NEIL ABERCROMBIE
GOVERNOR

KATHRYN S. MATAYOSHI
SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

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OFC. OF ENVIRONMENTAL QUALITY CONTROL

November 28, 2012

TO: Mr. Gary Gill, Acting Director
Office of Environmental Quality Control
Department of Health

FROM: Duane Y. Kashiwai, Public Works Administrator
Facilities Development Branch
Department of Education

SUBJECT: Final Environmental Assessment (FEA-FONSI) for
Hale Kula Elementary School, Campus Improvements
Tax Map Key (1) 7-7-001:003, Wahiawā, Oahu, Hawaii

The State of Hawai'i, Department of Education hereby transmits the final environmental assessment and finding of no significant impact (FEA-FONSI) for the Hale Kula Elementary School Improvements situated at TMK (1) 7-7-001:003, in the District of Wahiawā on the island of O`ahu, for publication in the next available edition of *The Environmental Notice*.

Enclosed is a completed OEQC Publication Form, two copies of the FEA-FONSI, an Adobe Acrobat PDF file of the same, and an electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

If there are any questions, please contact Brenda Lowrey at (808) 377-8312.

DYK:jmb

Enclosure

AGENCY ACTIONS
SECTION 343-5(B), HRS
PUBLICATION FORM (JULY 2012 REVISION)

Project Name Hale Kula Elementary School Improvements
Island: Oʻahu
District: Wahiawā
TMK: (1) 7-7-001:003
Permits: NPDES, Historic Preservation, Section 106 and Chapter 6E HRS; Plan Approval (County); Grubbing, Grading and Stockpiling Permit; Building Permits, demolition permits Occupancy Permit;, NEPA compliance/REC Concurrence & Infrastructure connection approvals (U.S. Army Garrison Directorate of Public Works)

Proposing/Determination Agency:
(*Address, Contact Person, Telephone*)

State of Hawaiʻi, Department of Education
Public Works
ATTN: Duane Kashiwai, Administrator
P.O. Box 2360
Honolulu, HI 96804
Phone: (808) 586-0434
Fax: (808) 586-0532

Consultant:
(*Address, Contact Person, Telephone*)

PBR HAWAII & Associates, Inc.
Catie Cullison, AICP
1001 Bishop Street, Suite 650
Honolulu, Hawaiʻi 96813
Telephone: (808) 521-5631
Fax: (808) 523-1402

Status (check one only):

__DEA-AFNSI — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqc@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.

_X_FEA-FONSI — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

__FEA-EISPN — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqc@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.

__Act 172-12 EISPN — Submit the proposing agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqc@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.

__DEIS	The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.
__FEIS	The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
__ Section 11-200-23 Determination	The accepting authority simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the proposing agency. No comment period ensues upon publication in the periodic bulletin.
__Section 11-200-27 Determination	The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.
__Withdrawal (explain)	

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page)**:**

In a jointly funded project, the State of Hawai‘i Department of Education and the Department of Defense (DoD) – Office of Economic Adjustment (OEA) propose the improvement of Hale Kula Elementary located on Schofield Barracks. A DoD assessment concluded that numerous structures are undersized, deficient or beyond their useful life. New classrooms that meet federal standards are needed and the electrical infrastructure requires upgrades to support current technology and air conditioning. The project will provide needed facilities that include a new expanded library/technology center, administrative center, student support center, ten classroom building, self-contained special education classroom, outdoor dining pavilion, and covered play court. The existing library and administration buildings are proposed for demolition and up to 14 portable classrooms removed from the campus. The remaining buildings and cafeteria will be renovated. Renovation will include the removal of lead-based paint and asbestos containing material as well as the installation of cabinets, floors, fans, lightning protection, paint and roofs as required based on the assessment. Incorporation of the these improvements will meet the requirements of the DoD program and are in line with the Department of Education’s standards for public schools within the state of Hawai‘i.

Hale Kula Elementary School Improvements

Final Environmental Assessment –
Finding of No Significant Impacts
(HRS 343)

Prepared for:
State of Hawai‘i, Department of Education

Prepared by:

PBR HAWAII
& ASSOCIATES, INC.

December, 2012

SUMMARY

Project Name:	Hale Kula Elementary School Improvements
Location:	Schofield Barracks, Wahiawā, O‘ahu
Judicial District:	Wahiawā
Tax Map Key (TMK):	(1) 7-7-001:003
Land Area:	Approximately 10.7 acres
Proposing Agency:	State of Hawai‘i Department of Education
Accepting Authority:	State of Hawai‘i Department of Education
Landowner:	State of Hawai‘i
Existing Use:	Public Elementary School on military installation
Proposed Action:	The Project will utilize State and Federal funds to design and construct school improvements to Hale Kula Elementary School. The improvements will include the renovation of interiors of existing permanent buildings, new construction in vacant areas, additions to existing buildings in adjacent open areas, the demolition of two existing structures for replacement with new construction, and removal/temporary reuse/demolition of up to 14 wood-constructed portable classrooms.
Current Land Use Designations:	*State Land Use:* Urban *Development Plan Area:* Central O‘ahu *Zoning:* F-1 (Federal and Military Preservation) *Special Management Area:* Outside of SMA boundaries
Alternatives Considered:	• Replacing the cafetorium with a new facility • Construction of a gymnasium • Alternate locations of 10-classroom building and special education classroom • Development of two separate buildings for the library and student center
Potential Impacts and Mitigation Measures:	The Project will improve the existing facilities at Hale Kula Elementary School and will have beneficial impacts on the student population by creating safer conditions, facilities capable of supporting 21st century technologies and recreational facilities that can be utilized regardless of the weather conditions.

Potential Impacts and Mitigation Measures (continued)

The potential adverse impacts, while minimal can be mitigated:

- Short-term construction impacts to air quality, noise, solid waste generation, hazardous material disturbance, storm water quality/quantity are anticipated. The Project will address these impacts through compliance with County, State and Federal rules, regulations, permit and variance requirements regarding fugitive dust, community noise control, hazardous materials, non-point source discharges. In addition, best management practices that include structural and non-structural controls designed to inhibit run-off, erosion, fugitive dust will be implemented. In addition, an increase in traffic may occur within Schofield Barracks during construction that will be mitigated through coordination with appropriate Schofield Barracks personnel and the creation of a plan designed to allow access while minimizing the inconvenience to motorists and lane closures.
- Long Term impacts to storm water quality/quantity and emergency access are anticipated if not addressed within the project design. To reduce such impacts the project will include low impact design utilizing such measures as splash blocks, decentralized filtering and infiltration, and grass paved access lanes to ensure storm water quality/quantity is not increased or degraded. The Project is not anticipated to impact listed species or their habitat, wetlands or any know archaeological or cultural resources. The site is not located within agricultural lands, nor within flood or tsunami zones. While the Site has structures over 50 years old, the facilities have been evaluated and are not considered 'historic' under any of the State or Federal criterion.

Determination: Finding of No Significant Impact

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LIST OF ACRONYMS AND ABBREVIATIONS

The following is a list of terms, abbreviations, and acronyms used in this document.

A	
ACM	Asbestos Containing Material
ACOE	U.S. Army Corps of Engineers
AIS	Archaeological Inventory Survey
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
B	
BMPs	Best Management Practices
BWS	City and County of Honolulu, Board of Water Supply
bgs	below ground surface
C	
CFR	Code of Federal Regulations
CWB	State of Hawai‘i, Clean Water Branch
CZM	Coastal Zone Management
D	
DBEDT	State of Hawai‘i, Department of Business, Economic Development, and Tourism
DCS	City and County of Honolulu, Department of Community Services
DFM	City and County of Honolulu, Department of Facility Maintenance
DHS	State of Hawai‘i, Department of Human Services
DLIR	State of Hawai‘i, Department of Labor and Industrial Relations
DLNR	State of Hawai‘i, Department of Land and Natural Resources
DNL	day-night average sound level
DoD	Department of Defense
DoDEA	Department of Defense Education Activity
DOE	State of Hawai‘i, Department of Education
DOH	State of Hawai‘i, Department of Health
DOT	State of Hawai‘i, Department of Transportation
DPP	City and County of Honolulu, Department of Planning and Permitting
DTS	City and County of Honolulu, Department of Transportation Services
E	
EA	Environmental Assessment
EAL	Environmental Action Levels
EDSPECS	Educational Specifications for Elementary School Facilities (EDSPECS
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
F	
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
G	
gpd	Gallons per day
gpm	Gallons per minute

H	
HAR	Hawai‘i Administrative Rules
HECO	Hawaiian Electric Company
HRS	Hawai‘i Revised Statutes
L	
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LSB	Land Study Bureau
LUC	State of Hawai‘i, Land Use Commission
LUO	Land Use Ordinance
M	
MGD	million gallons per day
msl	Mean sea level
N	
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association Standard for Portable Fire Extinguishers
NMFS	National Marine Fisheries Service
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSSB	State of Hawai‘i, Department of Education, Network Support Services Branch
NWI	National Wetland Inventory
O	
OEA	Office of Economic Adjustment
OHA	Office of Hawaiian Affairs
R	
ROH	Revised Ordinances of Honolulu
S	
SDWB	State of Hawai‘i, Department of Health, Safe Drinking Water Branch
SHPD	State of Hawai‘i, Department of Land and Natural Resources State Historic Preservation Division
SMA	Special Management Area
SPCC	Spill Prevention Control and Countermeasures
T	
TMDL	Total Maximum Daily Load
TMK	Tax Map Key
tpd	tons per day
U	
USFWS	U.S. Fish and Wildlife Service
USDA	U. S. Department of Agriculture
USGS	U.S. Geological Survey

1 INTRODUCTION

This Environmental Assessment (EA) is prepared in accordance with Chapter 343, Hawai‘i Revised Statutes (HRS) for the Hale Kula Elementary School Improvements (Project) in Schofield Barracks, Wahiawā, Island of O‘ahu, State of Hawai‘i.

1.1 LANDOWNER AND APPLICANT

The State of Hawai‘i is the landowner and applicant.

Contact: State of Hawai‘i Department of Education
ATTN: Ronald Hagino
1151 Punchbowl Street, Room 431
Honolulu, Hawai‘i 96813
Phone: (808) 586-0434
Fax: (808) 586-0532

1.2 PROPOSING AGENCY AND ACCEPTING AUTHORITY

The State of Hawai‘i Department of Education is the proposing agency and designated accepting authority.

Contact: State of Hawai‘i Department of Education
Public Works
ATTN: Duane Kashiwai, Administrator
P.O. Box 2360
Honolulu, HI 96804
Phone: (808) 586-0434
Fax: (808) 586-0532

1.3 ENVIRONMENTAL CONSULTANT

The environmental planning consultant is PBR HAWAII & Associates, Inc.

Contact: Vincent Shigekuni, Vice President
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai‘i 96813
Telephone: (808) 521-5631
Fax: (808) 523-1402

1.4 COMPLIANCE WITH STATE OF HAWAI'I ENVIRONMENTAL LAWS

Preparation of this document is in accordance with the provisions of Chapter 343, HRS and Title 11, Chapter 200, Hawai'i Administrative Rules (HAR) pertaining to Environmental Impact Statements. Section 343-5, HRS established nine types of actions that "trigger" compliance. The use of State or County lands or funds is one of these "triggers." Because the State of Hawai'i Department of Education will use both State funds and lands for the Hale Kula Elementary School improvements, compliance with HRS and HAR is required.

1.5 STUDIES CONTRIBUTING TO THIS ENVIRONMENTAL ASSESSMENT

The information contained in this report has been developed from site visits, generally available information regarding the characteristics of the Site and surrounding areas, and technical studies. Technical studies are provided as appendices to this EA. These studies include:

- Archaeological Assessment
- Cultural Impact Assessment
- Architectural Assessment

2 PROJECT DESCRIPTION

2.1 BACKGROUND INFORMATION

2.1.1 Location and Property Description

Hale Kula Elementary School is a State of Hawai‘i, Department of Education (DOE) school located on Schofield Barracks Military Installation, the largest Army post in Hawai‘i comprised of approximately 18,000 acres in central O‘ahu (Figure 1). The school is a 10.66-acre site (Site) landlocked within the boundaries of Schofield Barracks Military Installation and identified as TMK (1) 7-7-001:003, District of Wahiawā, Island of O‘ahu (Figure 2). The DOE has control of the school property provided that there are no changes in use. It is within the DOE Leilehua Complex Area.

Hale Kula Elementary School consists of ten (10) permanent classroom buildings with four (4) classrooms each totaling 39 classrooms and one (1) teacher workroom; a cafetorium; a Library and an administration building. The campus also has 14 wood constructed portable buildings. Ten portables are used for various instructional purposes and several are divided into two spaces to support two separate programs. The existing site layout of the permanent buildings allows for natural ventilation and lighting as well as noise separation (Figure 3). Site photographs are shown in Figure 4A and B.

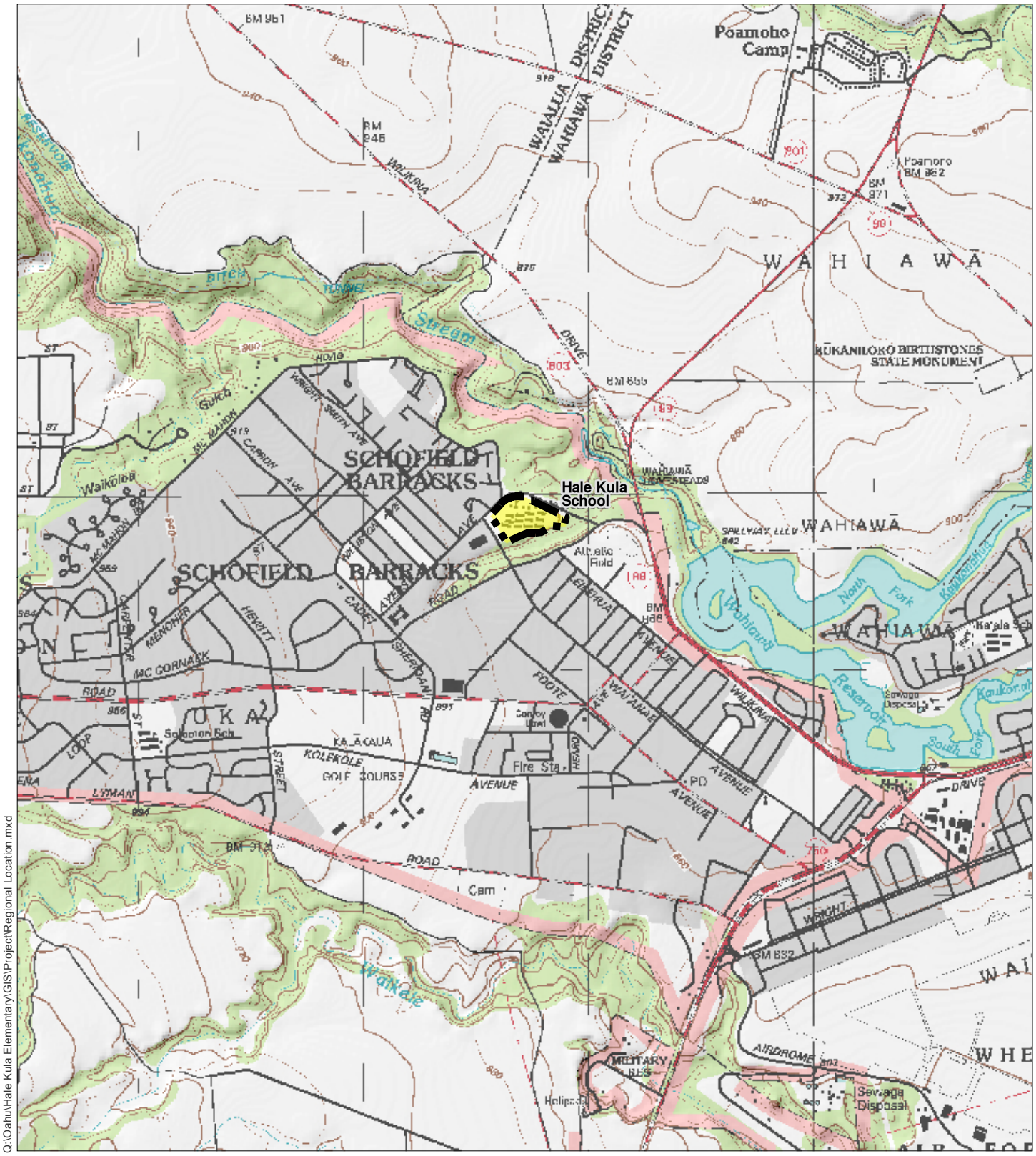
The Project will occur entirely within the Site. There are four types of activities proposed as part of the school improvements:

- Removal, temporary reuse, and/or demolition of permanent and temporary structures
- Site Improvements
- Construction of New Facilities
- Renovation of Existing Facilities

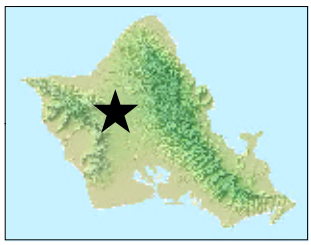
Removal and demolition activities will occur to the south and west of Buildings I and J. The existing Library and administration buildings located between Building A and the cafetorium are also proposed for demolition. Construction of new facilities is anticipated to occur throughout the campus primarily near Buildings A, J, I, H, C, Library, administration, and the cafetorium. Site improvements and renovations are proposed throughout the camps. Greater detail regarding the improvements proposed as part of the Project is provided in Section 2.3.

Primary vehicle access to the Site is provided off of Kunia Road via Lyman Gate, an access-control-point manned by military personnel. The Site is located at the intersection of Ayres Road and Waianae Avenue, which are military-controlled roads.

Hale Kula Elementary School is not located within designated floodplains, floodways, wetlands, or critical habitats. The school was originally constructed in 1958/59, thus all of the original buildings of an age eligible for registration on the historic registry.



DATE: 8/2/2012



LEGEND

Site

Source: U.S. Geological Survey (1983)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 1

Regional Location

Hale Kula Elementary School Improvements

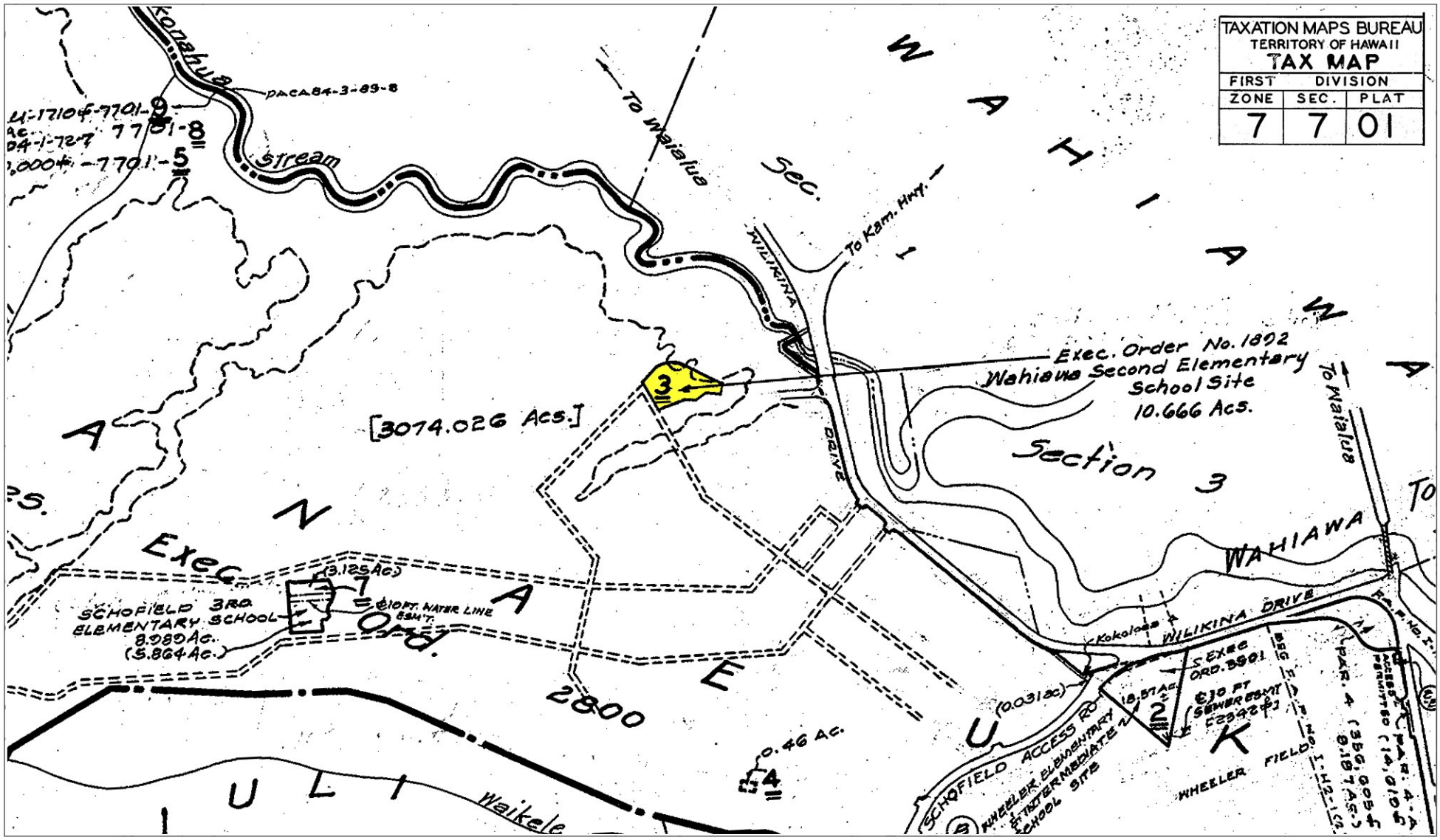
Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 500 1,000 2,000

PBR HAWAII & ASSOCIATES, INC.



