Subject: Kalaeloa Renewable Energy Park (Ewa Field) - Navy Determination of Effect

Aloha All:

Thank you all for your continued efforts to participate in the Section 106 review for the Kalaeloa Renewable Energy Park. The insights you've shared have greatly helped the Navy in its preparation of the final Determination of Effect for the project. The determination letter has been delivered to SHPD and is attached for your review and comment. Please note that comments are due by close of business on Wednesday, 23 November 2011.

This is a public document and I encourage you to share it with anybody you think may have an interest in the project. It will also be posted to the Navy Region Hawaii website within the next day.

The Section 106 review process is not always simple, and I hope you will accept my personal gratitude for the time and dedication you've shared with the Navy to help us work towards a balanced solution for this important project.

Mahalo!!
Ellyn

PS - Unsigned Draft of the letter is included for clarity of Figures. Enclosures #1 (Proposal) and #2 (Battlefield Study) are too large to send via e-mail -- please let me know if you do not have the copy provided earlier and I will send a CD for your reference.

PPS - Our work is not yet done! I hope to meet for our next Consulting Party meeting in two weeks (tentatively, Tuesday 08 November) -- please let me know your availability.

Ellyn P. Goldkind, RA
Historic Preservation Officer
Navy Region Hawaii / NAVFAC Hawaii
400 Marshall Road
Bldg. X-11, Code EV5
Pearl Harbor, HI 96860-3139

Voice: 808-471-1171, x356
Mobile: 808-282-2510
Fax: 808-471-1160
Email: ellyn.goldkind@navy.mil

DEPARTMENT OF THE NAVY
COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
JBPHH, HAWAII 96860-5101

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Ser N45/ 1412
October 24, 2011

CERTIFIED MAIL NO. 7010 0290 0002 1769 6864

Ms. Pua Aiu, PhD.
Administrator
Department of Land and Natural Resources
State Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, HI 96707

Dear Ms. Aiu:

SUBJECT: SECTION 106 CONSULTATION FOR PROPOSED KALAELOA RENEWABLE ENERGY PARK, OAHU, HAWAII.

Pursuant to Section 106 of the National Historic Preservation Act, the Navy requests your review of the proposed Kalaeloa Renewable Energy Park (Barber's Point), Oahu, Hawaii. In accordance with the implementing regulations for Section 106 of the National Historic Preservation Act (NHPA), we have reviewed the project and determined that it is an undertaking as defined in 36 CFR 800.16(y).

Project Description

This project proposes to construct a 5.91 MW photovoltaic (PV) field array on approximately 20 acres of land at Kalaeloa, a location selected for its high solar radiation output. Consultation for this Undertaking is being led by the Navy on behalf of Ford Island Ventures (FIV), the current lessee. The proposal includes a sublease by FIV to the Kalaeloa Renewable Energy Park LLC, a company formed to develop this PV project.

The proposed site is on a stretch of land south of the 1941 Ewa Field Runway. This "panhandle" location affords the opportunity to construct this important renewable energy project while avoiding the historic runway known to be one of the first sites attacked on December 7, 1941. Due to known historic resources and any potential for archeological finds, the project has been designed to incorporate fully reversible and modern renewable energy features while minimizing ground penetrations or excavations.

An initial proposal to locate the installation on the 1941 Ewa Field Runway is no longer being considered. The "Panhandle" proposal outlined herein is the Undertaking currently under consideration. Refer to *Figure 1* for alternative locations considered.

