows:

Robinson Industries model BC0920-31 or equal
- 19x24.25 inch fan rated at 303,313 ACFM
- 32 .0 inch water column static pressure @ 0.0483 lb/ft3 air density and 300 degrees of operating at 880 RPM
- Equipped with inlet vortex damper and pneumatic operator powered by 2000 HP 900 RPM totally enclosed, air cooled motor

The fans will sit on isolated concrete foundations.

Air Compressors

Each boiler/bag house assembly will be equipped with a dedicated air compressor, Sullair model LS200 or equal, 100 HP air cooled rotary screw type air compressor sized to deliver 426 acfm at 125 psig.

Reverse Air Fans

Each boiler/bag house assembly will be equipped with a reverse air fan for bag cleaning, Robinson Industries model BC0920-31 or equal centrifugal fan size 65x6.125 producing 28,620 ACFM at 17.5 inches of water column static pressure using air with a density of 0.0499 lb/ft3 at 300 degrees F.
Powered by a 125 hp electric motor

Duct Work

To minimize impact on operations a design has been developed wherein the first new bag house assembly will be erected in space reserved for the third boiler addition thereby allowing complete construction during continued operation. During a short maintenance outage contemplated to last no longer than 23 days, the new bag house filter and induced draft fan will be connected between the existing boiler with scrubber and the existing third boiler flue within

the smoke stack through modified duct work. The duct work will be constructed of ASTM A-36 plate steel, adequately stiffened and supported with structural steel shapes.

Boilers

Because of the larger ID Fans it may be necessary to reinforce the existing boilers and connecting duct work with the addition of buck stays, hangers and intermittent duct work stiffeners.

Ash Handling

Additional drag chain type conveyors will be required to remove the higher volume of captured fly ash from the bag house filter assemblies.

Power Distribution

Modification to the station power distribution system will be required removing the loads from the electro static filters and adding new or increased loads for the new bag house including reverse air fans, dedicated air compressor, upgraded ID Fan and revised fly ash conveying system.

Control System

A new micro processor controller will be integrated into the plant control system for operation of the revised APC system.

1.2 Economic Characteristics

The project is estimated to cost between $40 and $50 million dollars as a capital improvement. There are no projected cost increases for operation.

During construction, which is anticipated to span 3 years, the project will generate an estimated 50 construction jobs based on a total labor cost of $15,000,000 and an annual payroll cost (salary and benefits) of $100,000 per worker.

It is further anticipated $5,000,000 will be spent on construction type materials and supplies including concrete, steel and asphalt which will be locally procured.

Trickle down effects will include a minor increase in service sector economics associated with the above growth in employment and commerce.

Outside of the temporary economic effects from construction, no growth associated with a population increase including school costs is anticipated.

1.3 Social Characteristics

By reducing the level of air pollutants, a general improvement in health and the associated social characteristics may be anticipated.

1.4 Environmental Characteristics

By improving the emissions from H-POWER, the environment will be impacted in a positive manner. There will however be an environmental impact associated with disturbance of the adjacent parcels which will be developed for use as a construction staging, parking and laydown area. Within these parcels are established plant sanctuaries and drainage features. Each will be adequately protected including establishment of buffer zones and an erosion and sedimentation control program.

1.5 Schedule/Time Frame

An implementation schedule has been established with Region 9 of the USEPA in conformance with the Increments of Progress provisions of 40 CFR 62 sub part FFF as follows:

1.	Submit Control Plan	April 20, 2007	accomplished
2.	Award Contract(s)	February 15, 2008	accomplished
3.	Initiate Construction	March 17, 2008	anticipated 6/16/2008
4.	Complete Construction	October 29, 2008	
5.	Final Compliance	April 29, 2011	

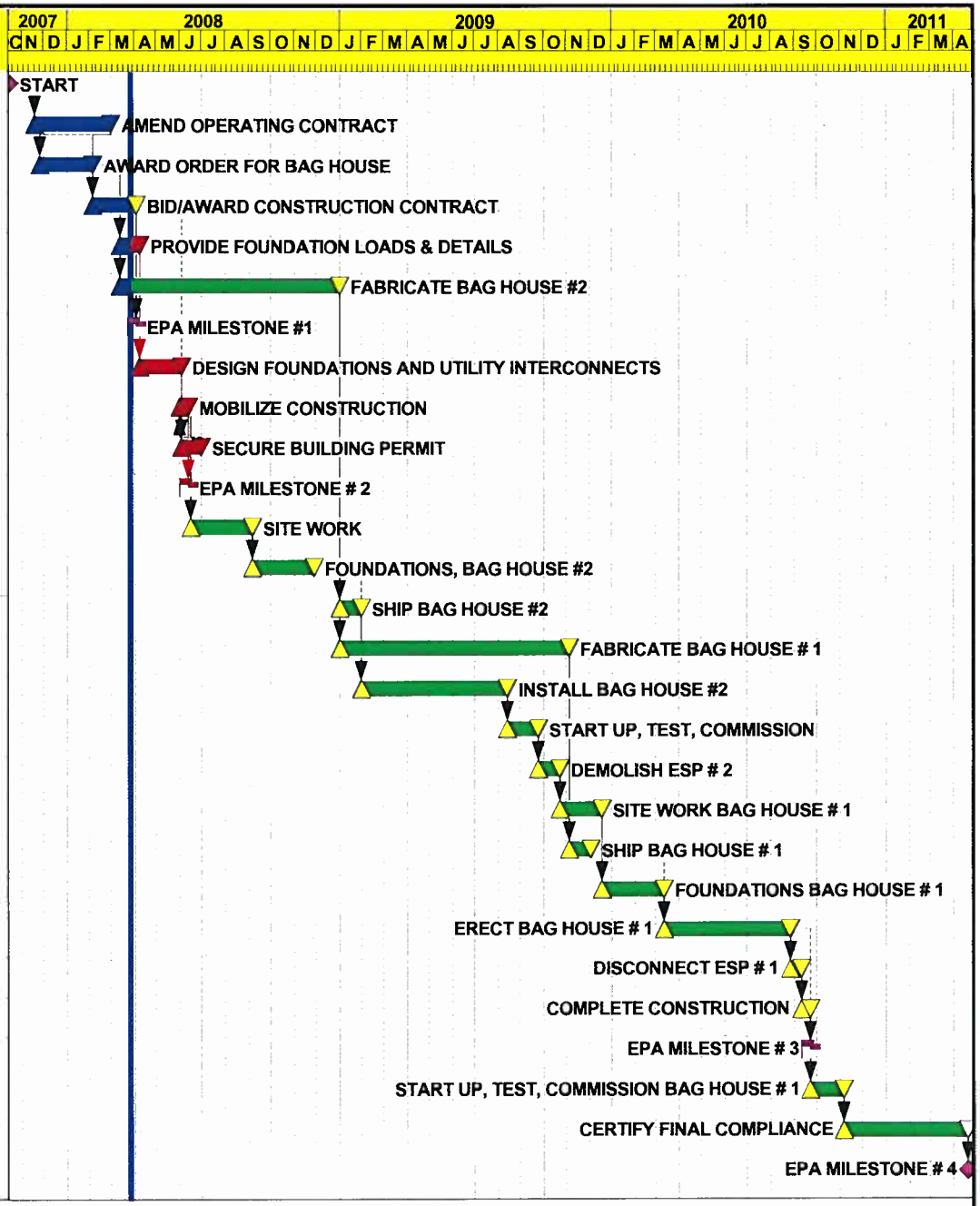
A bar chart schedule is included.

1.6 Funding /Source

The City and County of Honolulu has appropriated $40,000,000 in the FY-2008 budget. An additional $10,000,000 budget request has been submitted in the FY-2009 budget process.

A table of estimated costs and commitments is included. As originally estimated the project was valued at $36,000,000. Due to high demand for power plants, the increased cost of energy, and the need to retro fit multiple MWC's nation wide, the cost has escalated to a current estimate of $50,000,000.

Activity Description	Orig Dur	Rem Dur	Early Start	Early Finish
START	0	0	16OCT07A	
AMEND OPERATING CONTRACT	20	0	20NOV07A	29FEB08A
AWARD ORDER FOR BAG HOUSE	10	0	27NOV07A	04FEB08A
BID/AWARD CONSTRUCTION CONTRACT	20	4	05FEB08A	02APR08
PROVIDE FOUNDATION LOADS & DETAILS	11	8	13MAR08A	08APR08
FABRICATE BAG HOUSE #2	220	200	13MAR08A	01JAN09
EPA MILESTONE #1	0	0		02APR08
DESIGN FOUNDATIONS AND UTILITY INTERCONNECTS	39	39	09APR08	02JUN08
MOBILIZE CONSTRUCTION	10	10	02JUN08*	13JUN08
SECURE BUILDING PERMIT	20	20	03JUN08	30JUN08
EPA MILESTONE # 2	0	0		13JUN08
SITE WORK	60	60	16JUN08	05SEP08
FOUNDATIONS, BAG HOUSE #2	60	60	08SEP08	28NOV08
SHIP BAG HOUSE #2	20	20	02JAN09	29JAN09
FABRICATE BAG HOUSE # 1	220	220	02JAN09	05NOV09
INSTALL BAG HOUSE #2	140	140	30JAN09	13AUG09
START UP, TEST, COMMISSION	30	30	14AUG09	24SEP09
DEMOLISH ESP # 2	20	20	25SEP09	22OCT09
SITE WORK BAG HOUSE # 1	40	40	23OCT09	17DEC09
SHIP BAG HOUSE # 1	20	20	06NOV09	03DEC09
FOUNDATIONS BAG HOUSE # 1	60	60	18DEC09	11MAR10
ERECT BAG HOUSE # 1	120	120	12MAR10	26AUG10
DISCONNECT ESP # 1	10	10	27AUG10	09SEP10
COMPLETE CONSTRUCTION	10	10	10SEP10	23SEP10
EPA MILESTONE # 3	0	0		23SEP10
START UP, TEST, COMMISSION BAG HOUSE # 1	30	30	24SEP10	04NOV10
CERTIFY FINAL COMPLIANCE	120	120	05NOV10	21APR11
EPA MILESTONE # 4	0	0		21APR11



Start Date	16OCT07
Finish Date	21APR11
Data Date	28MAR08
Run Date	27MAR08 07:22

Early Bar
Progress Bar
Critical Activity

BAGH

Sheet 1 of 1

H-POWER

Bag House

Classic Schedule Layout

Date	Revision	Checked	Approved

H-Power Baghouses

Consulting/Permitting/Engineering	$4,411,600
Equipment	$15,506,800
Construction	
civil	$1,413,500
demolition	$68,000
mechanical	$10,900,300
electrical	$754,000
instrumentation	$172,000
Commissioning/Start-up	$672,400
Contingency	$2,129,800
Total	**$36,028,400**

BAG HOUSE
COST DISTRIBUTION

Task Order No.	Description	Estimate	Comittment	Construction	Design	Planning	Other	cross check
1	Bag House	$11,370,985	$11,370,985	$11,370,985				$11,370,985
2	Engineering	$3,000,000	$3,000,000		$3,000,000			$3,000,000
3	Boiler Mod	$1,837,500	$1,245,406	$1,059,441	$185,965			$1,245,406
4	Ash Handling	$2,100,000		$2,000,000	$100,000			$2,100,000
5	Elec Equip	$1,015,000		$965,000	$50,000			$1,015,000
6a	Construction Phase I	$12,000,000		$12,000,000				$12,000,000
7	System Integrator	$498,500		$498,500				$498,500
8	Spare Parts	$330,750		$330,750				$330,750
9	Contract Admin	$1,330,000		$1,080,000		$249,000	$1,000	$1,330,000
10	Start Up	$659,000		$659,000				$659,000
11	Ins/Shipping	$662,000		$662,000				$662,000
	sub total	$34,803,735						
	Contingency	$3,196,265		$2,785,265	$411,000			$3,196,265
	total	$38,000,000	$15,616,391	$33,410,941	$3,746,965	$249,000	$1,000	$37,407,906
12	Construction Phase 2	$14,239,500						
	Grand Total	$52,239,500						

Section 2-Summary Description of Existing Environment

2.1 Description of the Property

The Project is proposed to occur on the existing H-POWER parcel. That site consists of 24.635 acres (1,073,100 ft^2) of industrially zoned and developed property situated within the James Campbell Industrial Park, JCIP, in Kapolei and is included in the Long Range Master Plan for the Kapolei area. Figure 2.1-1 depicts both the Master Plan and the JCIP. The parcel's Tax Map Key number is # (1)9-1-026:030. Figure 2.1-2 depicts the site location on a USGS topographic map and shows the major roadways in the vicinity of the existing H-POWER facility. Due to the site's existing industrial nature, there are no designated environmental site constraints on the parcel. Additional detailed information on the site is presented within this EA.

Also shown on Figure 2.1-2 and 2.1-3 are three parcels to be used temporarily for construction equipment laydown and construction parking. These parcels are situated immediately to the west of the H-POWER site and are also owned by the City and County of Honolulu. They are industrially zoned, previously disturbed, but currently undeveloped. The parcel Tax Map Key numbers are, from north to south, # (1)9-1-026:035, 034, and 033. Parcel 035 is 7.531 acres, Parcel 034 is 8.164 acres, and Parcel 033 is 6.041 acres, for a combined acreage of 21.736 acres. However, due to site constraints not all of that acreage is available for use. Site constraints include fenced plant sanctuaries and a designated Special Management Area (SMA). These sanctuaries and the SMA will not be utilized. They are mapped, and the measures proposed to avoid impact to them are presented within applicable sections of this EA.

2.2 Surrounding Land Uses and Zoning

Figure 2.2-1 is an aerial photograph showing the existing industrial nature of the site, the three adjacent parcels to be utilized during construction, and the surroundings within 1-mile of the H-POWER site. As can be seen from the aerial photograph, the surrounding land uses are predominantly industrial in nature. To better illustrate the occupants of neighboring parcels, Figure 2.2-1 presents an overview of the occupied/leased lots within JCIP (JCIP 2003). Figure 2.2-2 depicts the neighbors and Table 2.2-2 identifies each of them and their direction relative to H-POWER.

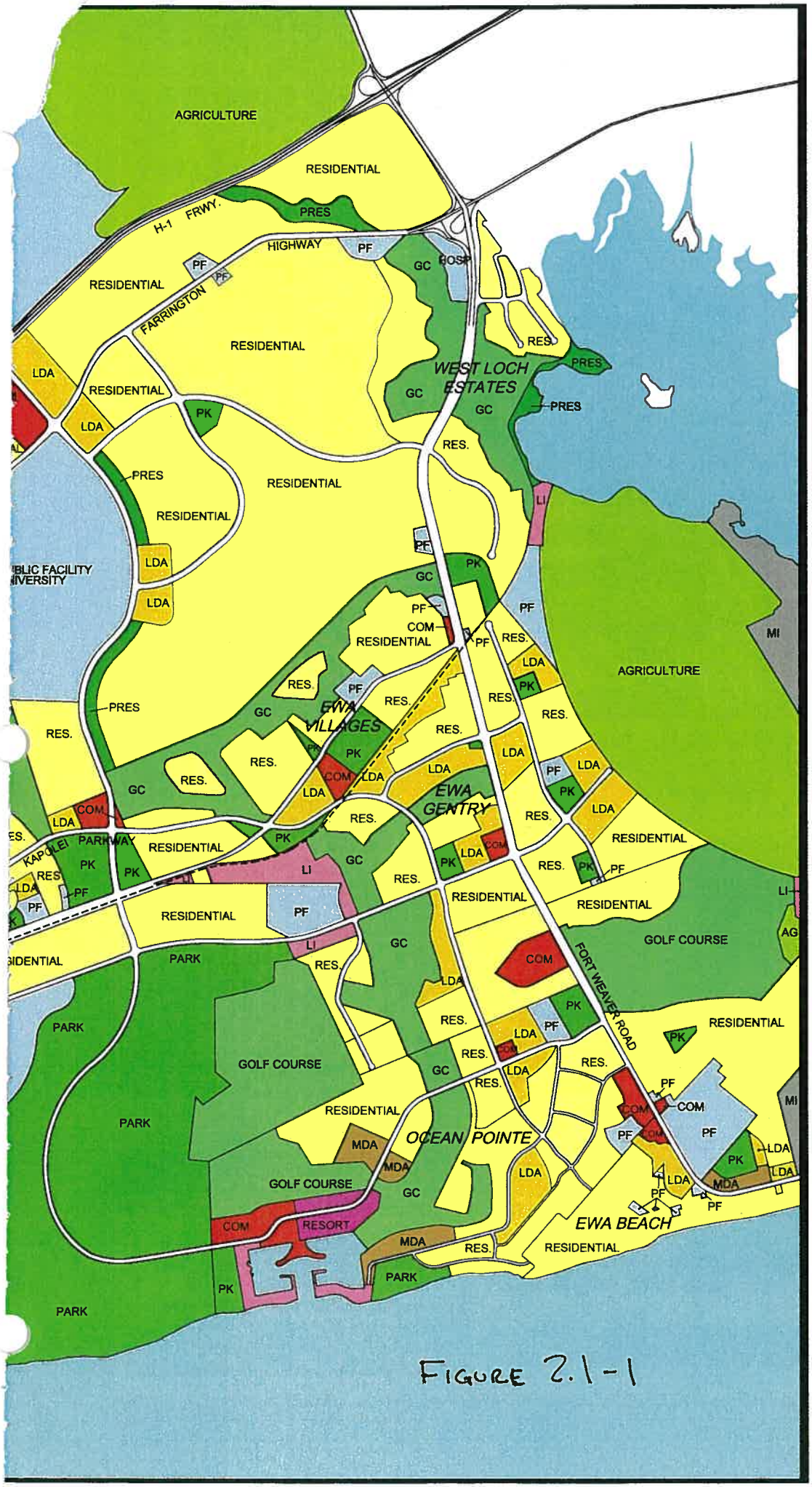


FIGURE 2.1-1

Kapolei Area LongRange MasterPlan

Ewa, Oahu, Hawaii

THE ESTATE OF JAMES CAMPBELL

LAND USE CLASSIFICATION

- RES Residential
- LDA Low Density Apartment
- MDA Medium Density Apartment
- COM Commercial/Office
- BP Business Park
- LI Light Industrial
- HI/MI Heavy Industrial/Maritime Industrial
- RESO Resort
- PK Park
- MU Mixed Use
- PF Public Facility/Utility
- GC Golf Course
- PRES Preservation
- AG Agriculture
- MI Military
- * Palehua Telecommunications

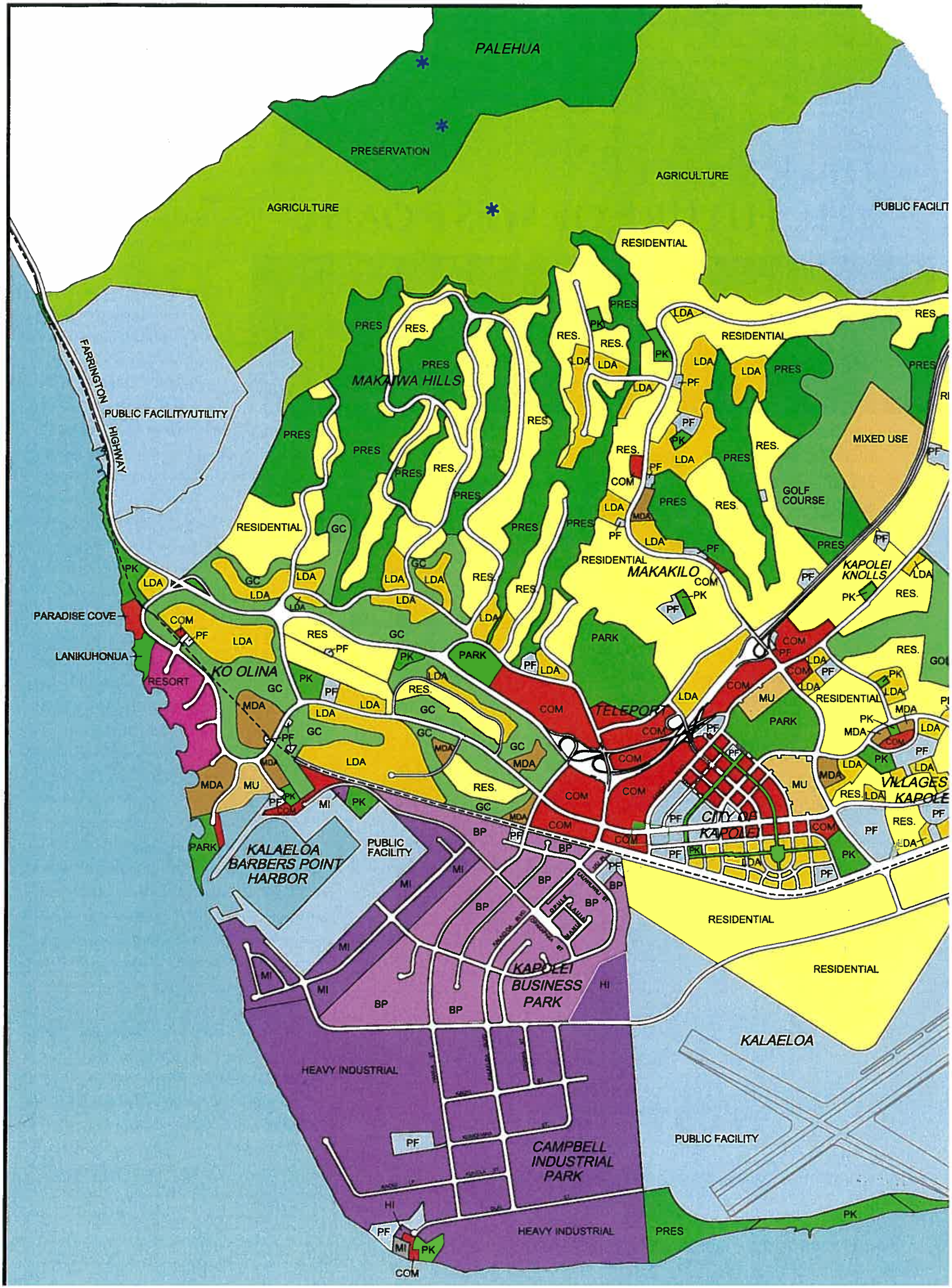
CIRCULATION

- Railroad
- Transit

ACRES 40 10

0' 1,000' 2,000' 5,000'

0 MI 0.25 MI 0.50 MI 1.0 MI


PALEHUA
PRESERVATION
AGRICULTURE
AGRICULTURE
PUBLIC FACILITY
RESIDENTIAL
FARRINGTON HIGHWAY
PUBLIC FACILITY/UTILITY
MAKAIWA HILLS
PRES
RES.
LDA
MDA
GC
PK
PF
COM
MU
PARK
RESIDENTIAL
MIXED USE
GOLF COURSE
MAKAKILO
KAPOLEI KNOLLS
PARADISE COVE
LANIKUHONUA
RESORT
KO OLINA
TELEPORT
CITY OF KAPOLEI
VILLAGES OF KAPOLEI
KALAELOA BARBERS POINT HARBOR
PUBLIC FACILITY
MI
BP
HI
KAPOLEI BUSINESS PARK
KALAELOA
HEAVY INDUSTRIAL
CAMPBELL INDUSTRIAL PARK
PUBLIC FACILITY
PRES
PK
COM

LEGEND

- H-Power
- Temporary Construction Laydown Area

Topographic Legend

- Woods
- Built-up Area
- Intricate Surface Area
- Buildings
- Tanks
- Light Duty Road
- Primary Highway
- Secondary Highway
- Elevation

LOCATION MAP

NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Basemap data from US Geological Survey
Topographic Map Source:

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

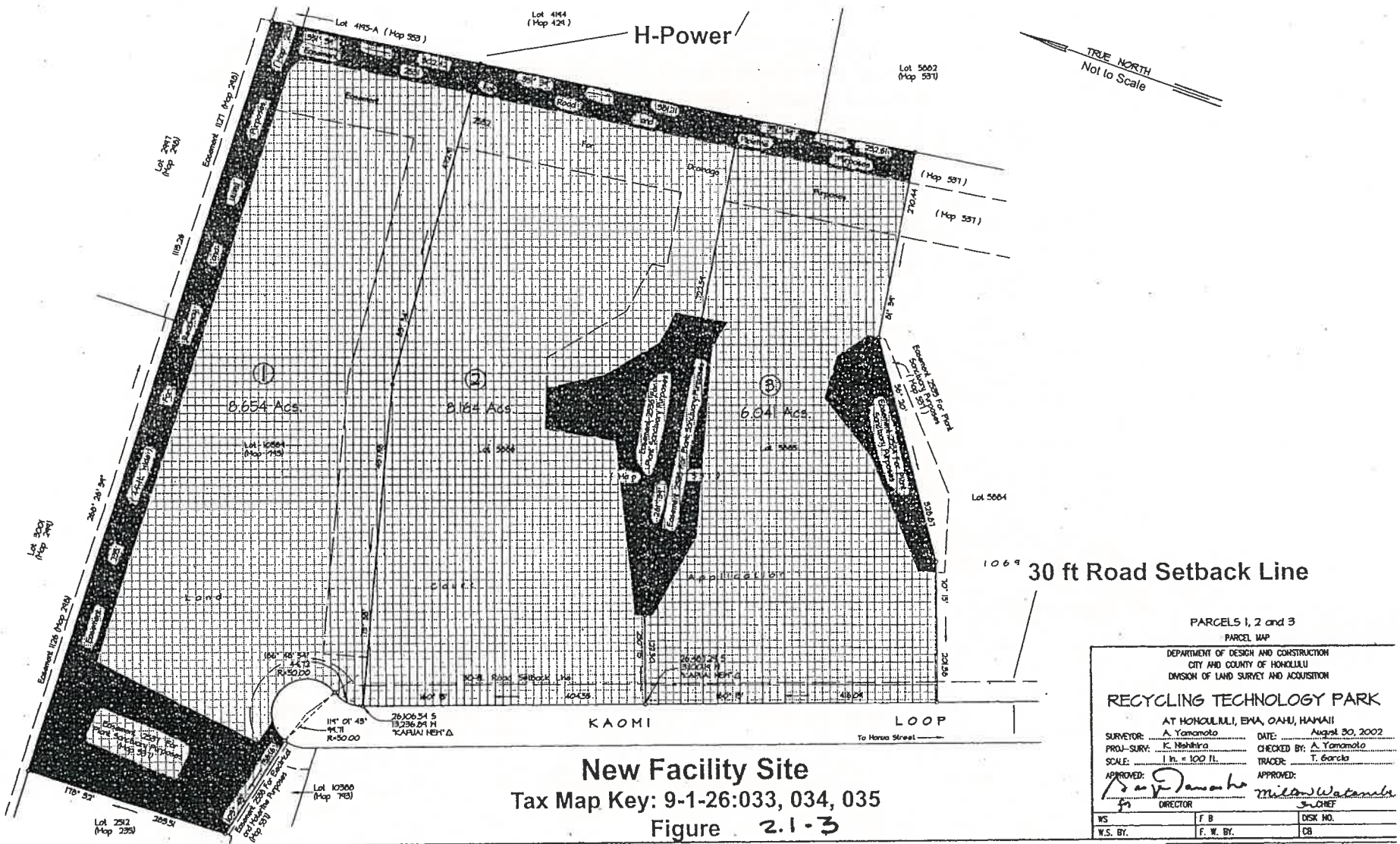
0 1,250 2,500
Feet

amec

Location of HPOWER Site

FIGURE
2.1-2

H:/H-POWER/MXD_Current/Environmental/site_map.mxd
H:/H-POWER/Export/Environmental/site_map.pdf
March 25, 2005 DWN: RLO CHKD:



Notes:

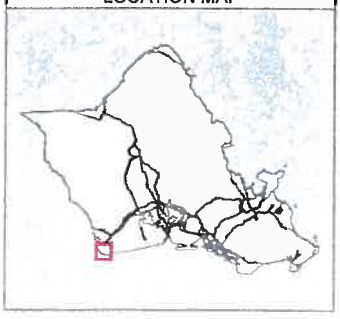
FIGURE 2.1-3

* The 22.86 acre site for this project is formed of 3 separate TMK parcels.
* The offeror shall be responsible for all permitting work required to combine the parcels for their proposed facility.
* Easement areas colored in "black" may NOT be constructed over.
* The facility design shall provide 50' buffers around all plant sanctuary areas.

LEGEND

H Power

LOCATION MAP



Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Source: Aerial Photo courtesy of NOAA: May16, 2000
Zoning Source: DPP 10/13/2004

N

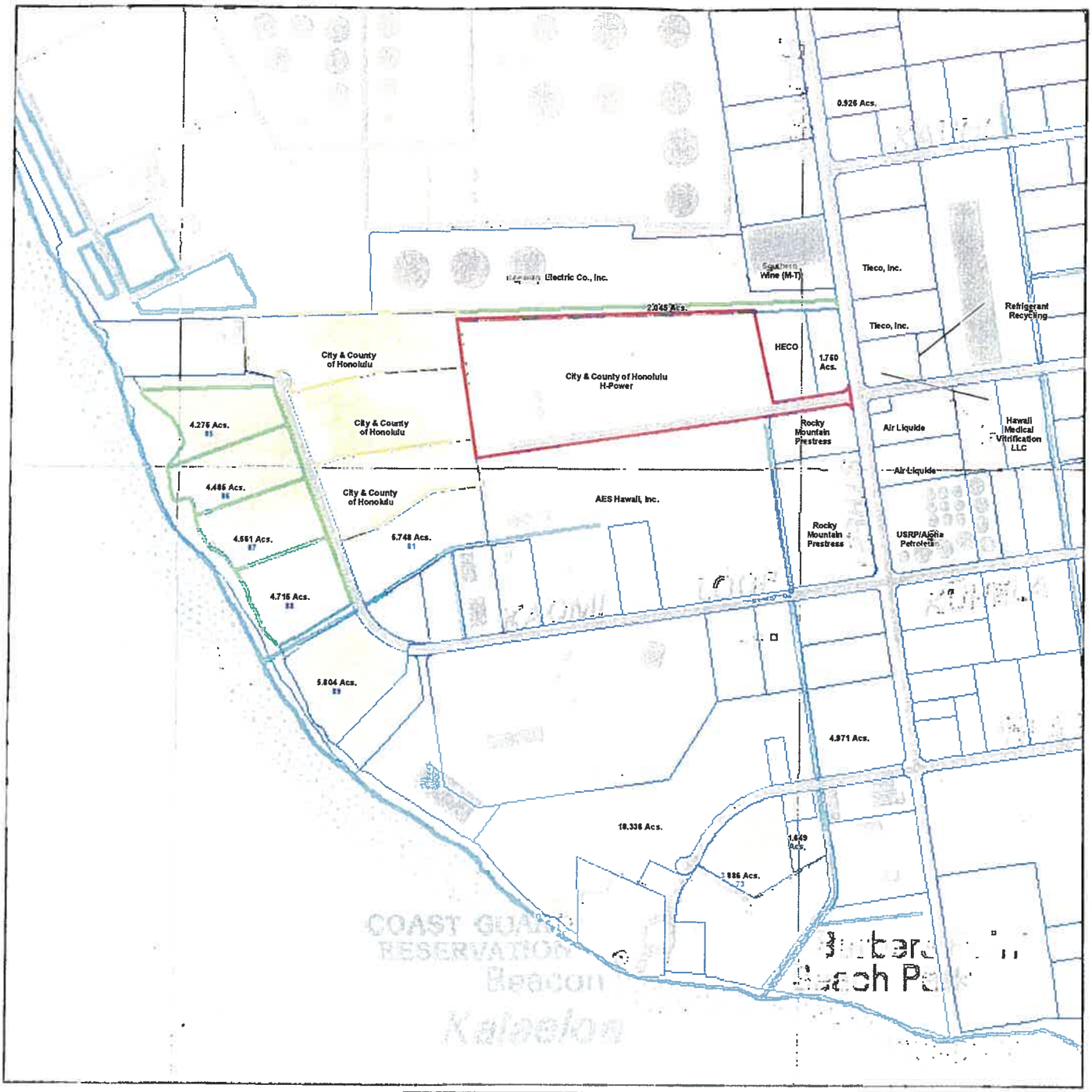
0 1,000
Feet

amec

Aerial Photo

FIGURE
2.2-1

H:/H-POWER/MXD_Current/Environmental/SitePhoto.mxd
H:/H-POWER/Export/Environmental/SitePhoto.pdf
March 1, 2005 DWN: RLO CHKD:



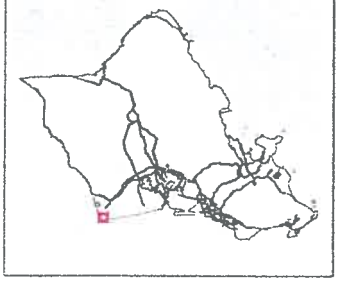
LEGEND

- Occupied Lots
- Campbell Hawaii Investor LLC Land for Lease
- H-Power
- Temporary Construction

Topographic Legend

- Woods
- Built-up Area
- Intricate Surface Area
- Buildings
- Tanks
- Light Duty Road
- Primary Highway
- Secondary Highway
- Elevation

LOCATION MAP



NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Basemap Data: HAWAII DPP
Topographic Map Source:
Scanned USGS, 2000
Parcel: Kapolei Property Development, LLC, 2004
(http://www.kapolei.com/property/map_jcip/map_jcip.html)

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

0 400 800
Feet

amec

Neighboring Parcels

FIGURE 2.2-2

H:/H-POWER/MXD_Current/Environmental/Site_map_parcels.mxd
H:/H-POWER/Export/Environmental/Site_map_parcels.pdf
May 17, 2005 DWN: RLO CHKD:

LEGEND

H Power

Temporary Construction

Zoning

- Ag-1 Restricted
- Ag-2 General
- F-1 Military and Federal
- I-2 Intensive
- I-3 Waterfront
- P-2 General

LOCATION MAP

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Source: Aerial Photo courtesy of NOAA: May16, 2000
Zoning Source: DPP 10/13/2004

N

0 1,800 Feet

amec

Zoning

FIGURE 2.2-3

H:/H-POWER/MXD_Current/Environmental/Zoning.mxd
H:/H-POWER/Export/Environmental/Zoning.pdf
March 1, 2005 DWN: RLO CHKD:

Table 2.2-1 Occupied/leased Lots within JCIP and their Direction Relative to H-POWER

Direction Relative to H-POWER	Neighbor
South	AES coal-fired facility
East	Hawaiian Electric Company (HECO)
North (roadway parcel)	Campbell Hawaii Investor, LLC
North	HECO
North	Chevron
North	Chevron
West	Undeveloped but disturbed land owned by the City and County of Honolulu

The JCIP, and most of the area within 1 mile of the site, is zoned I-2 Intensive, as shown on Figure 2.2-3 Zoning. Under Chapter 21 – Land Use Ordinance (LUO), waste disposal and processing are allowed under a Conditional Use Permit – minor and subject to the Specific Use Development Standards identified in Article 5 of the Ordinance.

Although the HPOWER facility is an existing use, alterations, additions, or modifications require a permit. HPOWER will comply with the requirements of the Conditional Use Permit, as well as other federal, state, and local permits and approvals. Each of the required permits and approvals is addressed in this EA.

2.3 Existing Conditions – Geology and Soils

The Hawaiian islands are the exposed parts of the Hawaiian Ridge, a large volcanic mountain range extending northwestward across the central Pacific Ocean (USGS 1999). The island of O'ahu is the eroded remnant of two volcanoes – the older Waianae Volcano in the west and the larger Koolau Volcano in the east. Clastic sedimentary deposits, which primarily are alluvium derived from erosion of the volcanic rocks, have accumulated on the flanks of the island. In some places, the clastic sediments are interbedded with coralline limestone that formed as reef deposits in shallow marine waters. O'ahu has larger areas of sedimentary deposits than any other Hawaiian island and these deposits contain coralline limestone in coastal areas (USGS 1999).

The proposed Project, including the adjacent construction laydown and parking areas, is situated within the JCIP in Kapolei, Hawaii. This area is underlain by the Ewa Plain, which is an emerged coral-algae limestone reef formed during the Pleistocene period when the ocean level was at higher elevation (C.E. Maguire 1986). The Ewa Plain extends from sea level at the coastline to approximately 3 to 5 miles inland. Figure 2.3.1, excerpted from a 1986 geotechnical report by C.E. Maguire, presents the extent of the emerged reef deposits on the island of O'ahu and specifically in the project area. The following local and site specific information is in large

measure excerpted from that 1986 final geotechnical report conducted for the original H-POWER facility.

The local geology is typical of mid-Pacific volcanic islands in that the central volcanic core is surrounded and sometimes overlain by a coastal plain of interbedded marine sediments, alluvium, and coral reef formations. In the area of the H-POWER site, on the basis of a projected dip slope of 5 degrees from the volcanic formation, this overlying coastal plain is estimated to be 600 to 800 feet thick (C.E. Maguire 1986). The coral reef deposits on-site in 1986 (pre-construction of H-POWER) were typical of those found throughout the Barbers Point area. The surficial layer typically consists of corals, calcareous algae, cemented beach sand, and cemented mixtures of coralline sand, gravel and coral fragments often termed "coral rock". This coral rock often contains cavities of various sizes and at various depths. The ground surface topography is termed "shallow karst" topography marked by small sink holes generally 0.5 to 3.0 feet in diameter and from approximately 3 to 10 feet deep, which have been dissolved out of the limestone by fresh rain water (C.E. Maguire 1986).