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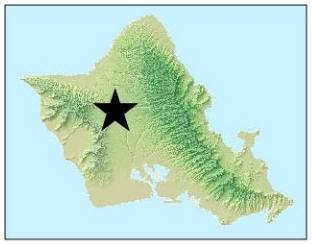


LEGEND

Site (TMK: 7-7-001:003)

Source: City and County of Honolulu Tax Map (Zone 7, Sec.7, Plat 01, last update 1978)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 2

Tax Map Key

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

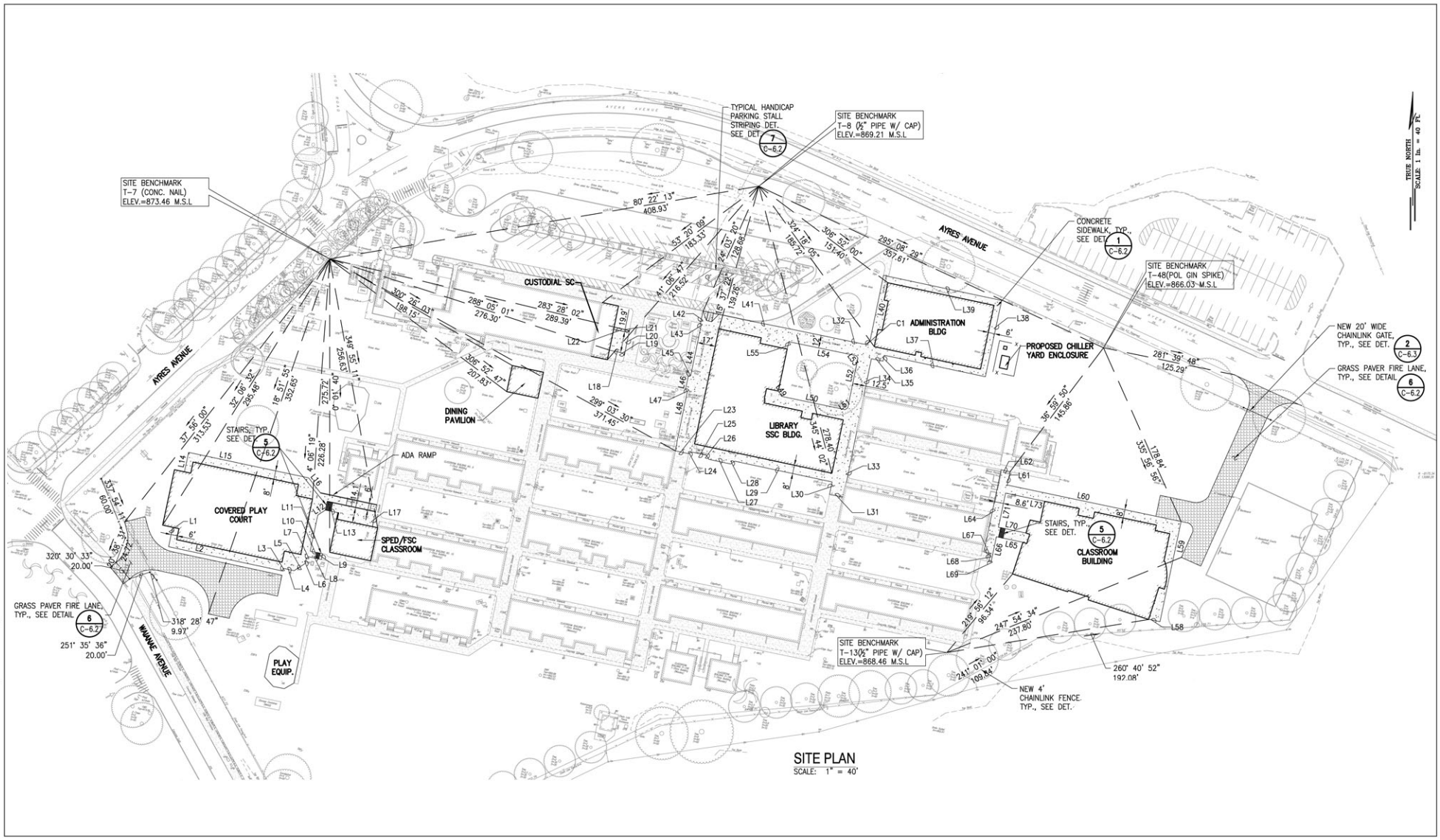
North

Linear Scale (feet)

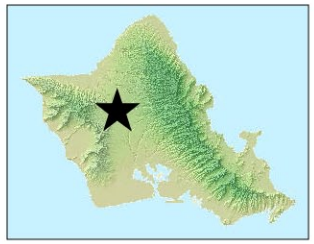
0 500 1,000 2,000

PBR HAWAII & ASSOCIATES, INC.

Q:\Oahu\Hale Kula Elementary\Photoshop



Q:\Oahu\Hale Kula Elementary\Photoshop



Source: Design Partners Inc. (August 2012)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 3

Site Plan

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Not to Scale

PBR HAWAII & ASSOCIATES, INC.

1. View toward cafetorium, location of proposed custodial addition

4. Site east corner view toward proposed fire lane and administration building

2. View toward front of administration building (proposed for demolition), location of proposed combined library & student center building

5. View toward location of proposed administration building

3. View of east side of administration building (proposed for demolition), location of proposed combined library & student center building

6. Corridor between site of proposed new library and student center and cafetorium

FIGURE 4A

Site Photographs

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

PBR HAWAII & ASSOCIATES, INC.

7. View across garden, cistern toward location of proposed 10-classroom building

10. View toward proposed SPED FSC & covered dining pavilion

8. Site rear boundary view toward location of pump station

11. View toward proposed covered play area, portable classrooms proposed for removal and / or off-site reuse.

9. View toward cafetorium and proposed covered dining pavilion

FIGURE 4B

Site Photographs

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

PBR HAWAII & ASSOCIATES, INC.

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2.1.2 Existing Land Use Designations

Current land use designations for the Site are:

- *State Land Use:* Urban (Figure 5)
- *Zoning:* F-1 (Federal and Military Preservation) (Figure 6)
- *Central O‘ahu Sustainable Communities Plan:* Residential and Low Density Apartment (Figure 7)
- *Special Management Area:* Not within SMA

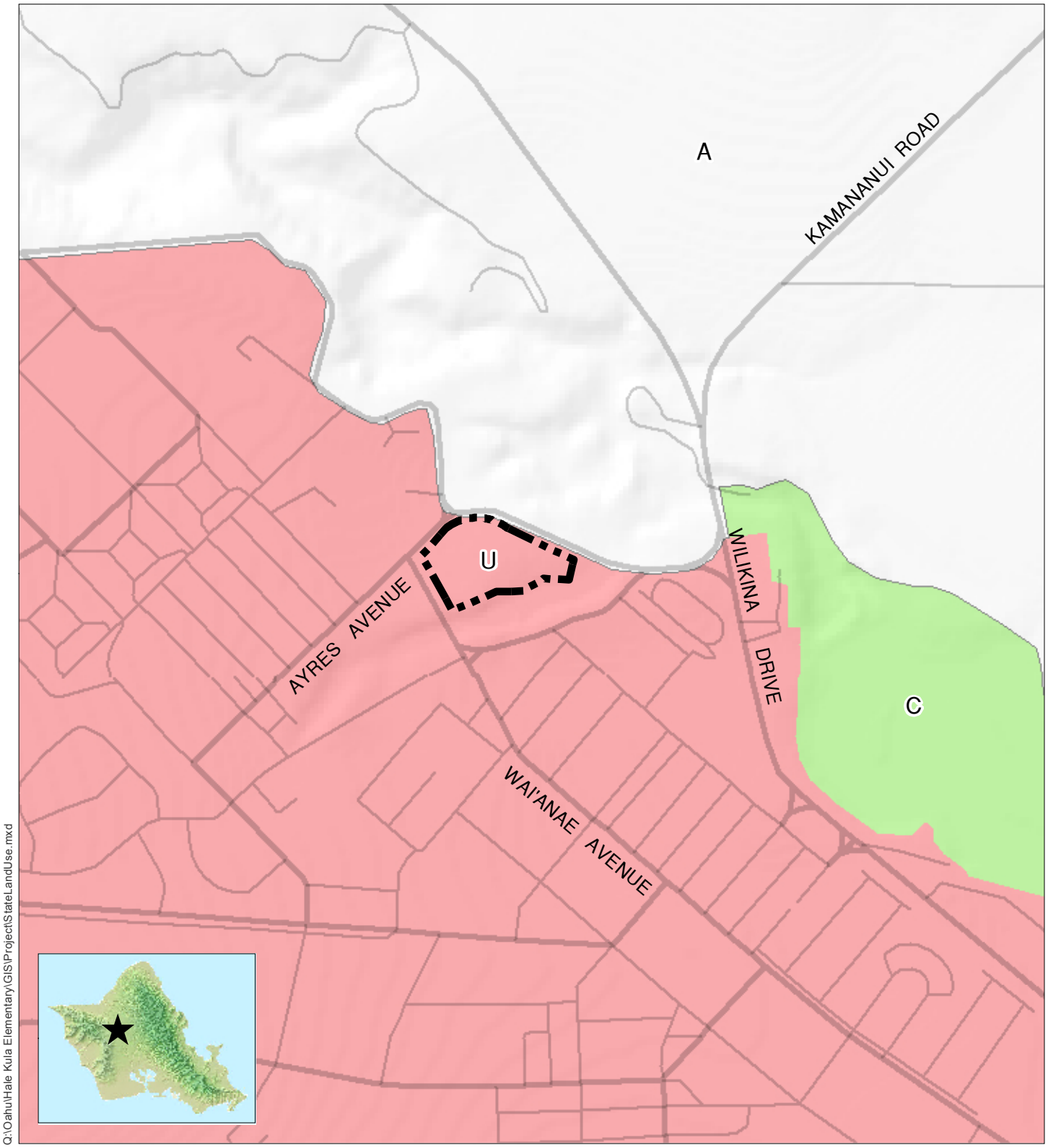
2.1.3 Surrounding Land Uses

Hale Kula Elementary School is surrounded by Schofield Barracks, an active military base and associated activities. These military activities include industrial, commercial, business, residential, community, and conservation land uses as designated by the requirements of the federal government. Directly adjacent to the school is an un-named river/gulch to the south. To the north and west, the school is bounded by roadways. Directly east, land is vacant. The military is utilizing the areas surrounding the school for residential, community and business type uses.

2.1.4 Regional Land Use History

Schofield Barracks was established in 1908 to provide mobile defense of Pearl Harbor and the entire island of O‘ahu. It has been the home of the 25th Infantry Division, known as the Tropic Lightning Division, since 1941 as well as the Command Headquarters for United States Army Hawai‘i. Schofield Barracks is also home to the 8th Theater Sustainment Command.

The Site was transferred in 1957, to the jurisdiction, use and control of the then Territory of Hawai‘i with the provision that it be used only for public school purposes. Together with the transfer, a right-of-way for ingress, egress and regress along Ayres Avenue, Wai‘anae Avenue, and McCornack Road to the adjacent public highway was also provided to permit access to the otherwise landlocked school site. Hale Kula Elementary School, formerly the Wahiawā 2nd Elementary School, was constructed in 1958/9.



DATE: 8/2/2012

LEGEND

- Site
- Streets
- A-Agricultural
- C-Conservation
- R-Rural
- U-Urban

Source: State GIS - State of Hawai'i Land Use Commission (2011)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 5

State Land Use District

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 250 500 1,000

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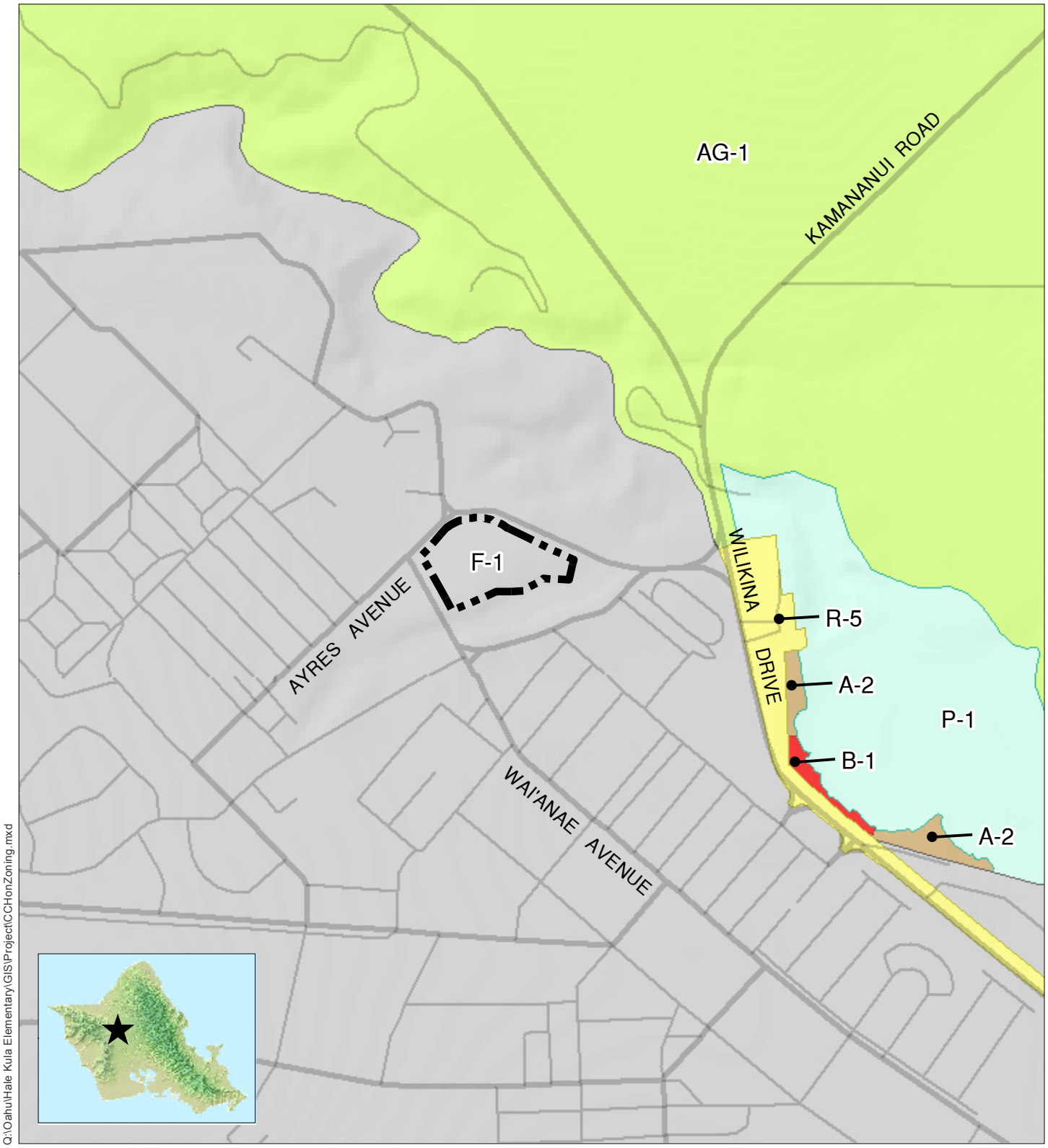


DATE: 8/2/2012

LEGEND

- Site
- Streets
- F-1 (Federal / Military)
- AG-1 (Agriculture)
- P-1 (Preservation)
- R-5 (Residential)
- A-2 (Apartment)
- B-1 (Business)

Source: City and County of Honolulu (2012)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 6

City and County of Honolulu Zoning

Hale Kula Elementary School Improvements

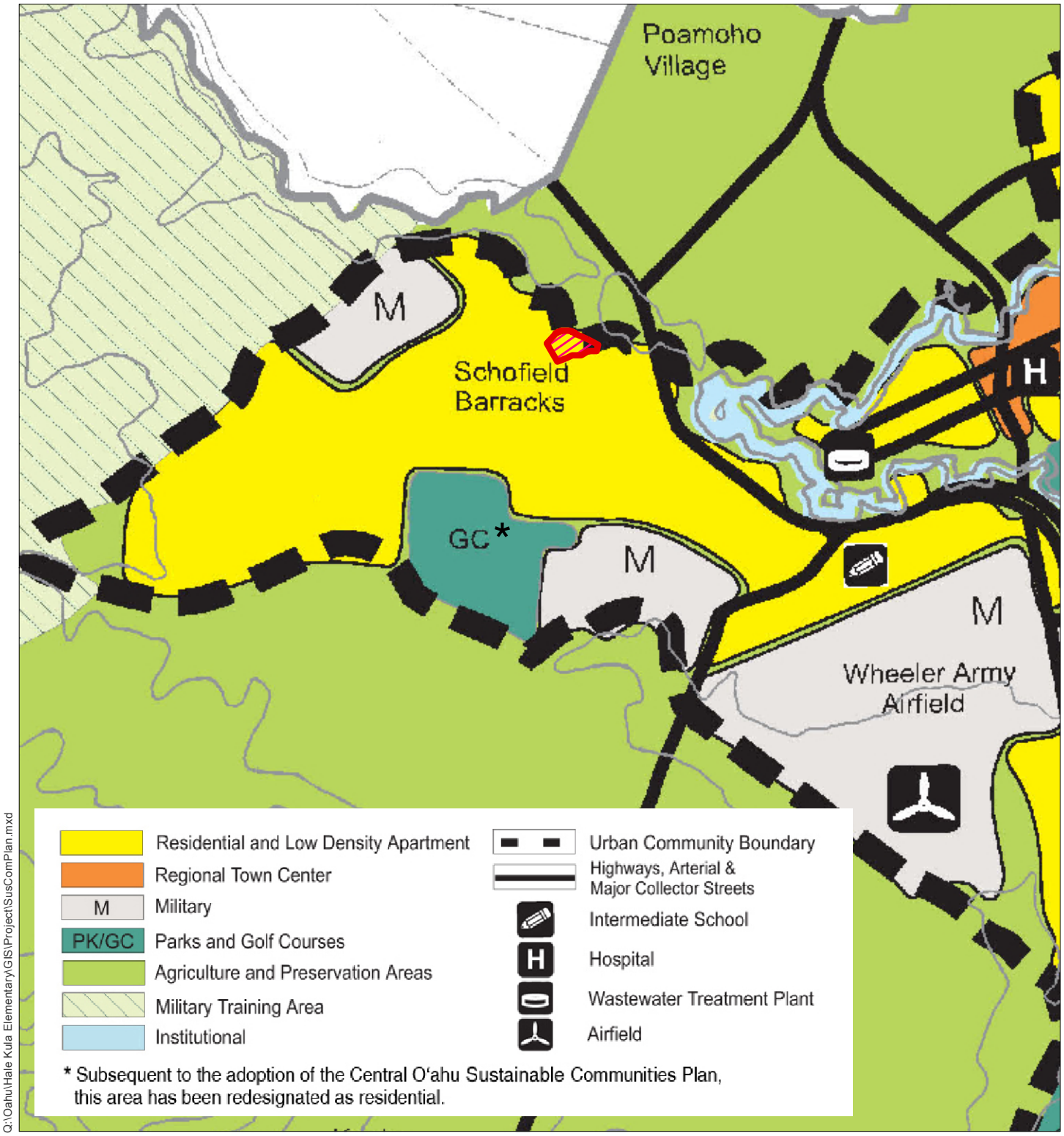
Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 250 500 1,000

PBR HAWAII & ASSOCIATES, INC.



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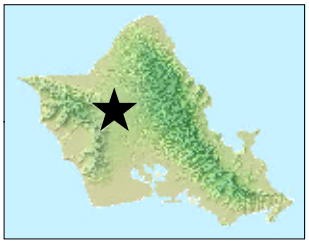


LEGEND

Site

FIGURE 7

Central O'ahu
Sustainable Communities Plan
Map A2: Urban Land Use

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

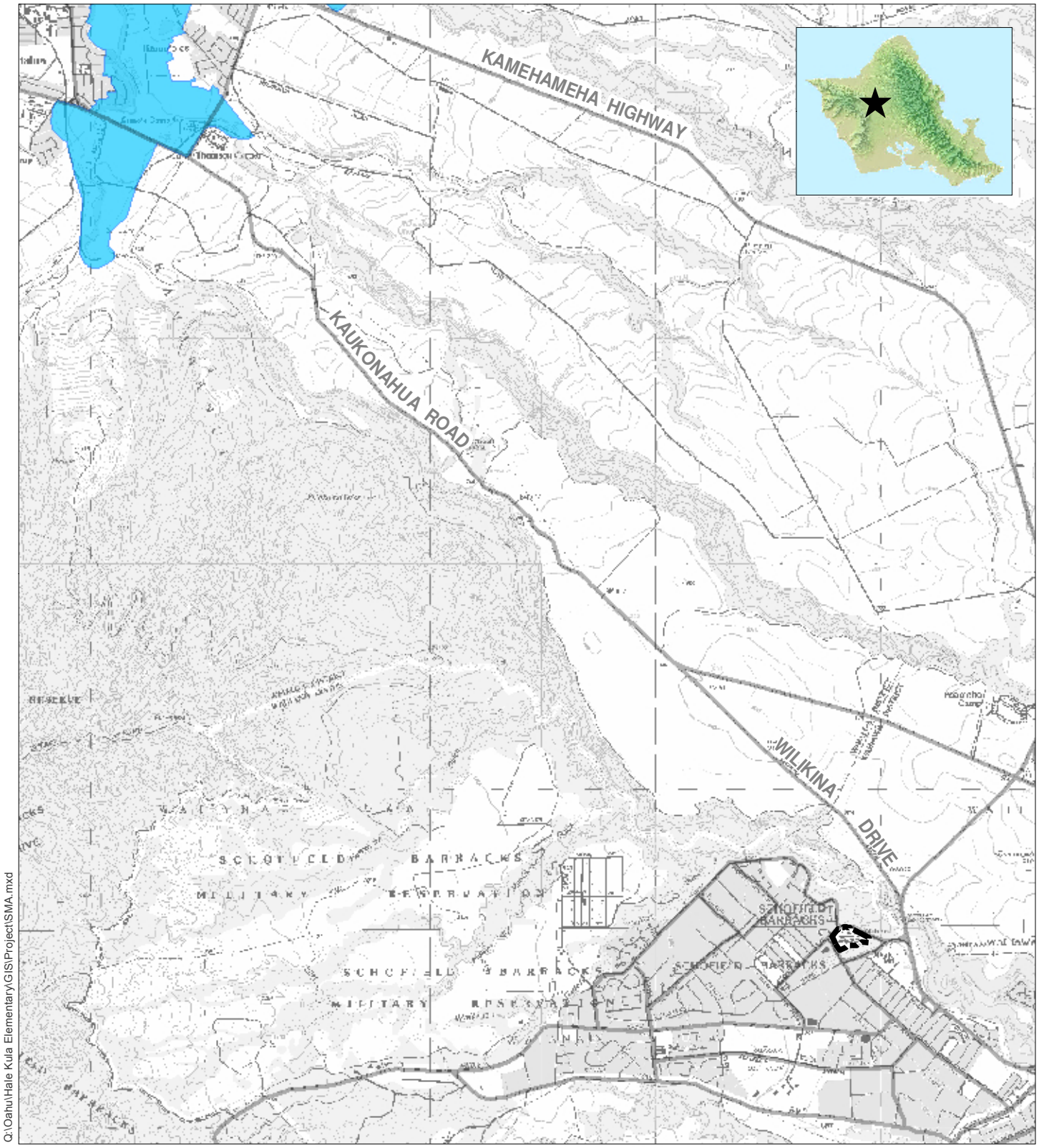
Linear Scale (feet)

0 750 1,500 3,000

PBR HAWAII & ASSOCIATES, INC.

Source: City and County of Honolulu Department of Planning and Permitting (2002)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.



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LEGEND

Site

Special Management Area

FIGURE 8

Special Management Area

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 1,000 2,000 4,000

PBR HAWAII & ASSOCIATES, INC.

Source: State GIS - City and County of Honolulu (2009)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

2.2 PURPOSE AND NEED

On February 7, 2011, the Department of Defense (DoD) prepared a Facilities Condition Assessment Report on the Hale Kula Elementary School based on compliance with Department of Defense Education Activity (DoDEA) practices according to facility condition, spatial adequacy, capacity and technical readiness. The assessment found the school to be well maintained and a good learning environment; however, several building systems were found to be beyond their useful life, and the buildings were graded as deficient. The assessment concluded that an additional fourteen (14) classrooms would be needed to accommodate the DOE's projected student enrollment and the electrical infrastructure would require upgrades to support current technology and air conditioning. Upgrades to the water system are necessary to meet fire flow requirements and a decentralized filtration/retention/infiltration design incorporated throughout the Site will ensure that no additional run-off will occur as a result of the new construction. Hale Kula Elementary has been listed as 9th on the prioritized list of military impacted schools nationwide in need of facilities improvements.