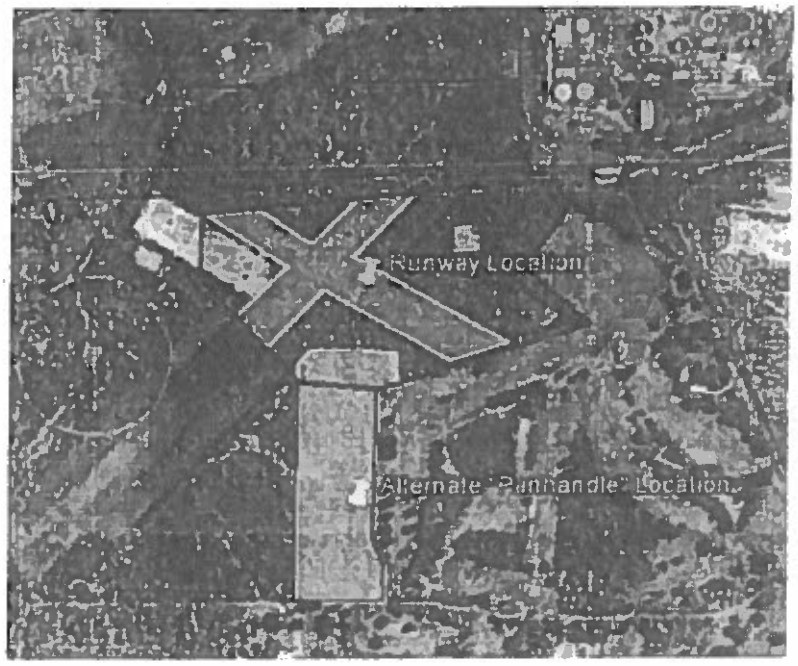

Figure 1: Alternatives Considered

The proposed undertaking for development of the "Kalaeloa Renewable Energy Park" includes installation of the following (*ground-disturbing activities identified in italics*):

- Approximately 21,000 Photovoltaic (PV) polycrystalline panels installed on a fixed-axis modular racking system that uses non-penetrating concrete ballasts. The height of panels is approximately three feet (3'). *Minimal grubbing and grading will be required to provide an acceptable surface for the racking system.*
- Mechanical building, approximately 140 square feet (10' x 14') in area and eight feet (8') in height. *Excavation of between 12" to 18" will be required to prepare for poured-in-place concrete slab foundation.*
- Ten power centers, each containing two inverters and auxiliary equipment and measuring approximately 352 square feet (16' x 22') in area and six feet (6') in height. Connections between power centers will be made via above-ground conduit. *Excavation of between 12" to 18" will be required to prepare for poured-in-place concrete slab foundation.*
- Eight-foot (8') high chain-link perimeter fence with posts spaced at ten feet (10') on center. *Fence post footings will be excavated to a depth of three feet and six inches (3'-6").*

- A two-inch (2") water line extending approximately 1,700 feet through the middle of the array and within the existing communication line easement. *Narrow trenching will require excavation to a depth of approximately one foot (1').*
- Landscaped buffer native trees and plants around perimeter of project.
- Golf ball net approximately thirty feet (30') high with twelve inch (12") diameter poles spaced at approximately sixty feet (60') on center. *Pole footings will be excavated to an estimated depth of four to five feet (~4'-5').*
- High-voltage (46kV) overhead transmission line connecting to HECO power grid. Poles of approximately 50' in height, along property line and/or within existing road rights-of-way. *Pole footings will be excavated to a depth of five to six feet (5'-6').*
- Twelve-foot (12') wide unpaved access/maintenance road along the path of the overhead transmission line and through the middle of the array. *Minimal grubbing and grading will be required to provide an acceptable surface for the road.*

Additional information may be found in the Project Proposal (Enclosure 1) as well as a supporting Battlefield Inventory and Evaluation (Enclosure 2) included herein.

Area of Potential Effect

The Area of Potential Effect (APE) has been determined based on the location of project components as well as offsets dependent on component heights. An offset of 1,000-foot (radius) has delineated the visual APE around all potential locations for utility poles and a 50-foot offset has delineated the visual APE around all other above-ground energy components. Refer to Enclosure 3 for APE as well as the historic properties identified within that APE.

The APE was defined with guidance from the Navy's core historic preservation partners as well as through research of comparable installations (i.e., utility lines/poles) that have been evaluated under the NHPA as well as under the National Environmental Policy Act (NEPA).