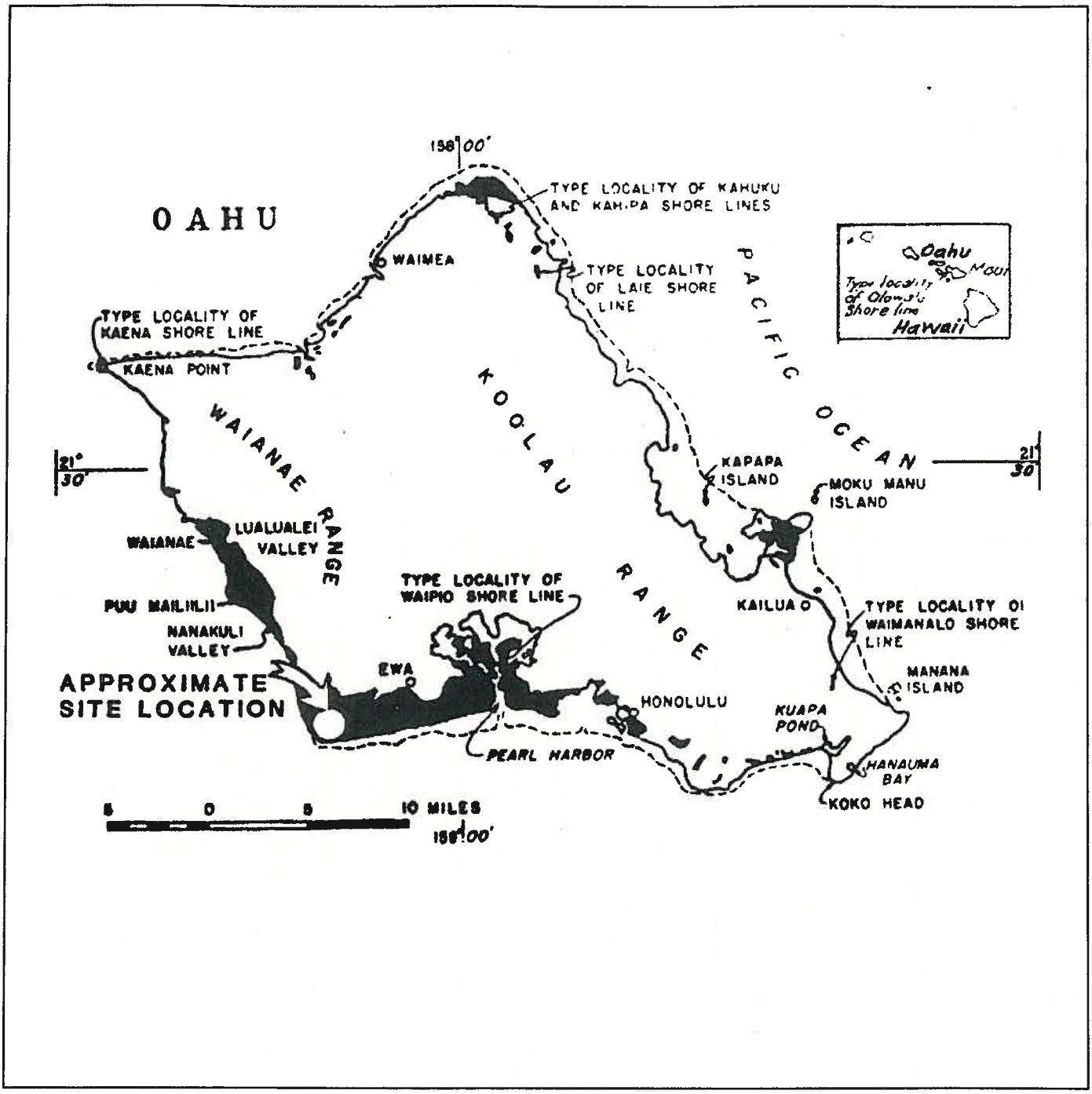
Soil throughout the area, and underlying both the H-POWER site and each of the laydown parcels, is classified as Coral Outcrop by the United States Department of Agriculture (USDA) Soil Conservation Service (USDA SCS 1965). This soils data is mapped on Figure 2.3.2.

H-POWER

Prior to construction of the existing H-POWER facility, vegetation was cleared and grubbed in preparation for a proposed refinery project in 1969. Many of the site sinkholes in the area were loosely filled during the site clearing of 1969. In 1985 H-POWER was constructed in accordance with the site preparation and foundation recommendations developed by the geotechnical consultant, C.E. Maguire. Site preparation included initial site subgrade preparation, consisting of clearing, grubbing and stripping of soft silty organic topsoil from the site. Site preparation also consisted of repairing surface cavities and leveling the site. A systematic probing, breakdown and grouting of below surface voids proceeded where cavities were identified. General surface cavity repair was conducted. Proof rolling (with 100 ton vehicles) to detect cavities or weak areas was also conducted in roadways, important equipment areas and footing areas. In areas where excavation was required, heavy equipment was used, but blasting was not permitted due to possible damage to structures supporting coral rock. Thus extensive geologic excavation and the addition of structural fill and construction components have changed much of the native conditions once found on the H-POWER site and increased the site's suitability for construction.

Construction Laydown Area

As noted above, soil throughout the area, and underlying each of the laydown parcels, is classified as Coral Outcrop by the USDA Soil Conservation Service (USDA SCS 1965). Field reconnaissance of the construction laydown parcels indicates that clearing and grubbing activities of unknown date have occurred but that the three parcels are currently undeveloped and dominated by brushland with interspersed stands of low lying herbaceous plants (Toma 2004). Where soils

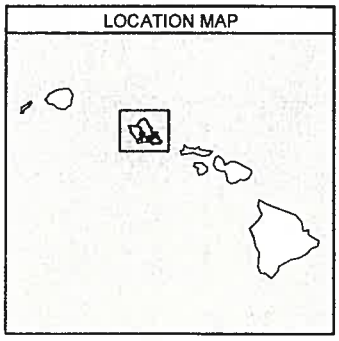


LEGEND

- Emerged Reefs [1]
- Fringing Reefs [1]

[1] From "Geology of the Hawaiian Islands", Stems, 1969

LOCATION MAP



NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Map Source: Honolulu Resource Recovery Venture,
Campbell Industrial Park Site
Honolulu, HI
January, 1986
CE Maguire, Inc.

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

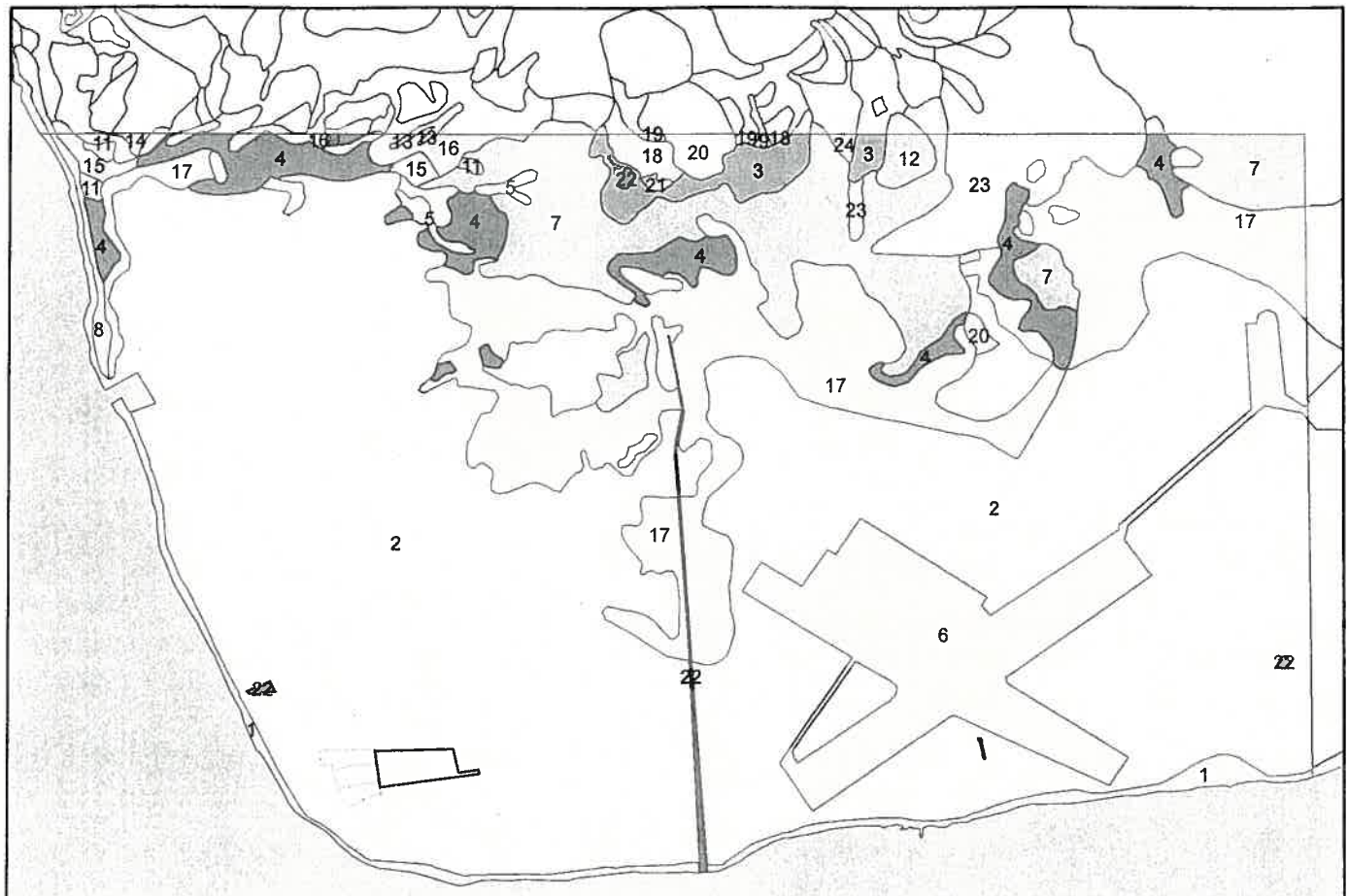
N

amec

Emerged and Fringing Reefs of Oahu

FIGURE 2.3-1

H:/H-POWER/MXD_Current/Environmental/Reefs.mxd
H:/H-POWER/Export/Environmental/Reefs.pdf
March 4, 2005 DWN: RLO CHKD:



Legend

Name			
1	Beaches	16	Lualualei stony clay, 2 to 6 percent slopes
2	Coral outcrop	17	Mamala stony silty clay loam, 0 to 12 percent slopes
3	Ewa silty clay loam, 3 to 6 percent slopes	18	Molokai silty clay loam, 15 to 25 percent slopes
4	Ewa silty clay loam, moderately shallow, 0 to 2 percent slopes	19	Molokai silty clay loam, 7 to 15 percent slopes
5	Ewa silty clay loam, moderately shallow, 2 to 6 percent slopes	20	Quarry
6	Fill land, mixed	21	Stony steep land
7	Honouliuli clay, 0 to 2 percent slopes	22	Waialua silty clay, 0 to 3 percent slopes
8	Jaucas sand, 0 to 15 percent slopes	23	Waialua stony silty clay, 3 to 8 percent slopes
9	Kawaihapai clay loam, 0 to 2 percent slopes	24	Water > 40 acres
10	Keaau clay, 0 to 2 percent slopes		
11	Keaau stony clay, 2 to 6 percent slopes		
12	Lahaina silty clay, 7 to 15 percent slopes, severely eroded		
13	Lualualei clay, 0 to 2 percent slopes		
14	Lualualei extremely stony clay, 3 to 35 percent slopes		H Power
15	Lualualei stony clay, 0 to 2 percent slopes		Temporary Construction

LOCATION MAP

NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Soils: Soil Conservation Service, 1996
Downloaded from Hawaii DPP

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

0 2,500
Feet

amec

Generalized Soils

FIGURE
2.3-2

H:/H-POWER/MXD_Current/Environmental/Soils.mxd
H:/H-POWER/Export/Environmental/Soils.pdf
March 4, 2005 DWN: RLO CHKD: AP

are exposed, in the tracks left by recreational vehicles and in cleared areas, they are comprised of a very shallow (0-6" bgs) silt with sand surface soil layer over coral outcrop bedrock. Field observations of surface soil indicated a chroma range from 3 to 4, and very little organic matter present in the soils. No mottles or gleying were observed in the soils (Toma 2004).

2.4 Geologic Hazards

This Section identifies and analyzes the potential geologic hazards within O'ahu and more specifically, the JCIP. There are four potential geologic hazards in this region that are evaluated below:

- Subsidence, Settlement and Karst
- Seismic Ground Shaking (earthquake)
- Volcanic Activity
- Tsunami

Subsidence and Settlement

As noted in Section 2.3, Existing Conditions- Geology and Soils, the principal geologic hazard in the region of both the H-POWER site and the construction laydown areas consists of the "shallow karst" topography of this region. It is marked by small sink holes generally 0.5 to 3.0 feet in diameter and from approximately 3 to 10 feet deep, which have been dissolved out of the limestone by fresh rain water. Though previously cleared and grubbed, this shallow karst topography requires special construction measures to ensure the stability of foundations and to increase the load bearing capacity of the local soils. Engineering will determine the extent of excavation, quantify structural fill requirements, and update recommendations for safe and secure foundation construction techniques.

They will also provide a geotechnical analysis for the proposed laydown area to ensure that the design and preparation of those parcels, for temporary equipment storage and construction parking, is appropriate.

Seismic Ground Shaking

The entire island of O'ahu is considered to be in Earthquake Hazard Zone 2A of the Uniform Building Code (UBC) seismic provisions (USGS 2001). This corresponds to a value of 0.075g to 0.15g, where g is gravitational force. The UBC seismic provisions contain six seismic zones, ranging from 0 (no chance of severe earthquake occurrence in a 50-year interval) to 4 (10 percent chance of severe earthquake occurrence in a 50-year interval).

The Project will be constructed in accordance with the construction standards and seismic provisions of the UBC for Hazard Zone 2A.

Volcanic Activity

The island of O'ahu was formed by two volcanoes, the Waianae Range on the west side of the island and the Koolau Range on the east. Both of these volcanoes are now extinct. The Waianae Range is approximately 2.95 to 3.8 million years old and the Koolau Range is approximately 1.8

to 2.7 million years old (Keinle and Wood 1990). However, there has been volcanic activity on the island of O'ahu since these two volcanoes have gone extinct. The Honolulu Volcanic Series consisted of over 30 separate eruptions ranging from approximately 850,000 to 32,000 years ago (Abbott et. al. 1983). Although there has not been any volcanic activity on the island of O'ahu for over 30,000 years, there is a very slight possibility of future volcanic activity on O'ahu.

Tsunami

As quoted from the O'ahu Civil Defense Agency web site, and unfortunately experienced most recently in the Indian Ocean Tsunami of 2004:

"Tsunamis, or seismic sea waves, potentially the most catastrophic of all ocean waves, are generated by tectonic displacement – for example, volcanism, landslides or earthquakes – of the sea floor, which in turn cause a sudden displacement of the water above and the formation of a small group of water waves having wavelength equal to the water depth (up to several thousand meters) at the point of origin. These waves can travel rapidly outward for thousands of kilometers while retaining substantial energy. Their speed-characteristic of gravity waves in shallow water and thus equal to the square root of gD, where g is the gravitational constant and D is the depth – is generally about 500 km/h (300mph), and their periods range from 5 to 60 minutes. In the open ocean their amplitude is usually less than 1 m (3.3 ft); thus tsunamis often go unnoticed by ships at sea. In very shallow water, however, they undergo the same type of increase in amplitude as swell approaching a beach. The resultant waves can be devastating to low-lying coastal areas; the 37-m (120-ft) waves from the 1883 Krakatoa eruption, for example, killed 36,000 people.

The characteristics of tsunamis as they approach shore are greatly affected by wave refraction over the local bathymetry. Tsunami-producing earthquakes usually exceed 6.5 on the Richter scale, and most tsunamis occur in the Pacific Ocean because of the seismic activity around its perimeter. A tsunami warning system for the Pacific Ocean has been established; it consists of strategically placed seismic stations and a communications network." (O'ahu Civil Defense 2004) Figure 2.4-1, Tsunami Evacuation Zones, depicts the O'ahu evacuation zone identified for this area of O'ahu in the event of Tsunami. The evacuation zones, developed by the State of Hawaii Civil Defense include the majority of the H-POWER site and all of the construction laydown area. O'ahu Civil Defense, Tsunami Evacuation Map 17 for Kahe Point to Ewa Beach, also notes that steel and/or concrete buildings of six or more stories in height should provide adequate protection if people move to the third floor or above. The H-POWER facility, though industrial, is of comparable height and scale and so may offer protection should no warning be available. However, in the event of advance warning issued by the Pacific Tsunami Warning Center (PTWC), Emergency Broadcast System or Civil Defense Sirens, H-POWER construction and/or operational staff will immediately begin shut down operations at the plant and evacuate to the designated Public Shelter Refuge Area, the Makakilo Elementary School or other identified location at a safe elevation. Facility Emergency Response Plans currently address this issue and all temporary construction

LEGEND

- Temporary Construction
- H Power
- Tsunami Evacuation Zones

LOCATION MAP

NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Topographic Map Source: USGS, 2000
Tsunami: Pacific Disaster Center (PDC), 1998
(Downloaded from Hawaii Statewide GIS Program
http://www.state.hi.us/dbedt/gis/index.html)

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

0 1,800
Feet

amec

Tsunami Evacuation Zones

FIGURE
24-1

H:/H-POWER/MXD_Current/Environmental/Tsunami.mxd
H:/H-POWER/Export/Environmental/Tsunami.pdf
March 4, 2005 DWN: RLO CHKD:

personnel will be instructed on Emergency Response Procedures prior to initiating construction activities.

2.5 Climate and Air Quality

This section discusses the existing climate and air quality of O'ahu and the potential impacts of the proposed Project. Mitigation measures, such as emission control technologies are also evaluated.

Baseline Climate and Air Quality

According to the National Weather Service (NWS) Forecast Office in Honolulu, the climate of Hawaii is characterized by mild temperatures throughout the year, moderate humidity, persistence of northeasterly trade winds, infrequent severe storms but significant differences in rainfall amounts within short distances. When the northeasterly trade winds are weak, onshore, thermally driven sea breeze flows can develop on the normally leeward shores of O'ahu. The resulting southerly winds are referred to as "Kona winds".

The presence of mountains is important as they can obstruct and deflect the prevailing winds directions, and produce local drainage flows at night and upslope flows during the day. The importance of these local flows diminishes rapidly with distance from significant terrain objects. Due to the distance from the mountains, the wind conditions in the vicinity of the JCIP are dominated by the northeast trade winds and to a lesser extent, the southwest Kona winds.

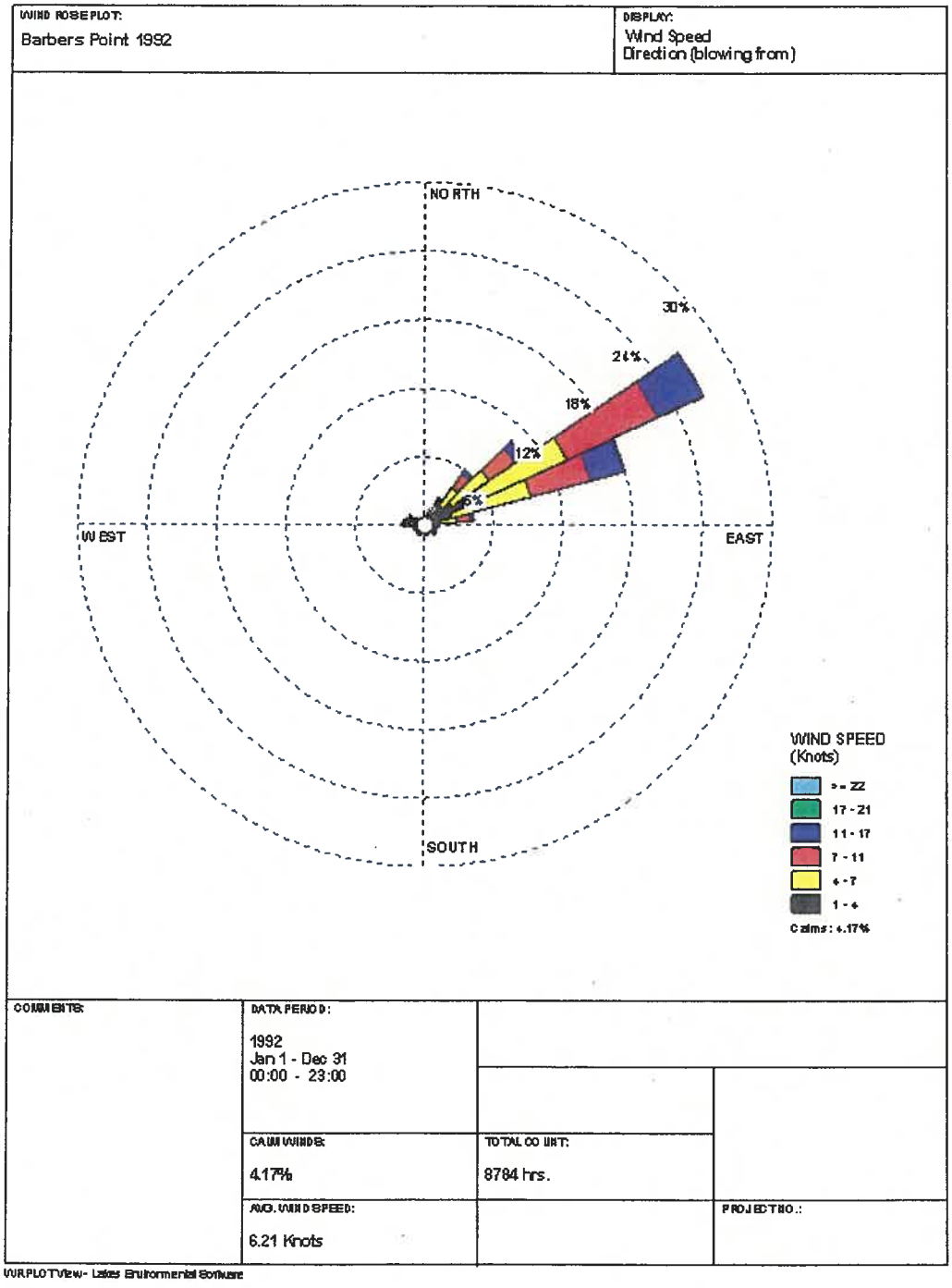
2.5-2 Wind Direction and Speed

From January through December 1992 a 10-meter meteorological tower within JCIP measured and recorded wind speed and direction. Figure 2.5-1 illustrates the windrose generated from the data collected in 1992. Figure 2.5-1 illustrates that the prevailing wind is dominated by the northeasterly trade winds. In addition, these data also show that the average wind speed is approximately 6.5 knots.

The NWS operates a meteorological station at the Honolulu International Airport (HNL), approximately 12 miles east of JCIP. Amongst other measurements, the Honolulu NWS station records wind direction, wind speed, daily precipitation amounts and temperature. The windrose, generated with data collected from January through December 1992, is shown in Figure 2.5-1. Figure 2.5-1 shows that the prevailing winds at HNL are predominantly the northeasterly trade winds. The mean wind speed recorded at HNL in 1992 was 8.2 knots. Figures 2.5-1 and 2.5-2 show that the meteorological conditions at HNL are very similar to those experienced at JCIP.

2.6 Surface Water

This section discusses the existing surface water environment. Baseline conditions, including designated resource areas of concern, are identified and the potential impacts of the proposed Project are presented.



amec

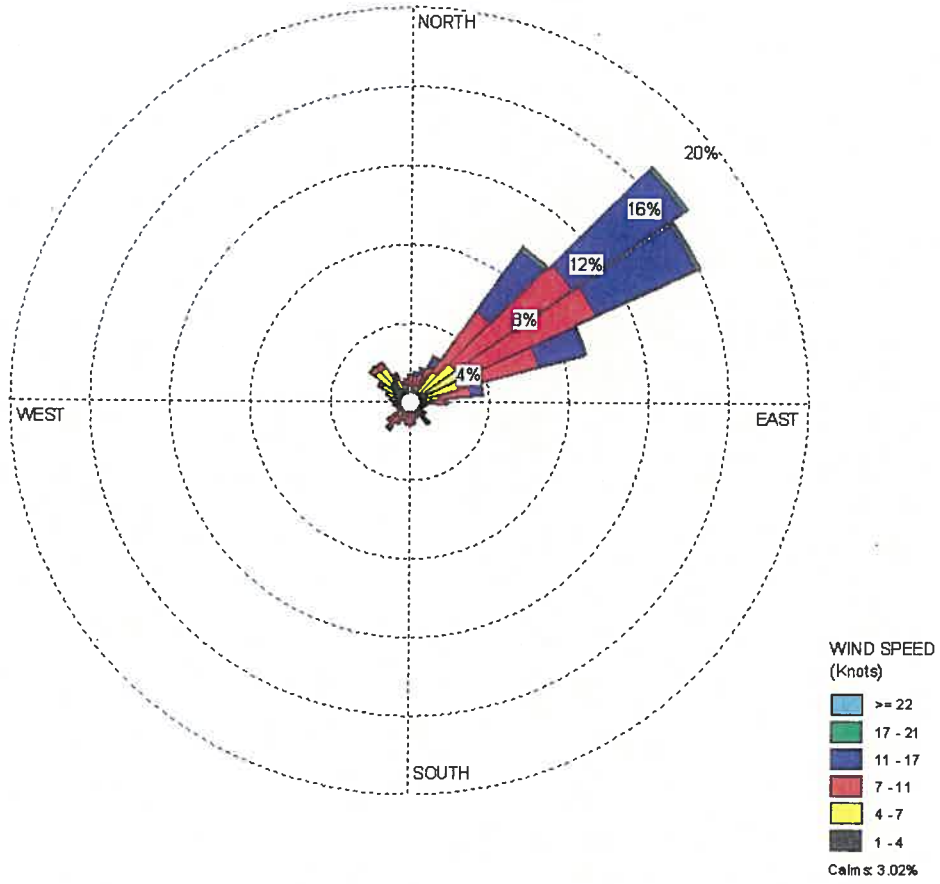
Windrose For CIP/Barber's Point 10-Meter 1992 Data

FIGURE
2.5-1

H:/H-POWER/MXD_Current/Environmental/windrose.mxd
H:/H-POWER/Export/Environmental/windrose.pdf
January 2005 DWN: RLO CHKD:

WIND ROSE PLOT:
Station #22521 - HONOLULU/INT'L ARPT, HI

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:		
	1992 Jan 1 - Dec 31 00:00 - 23:00		
	CALM WINDS:	TOTAL COUNT:	
	3.02%	8784 hrs.	
	AVG. WIND SPEED:		PROJECT NO.:
	8.23 Knots		

WRPLOT View - Lakes Environmental Software

amec

Windrose For HNL NWS Station 1992 10-Meter Data

FIGURE
2.5-2

H:/H-POWER/MXD_Current/Environmental/windrose2.mxd
H:/H-POWER/Export/Environmental/windrose2.pdf
January 2005 DWN: RLO CHKD:

Baseline Surface Water Conditions

Surface waters for the Island of O'ahu are classified by water quality standards established under Hawaii Administrative Rules, Title 11, Chapter 54 (HAR 11-54). The regulations categorize all State waters as either marine or inland. It is also important to note that "State Waters", as defined by section 342D-1, HRS, exclude "...drainage ditches, ponds, and reservoirs required as part of a water pollution control system..." Figure 2.6-1 provides a broad overview map of the Water Quality Standards for the island. As can be seen from Figure 2.6-1, the project site is located within the defined hydrographic area IV and has an Inland (Water) Classification of Class 2. Class 1 waters are more heavily restricted, and it is the objective that Class 1 waters remain in their natural state as nearly as possible. The objective of Class 2 waters, is defined as follows: "The objective of Class 2 waters is to protect their use for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping, and navigation. The uses to be protected in this class of waters are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these water" (HAR 11-54-3).

Figure 2.6-1 also depicts the Marine Classifications and shows that the site is located most proximate to Class A marine waters. Class AA marine waters are more heavily restricted, and it is the objective that these waters remain in their natural pristine state as nearly as possible. The objective of Class A waters, is defined as follows: "It is the objective of Class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters" (HAR 11-54-3).

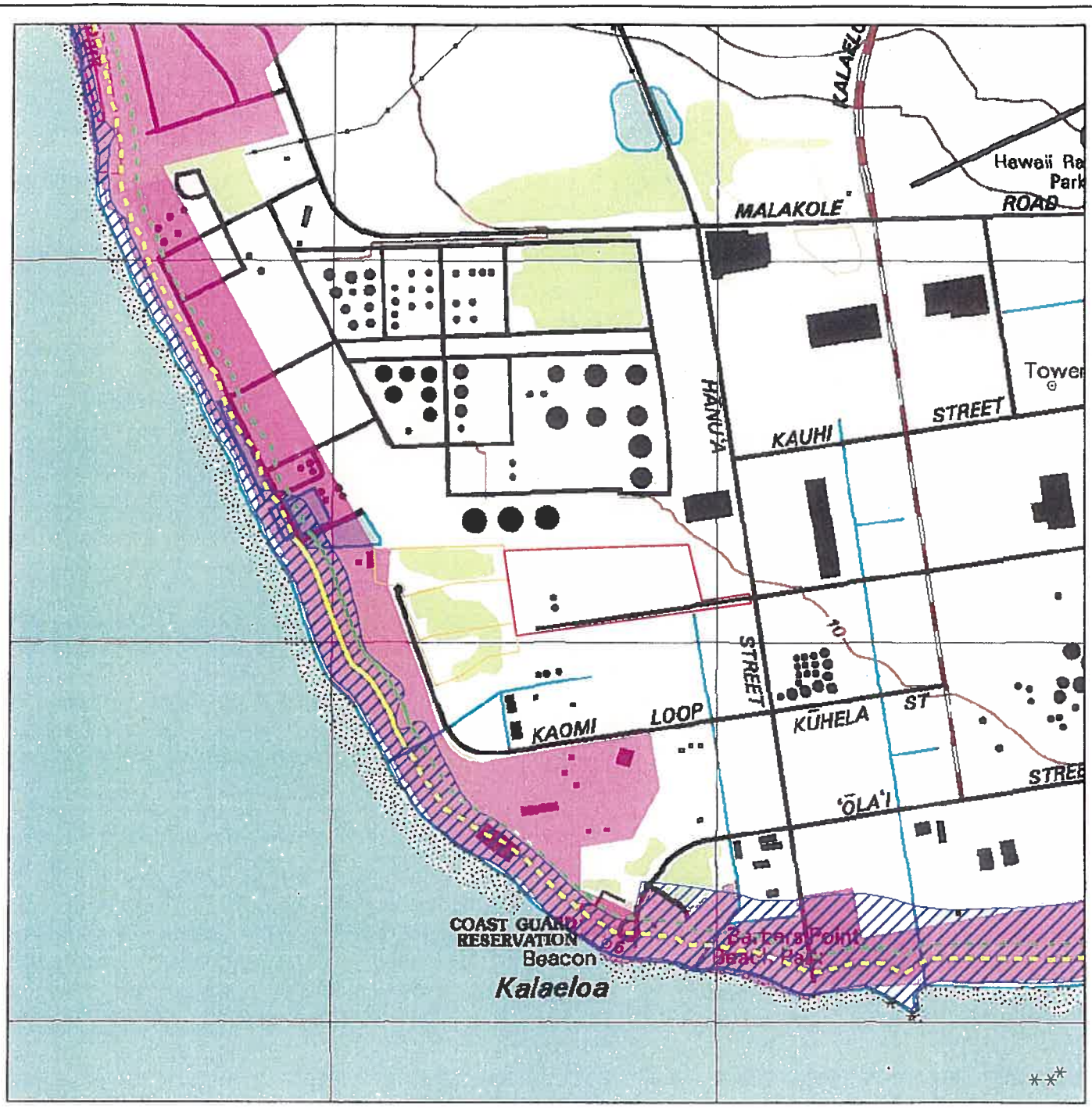
As noted earlier, the Project is located on what is commonly referred to as the Ewa Plain, an emerged coral-algae reef formed during the Pleistocene period when the ocean was at a higher level. The Ewa Plain today is one of the driest areas on O'ahu, so dry that it has commonly been characterized as "barren" and "desolate" and even referred to as a desert (Pacific Consultant Services Inc {PCSI}, Tuggle 1997:11).

Site specific water resources, for both the H-POWER site and the construction laydown area are addressed below.

H-POWER Surface Waters

As shown previously on the site locus map, Figure 1.7-1, there are no perennial or intermittent streams, tidal channels or springs located on the H-POWER site. The H-POWER site is roughly 24.6 acres in size, or 1,071,576 square feet. Of that, approximately one-third, 357,192 square feet is not paved. The remaining area, 714,384 square feet consists of impervious surface area.

Other than the Pacific Ocean, the nearest surface waters to H-POWER, are industrial holding ponds and industrial park drainage canals. These consist of: (1) A drainage canal abutting the southeast corner of H-POWER that extends south to the Pacific Ocean; (2) drainage canals that

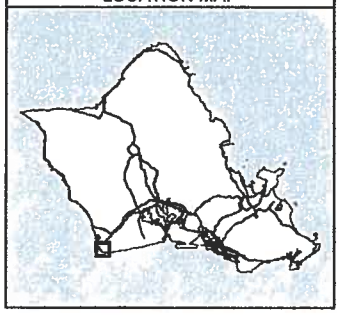


LEGEND

- H Power
- Temporary Construction
- Shoreline Setback Line (60ft)[2]
- Shoreline Buffer Zone Line(100ft)[2]
- Approximated Shoreline Setback Line
- Approximated Shoreline Buffer Zone
- FEMA 100-year Floodplain[1,3]
- Shoreline Management Area[3]

[1]FEMA Flood Zone Boundary, 1996
[2]Provided by DPP for immediate area only (Solid line)
[3]Provided by Hawaii Statewide GIS Program (http://www.state.hi.us/dbedt/gis/index.html)

LOCATION MAP



NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Topographic Map Source: USGS, 2000

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

0 1,000 Feet

Surface Water Constraints Map

FIGURE 2.6-1

H:/H-POWER/MXD_Current/Environmental/FloodSma.mxd
H:/H-POWER/Export/Environmental/FloodSma.pdf
March 4, 2005 DWN: RLO CHKD: AP

PANEL 0315F

FIRM

FLOOD INSURANCE RATE MAP

CITY AND COUNTY OF HONOLULU, HAWAII

PANEL 315 OF 395

MAP NUMBER
15003C0315F

MAP REVISED
SEPTEMBER 30, 2004

Federal Emergency Management Agency

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100 year flood, also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundaries

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet*

(EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the National Geodetic Vertical Datum of 1929

A — A — Cross section line

23 — 23 — Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere

1000-meter Universal Transverse Mercator grid ticks, zone 5

2000-foot grid ticks: Hawaii State Plane coordinate system, zone 3 (FIPSZONE 5103), Transverse Mercator projection

5000-foot ticks: Universal Transverse Mercator (UTM) grid values, zone 5

Bench mark (see explanation in Notes to Users section of this FIRM panel)

M1.5 Coastal bench mark

MAP REPOSITORY
Refer to Map Repositories listing on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 30, 2004

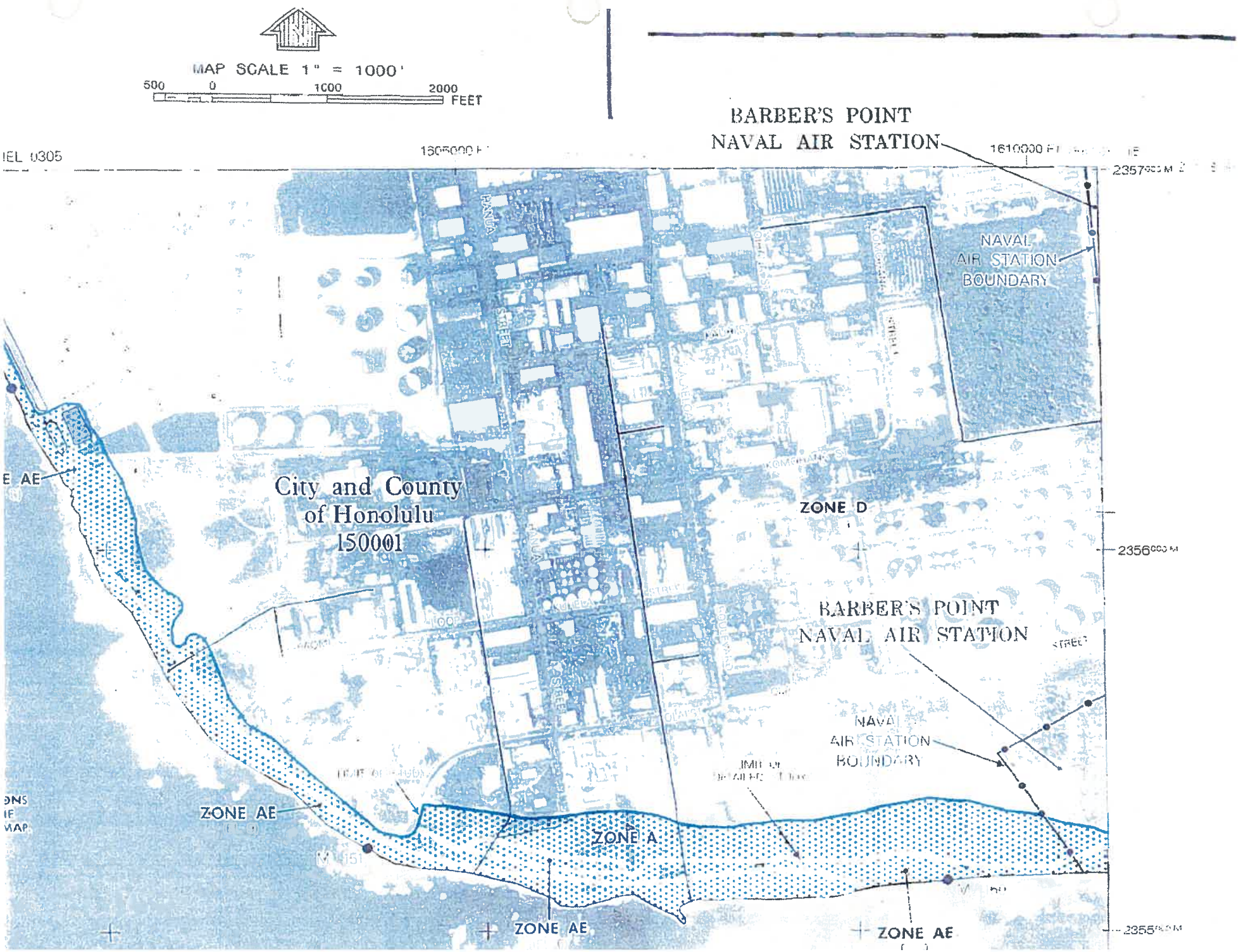
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 30, 2004 - to change Special Flood Hazard Areas, to update map format, to reflect revised floodway and to incorporate previously issued Letters of Map Revision

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000
FEET


MAP SCALE 1" = 1000'
500 0 1000 2000
FEET
BARBER'S POINT
NAVAL AIR STATION
NAVAL AIR STATION BOUNDARY
City and County of Honolulu 150001
ZONE D
BARBER'S POINT
NAVAL AIR STATION
NAVAL AIR STATION BOUNDARY
ZONE AE
ZONE A
ZONE AE
ZONE AE
2356000 M
2355000 M

exist proximate to the Kaomi Loop bend, that drain to the Pacific Ocean; and (3) nearby holding ponds situated on the industrial Chevron property.