The improvements proposed are based on the results of the Facilities Condition Assessment Report as well as assessments done by the DOE. The new construction is expected to provide needed support facilities for the school including a new expanded library and technology center, a new administrative center and student support center, a new ten classroom building, a new self-contained special education classroom, an outdoor dining pavilion and a covered play court.

The school's administration building and library are inadequate and undersized given the changes that have occurred in student support functions and technology since the school was built. Due to the location of these facilities on campus and their poor condition, it was determined that these structures should be demolished and replaced with new buildings that will better support the school. The new administration and library buildings will also contain the main fire alarm, data and communication hubs for the campus. To protect the technology and communication, emergency management systems proposed to be located within the new library and administration buildings, both will be air conditioned.

The demolition of the library will also result in losing a much needed custodial support space that has been added to the end of the existing library facility. The proposed improvements include the addition of a Custodial Service Center to the existing cafetorium building. The custodial service center is a typical component of cafeterias in new schools.

There are two areas where the Project does not directly correlate with the results of the DoD's report, recommendations regarding cafetorium/food service and the gymnasium.

The Facilities Condition Assessment Report ranked the existing cafetorium as a "D" and the Food Service an "F." The DOE's School Food Services Branch in the Office of School Facilities and Support Services is conducting a review of all food service facilities (kitchens and serving areas) at schools within each complex area to determine how best to consolidate facilities in

order to provide efficiency and cost savings over time as cafeteria managers retire and the opportunity to consolidate services becomes available. In the meantime, the Hale Kula Elementary School Principal has verified that the school is able to function satisfactorily with the existing kitchen and serving area. Once the study of food service facilities of the schools within the Leilehua Complex is completed, the DOE will review the need for food service improvements at the school. Rather than replacing the existing cafetorium building, the improvements proposed as part of this project will include the addition of restrooms and a Custodial Service Center to the existing facility along with an additional dining space created by adding a covered dining pavilion in the area near the cafetorium. These improvements will enhance the day to day operation of the facility for student use as well as for its use as a multi-purpose space for community and other large functions.

The DoD's Report also identified that the school does not have a gymnasium. Given the relatively mild year round climate, none of the DOE operated public elementary and middle schools have gymnasiums. Instead, the schools have outdoor play areas and covered play courts when the budget allows. The improvements to Hale Kula will include the addition of a covered play court with a presentation area so it can also serve as a multi-purpose gathering space for the school. Based on the DOE's Educational Specifications and Standards for Facilities for Elementary School (EDSPECS) the covered play court facility will also have restrooms and a storage room. This additional outdoor covered play court will provide adequate space for students to engage in active play even on rainy days. (State of Hawaii, Department of Education, 2008)

2.3 HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS

2.3.1 Description

The project includes the following improvements to Hale Kula Elementary School:

- <u>Removal, Reuse, and/or Demolition of Permanent and Temporary Structures</u>
    - Up to 14 wood-constructed portables
    - Existing administrative center
    - Library/maintenance building
    - Covered walkways (within footprint of new construction)

- <u>Site Improvements</u>
    - Modification of existing drainage
    - Upgrades to infrastructure
        - Modification to lift station (larger pump/generator) to accommodate greater water demand
        - Removal/rerouting of existing 16-inch water main
        - Modification to accommodate greater wastewater production
    - Upgrades to utilities
        - Electrical for increased load

        - Communications
        - Fire systems

- Construction of New Facilities
    - Ten classroom building with lightning protection (approximately 10,500 square feet)
        - Eight general classrooms with ceiling fans
        - One fully self-contained special education classroom with ceiling fan
        - One computer center classroom with ceiling fans
        - One faculty center
    - Administration facility with lightning protection and air conditioning (approximately 3,500 square feet)
    - Library and student center with lightning protection and air conditioning (approximately 13,650 square feet)
        - Library technology and media facilities
        - Four restrooms
        - Student center
    - Fully self-contained special education classroom
    - Addition to cafetorium
        - One custodial center (approximately 470 square feet)
        - Two restrooms
    - Outdoor covered play court (approximately 8,152 square feet)
        - Covered play court
        - Two restrooms
        - Storage facilities
        - Presentation area
    - Covered dining pavilion (approximately 750 square feet)

  Construction of new facilities and additions will incorporate the architectural and building details of the existing buildings in an effort to retain the school character. The architectural design will use elements regarding building layout, materials, assemblies, roof profile, eave overhang depths, window selection and arrangement, as represented in the Record Drawings of the existing building design. Incorporation of the these existing building design elements are anticipated to meet the requirements of the DoD program and are in line with the DOE's standards for public schools within the state of Hawai‘i.

- Renovation of Existing Facilities
    - Buildings A, B, C, D, H
        - Ceiling fan installation
        - Interior and exterior repainting
        - New cabinetry
        - Floor replacement
        - Hazardous material assessment and removal (lead-based paint and asbestos containing material [ACM])
    - Buildings E, F, G, I, J
        - New roof with lightning protection

  - Ceiling fan installation
  - Interior and exterior repainting
  - New cabinetry
  - Floor replacement
  - Hazardous material assessment and removal (lead-based paint and ACM)
- Cafetorium
  - Ceiling fan installation
  - Interior and exterior repainting
  - Hazardous material assessment and removal (lead-based paint)
- Portables not demolished or removed
  - Interior and exterior repainting
  - Hazardous material assessment and removal (lead-based paint)

2.3.2 Location of Improvements

Improvement Activities are proposed in the following locations within the Hale Kula campus (Figure 3, Site Plan):

- Removal, temporary reuse, and/or demolition of permanent and temporary structures
  - South and west of existing buildings I and J: removal of nine existing wood-constructed portables
  - East of buildings A and B: removal of threeexisting wood-constructed portable classrooms, after they have served as swing space during construction
  - West of building A: demolition of existing library and administration buildings

- Site Improvements
  - Throughout the campus

- Construction of New Facilities
  - North of building A: new administration building
  - West of building A (the present location of the existing library and administration buildings): new library and student center building
  - South-East of existing cafetorium: new custodial addition (attached) and new covered dining pavilion
  - East-North-East of building A: the new 10-classroom building and new covered play court;
  - West of building I: new special education facility

  - New covered walkways replacing the removed walkways impacted by new 'infill' construction, as well as new covered walkways connecting the various new buildings

- Renovation of Existing Facilities
  - Throughout existing campus facilities not designated for removal, reuse, or demolition.

2.4 SUSTAINABLE PLANNING AND DESIGN

The DOE and consultant architect will strive to meet the equivalent of Leadership in Energy and Environmental Design (LEED) Silver Certification for this Project. The LEED Green Building Rating System is a nationally accepted benchmark for the design, construction, and operation of sustainable buildings. The LEED Green Building Rating System encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

LEED for New Construction addresses design and construction activities for both new buildings and major renovations of existing buildings. The intent is to promote healthful, durable, affordable, and environmentally sound practices in building and design and construction.

As part of incorporating LEED concepts, with the goal of achieving an equivalent to LEED Silver Certification, a broad range of measures will be considered from the various LEED strategies available. It is anticipated that the following LEED concepts will be incorporate into the project design and construction:

- Create and implement an erosion and sedimentation control plan for all construction activities associated with the project.
- Divert demolition and new construction waste that would normally go to landfill.
- Use materials that are re-used, rapidly renewable, of recycled content, and of certified manufacturers.
- Reduce the heat island effect of roof and non-roof components by selecting reflective or low-heat gain materials.
- Provide natural day lighting to the greatest extent possible
- Reduce light pollution by providing shields and reflectors on exterior light fixtures.
- Utilize native and/or water efficient landscaping
- Optimize energy performance through design of AC and lighting systems.
- Improving indoor environmental quality by providing a construction management plan, specifying low emitting materials, providing a portion of interior spaces with views and day lighting.

The existing permanent, non-portable buildings are made of cast-in-place concrete, concrete masonry units, and precast concrete. These materials are readily available on the islands. The existing buildings currently appear to have no noticeable deterioration or evidence of settlement such as cracks or delaminating. This is conclusive that the building material and assembly are sustainable and have been resistant to 60+ years of weathering and use. The architectural design will model the energy efficient system of the original building design, such as operable windows

and glazing to assure natural ventilation and natural lighting for the new classroom uses and use similar construction and assembly.

2.5 DESIGN PROCESS

The selected architect, Design Partners Incorporated, and the DOE held several meetings with key stakeholders including the school principal and staff, DOE facility planners, and the U.S. Army Garrison Hawaii (Garrison).

General input to date has been solicited through the following:

- DOE Workshop
- Meeting with State Historic Preservation Division
- Pre-consultation letters for this EA were mailed to Federal, State, and City agencies to notify them of the Project and invite any comments to be addressed in the Draft EA. Comment and response letters are reproduced in Appendix A.
- Review by Garrison Environmental Programs
- Summary in the August 23, 2012 edition of *The Environmental Notice*
- Copies of the Draft EA were mailed to Federal, State, City agencies as well as other interested organizations (see Section 8). Those receiving copies of the Draft EA were invited to provide comments. Comment letters and responses are in Appendix A.
- Public notice in the August 31, 2012 edition of the *Hawaii Army Weekly*

On November 2, 2011, a planning and design workshop was held engaging the users and stakeholders in development of significant improvements including proposed classroom and physical education facilities as well as administrative/library/media/computer tech centers. In one activity the users and stakeholders utilized cut-outs representing room components to develop schematic spatial relationships. Results from the workshops as well as solicited input were utilized by the architects and DOE in the design process.

2.6 PROJECT COST AND SCHEDULE

The DOE anticipates construction will commence June2013. The project is estimated to be completed in several phases over the course of 42 months. General phasing of the project is described in Table 2-1 Project Schedule. The total estimated cost for the design and construction will be 30 million dollars. Twenty percent will be funded through the State capital improvement projects budget. The remainder will be funded by the Department of Defense (DoD) Office of Economic Adjustment (OEA).

Table 2-1 Project Schedule

Phase	Description of Work
1	• Staging and site work in preparation for construction • Preparations for cafetorium addition, new classroom, and administration buildings • Renovations to existing classrooms
2	• Construction of new classroom and administration buildings, dining pavilion, and custodial addition to cafetorium • Staging and site work for next phase of construction
3	• Demolition of existing administration, library, buildings and associated walkways • Renovations to existing classrooms
4	• Construction of library/media/technology center-student center • Site work and building preparation for next phase of construction • Relocation/demolition of wood constructed portables
5	• Assess wood-constructed portables for relocation on other campuses • Demolish/remove wood-constructed portables • Construction of covered play court and special education facility • Renovation of existing buildings • Complete site improvements

3 DESCRIPTION OF THE NATURAL ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes existing conditions of the natural environment, potential impacts of the Project, and mitigation measures to minimize impacts.

3.1 CLIMATE

The climate of the region, similar to other parts of Hawai‘i, can be characterized as mild, subtropical. Regional temperatures are generally cool due to the approximately 900-foot elevation of Wahiawā with average annual temperatures ranging from 65-75 degrees Fahrenheit. Humidity ranges throughout the year between 68 percent in the morning to 80 percent in the afternoon (NOAA, 2003).

According to *The Rainfall Atlas of Hawai‘i*, the Site receives an average annual rainfall of approximately 38 inches with summer months being the driest (Giambelluca, et al., 2011).

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Hale Kula Elementary School Improvements are not anticipated to have any effect on regional climate. Micro-climatic effects at the Site and vicinity, such as temperature and wind changes, however, may occur.

3.2 GEOLOGY AND TOPOGRAPHY

The Island of O‘ahu was formed by two volcanoes; Ko‘olau to the east and the older Wai‘anae, to the west. The volcanoes are believed to have formed during the late tertiary to early Pleistocene periods (Macdonald et al., 1983). The Site is located over 860 feet above mean sea level (msl) within the Leilehua plain, an elevated plateau consisting of flows from both volcanoes as well as sand and gravel (Figure 9). The Site is relatively flat with record drawings indicating an overall site topography of a down slope from the North West elevation in the range of 879 to the south east of 861, for an approximately 1.25% slope. An unnamed gulch is located just south of the Site. In some areas, the gulch is over 40 feet below the existing grade of the Site (Figure 10).

The built portions of the campus are generally within 875 to 865 feet above msl.

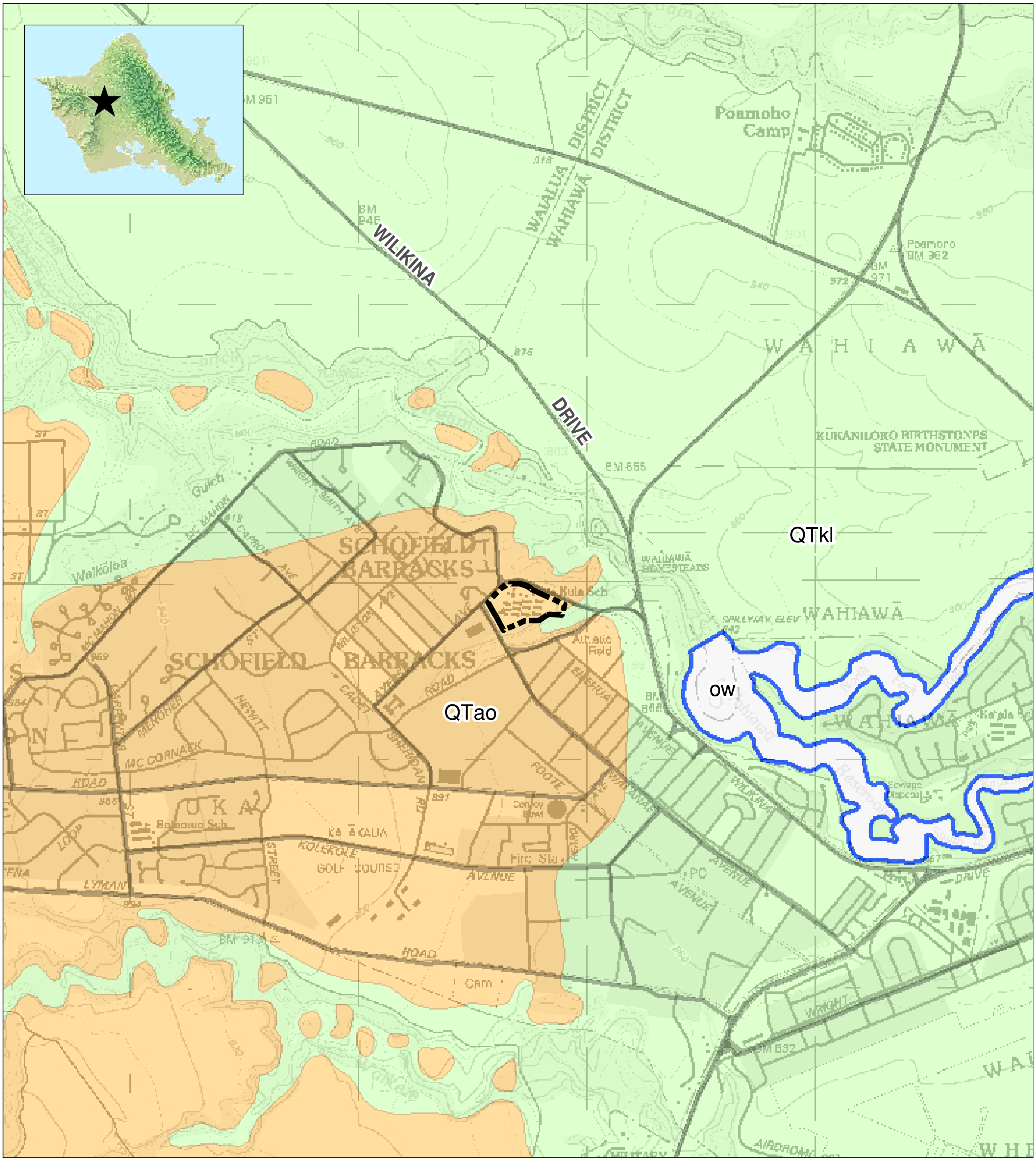
POTENTIAL IMPACTS AND MITIGATION MEASURES

The school improvements will not adversely impact the topographic nature of the Site relative to the surrounding lands. All improvements are anticipated to be within the existing grade, and no significant impact to drainage is anticipated. There will however be an increase in impervious

surface area. A decentralized filtration/retention/infiltration design incorporated throughout the Site will ensure that no additional run-off will occur as a result of the new construction.

The grading will follow Best Management Practices (BMPs) as described in the National Pollutant Discharge Elimination System (NPDES) Permit. The contractor will submit a site specific construction BMP Plan to the State DOH before grading commences.

A geotechnical study is underway. Results will be incorporated into the site design, grading plans and construction.



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DATE: 8/2/2012

LEGEND

- Site
- QTao - Sand and Gravel
- QTkl - Lava Flows
- ow - Open Water

Source: U.S. Geological Survey Geologic Map Digital Data (2006)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 9

Geologic Map

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 500 1,000 2,000

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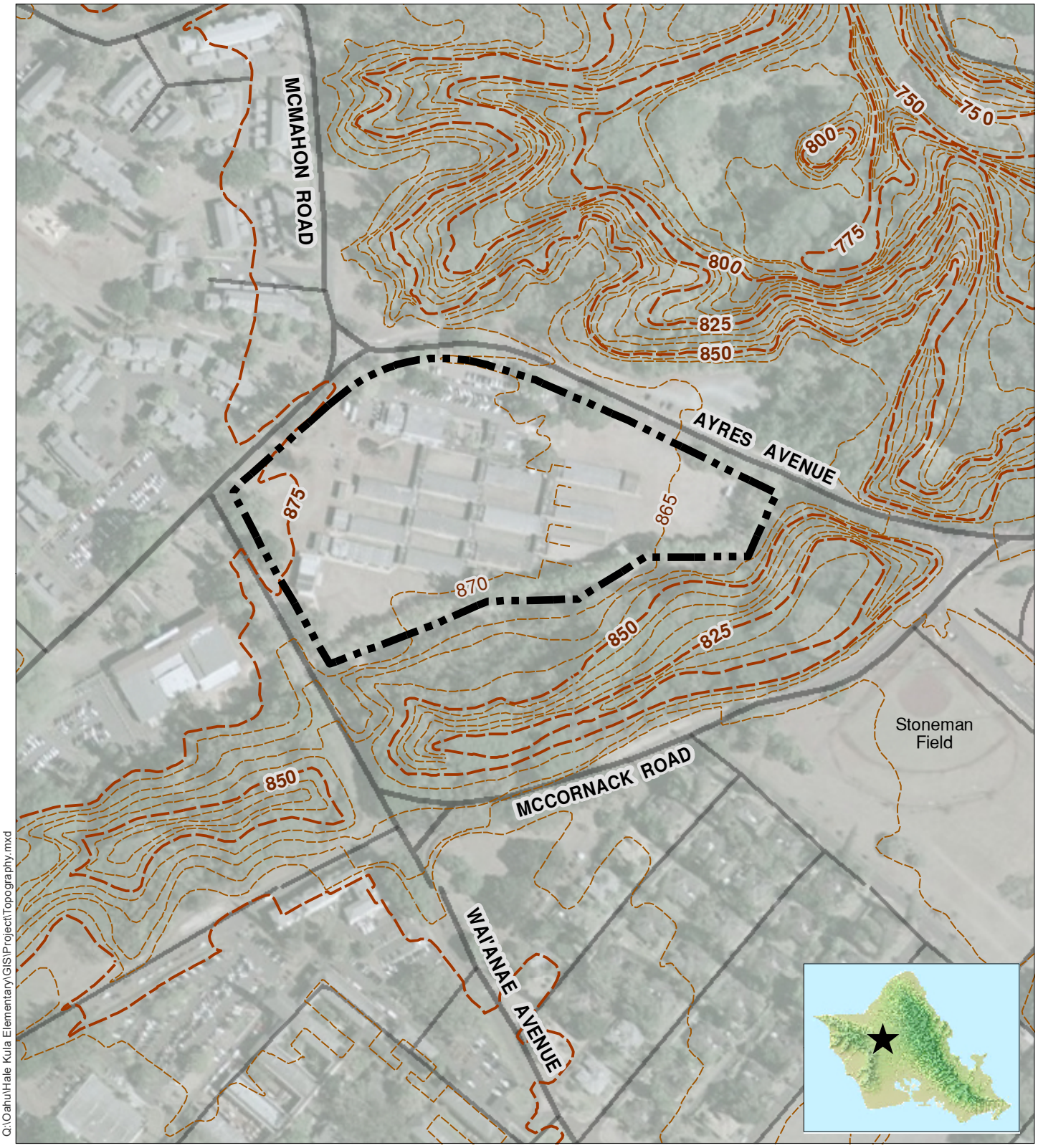

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DATE: 8/2/2012

LEGEND

- Site
- 5-ft Contours
- 25-ft Contours

Source: City and County of Honolulu (2006)
ESRI World Imagery Basemap (2012)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 10

Topography

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 75 150 300

PBR HAWAII & ASSOCIATES, INC.

3.3 SOILS

There are three soil suitability studies prepared for lands in Hawai‘i whose principal focus has been to describe the physical attributes of land and the relative productivity of different land types for agricultural production; these are: 1) the U.S. Department of Agriculture Natural Resource Conservation Services (NRCS) Soil Survey; 2) the University of Hawai‘i Land Study Bureau (LSB) Detailed Land Classification; and 3) the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawai‘i (ALISH) system. The soils located within the Site were also evaluated to determine if there is contamination present at levels above State and Federal action and screening levels. A summary of the results of the soil investigation are included in section 4.7, Hazardous Materials.

3.3.1 Natural Resource Conservation Service Soil Survey

The NRCS Soil Survey for the Island of O‘ahu, classifies the soil of the Site as Kunia Silty Clay (KyA) (Figure 11).

Kunia Silty Clay, 0 to 3 percent slopes (KyA), occurs on broad, smooth slopes dissected by very steep gulches. This soil is nearly level to moderately sloping, with elevations ranging from 700 to 1,000 feet. Kunia soils occur on the foot slopes of the Waianae Range, near Schofield Barracks. They are geographically associated with Kolekole, Lahaina, and Wahiawa soils. Permeability is moderate, runoff is slow, and the erosion hazard is no more than slight. The available water capacity is about 1.7 inches per foot of soil. In places roots penetrate to a depth of 5 feet or more. Kunia Silty Clay is used for sugarcane, pineapple, home sites, and military reservations. Capability classification is I if irrigated; IIIc if non-irrigated (Foote, Hill, Nakamura, & Stephens, 1972).

3.3.2 LSB Detailed Land Classification

The University of Hawai‘i LSB document, Detailed Land Classification, Island of O‘ahu classifies soils based on a productivity rating. Letters indicate class of productivity with A representing the highest class and E the lowest. The Site is not classified under the University of LSB Detailed Land Classification system. This means that soils at the site are not considered to be suitable land for agriculture, or it was already designated within the State Land Use Urban District during the study (Figure 12).

3.3.3 ALISH

The ALISH classification system is based primarily, but not exclusively, on the soil characteristics, the establishment of criteria for classification of lands, and the inventory of prime farm lands that meet the criteria or similar criteria for the respective classes in the national NRCS classification system. The ALISH system identifies and maps three broad classes of agricultural

land – Prime, Unique, and Other Important Agricultural Land, as well as Unclassified Land. The Site is not classified under the ALISH classification system (Figure 13).