Identification of Historic Properties

Past cultural resource investigations (refer to List of References (Enclosure 4) as well as a more recent Environmental Assessment for the "Conveyance of Navy Retained Land and Utility Systems" prepared in August 2008 have been used to identify historic resources in and around the APE. Identified resources within the APE include various foundations and sites at the Ewa Field Installation associated with December 7, 1941; portions of the WWII (1945) Marine Corps Air Station (MCAS) Ewa Installation, including portions of Runway #8, the Compass Rose, and Revetments #1 and #2; and three Cold War era structures. No native Hawaiian archeological sites have been identified within the APE, but the Navy acknowledges that archeological investigations for military sites have not yet been completed.

The following provides a synopsis of individual resources -- refer to *Inventory* section of Enclosure 2 for more detailed information and graphic/documentary information:

- **Ewa Field Runway / Warm-up Platform** (1941)

  An X-shaped airfield runway with arms 300' wide and varying in length from 900' to 1600'. The northwest runway has aircraft tie downs at 20' intervals and was used as a parking apron. The runways and parking surfaces have a surface of macadam that is largely obscured at present by invasive vegetative growth. A 300' wide concrete aircraft warm-up platform lies along the south edge of the northwest parking apron.

  A 1941 aerial photo shows that at least 44 aircraft were located at the site. Over 30 of these aircraft were either destroyed or rendered inoperable by the Japanese on December 7, 1941.

- **Ewa Field Entrance Road** (1941)

  Aspalt-paved entrance road, partially extant, leading south from Roosevelt Avenue. The road originally provided access to sites/structures no longer extant, including a mooring mast, mess hall, camp area, tents, dispensary and sick bay, support structures, and parking lot.

- **MCAS Ewa Runway #8** (1944)

  Asphalt-paved runway constructed as part of the WWII expansion of Ewa Field to become MCAS Ewa. Runway is approximately 300' wide and is largely obscured at present by invasive vegetative growth.

- **MCAS Ewa Compass Rose** (1944)

  Surface-treated concrete pad 200' square with a 10' diameter raised concrete pad at center. Radiating from the 10' diameter pad are the ghosts of 24 painted lines that formed the compass points.

  The radial lines of the compass rose are aligned to the points of the compass and were used to calibrate the magnetic compass of aircraft. The aircraft would taxi to the center of the rose and, with its engine running, would be rotated through the compass points of the rose to confirm or correct compass readings in the aircraft.

  The Compass Rose was originally accessed by aircraft via driveways at its east and west ends that connected to north-south Runway 17 (east end) and the taxiway along northeast-southwest Runway 21 (west end).

- **MCAS Ewa Revetments #1 and #2** (1942-3)

  Two of 75 extant vaulted reinforced concrete aircraft revetments constructed as part of the WWII expansion of MCAS Ewa. The half-dome structures measure approximately 18' high, 55' wide, and 40' deep. The revetments are in good conditions and several are currently under lease for use as horse stables.

  The revetment district was determined potentially eligible, under Criteria A and C, for listing on the National Register of Historic Places in 1997.

- **Administration Building #972** (1958)

  Two-story concrete Cold War structure built as the administrative center of the Pacific Barrier program, and later serving as the headquarters of the Pacific Antisubmarine Patrol Wing. The International Style structure is considered potentially eligible for the National Register of Historic Places under Criterion A.

- **SOSUS Operations Building #1767** (1960)

  Single-story concrete building constructed to support the sound surveillance of underwater listening posts during the Cold War. The structure is considered potentially eligible for the National Register of Historic Places under Criterion A.

- **SOSUS Power Plant Building #1768** (1960)

  Single-story concrete building constructed to support the sound surveillance of underwater listening posts during the Cold War. The structure is considered potentially eligible for the National Register of Historic Places under Criterion A.

- **Archeological Resources**

  The proposed project Location and APE has undergone extensive modifications as a cattle ranching, sugarcane and sisal cultivation, and military installation. No archaeological sites have previously been identified in the proposed panhandle location. Initial settlement of the Ewa plain probably occurred between AD 1200-1400 to exploit fishing resources and the hunting of birds. The majority of pre-Contact sites are concentrated along the coastal zone. The closest cultural resources include Site 3721, a traditional Hawaiian habitation complex consisting of stone structures, and Site 3722, sisal walls (Welch 1987). These sites are located north across the existing Ewa Runway.