The facility is permitted under the State of Hawaii, Department of Health (DOH), Notice of General Permit Coverage (NGPC) NPDES permit program which requires Storm Water Pollution Control planning and storm water sampling. In addition to compliance with NGPC-NPDES requirements, the H-POWER waste handling operations take place indoors to minimize exposure to the elements and for good housekeeping practice. Two grounds keeping personnel work Monday through Friday to clean up any MSW that escaped from the MSW Feed and Storage Area and to provide general clean-up around the facility. Facility personnel are also trained in Spill Prevention Countermeasure and Control annually which increases their awareness on the necessity to be careful in handling liquid materials around the facility.

Construction Laydown Surface Waters

As shown previously on the site locus map, there are no perennial or intermittent streams, tidal channels or springs located on the parcels proposed for temporary construction laydown. There are no surface water resources located on or proximate to the proposed construction laydown parcels. Field reconnaissance of these sites, conducted following rain events, indicated that surface water is limited to puddling within existing tracks and trails onsite (Toma 2004). Waters are also reported to sometimes occur within sinkholes on protected areas of the site, but these areas may also be affected by tidally influenced groundwaters. (Kane 2004) There are currently no stormwater systems, swales or designed controls in place, though natural drainage patterns do exist. Field reconnaissance indicates that the site is relatively flat, but that in addition to the existing depressions caused by small sinkholes, the tracks and trails from human activity influence stormwater patterns due to the slightly lower grade of these disturbed portions of the site. A prominent track abutting the eastern property line likely dominates runoff patterns along the eastern boundary of the laydown parcels. The eastern boundary is defined by a berm that supports an aboveground pipeline from the adjacent AES facility, which further accentuates the drainage swale aspect of this linear track. Interviews conducted by the cultural resource investigators, PCSI, with City representatives (see Appendix C) indicated that the area along Kaomi Loop was used for many years by dune buggy enthusiasts. The tracks and trails and maze of small roads or paths still visible on aerial photography are likely remnants of that and other unauthorized activities such as dumping of rubbish. The area is currently fenced in an effort to eliminate unauthorized access.

As noted previously, other than the Pacific Ocean, the nearest surface waters are industrial holding ponds and industrial park drainage canals. These consist of: (1) A drainage canal abutting the southeast corner of H-POWER that extends south to the Pacific Ocean; (2) drainage canals that exist proximate to the Kaomi Loop bend, that drain to the Pacific Ocean; and (3) nearby holding ponds situated on the industrial Chevron property. Each of these surface waters can be seen on the previously provided site locus.

Designated Surface Water Resource Areas

A review of known or designated surface water features and coastal constraints was conducted, to determine proximity to potential resources of concern. These included coastal constraints as well as designated floodplains. Figure 2.6-1, Surface Water Constraints, depicts these designated areas with respect to the H-POWER site and the construction laydown parcels.

Coastal Constraint Areas

Surface water constraints on O'ahu are shown on Figure 2.6-1 and are regulated by a variety of state and local agencies. The following is a brief summary of these designated coastal resource areas proximate to H-POWER and the proposed construction laydown area.

Coastal Zone

The entire Island of O'ahu is classified as within the Coastal Zone, with the exception of regulatory exemptions for federally owned lands. Though not mapped, both the H-POWER site and the construction laydown parcels are within the Coastal Zone. The Hawaii Coastal Zone Management (CZM) Program (under the Department of Business, Economic Development & Tourism's Office of Planning) conducts CZM federal consistency review for certain types of projects.

Previously, with respect to an Expansion of H-POWER, a November 5, 2004 letter was sent to the Hawaii CZMP requesting a determination as to whether a CZM federal consistency review would be required for the H-POWER Expansion. That letter included a copy of the Preparation Notice (Appendix A) describing the Expansion along with information about the parcels under consideration for construction laydown use. The Hawaii CZMP determined on November 9, 2004 that a CZM federal consistency review is not required for this project, but noted that the project may be subject to SMA requirements, administered by the City and County of Honolulu, Department of Planning and Permitting (DPP), see Appendix A.

Special Management Area (SMA)

The H-POWER site is not within the SMA, but a portion of the northernmost parcel (parcel 035) proposed for temporary construction laydown is within the SMA. The City and County of Honolulu, DPP regulates activities within the SMA and the thresholds and triggers requiring DPP review are discussed in greater detail in this EA.

A November 5, 2004 letter was sent to the City and County of Honolulu, DPP. That letter indicated that in order to avoid potential impacts to the SMA the construction laydown and parking areas would be sited outside of the designated SMA. That letter also requested advice as to necessary setbacks or construction delineation required by DPP that may be needed prior to use of the remainder of parcel 035.

Shoreline Setback Line

As mapped on Figure 2.6-1, Surface Water Constraints, neither the H-POWER site nor any of the parcels to be used temporarily for construction laydown, are located within the Designated Shoreline Setback line, or the Shoreline Buffer Zone Line. As shown on Figure 2.6-1, the Designated Shoreline Setback and Buffer Zone Lines are each situated west of Kaomi Loop. The

City and County of Honolulu, DPP regulates activities within the Shoreline Setback Line and the thresholds and triggers requiring DPP review are discussed in greater detail in Chapter 7.

A November 5, 2004 letter was sent to the City and County of Honolulu, DPP. That letter indicated that on the basis of available mapping obtained from DPP, the Expansion project and the temporary construction area impacts would be outside of the Shoreline Setback Line and the Buffer Area and requested a formal determination from DPP confirming that assessment.

Tsunami Evacuation Zone

As described previously, Tsunamis pose a risk to many coastal areas on O'ahu. Figure 2.6.1, Tsunami Evacuation Zones, shown previously depicts the O'ahu evacuation zone identified for this area of O'ahu. The evacuation zones, developed by the State of Hawaii Civil Defense include the majority of the H-POWER site and all of the construction laydown area. In the event of advance warning issued by the PTWC, Emergency Broadcast System or Civil Defense Sirens, H-POWER construction and operational staff will immediately shut down operations and evacuate to the designated Public Shelter Refuge Area, the Makakilo Elementary School or other identified location at a safe elevation. All temporary construction personnel will be instructed on Emergency Response Procedures prior to initiating construction activities.

Floodplains

The H-POWER site and the construction laydown parcels are located outside of designated Special Flood Areas. Figure 2.6-1, Surface Water Constraints, depicts the mapped Flood Area (DPP, 2004). A review of the most recent Federal Emergency Management Area (FEMA) Flood Insurance Rate Map (FIRM), published in September 30, 2004, was also conducted (FEMA 2004). The hard-copy FIRM maps were not available in electronic format, however, no change from the DPP electronic map data was observed in the project area. A photocopy of the 2004 FIRM is provided in Appendix B. The project parcels, both permanent and temporary, are clearly outside of the designated Flood Hazard Areas. As shown on Figure 2.6-1 and confirmed on the FIRM map, the designated Flood Hazard Area is situated west of Kaomi Loop.

Groundwater

This section discusses the existing groundwater environment. Baseline conditions, including resource areas of concern and existing withdrawal limits, are identified and the potential impacts of the proposed Expansion project are presented.

Baseline Conditions

Groundwater is a key resource for the island of O'ahu. Of the total freshwater used on O'ahu, 326 Mgal/d is from ground water and 71 Mgal/d is from surface water. Most of the groundwater

on the island of O'ahu is derived from extensive volcanic aquifers of thin-bedded basalts in central and southern O'ahu. These aquifers are unconfined and though often at great depth (600-1,000 ft) are essentially "surficial" aquifers and therefore vulnerable to contamination. (USGS 1998). As a result, water resource protection and management is important on O'ahu.

The Hawaii Water Plan and H-POWER's consistency with the Plan, are discussed in greater detail in Chapter 7.

Consistent with the goals of protecting water resources, groundwater governance in Hawaii is split into two distinct aspects: (1) Groundwater withdrawals and (2) injection wells. Groundwater withdrawals, stream diversions and water use are regulated under the State Water Code and its implementing rules. The Commission on Water Resource Management (CWRM), Department of Land and Natural Resources (DLNR) manages the designation and regulation of Water Management Areas, water withdrawals and well construction activities. Groundwater injection wells, typically used for disposal of cooling waters, are guided by a different set of Hawaii Administrative Rules, administered by DOH.

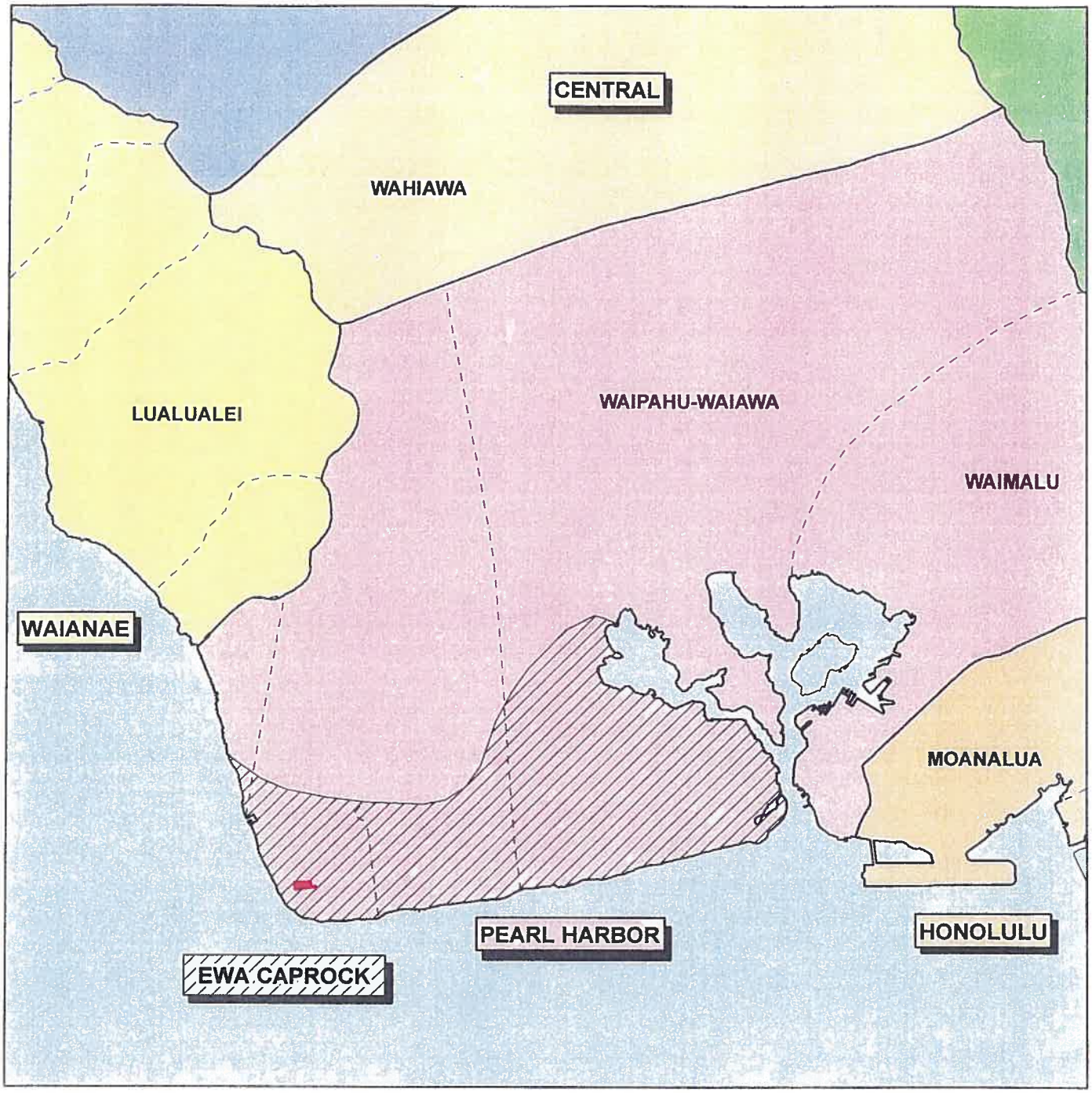
The H-POWER facility and the temporary construction laydown area are each located within the Ewa (Limestone) Caprock Aquifer. The Ewa limestone aquifer is a brackish to saline groundwater body that exists as a thin basal lens in the permeable coralline reef deposits that comprise the Ewa Plain. Figure 2.7-1 Aquifers, depicts aquifers, the EWA Caprock zone, and the location of H-POWER.

The permitting of underground injection wells on O'ahu is also affected by the location of the wells. Figure 2.7-2, Island of O'ahu Underground Injection Control Areas, shows that in coastal regions where waters can be saline at depth, the underlying aquifers may not be considered a drinking water source and though permit limitations are imposed, wells may be permitted.

The H-POWER facility is currently permitted for, and operating, two water withdrawal wells to supply primarily industrial (non-potable) water for facility operations. The industrial process water, permitted at an average annual withdrawal rate of 2.26 mgd and maximum daily withdrawal rate of 2.26 mgd, is used primarily for industrial cooling. The water withdrawal wells are permitted through DLNR and the injection wells that are operated in accordance with monitoring requirements stipulated by the DOH. The underground injection wells are permitted to discharge primarily non-contact cooling water of an average concentration of 1.7 times caprock water (source water) with residual amounts of dispersants, biodispersants, corrosion inhibitors, biocides and pH control agents. Intermittent discharges of reject water from the on-site reverse osmosis water treatment system, with trace amounts of dechlorination agents and antiscalents may also be injected. The above additives are typical components of water treatment systems. The maximum disposal quantity for the underground injection wells is 1.2 mgd, and monitoring and reporting requirements dictate a daily record of the injectant quantity (gpd) and representative grab samples (three types) of the injectant are collected for analysis in accordance with EPA methods and standards.

2.8 Biological Resources

This section discusses the existing biologic environment. Baseline conditions, including resource areas of concern and special status species, are identified and the potential impacts of the proposed Expansion are presented. Mitigation measures, such as stormwater controls and use of buffer areas are evaluated.



LEGEND

H-Power

LOCATION MAP

NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Aquifer Source: Commission on Water Resource Management, Hawaii 2000

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

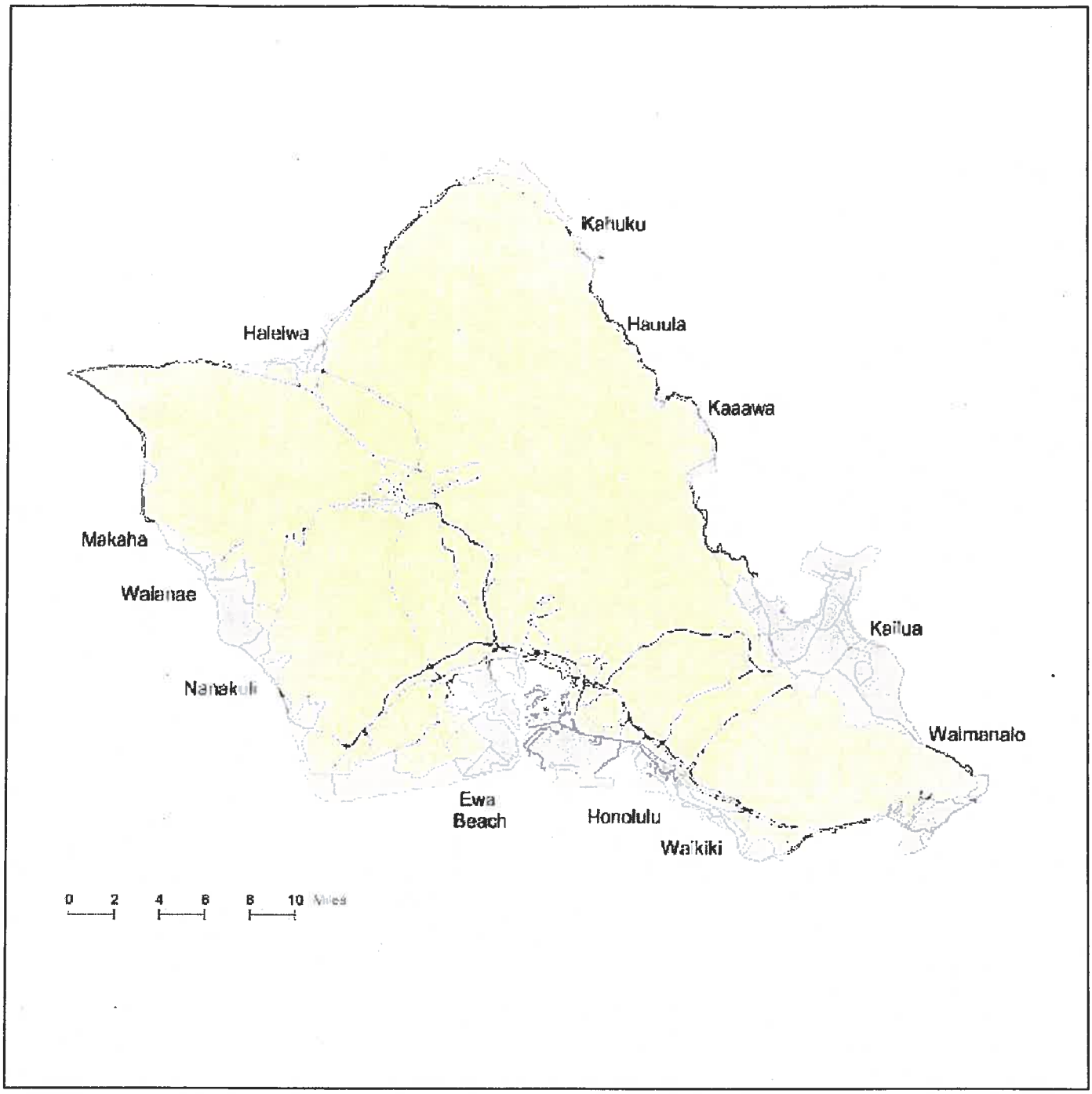
0 10,000 Feet

amec

Aquifers

FIGURE 2.7-1

H:/H-POWER/MXD_Current/Environmental/Aquifer.mxd
H:/H-POWER/Export/Environmental/Aquifer.pdf
March 4, 2005 DWN: RLO CHKD: AP



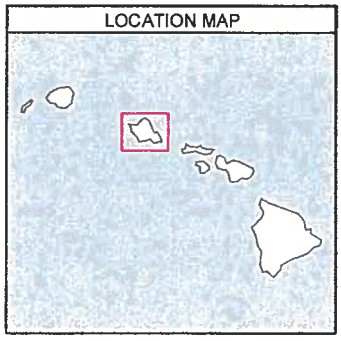
LEGEND

BELOW (makai) UIC LINE
- Underlying aquifer not considered drinking water source
- Wider variety of wells allowed
- Injection wells need UIC Permit or Permit Exemption
- Permit limitations are imposed

ABOVE (mauka) UIC LINE
- Underlying aquifer considered a drinking water source
- Limited types of injection wells allowed
- Injection wells need UIC Permit or Permit Exemption
- Permit limitations are imposed and requirements are more stringent

Major Roads

LOCATION MAP



NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Map Source: Hawaii Department of Health
(http://www.hawaii.gov/health/environmental/water/sdwb/uic/uicmaps.html)

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

amec

Underground Injection Control Areas

FIGURE 2.7-2

H:/H-POWER/MXD_Current/Environmental/UIC.mxd
H:/H-POWER/Export/Environmental/UIC.pdf
March 4, 2005 DWN: RLO CHKD:

Existing Conditions – Biological Resources

The project site and the parcels directly east of the facility under consideration for use as construction laydown area are located in what is commonly referred to as the Ewa Plain, characterized as:

"a semiarid region of intense sunshine, warm tradewinds, and sparse rainfall. At the western end of the plain these conditions are all the more accentuated. Except for a few coastal marshlands and other favored localities, the vegetation is typically xeric and, where undisturbed by modern developments, is dominated by hardy exotics." (Davis 1990a)

Figure 2.8-1 depicts NWI national wetland inventory data for the region surrounding the H-POWER site. As shown on that figure, no onsite resources are identified. A biological resource site reconnaissance survey of the 24.6-acre H-POWER facility and the adjacent laydown area was conducted by an AMEC biologist during November 9 – 11, 2004. A list of plant species observed is presented in Table 2.8-1. Survey methodology included a pedestrian survey of the H-POWER facility perimeter and open lawn areas and transects through the laydown areas. Extremely dense vegetation necessitated a perimeter only survey of the northernmost portion of Parcel 35. Due to limited site access, perimeter only surveys of three fenced enclosures (endangered plant preservation areas) within the laydown area were also conducted in the November 2004 survey.

H-POWER Facility

The majority of the H-POWER site consists of developed infrastructure (e.g., concrete parking lots, asphalt roads, buildings, ancillary facilities, etc.). Undeveloped areas consist of manicured lawns with ornamental trees and shrubs.

Flora

The open lawn areas of the H-POWER facility area consists of introduced and ornamental vegetation, including Bermuda grass (*Cynodon dactylon*), monkey pod trees (*Samanea saman*), autograph trees (*Clusia rosea*), *Hibiscus sp.*, and milo trees (*Thespesia populnea*). Other plant species included coconut trees (*Cocos nucifera*), *beach naupaka* (*Scaevola* sericea), and yellow oleander (*Cascabela thevetia*).

Fauna

Animals currently found in the area include feral cats and a variety of other non-native species wildlife such as mongoose, mice, and rats. Bird species observed included: zebra doves (*Geopelia striata*), spotted doves (*Streptopelia chinensis*), sharp-tailed sandpipers (*Calidris acuminata*), mynah birds (*Acridotheres tristis*), feral chickens (*Gallus gallus*), red vented bulbuls (*Pycnonotus cafer*), common waxbills (*Estrilda astrild*), and cattle egrets (*Bubulcus ibis*). These animal species are transient over much of the 24.6 acres of the facility. Additionally, the ornamental trees and bushes may serve as nesting sites for various bird species.

Laydown Area

Aerial photographs of the site from the early 1990's indicated that clearing and grubbing activities of unknown date have occurred in these parcels (Figure 4.5-2). The presence of two plant preservation enclosures (within Parcels 34 and 33) is evident in the early 1990's aerial photography. Also evident was a third enclosure in the northwest portion of Parcel 35. Mr. Shad Kane confirmed the presence and origin of this third enclosure during a telephone interview conducted on November 17, 2004 by an AMEC biologist (Kane 2004). Mr. Kane was hired in November 2003 by the City and County of Honolulu to prepare a Habitat Conservation Plan for the enclosures. He stated that the third enclosure located on the northwest boundary of Parcel 35 was created prior to the early 1990's, to protect native plants that were relocated from nearby construction sites.

Field reconnaissance of the construction laydown parcels conducted in November 2004 indicate that current conditions are representative of an open brush habitat interspersed with stands of low lying herbaceous plants. Access trails and tracks through the stands of vegetation are evident on aerial photography from 2000, shown previously in Figure 4.3-2. A cleared area, between the enclosures in Parcels 33 and 34, is comprised of exposed soils and coral limestone outcrop. The terrain appears to be predominantly level with drainage affected by the trails and tracks interspersed throughout, including a prominent track abutting the eastern property line which likely dominates runoff patterns along the eastern boundary of the laydown parcels. The eastern boundary is defined by a berm that supports an aboveground pipeline from the adjacent AES facility, which further accentuates the drainage swale aspect of this linear track. The outer perimeter of the laydown parcel area is fenced and gated pedestrian access exists in the western and eastern boundaries. According to Mr. Kane, this outer perimeter fence line was installed in November 2003 (Kane 2004).

Sinkholes

Further discussion with Mr. Kane in November 2004 revealed that naturally occurring sinkholes within the two enclosures in Parcels 33 and 34 are biologically significant resources. Mr. Kane stated that the water levels in the sinkhole varied a lot and may be tidally influenced. It is likely that the water collecting in these sinkholes supports local flora and fauna within the enclosures (Kane 2004). Some dry sinkholes were observed in the perimeter of the densely vegetated area of Parcel 35 during the November 2004 survey. There is a potential for sinkholes with water to exist within the densely vegetated area of Parcel 35. In fact, the higher moisture levels introduced by the pools may be what supports the dense growth of trees and bushes in this area. No vegetation was observed in the aerial photograph from the early 1990's, depicted in Figure 4.5-2, and this portion of Parcel 35 is the only area outside of the enclosures that has such dense regrowth of trees.

Flora

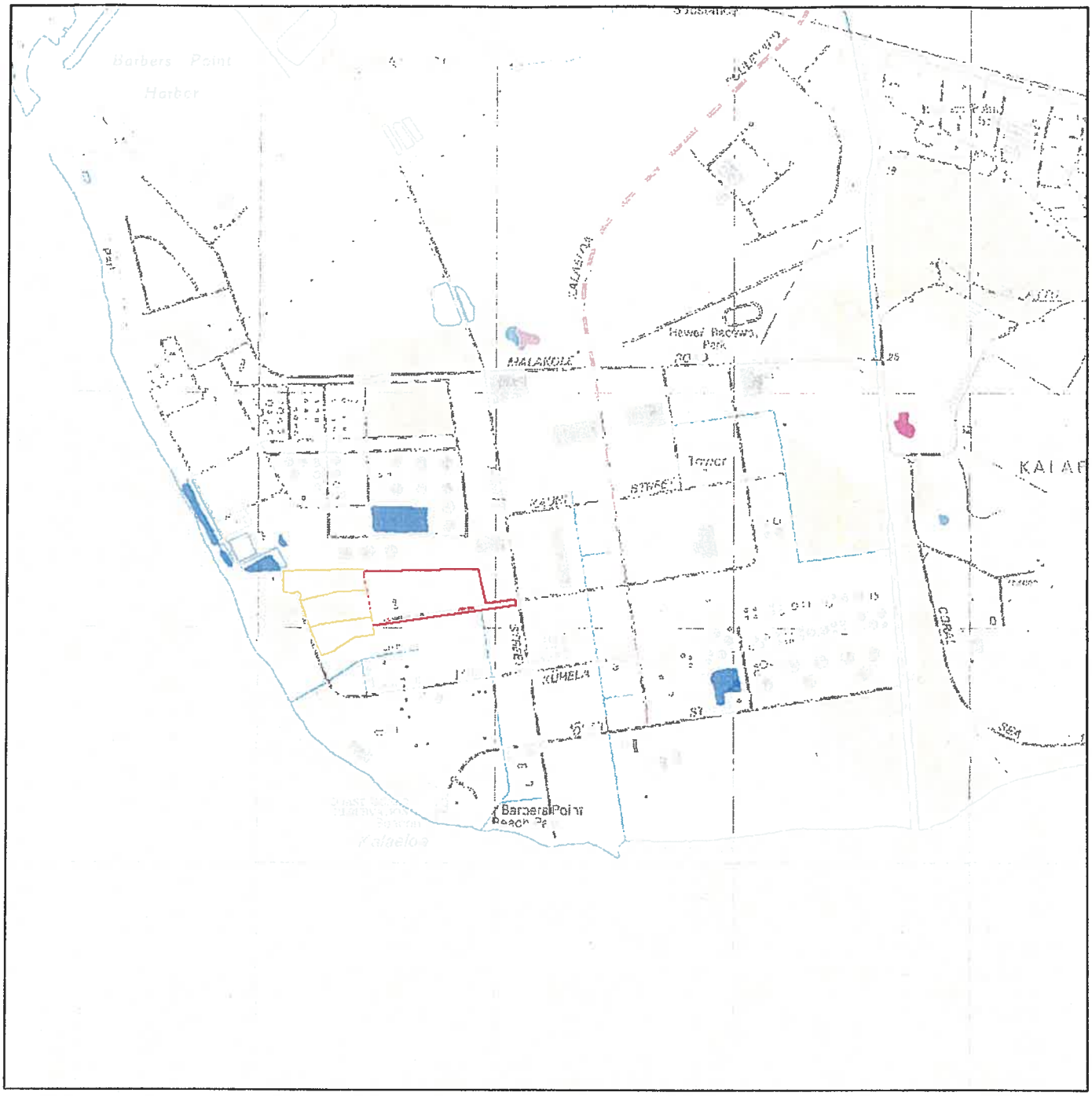
Vegetation in the brush land of the laydown parcels is dominated by Indian pluchea (*Pluchea indica*) with interspersed stands of low lying herbaceous plants (*Sesuvium portulacastrum, Atriplex semibaccata,* and *Batis maritima*), grasses, and kiawe trees (*Prosopis pallida).* Other

plant species included nena (*Heliotropium curassavicum*), sourbush (*Pluchea symphytifolia*). and naio (*Myoporum sandwicense*).

Fauna

Terrestrial biota includes various reptiles (geckos and anoles) and rodents (mice and rats). Other mammal species include mongoose and feral cats. Bird species observed included: Zebra doves, spotted doves, sharp-tailed sandpipers, and mynah birds. These species are transient over much of the 21.7 acres of the laydown parcels. However, large flocks of doves and mynah birds were observed to roost in the larger kiawe trees in Parcel 35, and the brush land is likely habitat for mice, rats, and mongoose.

Though not observed during the AMEC November 2004 survey, Mr. Kane mentioned that he has occasionally observed populations of tiny shrimp living in the sinkholes located in the plant preservation enclosures of Parcels 33 and 34. These shrimp are likely to be the endemic species of Hawaiian red shrimp (*Halocaridina rubra*), commonly called opae ula. Though not endangered, it is recommended that care should be taken to minimize impacts to the habitat of this native species.



LEGEND

- H Power
- Temporary Construction

Wetland Type

- Palustrine, Emergent, Persistent, Seasonal, Excavated
- Palustrine, Open Water, Permanent, Diked/Impounded
- Palustrine, Open Water, Permanent, Excavated
- Palustrine, Emergent/Persistent, Streambed Cobble/Gravel

LOCATION MAP

NOTES & SOURCES
Map Coordinates:
UTM NAD83, Zone 4N, Units meters

Topographic Map Source: USGS, 2000
Wetlands: U.S. Fish and Wildlife Service, 1978 National Wetland Inventory Maps U.S. Department of the Interior (downloaded from Hawaii Statewide GIS Program http://www.state.hi.us/dbedt/gis/index.html)

Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

0 900 1,800 Feet

amec

National Wetlands Inventory Map

FIGURE 2.8-1

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March 4, 2005 DWN: RLO CHKD:

Table 2.8-1 Plant Species Observed or Known to Occur at the H-POWER Facility and the Laydown Area November 2004 Biological Reconnaissance Survey

Plant Species	Common Names	Family	Status
Asystasia gangetica	Chinese violet	Acanthaceae	non-native
Sesuvium portulacastrum	akulikuli; sea purlane	Aizoaceae	indigenous; common
Achyranthes splendens var. rotundata	--	Amaranthaceae	endemic; endangered
Amaranthus spinosus	spiny amaranth	Amaranthaceae	non-native
Amaranthus viridis	slender amaranth	Amaranthaceae	non-native
Cascabela thevetia	yellow oleander; be-still tree	Apocynaceae	non-native
Schefflera actinophylla	octopus tree	Araliaceae	non-native
Cocos nucifera	coconut tree; niu	Arecaceae	non-native
Bidens alba	beggar's tick	Asteraceae	non-native
Pluchea indica	Indian pluchea; Indian fleabane	Asteraceae	non-native
Pluchea symphytifolia	sourbush	Asteraceae	non-native
Tridax procumbens	coat buttons	Asteraceae	non-native
Verbesina encelioides	golden crown-beard	Asteraceae	non-native
Batis maritima	pickleweed; salt wort	Bataceae	non-native
Heliotropium curassavicum	seaside heliotrope; kipukai; nena	Boraginaceae	indigenous; common
Heliotropium procumbens	--	Boraginaceae	non-native
Opuntia ficus-indica	prickly pear cactus; panini	Cactaceae	non-native
Capparis sandwichiana	maiapilo; pilo; pua pilo	Capparaceae	endemic, vulnerable
Atriplex semibaccata	Australian saltbush	Chenopodiaceae	non-native
Clusia rosea	autograph tree	Clusiaceae	non-native
Ipomea cairica	ivy-leaved morning glory; koali ai	Convolvulaceae	non-native
Momordica charantia	balsam pear; bitter gourd	Cucurbitaceae	non-native
Chamaesyce hirta	garden spurge	Euphorbiaceae	non-native
Acacia fernesiana	klu	Fabaceae	non-native
Alysicarpus vaginalis	alysicarpus	Fabaceae	non-native
Desmanthus virgatus	slender mimosa; virgate mimosa	Fabaceae	non-native

Table 2.8-1 Plant Species Observed or Known to Occur at the H-POWER Facility and the Laydown Area November 2004 Biological Reconnaissance Survey

Plant Species	Common Names	Family	Status
Leucaena leucocephala	haole koa; koa haole; wild tamarind	Fabaceae	non-native
Mimosa pudica	sensitive plant; sleeping grass	Fabaceae	non-native
Prosopis pallida	kiawe; mesquite	Fabaceae	non-native
Samanea saman	monkeypod tree	Fabaceae	non-native
Scaevola sericea	beach naupaka; naupaka kahakai	Goodeniaceae	non-native
Abutilon grandifolium	hairy abutilon	Malvaceae	non-native
Sida fallax	ilima	Malvaceae	indigenous, common
Myoporum sandwicense	naio; naeo; naieo; bastard sandalwood	Myoporaceae	indigenous; common
Boerhavia coccinea	--	Nyctaginaceae	non-native
Oxalis corniculata	wood sorrel; 'ihi' ai	Oxalidaceae	non-native
Passiflora foetida	love-in-a-mist; wild passionfruit; pohapoha	Passifloraceae	non-native
Brachiaria subquadripara	--	Poaceae	non-native
Cenchrus ciliaris	buffel grass	Poaceae	non-native
Chloris barbata	swollen finger grass; mau'u lei	Poaceae	non-native
Cynodon dactylon	Bermuda grass; manienie	Poaceae	non-native
Dactyloctenium aegyptium	beach wiregrass	Poaceae	non-native
Eleusine indica	goose grass; manienie ali'i	Poaceae	non-native
Sporobolus diander	Indian dropseed	Poaceae	non-native
Lycopersicon pimpinellifolium	cherry tomato	Solanaceae	non-native
Nicotiana glauca	tree tobacco; Indian tobacco; makahala	Solanaceae	non-native
Waltheria indica	uhaloa	Sterculiaceae	indigenous; common

Special Status Species

Flora and Invertebrate Fauna

On October 8, 2004, the U.S. Fish and Wildlife Service (USFWS) replied to a letter requesting a list of rare, threatened, or endangered species, and significant natural communities that may be affected by the proposed Expansion. The USFWS list included one endangered plant, *Achyranthes splendens* var. *rotundata*, as occurring in the vicinity of the proposed project, specifically, within the footprint of the proposed temporary construction (laydown) area (USFWS 2004a). This species is a low shrub varying in height from 1 ½ to 6 ½ feet. Three locations within the laydown area have been fenced and are currently protected as plant preservation areas. Due to limited site access, only the perimeters of the three fenced enclosures were surveyed during the November 2004 biological site reconnaissance.

No populations or individuals of *Achyranthes splendens* var. *rotundata* were observed during the November 2004 site reconnaissance survey. However, according to Mr. Kane, the two enclosures within Parcels 34 and 33 shelter the last two naturally occurring populations of the endangered plant, *Achyranthes splendens* var. *rotundata* and a population of this plant was transplanted in the third enclosure in Parcel 35. Mr. Kane also shared his observation that condensation from precipitation and runoff that collects in the sinkholes within the plant preservation enclosures appears to support the *Achyranthes* populations, especially during the drier summer months.

Additionally, prior communication on July 20, 2004 with USFWS (USFWS 2004b) indicated that the endangered plant *Chamaesyce skottsberegi* var. *skottsbergii* is known from the surrounding area. The July 20 correspondence also indicated that an invertebrate species of concern, *Lyropupa perlonga,* is known from an area adjacent to the project site, though a specific location was not identified, and no individuals of this species were observed during the November 2004 site reconnaissance survey.

Vertebrate Fauna

The shoreline, estuarine, and freshwater areas associated with Pearl Harbor are known habitat for four species of endemic waterfowl which are listed by both federal government and by the State of Hawaii as endangered species: the Hawaiian moorhen (*Gallinula chloropus sandvicensis*), the Hawaiian coot (*Fulica americana alai*) the Hawaiian duck (*Anas wyvilliana*) and the Hawaiian stilt (*Himantopus mexicanus knudseni*) [50 CFR Part 17]. Previous sightings of three of these four species (Hawaiian coot, Hawaiian moorhen, Hawaiian stilt) have been documented in the vicinity of the project area (USFWS 2004a). Population levels of these endangered waterfowl have been severely reduced primarily because of the loss of wetland habitat. Other threats to these species include predation by introduced mammals, invasion of wetlands by alien plants and fish, hybridization, disease, and possibly environmental contaminants (USFWS 1994). No endangered waterfowl species were observed during the November 2004 site reconnaissance survey.

Two additional species of birds, listed as threatened or endangered by the State of Hawaii, but not listed by the federal government, are found in the vicinity of Pearl Harbor. These two species

include the state-threatened white tern (*Gygis alba rothschildi*), a diminutive, arboreal-nesting seabird which can be seen around Pearl Harbor, and the state-endangered Hawaiian owl (*Asio flammeus sandwichensis*) an endemic race of the crepuscular, ground-nesting short-eared owl). Neither of these species was encountered during the November 2004 site reconnaissance survey.

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amec

Aerial Photo - Early 1990's

FIGURE 2.8-2

H:/H-POWER/MXD_Current/Environmental/AP_Early90.mxd
H:/H-POWER/Export/Environmental/AP_Early90.pdf
March 28, 2005 DWN: RLO CHKD:

Section 3 – Cultural Practices and Resources

ASSESSMENT OF THE EXISTING HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES

This chapter describes the existing human environment in the area of the H-POWER facility that would potentially be affected by the proposed Project. The area includes the existing H-POWER site as well as the three adjoining parcels under consideration for temporary storage of construction equipment, pre-fabrication activities, and for construction parking and trailers. In addition, because the human environment can be regional in nature, regional issues are addressed where necessary to establish an appropriate perspective on the human environment.