POTENTIAL IMPACTS AND MITIGATION MEASURES

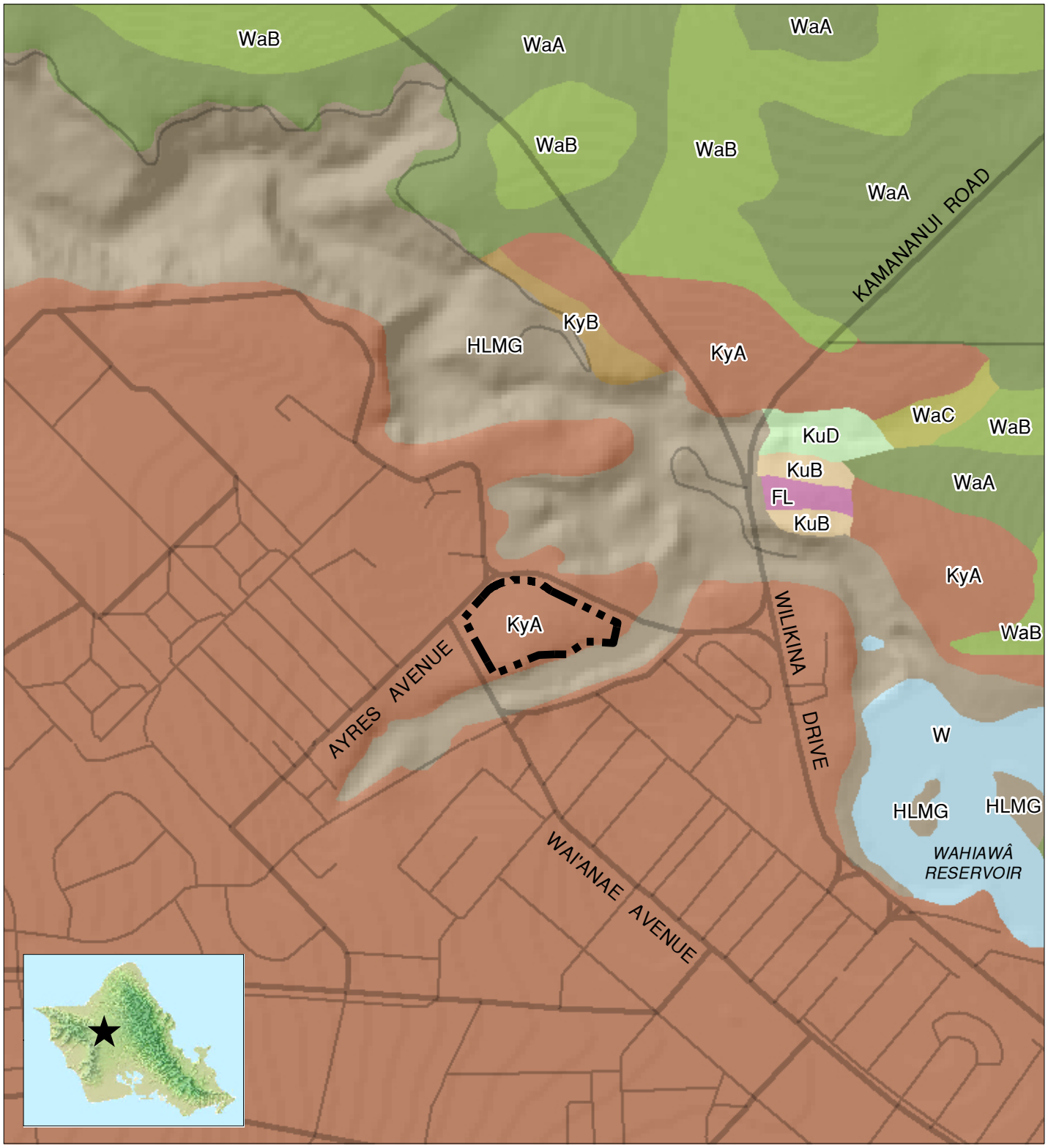
The Project will not reduce the inventory of agriculturally significant land. The Site has a NRCS capability classification of IIIc, meaning it has severe agricultural limitations if irrigation water is not provided. In addition, the Site is not classified under the LSB and ALISH classification system.

Impacts to the soils of the Site include the potential for soil erosion and the generation of dust during grading and construction. Clearing and grubbing activities will temporarily disturb the soil retention values of the existing vegetation and expose soils to erosional forces. Some wind erosion of soils could occur without a proper watering and re-grassing program. Heavy rainfall could also cause erosion of soils within disturbed areas of land. Best Management Practices (BMPs) that include both structural and non-structural controls will be incorporated into temporary construction practices, and permanent site design to minimize impacts. BMPs utilized during construction may include the following:

- Minimizing the time of construction including coordinated phasing for site control;
- Retaining existing ground cover as long as possible;
- Constructing drainage control features early;
- Using temporary area sprinklers in non-active construction areas when ground cover is removed;
- Providing a water truck on-site during the construction period to provide for immediate sprinkling, as needed;
- Using temporary, ground-cover, berms and cut-off ditches, where needed, for control of erosion;
- Watering graded areas when construction activity for each day has ceased;
- Grassing or planting all cut and fill slopes immediately after grading work has been completed; and
- Installing silt fences, sediment traps, and diversion swales, where appropriate.
- Contractor training

After construction, establishment of permanent landscaping will provide long-term erosion control.

Construction activities will comply with all applicable Federal, State, and County regulations and rules for erosion control. As typically required for projects on land greater than one acre in size, a National Pollution Discharge Elimination System (NPDES) Notice of General Permit Coverage (NGPC) for Storm Water Associated with Construction Activity will be necessary.



Q:\Oahu\Hale Kula Elementary\GIS\Project\Soils NRCS.mxd

DATE: 8/2/2012

LEGEND

Site

Streets

- KyA-Kunia Silty Clay, 0-3%
- KyB-Kunia Silty Clay, 3-8%
- HLMG-Helemano, 30-90%
- KuB-Kolekole Silty Clay Loam, 1-6%
- KuD-Kolekole Silty Clay Loam, 12-25%
- WaA-Wahiawa Silty Clay, 0-3%
- WaB-Wahiawa Silty Clay, 3-8%
- WaC-Wahiawa Silty Clay, 8-15%
- FL-Fill Land, Mixed
- W-Water

Source: State GIS - U.S. Department of Agriculture Natural Resources Conservation Service (2007)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 11

NRCS - Soil Survey

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 250 500 1,000

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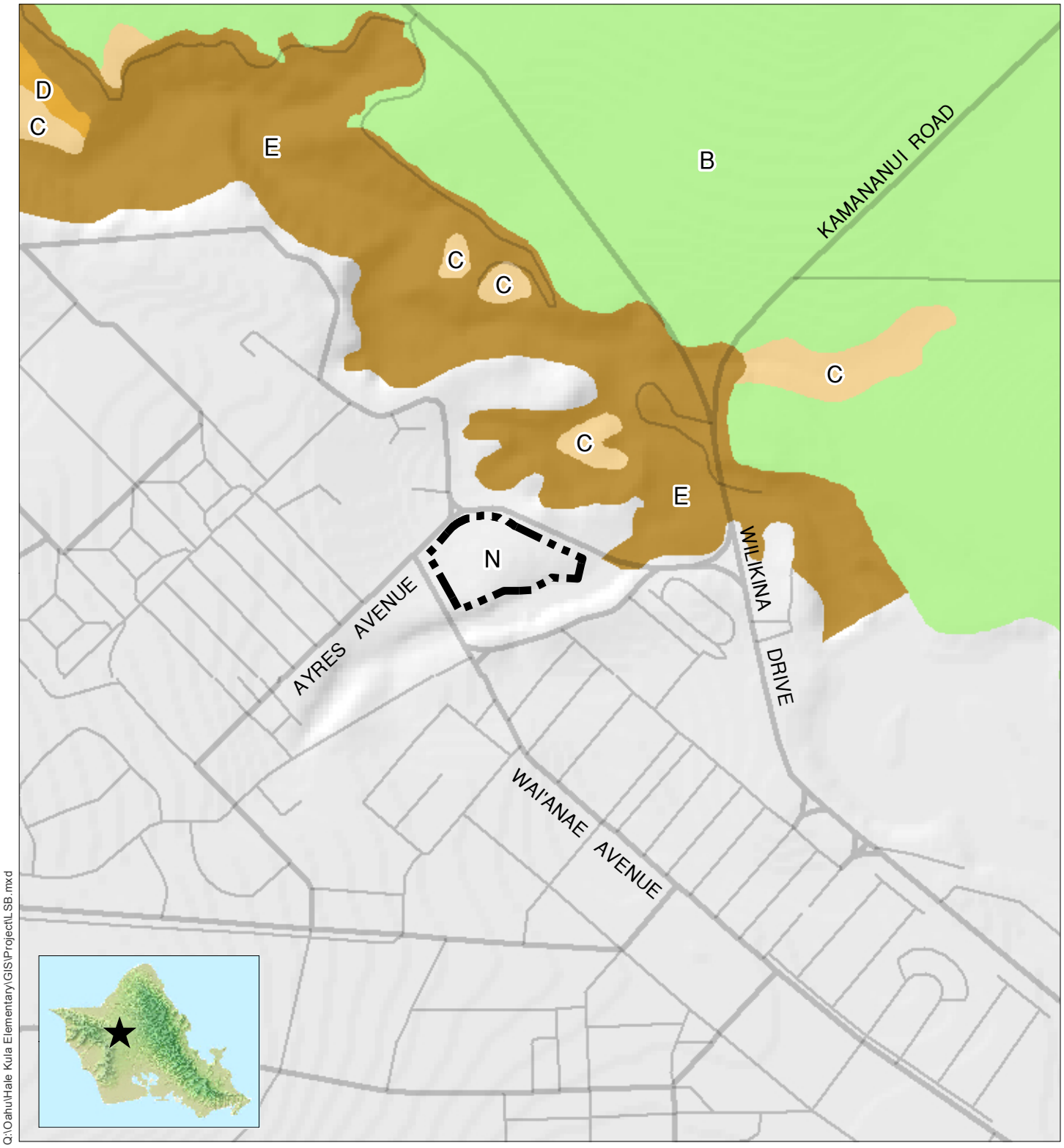


DATE: 8/2/2012

LEGEND

- Site
- Streets
- A - Very Good
- B - Good
- C - Fair
- D - Poor
- E - Very Poor
- N - Not LSB

Source: State GIS - University of Hawai'i Land Study Bureau (1972)
Note - Areas identified as "N" were not included in the 1972 study.
Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 12

Land Study Bureau's Detailed Agricultural Land Productivity Ratings

Hale Kula Elementary School Improvements

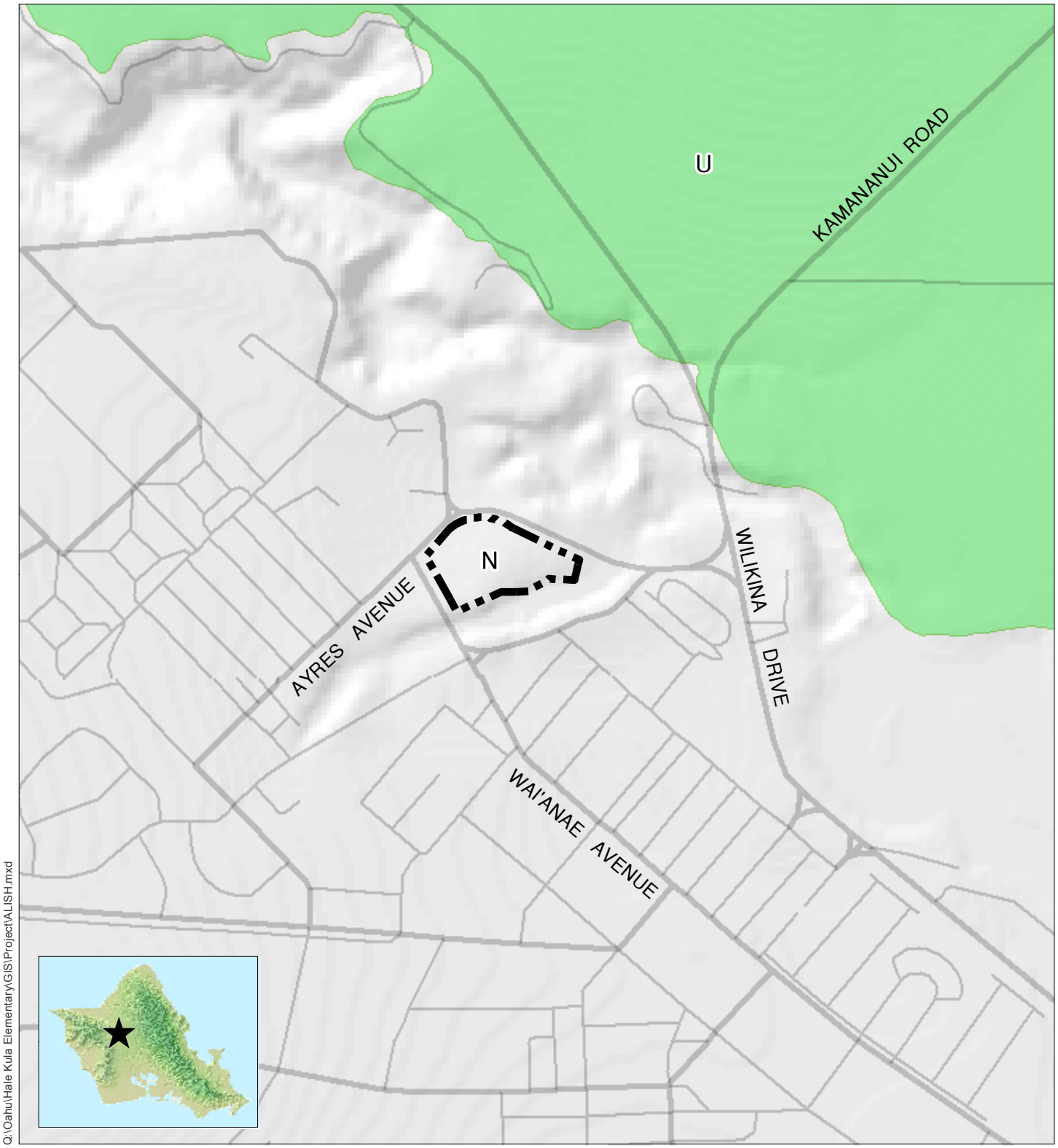
Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 250 500 1,000

PBR HAWAII & ASSOCIATES, INC.



DATE: 8/2/2012

LEGEND

- Site
- Streets
- P - Prime ALISH
- U - Unique ALISH
- O - Other ALISH
- N - Not ALISH

Source: State GIS - State of Hawai'i Department of Agriculture (1977)
Note - Areas identified as "N" were not included in the 1977 study.

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

FIGURE 13

Agricultural Lands of Importance to the State of Hawai'i

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 250 500 1,000

PBR HAWAII & ASSOCIATES, INC.

3.4 HYDROLOGY

According to the Commission on Water Resource Management, the Site is located within the Central/Wahiawā hydrologic unit (aquifer sector area code 30501). The Site overlies the northern perimeter of the Southern O‘ahu Basal Aquifer system. (State of Hawaii D. o., 2005)

Sustainable yield is the amount of groundwater that can be pumped without depleting the source. The sustainable yield of the Aquifer is 23 million gallons per day (MGD).

The elevation of the Site is 861 feet msl. The USGS collects data from two groundwater monitoring wells within Schofield. The groundwater level relative to msl ranges between 273-274 feet msl. Based on the elevation of the Site, the ground level is over 580 feet above groundwater level detected within the monitoring wells, therefore there is a limited likelihood of encountering ground water as a result of this project. (United States Geological Survey, 2012)

The nearest perennial stream, Kaukonahua is located north and east of the Site. Wahiawā Reservoir, a man-made lake is located approximately 0.4 miles to the south east. The nearest natural drainage feature is an un-named gulch adjacent to the Site to the south. The un-named gulch is part of the Army’s storm drainage system. It flows to Kaukonahua Stream and ultimately to Kaiaka Bay. Kaukonahua Stream has been identified on the State’s Clean Water Act (CWA) Section 303 (d) list. It is a Category 5 waters and is not attaining applicable water quality criteria for total nitrogen, nitrate+nitrite, nitrogen and turbidity. In 2009, Tetra Tech, Inc. prepared a report providing the Total Maximum Daily Loads (TMDLs) for the North and South Forks of Kaukonahua Stream. As a result of the report development TMDLs were developed for Nitrogen and turbidity. (State of Hawaii D. o., 2011)

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Project is not anticipated to have any significant adverse impact on groundwater or surface water resources. No long-term uses that could contaminate ground water are expected to be developed as part of the Project. Potable water will be supplied by the City Board of Water Supply (BWS). Coordination with BWS is ongoing.

The U.S. Army Corps of Engineers (ACOE), Honolulu District was contacted to determine if Department of the Army (DA) permits would be required. In a letter dated, June 19, 2012, ACOE stated, “the project area appears to be absent of navigable waters of the U.S. subject to the Corps’ jurisdiction. Additionally, the proposed school improvement project would not involve the placement and/or discharge of dredged and/or fill material into waters of the U.S.; including wetlands. Therefore a DA permit is not required.” (See Appendix A)

There will be an increase in impervious surface area. However, the project includes low impact design (LID) techniques utilizing a decentralized filtration/retention/infiltration resulting in no net increase in runoff from the Site. The system is designed to retain the increased runoff,

providing protection to the nearby un-named gulch through the use of splash block, grass pavers, vegetation, etc. The LID will serve to both minimize the volume of water running off the site as well as allowing sediment and other pollutions to settle out before infiltration into the ground. In addition, landscape architects have been retained as part of the project. Plants will be selected that are best suited for the conditions in the area that are also on the DOEs approved plant lists, thereby reducing requirements for chemical inputs. Overflow from the LID features will be conveyed by an outfall to the unnamed gulch on the south side of the site. The school administration will also be advised that portions of the watershed in the area have been identified as impaired. Although the impaired areas are not within the Site, the information will provide the educators with opportunities to integrate local issues into the curriculum, and adjust maintenance programs if necessary.

The grading will follow Best Management Practices (BMPs) as described in the National Pollutant Discharge Elimination System (NPDES) Permit and Hawai‘i Administrative Rules on Fugitive Dust, Section 11-60.133, Anti-degradation policy, Section 11-54-1.1. By utilizing BMPs, the Project will minimize sediment coming off the Site, reducing the potential of the Project contributing to the turbidity of area waterways. The contractor will submit a site specific construction BMP Plan to the -Sate DOH before grading commences. In the long-term, the Project will meet the requirements of the Garrison’s Municipal Separate Storm Sewer System. In addition, the low impact design will allow for sediment to settle out onsite also reducing the Project’s potential to contribute to turbidity of area waterways. Additionally, the stormwater outfall that conveys any overflow to the unnamed gulch will require periodic inspection by the Army, because the unnamed gulch is considered to be part of the Army’s storm drainage system.

Sections 4.6.3 and 4.4 of this EA include further information regarding the drainage improvements and fugitive dust control respectively.

3.5 MARINE WATERS

The Site is approximately seven miles inland from the nearest coastline in Hale‘iwa. Hale‘iwa Beach Park is the closest location where Water Quality Data has been collected. Near shore marine waters off the coast of Hale‘iwa are classified as class “A” and “AA” by the State Department of Health (DOH). (State of Hawaii Department of Health Clean Water Branch, 2008)

According to DOH Water Quality Standards, “It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment 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.” “AA” is described as, “It is the objective of class AA waters that these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions” (HAR §11-54-03(c)(1)). Kaiaka Bay, the marine receiving water is classified as class A waters by the Department of

Health and currently listed as a Section 303(d) impaired water body for excessive nutrients and turbidity.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Project will increase the amount of impermeable surface area of the Site. Direct discharge of storm water runoff into marine waters is not anticipated due to the inland location of the Site. However, compliance with NPDES permit requirements is anticipated. To minimize/eliminate the Project's contribution to the region's cumulative nonpoint source pollution, low impact design features utilizing structural controls such as splash blocks, decentralized filtering and infiltration, and grass paved access lanes to will ensure storm water quality/quantity is not increased or degraded.

3.6 NATURAL HAZARDS

O‘ahu is susceptible to potential natural hazards, such as flooding, tsunami inundation, hurricanes, earthquakes, and wildfires. This section provides an analysis of the Site's vulnerability to such hazards.

The State of Hawai‘i Department of Defense, Office of Civil Defense operates a system of civil defense sirens throughout the State to alert the public of emergencies and natural hazards, particularly tsunamis and hurricanes. The closest siren is siren simulator S-252 located within the boundaries of Schofield Barracks.

3.6.1 Flood

According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program, the Site is located within Zone D, undetermined flood area (Figure 14).

Currently, surface runoff sheet flows from west to east into the un-named gulch along the south and eastern perimeter of the Site.

3.6.2 Tsunami

Since the early 1800's, approximately 50 tsunami have inundated the State of Hawai‘i's shores. Seven historical events have caused major damage. According to the FEMA Flood Insurance Rate Maps (FIRM), the Site is located well outside of areas which would be impacted by coastal flooding (from a tsunami). The most recent tsunami to impact O‘ahu, occurred on March 11, 2011, causing damage at several locations around the island including the north shore, the nearest coastal area to the Site. There are, however, no records of inundation of lands within Wahiawā or Schofield Barracks during any of the recorded tsunami.

3.6.3 Hurricane

Hurricanes are classified into one of five categories according to the Saffir-Simpson Hurricane Scale. The Scale provides some indication of the potential damage and flooding a hurricane will cause upon landfall. Since 1980, two hurricanes have had a devastating effect on Hawai‘i. They were Hurricane ‘Iwa in 1982 (Category 1- sustained winds between 75 and 95 mph) and Hurricane ‘Iniki in 1992 (Category 4- sustained winds between 131 – 155 mph). In both instances, much of the damage sustained on O‘ahu occurred along the Wai‘anae Coast as the hurricanes passed between the islands of Kaua‘i and O‘ahu. While it is difficult to predict such natural occurrences, it is reasonable to assume that future incidents are likely, given historical events.

3.6.4 Earthquake

In Hawai‘i, most earthquakes are linked to volcanic activity, unlike other areas where a shift in tectonic plates is the cause of an earthquake. Each year, thousands of earthquakes occur in Hawai‘i, the vast majority of which are detectable only with highly sensitive instruments. However, moderate and disastrous earthquakes have occurred in the islands.

3.6.5 Wildland Fires

According to the City, the greatest danger of fire is where wildland (trees and brush) borders urban areas. Although all the Hawaiian Islands are vulnerable to wildland fires (especially during the summer months, prolonged drought and/or high winds), the great majority of wildfires are human-caused (intentionally caused or by negligence) and start along roadsides. Wildfires can and do also occur naturally. The Site location within Schofield Barracks limits public access to near-by roadways. However, the gulch adjacent to Hale Kula School is a wildland area that may be susceptible to wildland fire.