  No WWII military sites surveyed to date were identified in the proposed panhandle location. The closest WWII features are Site 5127, the Ewa Runway, and Site 5128, the remnant concrete footings, foundations, and pads. Site 5127 is located to the north and west of the project area, and a portion of Site 5128 (remnants of the administration complex of MCAS Ewa) is located south of the project area. Several Consulting Parties have identified the need to conduct additional investigations related to military archeology, citing the lack of physical investigations to date.

Section 106 Consultation

Due to the high level of public interest, consultation for this Undertaking was initiated with your office on 28 June 2011 (with provision of the original "runway" proposal and supporting "Battlefield Evaluation and Inventory" report); and the proposed project was presented to the public at a Public Informational Meeting on 19 July 2011.

Section 106 review was formally initiated at a public meeting on 04 August 2011. The project proposal and supporting documents were provided (either in hard copy or on compact disc) to all in attendance as well as via the Navy Region Hawaii website. At the initiation meeting, a 30-day public comment period was announced, with any

feedback in response to the provided documentation requested by 06 September 2011.

A total of 71 comments were received within 30 days (provided to all Consulting Parties under separate cover), with a vast majority of 49 explicitly requesting that an alternate location off of the Ewa Field 1941 Runway be considered as a way of avoiding adverse impacts to the resource (nine supported the runway location, five supported the renewable energy project but were undecided with regard to location, and eight contained statements not specific to the Undertaking). As a result of those comments as well as discussions held at Consulting Party meetings on 30 August and 13 September 2011, the Navy recommended to Ford Island Ventures that they consider other lands at the site and offered them guidance if choosing to revise their proposal in response to comments.

The proposed Undertaking that is the subject of this review represents the revised proposal received by FIV on 29 September 2011. A third consulting party meeting was held on 06 October to review the revised proposal. This Determination letter and the proposed response measures outlined in the last section of this letter reflect the discussions and outcome of that last consulting party meeting.

Determination of Adverse Effect

It is the determination of the Navy that this Undertaking will cause an adverse effect on historic properties within the APE. The following identifies potential effects, by historic resource:

- **Ewa Field Runway / Warm-up Platform**

  The Undertaking may cause an adverse direct/physical effect on the historic Ewa Field Runway surface if any poles for the transmission line that traverses the southeast runway cannot be re-routed.

  The Undertaking will cause an adverse visual effect on the runway, resulting primarily from power poles and overhead transmission line.

- **Ewa Field Entrance Road**

  The Undertaking will not cause an adverse direct/physical or visual effect on the historic Entrance Road. Due to dense vegetation and distance, it is unlikely that power poles and overhead transmission line will be visible from the road.

- **MCAS Ewa Runway #8**

  The Undertaking will cause an adverse direct/physical and visual effect on the historic MCAS Ewa Runway, obscuring it both visually and physically with the installed PV array. There will also be an adverse visual effect resulting from power poles and overhead transmission line.

- **MCAS Ewa Compass Rose**

  The Undertaking will cause an adverse visual effect on the historic Ewa Field Runway, resulting primarily from power poles and overhead transmission line. No direct/physical adverse effects will result.

- **MCAS Ewa Revetments #1 and #2**

  The Undertaking will not cause an adverse physical or visual effect on the historic Revetment District. Due to dense vegetation and low profile of PV components in close proximity to the Revetments, it is unlikely that any project elements will be visible from the site.

- **Administration Building #972**

  The Undertaking will cause an adverse visual effect, resulting primarily from power poles and overhead transmission line. No direct/physical adverse effects will result.

- **SOSUS Operations Building #1767**

  The Undertaking will cause an adverse visual effect, resulting primarily from power poles and overhead transmission line. No direct/physical adverse effects will result.