3.1 Archaeological and Cultural Resources

Recently, in preparation for a third boiler plant expansion (Expansion), PCSI, conducted an archaeological and cultural impact assessment for the proposed Expansion. PCSI, a Honolulu-based consulting firm offering professional archaeology services, evaluated both the H-POWER site and the parcels proposed for temporary use during construction. Their analysis included an evaluation of baseline (existing) and potentially existing resources, as well as an assessment of the effect that the Expansion might have upon archaeological or cultural resources. This section summarizes the results of that study.

Standards and Guidelines for Archaeological and Cultural Resource Assessments

Various local and federal agencies have established guidelines and standards for assessing archaeological and cultural impacts. The applicable guidelines and standards are summarized below.

National Historic Preservation Act

The National Historic Preservation Act (NHPA) was passed in 1966 which, in the words of the Act, the Federal Government's role would be to "provide leadership" for preservation, "contribute to" and "give maximum encouragement" to preservation, and "foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony."

To achieve this, NHPA and related legislation sought a partnership among the Federal Government and the States that would capitalize on the strengths of each. The Federal Government, led by the National Park Service as the agency with the longest and most direct experience in studying, managing, and using historic resources, would provide funding assistance, basic technical knowledge and tools, and a broad national perspective on America's heritage.

The States, through State Historic Preservation Officers appointed by the Governor of each State, would provide matching funds, a designated State office, and a statewide preservation program

tailored to State and local needs and designed to support and promote State and local historic preservation interests and priorities. In Hawaii the State Historic Preservation Office is referred to as the State Historic Preservation Division (SHPD).

State Historic Preservation Division

The Hawaii SHPD issued draft guidelines for the preparation of archaeological studies in December 2002 and the requirements for certain archaeological assessments are described in Chapters 13-275 and 13-276 of the Hawaii Administrative Rules. Section 13-275 (a) 5(A) states that:

"An archaeological assessment shall include the information on the property and the survey methodology as set forth in subsections 13-276-5(a) and (c), as well as a brief background section discussing the former land use and types of sites that might have been previously present."

The archaeological assessment that was undertaken follows the draft guidelines issued by SHPD and the Hawaii Administrative Rules.

State Office of Environmental Quality Control

The State OEQC publishes *Guidelines for Assessing Cultural Impact*, which are designed to comply with the requirements of Chapter 343 HRS as amended in 2000 and approved by the Governor as Act 50 that same year. The archaeological assessment that was undertaken follows these guidelines.

3.2 Study Methodology and Scope

The study methodology and scope of the work conducted included the following:

- Archival background research for the project area
- Literature review of previous archaeological studies within the project area and in areas near the H-POWER facility
- Verbal and written consultation with the Office of Hawaiian Affairs
- Interviews with community members recommended by the SHPD
- Reconnaissance survey of three additional parcels (TMK: 9-1-026: 33-35) adjacent to the current H-POWER facility to determine the presence/absence of cultural resources

An archaeological reconnaissance survey and follow-up test excavations of possible historic sites at the H-POWER site were undertaken as part of the environmental review process for the H-POWER facility in 1983-84 (Ahlo and Hommon 1983; Hommon and Ahlo 1984). No historic properties were found at that time. Human remains were found during construction of the facility, in 1986. There is a possibility that more burials might be found during the construction phase of the proposed project, although the area has already been cleared, graded, and covered with gravel. For this reason, CHRRV and the City and County of Honolulu propose that the site

will be monitored during the initial stages of excavation for the Expansion (see Mitigation discussion in Section 5.1.4, below).

Due to the extensive prior disturbance at depth from construction of the original H-POWER facility in 1985, in combination with construction mitigation (on-call monitoring) already proposed, the current archaeological assessment did not include survey or excavations of the existing industrial H-POWER site. The scope did include, however, archaeological and cultural impact assessments of the three adjacent vacant parcels, including Parcel 33 (6.041 acres), Parcel 34 (8.164 acres), and Parcel 35 (8.654 acres). Portions of these parcels may be needed for a laydown area for temporary staging areas and parking during construction, which is expected to take place over a period of approximately 24 months.

The results of the site reconnaissance and cultural resource investigations form the basis of the summary of existing conditions that follows below.

3.3 Existing Conditions – Archaeological and Cultural Resources

In discussing existing conditions for archaeological and cultural resources, it is important to understand that much of the evaluation must focus on resource potential and oral history. Though some information about identified resources does exist, often, existing conditions are defined on the basis of resources suspected to have existed or on the basis of those potentially remaining at a given location.

Archaeological Resources

As noted above, the H-POWER site is a heavily industrialized site that has undergone extensive ground disturbance at depth, during construction of the original H-POWER facility. Though archaeological resources are therefore not likely, the fact that human remains were found during construction of the facility in 1986 indicates that however remote, there is a possibility that more burials may exist. For this reason, CHRRV and the City and County of Honolulu propose that the site will be subject to on-call monitoring during the initial stages of excavation for the Expansion (see Mitigation discussion, below).

A reconnaissance survey was undertaken on October 20, 2004 of the undeveloped Parcels 33-35 that are proposed for temporary construction use during the Expansion. The entire survey area was found to have been extensively disturbed. The fenced plant sanctuaries were not surveyed since they will not be utilized during construction of the proposed Expansion. There is evidence that large portions of all three parcels have been grubbed and graded. Clearing may have occurred on more than one occasion. Aerial photographs suggest that the land clearing project undertaken by Campbell Estate in the early 1960s on Parcel 30 and documented during the archaeological reconnaissance survey in 1983, also included Parcels 33-35. One of the individuals interviewed for the cultural impact assessment, noted that a number of sinkholes were buried at the time the land was bulldozed.

The Refuse Division of the City Department of Environmental Services provided valuable information concerning the recent land use history of the subject parcels, which helped to explain

the various kinds of land disturbance observed during the field survey. Apparently, the area below the H-POWER facility, along Kaomi Loop, was used for many years by dune buggy enthusiasts and for illegal dumping. A maze of small roads or paths is still visible in many areas. Some trash remains in the area. At least 11 car bumpers of various makes or models, tires and various other items were found during the reconnaissance survey along one of the dune buggy roads in Parcel 35, near the terminus of Kaomi Loop. The City erected a chain link fence along Kaomi Loop in 2004 to prevent further dumping and unauthorized use of the area. Installation of the fence appears to have involved the addition of some fill material as well.

It appears that the eastern edge of Parcels 33-35 was also filled, most probably during the construction of the existing H-POWER facility in the 1980s. The land along the chain fence separating Parcel 30 from Parcels 33-35 and extending some 15 to 20 meters into the three parcels is raised roughly 1 meter or so above the adjoining land surface, which is flat. Situated on top of the fill is a roughly north-south oriented steam pipe that runs from the AES facility north to the Chevron USA Oil refinery.

Parcel 35 is the least disturbed of the three parcels. Several small sinkholes (1 meter or less in diameter) were found in the large thicket of *kiawe* trees that occupies a sizable area of this parcel. Most of those observed were filled with bulldozer push. No cultural materials, human remains, fossil bird bones, or extinct land snails were observed within any of the sinkholes, but the probability that such materials exist in at least some of the sinkholes is high based on the results of previous archaeological investigations in the general area.

Cultural Resources

Cultural resource interviewees emphasized the importance of preserving more sinkholes in the Kalaeloa area and other areas because of the native plants, human remains, and other evidence of past human uses that are often found in and around them. The sinkholes, which once numbered in the thousands and formed part of a vast natural and cultural landscape in the Kalaeloa area, are now restricted to a small number of undeveloped or undisturbed properties. The sinkholes contained within the two plant enclosures and in the *kiawe* thicket in Parcel 35 represent some of the last remaining examples of this landscape in the local area.

No information on beliefs, cultural practices, or culturally important places within the boundaries of the proposed project area or adjacent areas was provided, except for a story related by an interviewee about her mother exchanging dried fish and salted meat for *'ōkole hao*, a liquor made from ti plants, that was made by a man who lived somewhere nearby.

On current evidence, there are no known Traditional Cultural Properties or on-going cultural practices within or near the Area of Potential Effect based on a review of the pertinent literature for the area and the consultations conducted. While culturally significant sites may have existed at one time within or in close proximity to the H-POWER plant, the nearest (approximately 2.7 miles) known surviving site with cultural significance is Pu'uokapolei, a small cinder cone that is the most prominent landmark on the 'Ewa Plain and the former site of Fort Barrette. In their synthesis of cultural resource studies on the 'Ewa Plain, Tuggle and Tomonari-Tuggle (1997) noted that Pu'uokapolei was the sacred center of that part of O'ahu:

Probably the most important of all traditional locales on the 'Ewa Plain is the hill known as Pu'uokapolei. This volcanic cone at the inland edge of the 'Ewa Plain was the location of a temple, (of unknown affiliation), a residence of the family of the demi-god Kamapua'a, a reference point for solar observation, and a traveler's landmark (McAllister 1933:108; Kamakau 1976:14; Ii 1959:27; Thrum 1907:46).

Additional information on Pu'uokapolei is summarized in *Sites of O'ahu* (Sterling and Summers 1978).

3.4 Impacts and Mitigation – Archaeological and Cultural Resources

The primary activities associated with the Project that could pose an impact to known or potential archaeological or cultural resources are those that involve earth disturbance. These include:

- Excavation for additional foundations and structural support for the proposed bag house at the H-POWER site
- The use of compactors to identify areas on the temporary construction parcels suitable for use and grading of usable areas to a depth of approximately 1 to 1.5 feet
- Burial of an existing steam pipe located along the H-POWER and laydown area property boundary to a depth of at least 3 feet below grade

While no historic properties were identified, there is a possibility that subsurface cultural and paleontological deposits and human remains might be found in some areas of the proposed project area in sinkholes, some of which are still partially open and others that were undoubtedly covered (filled) when the land was cleared. The following precautionary mitigation measures will be implemented:

1. Although the area has previously been cleared, graded and covered with gravel, there is a slight possibility that additional burials might be found in sinkholes during construction of the unit 2 baghouse foundation given the close proximity to the burial found in a previously unidentified sinkhole in 1986. Excavations in this area, below the level of previous disturbance, will be subjected to monitoring.

2. Use of Parcel 35 will be limited for the proposed construction laydown area based on the results of the archaeological assessment and the cultural impact assessment interviews, which identified sinkholes as important biological and cultural resources.

3. The plant sanctuaries in Parcels 33-34, though protected by chain-link fences, will be protected with an additional 25-foot buffer because of the unknown extent of the sinkholes within each of the two areas.

4. The plans for the laydown area call for: (a) the use of compactors to identify areas suitable for fabrication and storage areas; (b) grading of usable areas to a depth of approximately 1 to 1.5 feet, and (c) burial of the steam pipe at least 3 feet below grade.

Section 4 – Summary of Impacts and Mitigations

4.1 Short Term Impacts

Impacts will occur during the construction period including short term positive impacts to the economy resulting from construction period employment and associated spending for construction equipment and supplies. No long term impact will result including impact to schools or other public services or facilities.

During construction there will also be impact to geology and soils through the development of an offsite construction laydown, staging, parking and fabrication area however this will occur on previously disturbed land appropriately zoned for this purpose.

Air Quality and noise impacts will occur from construction activities including operation of mobile construction equipment.

Roadways and Traffic will be impacted during construction with an estimated additional 50 vehicle trips per day over a two-year construction period.

Surface water quality could be impacted from construction period run off however an erosion and sedimentation control program will be employed.

Biological Resources will be protected with in the established sanctuary areas of the parcels designated for construction laydown.

4.2 Long Term Impacts

Long term impacts will include a positive benefit to air quality and human health through the upgrade of the Air Pollution Control system.

Permanent disturbance will be made to geology and soils however this will occur in previously disturbed areas.

No impact will occur to water resources as no additional process water will be required. Storm water will continue to be captured and Best Management Practices are in effect through the facility NPDES General Permit.

No archaeological, historic or cultural impacts are anticipated. Construction phase excavation will be controlled and activities will be interrupted if discoveries are made.

4.3 Construction Period Mitigation

An Erosion and Sedimentation Control program will be established through a NPDES Construction phase permit. Best Management Practices, BMP, will be employed including interception of run off, silt fences/barriers and protection of existing storm water features and

devices including catch basins and culverts. Intercepted runoff will be directed to settling ponds if required.

Fencing will be installed and maintained to protect sensitive areas including plant sanctuaries.

During clearing, grubbing and earthwork activities water trucks will be utilized to minimize dust.

Construction equipment will be equipped with noise mufflers and emissions control devices as required by law.

Construction parking will be limited to encourage carpooling.

Deliveries will be scheduled to minimize traffic peaks associated with normal shift work within the industrial park. A separate construction entrance will be established to prevent traffic congestion at key intersections.

The construction laydown has been designed to avoid disturbance of both the established plant sanctuaries including a buffer zone and to avoid to the extent possible the northern parcel where sink holes are known to exist.

4.4 Long Term Mitigation

The project in and of itself is a mitigation of air emissions designed to employ the Most Achievable Control Technology (MACT compliance) as exists in the industry for control of air emissions and hazardous air pollutants as required by the Clean Air Act.

The project is basically a replacement of existing equipment with upgraded and more efficient equipment. Therefore there are no further impacts including cultural, traffic, noise, visual, socioeconomic, solid waste, energy or human health that already exist.

Section 5 – Alternatives

5.1 No Action

The No Action Alternative would consist of continued operation with current control technology which is based on an electro static precipitator based control system. This would require submittal of a Control Plan under the Clean Air Act and implementing regulations, 40 CFR 60 sub part Cb and 40 CFR 62 sub part FFF that would expose that the current technology, Electro Static Precipitators, are as effective as bag houses and that the revised Emissions Guidelines could be met without any upgrade and would require that the emissions limit for total organics, dioxins and furans, be revised from 60 nanograms per dry standard cubic meter to 35 nanograms per dry standard cubic meter.

Although the most recent annual emissions tests (stack tests) as conducted by Covanta Honolulu Resource Recovery Venture and submitted to the Hawaii State Department of Health, Clean Air Branch, under Covered Source Permit (CSP) No. 0255-01-C on June 28, 2007, demonstrate the ability of the facility to meet these revised Emissions Guidelines, the age, condition and changing waste characteristics caused the City and County of Honolulu to discount the no action alternative and decide to embark on an upgrade from an electrostatic precipitator based control plan to a mechanical filter (bag house) based control plan.

5.2 Pulse Jet Alternative

In a letter dated October 13, 2006 the City directed CHRRV to proceed with replacement of the existing ESP's with bag houses in order to meet the Maximum Achievable Control Technology standards expected to become effective in 2009. CHRRV was directed to prepare a Request for Proposal, RFP, and that the City and CHRRV would select an offering that provided the lowest life cycle cost to the City.

There are basically two forms of bag houses, reverse air and pulse jet. The difference amounts to the means for cleaning the filtered matter from the fabric filters, either using pulsed jets of air or by reversing air flow through the fabric filter.

Pulse jets were offered by a number of manufacturers. All met the technical requirements and could comply with the MACT standards.

5.3 Reverse Air Alternative

CHRRV selected the Reverse Air alternative based on:

1. a lower initial cost;
2. a lower air to cloth ratio resulting in improved filter efficiency (more net filter area per unit of air flow);
3. a better cleaning efficiency reducing pressure drop across a clean filter.

The detraction is that the bags are longer, thus the assembly is taller reducing the ability to factory assemble in modules. CHHRV estimated there would be a 6% increase in field erection cost.

The City's consulting engineer, reviewed and endorsed CHRRV's selection.

The City concurred with the selection.

Section 6 – Findings

6.1 Significance Criteria

Based on the significance criteria set forth in HAR, Title 11, Chapter 200, Environmental Impact Statement Rules, the proposed project is not anticipated to result in significant environmental impacts. The recommended preliminary determination for the proposed project is a Finding of No Significant Impact (FONSI). The findings and reasons supporting this determination are summarized as follows:

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

The proposed project will not result in the adverse loss of natural or cultural resources. There are no threatened or endangered species of plants or wildlife that inhabit the project site. Specific Endangered Species within the laydown area are contained within established and fenced sanctuaries. Buffer zones will be provided. Given the historical use of the area, and the composition of the underlying soils, historic or archaeological sites are not known to be present at the site. However, in the unlikely event of a discovery of significant cultural, historic or archaeological resources, the SHPD will be immediately notified for appropriate action and treatment. As required, work will be temporarily halted as instructed by SHPD.

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

The subject property is zoned for intensive industrial use. The proposed use is consistent with the industrial designation of the site and will be contained entirely within the property. The proposed action does not curtail beneficial uses of the environment.

3. *Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 343, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders*

The proposed project is consistent with the environmental policies, goals and guidelines expressed in HRS, Chapter 343. Potential sources of adverse impacts have been identified and appropriate measures have been developed to either mitigate or minimize potential impacts to negligible levels.

4. *Substantially affects the economic and social welfare of the community or state*

The operation of the facility will be regulated in accordance with County, State and Federal regulations. The proposed project is expected to maintain the social and economic environment of O'ahu by aiding in the safe disposal of Municipal Solid Waste while beneficially recovering material and energy.

5. *Substantially affects public health*

Factors affecting public health, including water quality and noise levels, are expected to be only minimally affected, or unaffected, by the proposed project. The proposed project will result in an upgrade to air quality and human health.

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

The proposed activity is expected to have little to no substantial secondary or indirect impacts such as population changes or effects on public facilities based on the limited scope and scale of the project. The proposed project will however provide an essential service to a region that is experiencing rapid development. The proposed project complies with the Clean Air Act and Title V.

7. *Involves a substantial degradation of environmental quality*

Impacts to air and water quality, noise levels, natural resources, and land use associated with the planned project are anticipated to be minimal. Mitigation measures will be employed as practicable to minimize potentially negative effects to the environment. The proposed project does not involve substantial degradation of environmental quality, but in fact improves it.

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

The proposed improvements are not expected to cause adverse cumulative impacts to the environment, nor does the proposed project involve a commitment for larger actions in that all work required will be limited to use of the project site. The proposed project is in accordance with the land use plans and policies of the State and City and County of Honolulu and the Federal Clean Air Act.

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

There are no rare, threatened or endangered plant or animal species on the project property. The endangered plant species in the laydown area are properly protected.

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

On a short-term basis, ambient air and noise conditions may be affected by construction activities related to the proposed facility improvements, but these are short-term potential impacts and can be controlled by mitigation measures as described in this EA. Once the project is completed, noise in the project vicinity will be allowed to return to conditions consistent with the surrounding land uses. Erosion control measures and other BMPs will be employed to prevent untreated storm water runoff from construction activities entering State waters. Air quality will be improved.

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

The project area is located within an area within the tsunami evacuation zone. Mitigation measures, including evacuation procedures are in place to ensure personnel safety in the event of a tsunami. The proposed action is not expected to have a significant impact on flood conditions. The proposed project will not entail any reduction or increase in shoreline levels, therefore significant impacts on the extent of overland flooding is not anticipated.

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

The proposed project will not obstruct any significant scenic features and viewplanes due to its elevation and existing similar industrial activities in close proximity to the project site. The site improvements will not substantially affect any existing views from surrounding areas.

13. Requires substantial energy consumption

Construction and daily activities associated with the proposed site improvements will not require substantial amounts of energy. The energy consumed by the fabric filter will be less than that consumed by the current electro static precipitators. All energy consumed is produced internally and is recovered in the process of safely disposing Municipal Solid Waste.

6.2 Findings

In accordance with the provisions set forth in HRS, Chapter 343, and the significance criteria in HAR, Section 11-200-12 of Title 11, Chapter 200, it is anticipated that the proposed project will have no significant adverse impacts to water quality, air quality, existing utilities, noise levels, social welfare, archaeological sites, or wildlife habitat. All anticipated impacts are expected to be temporary in duration and will not adversely impact the environmental quality of the area. It is expected that an Environmental Impact Statement (EIS) will not be required, and that a Finding of No Significant Impact (FONSI) will be issued for this project.

Section 7 – Required Permits

7.1 City and County of Honolulu

Clearing and Grubbing	Laydown area
Grading	Laydown area
Trenching	Only for Kaomi Loop Opening

Note: building permits exempt, reference Honolulu Revised City Ordinance, Chapter 18, Article 3 [18.3.1(b) 21] as Project is a public works project undertaken by or on behalf of City.

7.2 State of Hawaii

NPDES NOI Form C	Storm Water, Construction phase Dewatering, Construction phase
NPDES NOI General	Storm Water, Plant, possible update
Title V, Air Quality Covered Source Permit CSP 0255-01-C	Minor Modification

7.3 Federal

10 CFR 62 subpart FFF	Site Specific Schedule Request, "Increments of Progress" approach approval

REFERENCE MATERIAL/CORRESPONDENCE

DEPARTMENT OF ENVIRONMENTAL SERVICES

CITY AND COUNTY OF HONOLULU

1000 ULUOHIA STREET, SUITE 308, KAPOLEI, HAWAII 96707
TELEPHONE: (808) 768-3486 • FAX: (808) 768-3487 • WEBSITE: http://www.co.honolulu.gov

MUFI HANNEMANN
MAYOR

ERIC S. TAKAMURA, Ph.D., P
DIRECTOR

KENNETH A. SHIMIZU
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.
DEPUTY DIRECTOR

April 3, 2208

IN REPLY REFER TO:
RH 08-019

MEMORANDUM

TO: MR. HENRY ENG, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: ERIC S. TAKAMURA, Ph.D., P.E., DIRECTOR
DEPARTMENT OF ENVIRONMENTAL SERVICES

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
SOLID WASTE TO ENERGY AIR POLLUTION CONTROL SYSTEM
IMPROVEMENTS PROJECT – CIP 2008060

Thank you for agreeing to meet with Reuse Division staff relative to our Solid Waste to Energy Air Pollution System Improvements Project at H-POWER. The project is necessitated by the Clean Air Act, CAA. Under the CAA, the federal Environmental Protection Agency, USEPA, is required to periodically review performance of air pollution control systems and may revise performance standards and guidelines including those for existing facilities such as H-POWER. Accordingly, EPA circulated revised emissions guidelines (Maximum Achievable Control Technology, MACT standards, 40 CFR 60, subpart Cb) for industry review. The MACT standards have now become law (71 Federal Register 27,324). By law, these standards become effective in April 2009. Realizing retro fits may be required, the USEPA allows until April 2011 to demonstrate compliance. To ensure H-POWER's ability to demonstrate compliance, the City is planning to upgrade our existing Air Pollution Control System, which is based on Electro Static Precipitators (ESP's), with more efficient fabric filters or bag houses.

In a parallel regulation (40 CFR 62, sub part FFF), the USEPA revised the federal plan for compliance including an "implements of progress" schedule which among other things requires owners of large Municipal Waste Combustors, MWC's, such as
H-POWER submit a Control Plan and establish milestones demonstrating the intent to comply. Our Control Plan, which encompasses replacing the ESPs with baghouses, was submitted on May 30, 2007. We have met the second milestone, awarding a contract consisting of an amendment to our operating agreement with Covanta Honolulu Resource Recovery Venture to replace the ESPs by installing baghouses. Our next milestone is to commence construction which we have committed to USEPA to occur prior to June 16, 2008.

To meet this milestone, we must have permits in place. Accordingly, we have reviewed Chapter 343 of the Hawaii Revised Statues and determined that because the project involves the use of County funds and that it will be built on County land an Environmental Assessment, EA, is required. We did investigate if we could consider a categorical exemption as the project is basically maintenance of an existing facility. However, as we intend to utilize three adjacent City owned parcels for construction staging, and that these parcels do have some environmental sensitivity including three established plant sanctuaries, an EA is deemed appropriate. However, as the net project effect is a benefit to the environment through reduction of Hazardous Air Pollutants, HAPs, and that the sensitive areas of the construction staging area can be avoided, we expect a Finding of No Significant Impact (FONSI).

A pre requisite to the EA is that at the earliest practicable time we seek the advice and input of the DPP as dictated in Chapter 11 section 200-9(a)(1) of the Hawaii Administrative Rules. Accordingly we have requested and you have agreed to meet. The enclosed agenda outlines the particular items and areas where your advice and input is desired. Again, thank you for your timely assistance.

Enclosure

cc: F. Doyle
W. Namumnart

NOTES OF DISCUSSION-DRAFT EA
AIR POLLUTION CONTROL
SYSTEMS IMPROVEMENT PROJECT

FRIDAY, APRIL 4, 2008
FASI MUNICIPAL BUILDING, 8TH FLOOR, 3:00 PM

ENV-REFUSE DIVISION:

Frank Doyle, Chief Engineer (pt)
Steve Langham, H-POWER

CHRRV:

Rodney Smith, Business Manager
Cheryl Soon, SSFM (pt)

DPP:

Don T. Fujii, Site Development Division, Civil Engineering Branch
Ray Young, DPP, Planner
Bob Bannister, Land Use Planning Division, Chief
Mike Watkins, Planning

Purpose: 1) Satisfy pre-submittal consultation provision of HAR 11-200-9(a)(1)
2) Establish list of DPP required permits

Goal: 1) Submit draft EA to OEQC by 4/11 for 4/23 publication
2) Obtain DPP cooperation to support 6/16 start of construction
3) Establish Building Permit Exemption

Discussion Items:

1. Project Overview

Refuse Division provided project background information including the Clean Air Act provision (Sections 129 and 111 d) which requires USEPA to periodically review actual air emissions control system performance and as based on demonstrated control technology performance, promulgate revised emissions guidelines including those applicable to existing air emissions sources such as H-POWER. Accordingly, USEPA has promulgated 40 CFR 60 sub part CB applicable to large Municipal Waste Combustors constructed prior to September 1994. These revised Emissions Guidelines (EGs), lower the permissible amounts of particulate matter, organic compounds including dioxins and furans, and heavy metals including mercury.

The EPA also established timelines for compliance, 40 CFR 62 subpart FFF.

The City, after prudent review, decided it would be necessary to improve the air pollution control at H-POWER, replacing the existing electrostatic precipitator based filtering technology with a new technology based on mechanical filters employing tightly woven fiberglass filter bags, bag houses and so notified USEPA. Compliance as established pursuant to 40 CFR 62 requires this selection which the City did in March 2007 (Control Plan), that a contract be awarded which the City did in February 2008, that the City commence construction in June of 2008, complete that construction by October 2010 and demonstrate compliance with six months of operating data by April 2011. The current key date is the start of construction in June, which will require that permits be in place. This date is necessary to support continued operation of H-POWER as the baghouses must be phased in, building one first in the reserved future third boiler space,

connecting it during a 23 day outage, demolishing the replaced ESP and then repeating the process for the second unit. It is critical as:

- H-POWER disposes of 60% of the City's MSW
- H-POWER generates $50,000,000 of City revenue

The Project is a $50,000,000 CIP. $40,000,000 has been appropriated in the FY-08 capital budget. A $10,000,000 additional appropriation has been requested for FY-09.

DPP's cooperation is paramount to the success of the Project, both in defining the required permits, supporting the EA and expediting permit review to facilitate the June start of construction.

ENV did consider a categorical exemption from an EA as the mechanical filter is basically a replacement without any change in thru put or energy generation. However, use of the adjacent three City-owned parcels, TMK 1-9-026-0233, 034 and 035, is a new use using City land and City funds. Therefore, we are submitting an EA.

2. Environmentally Sensitive Items

An eight acre portion of the three adjacent City-owned parcels (total 17 acres) are planned to be used for construction staging requiring clearing, grubbing, leveling with parking and construction office and shop space, storage and room for pre-assembly.

The northern most parcel, 035, projects into a Special Management Area (SMA) in a small area that extends west of the Kaomi Loop cul de sac. This area will not be developed.

There are three established plant sanctuary areas. They will be protected including maintenance of existing fencing and addition of a buffer zone.

There are sink holes in parcel 035. Iwi is reported to have been discovered in sink holes proximate to this parcel. Use of this parcel will be limited. If cultural resources are encountered, work will cease and SDHP will be notified.

There is an existing drainage easement which will have to be culverted for construction of an access road to H-POWER. Drainage will be maintained.

Because these impacts can be mitigated as described and because the net effect of the filter upgrade is a reduction in emissions with a reduced threat to human health, a FONSI is expected.

3. Expected DPP permits and expedited review to support 6/16/2008 mobilization.

A clearing and grubbing permit is expected as threshold area of disturbance will be exceeded.

A grading permit is expected as threshold quantity of earth work will be exceeded.

A trenching permit will only be necessary if Kaomi Loop must be opened and it is established that it is a City maintained road. To determine if City maintained, contact DDC, Land Division, 12th Floor.

A SMA permit will not be required as long as we avoid that area.

A Conditional Use Permit will not be required.

A Stream Channel Alteration permit should not be required. It is a State level permit issued by DLNR. We will need concurrence from the entity to whom the drainage easement was issued.

A height variance was discussed but the new baghouses should not exceed the height of the existing ESP or surrounding structures.

With respect to expedited permitting, DPP advised us to put in a complete and quality submittal.

4. Building Permit

We were referred to Tim Hiu, Chief Engineer, Building Division or Art Challacombe, Customer Service Office, for determination if we were exempted from building permit requirements per Honolulu City Ordinance 18.3.1 b2 and b21.

5. Coordination w/other Agencies - Covanta/SSFM

We briefed DPP on the following:

DOH Clean Air minor mod of CSP filed
DOH Clean Water NOI-C and General to be filed
Solid waste question on minor mod to solid waste permit - Covanta to investigate

AGENDA-Draft EA
Air Pollution Control
Systems Improvement Project

Friday, April 4, 2008
FASI Building, 8 th floor, 3 PM

Refuse Division:	**CHRRV:**
Frank Doyle, Chief Engineer	**Rodney Smith, Business Manager**
Wilma Namumnart, Assistant Chief	**Glen Kashiwabara, Environmental neer**
Steve Langham, H-POWER	**Cheryl Soon, SSFM**

Purpose: **1) Satisfy pre submittal consultation provision of HAR 11-200-9(a) (1)**
2) Establish list of DPP required permits

Goal: **1) Submit draft EA to OEQC by 4/11 for 4/23 publication**
2) Obtain DPP cooperation to support 6/16 start of Construction
3) Establish Building permit Exemption

Discussion items:

1.	**Project Overview**	**Steve Langham**
2.	**Environmentally Sensitive Items**	**Steve Langham**
3.	**Expected DPP permits and expedited review to support 6/16/2008 mobilization**	**SSFM and DPP**
4.	**Building Permit**	**DPP**
5.	**Coordination w/ other Agencies**	**Covanta/SSFM**

H-POWER

Air Pollution Control System Improvements Project

Goals

1. Satisfy Pre submission consultation
   HAR Title 11, Chapter 200 section 9 (a) (1)

2. Identify DPP required Permits

3. Support in meeting Scheduled, 6/16/2008 Start of Construction

4. Obtain Building Permit Exemption
   Chapter 18, Section 3.1(b) 2 and 21

Background

- Clean Air Act
  - Section 129 provides for periodic revisions
  - Review of industry performance
  - Upgrade to maximum achievable control technology, MACT
- EPA promulgated new Emissions Guidelines, 40 CFR 60 sub part CB
  - MACT Standards for large Municipal Waste Combustors constructed prior to April 1994
- New MACT
  - Reduces particulate, dioxins/furans, and mercury emissions

Schedule

- 40 CFR 62 subpart FFF Establishes Increments of Progress timeline:
  - Select Control Technology/submit plan March 2007, complete
  - Award Contract February 2008, complete
  - Commence Construction, June 2008
  - Complete Construction, October 2010
  - Achieve Full Compliance, May 2011

H-POWER Plan

- Replace ESP w/ Bag House
  - ESP relies on ionizing particles and collecting them through electro static attraction
  - Bag House relies on mechanical filtration, fiberglass fabric bags - more efficient
  - Bag House, higher resistance/pressure drop
    - New ID Fan
    - New Duct Work
    - Reinforce boiler

Draft EA

- County Funds — $50 mm CIP
- County Land
  - Parcel 030 — H-POWER
  - Parcel 033,034,035 — Laydown
- Categorical Exemption

  Bag house qualifies

  Laydown parcel has environmental sensitivities

Environmental Sensitivities

- Parcel 035 extends into SMA
- 3 existing plant sanctuaries w/ buffers
- Parcel 035 sink holes, iwi encountered in adjacent area
- Existing Drainage Easement, need to culvert for access road

Expected Finding

- FONSI
  - Reduces Emissions
  - Improves Human Health
  - Laydown area impacts, avoid or mitigate

DPP Permits

1. Clearing and Grubbing
2. Grading
3. Trenching
4. Stream Channel Alteration (?)
5. Conditional Use (?)

DOH Permits

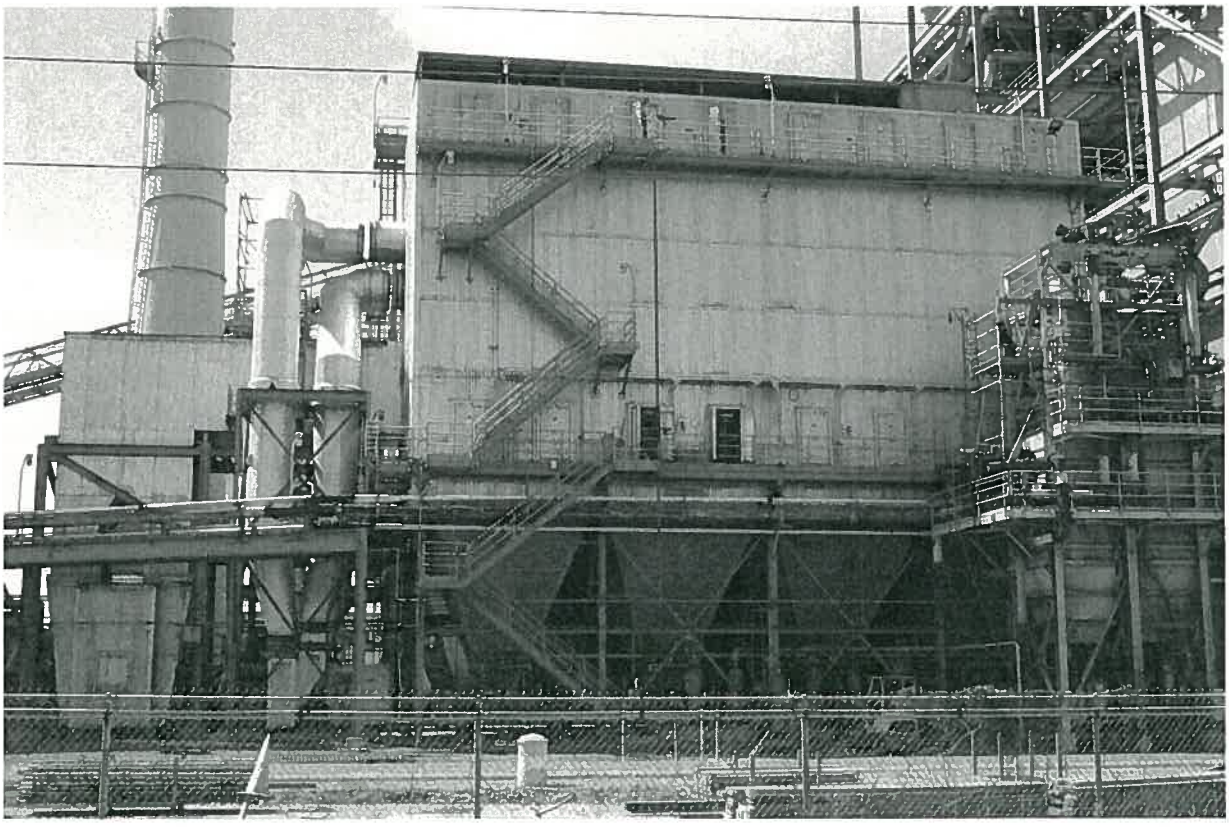
- Clean Air Branch — Minor mod CSP
- Clean Water Branch — NOI-C E&SC
- Clean Water Branch — NOI General
- Civil Branch — Foundation Plan
- Civil Branch — Drainage, E&SC
- Solid Waste

Building Permit

- Honolulu City Ordinance
- 18.3.1 b 2 and 21 states:
  - Temporary construction sheds exempt
  - Public works project by City exempt

ESP

Bag House



ID Fan

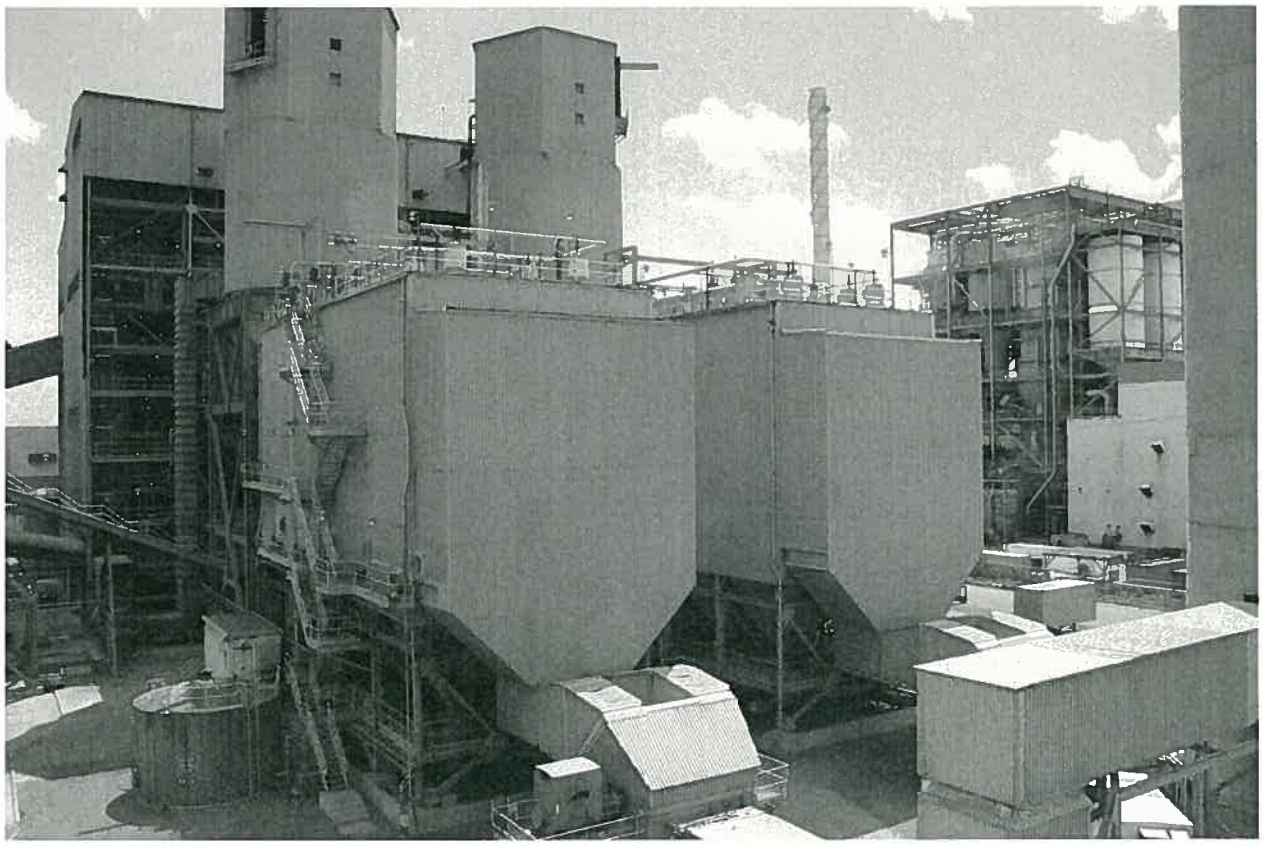
Duct Work

Parcel 035

Drainage Easement

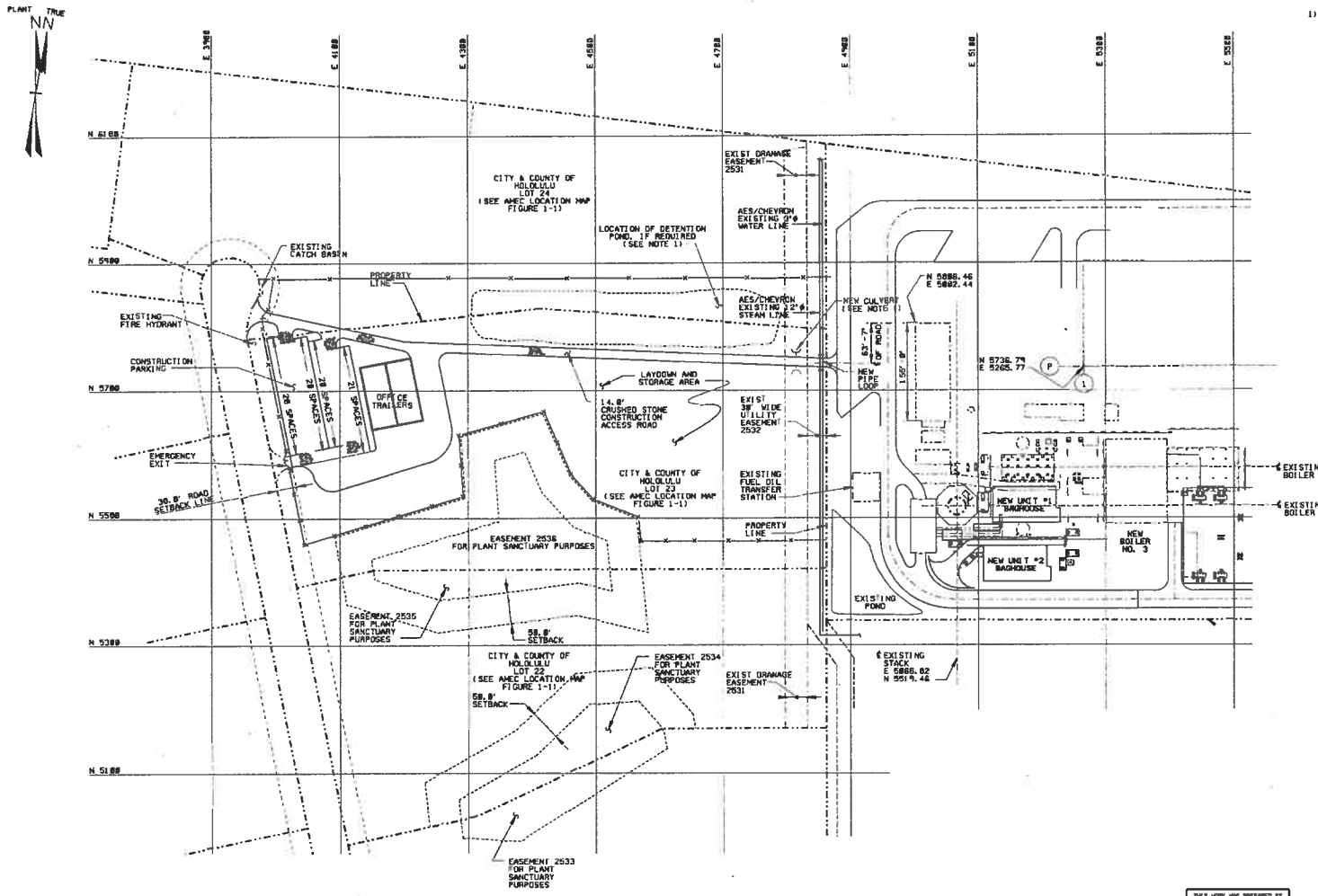
ESP

Electro Static Precipitators



NOTES

1) STORMWATER RUNOFF CONTROL MEASURES SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE PENDING DETAILED DESIGN AND REGULATORY REVIEW.