POTENTIAL IMPACTS AND MITIGATION MEASURES

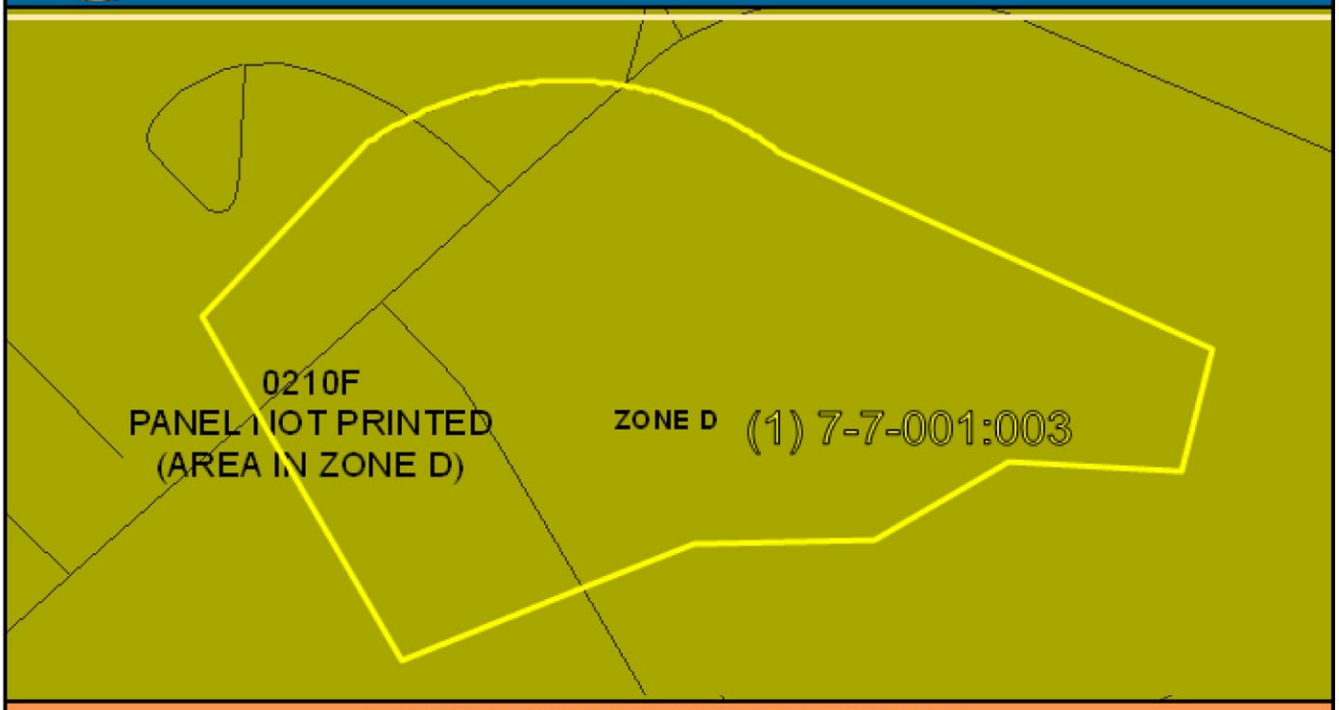
The Project is not anticipated to increase the Site’s exposure to flooding. The Site is located in an area of undetermined flood hazards (Zone D on the FIRM). Based on City requirements, adequate building setbacks and a stream study may be required. The creation of the Project is anticipated to increase the amount of impervious surfaces which may cause increased runoff, especially during a storm or heavy rain event. To reduce such impacts the project will include LID utilizing such measures as splash blocks, decentralized filtering and infiltration, and grass paved access lanes to ensure storm water quality/quantity is not increased or degraded. The LID components capture increased runoff resulting from the Project, allowing it to infiltrate into the ground rather than leave the Site.

With the exception of an increase in impervious surface area, construction of the Project will not exacerbate any natural hazard conditions. Should there be a hurricane or earthquake, the

potential impact of destructive winds and torrential rainfall and earth movement will be mitigated through compliance with the Uniform Building Code, and International Building Code. The site is located outside the designated tsunami evacuation zone. While the hazard of wildland fires still exists, the current structures are located between the existing wildland area in the gulch and the proposed improvements. In the event of natural disaster, Emergency Shelters (Figure 15) have are located nearby with one located on Schofield Barracks at Sargent Samuel K. Solomon Elementary School.

State of Hawaii

FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

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 is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water-surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- **Zone A:** No BFE determined.
- **Zone AE:** BFE determined.
- **Zone AH:** Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- **Zone AO:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- **Zone V:** Coastal flood zone with velocity hazard (wave action); no BFE determined.
- **Zone VE:** Coastal flood zone with velocity hazard (wave action); BFE determined.
- **Zone AEF:** Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA – An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- **Zone XS (X shaded):** 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.
- **Zone X:** Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

- **Zone D:** Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

PROPERTY INFORMATION

COUNTY:	HONOLULU
TMK NO:	(1) 7-7-001-003
PARCEL ADDRESS:	
FIRM INDEX DATE:	JANUARY 19, 2011
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL(S):	15003C0210F
PANEL EFFECTIVE DATE:	PANEL NOT PRINTED
PARCEL DATA FROM:	JULY 2011
IMAGERY DATA FROM:	MAY 2006

IMPORTANT PHONE NUMBERS

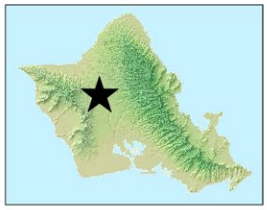
County NFIP Coordinator	
City and County of Honolulu	
Mario Siu-Li, CFM	(808) 768-8098
State NFIP Coordinator	
Carol Tyau-Beam, P.E., CFM	(808) 587-0267

Disclaimer: The Department of Land and Natural Resources assumes no responsibility arising from the use of the information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the Department of Land and Natural Resources from any liability, which may arise from its use.

Preliminary DFIRM Disclaimer: If this map has been identified as "PRELIMINARY", please note that it is being provided for commenting purposes only and is not to be use for official/legal decisions or regulatory compliance.

Q:\Oahu\Hale Kula Elementary\Photoshop

DATE: 6/5/2012



Source: National Flood Insurance Program http://gis.hawaiinfip.org/fhat
- Federal Emergency Management Agency Data (January 2011)

Note - The TMK boundary shown above is off-set from the actual location in the source data. However, the entire project is located within Zone D.

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

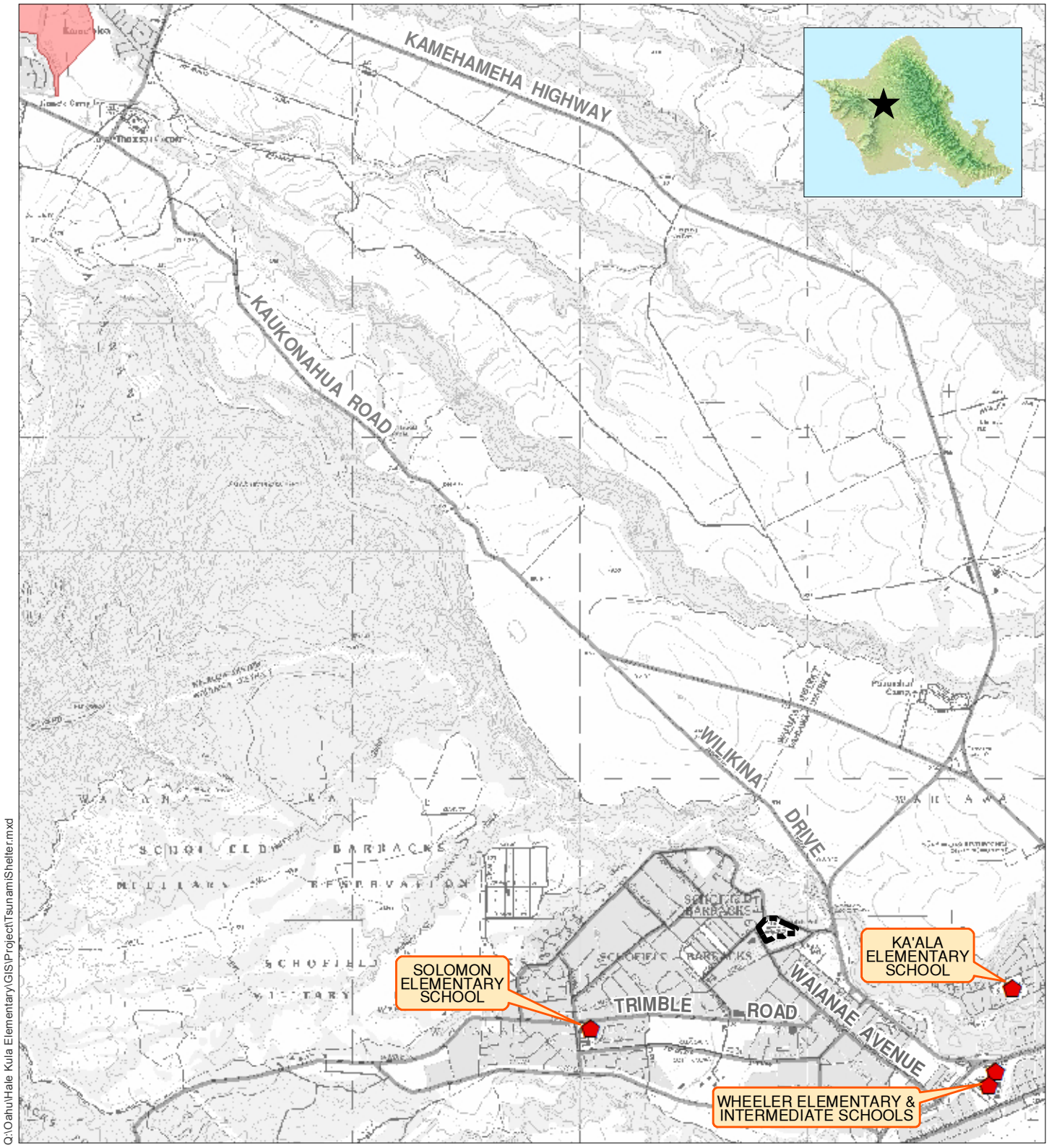
FIGURE 14

Flood Insurance Rate Map

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

PBR HAWAII & ASSOCIATES, INC.



DATE: 8/2/2012

LEGEND

Site

Emergency Shelters

Tsunami Evacuation Zones

FIGURE 15

Tsunami Evacuation Zones and Emergency Shelters

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet)

0 1,000 2,000 4,000

PBR HAWAII & ASSOCIATES, INC.

Source: State GIS - City and County of Honolulu (2010, Tsunami Evacuation Zones)
State GIS - Pacific Disaster Center (2005, Emergency Shelters)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

3.7 BOTANICAL RESOURCES

The Site is a landscaped school (see site photographs in Figure 4 A and B). No threatened or endangered plant species are known to exist on the school campus. The Project is located in a previously developed area. It was compared to the State GIS database based on U.S. Fish and Wildlife Services (USFWS) surveys of Critical Habitats. The USFWS was contacted in a letter dated May 25, 2012 requesting comments in 30 days regarding the impact of the proposed Project on botanical resources. The USFWS was informed that no response within 30-days would be construed as concurrence with the assessment that no critical habitats, endangered/threatened species, or species of concern would be affect by the Project. As of December 12, 2012, no response was received from USFWS.

Due to the age of the school, there are numerous large trees on campus, some of which were likely planted over fifty years ago when the school first opened. While not endangered or threatened, the large trees located primarily around the perimeter of the campus and between the existing administration and cafetorium buildings provide shade. In addition, the school has created garden plots between some of the existing building. The landscaping and gardens on Site contribute to the character of the campus.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Hale Kula Elementary School Improvements will not impact any endangered plant species, as none are known to be present at the Site.

Landscaping will attempt to utilize native species and/or plants proven to be adaptable to the area. In addition, construction and phasing has been carefully planned to avoid removal of large trees. A landscape architect has been retained to assist the team in working around these trees. With the exception of the addition of the cafetorium, there are no trees or gardens located within the footprint of any of the proposed new buildings. There are several areca palms located along the eastern edge of the cafetorium that will need to be removed as they are located within the footprint of the proposed addition. In addition, the landscaping between the existing administration and library buildings will be relocated. The installation fire lanes will be designed to ensure the existing large monkeypod tree and jacaranda trees are retained in place. The fire lanes will be designed utilizing grass pavers allowing for infiltration of water for use by these older trees.

3.8 WILDLIFE RESOURCES

The site of the Project is located in a previously developed area. It was compared to the U.S. Fish and Wildlife Services (USFWS) surveys of Critical Habitats using the State GIS database. The Site contained no critical habitats identified in the State GIS database. In addition, no native species were observed during site investigations conducted by PBR HAWAII on, April 20, 2012. The USFWS was contacted in a letter dated May 25, 2012 requesting comment in 30 days. The

USFWS was informed that no response within 30-days would be construed as concurrence with the assessment that no critical habitats, endangered/threatened species, or species of concern would be affect by the Project. No response was received as of July 25, 2012; therefore no additional action is required.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Hale Kula Elementary School Improvements will not result in deleterious impacts to native wildlife species as none were identified on Site.

4 DESCRIPTION OF THE HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the human environment, potential impacts of the Hale Kula Elementary School Improvements, and preliminary mitigation measures to minimize any impacts.

4.1 ARCHAEOLOGICAL, HISTORIC AND CULTURAL RESOURCES

Scientific Consultant Services, Inc. conducted an Archaeological Assessment[1] (AA) and Cultural Impact Assessment (CIA) for the Site (Dahger, C. & Speer, R., 2012) (Dahger, C. & Speer, R., 2012). The AA was conducted in compliance with Hawai‘i Revised Statute (HRS) Section 6E Historic Preservation as well as the National Historic Preservation Act (NHPA) Section 106 (Section 106) to determine the presence/absence of archaeological sites and included test pits evaluating the soil horizons as well as observation of borings advanced as part of the geotechnical study. The CIA was prepared as much as possible in accordance with the suggested methodology and content protocol in the *Guidelines for Assessing Cultural Impacts* prepared by OEQC and includes archival and documentary research, communication with organizations having knowledge of the project area, its cultural resource, and its practices and beliefs. An evaluation of post-contact structures was conducted by Susan Tasaki, Historic Architect of the U.S. Army Garrison Hawai‘i, Directorate of Public Works, Cultural Resources Section in accordance with Section 106 (Tasaki, 2012). Findings of the Archaeological Assessment, Cultural Impact Assessment and Architectural Survey are included in Appendices B, C and D respectively.

Traditional and Historical Setting

Hale Kula Elementary School is situated within the northeastern portion of the traditional Wai‘anae Ahupua‘a, a single land division that crossed over the entire Wai‘anae mountain range, the inland plateau of O‘ahu and a third mountain slope on the leeward side of the Ko‘olau mountain range. Today, the traditional Wai‘anae Ahupua‘a is separated at the summit of the central Wai‘anae mountain range into Wai‘anae Uka (inland and northeast, includes the Site) and Wai‘anae Kai (seaward and southwest of the Site). At least two significant landforms occur at the summit boundary: Mount Ka‘ala, the highest peak on O‘ahu, and Kolekole Pass, a prominent dip in the Wai‘anae mountain range that provided an accessible, lowland passage between Wai‘anae Uka and Wai‘anae Kai. The separation of Wai‘anae Ahupua‘a into two portions may have transpired during historic times as a result of land subdivisions during the māhele (ca. 1840s). The Wai‘anae Uka Ahupua‘a and Wahiawā Ahupua‘a are part of the present day District

[1] An Archaeological Assessment is an Archaeological Inventory Survey with negative findings

of Wahiawā. The Waiʻanae Kai Ahupuaʻa and several other leeward ahupuaʻa are part of the present day Waiʻanae District.

Traditional and historic accounts portray the central plateau of Oʻahu as being a named population center as well as an important birthplace for aliʻi, or chiefs. The historian Samuel M. Kamakau identifies Wahiawā with a specific chiefly degree:

> The chiefs of Līhue, Wahiawā, and Halemano on Oʻahu were called Lo chiefs, poʻe Lo Aliʻi ["people from whom to obtain a chief"], because they preserved their chiefly kapus...They lived in the mountains (i kuahiwi); and if the kingdom was without a chief, there in the mountains could be found a high chief (aliʻi nui) for the kingdom. Or if a chief was without a wife, there one could be found — one from chiefly ancestors. (Kamakau 1964: 5)

Starting in the early 1800's, Wahiawā is identified in the historical record as one of the prime sources of the wood for the sandalwood trade. At the height of the sandalwood boom, aliʻi were buying foreign ships, to transport wood to Asia.

Toward the mid-19th century, the Organic Acts of 1845 and 1846 initiated the process of the Māhele - the division of Hawaiian lands - which introduced private property into Hawaiian society. No known Land Commission Award (LCA) claims were registered in the vicinity of the Site.

The lack of LCA claims may not however, indicate the absence of an indigenous Hawaiian population in the southwestern portion of the ahupuaʻa. According to SCS, Samuel Kamakau noted that there were larger villages at Kahalepoʻai, Hauone, Kalakoa, Wahiawā, Halemano, and Kanewai.

What became of the "larger villages" at Wahiawā during the second half of the 19th century is unrecorded. Further, there is no documentation of any continuing Hawaiian presence in the general area of the Site. However, towards the end of the 1800's, following the overthrow of the Hawaiian monarchy, western military, entrepreneurial and agricultural interests would impact the Wahiawā landscape and the Site. Following the annexation of the Hawaiian Islands by the United States in 1898, a presidential order of July 20, 1899 set aside Waianae Uka lands as a military reservation. Schofield Barracks, originally Castner Village, was first occupied in 1909 with a group of soldiers from the 5th Calvary Regiment. The original intent of the military reservation was for it to be a place for soldiers to recuperate. However, by the start of World War II, Schofield Barracks was a major training area including artillery ranges, small arms, bayonet and obstacle courses.

On July 6, 1957, by Executive Order #10719, the10.666 acre parcel currently identified as TMK7-7-001:003 was restored to the possession of the Territory of Hawaiʻi as a site for a public school (see Federal Register, Volume 22, Number 130 (portion)). Starting in 1958, Wahiawā II Elementary School (now Hale Kula Elementary School) was constructed. The school was

designed by Law & Wilson Architects and Engineers. Designed by the late Robert M. Law it was one of eight schools built in the 1950's and 1960's within the Wahiawā area. It was built utilizing a finger plan design first created by Ernest Kump for schools in California. Mr. Law modeled the Hale Kula site plan off of the finger plan design as well as pioneer school style to maximize integration with landscape, functionality, and to maximize ventilation. At least four other schools were designed utilizing a similar style[2].

Wahi Pana (Legendary Places)

The area now described as Central Oʻahu had many celebrated and storied sites. While none have been identified within the Project Site, the following are some of the storied places that provide context for understanding the importance of Central Oʻahu in pre-contact and historic times and suggest the significance of the area in the Hawaiian consciousness during pre-contact times. The wahi pana shared here only represent a fraction of the storied places of Central Oʻahu

Kukaniloko is the name of one of two famous aliʻi birth places in Hawaiʻi. It is located to the west of the intersection of Kamehameha Highway and Whitmore Road over one mile away from the Site. Associated with Kukaniloko was the waihau heiau, Hoʻolonopahu. The sacred drums announcing the birth of aliʻi were at the Hoʻolonopahu Heiau. Kukaniloko was also a puʻuhonua where people could seek refuge after committing murder.

To the west of the Site, marking the boundary of the traditional land division of Waiʻanae Uka is Mt Kaʻala, the highest peak on Oʻahu and the legendary home of Kaiona, a goddess known as the lady of sunshine. A pond located at the top of Mt. Kaʻala is said to have been guarded by the moʻo Kamaoha. Kolekole also lies to the west of the Site is a low pass that allowed passage from Waiʻanae Uka to the Waiʻanae coast in traditional times and has been utilized post contact by the military. Just above the pass was the Kolekole stone, a place known for the practices of lua fighting. It is said that the Kolekole stone represented the female guardian of Kolekole pass.

A settlement referenced as Lihuʻe was inhabited by a long line of chiefs, however, the actual location of Lihu`e on the central plateau of O`ahu differs among various historic accounts. According one account, the inland location of Lihuʻe at the foot of Kaʻala was too remote and distant from the sea for the chiefess Kelea, the Maui wife of the chief Lo-Lale. After living in Lihuʻe for several years and having three children there Kelea grew weary of the land far from the sea.

[2] Two of the schools, Hale Kula Elementary and Kaewai Elementary School were designed by Robert M. Law. The remaining schools were designed by other architects.

The settlement of Halemano (also referred to as Helemano or Halemanu) was associated with a cannibalistic chief known as ‘Aikanaka[3]. A narrow ridge near Kukaniloko has been attributed as being a place where victims for ceremonial feasts of human flesh were captured.

A settlement referred to as Oahunui was apparently named for the chief Oahunui (a contemporary of ‘Aikanaka) who once resided there. The settlement of Oahunui was located in proximity to the legendary Oahunui Stone, which may have been near the east fork of Kaukonahua Stream or along the nearby Waiakakalaua Stream to the south of Wai‘anae Uka. The Oahunui Stone allegedly embodies the chief Oahunui at the place where he was murdered. In the 1890s, people from Honolulu would ride out to Oahunui and walk around the stone. Thus, it was contended that "no one could say that he had been entirely around the island of Oahu unless he had been around this stone" (McAllister 1933:132).

Identified Archaeological and Architectural Sites within the Project Boundaries

The Site is located outside the Schofield Barracks Historic District. While there are no identified archaeological sites or cultural resources within the Site, the buildings of Hale Kula Elementary School are over 50 years old, warranting an assessment to determine eligibility for listing on the State of Hawai‘i or National Registers of Historic Places.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Based on the negative findings of the Archaeological Assessment and that the Site is an existing public facility located within a developed portion of the Schofield Barracks Military Installation, it is unlikely that additional archaeological sites will be encountered in subsurface contexts. No further archaeological work is proposed for the current undertaking, and the Project is not anticipated to have adverse effects on the Site.

Based on the findings of the CIA, the Site is not currently being utilized for cultural purposes not associated with school activities. However, some cultural activities (such as May Day, etc.) are conducted as part of the school curriculum. In addition, based on discussions with individuals and agencies identified in the CIA (see Appendix C), the Site was not specifically identified as an area for gathering of cultural resources or for cultural activities.[4] The assessment concludes that the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected. Because there were no cultural activities identified within the project area, there are no adverse effects.

[3] ‘Aikanaka literally means man eater. The chief was also known as Kalo`aikanaka, Kalo, or Keali`i`aikanaka

[4] It should be noted that the Wahiawā region was utilized for harvesting of sandal wood. This was a post contact regional gathering activity that is no longer occurring today as a result of the decimation of the sandal wood forests in the early 19th century.

Based on the assessment conducted by Ms. Tasaki as part of the Architectural Survey the buildings are not considered 'historic' under any of the criterion. (a) there are no direct "associations with events that have made a significant contribution to the broad patterns of our history; (b) there are no associations "with the lives of persons significant in our past"; and (c) although the campus does have "distinctive characteristics of a type, period, or method of construction" "finger-plan" schools were typical of 1950s school construction.

The State of Hawai'i DOE and its contractors will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. The construction documents will include provisions that should inadvertent discoveries be made during the construction activities, work will cease immediately and the State Historic Preservation Division will be contacted to assess the significance of the find and recommend appropriate mitigation measures, as necessary.

4.1.1 National Historic Preservation Act Consultation

Based on review of the Archaeological Assessment (Appendix B), the Cultural Impact Assessment (Appendix C) and the Architectural Survey (Appendix D), the State of Hawai'i Historic Preservation Division has concurred with the "no historic properties affected" determination. See Appendix E.