- **SOSUS Power Plant Building #1768**

  The Undertaking will cause an adverse visual effect, resulting primarily from power poles and overhead transmission line. No direct/physical adverse effects will result.

- **Archeological Resources (Native Hawaiian)**

  Based on the absence of any known historic properties within the Alternative Panhandle Location, together with extensive previous ground disturbing activities, the proposed Undertaking will not

affect any Native Hawaiian archeological resources. However, as a precaution and in compliance with the 2008 O'ahu ICRMP, archaeological monitoring shall be conducted for all ground disturbing activities associated with the subject undertaking.

- **Archeological Resources (Military)**

  Due to the limited survey data for military archeological resources, it is unknown if any excavations will cause adverse effects to these resources.

Proposed Ways to Avoid, Minimize, or Mitigate Adverse/Unknown Effects

As a result of Section 106 consultation with your office and other Consulting Parties (refer to Enclosure #5 for List of Consulting Parties), we propose the following ways to avoid, minimize, or mitigate the potential adverse effects.

- Limit activity (i.e., no new development) within the 1941 Ewa Field installation boundary or in areas of extant MCAS Ewa resources until a formal Determination of Eligibility (DOE) has been made by the Keeper of the Register.
  - DOE will be a Navy action to begin within six months of conclusion of this Section 106 review.
  - DOE will include a final proposed battlefield boundary developed in collaboration with SHPD and the National Park Service Battlefield Protection Program.

- Implement the following design modifications to minimize physical/visual impacts:
  - Retain non-penetrating, low-profile racking/panel PV system
  - Use black chain link fencing in lieu of galvanized.
  - Align power poles within easements and rights-of-way for existing power lines.
  - Explore agreements with adjacent landowners that may eliminate transmission line crossing of southeast runway corner.
  - Limit height of power poles and perimeter fence to minimum acceptable/safe standard [dependent on HECO engineering].
  - Provide temporary protection of identified historic resources during construction, particularly when work is in close proximity (i.e., Power Line installation near Compass Rose).
  - Use vegetation to visual screen photovoltaic array, particularly adjacent to Revetment district and golf course.

- Perform on-site archeological monitoring for all ground-disturbing activities; and in collaboration with SHPD archeologist and the National Park Service Battlefield Protection Program, develop a remote sensing testing plan to aid in defining WWII battlefield boundaries and event locations.

- Improve access to the concrete warm-up platform by removing and keeping clear of all vegetation and debris. Allow scheduled visitation/use for non-profit groups (that maintain corporate liability insurance) to facilitate interpretation and commemorative activities at the site.

- Provide financial support (contribution pledge from FIV) to initiate development of an *Ewa Field Task Force* focusing on Ewa Field's History and role in the events of December 7, 1941. This Task Force will perform the following:

  - Serve as the lead entity for future public-benefit partnerships with the Lessees.
  - Evaluate opportunities for interpretation/commemoration.
  - Perform financial accounting of contributions and related fundraising efforts.
  - Maintain liability insurance and record of visitors to the site.
  - Coordinate with Lessees to establish protocols for access to U.S. Government owned/leased lands.

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October 24, 2011

The Navy supports this important renewable energy project and greatly appreciates the level of effort and participation shown by your office to date. Should you have any questions regarding this proposed Undertaking, please contact Ms. Ellyn Goldkind, Historic Preservation Officer, Naval Facilities Engineering Command Hawaii at 808-471-1171, x356 or e-mail at ellyn.goldkind@navy.mil.

Sincerely,

FOR J. CORONADO
Captain, CEC, U.S. Navy
Regional Engineer
By direction of the Commander

Enclosures:
1. Project Proposal "Kalaeloa Renewable Energy Park Project" (29 September 2011, revised)
2. "Battlefield Evaluation of Ewa Field and Inventory of Historic Contexts" (March 2011)
3. Area of Potential Effect and Identified Historic Properties
4. List of References
5. List of Section 106 Consulting Parties

Copy to: Section 106 Consulting Parties, *see attached list (Enclosure #5)*