GRAPHIC SCALE

0 40' 80' 160' 240'
1" = 80.0'

Rev No	Revision	Date	Dwn	Chkd	Approved Chief Engr

Drawing Control				
Purpose	Approved By	Date	Released By	Date
For Information				
For Comment				
For Bid				
For Fabrication				
For Construction				

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

ORIGINATING ORGANIZATION DATE OF THE DOCUMENT

PE NAME

STATE PROFESSIONAL ENGINEER NO. NUMBER

Engineering Review		
Disc	Engr	Date
Mech		
Elec		
Civil		
Arch		
Instr		
Drawn	Designed	Checked
MC		
Lead Engineer	Date	
	Scale 1"=80'	

COVANTA
HONOLULU RESOURCE RECOVERY VENTURE
KAPOLEI, HAWAII

AIR POLLUTION CONTROL SYSTEM IMPROVEMENTS PROJECT
C-00064
FOR
REFUSE DIVISION
CITY AND COUNTY OF HONOLULU

CONSTRUCTION LAYDOWN AREA SITE PLAN

BURNS AND ROE ENTERPRISES, INC.
Engineers and Constructors - Drosdt, NJ

Approved for Construction	Work Order	Drawing No	Sh	Rev
Chief Engineer	2892	SKC001		A

DEPARTMENT OF ENVIRONMENTAL SERVICES

CITY AND COUNTY OF HONOLULU

REFUSE DIVISION
1000 ULUOHIA STREET, SUITE 212, KAPOLEI, HAWAII 96707
TELEPHONE: (808) 692-5358 • FAX: (808) 692-5402 • WEBSITE: http://www.co.honolulu.gov

MUFI HANNEMANN
MAYOR

ERIC S. TAKAMURA, Ph.D., P.E
DIRECTOR

FRANK J. DOYLE, P.E.
CHIEF

IN REPLY REFER TO:
RA 06-070

October 13, 2006

Mr. Robert A. Webster
Facility Manager
Covanta Honolulu Resource Recovery Venture
91-174 Hanua Street
Kapolei, Hawaii 96707

Dear Mr. Webster:

Subject: Upgrading to Comply with 2009 MACT Standards

Please provide the City with a statement of work and impacts as set forth in Section 3/6 Paragraph B of Appendix C of your contract for the replacement of the existing electrostatic precipitators with bag houses in order to meet the MACT standards scheduled to take effect in 2009. The proposed work should be scheduled during major maintenance shutdowns so as to limit the volume of landfilled waste due to facility unavailability.

The proposed bag houses and major components are to be procured by Covanta by issuance of a request for proposals complete with operating requirements to determine the least life cycle cost to the City. The City and Covanta will make selection of the vendor jointly. Labor and materials cost for removal of the electrostatic precipitators and installation of the bag houses will be procured though a bid and will be awarded to the lowest cost bidder.

We wish to meet during the week of October 23 at the facility to discuss this matter and expedite the statement of work and impacts. Please call my office at 692-5358 to arrange a time and date.

Sincerely,

FRANK J. DOYLE, P.E.

cc: Rodney W. Smith

DEPARTMENT OF ENVIRONMENTAL SERVICES

CITY AND COUNTY OF HONOLULU

REFUSE DIVISION
1000 ULUOHIA STREET, SUITE 212, KAPOLEI, HAWAII 96707
TELEPHONE: (808) 692-5358 • FAX: (808) 692-5402 • WEBSITE: http://www.co.honolulu.gov

MUFI HANNEMANN
MAYOR

ERIC S. TAKAMURA, Ph.D., P.E.
DIRECTOR

FRANK J. DOYLE, P.E.
CHIEF

IN REPLY REFER TO:
RA 07-018

March 2, 2007

Mr. Robert A. Webster
Facility Manager
Covanta Honolulu Resource Recovery Venture
91-174 Hanua Street
Kapolei, Hawaii 96707

Dear Mr. Webster:

This is to advise you to proceed with the design for replacement of the ESPs at H-POWER with bag houses in order to meet the new MACT standards.

Within the next two weeks, you are to provide a detailed scope of work, preliminary cost estimate and project schedule. Costs are to be billed monthly on a reimbursable basis not to exceed $1,000,000 and charged to Fund 885, Activity 2054-3009.

Sincerely,

FRANK J. DOYLE, P.E.

cc: Dr. Eric S. Takamura, P.E.
Director

Covanta Honolulu Resource Recovery Venture
A Covanta Energy Company
91-174 Hanua Street
Kapolei, HI 96707
Tel 808 682 2099
Fax 808 682 5203

COVANTA
ENERGY

April 20, 2007

Wayne Nastri
Regional Administrator (ORA-1)
U. S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, CA 94105

Subject: Honolulu Municipal Waste Combustor (MWC) Facility
Implementation of MWC Emission Guidelines as Revised May 10, 2006
Site-Specific Compliance Schedule Request – Pending Federal Plan Update

Dear Mr. Nastri:

The Honolulu Municipal Waste Combustor (MWC) facility, commonly known as HPOWER, located in Kapolei, Hawaii, is operated by Covanta Honolulu Resource Recovery Venture ("CHRRV" or "Covanta"). It is owned by the DFO Corporation (Bank of America) and beneficially owned by the City and County of Honolulu ("County"). The Honolulu MWC facility consists of two large MWC units with a total rated capacity of 2,160 tons per day of solid waste. Each MWC unit has its own dedicated air pollution control ("APC") device consisting of a dry scrubber and an electrostatic precipitator ("ESP"). By this letter, Covanta and the City and County hereby request a site-specific compliance schedule be included in the pending Federal Plan Update for Subpart FFF, codified at 40 CFR 62.14100 et seq.

On May 10, 2006, USEPA published a Final Rule (71 Fed. Reg. 27,324) amending the Emission Guidelines ("EG") for existing and new Large MWC units. CHRRV and the City and County are planning to replace the existing ESP units with fabric filters -- an extensive air emission control upgrade -- as part of a project to ensure full compliance with the amended EG. As you are aware, the Final Rule provides that an owner or operator of an MWC that plans a substantial air pollution control upgrade may apply to the Administrator for a site-specific compliance schedule when the MWC is regulated by a Federal Section 111(d)/129 plan (71 Fed. Reg. 27,327).

On November 12, 1998, USEPA adopted a Federal Plan to implement the EG for Large MWC units located in areas not covered by a USEPA-approved and effective State plan. That Federal Plan became effective on December 14, 1998. As of this writing, the State of Hawaii does not have an EPA-approved and effective State plan; nor is CHRRV or the City and County aware that the State intends to develop a State Plan. USEPA, however, is now required to revise the Large MWC Federal Plan (40 C.F.R. Part 62 Subpart FFF) to include an implementation schedule and revised emission limits and other requirements of the recently- revised MWC EG.

Covanta and the City and County propose to utilize the "increments of progress" specified in Subpart FFF (40 C.F.R. 62.14108) as the basis for a site-specific compliance schedule to replace the ESPs with fabric filters at the HPOWER facility. The increments of progress are as follows:

> ***(1) Submit a final control plan*** according to the requirements of §62.14109(g).
>
> ***(2) Award contract(s):*** Award contract(s) to initiate on-site construction, initiate on-site installation of emission control equipment, or incorporate process changes. The owner or operator must submit a signed copy of the contract(s) awarded according to the requirements of §62.14109(h).
>
> ***(3) Initiate on-site construction:*** Initiate on-site construction, initiate on-site installation of emission control equipment, or initiate process changes needed to meet the emission limits as outlined in the final control plan.
>
> ***(4) Complete on-site construction:*** Complete on-site construction and installation of emission control equipment or complete process changes.
>
> ***(5) Achieve final compliance:*** Incorporate all process changes or complete retrofit construction as designed in the final control plan and connect the air pollution control equipment or process changes with the affected facility identified in the final control plan such that if the affected facility is brought on line, all necessary process changes or air pollution control equipment are operating fully. Within 180 days after the date the affected facility is required to achieve final compliance, the initial performance test must be conducted.

USEPA previously has used the "increments of progress" approach to develop compliance schedules for Large MWCs that required more than one year to complete process changes or retrofit construction to meet EG requirements. (40 C.F.R. 62.14108 and 40 CFR 60.24(e)(1))

As allowed by the Federal Plan, Covanta and the City and County are requesting a site-specific compliance schedule for the HPOWER facility ESP replacement project, as this project will require more than one year to complete due to certain logistical challenges at both the regional and local levels. On a regional level, extra time must be allocated to manufacturing constraints and receiving supplies. Manufacturing constraints are anticipated due to the large volume of orders currently being placed with baghouse vendors, resulting in a backlog in delivery schedules. The attached schedule reflects commitments received from our suppliers which will be confirmed within the next few months. Additionally, because the site is located offshore of the continental United States, ocean going-shipping may create delivery delays.

On a local level, it is necessary to operate the HPOWER facility 24 hours a day/7 days per week to maximize the processing and combustion of MWC and avoid "bypassing" large volumes of MSW to local landfills that already are capacity-constrained. To do so, the ESP replacement project will be performed in stages. Covanta will construct one fabric filter (baghouse) assembly unit outboard of the existing ESP (#2) and connect one existing MWC scrubber (#2) to the new fabric filter assembly. Covanta anticipates bringing this new fabric filter into operation by October 2009. Covanta will subsequently remove the existing ESP located in line with the MWC Unit #2 scrubber and replace it with a new fabric filter assembly. Lastly, Covanta will connect the existing MWC Unit #1 MWC scrubber to the new Unit #2 fabric filter assembly. This staging of activities will allow all construction to be completed by October 2010 and operation to commence.

Covanta has developed a site-specific compliance schedule incorporating these regional and local constraints into the following proposed schedule:

Increment of Progress	**Date to be Achieved**
(1) Submit a final control plan	May 30, 2007
(2) Award contract(s)	February 15, 2008
(3) Initiate on-site construction	March 17, 2008
(4) Complete on-site construction:	October 29, 2010
(5) Achieve final compliance:	April 29, 2011

Covanta believes that the foregoing proposed schedule for replacement of the HPOWER facility ESPs reflects a consistent approach that can be incorporated into the pending revision of Subpart FFF. Covanta trusts this information is sufficient for USEPA to promulgate a site-specific schedule for the HPOWER facility. Should you have any questions about this schedule or the ESP replacement project, please feel free to call Leon Brasowski at 973-882-7285.

Sincerely,

Robert A. Webster

Robert A. Webster
Facility Manager
Honolulu Resource Recovery Venture

RAW/LB:iml
0704008raw

cc:
Leon Brasowski, Covanta
Frank Doyle, City and County of Honolulu
Nolan Hirai, HDOH
Debbie Jordan, USEPA Region IX
Steve Page, USEPA RTP

June 11,2007

To: Frank Doyle

From: H Druckman

Subject: **H Power MACT Modifications**
Covanta Project C-00037

Bid Tabulation Summary
Fabric Filters

We would like to summarize the results of the bid process that we have completed ,to date, for the subject project.
Covanta had solicited bids from Alstom ,SPE/Amerex , CEEC , Wheelabrator APC and Sanfeng for the Fabric Filters.
All of the bidders declined erection as part of their bid.
Alstom advised that they could not meet our schedule and so declined to bid. We received bids from SPE/ AMEREX ,Wheelabrator APC and Sanfeng on behalf of Sinosteel Cooperation Tiancheng. CEEC has responded late .(6/8/07). We have had conversations with the bidders and filled in most of the questionable data We have tabulated all of the data received to date on the attached forms.

SPE/AMEREX has provided a complete bid and has offered an Alternative bid. The Base Bid is for Two (2) Pulse Jet Fabric Filters. The Alternative Bid is for Two (2) Reverse Air Fabric Filters. After careful consideration we have eliminated the Reverse Air Fabric Filter because the erection costs ,necessitated by the limitations imposed by shipment, (large pieces need to be broken down into smaller components)would be prohibitive. The vendor estimated that these units would take at least 6,000 additional manhours to erect. The base bid units satisfy all the technical criteria and are appropriately sized to fit the site. We had eliminated the specification criteria for stainless steel hoppers and accepted the reduction in price for carbon steel hoppers.

WHEELABRATOR APC has provided an incomplete bid and we are awaiting the final details. They have provided a base bid and an alternative. The base bid is for Two (2) Pulse Jet Fabric Filters. The Alternative is for Two (2) Medium Pressure Pulse Jet Fabric Filters which is untried by Covanta. Wheelabrator APC's current price does not include shipping which when added would widen the price differential considerably. There are also some omissions and some technical issues which could increase the difference but we hope to be able to bring these to a conclusion when Wheelabrator responds next week.

SANFENG has provided a single offering for Two (2) Pulse Jet Fabric Filters. The unit as shown is considerably longer than the site can accommodate. Because of the attractive price we are working with them to refine some of the assumptions they have taken to see if they can design the unit to suit this installation. We do not anticipate that this can be

achieved earlier than next month. In order to achieve our scheduled goals we may need to expedite this offer or accept an offer that can satisfy the project needs without further negotiations.

CEEC has provided a single offering for Two (2) Pulse Jet Fabric Filters. The units appear appropriately sized to fit the site. We have indicated their base price but because of the lateness of their bid we have not had the opportunity to come to an evaluated price. We will continue the evaluation in the days to follow.

SPE	Wheelabrator	Sinosteel	CEEC
Base / Alternate:			
$11,413,450/ $11,332,459	$12,946,256 / $10,274,400	$7,656,100 +2mm sh. ppln	$11,987,800
Evaluated Price:			
$10,808,140	$13,168,006	$6,013,800 +2 mm sh. ppln	

We have provided this information to keep you informed of the progress we have made and some of the issues we are facing. We hope to be able to conclude most of the outstanding issues in the next two weeks and come up with a firm recommendation to purchase these unit.

If you think it is appropriate we can plan on meeting with you and your consultant during the week of June 25-29 2007.

Herbert Druckman
Project Manager
Covanta Energy Group.

COVANTA

Covanta Energy Corporation
40 Lane Road
Fairfield, NJ 07007
Tel 973 882 9000

July 13, 2007

Frank Doyle P.E.
City and County of Honolulu
Refuse Division
1000 Uluohia Street
Suite 212
Kapolei, Hawaii 96707

Subject: **HPower MACT Compliance**
CPN C00037
Fabric Filter Installation

Dear Frank:

Subsequent to our meeting of June 28, 2007 we focused on the offerings of two bidders and their responses to our request for quotations. These bidders, SPE/Amerex and Wheelabrator APC, have provided compliant bids for the Pulse Jet Fabric Filters.

In addition, we received an alternate bid for a Reverse Air Fabric Filter from SPE/Amerex. Because of the attractiveness of the proposal we solicited a bid from Wheelabrator APC who declined to bid because they did not feel they could compete with that product.

We have evaluated the bids and from a material basis the Reverse Air Fabric Filter has a slight cost advantage. From a technical basis the Reverse Air Fabric Filter will have potentially better environmental performance based on a lower air-to-cloth ratio and the more effective reverse air cleaning process. We should point out that we estimate that the erection cost for the Reverse Air Fabric Filter will be in the neighborhood of 6% higher than the Pulse Jet but we do not have definitive cost quotations for the erection.

Based on our corporate experience with these types of units we feel that the long term advantages of the Reverse Air Fabric Filter will justify the initial expense. We therefore recommend the Reverse Air Fabric Filter as offered by SPE/Amerex.

If you have any questions, please contact this office.

Very Truly Yours,

Herbert Druckman

Herbert Druckman
Project Manager

HD/ce

Attachments:
Commercial Bid Tabulation
Technical Bid Tabulation

cc: C. Davis (RW Beck)
T. Diffenderfer
S. Swanson
R. Webster

Covanta Honolulu Resource Recovery Venture
A Covanta Energy Company
91-174 Hanua Street
Kapolei, HI 96707
Tel 808 682 2099
Fax 808 682 5203

COVANTA
ENERGY

RETURN RECEIPT REQUESTED
7006 3450 0001 5234 3692

July 13, 2007

Mr. Wilfred Nagamine, Manager
Clean Air Branch
Environmental Management Division
Hawaii Department of Health
P. O. Box 3378
Honolulu, HI 96801-3378

Attn: Mr. Corey Shibata

RE: Honolulu Resource Recovery Venture
Covered Source Permit No. 0255-01-C

Subject: Minor Permit Modification for the Replacement of the Two Existing Electrostatic Precipitator with Baghouses

Dear Mr. Nagamine:

Covanta-HRRV is applying for a minor permit modification to replace both existing electrostatic precipitators with new baghouses. The minor modification is being made to comply with the recent changes to 40 CFR 60 Subpart Cb, Emissions Guidelines and Compliance Times for Large Municipal Waste Combustors that are Constructed on or Before September 30, 1994. The baghouses will ensure the facility is able to comply with the more stringent air emissions standards. In conjunction with replacing the electrostatic precipitators, the induced draft fans will be replaced to conform to the requirements of the new baghouses. The new induced draft fans will not increase the capacity of the facility to process more municipal solid waste. Nor will the new induced draft fan cause an increase in air pollutants or change the combustion process.

If you have any questions, please contact Mr. Glen Kashiwabara at 808-682-0273.

Very truly yours,

Robert A. Webster
Facility Manager

GKK:iml
0707011raw

Attachment

cc: S. Langham, City and County of Honolulu
G. Kashiwabara, HRRV
L. Brasowski, Covanta Energy
Chief Permits Office, Air Division, USEPA, Region IX

ATTACHMENT IIA: SPECIAL CONDITIONS
MUNICIPAL WASTE COMBUSTORS
COVERED SOURCE PERMIT NO. 0255-01-C

Issuance Date: February 28, 2006 **Expiration Date:** February 27, 2011

In addition to the standard conditions of the Covered Source Permit, the following special conditions shall apply to the permitted facility:

Section A. Equipment Description

1. This portion of the covered source permit (CSP) encompasses the following equipment and associated appurtenances (Unit Nos. for Department of Health use):

Unit No.	Description
1,2	Two (2) Combustion Engineering (C-E) model VU-40 Municipal Waste Combustor (MWC) boilers, each designed to combust refuse-derived fuel (RDF), specification (spec) used oil, fuel oil no. 2, or other municipal solid waste (MSW) in bulk quantities as allowed in Attachment IIA, Special Condition C.2.i.
3,4	Two (2) C-E ESD spray dryer absorbers (SDA), with 14,000 rpm spray nozzles.
5,6	Two (2) electrostatic precipitators (ESP), model no. 1P1C33D5F/12x35.5x64 (5 at 12.8) with 5-fields each.

(Auth.: HAR §11-60.1-3)

2. An identification tag or name plate shall be displayed on the equipment listed above which identifies the model no., serial no., and manufacturer. The identification tag or name plate shall be permanently attached to the equipment at a conspicuous location.

(Auth.: HAR §11-60.1-5)

Section B. Applicable Federal Regulations

1. The MWCs are subject to the provisions of the following federal regulations:

   a. 40 CFR Part 60 Standards of Performance for New Stationary Sources, Subpart A - General Provisions;

   b. 40 CFR Part 60 Standards of Performance for New Stationary Sources, Subpart Cb - Emission Guidelines and Compliance Times for Municipal Waste Combustors Constructed on or Before September 20, 1994;

   c. 40 CFR Part 60 Standards of Performance for New Stationary Sources, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (applies to steam generating units constructed after June 19, 1984; affected facilities also subject to Subpart E (Incinerators) must meet the nitrogen oxides and particulate matter standards of this subpart);

d. 40 CFR Part 60 Standards of Performance for New Stationary Sources, Subpart E - Standards of Performance for Incinerators (applies to incinerators burning 50 percent or more municipal solid waste constructed after August 17, 1971);

e. 40 CFR Part 60 Standards of Performance for New Stationary Sources, Subpart Eb - Standards of Performance for Large Municipal Waste Combustors for which Construction is Commenced after September 20, 1994 or for which Modifications or Reconstruction is Commenced after June 19, 1996 (as referenced by Subpart Cb); and

f. 40 CFR Part 62 Subpart FFF - Federal Plan Requirements for Large Municipal Waste Combustors Constructed on or before September 20, 1994.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR 60)[1]

2. The permittee shall comply with all applicable provisions of these standards, including all emission limits, notification, testing, monitoring, and reporting requirements. The major requirements of these standards are detailed in the special conditions of this permit.

(Auth.: HAR §11-60.1-3, §11-60.1-90, §11-60.1-161; 40 CFR 60)[1]

Section C. Operational Limitations

1. General

a. Facilities Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this CSP shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions.

(Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-90)

b. Malfunction

The Department of Health (DOH) shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit as stated in Section D., Emission Limitations. In addition, the DOH shall be notified in writing within five (5) days of any such failure.

11. **Within sixty (60) days after** *a performance test*, the permittee shall submit to the DOH the test report which shall include the operating conditions of the MWCs at the time of the test, the summarized test results, and other pertinent field and laboratory data.

    (Auth.: HAR §11-60.1-3, §11-60.1-5, §11-60.1-11, §11-60.1-90, §11-60.1-161; 40 CFR §60.59b(d)(9); SIP§11-60-15)[1,2]

12. Any deviations from these conditions, test methods, or procedures may be cause for the rejection of the test results unless such deviations are approved by the DOH before the tests.

    (Auth.: HAR §11-60.1-11, §11-60.1-90; SIP §11-60-15)[2]

Section I. Agency Notification

Any document (including reports) required to be submitted by this permit shall be done in accordance with Attachment I, Standard Condition No. 29.

(Auth.: HAR §11-60.1-4, §11-60.1-90)

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[1] The citations to the Code of Federal Regulations (CFR) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the CFR. Due to the integration of the preconstruction and operating permit requirements, permit conditions may incorporate more stringent requirements than those set forth in the CFR.

[2] The citations to the State Implementation Plan (SIP) identified under a particular condition, indicate that the permit condition complies with the specified provision(s) of the SIP.

July 25, 2007

Via e-mail

Frank Doyle P.E.
City and County of Honolulu
Refuse Division
1000 Uluohia Street, Suite 212
Kapolei, Hawaii 96707

Subject: **H-Power MACT Retrofit-Bid Review**

Dear Mr. Doyle:

On the County's behalf, R. W. Beck has completed its review of Covanta's summary of the MACT Retrofit Bids for the H-Power Facility. Based on this review, our meetings on-site with Covanta and our subsequent review of the fabrication facility proposed by SP Environmental/Amerex, we are not aware of any reason for the County to reject the recommendation provided by Covanta in their letter to you dated July 13, 2007. Covanta's recommendation is to proceed with an award to SP Environmental/Amerex for engineering, fabrication and supply of two reverse-air type, fabric filter baghouses to replace the existing electrostatic precipitators at the H-power MWC Facility. It should be noted that, the supply portion of the SP Environmental/Amerex bid is FOB Honolulu and does not include transportation costs from Honolulu to the Site, nor are any erection costs, insulation or lagging included with the Bid from SP Environmental/Amerex, which was also the case with the other Bids.

There were four bids submitted, of which only two were seriously considered by Covanta: SP Environmental/Amerex and Wheelabrator APC, Inc. Both Bids were commercially and technically responsive, with a slight edge to SP Environmental regarding price, technical details provided and operational advantages (for example, lower power consumption). Further, we agree with Covanta's assessment that the reverse air fabric filter system, bid as an option by SP Environmental/Amerex, can reasonably be expected to have better overall performance than a pulse jet fabric filter system. One disadvantage of the SP Environmental Amerex Bid compared to the Wheelabrator APC, Inc. Bid was the requirement for a longer supply time for SP Environmental (44 weeks vs. 35 weeks); we would suggest that Covanta attempt to negotiate a better schedule prior to Award, particularly for what appears to be long engineering durations.

1801 California Street, Suite 2800 Denver, CO 80202-2606 Phone (303) 299-5200 Fax (303) 297-2811

Based on our review, we agree with Convanta's recommendation to award the APC equipment Contract to SP Environmental/Amerex. If you have any comments or questions regarding our assessment, please feel free to contact me at (303) 299-5293.

Sincerely,

R. W. BECK, INC.

Craig F. Davis, P.E.
Executive Engineer

cc: Steve Langham – H-Power
Bob Craggs – R. W. Beck

COVANTA

Covanta Energy Corporation
40 Lane Road
Fairfield, NJ 07007
Tel 973 882 9000

July 30, 2007

Frank Doyle P.E.
City and County of Honolulu
Refuse Division
1000 Uluohia Street
Suite 212
Kapolei, Hawaii 96707

Subject: **HPower Bag House Bid**

Dear Frank:

We have reviewed the subsequent bids received from Wheelabrator APC and offer the following:

1. Wheelabrator APC has provided a revised bid for the Medium Pulse Pressure Jet Fabric Filters (FF) as well as a bid for a Reverse Air FF.
2. They were able to reduce their bids by providing panel construction (knocked down) units for increased erection costs. This, in effect, moves the cost to Field erection which by all indications would be extensive. (see 4b)
3. We had not recommended the Medium Pulse Pressure FF for this application.
4. The proposal for the Reverse Air FF is unacceptable because:
   a) The size of the unit would not fit into the available space.
   b) The number of pieces proposed is significantly greater than their competitor and would cost much more to erect
   c) Their evaluated price is $367,733 (plus a fuel surcharge) higher than the next lowest price proposal.

Based on the above we will reaffirm our recommendation of July 13, 2007 for the Reverse Air Fabric Filters as proposed by SPE/Amerex.

We would encourage you to provide your concurrence or offer an alternate so that we can conform the specification, conclude the negotiations and place the order. This will enable us to firm up the schedule and include the details in our GC Contractors bid specification.

Very Truly Yours,

Herbert Druckman
Project Manager

HD/ce

cc: C. Davis (RW Beck)
T. Diffenderfer
M. Norris
R. Smith
S. Swanson
R. Webster

Langham, Stephen F

From: Druckman,Herb [HDruckman@CovantaEnergy.com]
Sent: Monday, March 10, 2008 7:56 AM
To: Langham, Stephen F
Cc: Doyle, Frank; Webster,Robert; Kashiwabara,Glen; Thein,Gary
Subject: RE: APCSIP C-00064

Yes you did.
This was not something I focused on for the main site because I thought we had addressed it all at HDOH.
Up until last week I was not sure whether we were going to have the laydown access we wanted based on your earlier letter to AES.
Now that everything appears to be working out, which one never counts on, we have to address it promptly.
I believe the Plant worked on the revised NPEDS a few years ago and Glen may have a handle on that and the consultants we used.
The offsite area may have to be addressed independently, treating it as a temporary site, and we will expedite that using the issues you point out. We will create a site plan showing the minimal use of the site and the temporary structures. We will only fence the 5 acres we promised the contractor.
We still have to research the other requirements and simultaneously work on the building permit for the main site.
Herb

Herbert Druckman
Project Management

Covanta Energy Corporation

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for a cleaner world

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www.CovantaHolding.com

From: Langham, Stephen F [mailto:slangham@honolulu.gov]
Sent: Monday, March 10, 2008 1:20 PM
To: Druckman,Herb
Cc: Doyle, Frank
Subject: RE: APCSIP C-00064

Herb;

I looked into the building permit issue previously and wrote you concerning the Laydown on January 31, 2008.

My research indicated we might be able to get some execptions. Look specifically at Chapter 18 of the revised City Ordinances, Chapter 18, Article 3, section 3.1 b.

18.3.1(b) (2) lists temporary construction sheds and fences which I believe applies to the Laydown.

18.3.1 (b) (21) applies to structures on Public Works projects undertaken on behalf of the City, other than buildings. I don't think the bag house is a building.

I'll talk to Frank today and get his read on what was done previously.

Steve

Article 3. Permits

Sections:

Sec. 18-3.1 Required.

(a) No person shall perform any of the following or cause any of the following to be performed without first obtaining a building permit therefor as prescribed in this section:

(1) Erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish any building or structure;

(2) Any electrical work;

(3) Install, remove, alter, repair or replace any plumbing, fire sprinkler, gas or drainage piping work or any fixture, gas appliance, or water heating or treating equipment; or

(4) Construct, reconstruct or improve any sidewalk, curb or driveway in any public street right-of-way.

(b) Exceptions. A permit shall not be required for the types of work listed below. Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in violation of the provisions of the technical codes or any other laws or ordinances of this jurisdiction.

(1) Work excepted from building code provisions under Chapter 16. Work on sidewalks, curbs or driveways regulated under the provisions of Chapter 14, Article 18, however, is not exempt from permit requirements.

(2) Temporary construction sheds and temporary construction fences.

(3) Reroofing work which will not adversely affect the structural components for Groups R-3 and U occupancies.

(4) Installation of siding to existing exterior walls which will not adversely affect the structural components of the walls of Groups R-3 and U occupancies.

(5) Temporary tents or other coverings, for periods not to exceed 14 consecutive days, used for private family parties or for camping.

(6) Retaining walls, fences and planter boxes which are not more than 30 inches in height, walkways, riprap walls, and outside paving within private property.

(7) Individual residential television and radio antennas, excluding dish-type antennas.

(8) Window awnings supported by the exterior walls of Groups R-3 or U occupancies, when projecting not more than four feet six inches.

(9) Installation of wallpaper or wall covering which is exempted under the provisions of Chapter 16.

(10) Repairs which involve only the replacement of component parts of existing work with similar materials for the purpose of maintenance, and which do not aggregate over $1,000.00 in valuation in any 12-month period, and do not affect any electrical, plumbing, or mechanical installations.

(11) Painting, installation of floor covering and cabinet work without limit as to valuation; provided, however, that the values thereof shall be included as part of the value of any new construction for which a permit is required by this code, for the purpose of determining the amount of the fee to be paid for such permit.

(12) Work located on federal property.

(13) Work performed for any state government agency, except where permits are specifically requested by the agency.

(14) Playground equipment, monuments, statues, ornamental ponds less than 18 inches in depth, and golf course pedestrian and golf cart bridges.

(15) Temporary motion picture, television, and theater stage sets and scenery.

(16) One-story detached buildings:

(A) Accessory to Group R-3 occupancies and used as tool and storage sheds, playhouses and similar uses; or

(B) Accessory to crop production in AG-1 Restricted Agricultural or AG-2 General Agricultural zoning districts and used as storage sheds or for water catchment and not used as dwelling or lodging units;

provided the aggregate floor area does not exceed 120 square feet.

(17) Movable cases, counters, and partitions not over five feet nine inches high.

(18) The following electrical work:

(A) Electrical work and installation to which the provisions of the electrical code are expressly declared to be not applicable;

(B) Installation of any portable motor or other portable appliance energized by means of a cord or cable having an attachment plug, if such cord or cable is permitted by the electrical code;

(C) Repair of any fixed motor or other appliance, or replacement of any fixed motor with another having the same horsepower rating and situated at the same location;

(D) Maintenance work for commercial and industrial processing equipment by a duly licensed electrician;

(E) Electronic equipment, sound public address systems, cable television and communication systems for a single-family or two-family dwelling;

(F) Radio and television receiving antenna systems other than master or community systems;

(G) Sound recording systems for a single-family or two-family dwelling;

(H) Interior telephone work subject to regulation by the public utilities commission of the State of Hawaii and wiring of interconnecting cable of data processing equipment; and

(I) Repair work performed by a licensed electrical contractor which does not aggregate over $500.00 in valuation in any 12-month period and does not involve service entrance equipment.

(19) The following work by a public utility supplying gas:

(A) Disconnecting defective gas piping or equipment when authorized under Chapter 19; and

(B) Disconnecting or reconnecting existing gas piping or equipment for repair, servicing, replacement or removal.

(20) The following plumbing work:

(A) Repair work in plumbing systems when the work does not involve or require the replacement or rearrangement of valves, pipes or fixtures; and

(B) Repair work performed by a licensed plumbing contractor which does not aggregate over $1,000.00 in valuation in any 12-month period and which involves or requires only the replacement of valves, pipes or fixtures.

(21) All structures, other than buildings, which are constructed in conjunction with board of water supply and public works projects undertaken by or on behalf of the city.

From: Druckman,Herb [mailto:HDruckman@CovantaEnergy.com]
Sent: Monday, March 10, 2008 7:03 AM
To: Diffenderfer,Thomas; Pesce, Chris; Cividini, Bruno
Cc: Brasowski,Leon; Kashiwabara,Glen; Thein,Gary; Holley,Patrick; Norris,Mike; Swanson,Steven; Langham, Stephen F
Subject: RE: APCSIP C-00064

Tom
We have applied for and successfully submitted a building application (#2007/IBP1147) on May 18/2007
Herb

Herbert Druckman
Project Management

Langham, Stephen F

From: Druckman,Herb [HDruckman@CovantaEnergy.com]
Sent: Thursday, March 13, 2008 4:29 AM
To: Langham, Stephen F
Cc: Webster,Robert; Smith,Rodney
Subject: FW: APCSIP C-00064

FROM THE ATTACHED YOU CAN SEE THAT WE ARE INVOLVED IN A MYRIAD OF PERMIT ALTERNATIVES. WE ARE CURRENTLY ADDRESSING THE ISSUES. My guess is we will have a delay. How much will depend on the solution we pick.
I know you have the big picture in mind for these properties and whatever we do now will be a cure for later issues. In order to keep this project moving we have to Permit the main site and a laydown space.
One solution we might have to consider is the temporary rental of the property in front of the AES coal pile. We should investigate the lease options so that we can use that site while we go thru the regulatory hoops and the AES issues on the back site.
Your opinion
Herb

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From: Pesce, Chris [mailto:CPesce@roe.com]
Sent: Thursday, March 13, 2008 9:10 AM
To: Druckman,Herb
Cc: Diffenderfer,Thomas; Cividini, Bruno
Subject: FW: APCSIP C-00064

Herb,

I am forwarding you SSFM's take on the permitting requirements for the main site and laydown areas. It looks like alot to digest. I am reviewing it and please have the experts on your end do the same.