4.2 TRANSPORTATION

4.2.1 Roadways, Access, and Parking Facilities

The Project Site is located entirely within the boundaries of Schofield Barracks, a restricted access military base. The Site is located less than ½ mile from the McNair Gate and approximately one mile from the Lyman Gate. Primary vehicular access to the Site once within Schofield Barracks is via Wai'anae Avenue. Fences restrict access to the Hale Kula Elementary School except through four entrances and gates along the northern and western perimeters. Fences along the southern and eastern perimeter of the campus do not have access points. While pedestrian traffic is funneled to the front of the campus, sidewalks and pathways surround most of the school. An unnamed gulch school limits access from the south; therefore there are no pathways along the southern perimeter. Bicycle facilities are provided within the school campus. There is parking for up to 40 vehicles in front of the cafetorium and existing administration building. A large paved over flow parking lot is provided across Ayres Avenue.

4.2.2 Public Transportation

TheBus is a public transportation service provided by the City and County of Honolulu. Route 72 provides bus service in Schofield Barracks, Whitmore Village and Wahiawā as shown on Figure 16.

4.2.3 Emergency Access

While the existing roadways surrounding the campus will not be rerouted or altered, two new emergency access points, one from Ayres Avenue and one from Wai‘anae Avenue will be constructed. The Project as proposed will include the installation of two access lanes within the boundaries of the Site as shown on Figure 3. The fire lanes will be constructed of grass pavers rather than asphalt or concrete. These are lanes designed to provide fire apparatus and other emergency vehicles with adequate space necessary to access and respond to emergencies that may occur at the proposed covered play court and 10-classroom building. Except when vehicular access is required, the access lanes will provide open space as a grassy field for use by the school.

POTENTIAL IMPACTS AND MITIGATION MEASURES

An increase of vehicular traffic is anticipated during the proposed 42 month window for construction. Upon completion of construction, traffic is anticipated to be reduced back to pre-Project levels. Heavy equipment, construction and contractor vehicles are anticipated to enter post via the Lyman Gate. These vehicles will follow routing directions provided by Army Law Enforcement Personnel, but are anticipated to traverse along a combination of Flagler Road, Wai‘anae Avenue, Ayres Avenue, Humphrey Road, and Cadet Sheridan Road.

The Project is not anticipated to require the permanent rerouting or alteration of roadway traffic for the proposed construction activities, but may be required occasionally to accommodate construction equipment or during infrastructure upgrades. A Traffic Control Plan will be developed for the Project. If funding constraints require construction in multiple phases, a Traffic Control Plan will be developed for each phase of work. Traffic cones and other directional devices will be placed in the roadway to guide vehicles around work areas. The contractor will implement measures to provide access past work sites and to minimize the inconvenience to the community. These measures may include the following and will be coordinated with and approved by Army Law Enforcement Personnel:

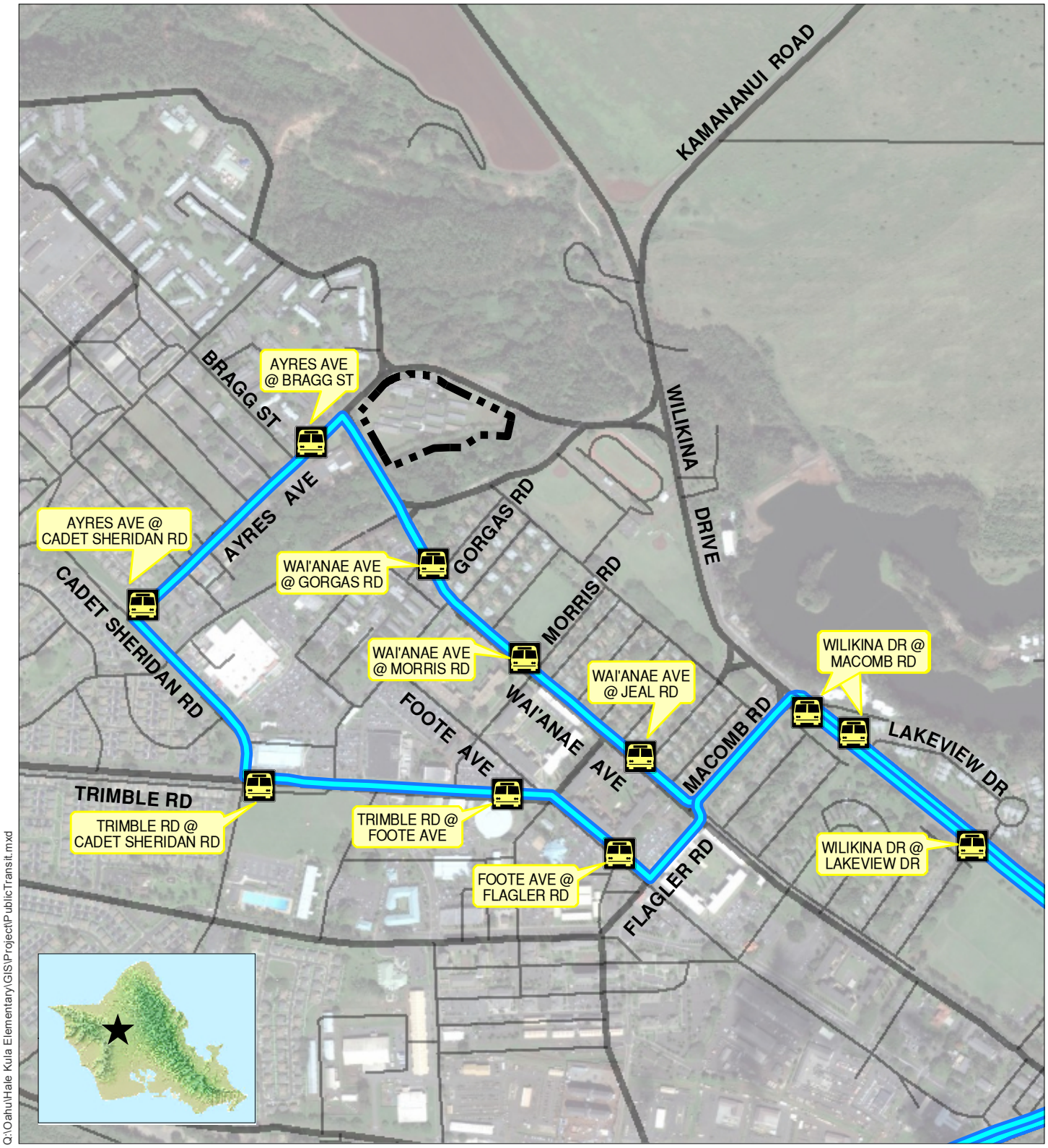
- Posting flagmen for traffic control around work sites.
- Backfilling/covering all trenches at the end of the work day.
- Posting safety devices and signs for the duration of construction.
- Scheduling construction and material deliveries during non-peak traffic hours.
- Scheduling construction activities that require lane closures to occur thirty minutes after school begins, ending thirty minutes prior to the end of the school day

It is not anticipated that any of the public transportation routes or stops will be affected the Project. However should either routes or stops be affected, the traffic control will also include coordination with the City and County of Honolulu, Department of Transportation Services (DTS).

Although a new access point to both Ayres Avenue and Wai‘anae Avenue will be constructed, change in traffic flow is only anticipated during emergency situations requiring the use of these lanes. To inhibit non-emergency uses of the access lanes, control gates will be installed and secured in the closed positions.

In the long-term, the Project will not generate any additional trips during school hours as no change in student population is expected.

The U.S. Army Garrison Hawai‘i, Directorate of Public Works (DPW), the State of Hawai‘i, Department of Transportation (DOT), and DTS were provided detailed information regarding the Project. In addition, DOE, and the architect of the Project, Design Partners, Inc. (DPI) met with Garrison DPW staff to discuss the project on June 21, 2012. In a letter dated, June 7, 2012, DOT indicated that they do not anticipate any significant adverse impact to State transportation facilities as a result of this project. The DTS indicated that they have no comments in a letter dated June 15, 2012, (see Appendix A).



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DATE: 8/2/2012

LEGEND

- Site
- Streets
- Public Bus Stops
- Public Bus Routes

FIGURE 16

Public Transit Routes and Stops

Hale Kula Elementary School Improvements

Department of Education — Schofield Barracks, O'ahu

North

Linear Scale (feet): 0 250 500 1,000

PBR HAWAII & ASSOCIATES, INC.

Source: City and County of Honolulu (2011)

Disclaimer: This Graphic has been prepared for general planning purposes only and should not be used for boundary Interpretations or other spatial analysis.

4.3 NOISE

Current sources of noise in the vicinity of the Project include noises associated with military ground and air training, vehicular traffic, typical residential and school noises, as well as natural sounds associated the undeveloped areas. Sensitive receptors such as children at schools and patients at health care facilities can be impacted. The nearest school, Hale Kula Elementary is the site of the Project. The nearest civilian health care facilities are located within Wahiawā Town, approximately 1.2 miles east of the Site. The nearest military health care facility is located along Wai‘anae Avenue is greater than 50 feet but less than one half mile from the western perimeter of the Site.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Construction activities will inevitably create an increase in noise levels that may have an impact on school activities. The existing classroom buildings, particularly those adjacent to construction activities are anticipated to experience the greatest disturbance due to noise. Patients within the nearby military health care facilities may also experience some noise disturbance.

Noise impacts while unavoidable are temporary. Community Noise Control regulations (HAR Title 11, Chapter 46) establish maximum permissible sound levels for construction activities occurring within three "acoustical" zoning districts. The approximately 10.7 acre Project site and surrounding areas are most closely classified as Class B. The maximum permissible daytime sound levels for each district are described in Table 4-1 Maximum Permissible Sound Level by Zoning District.

Table 4-1 Maximum Permissible Sound Level by Zoning District

Zoning District	Day-time (7 AM to 10 PM)	Night-time (10 PM to 7 AM)
Class A: Areas equivalent to lands zoned residential, conservation, preservation, public space, open space or similar type	55 db(A)	45 db(A)
Class B: Areas equivalent to lands zoned for multi-family dwellings, apartment, business, commercial, hotel, resort, or similar type	60 db(A)	50 db(A)
Class C: Areas equivalent to lands zoned agriculture, country, or industrial.	70 db(A)	70 db(A)

In general, construction activities cannot exceed the permissible noise levels for more than ten percent of the time within any twenty minute period except by permit or variance. Any noise source that emits noise levels in excess of the maximum permissible sound levels cannot be operated without first obtaining a noise permit from the Department of Health (DOH). Although the permit does not attenuate noise, it regulates the hours during which excessive noise is allowed.

Exposure to noise is expected to vary by construction activity, and the type of equipment used during the different activities. Heavy machinery and pneumatic impact equipment will likely generate noise in the range of 82-96 decibels-weighted (dB(A)) within 50 feet of the source. The contractor(s) is expected to be responsible for obtaining necessary permits and complying with all permit conditions. The contractor will work to achieving a balance between meeting permit conditions for "acoustical" zoning districts for work activities while minimizing disruption to nearby sensitive receptors. Work is expected to be scheduled primarily for daytime hours, as described in HAR Title 11, Chapter 46 (7:00 AM to 10:00 PM), Monday through Friday. The contractor is also expected to ensure that all construction equipment with motors are properly equipped with mufflers in good operating condition. The contractor may employ other mitigation measures such as installation of temporary air-conditioning for existing classrooms to buffer noise, and implementing construction curfew periods to minimize those temporary noise impacts.

To the extent possible, noisy construction will be scheduled during the summer months to minimize impact on students. Because the improvements will occur within the boundaries of the nearest public school campus, the DOE and Contractor(s) will work closely with Hale Kula Elementary School officials regarding construction activities to reduce noise impacts to students and staff particularly during crucial standardized testing periods.

4.4 AIR QUALITY

Air quality in the vicinity of the Project Site is generally good. The State of Hawaiʻi is in attainment with all National Ambient Air Quality Standards (NAAQS). The NAAQS have been established for man-made sources of pollution. At times air quality is reduced as a result of an increase in Sulfur Dioxide (SO_2) emissions from a natural source of pollution, Kīlauea Volcano located on the island of Hawaiʻi. Occasionally wind patterns carry emissions from Kīlauea Volcano to the northwest, in the direction of the Site. Air flow from this direction carrying volcanic gasses or “vog” can result in an increase in pollution, a decrease in visibility and can impair the health of sensitive receptors.

Kīlauea Volcano is recognized as the largest point source of SO_2 gas in the United States. Gaseous emissions increased dramatically in 2008 when a new vent opened at the volcano’s summit. Emission estimates increased to 3,000 – 5,000 tons per day (tpd) of SO_2, in contrast to previous average emission of 1,700 tpd.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Long-term air quality impacts due to the Project are not expected. However, Short-term air quality impacts due to the Project are anticipated as a result of construction activities. During construction, air quality in the area may be impacted by exhaust generated from construction equipment and fugitive dust. In a letter dated July 20, 2012, the State of Hawaiʻi, Department of Health (DOH) stated, “activities comply with the provisions of Hawaiʻi Administrative Rules

Section 11-60.1-33, on Fugitive Dust." (Appendix A). The contractor will implement best management practices (BMPs) necessary to reduce any negative air quality impacts. BMPs for dust control may include but are not limited to the recommendations made by DOH in the July 20, 2012 letter as described below:

(a) Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on–site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;

(b) Providing an adequate water source at the site prior to start-up of construction activities;

(c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;

(d) Minimizing dust from shoulders and access roads;

(e) Providing adequate dust control measures during weekends, after hours and prior to daily start-up of construction activities; and

(f) Controlling dust from debris being hauled away from the project site. Also, controlling dust from daily operations of material being processed, stockpiled, and hauled to and from the facility.

A combination of these and other measures to mitigate potential air quality impacts will be implemented as appropriate. The contractor is expected to develop standard procedures should dirt be tracked onto the highway, to prevent fugitive dust formation. Exhaust emissions from construction equipment and increased vehicular traffic should not violate State or Federal air quality standards based on the moderate level of existing traffic volumes in the region.

Actions associated with the Project are not expected to result in exceeding any State or Federal air quality standards.

4.5 VISUAL RESOURCES

The City and County of Honolulu's Central O'ahu Sustainable Communities Plan sets forth guidelines pertaining to development in the Schofield Barracks, including a guideline related to visual resources. The Sustainable Communities Plan Schofield Barracks guidelines suggest that security fencing and military facilities should be screened from off-base views. Visual resources from the Site are limited due to the forested nature of the surrounding land.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Project Site is surrounded by the military facility and thus, will not include security fencing or other infrastructure visible from points off-base. Therefore, the Project is in conformance with the Sustainable Communities Plan Guidelines pertaining to Schofield Barracks and visual

resources. The Project will include rehabilitation of existing single-story structures and replacement structures that are both single and two-stories in height. Roof lines are consistent with existing structures. The low-profile buildings are not expected to create any negative impacts to on-site or surrounding visual resources.

4.6 INFRASTRUCTURE AND UTILITIES

A team of technical consultants has been retained to address infrastructure requirements for the proposed improvments. Key findings are summarized in the following sections.

4.6.1 Water System

Water is supplied to Hale Kula Elementary School by the U.S. Army Garrison Hawai‘i via a water supply line in an adjacent street.

The Project will include new domestic water lines, fire water lines, fire hydrants and an all-weather fire apparatus access lane as part of the site improvements. The new special education facility, cafetorium addition, administrative center, and library/student center will be connected to the existing water system to support plumbing, restrooms, and fire sprinkler requirements. The existing campus is not currently equipped with a fire suppression system. The improvements are anticipated to include fire suppression system (sprinklers) within each of the proposed new facilities.

POTENTIAL IMPACTS AND MITIGATION MEASURES

SSFM International, Inc., AECOM, and SSDA, Inc. evaluated the existing system and determined the requirements and improvements necessary to accommodate the proposed improvements to the Site. The school population is not expected to change; therefore, an increase in the average daily demand is not anticipated. However, the increase in plumbed fixtures proposed for the new facilities will increase the maximum water demand from 160 to 248 gallons per minute (gpm). The water systems will include adequate flow to meet a fire flow demand of 572 gpm.

The Project will have a positive impact on Hale Kula Elementary by providing replacement facilities that include fire suppression for ten of the existing wood-constructed portable classrooms, the existing library/custodial center and administration building.

In a letter dated December 29, 2011, the Office of the Garrison Commander confirmed that the existing water system is sufficient to accommodate the increased daily water demand.

4.6.2 Wastewater System

Wastewater from Hale Kula Elementary School is captured and treated by the U.S. Army Garrison Hawai‘i wastewater conveyance and treatment system operated by Aqua Engineers

located within Schofield Barracks. The wastewater treatment plant operated by Aqua Engineers is operating under an extension of NPDES Permit number HI0110141. Connection to the wastewater system is already in place.

SSFM International, Inc. evaluated the existing system and has recommended improvements to accommodate the proposed improvements to the Site. A total of six restroom facilities located within the existing facilities proposed for demolition. The Proposed Action will replace these six restroom facilities proposed for demolition with ten restroom facilities and one restroom/shower facility.

Although there will be an increase in restroom facilities, the school population (students and staff) will not increase, therefore, a change in peak waste water flow is not expected. The current and proposed wastewater peak flow is 355 gallons per minute (gpm). The existing pump station currently in place rated at 300 gpm.

The existing cafetorium is serviced by a grease trap which is periodically pumped and waste is sent to Pacific Biodiesel for recycling and energy production.

POTENTIAL IMPACTS AND MITIGATION MEASURES

In a letter dated December 29, 2011, the Office of the Garrison Commander confirmed that the existing wastewater system operated by Aqua Engineers is sufficient to meet the needs of the proposed Project improvements.

Upgrades to the on-site sewer system may be needed to accommodate the addition of the new restroom associated with the new administration center, cafetorium, outdoor covered play court, and library/media/technology/student center. Upgrades may include increasing capabilities of the pump station as well as a possible relocation of sewer line and manholes within the school boundaries.

Based on the rating of the existing pump station and the calculated wastewater peak flow of 355 gpm, it appears the system may not be sufficient to handle the wastewater flow. However, the existing daytime peak flow is 178 gpm, well within the capacity of the station. In addition wet well volume cycle time is well within the design guidance parameters. Because the Project is not expected to result in an increase in peak waste water flow, the pump station currently in place may be adequate to accommodate the improvements.

Actual upgrades will be based upon the recommendations from Aqua Engineers and SSFM International, Inc.

4.6.3 Drainage System

Schofield Barracks has an extensive drainage system. Run-off throughout the built areas of the Schofield Barracks is eventually captured by a combination of open and underground drainage

features, natural gulches, and eventually makes its way to the ocean as described in Section 3.4. The school's drainage discharges are covered under the Department of Education's NPDES small MS4 Permit No. HIS000003, except where the school's drainage discharges to the Army's Schofield Barracks storm drainage system. As such, a letter of authorization should be acquired by the Department of Education from the Army to allow discharge and to permit Army inspection of the Hale Kula system on a periodic basis.

Site elevations range from approximately 865 feet to 875 feet above msl. The layout of the facilities utilizes a finger-building design with grassy areas between each. Surface runoff sheet flows across the Site and to the un-named gulch to the south and east. The Project will result in an increase of 1.0 acres of permanent impervious surface area.

The Site is designated on the FIRM as Zone D as shown on Figure 14 and described in Sections 3.4 and 3.6.1.

SSFM International, Inc. evaluated the existing drainage system and has recommended improvements to accommodate the proposed improvements to the Site.

POTENTIAL IMPACTS AND MITIGATION MEASURES

During construction, approximately 2.5 acres of the Site will be disturbed. In addition, the Project will include the removal of hazardous materials during demolition and renovation activities. Certified contractors will address the abatement of these materials in a manner that meets the State of Hawai‘i's Department of Health (HDOH) requirements and ensures that the materials/waste are properly contained, disposed and do not enter into the storm drainage system. Erosion control measures will be provided by the Contractor to mitigate the effects of storm water runoff over the exposed ground surface and reduce the potential for storm water pollution from leaving the project area. Best Management Practices for erosion and sedimentation control will be employed and may include installation of silt fences, providing gravel construction ingress and egress, providing filters at all storm drain inlets, as well as other structural and non-structural controls.

The Project will disturb greater than one acre of land area, therefore a Notice of Intent for Appendix C and a General Form will be submitted to the State Department of Health under the National Pollutant Discharge Elimination System (NPDES). A copy of the approved Notice of General Permit Coverage (NGPC) shall be on file at the construction site field office.

In the long-term, the Project will result in an increase in impervious surface area. The City and County of Honolulu, Department of Planning and Permiting's *Rules Relating to Storm Drainage Standards,* January 2000, will be incorporated in drainage design to ensure the Proposed Action does not impact the existing storm water quality. In addition, LID features will be integrated into the school design to maintain or improve the existing storm peak flows and storm water quality exiting the site of the Proposed Action. Decentralized filtration/infiltration through vegetation

will capture increased runoff resulting from the Proposed Action and allowing it to seep into the ground rather than leaving the Site. Overflow from the LID features will be conveyed by an outfall to the unnamed gulch on the south side of the site. This outfall will require periodic inspection by the Army, because the unnamed gulch is considered to be part of the Army's storm drainage system. Letters of agreement or an easement with appropriate language may be required to formalize inspection and stormwater quality responsibilities between the DOE and the Army.

4.6.4 Electrical and Communications System

Although located within the boundaries of Schofield Barracks, electrical, telephone, data and television services are provided to Hale Kula Elementary School directly by the service providers. These services are not connected to the Schofield Barracks utility network. Electricity to Hale Kula Elementary School is currently provided by Hawaii Electric Company (HECO). Telecommunication including internet service is managed by the DOE's Network Support Services Branch (NSSB). Time Warner Cable/Oceanic provides cable television service.

Currently, Hale Kula Elementary School has a relatively low energy demand. With the exception of the library, none of the buildings are air conditioned. While a few classrooms have fans, most do not. During a typical school day, the average instantaneous energy demand at Hale Kula Elementary School is approximately 100 kW.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Ron Ho and Associates, Inc. (RHA) evaluated the existing system and recommended improvements to accommodate the proposed improvements to the Site. The average energy demand is expected to triple from the current demand as a result of the Project. Although there will be a substantial increase in energy consumption, the HECO infrastructure has already been sized to accommodate the change in demand. The existing HECO system is sufficient and has adequate existing capacity to accommodate the Project. The pad mounted transformer may be upgraded at HECO's discretion based on usage once the improvements are completed and the new systems are fully operational.

The existing telecommunication system within Hale Kula Elementary School is not adequate to meet the technological needs of a school in the digital age. The proposed library & student center will include technology and media centers with the necessary infrastructure to meet the technological requirements of the 21st century. RHA is working with NSSB to insure that the technological components of the Project meet DOE's design requirements. RHA will continue to work with NSSB during the installation. Long-term management of the telecommunication system will be managed by NSSB. While telecommunication is primarily managed by NSSB, both TimeWarner Cable (Oceanic) and Hawaiian TelCom provides service to private individuals/organizations/companies located within Schofield Barracks. The project will include

the installation of necessary conduits to the existing service poles should connection be necessary.

The existing network of utilities may be impacted during construction. Coordination with the various service and utility providers as well as Garrison DPW is underway. Coordination will continue during the construction phase to insure service interruptions are minimized during construction, and all necessary safety precautions are met.

In an effort to meet State energy conservation, and clean energy goals (HRS Chapters 344 and 226), measures for energy efficiency and cost effective energy conservation will be implemented into the Project to reduce the maximum electrical load and energy consumption. While the installation of a photovoltaic (PV) system is not included within the proposed improvements, the roofs are being designed at the optimal pitch and direction to accommodate future installation with minimal modification to the facilities in an effort to help the State reach its clean energy goals, in particular, generating 40% of the energy from local renewable sources.

4.6.5 Solid Waste

The Project will include the renovation and removal of various facilities within the Hale Kula Elementary School Campus. Trash collection and disposal is currently handled under a DOE contract. Hale Kula has three 3-yard dumpsters that are emptied up to once a day when school is in session. Collected trash is then disposed at the H-Power facility in Kalaleloa. H-Power is a waste to energy plant that produces approximately 7% of O‘ahu’s electricity as it processes approximately 600,000 tons of waste annually. The School has developed a waste minimization program that includes recycling. Recycled HI-5 containers are sorted by the school and collected periodically by Reynolds Recycling.

In addition, recycling is an Army directive. As such, Schofield Barracks supports all base programs in waste minimization by allowing any individual or organization (including Hale Kula Elementary School) on Schofield Barracks to utilize the Army Recycling Center. The recycling center located at Building 1087 A&B will accept cardboard, paperboard, newspaper, glossy paper, white and colored paper, phone books, bagged shredded paper, hard plastics 1-5, shrink wrap, toner cartridges, HI-5 beverage containers, Non-HI-5 glass, tin cans, green waste, and certain wood pallets/wood waste.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Solid waste generated at the Site during the construction phase will increase over current conditions. Waste is expected to include materials from renovation and demolition, construction, and grading activities. This Project is being designed to LEED Silver standards. Therefore low impact development and construction practices are expected to be implemented in an effort to divert materials that can be reused/recycled away from the landfill as well as minimize the

amount of waste generated. Every effort will be made to reduce the waste generated during the construction phase and when possible materials/structures will be re-used and or recycled.

In the long-term solid waste generation is not expected to increase because there will be no substantive change in enrollment. However, waste minimization measures incorporated into school operations are recommended should DOE decide to follow the LEED for Existing Buildings, Operations and Maintenance program.

4.7 HAZARDOUS MATERIALS

The Project will include the alteration and disposal of various facilities within the Hale Kula Elementary School Campus. Myounghee Noh & Associates, L.L.C. has been retained to assess the types of hazardous materials that will be disturbed as part of the alteration, disposal and renovation activities.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Based on the preliminary investigations, the Project will include asbestos-containing material (ACM) and lead-based paint removal. It may also include removal arsenic-containing material if preliminary results from testing indicate the presence of arsenic. Several roof mounted air conditioning units will be evaluated to determine the presence/absence of Freon or other chlorofluorocarbon materials. Polychlorinated biphenyls (PCBs) may also be present because the buildings proposed for demolition were constructed prior to the 1979 Environmental Protection Agency (EPA) ban of non-enclosed PCB uses. In addition, a soil investigation was conducted to evaluate the soils around the wood-constructed portables and along the north/south and east/west corridors, including Buildings K and L for lead and chlordane. Soil sampling results were compared to Hawai‘i Department of Health Environmental Action Levels, Housing and Urban Development Soil Lead Levels for play and non-play areas, and EPA Region 9 Regional Screening Levels. Investigations are on-going to determine the presence/location of these and other hazardous materials that may be disturbed as a result of the Project to ensure proper handling, containment, removal and eventual disposal. Following is a summary of the facilities proposed for alternation/disposal as well as the types of hazardous materials that may be present, and the results from the soil investigation.

<u>Portables</u>

Up to 14 wood-constructed portable classrooms will be renovated, re-utilized or relocated. The wood-constructed portable classrooms that are renovated will include the installation of new ceiling fans, floor replacement, and repainting of the interior and exterior surfaces. Lead-based paint, ACM, and conventional mercury-containing light tubes are known to be present. Prior to reutilization or removal all hazardous materials that have the potential to be disturbed will be contained or removed.

Library/Custodian & Administration Buildings

The Existing Library/custodian building and administration facilities will be demolished and disposed. Prior to demolition, hazardous materials, including lead-based paint, ACM and arsenic-containing materials will be removed.

Building A

Building A will be altered through the addition of a self-contained special education facility and renovation throughout the remainder of the building. Renovation will include the installation of new ceiling fans, casework replacement, floor replacement, and repainting of the interior and exterior surfaces. Lead-based paint and ACM are known to be present.

Buildings B, C, D, H

Building renovation for B, C, D, and H will include the installation of new ceiling fans, casework replacement, floor replacement, and repainting of the interior and exterior surfaces. Lead-based paint and ACM are known to be present.

Buildings E, F, G, I, J

Building renovation for E, F, G, I, J will include the installation of new ceiling fans, casework replacement, floor replacement, roof replacement, installation of lightning protection, and repainting of the interior and exterior surfaces. Lead-based paint and ACM are known to be present.

The State of Hawai‘i, Department of Health’s Asbestos Abatement Office was contacted regarding the removal of Asbestos Containing Material (ACM) on May 30, 2012. Based on the discussion, the DOE will ensure that certified asbestos project designers, inspectors, and contractors address the abatement of these hazardous materials in a manner that meets the State of HDOH requirements.

Soil Investigation

Composite soil samples were collected from eight decision areas (DA) located around the perimeters of all 14 portable classrooms and along the north/south and east/west corridors, including Buildings K and L. Samples were analyzed for lead, and chlordane.

With the exception of one DA, the concentration of lead in the samples collected was below the HDOH Environmental Action Level (EAL) of 200mg/kg for lead, and the U.S. Environmental Protection Agency (EPA) Regional Screening Level (RSL) of 400 mg/kg, and the Department of Housing and Urban Development Soil Lead Levels for play and non-play areas of 400 mg/kg and 1,200 mg/kg, respectively. Within one DA (along the north/south and east/west corridors, including Buildings K and L), the lead concentration in samples collected ranged between 23 mg/kg and 330 mg/kg. This DA was found to have concentrations above the HDOH EAL. To

limit potential exposure to soils above the EAL, a remediation program will be developed designed to remove or encapsulate soils with lead concentrations above 200 mg/kg.

Chlordane[5] was measured at concentrations below the detection limit of 2.0 mg/kg in all DA, below the HDOH EAL of 16 mg/kg and the EPA RSL of 14 mg/kg. No remediation is proposed to reduce the concentration of chlordane in the soil.

All Project activities will follow applicable State and Federal laws pertaining to the safe handling, use, treatment, disposal of hazardous materials.

In the long-term the project is expected to have a positive impact on the school by removing hazardous materials known to have deleterious effect on sensitive receptors, such as children. By removing lead-based paint, ACM, soils with lead concentrations above the HDOH EAL, and other hazards, the potential consumption/contact by children is greatly reduced.

4.8 SOCIO-ECONOMIC CHARACTERISTICS

4.8.1 Population

The U.S. Census reported that the population of O‘ahu was 953,207 in 2010. The overall population increased by approximately 9% between 2000 and 2010 according to the U.S. Census 2010.

The Site is located within the U.S. Census Bureau’s Schofield Barracks Census Designated Place (Schofield CDP). In 2010, the population was 16,370 of which 5,393 were 19 years old or younger. The average household size was 3.55 people.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Project will not affect area population. The construction of the Project will improve the school’s facilities in an effort to meet the needs of the existing school population. The population of Schofield CDP is dictated primarily by the needs of the U.S. Army.

4.8.2 Economy

The local economy is within the Schofield CDP is primarily based on the military, and military support services. Within the Schofield CDP in 2010, approximately 58.3% was in the armed forces and approximately 22.5% were either unemployed or not in the labor force[6].

[5]Soil samples were analyzed for α-Chlordane, γ-Chlordane, and Technical Chlordane. An EAL and RSL have only been developed for Technical Chlordane. While α-Chlordane was detected in three DA at concentrations ranging from 0.0018 mg/kg to 0.010mg/kg, and γ-Chlordane was detected in two DA at concentrations ranging from 0.0014 mg/kg to 0.006 mg/kg no EAL or RSL have been developed for either analyte.
[6] Based upon the employment status of the population 16 years or older

POTENTIAL IMPACTS AND MITIGATION MEASURES

In the long term the Project will not affect the economy within the Schofield CDP. The construction of the Project will improve the school's facilities in an effort to meet the needs of the existing school population. However, in the short term this project will have a positive effect on the State's economy. The project is jointly funded by the State and the Federal governments. The Federal government through the DoD-OEA is expected to pay for approximately 80% of the 30 million dollar project. These funds are expected to have a positive impact on the State by providing work during the planning, design and construction of the project.

4.8.3 Environmental Justice

On February 11, 1994, President Clinton signed Executive Order (E.O.) 12898. This E.O. directs federal agencies to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health or environmental effects of its activities on minority and low-income populations.

Each Federal agency must make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health, environmental, economic, and social effects of its programs, policies, and activities on minority and low-income populations, particularly when such analysis is required by NEPA.

The Site is located in a mixed-race military community where the average median income was $41,602 in 2010. The average median income for the island of O'ahu was $70,093 in 2010.

POTENTIAL IMPACTS AND MITIGATION MEASURES

This Site was selected based upon a nation-wide assessment of schools that primarily service military families. Facilities Condition Assessment Report on the Hale Kula Elementary School based on compliance with Department of Defense Education Activity (DoDEA) practices according to facility condition, spatial adequacy, capacity and technical readiness. Hale Kula Elementary has been listed as 9th on the prioritized list of military impacted schools nationwide in need of facilities improvements.

The Project will provide improved educational facilities and will directly benefit many households within the Schofield CDP, an area where the median household income is just 59% of the median household income for the County and where 29% of the population over 16 is not employed. The Project will not negatively impact minority or low income populations.

4.9 PUBLIC SERVICES AND FACILITIES

4.9.1 Schools

Hale Kula Elementary School is one of ten public schools (seven elementary, two middle, and one high school) within the DOE Leilehua Complex Area. Public schools serving the Schofield Barracks on-post community are Hale Kula Elementary School, Sargent Samuel K. Solomon Elementary School, Wheeler Elementary School, Wheeler Middle School, and Leilehua High School. There are no public charter schools in the Leilehua Complex Area. Table 4-2 presents current and projected public school enrollment information for the Leilehua Complex Area.

Table 4-2: Enrollment for Public Schools

School	Enrollment in 2011-2012	Projected Enrollment in 2012- 2013
Hale Kula El (Grades K-5)	968	972
Helemano El	580	610
Ili‘ahi El	418	435
Ka‘ala El	455	465
Solomon El	983	1044
Wahiawā El	540	548
Wheeler El	661	711
Wahiawā Middle	810	805
Wheeler Middle	863	888
Leilehua High	1930	1937

Source: (State of Hawaii Department of Education, 2011)

Private schools in the area include Ho‘āla School (K-12), Abundant Life School (Pre-K- 6) and Trinity Lutheran Church & School (P-8). In addition, Wahiawā Community School an adult education, General Education Development (GED) test program is located within the Leilehua Complex.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Project will provide additional recreational and dining facilities as well as improved classroom, administration, library, technology, media and special education space for Hale Kula

Elementary School students. In addition, existing facilities will be renovated to improve comfort, space utilization and remove hazardous building materials such as asbestos and lead-based paint. A Facilities Condition Assessment Report provided a baseline level of facility deficiencies at Hale Kula Elementary School. Utilizing that information, the DOE conducted internal assessments based on the needs of the school and the population serviced to determine the components of the improvements. Elements not specifically identified within the Facilities Condition Assessment Report such as the construction of two self-contained special education facilities were included in the Project, while some identified elements (i.e. gymnasium) were eliminated. This thorough assessment by DOE was conducted to provide improvements that not only met DoD requirements, but also addressed DOE requirements to service the existing and projected school population. The Project will have a positive impact on Hale Kula Elementary School, and no negative impacts on surrounding schools are anticipated.

4.9.2 Police, Fire and Medical

Police Protection

The site is located within Schofield Barracks. The Directorate of Emergency Services (DES) provides 24-hour force protection, law enforcement, fire protection and community assistance to the soldiers, and civilians on Schofield Barracks. Schofield Barrack's Army law enforcement personnel are combination of Army civilian police and military police.

Fire Protection

Fire Protection on Schofield Barracks is provided by the Directorate of Emergency Services, Navy Federal Fire Department (FFD), and the Honolulu Fire Department (HFD) depending on the type of fire, proximity to the nearest fire station and established mutual aid agreements. Brush fires on Schofield Barracks are typically handled by DES while structural fires are handled by the Navy FFD.

Health Care Services

The nearest health care facility for civilian populations is Wahiawā General Hospital located within Wahiawā town approximately 1.2 miles from the Site. Wahiawā General Hospital was founded in 1944 and has 53-bed acute and 107-bed long term care facilities. The hospital handles all levels of patient care including emergency services.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The Project is not expected to create an increased demand on existing Police, Fire and Medical services. While the Project will not reduce the need for these services, the school facilities will be better equipped to handle emergency situations than under current conditions by improving access for fire apparatus and other emergency equipment, the installation of lightning protection on most buildings, and the installation of fire sprinkler systems in all new structures.

4.9.3 Recreational Facilities

Hale Kula Elementary School currently has an uncovered hard court with two climbing play structures and several grassy fields for active recreational activities. There are no outdoor eating areas. The Project will include the installation of a covered play court as well as an outdoor covered dining facility.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Currently the Site does not have any recreational facilities that provide protection from inclement weather. Conversely, there are no outdoor areas for eating during nice weather. The covered play court will provide a location for physical education and fitness activities during inclement weather. In addition, the covered play court will provide protection from the sun. Although it is not entirely enclosed, the mild climate does not justify a fully enclosed play area. The play court will remain cooler with reduced energy inputs by keeping it open rather than fully enclosed. The play court will also provide an alternate venue to the existing cafetorium for assemblies and community events at the discretion of the School's administration. Meal time is also recreational time for students. The addition of an outdoor dining area will provide an alternative to the noisier fully enclosed cafetorium, and will provide more lunch scheduling options for the school. The recreational improvements will have a positive impact on Hale Kula Elementary School, and no negative impacts on surrounding recreational facilities are anticipated.

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5 LAND USE CONFORMANCE

State of Hawai‘i and City and County of Honolulu land use plans, policies, and ordinances relevant to the Hale Kula Elementary School Improvements are described below.

5.1 STATE OF HAWAI‘I

5.1.1 State Land Use Law, Chapter 205, Hawai‘i Revised Statutes

The State Land Use Law (Chapter 205, HRS), establishes the State Land Use Commission (LUC) and authorizes this body to designate all lands in the State into one of four Districts: Urban, Rural, Agricultural, or Conservation.

The Site is located within the State Land Use Urban District (Figure 5, State Land Use). Public schools are permitted use in the State Land Use Urban District.

5.1.2 Coastal Zone Management Act, Chapter 205A, Hawai‘i Revised Statutes

The U.S. Congress enacted the Coastal Zone Management (CZM) Act to assist States in better managing coastal and estuarine environments. The act provides grants to States that develop and implement Federally-approved CZM plans. The State of Hawai‘i’s CZM Act Program was enacted pursuant to Chapter 205A, HRS. The program outlines management objectives centered around ten (10) areas: 1) Recreational Resources; 2) Historic Resources; 3) Scenic and Open Space Resources; 4) Coastal Ecosystems; 5) Economic Uses; 6) Coastal Hazards; 7) Managing Development; 8) Public Participation in Coastal Management; 9) Beach Protection; and 10) Marine Resources. All lands within the State of Hawai‘i fall within the CZM area, including the project Site.

The proposed project Site is located outside of the SMA (Figure 8, Special Management A). The relevant objectives and policies of the Hawai‘i Coastal Zone Management (CZM) Program, along with a detailed discussion of how Hale Kula Elementary School project conforms to these objectives and policies, are discussed below.

Recreational Resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policy A: Improve coordination and funding of coastal recreational planning and management; and

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

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

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

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

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

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

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

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

(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and County authorities; and crediting such dedication against the requirements of section 46-6.

Discussion: The Hale Kula Elementary School Improvements Site is located in central O‘ahu. It is not a coastal development, is not located on the coastline, and is not in the SMA; therefore, policies regarding shoreline recreation resources are not applicable; however to protect marine water quality the Project will be designed and built in compliance with all applicable Federal, State, and City regulations pertaining to storm water management including the City & County of Honolulu’s grading ordinance, and the DOH NPDES permit program. Best management practices will be integrated into the construction project. In the long term the low impact development techniques utilizing decentralized filtration/retention/infiltration are anticipated to ensure storm water quality is not degraded and quantity is not increased as a result of this project.

Historic Resources

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

Policy A: Identify and analyze significant archaeological resources;

Policy B: Maximize information retention through preservation of remains and artifacts or salvage operations; and

Policy C: Support State goals for protection, restoration, interpretation, and display of historic resources.

Discussion: The Cultural Impact Assessment concluded that based upon information pertaining to traditional cultural practices or access rights received from contacted individuals, and organizations, via the legal notices and archival research the Project is not anticipated to produce adverse effects to any Native Hawaiian rights or ethnic groups related to gathering, access or other customary activities.

An Archaeological Inventory Survey with negative findings concluded that, "No new sites were identified during the Archaeological Inventory Survey."

The permanent school buildings were built during 1958 and 1959 making the structures greater than 50 years old and therefore and assessment was conducted to determine eligibility for State and/or Federal historic site designation. Based on the assessment the buildings are not considered 'historic' under any of the State's criterion: (a) there are no direct "associations with events that have made a significant contribution to the broad patterns of our history; (b) there are no associations "with the lives of persons significant in our past"; and (c) although the campus does have "distinctive characteristics of a type, period, or method of construction" "finger-plan" schools were typical of 1950s school construction.

The DOE has met with SHPD and will continue to work with SHPD in an effort to retain the character of the facility while making improvements necessary to meet the needs of the school.

Scenic and Open Space Resources

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

Policy A: Identify valued scenic resources in the coastal zone management area;

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

Policy C: Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

Policy D: Encourage those developments which are not coastal dependent to locate in inland areas.

Discussion: The proposed project is not coastal dependent and will be located inland, away from the shoreline; therefore, it is anticipated that there will be no effect on the quality of the coastal scenic and open space resources. In addition, the improvements are located within the boundaries of an existing elementary school. The improvements will be constructed in close proximity to the existing structures or will be built on the footprint of buildings proposed for demolition allowing the large open spaces within the campus to be retained. Mature Jacaranda and other

trees line the perimeter of the southern and eastern edges of the campus. Construction activities will work around these trees to retain the natural beauty and visual environment of the school.

Coastal Ecosystems

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

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

Policy B: Improve the technical basis for natural resource management;

Policy C: Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

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

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

Discussion: Because the Project is not a coastal development, is not located on the coastline, nor within the SMA boundaries; policies regarding coastal ecosystems are not applicable. To protect marine water quality the Project will be designed and built in compliance with all applicable Federal, State, and City regulations pertaining to storm water management including the City & County of Honolulu's grading ordinance, and the DOH fugitive dust and NPDES permit programs. Best Management Practices shall be employed during construction to reduce erosion of soils and fugitive dust during construction. Controlling runoff in particular helps to ensure that the construction does not increase inputs of sediment into the drainage outfall of the unnamed drainage gulch south of the school boundaries. A decentralized low impact development system is proposed to ensure that long term storm water quality is not degraded and the quantity storm water is not increased as a result of this project.

Economic Uses

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

Policy A: Concentrate coastal dependent development in appropriate areas;

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

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

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

(ii) Adverse environmental effects are minimized; and

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

Discussion: The Hale Kula Elementary School Improvements do not directly impact the State's coastal-dependent economy, however, the project will be jointly funded by the Federal and State governments. Federal funds will account for approximately 80% of the projected Project costs. This will bring new funds into the State, thereby having a positive impact on the State economy. During construction the Project will generate short-term employment (and accompanying State income and excise tax revenue). In the long-term, an effective educational system can reduce truancy and adolescent crimes which can indirectly affect the economy. This Project will improve the facilities including new recreational facilities that will be utilized by the DOE to create a foundation for Hale Kula student's educational success.

Coastal Hazards

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

Policy A: Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and non-point source pollution hazards;

Policy B: Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and non-point source pollution hazards;

Policy C: Ensure that developments comply with requirements of the Federal Flood Insurance Program; and

Policy D: Prevent coastal flooding from inland projects.

Discussion: The project located well outside the tsunami inundation zone. In addition, decentralized low impact development drainage measures will be incorporated into the Project. There will be no increases in runoff from the Site.

Managing Development

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

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

Policy B: Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

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

Discussion: The Project is not a coastal development, is not located on the coastline, and is not in the SMA. Stakeholders were engaged in workshops early in the design phase of the Project. Pre-consultation comments were obtained and are reproduced in Appendix A. In addition, this EA discusses potential impacts and mitigation measures of the Project and provides an opportunity for input.

Public Participation

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

Policy A: Promote public involvement in coastal zone management processes;

Policy B: Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and

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

Discussion: The Project is not a coastal development, is not located on the coastline, and is not in the SMA. The Neighborhood Board and political representatives for the area were provided detailed information regarding the project and an opportunity to comment and discuss issues and concerns. A listing of individuals, organization, and agencies consulted prior to the release of the Draft EA is included in Appendix A as well as any comments received. In addition, this EA discusses potential impacts and mitigation measures of Project and provides an opportunity for input.

Beach Protection

Objective: Protect beaches for public use and recreation.

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

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

Policy C: Minimize the construction of public erosion-protection structures seaward of the shoreline.

Discussion: The Project is not a coastal development, is not located on the coastline, and is not in the SMA; therefore, this objective and these policies are not applicable.

Marine Resources

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

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

Policy B: Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;

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

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

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

Discussion: The Project is not a coastal development, is not located on the coastline, and is not in the SMA; therefore, policies regarding shoreline recreation resources are not applicable; however to protect marine water quality the Project will be designed and built in compliance with all applicable Federal, State, and County regulations pertaining to storm water management including the City & County of Honolulu's grading ordinance, and the DOH fugitive dust and NPDES permit programs.

5.1.3 Hawai‘i State Plan

The Hawai‘i State Plan (Chapter 226, HRS), establishes a set of goals, objectives and policies that serve as long-range guidelines for the growth and development of the State. Objectives and policies pertinent to the proposed project are as follows:

HRS § 226-9: Objectives and policies for the economy–federal

Objective: *Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaii's economy.*

Policies:

(5) Promote federal use of local commodities, services, and facilities available in Hawaii;
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaii.

Discussion: Hale Kula Elementary School is a State of Hawai‘i DOE school that provides educational services to school age children located primarily on Schofield Barracks, a military installation. The DOE has an open dialogue with DoD-OEA regarding the opportunity to support the military mission at Schofield Barracks by providing educational facilities that meet federal standards. Communication between the State and Federal agencies has resulted in a partnership between the U.S. Army Garrison Hawai‘i, the DOE and DoD-OEA. The Federal government is expected to provide funds to cover approximately 80% of the cost associated with the Project and helping to provide crucial support services for the families of service members stationed in Hawai‘i at Schofield Barracks.

§ 226-14: Objectives and policies for facility systems – in general

Objective: *Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.*

Policies:

(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.

Discussion: The DOE has identified the need to upgrade school facilities to meet the demands of 21st century technology. The need for upgrade is particularly evident for older schools with outdated electrical and communication systems such as Hale Kula Elementary. By working with the Federal government, DOE was able to provide necessary technological improvements for the school as part of a Project funded primarily by the Federal government resulting in cost-savings to the State.