Regards,
Chris

From: Kevin Nakamoto [mailto:knakamoto@ssfm.com]
Sent: Thursday, March 13, 2008 5:17 AM
To: Pesce, Chris
Cc: Trevin Chang; Cheryl Soon
Subject: RE: APCSIP C-00064

Chris,

In response to your previous email, the following is a list of the anticipated permits and approvals that will be required based on the current scope of work as we understand it. This does not include the permits that are typically obtained by the contractor for temporary fencing, trailers, utilities, etc on the staging area.

1. List of permits:
    1. Two (2) NPDES permits (construction and dewatering), can only be submitted once design drawings are complete (review time is about 3-6 months from submittal)
    2. Civil Engineering Branch Review and Approval of design drawings and reports (reports include drainage and erosion, review time 3-6 months from submission)
    3. State Department of Transportation (only if work is in State Right of Way) Approval of drawings (review time 6-12 months from submission)
    4. Sewer Connection Application (only if new sewer connection, 1 month)
    5. Drainage Connection Application (only if connection to existing drainage structures/systems) for City or State, which needs to be submitted with design drawings (3-6 months for City, 6-12 months for State)
2. List of permits for laydown area:
    1. List above applies to laydown area as well, may be easier to include both into one set of plans
    2. Phasing of project will not prevent NPDES requirement for either phase (see answer to item 4)
    3. For drainage easement, depends on who owner is and if Corp of Engineers will get involved (may need Jurisdictional Determination, Planning Group) which may trigger a Stream Channel Alteration Permit (SCAP). *Note that Cheryl is awaiting confirmation from DPP and we will let you know shortly.*
3. See above for time frames.
4. As for the NPDES requirement, even though the project site is less than an acre, you need to count the staging area and work areas as well. This project exceeds the 1 acre limit with the inclusion of the staging area, and thus an NPDES is required. Heavy fines can be issued to the Contractor/Client if the project proceeds without one. State Department of Health has been more active in issuing fines, and this should be conveyed to the Client. Please see attached Hawaii Administrative Rules, Chapter 11-55 for General NPDES Permit Form C. For dewatering, Appendix G (Form G) is needed for water that is dewatered due to high water table, or trenches filled with runoff/rainwater that requires discharge. There are very stringent rules in disposing of this water (water quality testing). You may find this information at the following website:
    1. http://hawaii.gov/health/environmental/water/cleanwater/wqsmaps/about/forms/forms/prc/reports/about/forms/forms/cleanwater/forms/water/cleanwater/index.html
    2. http://hawaii.gov/health/environmental/water/cleanwater/wqsmaps/about/forms/forms/prc/reports/about/forms/forms/cleanwater/forms/appendices/11-55appall.pdf

Should you have any questions or comments, please let me know.

Regards,
Kevin

From: Pesce, Chris [mailto:CPesce@roe.com]
Sent: Wednesday, March 12, 2008 2:30 AM
To: Kevin Nakamoto
Subject: RE: APCSIP C-00064

Thanks Kevin.

From: Kevin Nakamoto [mailto:knakamoto@ssfm.com]
Sent: Wednesday, March 12, 2008 5:59 AM
To: Pesce, Chris
Cc: Cividini, Bruno
Subject: RE: APCSIP C-00064

Hi Chris,
We are compiling the list of permits required. I needed to get our environmental planner up to speed on the project and our civil guys are verifying the NPDES requirements. We'll have the info you requested later today (wednesday).
Regards,
Kevin

From: Pesce, Chris [mailto:CPesce@roe.com]
Sent: Monday, March 10, 2008 5:35 AM
To: Kevin Nakamoto
Cc: Cividini, Bruno
Subject: FW: APCSIP C-00064

Kevin,

It was good to meet with you and your team last week. After our meeting I spoke with Covanta and they obviously are concerned about the amount of time it may take to get the proper permits, especially considering the contractor is scheduled to begin work in early June. See the attached email below from Covanta concerning this.

As we discussed in our meeting, there are a few items I need from you as soon as possible so we can proceed:

1) A list of the anticipated permits required for the main site, and the documents required to go along with the permit applications.

2) A list of the anticipated permits required for the laydown site, and the documents required to go along with the permit applications, considering the disturbance of the drainage easement. I am attaching a sample construction laydown plan (from an old proposal) which will give you an idea of what we will need to build on the laydown area so you can determine the extent of permits required. We can

3) An estimate of the time required for each permit to be approved after submission

4) See item#1 below. Covanta is not sure why NPDES permit is required for the main site when we are basically replacing the existing conditions with minor modification to the layout of the foundations. The drainage is essentially unchanged, using the existing pond. Please give a short explanation of why the permit is required so I can forward to Covanta. And, if NPDES is required, could we submit separate permits for the main and laydown sites to expedite the main site permit (which I think is much less complex)?

5) A cost estimate for the new work items (laydown area erosion control, NPDES (if req'd), other permitting support, add'l structural review, civil review).

These permitting issues will have a major impact on the project, considering that the EPA has set a deadline to get these new pollution controls installed and fines will be incurred by H-Power for being late, so please get me a response on items 1 - 4 as soon as possible, preferably within the next 24 hours.

Thanks again and feel free to call me to discuss.

Chris

(201) 986-4218

From: Druckman,Herb [mailto:HDruckman@CovantaEnergy.com]
Sent: Monday, March 10, 2008 10:31 AM
To: Pesce, Chris; Cividini, Bruno; Diffenderfer,Thomas
Cc: Brasowski,Leon; Kashiwabara,Glen; Thein,Gary; Holley,Patrick; Norris,Mike; Swanson,Steven; Langham, Stephen F
Subject: RE: APCSIP C-00064

Gentlemen.
Chris and I had some discussions at the airport and we need some action on this immediately.

1) I would like to have a better understanding as to why we would need this NPDES permit for the existing site since we are not disrupting any unpaved areas or site drainage. What ever we have to do for the site should not include the laydown area. I do not think they should be coupled because the laydown area may have more issues since it is unused and uninhabited.
2) If the laydown area permit can take a much as six months then we need to look at alternatives until we can obtain it. The lot in front of the coal pile may be an option for the short term. We will have to minimize interference with the operations and absorb the additional cost.
3) We need to know specifically what is required for this NPDES permit and act on it.
4) We need to know specifically what we need for the building permit and we need to act on it. We have preliminary drawings available and we should have the preliminary loads by the end of the month.
5) We need to develop a schedule for all of this promptly because if we delay beyond June 16 we will have to notify EPA.
6) Any delay beyond that point will probably also cost the project additional cost in purchasing and contracting.

Please get back to me with your thoughts ASAP
Herb

Herbert Druckman
Project Management

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From: Pesce, Chris [mailto:CPesce@roe.com]
Sent: Friday, March 07, 2008 10:46 PM
To: Druckman,Herb; Cividini, Bruno; Diffenderfer,Thomas
Subject: RE: APCSIP C-00064

Herb,

I am in the airport right now but wanted to give you some feedback on this. I spoke with SSFM and met their permitting, planning and civil experts on Thursday. They said that the permitting process is slower in Hawaii than what we are used to, and that the main Civil permit (called the NPDES) often takes 3 to 6 months for approval, and to submit it requires that all of the site, grading and erosion control drawings (and calculations) are complete and included with the permit. Their structural group stated the building permit for the foundation often takes a similar amount of time. They are investigating what problems crossing that drainage easement will potentially cause (and what permits will be required to do so). Instead of blocking it and building an earth ramp over it with culverts underneath, we may be better off widening it and building a gradual ramp down into it and out if we run into problems by blocking it. Even a "temporary" blockage may invoke some permits. SSFM is investigating this right now, and I stressed that we will need to expedite this as much as possible. They are working on a list of bullet items containing the permits which will be required, and what will need to be submitted with each.

The loop location is not set in stone by any means, but Tom had suggested to keep it relatively close to the fixed support to minimize the movement at our crossing. The spot we chose actually puts it clear of that high vegetation area as we had discussed, but as I said we can adjust it if required.

When I get back next week I will follow up with SSFM to make sure they understand the gravity of this permitting issue.

Regards,
Chris

From: Druckman,Herb [mailto:HDruckman@CovantaEnergy.com]
Sent: Fri 3/7/2008 2:43 PM
To: Pesce, Chris; Cividini, Bruno; Diffenderfer,Thomas
Subject: APCSIP C-00064

Chris
I don't know if you are still in town but I want to emphasize that we need to have the laydon space defined and a permit application executed.
I transmitted the pipe loop location to B&R last night so since you and Tom changed the location from our original discussion you need to confirm the property being used. I
As I mentioned before I would rather not disturb the high foliage. I would like to better understand what a storm water easement means when there is no pipe there and the natural terrain is actually a high point. Is it a future use that we can interrupt for temporary use of that property? These are questions you consultant should be addressing?
So we have a man hour rate from the consultant. On pressing issues I do not want to have to wait for estimates and formal letters to get this moving. (Hat's not an open checkbook just expressing a need for action. I know you understand that we need this land permitted by June and the Baghouse foundation right after that.

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Langham, Stephen F

From: Pobuk, Jack
Sent: Friday, March 14, 2008 3:51 PM
To: Langham, Stephen F
Cc: Namumnart, Wilma; Doyle, Frank; Serikaku, Steven
Subject: RE:

Steve,
Please look at the attached, which is the current EA Exemption List for ENV Dept.
This list should also be on the OEQC website.
I don't work with this often, so can't recall the details of the procedures to follow for declaring EA Exemption.
I think you need to have a letter of some sort declaring the exemption, and reference an item on the attached list, or a list from another City Dept if that is applicable.
Suggest you check with OEQC (a State agency) for correct procedures.
Jack

EA extempt list ENV Dec 2007.p...

From: Langham, Stephen F
Sent: Friday, March 14, 2008 2:36 PM
To: Pobuk, Jack
Cc: Namumnart, Wilma; Doyle, Frank; Serikaku, Steven
Subject:

Jack;

Could you please review the attached. Wilma and I spoke with Ray Young about permitting in general for the bag house project. We determined the best route would be to start with a request for an Exemption form both an EAS and from local building permits. I drafted the enclosed for your consideration.

Thanks,

Steve

Mahalo Nui Loa,

Stephen Langham, PE
Energy Recovery Administrator
H-POWER
91-174 Hanua St.
Kapolei, HI 96707

808-682-1359
808-682-0715 fax
808-722-5189 cell

slangham@honolulu.gov

<< File: SUMMARY.doc >>

Langham, Stephen F

From: Langham, Stephen F
Sent: Monday, March 17, 2008 2:54 PM
To: Kurio, Jon
Cc: Namumnart, Wilma; Doyle, Frank; 'Druckman,Herb'
Subject: H-POWER Air Pollution Control System Improvement Project

Jon;

I am the City's administrator at H-POWER. We have a $38,000,000 modification project underway. The City's contractor, Covanta Energy, is responsible for the design and construction. The project is basically to replace the existing electrostatic filters with bag type mechanical filters. The project is necessitated by a change in law under the Clean Air Act for reduced emissions at large municipal waste combustors such as H-POWER.

I am attaching some summary information that may help you understand the project. I am also forwarding a lay out drawing under separate cover.

As I understand the City Ordinance, specifically Chapter 18, Article 3 section 3.1 (b) 21, we may be exempt from a building permit as the project is a Public Works project being undertaken on behalf of the City. It is not an occupied building but rather a large piece of mechanical equipment.

The equipment sits on isolated pier type footings.

There is electrical power distribution to the equipment.

The equipment connects between the boiler and the smokestack with duct work.

There is ash conveyors which remove the captured particulate matter.

There is a control system which interfaces with the plant computer.

I am in the process of engaging a full time CM/Inspectional Services firm to assist me manage the project.

Covanta intends to hire Parsons as their GC. They will mobilize mid June. The project is critical as we are under Federal Mandate to comply.

There is an associated laydown area where Parsons will set up shop. I believe again this is exempt from a building permit under 18.3.1 (b) (2).

I was referred to you for confirmation that in fact we are exempt.

Feel free to contact me if you have any questions

Mahalo Nui Loa,

Stephen Langham, PE
Energy Recovery Administrator
H-POWER
91-174 Hanua St.
Kapolei, HI 96707

808-682-1359
808-682-0715 fax
808-722-5189 cell

slangham@honolulu.gov

ATTENDANCE SHEET

Clean Water Branch
Environmental Management Division
919 Ala Moana Boulevard, Room 301
Honolulu, Hawaii 96814-4920

Phone: (808) 586-4309
Fax: (808) 586-4352

Date: 3-18-08 **Time:** 2:00 pm

Purpose: HPOWER

Name	Affiliation or Address	Phone	Fax	E-mail Address
Reef Migita	DOH - CWB	586-4309	586-4352	reef.migita@doh.hawaii.gov
Joanna Seto	" "	"	"	Joanna.seto@doh.hawaii.gov
Kevin Nakamoto	SSFM	531-1308	521-7348	knakamoto@ssfm.com
Trevin Chang	"	"	"	tchang@ssfm.com
Glen Kashiwabara	Covanta Energy	682-0273	682-5203	gkashiwabara@covantaenergy.com
Robert Webster	Covanta - HPOWER	682-0201	682-5203	rwebster@covantaenergy.com

Langham, Stephen F

From: Druckman,Herb [HDruckman@CovantaEnergy.com]
Sent: Wednesday, March 19, 2008 3:50 AM
To: Langham, Stephen F
Subject: Fw: H-Power Conceptual Laydown Plan


HAR 11-55 SDOH NPDES Appdx B.p..


HAR 11-55 SDOH NPDES Appdx C.p..


DPP Authorization Letter.pdf (...


Parcel Map.pdf (66 KB)


Meeting Attendees.pdf (36 KB


HAR 11-55 SDOH NPDES Appdx B.p..

-----Original Message-----
From: Trevin Chang <tchang@ssfm.com>
To: Druckman,Herb <HDruckman@CovantaEnergy.com>; cpesce@roe.com <cpesce@roe.com>; BCividini@roe.com <BCividini@roe.com>; Kashiwabara,Glen <Glen_Kashiwabara@CovantaEnergy.com>; Kevin Nakamoto <knakamoto@ssfm.com>; Cheryl Soon <csoon@ssfm.com>; Diffenderfer,Thomas <Thomas_Diffenderfer@CovantaEnergy.com>
CC: Eric Matsuda <ematsuda@ssfm.com>
Sent: Wed Mar 19 09:19:41 2008
Subject: RE: H-Power Conceptual Laydown Plan

<<HAR 11-55 SDOH NPDES Appdx B.pdf>> <<HAR 11-55 SDOH NPDES Appdx C.pdf>> <<DPP Authorization Letter.pdf>> <<Parcel Map.pdf>> <<Meeting Attendees.pdf>> <<HAR 11-55 SDOH NPDES Appdx B.pdf>> Gentlemen and Lady,

Yesterday's meetings (Coordination Meeting between Covanta and SSFM; Hawaii State Department of Health (SDOH) Meeting) both went well.

The initial coordination meeting, which included Robert Webster (Covanta H-Power), Glen Kashiwabara (Covanta Energy), Kevin Nakamoto (SSFM Structural) and myself (Trevin Chang, SSFM Civil) focused on the basic concept of the Baghouse replacement, as well as our strategy for the SDOH meeting. The following is what was discussed:

* The existing NPDES permit that the current H-Power plant has is an "NPDES General Permit Authorizing Discharges of Storm Water Associated with Industrial Activities" (see attached for documentation from SDOH and Hawaii Administrative Rules, HAR), which is Appendix B.

* This permit allows for storm water associated with typical industrial operations to be discharged.
* This NPDES permit is a totally separate permit from the one that was indicated to Chris Pesce on his meeting at SSFM.

* The "NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity" is the permit that was discussed at the SSFM meeting with Chris Pesce, which is Appendix C (see attached).

* This permit is triggered when a project under construction that results in disturbance of land exceeding 1 acre.
* The definition of disturbance not only includes, grading, grubbing, excavation, but also baseyards, staging areas, headquarters, and parking areas that are associated with the construction activities.
* The permit requires:

* an NPDES permit application for Form C
* a BMP Plan (erosion control)
* $500.00 filing fee (check)

* This permit can take upto 3-6 months for review depending on the complexity of the project and the SDOH staff's work load.

* Based on the above information, the best possible avenue to meet the June deadline would be to proceed with using TMK parcel 9-1-026: 011 (old Rocky Mountain Pre-Cast assembly site, as shown in blue shaded area of Parcel Map.pdf) as a storage and assembly site. This is the best course of action because:

* The small storage, parking, assembly area would require no grading, grubbing, or construction. This is good new because processing plans approval at the City and County will require the following:

* DPP Checklist (checklist of drawings and whether the drawings meet minimum requirements, signed and stamped by Engineer)
* Demolition Plan (of existing Baghouse)
* Erosion control plan for storage area and new construction area (location of new Baghouse)
* Storm Drainage Report and Storm Drainage Connection Application
* Site Plan showing new work and staging area
* Grading Plan (this may not be necessary due to limited soil disturbance due to pile driving/coring) and no mass grading on-site
* Foundation Permit (for piles and foundation construction), which is a part of the building permit process

* I realize that you are pushing for the LARGE staging area to be approved, but after discussions with Robert and Glen, this area will be used mainly for the H-Power Expansion. This project will require a larger amount of design and coordination, as well as time, which you do not have in regards to the June deadline. The large staging area and H-Power expansion should be started on now (Robert mentioned 15 month outlook at construction) which leaves just barely enough time to determine, process, and design for permits, drawings, and approvals. However, this is a separate issue in regards to the Baghouse replacement.

* By limiting the project scope to the small storage area and just the baghouse replacement, meeting with SDOH was geared more to meeting the June deadline and we proceeded to the Main Meeting at SDOH.

The SDOH meeting (held on 3/18/2008 @ 2:00 PM) involved the same participants in the coordination meeting above, along with SDOH personnel (Joanna Seto and Reef Migita) who are the Engineer's that review and process NPDES Permits. The following occurred at this meeting:

* Described the project scope (Baghouse replacement and small storage area only) to SDOH
* Robert and Glen described the technical side of the replacement to SDOH

* Plant needs to remain fully operational
* Construct new baghouse, then demolish one of the existing ones and hook up new one. Construct second baghouse in old location of baghouse and connect to system and demolish 2nd existing baghouse.
* Limited space on-site so need of additional storage area
* H-Power has an agreement with nearby property owner to rent area for storage and staging ground (assemble components and park vehicles)
* No site disturbance at storage area, parking and component assmebly only

* SSFM and SDOH then discussed design process and what can be done to stream line review time and approval:

* Need fully completed NOI application (NPDES Form C application), with owner's signature and $500.00 check (filing fee)
* Need to provide a BMP plan (Erosion Control Plan) that Contractor will not digress from (if they submit revisions to BMP, then review process is longer; meaning if Contractor follows what is shown in the NPDES application/approved drawings, rather than submit their own plan (which may be only the bare minimum), review process will take longer
* Need to indicate location of concrete wash area (should be located at staging area

rather than on H-Power property so that does not impact annual environmental testing of site) with a non-permeable layer. This does not have to be an excavated pit, but could use pre-fabricated pool-like containers.
* Site specific BMPs close to work area

* Fiber rolls with sandbags and filter fabric (for paved areas) or stakes (for soil).
* Inlet protection (drain and catchbasin)
* Dust and/or silt fencing

* Need authorization letter to discharge to MMGD drainage system (runoff from site to adjacent property, TMK 9-1-026: 028)
* Need authorization letter from owner of storage area (Fill out and sign DPP Authorization Letter, which can be found online)
* No gravel entrance, but need explanation why

* Equipment will be unloaded and loaded directly at work area (no tracking dirt/mud onto streets), via trailers.
* Concrete trucks will remain on paved surfaces
* Any dirt/mud/miscellaneous spills will be taken care of in a timely manner

* Submit all documents via on-line for quicker response

In order for SSFM to proceed with the above mentioned, the following is what needs to be done/coordinated:

* Need Authorization Letter filled out by Covanta and Storage Area Owner (see attached)
* Topographical survey of Storage Area which also needs to be tied into the existing survey already done for H-Power
* Drainage calculations for H-Power site (existing and proposed) which means pre-new baghouses, and post-new baghouses conditions
* Finalized Site Plan (new road indicated should be an overlay only so that no significant grading/trenching is needed for pavement structure)
* Contractor information as soon as possible (to fill out NPDES application)
* Authorization from MMGD to discharge runoff (depending on outcome of drainage report)
* Executed contract for revised scope of work and fee proposal from SSFM.

I believe that covers it. Should you have questions, please feel free to contact me. I will be out of the office today, but should be available via e-mail or I will be back in the office on Thursday.

With regards,

Trevin Chang

-----Original Message-----
From: Druckman,Herb [mailto:HDruckman@CovantaEnergy.com
<mailto:HDruckman@CovantaEnergy.com>]
Sent: Tuesday, March 18, 2008 11:36 AM
To: Trevin Chang; cpesce@roe.com; BCividini@roe.com; Kashiwabara,Glen; Kevin Nakamoto; Cheryl Soon; Diffenderfer,Thomas
Subject: Re: H-Power Conceptual Laydown Plan

Glen and Kevin should coordinate this with Robert Webster who are all in Hawaii. The rest of us are on the mainland.
If this doen,t work then we will postpone the meeting until we can get on site.
:Let me know if you can work together

Herb

-----Original Message-----
From: Trevin Chang <tchang@ssfm.com>
To: Pesce, Chris <CPesce@roe.com>; Druckman,Herb <HDruckman@CovantaEnergy.com>; Cividini, Bruno <BCividini@roe.com>; Kashiwabara,Glen <Glen_Kashiwabara@CovantaEnergy.com>; Kevin Nakamoto <knakamoto@ssfm.com>; Cheryl Soon <csoon@ssfm.com>; Diffenderfer,Thomas <Thomas_Diffenderfer@CovantaEnergy.com>
Sent: Tue Mar 18 17:28:05 2008
Subject: RE: H-Power Conceptual Laydown Plan

Chris,

I wanted to follow-up with you to find out what time we were meeting prior to the SDOH meeting and where. Either let me know via e-mail or call me at (808) 356-1251.

Thank you,

With regards,

Trevin

From: Pesce, Chris [mailto:CPesce@roe.com <mailto:CPesce@roe.com>]
Sent: Tuesday, March 18, 2008 5:10 AM
To: Druckman,Herb; Cividini, Bruno; Kashiwabara,Glen; Kevin Nakamoto; Cheryl Soon; Trevin Chang; Diffenderfer,Thomas
Subject: RE: H-Power Conceptual Laydown Plan

Attached find the conceptual main site plan for use in today's meeting...

From: Pesce, Chris
Sent: Monday, March 17, 2008 2:26 PM
To: 'Druckman,Herb'; Cividini, Bruno; Kashiwabara,Glen; 'Kevin Nakamoto'; 'csoon@ssfm.com'; 'tchang@ssfm.com'; 'Diffenderfer,Thomas'
Subject: H-Power Conceptual Laydown Plan

All,

Here is a copy of the latest construction laydown area plan to use for the meeting with the HDOH. I am now making a few small changes to the main site grading plan, and will forward that also once the drafting is complete.

Thanks,
Chris

From: Druckman,Herb [mailto:HDruckman@CovantaEnergy.com <mailto:HDruckman@CovantaEnergy.com>]
Sent: Thursday, March 13, 2008 11:38 AM
To: Cividini, Bruno; Pesce, Chris

Cc: Kashiwabara,Glen; Webster,Robert; Brasowski,Leon; Thein,Gary
Subject: APCSIP Permit Issues

Gary suggested that before we go to far down the road we have Glen and SSFM visit with the permit agency and explain the project along with our permit obligations on the site and how the project impacts (or doesn't impact) the site as well as the separate laydown.

To set this up why don't we have everyone available for a conference call tomorrow afternoon (2-2:30EST) to discuss how we might best accomplish this.

Chris see what SSFM availability is.

Herb

Herbert Druckman

Project Management

COVANTA

Safe waste disposal and clean energy solutions… For generations to come

Covanta Energy Corporation

COVANTA

E N E R G Y

for a cleaner world

40 Lane Road, Fairfield, NJ 07004

973.882.7084 Fax: 973.882-4168 Cell: 201602-8177

www.CovantaHolding.com

LETTER OF AUTHORIZATION

_____
(DATE)

City and County of Honolulu
Department of Planning and Permitting
Site Development Division
650 South King Street, 1st Floor
Honolulu, Hawaii 96813

ATTN: Permitting and Inspection Section

This letter of authorization pertains to the following:

Name of Company/Owner/Developer: _____

Authorized Person: _____

Project Name: _____

Project Address: _____

Project Tax Map Key Number: _____

This person is authorize to act in my/our behalf in obtaining/closing the Grading/Grubbing/Stockpiling permit for the project.

Very truly yours,

_____
(SIGNATURE OF OWNER/DEVELOPER)

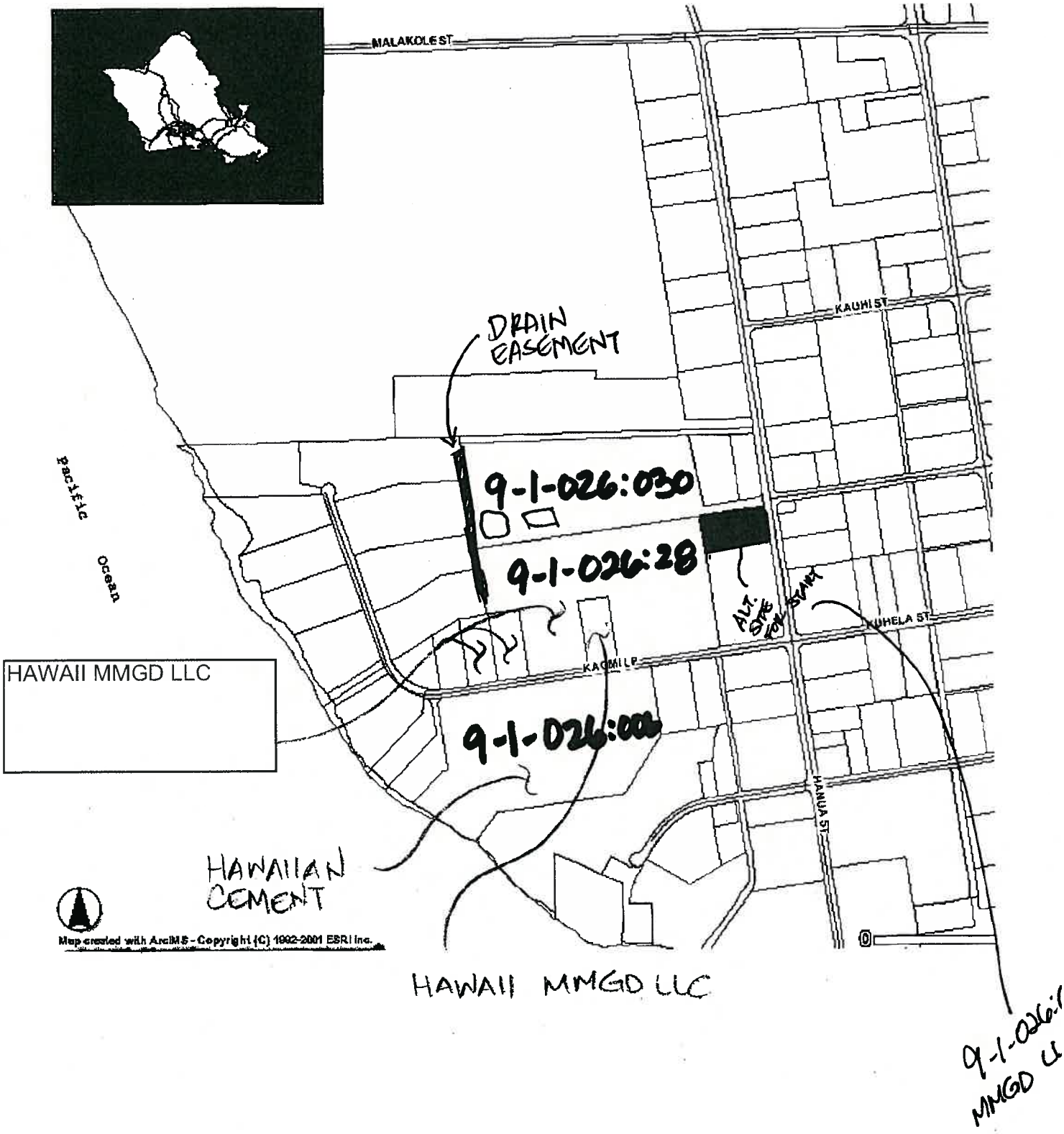
_____
(PRINT NAME)

_____
(TITLE)

_____
(ADDRESS)

_____
(CITY) (STATE) (ZIP)

_____
(TELEPHONE NUMBERS)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KAUHI ST
DRAIN EASEMENT
9-1-026:030
9-1-026:28
ALT. SITE FOR STAMP
KUHELA ST
KAOMI LP
9-1-026:00
HANUA ST
HAWAII MMGD LLC
HAWAIIAN CEMENT
pacific ocean
Map created with ArcIMS - Copyright (C) 1992-2001 ESRI Inc.
HAWAII MMGD LLC
9-1-026:(
MMGD L

LETTER OF AUTHORIZATION

April 1, 2008
(DATE)

City and County of Honolulu
Department of Planning and Permitting
Site Development Division
650 South King Street, 1st Floor
Honolulu, Hawaii 96813

ATTN: Permitting and Inspection Section

This letter of authorization pertains to the following:

Name of Company/Owner/Developer: _____

Authorized Person: _____

Project Name: H-POWER AIR Pollution Control System Improvements

Project Address: 91-174 Hanua St. Kapolei, HI 96707

Project Tax Map Key Number: (1) 9-1-026 -030, 033, 034, 035

This person is authorize to act in my/our behalf in obtaining/closing the Grading/Grubbing/Stockpiling permit for the project.

Very truly yours,

Stephen F. Langham, PE
(SIGNATURE OF OWNER/DEVELOPER)

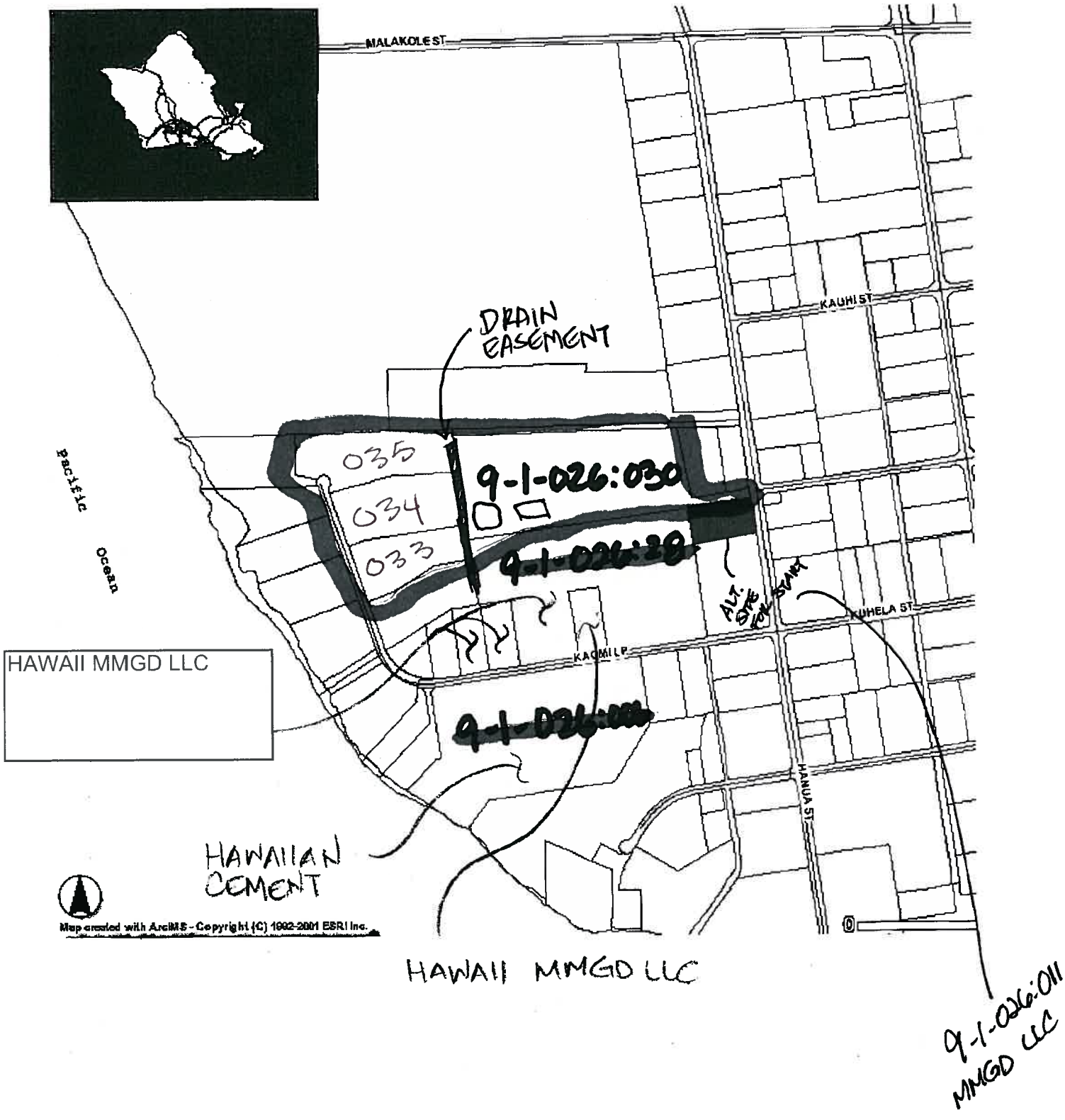
STEPHEN LANGHAM, PE
(PRINT NAME)

ENERGY RECOVERY ADMIN
(TITLE)

C&C 91-174 HANUA
(ADDRESS)

KAPOLEI, HI - 96707
(CITY) (STATE) (ZIP)

808-682-1359
(TELEPHONE NUMBERS)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KAUHI ST
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9-1-026:31
ALT. SITE FOR STAMP
KUHELA ST
KAOMILP
HANUA ST
Pacific Ocean
HAWAII MMGD LLC
HAWAIIAN CEMENT
Map created with ArcIMS - Copyright (C) 1992-2001 ESRI Inc.
HAWAII MMGD LLC
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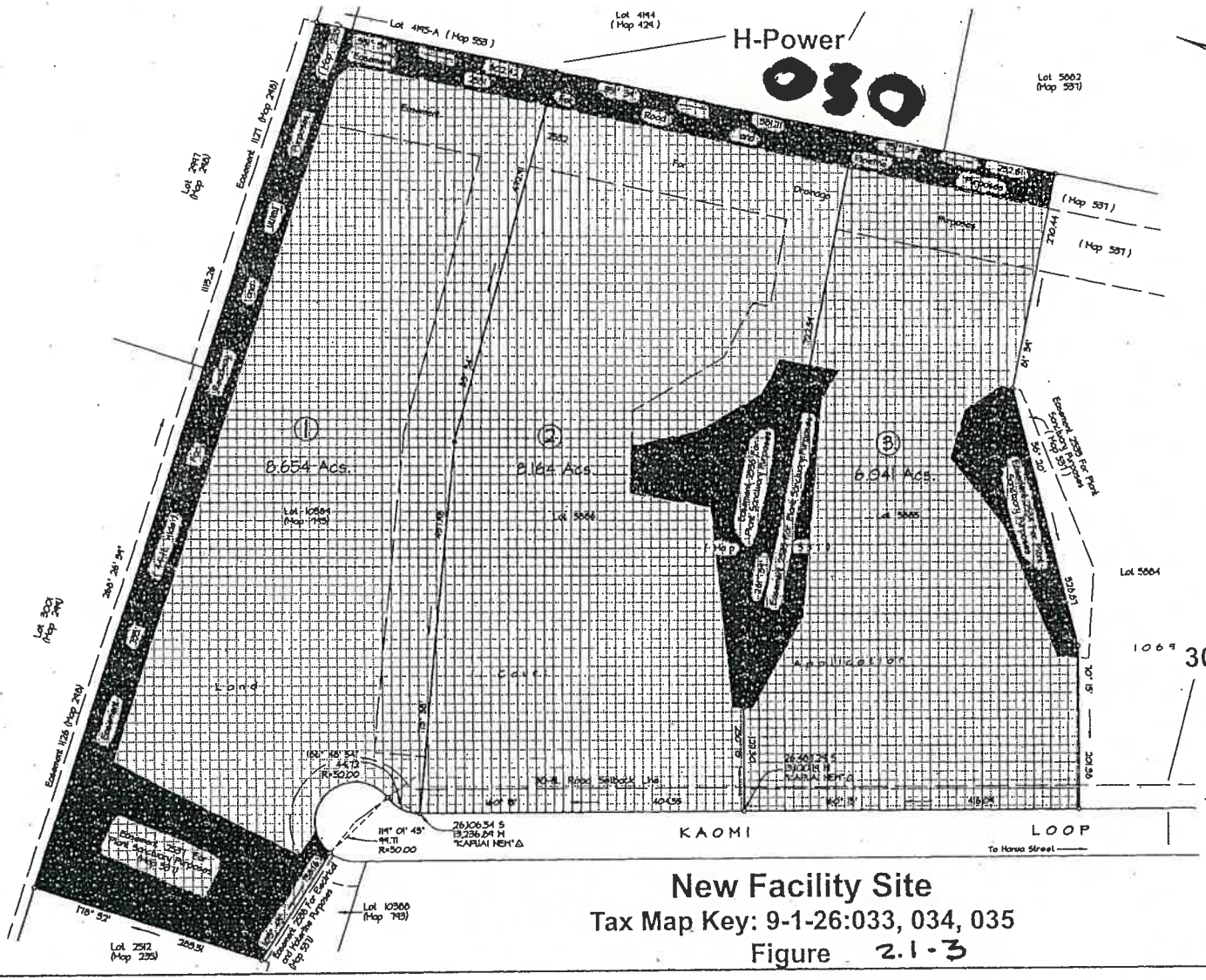
MMGD LLC



PARCELS 1, 2 and 3
PARCEL MAP

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
DIVISION OF LAND SURVEY AND ACQUISITION

RECYCLING TECHNOLOGY PARK

AT HONOULIULI, EWA, OAHU, HAWAII

SURVEYOR:	A. Yamamoto	DATE:	August 30, 2002
PROJ.-SURV:	K. Nishihira	CHECKED BY:	A. Yamamoto
SCALE:	1 in. = 100 ft.	TRACER:	T. Garcia
APPROVED:	DIRECTOR	APPROVED:	CHIEF

WS	F B	DISK NO.
W.S. BY.	F. W. BY.	CB

FILE	POCKET	FOLDER	NO.
LD 17	10	8	4

Mark Order No.: 101
Control No.: 202X0349

TAX MAP KEY: 9 - 1 - 026: 033, 034 & 035

Notes:

* The 22.86 acre site for this project is formed of 3 separate TMK parcels.
* The offeror shall be responsible for all permitting work required to combine the parcels for their proposed facility.
* Easement areas colored in "black" may NOT be constructed over.

FIGURE 2.1-3

Appendix A – Agency Correspondence

Hawaii
Natural Heritage Program
(Eco[illegible] letters)

amec

August 3rd, 2004

FILE
SENT AUG 3, 04

Attention: Roy Kam
Hawaii Natural Heritage Program, University of Hawaii
Center for Conservation Research and Training
677 Ala Moana Boulevard, Suite 705
Honolulu, Hawaii 96813

Dear Mr. Kam:

AMEC is a Consulting and Engineering Firm engaged in environmental review and documentation of potential environmental impacts for the proposed Expansion of the existing HPOWER Waste-to-Energy Facility in Kapolei, Hawaii on the island of Oahu. This project is being coordinated through AMEC's Massachusetts and Hawaii offices. The proposed Expansion consists of the addition of a third Municipal Waste Combustor (MWC) to the two currently operating at the facility along with ancillary utility and air pollution control equipment. As shown on Figure 1-1, the HPOWER Facility is located on 24.635 acres of industrially zoned and developed property situated within the Campbell Industrial Park at Barbers Point (Tax Map Key 91026030). Figure 1-1 depicts the site location on USGS topographic map along with an approximately 1-mile radius for reference.

Hard copy confirmation of our request for inventory information concerning the occurrence of rare, threatened, or endangered species is needed, however electronic GIS database data would also be desirable. We require information at the site, but would also like to be attentive to potential resources within the proximity of the site – a one mile radius has been mapped. Additional information about the presence of significant natural communities or other unique natural resources in this area would also be helpful. AMEC has already consulted with the USFW Service and is attaching their response letter. Additional required or recommended consultations with state wildlife and natural resource agencies, or information regarding recommended contacts or referrals would also be appreciated. Should you have any questions about the project or the attached map I can be reached at (978) 692-9090.

Thank you in advance for your help in this matter.

Sincerely,

Kellie M. Doherty
Energy Program Manager
AMEC Earth and Environmental, Inc.

cc: P.Anderson, B. Magee
enclosure

AMEC Earth & Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, MA 01886
Tel +978.692.9090
Fax +978.692.6633

www.amec.com

Location of HPOWER Site

Location Map

Oahu

NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters

Source: Scanned USGS Topographic Quad - 2000

0 1,400 2,800 Feet

TITLE

Site Locus Map
TaxMap Key # 91026030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

amec

May 20, 2004

Figure 1-1

H:\H-Power\Site_Map.mxd DNB

From: HINHP [hinhp@hawaii.edu]
Sent: Friday, August 06, 2004 6:21 PM
To: Kellie Doherty
Subject: RE: Roy Kam - T&E Species at HPOWER site
Kellie,

Sorry, I wasn't able to respond to you sooner. I'm glad you emailed, your voice message was garbled.

I took a quick look at your site. According to our database, there were no recordings of rare species within your site. Although, there are several locations of listed endangered species and a rare natural community within the vicinity of the site. I'm attaching a jpeg map for your records. If you'd want the information of the rare species adjacent to your site.. I'll have to get that to you next week. We also do charge a fee to cover staff time. In this case since there were no rare species in your site.. there is no charge. But if you do want further information, we'd have to do a cost estimate.

Notice:
The Hawaii Natural Heritage Program database is dependent on the research and observations of many scientists and individuals. In most cases this information is not the result of comprehensive site-specific field surveys, and is not confirmed by the Heritage staff. Many areas in Hawaii have never been thoroughly surveyed, and new plants and animals are still being discovered. Database information should never be regarded as final statements or substituted for on-site surveys required for environmental assessments. Data provided by the Heritage Program do not represent a position taken by The Center for Conservation Research and Training or The Nature Conservancy of Hawaii. Heritage information is only for the intended use of the individual or organization who requested it. It may not be distributed in any way without the consent of the Hawaii Natural Heritage Program.

Please cite the Heritage Program and primary sources in all documentation and reports.
Hawaii Natural Heritage Program
University of Hawaii
Center for Conservation Research and Training

Roy Kam
Data Manager
Hawaii Natural Heritage Program
Center for Conservation Research and Training
University of Hawaii at Manoa
677 Ala Moana Blvd, Suite 705
Honolulu, Hawaii 96813
Ph:(808)587-8602 Fax: (808)587-8599

-----Original Message-----
From: Kellie Doherty [mailto:kellie.doherty@amec.com]
Sent: Tuesday, August 03, 2004 9:40 AM
To: 'hinhp@hawaii.edu'
Subject: Roy Kam - T&E Species at HPOWER site

Roy,

I am forwarding you a letter via Fed-x (with a hardcopy of our USFW response letter attached to that for your reference) but I'm also attaching herein an electronic version of our letter to you along with a site map. I intend to contact DLNR also to ensure that the appropriate state species of concern are fully documented .....and your input on a good contact person there would be greatly appreciated.

It appears that USFW may already have consulted with Natural Heritage but we want to ensure that we are documenting any species of state concern as well as federal.

Please feel free to call me if you have any questions or if there are additional consultations that are recommended by Natural Heritage.

Thanks,

Kellie M. Doherty
AMEC
239 Littleton Road, Suite 1B
Westford, MA 01886
(978) 692-9090

USFW
(Eco – letters)

FILE COPY

Fed-ex'd June 7th

June 3rd, 2004

Attention: Field Supervisor
Fish and Wildlife Service
United States Department of the Interior
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96813

Dear Sir/Madam:

AMEC is a Consulting and Engineering Firm engaged in environmental review and documentation of potential environmental impacts for the proposed Expansion of the existing HPOWER Waste-to-Energy Facility in Kapolei, Hawaii on the island of Oahu. This project is being coordinated through AMEC's Massachusetts and Hawaii offices. The proposed Expansion consists of the addition of a third Municipal Waste Combustor (MWC) to the two currently operating at the facility along with ancillary utility and air pollution control equipment. As shown on Figure 1-1, the HPOWER Facility is located on 24.635 acres of industrially zoned and developed property situated within the Campbell Industrial Park at Barbers Point. Figure 1-1 depicts the site location on USGS topographic map along with an approximately 1-mile radius for reference.

Any inventory information that you may have concerning the occurrence of rare, threatened, or endangered species either on the site or in the vicinity of the site would be greatly appreciated. Additional information about the presence of significant natural communities or other unique natural resources in the area would also be helpful. If there are required or recommended consultations with state wildlife and natural resource agencies, information regarding recommended contacts or referrals would also be appreciated. Should you have any questions about the project or the attached map I can be reached at (978) 692-9090.

Thank you in advance for your help in this matter.

Sincerely,

Kellie M. Doherty
Energy Program Manager
AMEC Earth and Environmental, Inc.

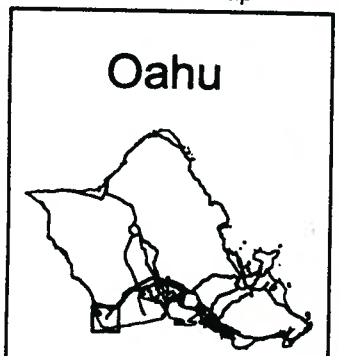
cc: P.Anderson, B. Magee
enclosure

AMEC Earth & Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, MA 01886
Tel +978.692.9090
Fax +978.692.6633

www.amec.com

Location of HPOWER Site

Location Map



NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters

Source. Scanned USGS Topographic Quad - 2000

0 1,400 2,800 Feet

TITLE

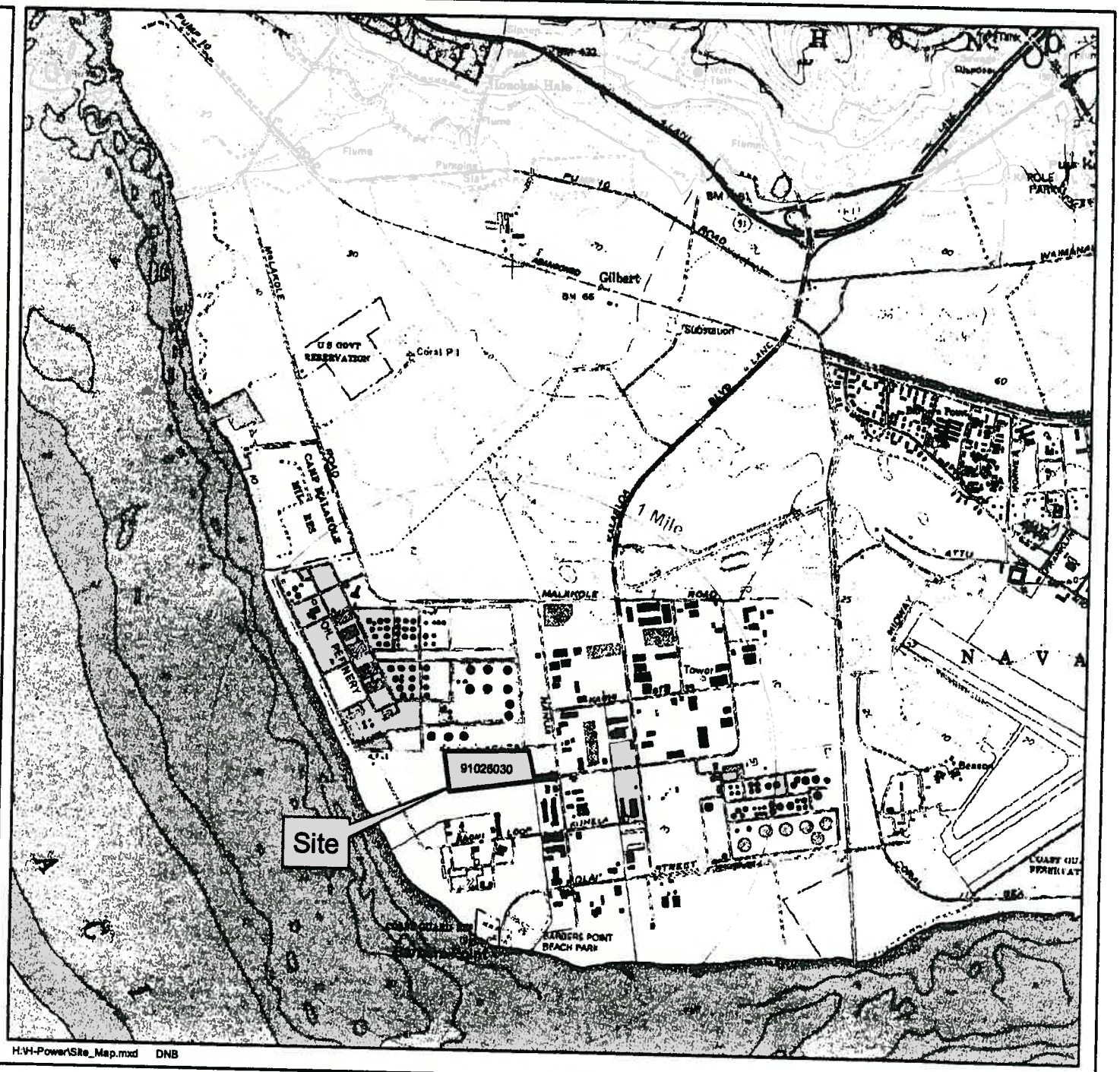
Site Locus Map
TaxMap Key # 91026030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

amec

May 20, 2004

Figure 1-1



H:\H-Power\Site_Map.mxd DNB

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

TAKE PRIDE IN AMERICA

In Reply Refer to:
PN-04-199

JUL 2 0 2004

Ms. Kellie M. Doherty
Energy Program Manager
AMEC Earth and Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, MA 01886

Dear Ms. Doherty:

Thank you for your June 3, 2004, letter in which you request that the U.S. Fish and Wildlife Service provide a list of rare, threatened, or endangered species, and significant natural communities that may be affected by a proposed expansion of the existing HPOWER Waste-to-Energy Facility in Kapolei, Oahu. Your letter was received in this office on June 8, 2004. The proposed expansion consists of the addition of a municipal waste combustor and ancillary utility and air pollution control equipment on industrially zoned and developed property within the Campbell Industrial Park at Barbers Point.

We reviewed the information you provided and pertinent information in our files, including maps prepared by the Hawaii Natural Heritage Program. The listed endangered plants *Abutilon menziesii* (koolaula), *Achyranthes splendens* var. *rotunda* (round-leaved chaff-flower), and *Chamaesyce skottsbergii* var. *skottsbergii* (Ewa Plains akoko), are known from surrounding areas. In addition, an invertebrate species of concern, the Pupillid land snail (*Lyropupa perlonga*), is known from an area adjacent to the proposed project site. We recommend that botanical and malacological surveys of the project area be conducted prior to any ground disturbance and if any of these species are observed, that you contact the Pacific Islands Fish and Wildlife Office.

There have been sightings of the endangered Hawaiian coot or `alae ke`oke`o (*Fulica alai*), Hawaiian gallinule or `alae `ula (*Gallinula chloropus sandvicensis*) and the black-necked stilt or ae`o (*Himantopus mexicanus knudseni*) in the vicinity of the proposed project site. Although it is unlikely that these species would use the dryland habitat where the expansion project is planned, if these listed species are observed at or near the construction site, we recommend you suspend activities and contact the Pacific Island Fish and Wildlife Office.

We appreciate your interest in rare and endangered species. If you have any questions, please contact Ms. Marigold Zoll, Fish and Wildlife Botanist (phone: 808/792-9400; fax: 808/792-9580).

Sincerely,

for Jeff M. Newman
Acting Field Supervisor

September 16th, 2004

Attention: Mr. Jeff Newman, Acting Field Supervisor
Fish and Wildlife Service
United States Department of the Interior
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96813

RE: PN-04-199, HPOWER Waste-to-Energy Facility in Kapolei, Hawaii

Dear Mr. Newman:

As previously described to USFW in a June 3rd, 2004 letter, the HPOWER Expansion project consists of the addition of a third Municipal Waste Combustor (MWC) to the two currently operating at the facility, along with ancillary utility and air pollution control equipment. As shown on Figure 1, the HPOWER Facility is located on 24.635 acres of industrially zoned and developed property situated within the Campbell Industrial Park at Barbers Point. Figure 1 depicts the site location on USGS topographic map along with an approximately 1-mile radius for reference.

AMEC has updated the topographic figure previously provided on June 3rd to reflect three (3) additional parcels that are now under consideration for temporary construction equipment laydown and parking. For reference, the tax map key numbers for these parcels (north to south) are 9-1-026-035, 034 and 033. Attached is your response letter to our prior request for information. It is our understanding, based on your prior letter and our other local consultations, that adjacent parcels contain species of concern.

As with our previous request, any inventory information that you may have concerning the occurrence of rare, threatened, or endangered species on these parcels would be greatly appreciated. Additional information about the presence of significant natural communities or other unique natural resources in the area would also be helpful. If there are required or recommended consultations with state wildlife and natural resource agencies, information regarding recommended contacts or referrals would also be appreciated. Should you have any questions about the project or the attached updated map I can be reached at (978) 692-9090.

Thank you in advance for your help in this matter.

Sincerely,

Kellie M. Doherty
Energy Program Manager
AMEC Earth and Environmental, Inc.

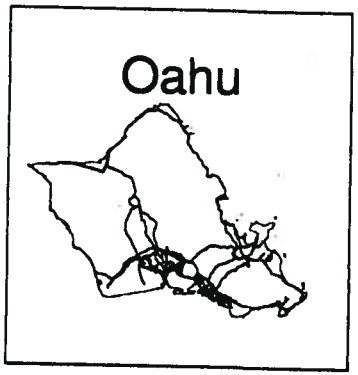
cc: P.Anderson, B. Magee
enclosures

AMEC Earth & Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, MA 01886
Tel +978.692.9090
Fax +978.692.6633

www.amec.com

Location of HPOWER Site

LOCATION MAP



LEGEND

- H-Power
- Temporary Construction Laydown Area

NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters

Source: Scanned USGS Topographic Quad - 2000

0 1,600 3,200 Feet

TITLE

Site Locus Map
TaxMap Key # (1)9-1-026-030

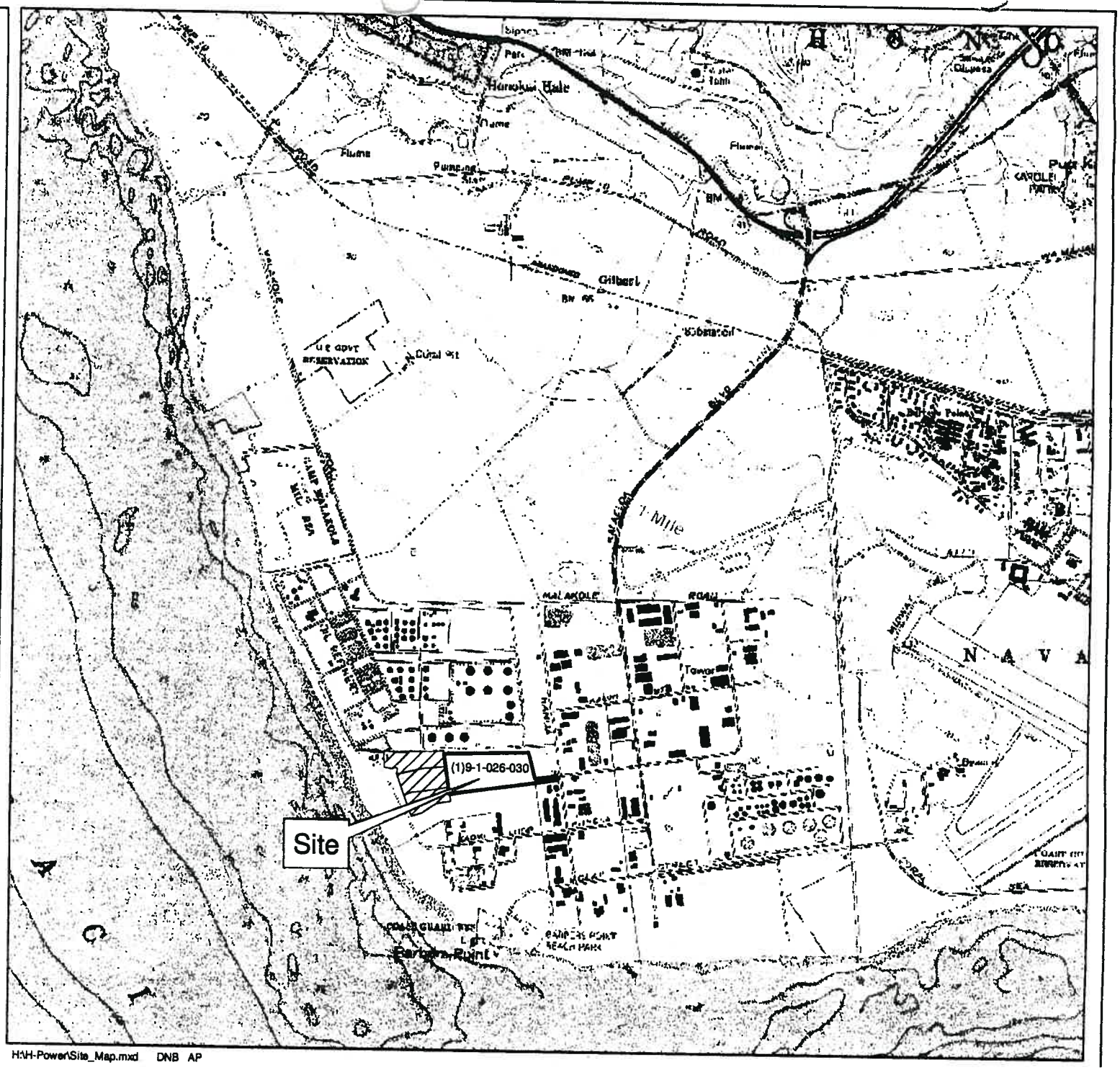
HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

amec

September 16, 2004

Figure 1



H:\H-Power\Site_Map.mxd DNB AP

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
PN-04-249

OCT -8 2004

Ms. Kellie M. Doherty
Energy Program Manager
AMEC Earth and Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, Massachusetts 01886

RECEIVED
10/13/04

Dear Ms. Doherty:

Thank you for your September 16, 2004, letter in which you request that the U.S. Fish and Wildlife Service provide a list of rare, threatened, or endangered species, and significant natural communities that may be affected by the proposed HPOWER Expansion project. In particular you requested information on the presence of rare, threatened and endangered species on parcels 9-1-026-035, 034, and 033 that may be used for temporary construction equipment lay down and parking. We received your letter on September 20, 2004.

We have reviewed the information you provided and pertinent information in our files, including maps prepared using Natural Heritage Program data. The listed endangered plant *Achyranthes splendens* var. *rotundata* (round-leaved chaff-flower) is located on parcel 9-1-026-033 and probably on parcel 034. These plants are part of a Memorandum of Agreement between the City and County of Honolulu and Shad S. Kane of Kapolei, Hawaii. The point of contact for the City and County of Honolulu is James Louis, Department of Environmental Services, 1000 Uluohia Street, Suite 212, Kapolei, Hawaii 96707.

As was mentioned in our letter of July 20, 2004, there have been sightings of the endangered Hawaiian coot or alae keokeo (*Fulica alai*), the Hawaiian gallinule or alae ula (*Gallinule chloropus sandvicensis*), and the black-necked stilt or aeo (*Himantopus mexicanus knudsenii*) in the vicinity. The current condition of the parcels is dryland habitat and unlikely to be used by these species, but if standing water were in place during the stilt's breeding season (mid-February to the end of August) they may utilize the area for breeding. As was requested in our earlier letter, if any of these bird species are observed at or near the site, we recommend you suspend activities and contact the Pacific Islands Fish and Wildlife Office.

We recommend you contact the state botanist, Vickie Caraway, of the State of Hawaii Department of Land and Natural Resource, Division of Forestry and Wildlife for information concerning compliance with the State of Hawaii Endangered Species Act. Her mailing address

is 1151 Punchbowl, Kalanimoku Building, Room 325, Honolulu, Hawaii 96813. She can be reached by phone at 808/587-0165.

If you have any questions, please contact Gregory A. Koob, Botanist (phone: 808/792-9400; fax 808/792-9580).

Sincerely,

for Jeff M. Newman
Acting Field Supervisor

Hawaii
DLNR
(Eco – letters)

Sent 8/6 Priority

FILE

amec

August 6th, 2004

Attention: Peter Young, Chairperson – Board of Land and Natural Resources
DLNR – Land Division
1151 Punchbowl Street, Room 220
Honolulu, Hawaii 96813

Dear Mr. Young:

AMEC is a Consulting and Engineering Firm engaged in environmental review and documentation of potential environmental impacts for the proposed Expansion of the existing HPOWER Waste-to-Energy Facility in Kapolei, Hawaii on the island of Oahu. This project is being coordinated through AMEC's Massachusetts and Hawaii offices. The proposed Expansion consists of the addition of a third Municipal Waste Combustor (MWC) to the two currently operating at the facility along with ancillary utility and air pollution control equipment. As shown on Figure 1-1, the HPOWER Facility is located on 24.635 acres of industrially zoned and developed property situated within the Campbell Industrial Park at Barbers Point (Tax Map Key 91026030). Figure 1-1 depicts the site location on USGS topographic map along with an approximately 1-mile radius for reference.

Any inventory information that you may have concerning the occurrence of rare, threatened, or endangered species either on the site or in the vicinity of the site would be greatly appreciated. Additional information about the presence of significant natural communities or other unique natural resources in this area would also be helpful. AMEC has already consulted with the USFW Service and is attaching their response letter and has requested review by the Hawaii Natural Heritage Program. Additional required or recommended consultations with state wildlife and natural resource agencies, or information regarding recommended contacts or referrals would also be appreciated. Should you have any questions about the project or the attached map I can be reached at (978) 692-9090.

Thank you in advance for your help in this matter.

Sincerely,

Kellie M. Doherty
Energy Program Manager
AMEC Earth and Environmental, Inc.

cc: P.Anderson, B. Magee
enclosure

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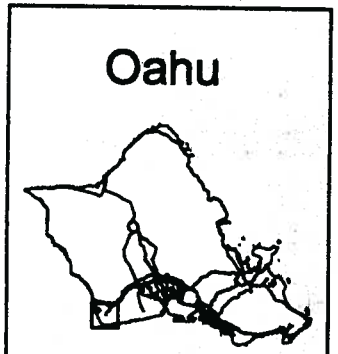
239 Littleton Road, Suite 1B
Westford, MA 01886
Tel +978.692.9090
Fax +978.692.6633

www.amec.com

Location of HPOWER Site

Location Map



NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters

Source: Scanned USGS Topographic Quad - 2000

0 1,400 2,800 Feet

TITLE

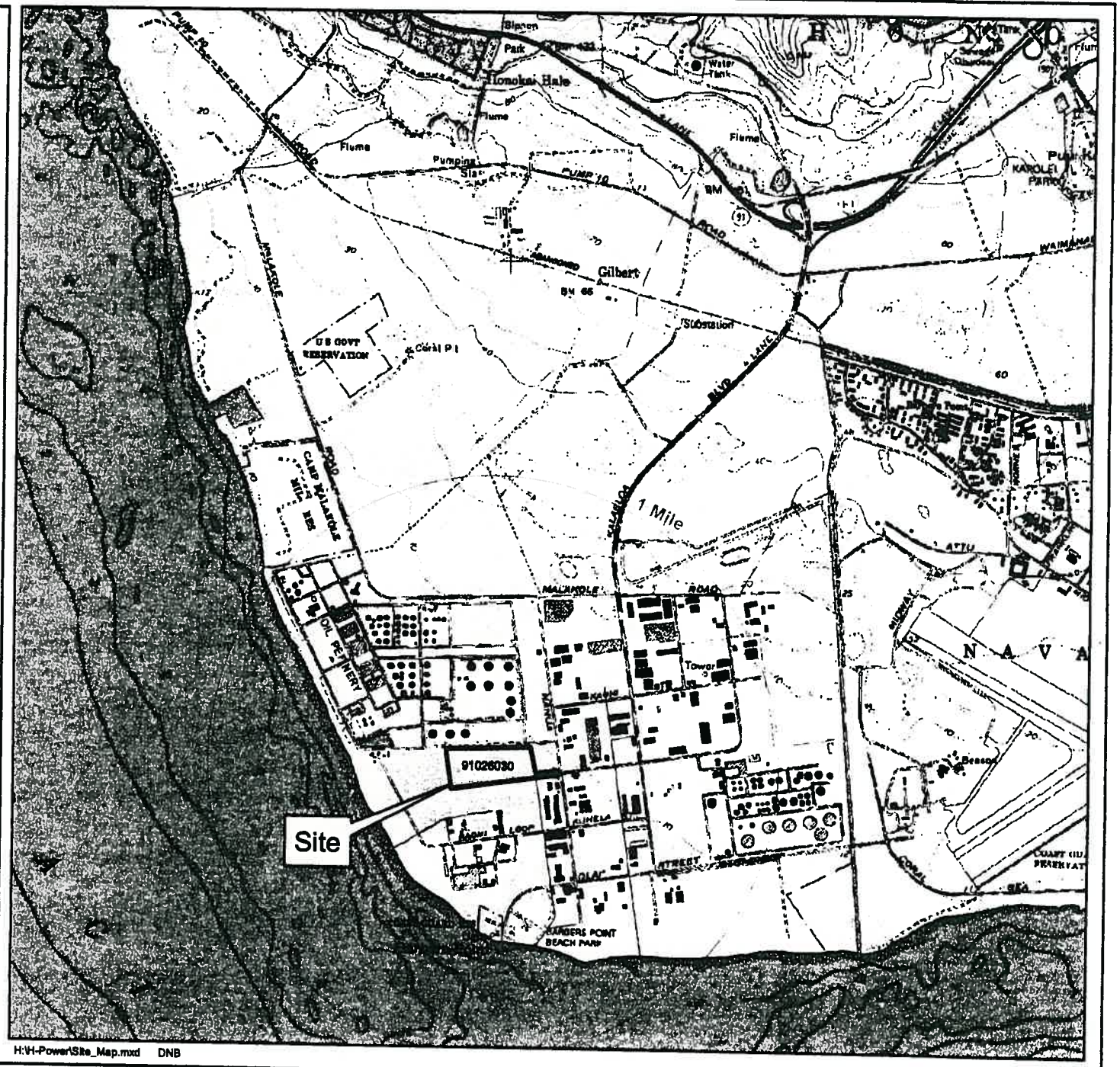
Site Locus Map
TaxMap Key # 91026030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

amec

May 20, 2004

Figure 1-1



H:\H-Power\Site_Map.mxd DNB

September 22, 2004

Attention: Peter Young, Chairperson – Board of Land and Natural Resources
DLNR – Land Division
1151 Punchbowl Street, Room 220
Honolulu, Hawaii 96813

Dear Mr. Young:

This is a follow-up to our previous request for information dated August 6th 2004 (attached). As previously described, AMEC is engaged in environmental review and documentation of potential environmental impacts for the proposed Expansion of the existing HPOWER Waste-to-Energy Facility. The proposed Expansion consists of the addition of a third Municipal Waste Combustor (MWC) to the two currently operating at the facility along with ancillary utility and air pollution control equipment.

AMEC has updated the topographic figure previously provided on August 6th to reflect three (3) additional parcels that are now under consideration for temporary construction equipment laydown and parking. For reference, the tax map key numbers for these parcels (north to south) are 9-1-026-035, 034, and 033. We have not yet received a response from your agency regarding our initial letter but want to ensure that we provide this additional clarification.

As shown on the updated Figure 1, the HPOWER Facility is located on 24.635 acres of industrially zoned and developed property situated within the Campbell Industrial Park at Barbers Point (Tax Map Key 9-1-026-030). Figure 1 depicts the site location on USGS topographic map along with an approximately 1-mile radius for reference and has been updated to show the area under consideration for temporary construction laydown and parking. AMEC is also updating our consultation with the USFW Service to address the laydown area(s) under consideration.

Any inventory information that you may have concerning the occurrence of rare, threatened, or endangered species either on these parcels or in the vicinity of these areas would be greatly appreciated. Additional information about the presence of significant natural communities or other unique natural resources would also be helpful. Additional required or recommended consultations with state wildlife and natural resource agencies, or information regarding recommended contacts or referrals would also be appreciated. Should you have any questions about the project or the attached map I can be reached at (978) 692-9090.

Thank you in advance for your help in this matter.

Sincerely,

Kellie M. Doherty
Energy Program Manager
AMEC Earth and Environmental, Inc.

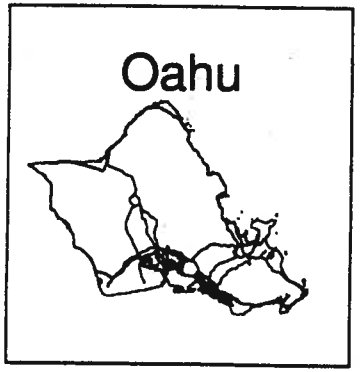
cc: P.Anderson, B. Magee
enclosure

AMEC Earth & Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, MA 01886
Tel +978.692.9090
Fax +978.692.6633

www.amec.com

Location of HPOWER Site

LOCATION MAP



LEGEND

- H-Power
- Temporary Construction Laydown Area

NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters

Source: Scanned USGS Topographic Quad - 2000

0 1,600 3,200 Feet

TITLE

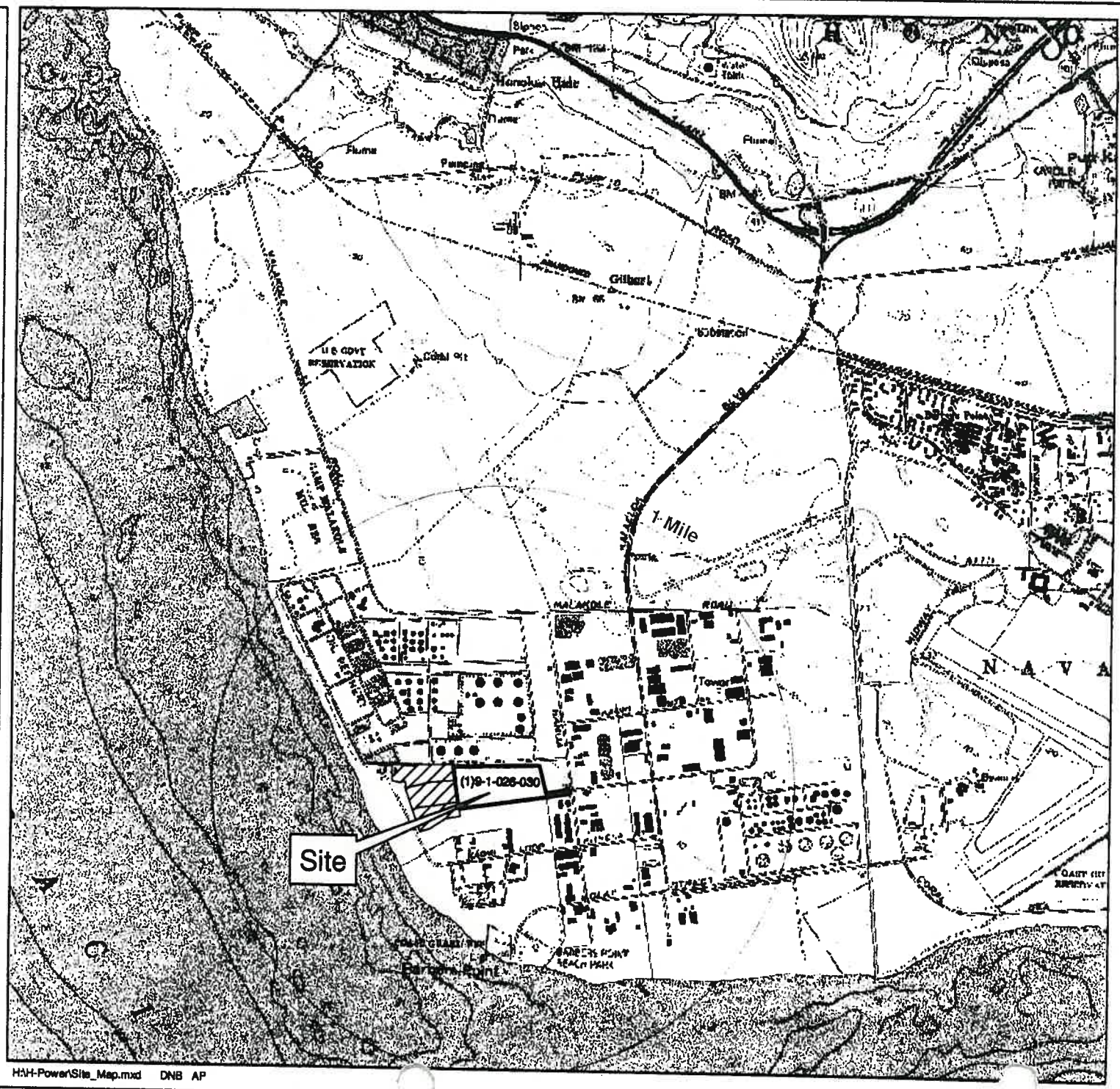
Site Locus Map
TaxMap Key # (1)9-1-026-030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

amec

September 16, 2004

Figure 1



H:\H-Power\Site_Map.mxd DNB AP

LINDA LINGLE
GOVERNOR OF HAWII

PETER T. YOUNG
CHAIRPERSON

DAN DAVIDSON

YVONNE Y. IZU

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

September 30, 2004

Kellie M. Doherty
Energy Program Manager
AMEC Earth and Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, MA 01886

Dear Ms. Doherty:

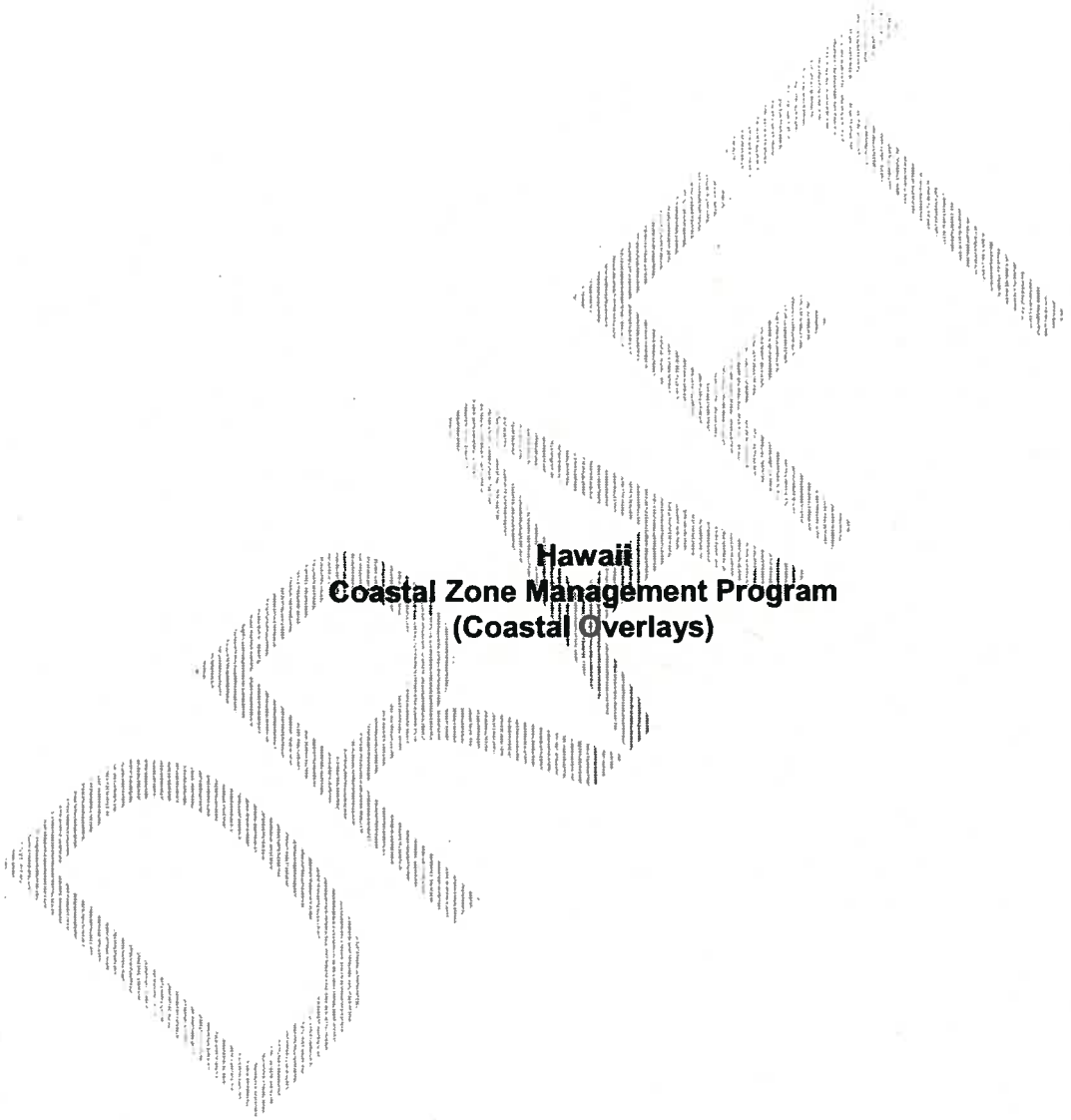
Subject: HPOWER Facility Expansion on 24.635 acres of Industrially zoned property at Campbell Industrial Park TMK: 9-1-026-030.

Your September 22, 2004 letter to Peter Young, Chairperson DLNR was referred to DLNR, Division of Forestry and Wildlife. Your cover letter to Peter Young includes an attached letter from USFWS indicating several listed endangered plants - *Abutilon menziesii* (koolaula), *Achyranthes splendens var. rotunda* (round-leaved chaff-flower) and *Chamaesyce skottsbergii var. skottsbergii* (Ewa Plains akoko) of which are known to exist in the surrounding areas. Prior to construction we recommend that a survey be conducted for these species by a trained Botanist. We agree with USFWS that if these listed species are found on the construction site that construction be suspended and that the USFWS Pacific Island Office are contacted for further deliberation. Please be advised that if the subspecies is confirmed, DLNR, Division of Forestry and Wildlife may be able to assist with any mitigation plan to protect these plants under the law. Please call Ms. Vickie Caraway of my staff in Honolulu at (808) 587-0165 for assistance. Thank you for the opportunity to comment.

Sincerely yours,

Paul J. Conry
for Administrator

C: Vickie Caraway, DLNR Forestry and Wildlife



Hawaii
Coastal Zone Management Program
(Coastal Overlays)

November 5, 2004

Attention: Mr. John Nakagawa, CZMP
Ms. Mary Lou Kobayashi
Administrator
State of Hawaii Office of Plannning
P.O. Box 2359
Honolulu, Hawaii 96804

Re: HPOWER Expansion Project, Kapolei, Hawaii

Attention Mr. Nakagawa:

This letter is in reference to our conversation of September 22, 2004 during which we discussed how best to ensure and document Coastal Zone Consistency of the proposed HPOWER Expansion Project. Based on the information presented to you at that time it appeared that no formal review would be required. In accordance with our desire to ensure that all necessary information is made available to your office and to document the Coastal Zone Management Program (CZMP) finding for the purposes of the Draft Environmental Impact Statement (EIS) now being prepared, I am referencing the detailed information requested by you at that time. That request was for a brief project description and locus map and a summary of the permits necessary for the Expansion Project as well as an indication as to whether any federal funds have been allocated for the project.

On September 24, 2004 AMEC distributed a package of information to potentially interested parties, as well as to agencies that may have a permitting or approval role with respect to the proposed HPOWER Expansion Project. That package included a copy of the Preparation Notice for the HPOWER Expansion, including a project description, locus map, and on page 22, a summary of the anticipated permits and approvals.

I am writing to you now to formally request a determination on the basis of that information but also to clarify some additional items. First, I wanted to confirm that no federal funds are being used for this project. Secondly, I wanted to reiterate that on the basis of conversations and map exchanges with the City and County of Honolulu Department of Planning and Permitting (DPP), the HPOWER site is not within the Special Management Area (SMA) and is not within the Shoreline Setback Area. In addition, AMEC prepared map overlays of information provided by the City and County of Honolulu DPP to determine if three (3) parcels that are under consideration for use as temporary equipment laydown and parking areas would be within either

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www.amec.com

the SMA or Shoreline Setback Area. It has been determined by AMEC on the basis of that mapped information that though all three parcels are outside the Shoreline Setback Area, a small portion of the northernmost parcel (parcel 035) is within the SMA. HPOWER will avoid the area determined to be within the SMA, though portions of that parcel outside the SMA remain under consideration for temporary use. We have requested a determination from DPP relative to required setbacks or construction delineation that may be needed prior to use of the remainder of parcel 035.

AMEC has requested formal determination by the City and County of Honolulu DPP. I am attaching a copy of that request for your reference. Pending the City and County of Honolulu DPP determinations, we are seeking a determination from your office regarding the information currently available. I am also enclosing a copy of the Preparation Notice with the project description permit summaries for your use.

If you have any additional questions or concerns or would like additional information prior to making a determination please feel free to call me at (978) 692-9090.

Sincerely,

Kellie M. Doherty
Energy Program Manager

Enclosures

cc: P. Anderson/B. Magee – AMEC
B. Bahor/R. Graham - Covanta

LINDA LINGLE
GOVERNOR
THEODORE E. LIU
DIRECTOR
STEVE BRETSCHNEIDER
DEPUTY DIRECTOR
MARY LOU KOBAYASHI
ADMINISTRATOR
OFFICE OF PLANNING

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-10704

November 9, 2004

Ms. Kellie M. Doherty
AMEC Earth & Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, Massachusetts 01886

Dear Ms. Doherty:

Subject: Hawaii Coastal Zone Management (CZM) Program Federal Consistency Requirements for the HPOWER Expansion Project, Kapolei, Oahu, Hawaii

This responds to your letter dated November 5, 2004, requesting a determination whether a CZM federal consistency review is required for the HPOWER Expansion Project. According to the information you provided, the project has no federal involvement, requires no federal license or permit that is identified by the Hawaii CZM Program as requiring review, and will not be receiving any federal funds from sources that require CZM review. On this basis, we confirm that a CZM federal consistency review is not required for this project. However, the project may be subject to Special Management Area requirements, which are administered by the City and County of Honolulu, Department of Planning and Permitting.

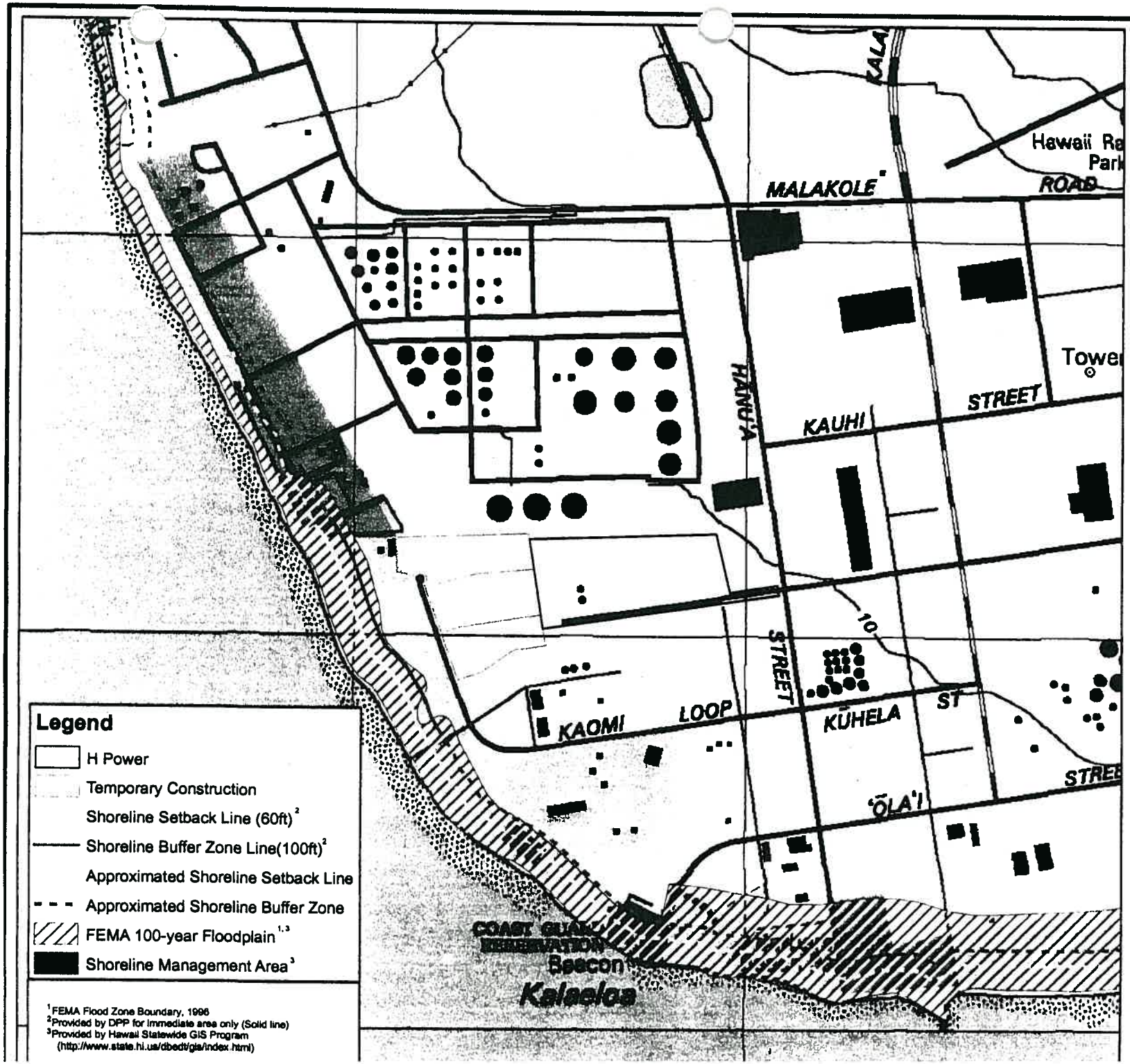
This determination is not an endorsement of the project nor does it convey approval with any other regulations administered by any State or County agencies. Thank you for your cooperation in complying with Hawaii's CZM Program. If you have any questions please call John Nakagawa of our CZM Program at (808) 587-2878.

Sincerely,

Mary Lou Kobayashi

Mary Lou Kobayashi
Administrator

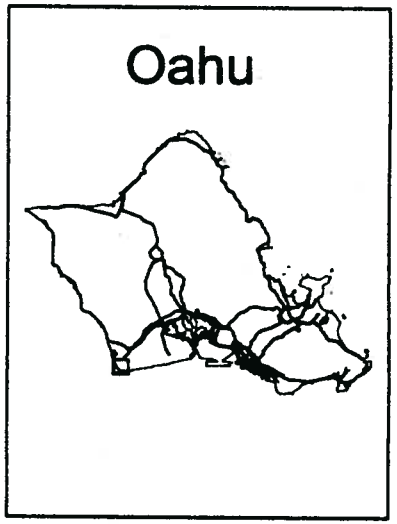
c: Eileen Mark, City & County of Honolulu, Dept. of Planning & Permitting



Surface Water Constraints Map

HPOWER

Location Map



NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters
Source: Scanned USGS Topographic Quad - 2000

Site Locus Map
TaxMap Key # 9-1-026:030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

amec

Figure 1


Hawaii
Office of Planning
(Coastal Overlays)

November 5, 2004

Ms. Eileen Marks
Land Use Approval Branch
City and County of Honolulu
Division of Planning and Permitting (DPP)
650 So. King St.
Honolulu, Hawaii 96813

Re: HPOWER Expansion Project, Kapolei, Hawaii

Attention Ms Marks:

This letter is in reference to our conversations in May of this year and our follow-up conversations at the end of September regarding how best to document the location of the proposed HPOWER Expansion Project with respect to existing Special Management Area (SMA) and Shoreline Setback Area boundaries. Based on the information presented by you in May it is clear that the HPOWER facility site is situated outside of both the SMA and Shoreline Setback Areas.

AMEC followed up with you at the end of September because it became necessary to consider the use of three (3) adjacent parcels for temporary construction laydown and parking. The parcel numbers, from north to south, are 9-1-026:035, 034, and 033. Since these parcels are closer to the boundaries of concern, AMEC worked with maps and GIS information supplied by your staff at DPP to create the attached overlay map (Figure 1). DPP maps show that the SMA line is predominantly situated west of Kaomi Loop and that the Shoreline Setback Line would be anticipated to occur even further west within the lots that are one lot in from the ocean as opposed to further inland, east of Kaomi Loop. Mapped Shoreline Setback lines were provided by DPP for the site area only (solid green and yellow lines), so AMEC has extended them on Figure 1 as dashed lines where no DPP data was provided and it is understood that these dashed lines are estimates.

As shown on Figure 1, the HPOWER site is not within the Special Management Area (SMA) and is not within the Shoreline Setback Area. Furthermore, It has been determined by AMEC, on the basis of the mapped information, that all three of the parcels under consideration for temporary use as construction laydown and parking are outside the DPP Shoreline Setback Area. However, a small portion of the northernmost parcel (parcel 035) is within the SMA where that parcel extends slightly west of Kaomi Loop. HPOWER will avoid the area determined to be

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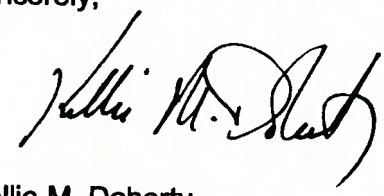
239 Littleton Road, Suite 1B
Westford, MA 01886 USA
Tel (978) 692-9090
Fax (978) 692-6633
www.amec.com

within the SMA, though portions of parcel 035 that are outside the SMA remain under consideration for temporary use. Please advise us as to necessary setbacks or construction delineation required by DPP regulation, that may be needed prior to use of the remainder of parcel 035.

To ensure that all necessary information is made available to your office and to document these findings for the purposes of the Draft Environmental Impact Statement (EIS) now being prepared, I am writing to you now to formally request a determination by DPP. I am enclosing an additional copy of the Preparation Notice describing the proposed Expansion Project, for your reference.

Thank you so much for all the assistance provided by yourself and your staff. If you have any additional questions or concerns or would like additional information prior to making a determination please feel free to call me at (978) 692-9090.

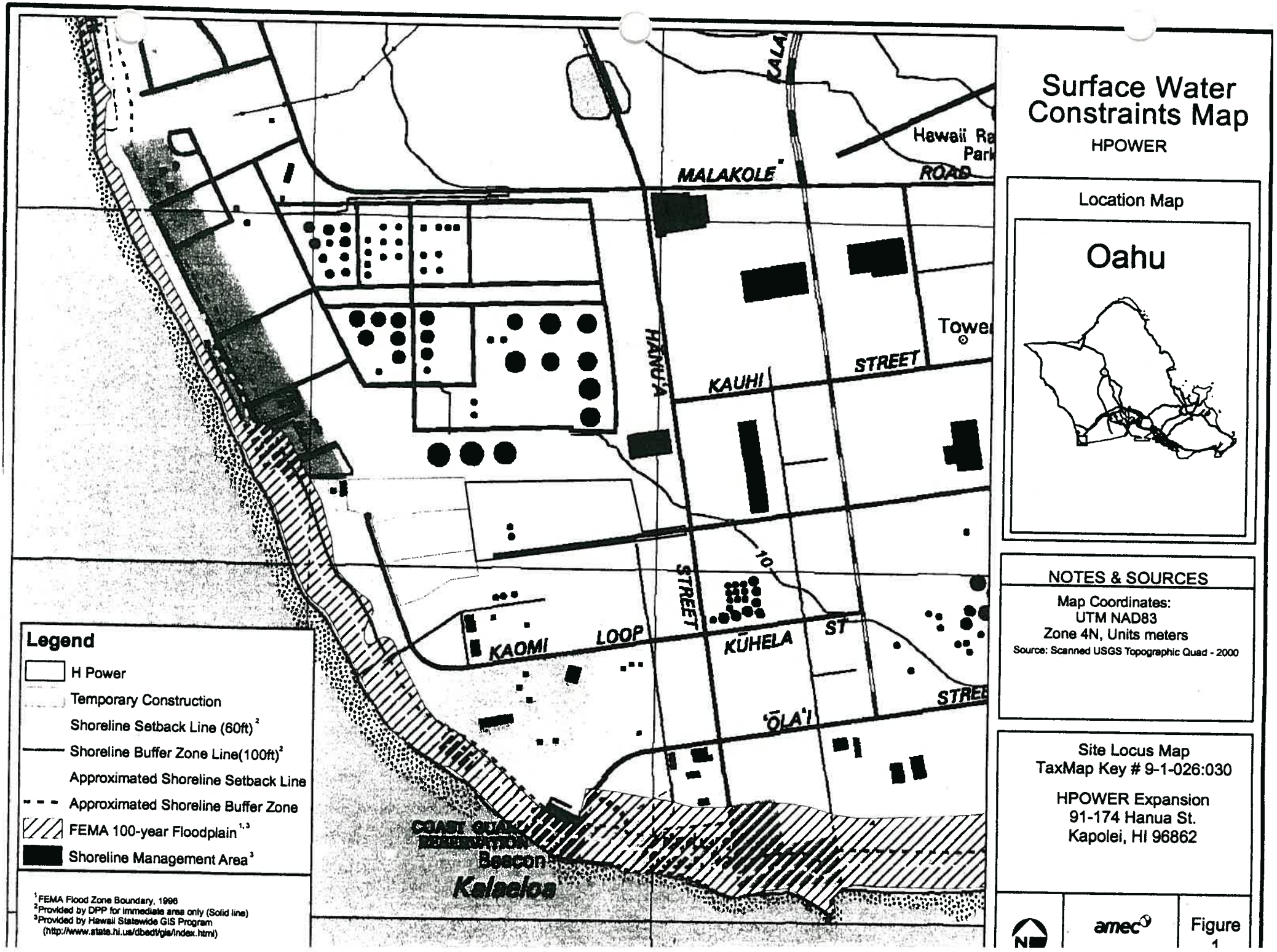
Sincerely,



Kellie M. Doherty
Energy Program Manager

Enclosures

cc: P. Anderson/B. Magee – AMEC
B. Bahor/R. Graham - Covanta



Surface Water Constraints Map

HPOWER

Location Map

Oahu

NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters
Source: Scanned USGS Topographic Quad - 2000

Site Locus Map
TaxMap Key # 9-1-026:030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

N

amec

Figure 1

November 5, 2004

Attention: AWP-520, Ms. Karen MacDonald
Air Traffic Division
15000 Aviation Boulevard
Lawndale CA 90261

Re: HPOWER Expansion Project, Kapolei, Hawaii

Attention Ms. MacDonald:

AMEC is a Consulting and Engineering Firm engaged in environmental review and documentation of potential environmental impacts for the proposed Expansion of the existing HPOWER Waste-to-Energy Facility in Kapolei, Hawaii on the island of Oahu. The proposed Expansion consists of the addition of a third Municipal Waste Combustor (MWC) to the two currently operating at the facility along with ancillary utility and air pollution control equipment. As shown on Figure 1, the HPOWER Facility is located on 24.635 acres of industrially zoned and developed property, situated within the Campbell Industrial Park at Barbers Point. Figure 1 depicts the site as well as nearby parcels under consideration for temporary construction parking and equipment laydown. Figure 2 shows the site in relation to the nearest airports, and Figure M200 depicts the site general arrangement.

AMEC has previously provided your office with a package of information about the project (a copy of the Preparation Notice filed with the City/County of Honolulu under the State EIS procedures was forwarded at the end of September). We are now filing the enclosed Notice of Proposed Construction or Alteration in order to obtain a determination from your office regarding the need for any additional study or lighting associated with the proposed construction.

If you have any additional questions or concerns or would like additional information prior to making a determination please feel free to call me at (978) 692-9090.

Sincerely,

Kellie M. Doherty
Energy Program Manager

Enclosures

cc: P. Anderson/B. Magee – AMEC
B. Bahor/R. Graham - Covanta

AMEC Earth & Environmental, Inc.
239 Littleton Road, Suite 1B
Westford, MA 01886 USA
Tel (978) 692-9090
Fax (978) 692-6633
www.amec.com

Please Type or Print on This Form

Form Approved OMB No. 2120-0001

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY
Aeronautical Study Number

1. Sponsor *(person, company, etc. proposing this action):*
Attn.of: Mr. Brian Bahor
Name: HPOWER (Covanta and City and County of Honolulu)
Address: Covanta
40 Lane Road, CN 2615
City: Fairfield State: NJ Zip: 07007-2615
Telephone: (973) 882-7236 Fax: (973) 882-4167

2. Sponsor's Representative *(if other than #1)* :
Attn.of: Kellie M. Doherty
Name: AMEC
Address: 239 Littleton Road, Suite 1B
City: Westford State: MA Zip: 01886
Telephone: 978-692-9090 Fax: 978-692-6633

3. Notice of: [X] New Construction [ ] Alteration [ ] Existing

4. Duration: [ ] Permanent [X] Temporary (24 months, ____ days)

5. Work Schedule: Beginning summer 2005 End summer 2007

6. Type: [ ] Antenna Tower [X] Crane [ ] Building [ ] Power Line
[ ] Landfill [ ] Water Tank [ ] Other

7. Marking/Painting and/or Lighting Preferred:
[ ] Red Lights and Paint [ ] Dual - Red and Medium Intensity White
[ ] White - Medium Intensity [ ] Dual - Red and High Intensity White
[ ] White - High Intensity [X] Other please advise-constr. equip.

8. FCC Antenna Structure Registration Number *(if applicable):*
Not applicable

9. Latitude: 21 ° 18 ' 27 . 00 "
10. Longitude: 158 ° 6 ' 38 . 00 "
11. Datum: [ ] NAD 83 [X] NAD 27 [ ] Other
12. Nearest: City: Honolulu State: HI
13. Nearest *Public-use* (not private-use) or Military Airport or Heliport:
Barber's Point Naval Air Station (inactive) & Hickham AFB (active)
14. Distance from #13. to Structure: 55,276 feet (~10.5 miles)
15. Direction from #13. to Structure: West
16. Site Elevation *(AMSL)*: 13.45 ft.
17. Total Structure Height *(AGL)*: 290.04 ft.
18. Overall Height *(#16. + #17.) (AMSL)*: 303.49 ft.
19. Previous FAA Aeronautical Study Number *(if applicable)*:
Unknown - OE

20. Description of Location: *(Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey.)*
Figure 1 is a site locus map on USGS 7.5 minute Quadrangle Map showing both the site and the parcels to be used for temporary construction equipment storage and temporary construction parking. Figure 2 shows the site in relation to the nearest airports. Figure M200 is a site general arrangement depicting the proposed Expansion of the HPOWER Facility, directly adjacent to the existing structures.

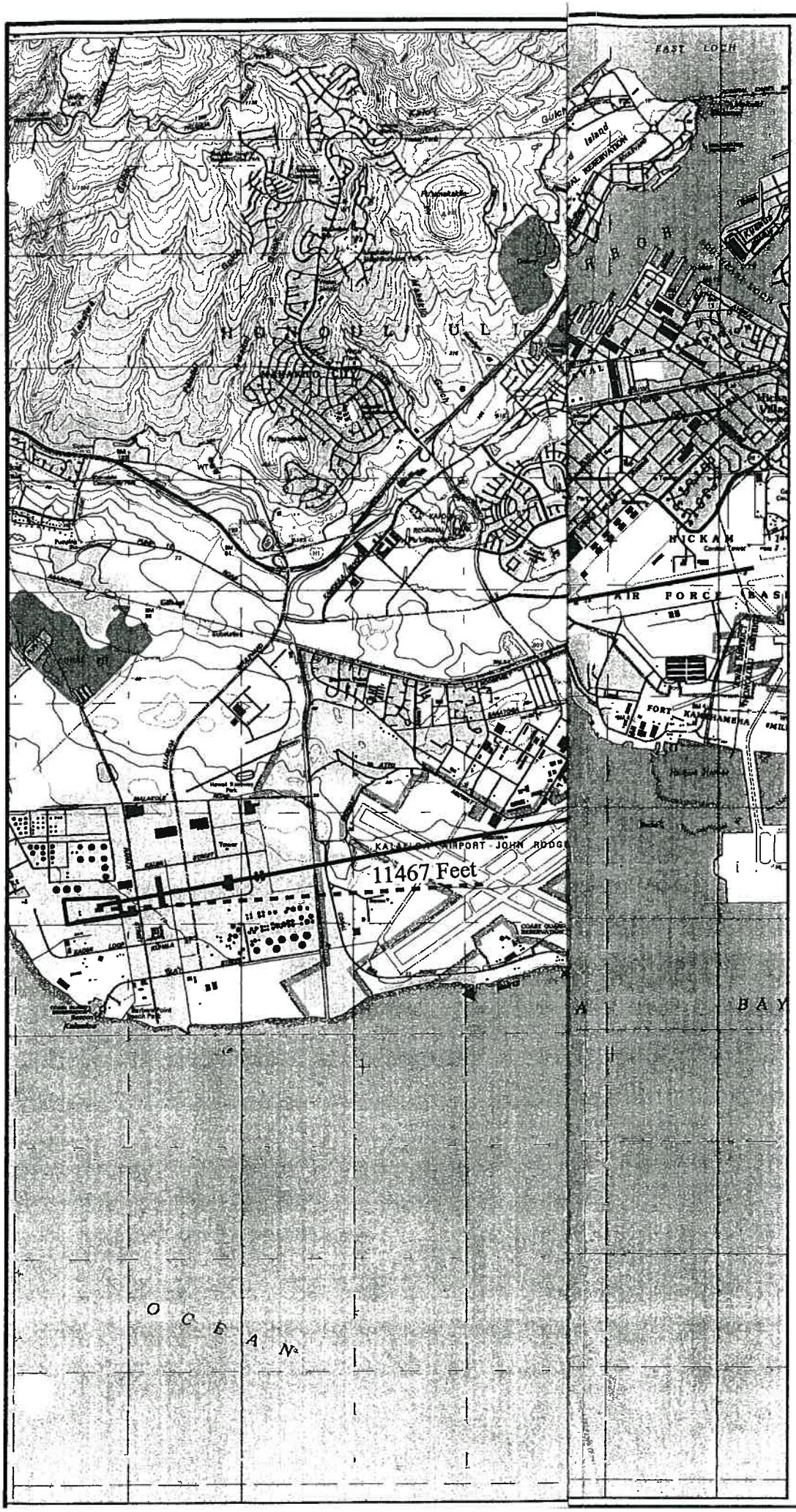
21. Complete Description of Proposal:
The HPOWER Expansion Project ("Expansion") consists of the addition to the Facility of a third 854 tons per day ("TPD") steam generator, its associated air pollution control equipment, and all the equipment required to tie the addition into the existing HPOWER Facility. It includes modifications and additions to the existing waste feed system and ash handling and other utility systems necessary for the new equipment. Although no change to the existing stack height is proposed and the expanded facility will not exceed the heights of the existing buildings, it is anticipated that cranes and other elevated construction equipment will be required on a temporary basis. The maximum heights of cranes and construction equipment are estimated at 200 feet and will not exceed the existing stack height of 303.49 feet above mean seal level (AMSL). The existing stack location and elevation are used above as the "not to exceed" height for all facilities, including temporary construction equipment as well as all permanent structures. It is anticipated that cranes will be utilized during daylight hours but lighting can be provided if required.

Frequency/Power (kW)	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301 (a).

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date	Typed or Printed Name and Title of Person Filing Notice	Signature
November 5, 2004	Kellie M. Doherty	Kellie M. Doherty

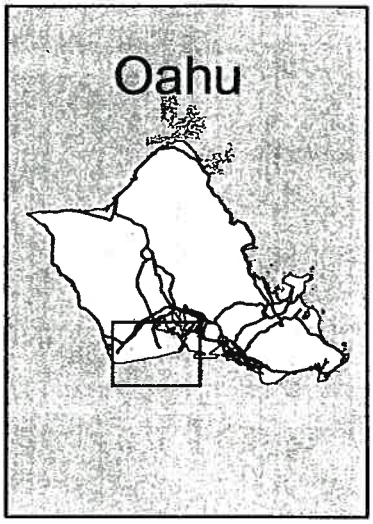


Location of HPOWER Site

Legend

- H-Power
- Non-operational Airport
- Operational Airport

Location Map



NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters

Source: Scanned USGS Topographic Quad - 2000

0 1,000 2,000 4,000 Feet

TITLE

Site Locus Map
TaxMap Key # 91026030

HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

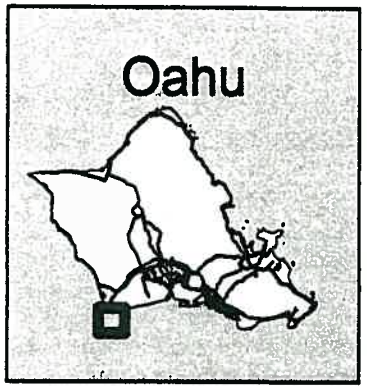
amec

October 25, 2004

Figure 2

Location of HPOWER Site

LOCATION MAP



LEGEND

- H-Power
- Temporary Construction Laydown Area

NOTES & SOURCES

Map Coordinates:
UTM NAD83
Zone 4N, Units meters

Source: Scanned USGS Topographic Quad - 2000

0 1,600 3,200 Feet

TITLE

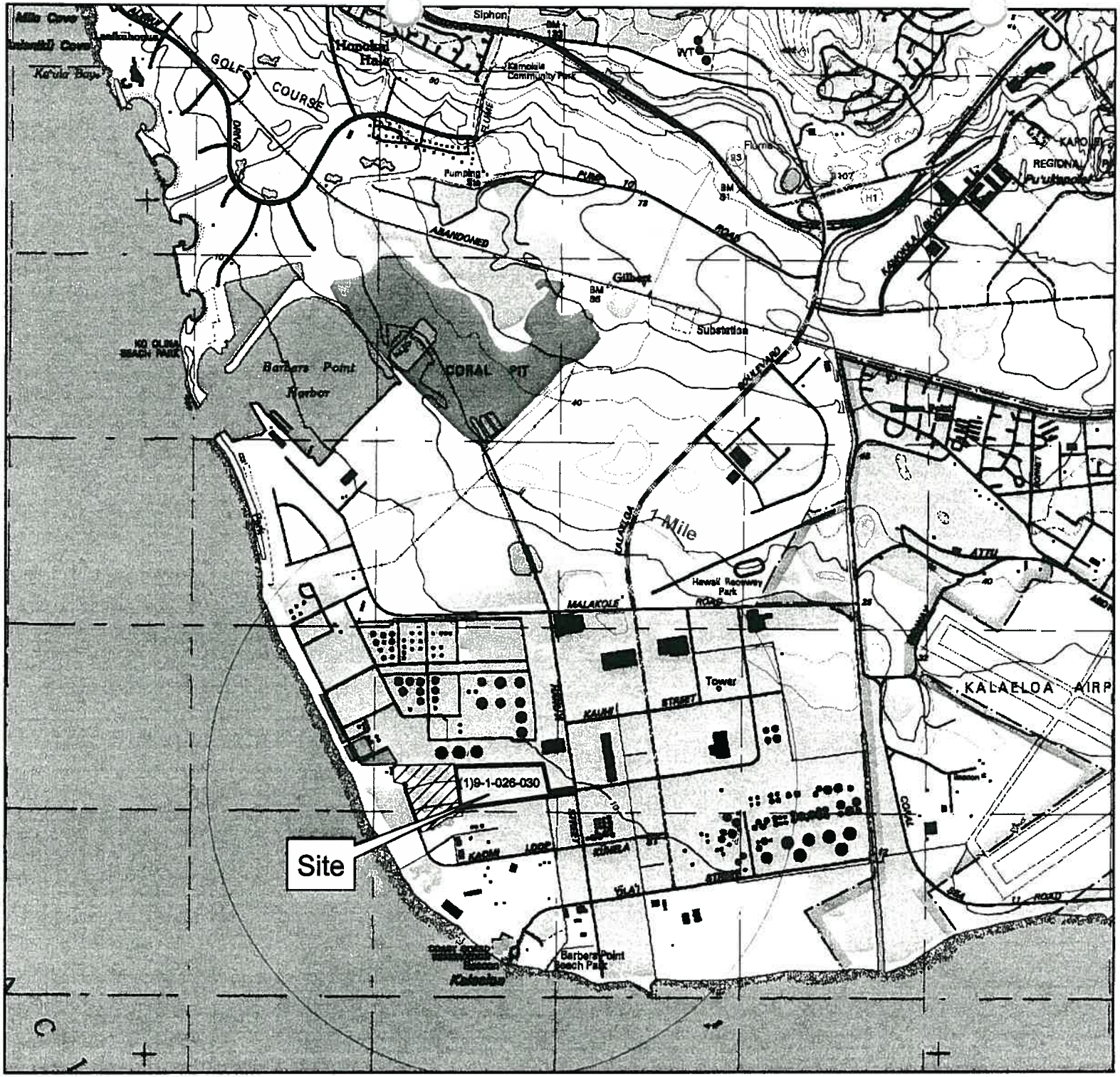
Site Locus Map
TaxMap Key # (1)9-1-026-030

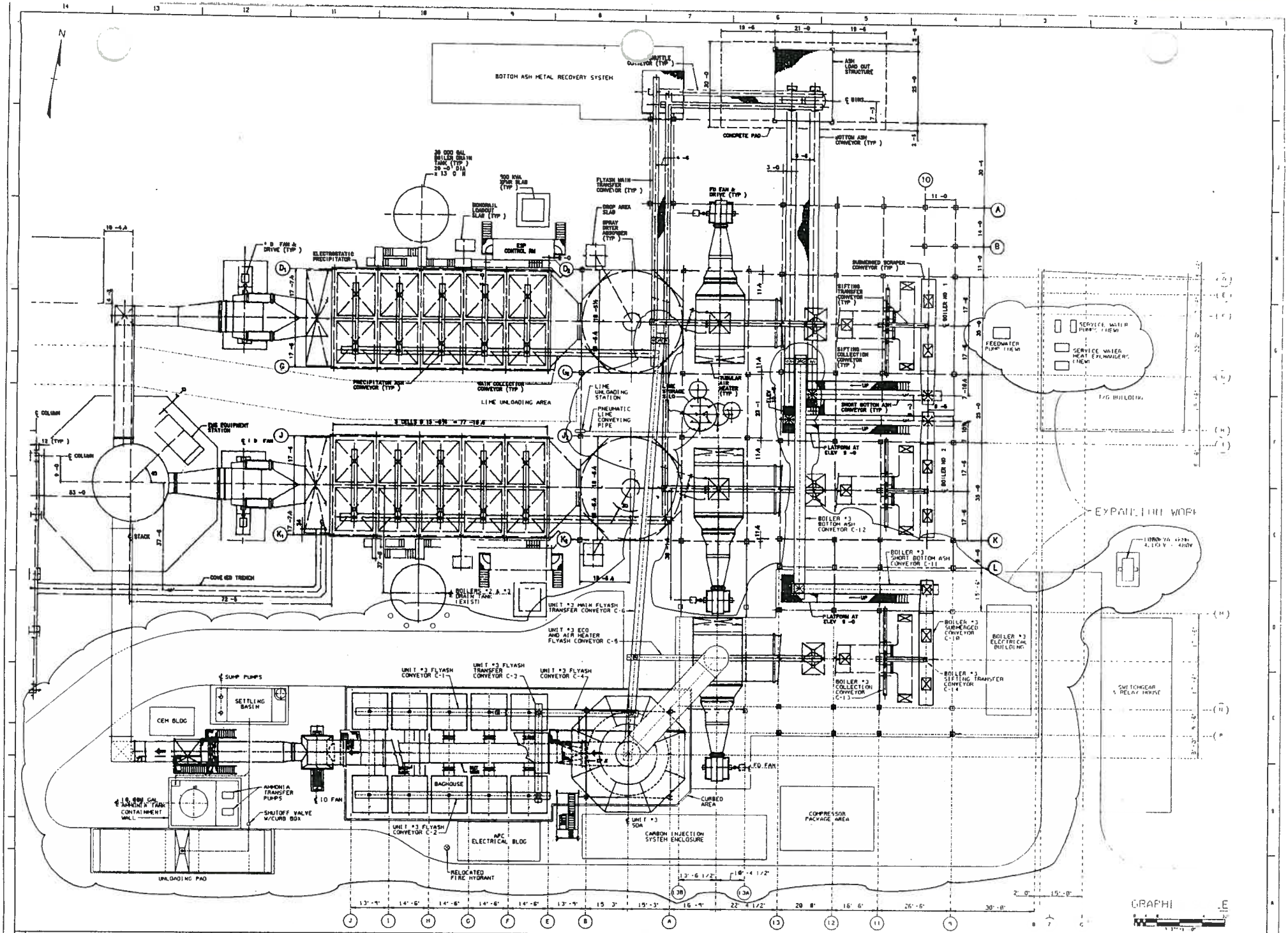
HPOWER Expansion
91-174 Hanua St.
Kapolei, HI 96862

amec

November 5, 2004

Figure 1





IPOWER PROJECT
BOILER NO. 3 ADDITION
GENERAL ARRANGEMENT

STATUS: 5-28-03

BURNS AND ROE ENTERPRISES, INC.
(Engineers) and (Constructors - Oradell)

Federal Aviation Administration
Western Pacific Regional Office
PO Box 92007-AWP-520
Los Angeles, CA 90009-2007

Aeronautical Study No.
2005-AWP-591-OE

Issued Date: 2/7/2005

MR. BRIAN BAHOR
HPOWER
40 LANE ROAD
FAIRFIELD, NJ 07007-2615

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure Type:	HPOWER EXPANSION PROJECT TEMPORARY CRANE
Location:	HONOLULU, HI
Latitude:	21-18-15.62 NAD 83
Longitude:	158-6-28.12
Heights:	290 feet above ground level (AGL)
	304 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does exceed obstruction standards but would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure should be marked and/or lighted in accordance with FAA Advisory Circular 70/7460-1 70/7460-1K, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

This determination expires on 2/7/2007 unless:

(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.