§ 226-18: Objectives and policies for socio-cultural advancement – health.

Objective: *Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:*

(1) Fulfillment of basic individual health needs of the general public.
(2) Maintenance of sanitary and environmentally healthful conditions in Hawaii's communities.

Policies:

(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.

Discussion: The Project will include the removal of lead-based paint and asbestos containing materials from Hale Kula Elementary School through the removal or renovation of all buildings on the campus. The activities associated with this project will improve the conditions of the school by removing these hazardous substances that affect environmental health of the classrooms, and other areas frequented by students at Hale Kula Elementary School.

§ 226-21: Objectives and policies for socio-cultural advancement – education.

Objective: *Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.*

Policies:

(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.
(3) Provide appropriate educational opportunities for groups with special needs.
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.
(8) Emphasize quality educational programs in Hawaii's institutions to promote academic excellence.

Discussion: The Project provides educational and recreational opportunities for that enhance personal development, physical fitness, recreation, and technological pursuits of students of Hale

Kula Elementary School. The Project will include the construction of two fully self-contained special education facilities specifically designed for children with special needs. The Project will also include the construction facilities designed provide space for media, a library and technology based systems will facilitate the acquisition of basic skills particularly in reading and computing.

HRS § 226-22: Objectives and policies for socio-cultural advancement – Social Services.

Objective: *Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.*

Policies:

(1) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawaii's communities

Discussion: The Project has been designed to meet facility standards developed for school servicing military populations. Children of military families frequently move to new schools. By creating an atmosphere that has similar functioning facilities to the federal standard can help promote and facilitate the adjustment of new school age residents to Hawaiʻi.

HRS § 226-23: Objectives and policies for socio-cultural advancement – leisure.

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

Policies:

(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.

(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.

Discussion: The Project supports planning for the State's socio-cultural advancement with regard to leisure through the provision of a quality educational and recreational facility to meet the Hale Kula Elementary School community's needs. The facility will contribute toward fulfilling recreational by providing a modern, up-to-date recreational facility that can be utilized regardless of the outdoor weather conditions.

5.2 CITY AND COUNTY OF HONOLULU

County-specific land use plans and ordinances pertaining to the Project include the O‘ahu General Plan, Central O‘ahu Sustainable Community Plan and Land Use Ordinances.

5.2.1 County of Hawai‘i General Plan

The O‘ahu General Plan is the policy document for the long-range development of the Island of O‘ahu. The O‘ahu General Plan is a statement of general conditions to be sought in the 20-year planning horizon and policies to help direct attainment of the plan’s objectives. Specific General Plan goals and policies applicable to the Project follow.

Section IX*- Health and Education*

Objective: *(B) To provide a wide range of educational opportunities for the people of O‘ahu.*

Policies:

(1) Support education programs that encourage the development of employable skills.
(3) Encourage the after-hours use of school buildings, grounds and facilities
(4) Encourage the construction of school facilities that are designed for flexibility and high levels of use.
(5) Facilitate the appropriate location of learning institutions from the preschool through the university levels.

Discussion: The proposed Project is consistent with the City and County of Honolulu General Plan Section IX, Objective B. Existing school programming allows for use of facilities after hours for various programs and activities. The new spaces are being designed to allow for flexible uses, particularly the new dining area and covered play area. In addition, the Project will include the construction of support facilities including a library, media, technology, and student centers. These facilities are designed to support educational programs that will develop skills necessary for employment in a technologically advanced society.

5.2.2 Central O‘ahu Sustainable Community Plan

The City and County of Honolulu has adopted the Central O‘ahu Sustainable Community Plan (COSCP) as one of eight community-oriented plans to guide public policy, investment and decision making through the 2030 planning horizon. The COSCP was developed by DPP and its consulting team in partnership with the community. The document contains policies specific to Central O‘ahu. These policies are then adopted through ordinances. The current COSCP was adopted in 2002. In 2007, with community input, the City and County of Honolulu along with their consultants began revising the plan. A draft is currently undergoing internal review. According to the Chief of Development Plans and Zone Change Branch of DPP, the Public

Review Draft of the COSCP is expected to be released in the fall of 2012. In general, the vision based on the COSCP adopted in 2002 is the following:

1) The protection of agricultural and preservation areas
2) Revitalization of Waipahu and Wahiawā
3) Continued development of master planned communities
4) Development of infrastructure to support the region

The COSCP identified a shortfall of DOE funding necessary to meet the needs of new classrooms in 2002 and recommended that developer contributions and alternative financing be developed. The COSCP also recommended that schools be utilized as community centers, collocated with parks, share facilities and require fair share contributions from developers.

Discussion: The project is consistent with the COSCP. The Project will be completely contained within the boundaries of the existing school campus and will not encroach upon any agricultural or preservation areas. The Project is designed to improve the existing Hale Kula Elementary campus by constructing new facilities, including an outdoor dining facility and covered play court. The outdoor dining facility and covered play court are being designed to facilitate multi-use activities and could be utilized by the community at the School administration's discretion. In addition the Project will include improvements to the electrical and communications infrastructure on campus to support the greater demands of today (and future) technology.

5.2.3 City and County of Honolulu Land Use Ordinance

The Land Use Ordinance (LUO) implements the goals and objectives of the O'ahu General Plan and the COSCP. All lands within the City and County of Honolulu are zoned into specific districts. According to the DPP, the project is zoned F-1 "Federal and Military Preservation."

Sec. 21-3.40(c) The purpose of F-1 military and federal preservation district is to identify areas in military or federal government use and to permit the full range of military or federal government activities.

Sec. 21-3.40-1(b) Within an F-1 military and federal preservation district, all military and federal uses and structures shall be permitted.

Discussion: The project is consistent with the LUO. Hale Kula Elementary School provides education primarily in support facility of the military families located at Schofield Barracks, a military base.

5.2.4 Special Management Area

The Site is not located within the Special Management Area (SMA).

5.3 APPROVALS AND PERMITS

A listing of permits and approvals required for the Project is presented below:

Table 5-1: Approvals and Permits

Permit/Approval	Responsible Agency
Chapter 343, HRS Compliance	Office of Environmental Quality Control
Historic Preservation, Section 106	State Historic Preservation Division
Chapter 6E, HRS Compliance	
ADA Compliance	State Disability & Communication Access Board
National Pollutant Discharge Elimination System (NPDES) Permit	State Department of Health
Plan Approval	City and County of Honolulu, Department of Planning and Permitting
Grubbing, Grading and Stockpiling Permit	
Building Permits (including electrical, plumbing, civil and demolition)	
Occupancy	
NEPA Compliance/REC Concurrence Infrastructure connection approvals	Directorate of Public Works

The project will be constructed on State lands located within the boundaries of Schofield Barracks. Due to the connection of some infrastructure to Schofield Barracks systems, coordination with the Garrison DPW in addition to the City and County of Honolulu will be necessary.

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6 ALTERNATIVES

This section identifies and evaluates a range of alternatives that could meet the purpose and need and possibly avoid, reduce, or minimize adverse environmental effects. The reference point to compare alternatives is the "no action" alternative.

6.1 NO ACTION ALTERNATIVE

Under the "no action" alternative, no improvements to the infrastructure or facilities would be made. Hale Kula elementary school would continue to utilize facilities containing hazardous materials such as asbestos and lead. The school would not have new self-contained special education classrooms to service special needs children. Because not new facilities would be built there would be no increase in energy demand, nor the requirement to improve the wastewater pump station. In addition there would be no increase in impervious surface area that could impact storm water quality or quantity.

6.2 REPLACEMENT OF CAFETORIUM

As an alternative to renovating the existing cafetorium and constructing a covered dining area, a new cafetorium could be constructed. The 2011 Facilities Condition Assessment Report ranked the existing cafetorium as a "D" and the Food Service an "F". The DOE considered replacing the cafetorium as an alternative to building the outdoor dining area. In an effort to reduce cost and redundancy as well as improve efficiency, the DOE is considering the consolidation of food services within each complex. This alternative was rejected because an assessment of all food service facilities within the Leilehua Complex has not yet been conducted, and the creation of a new facility at Hale Kula may not be necessary when looking at the entire complex.

6.3 CONSTRUCTION OF GYMNASIUM

As an alternative to constructing a covered play court, a new gymnasium could be constructed instead. Except in the most severe conditions when rain could enter into the covered play court, both a covered play court and a gymnasium would provide protection from the weather. The gymnasium would provide a fully enclosed facility providing slightly more flexibility regarding programing and space utilization during severe weather conditions. This alternative was rejected because a gymnasium would significantly increase the overall cost of the project without providing a substantive improvement in functionality.

6.4 ALTERNATE LOCATIONS OF NEW BUILDINGS WITHIN SITE

Several Site Plan layouts were developed for this project before the preferred alternative was selected. One alternative proposed locating the ten-classroom building to the south of building J rather than to the north east of Building A. In this plan one retention/infiltration basin and one

emergency access lane would be required. In order to accommodate the construction, seven existing wood-constructed portable classroom spaces would be removed before the new classroom facility became available for use. Alternative classroom spaces would need to be created as a swing space during the construction of the 10-classroom building. The south of building J location was ultimately rejected because it was found to be too disruptive for the school to function during the construction phase of the Project.

6.5 SEPARATE BUILDINGS FOR LIBRARY AND STUDENT CENTER

As an alternative to constructing a single multi-use facility, multiple buildings could be constructed to separately house the library and the student center. This alternative would have similar impacts to the preferred alternative of co-locating the facilities, but would take up more space on the campus to account for adequate building separation. In addition, a joint facility provides more programmatic flexibility. This alternative was rejected because it would reduce the total amount of open space available for outdoor activities without providing substantive improvement in facility functionality.

6.6 ALTERNATIVE DESIGNS

Pertinent impacts that could change depending on design include:

- **Architectural character.** As proposed the Project is anticipated to complement the existing school structures through the use of similar construction materials and design elements.

- **Sustainability features.** Sustainability features reduce the impact in terms of energy and resource consumption, and water quality impacts (e.g., mitigation of impervious surfaces). The proposed design and current budget supports construction to the equivalent of LEED silver certification. The exact complement of sustainability features pursued may be modified during design and construction.

7 FINDINGS AND DETERMINATION

To determine whether the implementation of the Project may have a significant impact on the physical and human environment, all phases and expected consequences of the proposed project have been evaluated, including potential primary, secondary, short-range, long-range, and cumulative impacts. Based on this evaluation, the Proposing Agency (State of Hawai‘i Department of Education) has issued a Finding of No Significant Impact (FONSI). The supporting rationale for this finding is presented in this chapter.

7.1 SIGNIFICANCE CRITERIA

The discussion below evaluates the significance of the Project’s impacts based upon the Significance Criteria set forth in Hawaii Administrative Rules section 11-200-12.

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

Discussion: The Site is an existing school within the built environment of Schofield Barracks. Environmental and cultural studies have been conducted in and around the Site. The Project was designed to avoid the destruction of any trees with the exception of areca palms located adjacent to the cafetorium. Site investigations revealed the absence of any resources potentially subject to irrevocable loss as a result of construction.

(2) Curtails the range of beneficial uses of the environment;

Discussion: The current use of the site as a school will not change as a result of this project. The site will continue to be utilized as an elementary school campus.

(3) Conflicts with the State's long term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;

Discussion: The Environmental Policies enumerated in Chapter 344, HRS, and NEPA promote conservation of natural resources, and an enhanced quality of life for all citizens. The Project is not expected to significantly impact any natural resources and is expected to enhance the quality of life of for families with children attending Hale Kula Elementary School by improving the technological resources, and removing existing environmental hazards.

(4) Substantially affects the economic or social welfare of the community or State;

Discussion: The Project is anticipated to have a beneficial impact on the social welfare of the community by improving the educational facilities at Hale Kula Elementary.

(5) Substantially affects public health;

Discussion: The Project's recreational facilities will promote exercise and a healthy lifestyle by creating a covered play court that can be utilized in inclement weather. The project will also have a positive impact on public health by removing asbestos containing material and lead based paint from existing public school facilities.

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

Discussion: The project will not result in a change in population and is not anticipated to generate or stimulate growth. The new facilities may also be available for community uses at the discretion of the school administration having a beneficial impact on the community by increasing the venues potentially available to the Schofield Barracks community.

(7) Involves a substantial degradation of environmental quality;

Discussion: The Project as proposed will be built to a level comparable to LEED Silver. Wherever possible, green materials like recycled flooring, paints with low volatile organic compounds will be integrated into the ultimate design of the Project. Existing trees with the exception of areca palms adjacent to the cafetorium will be retained in place. Emergency access lanes will be constructed with grass pavers Landscaping will attempt to utilize native trees and shrubbery. No substantial environmental degradation is anticipated as a result of the Project. Also, as the Project will be in compliance with all pertinent statutes and regulations (e.g., regulations pertaining to grading), no substantial environmental degradation is anticipated.

(8) Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;

Discussion: The Project is not part of a larger project, nor does it commit the State or County to any other larger actions, and will not generate any additional actions having a cumulative effect on the environment. A Facilities assessment was conducted to determine compliance with Department of Defense Education Activity (DoDEA) practices. Hale Kula Elementary been listed as 9th on the prioritized list of military impacted schools nationwide in need of facilities improvements resulting in Hale Kula's eligibility for existing improvement funds. While other schools in Hawai'i were identified on the prioritized list there have been no commitment of Federal or DOE funds to any other schools within the State. DOE does not anticipate any other schools will be receive funds necessary to conducting improvements at any other schools to achieve compliance with DoDEA practices.

(9) Substantially affects a rare, threatened or endangered species or its habitat;

Discussion: The Project is located within the built environment of Hale Kula Elementary School. No rare, threatened or endangered species or its habitat has been identified in the vicinity of the Site.

(10) Detrimentally affects air or water quality or ambient noise levels;

Discussion: No State or Federal air quality standards will be violated during or after the construction of the Project. The only anticipated issues related to air quality would be during construction; however, construction activities would be temporary. Long-term negative impacts related to air quality are not expected.

No State or Federal water quality standards will be violated during or after the construction of the Project; the Project will be required to comply with nonpoint source prevention measures through the NPDES permit. While the Project will result in an increase in impervious surface area, a decentralized filtration/retention/infiltration system has been incorporated into the design so water quality will remain unchanged from pre-construction conditions. The quantity and quality of storm water runoff will not be impacted by the Project.

Construction activities will inevitably create temporary noise impacts. If necessary, contractors will employ mitigation measures to minimize those temporary noise impacts including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, Hawai‘i Administrative Rules, all construction activities must comply with all community noise controls. Long-term noise impacts are expected to return to preconstruction levels.

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

Discussion: The Site does not lie in an environmentally sensitive area such as a tsunami zone, geologically hazardous area, beach, erosion-prone area, estuary, freshwater or coastal waters.

(12) Substantially affects scenic vistas and view planes identified in County or State plans or studies; or,

Discussion: The Project is located within the interior of Schofield Barracks and is consistent with view shed recommendations identified within the Central O‘ahu Sustainable Community Plan for Schofield Barracks.

(13) Requires substantial energy consumption.

Discussion: The Project will result in an increase in energy demand. However, the project will be constructed to the standard necessary to achieve Leadership in Energy and Environmental Design-Silver and Energy conservation will be incorporated into the Project design. The new

buildings will include energy saving design elements and oriented to maximize natural ventilation and day lighting. The preliminary engineering analysis has determined that power is currently available in the area and the capacity can support the Project.

7.2 DETERMINATION

Pursuant to Chapter 343, HRS, the State of Hawai‘i Department of Education has issued a Finding of No Significant Impact (FONSI) for this draft environmental assessment. This finding is founded on the basis of impacts and mitigation measures examined in this document, public comments received during the pre-consultation and public review phases, and analyzed under the above criteria.

8 CONSULTATION

8.1 INDIVIDUALS AND ORGANIZATIONS CONSULTED WITH PRIOR TO THE EA PROCESS

In the course of planning for the improvements at Hale Kula Elementary School, workshops were held with stakeholders and pre-consultation information packets were mailed out, meetings were held with various organizations.

8.1.1 Pre-Consultation Letters

The Environmental Consultant provided detailed information regarding the Project to following individuals, community organizations, private groups, and government agencies. The information notified them that an EA was being prepared for the Project and solicited concerns or comments. The comments received and corresponding responses are reproduced in Appendix A.

Federal

- U.S. Army - Engineer Division
- U.S. Fish and Wildlife Service
- U.S. Army Garrison, Hawai‘i, Office of the Garrison Commander
- U.S. Army Garrison, Hawai‘i, Directorate of Public Works

State of Hawai‘i

- OEQC
- Department of Agriculture
- Department of Business, Economic Development and Tourism (DBEDT)
- DBEDT-Hawaii State Energy Office
- DBEDT-State Office of Planning
- DBEDT-Hawaii Housing Finance and Development Corp
- Department of Defense
- Department of Hawaiian Home Lands
- Department of Health (DOH)
- DOH-Oahu District Health Office
- DOH-Clean Air Branch
- DOH-Hazard Evaluation and Emergency Response Office
- DOH-Clean Water Branch
- DOH-Safe Drinking Water Branch
- Department of Human Services
- Department of Labor and Industrial Relations
- Department of Land and Natural Resources (DLNR)
- DLNR-State Historic Preservation Division (SHPD)

- Department of Transportation (DOT)
- Office of Hawaiian Affairs (OHA)
- University of Hawaii, Environmental Center
- State Representative Gil Riviere
- State Representative for District 45
- State Senator Clayton Hee
- State Senator Donavan Dela Cruz

City and County of Honolulu

- Board of Water Supply
- Department of Community Services
- Department of Design and Construction
- Department of Environmental Services
- Department of Facility Maintenance
- Department of Planning and Permitting
- Department of Transportation Services
- Fire Department
- Office of the Mayor
- Council District 2
- Neighborhood Board #26

Other

- Historic Hawai‘i Foundation
- The Outdoor Circle

8.2 INDIVIDUALS AND ORGANIZATIONS CONSULTED WITH DURING THE EA PROCESS

The Draft EA was distributed to the following agencies, organizations and individuals for comment. Comments to the Draft EA are included in Appendix A, along with response letters. Where applicable, the Environmental Assessment has been updated to reflect clarifications or project modifications in response to Draft EA comments.

Federal

- U.S. Army Garrison, Hawai‘i,

State of Hawai‘i

- OEQC
- Department of Agriculture
- Department of Business, Economic Development and Tourism (DBEDT)
- DBEDT-Hawaii State Energy Office

- DBEDT-State Office of Planning
- DBEDT-Hawaii Housing Finance and Development Corp
- Department of Defense
- Department of Hawaiian Home Lands
- Department of Health (DOH)
- Department of Human Services
- Department of Labor and Industrial Relations
- Department of Land and Natural Resources (DLNR)
- DLNR-State Historic Preservation Division (SHPD)
- Department of Transportation (DOT)
- Office of Hawaiian Affairs (OHA)
- University of Hawaii, Environmental Center

City and County of Honolulu

- Board of Water Supply
- Department of Community Services
- Department of Design and Construction
- Department of Environmental Services
- Department of Facility Maintenance
- Department of Planning and Permitting
- Department of Transportation Services
- Neighborhood Board #26

Other

- Historic Hawai‘i Foundation
- The Outdoor Circle

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Appendix A
Comments & Responses

NEIL ABERCROMBIE
GOVERNOR

KAREN SEDDON
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM
HAWAII HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
Honolulu, Hawaii 96813
FAX: (808) 587-0600

IN REPLY REFER TO:
12:PEO/34

June 6, 2012

Ms. Malia Cox, LEED® AP BD+C, REM
Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Ms. Cox:

Re: Pre-Consultation for the Hale Kula Elementary School Improvements, Schofield Barracks, Hawaii

Thank you for seeking our comments on the proposed Hale Kula Elementary School Improvements. We have no housing-related comments to offer at this time.

Sincerely,

Karen Seddon
Executive Director

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS
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President
R. STAN DUNCAN, ASLA
Executive Vice-President
RUSSELL Y. J. CHUNG, FASLA, LEED® AP
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Vice-President
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Senior Associate
KEVIN K. NISHIKAWA, ASLA
Associate
KIMI MIKAMI YUEN, LEED® AP
Associate
SCOTT ALIKA ABRIGO, LEED® AP
Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

State of Hawai'i
Depatment of Business, Economic Development and Tourism
Hawaii Housing Finance and Development Corporation
Ms. Karen Seddon
677 Queen Street
Honolulu, HI 96813

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Ms. Seddon:

Thank you for your letter dated June 6, 2012 (your reference number 12:PEO/34). We acknowledge that the Department of Business, Economic Development and Tourism, Hawaii Housing Finance and Development Corporation has no housing related comments at this time.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAI'I

JOBIE M. K. MASAGATANI
CHAIRMAN DESIGNATE
HAWAIIAN HOMES COMMISSION

MICHELLE K. KAUHANE
DEPUTY TO THE CHAIRMAN

STATE OF HAWAI'I
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAI'I 96805

July 13, 2012

PBR Hawaii & Associates, Inc.
Attn: Ms. Malia Cox
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Subject: Pre-Consultation for the Hale Kula Elementary School Improvements, Schofield Barracks Hawai'i (TMK:7-7-001:003)

Dear Ms. Cox:

Thank you for the opportunity to review the Pre-Consultation Notice for the Hale Kula Elementary School Improvements, Schofield Barracks Hawai'i (TMK:7-7-001:003).

The Department of Hawaiian Home Lands has no comment to offer at this time. If you have any questions, please contact our Planning Office at (808) 620-9480.

Aloha,

for Jobie M. K Masagatani, Chairman Designate
Hawaiian Homes Commission

PBR HAWAII
& ASSOCIATES, INC.

August 23, 2012

PRINCIPALS
THOMAS S. WITTEN, ASLA
President
R. STAN DUNCAN, ASLA
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Executive Vice-President
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KEVIN K. NISHIKAWA, ASLA
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KIMI MIKAMI YUEN, LEED® AP
Associate
SCOTT ALIKA ABRIGO, LEED® AP
Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

State of Hawai'i
Depatment of Hawaiian Home Lands
Ms. Jobie M. K. Masagatani, Chairman Designate
PO Box 1879
Honolulu, HI 96805

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Ms. Masagatani:

Thank you for your letter dated July 13, 2012. We acknowledge that the Department of Hawaiian Home Lands has no comments at this time.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

12-595A CAB

July 20, 2012

Ms. Malia Cox
Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Ms. Cox:

SUBJECT: Pre-Consultation for Hale Kula Elementary School Improvements
Schofield Barracks, Hawaii

Since the proposed project would entail demolition activities which may involve asbestos, the applicant should contact the Asbestos and Lead Section in the Indoor and Radiological Health Branch at 586-5800.

A significant potential for fugitive dust emissions exists during all phases of demolition and construction. Activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust. We encourage the contractor to implement a dust control plan, which does not require approval by the Department of Health, to comply with the fugitive dust regulations. Dust control measures may include, but are not limited to, the following:

a) Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
b) Providing an adequate water source at the site prior to start-up of construction activities;
c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
d) Minimizing dust from shoulders and access roads;
e) Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
f) Controlling dust from debris being hauled away from the project site. Also, controlling dust from daily operations of material being processed, stockpiled, and hauled to and from the facility.

If you have any questions, please contact Mr. Barry Ching of the Clean Air Branch at 586-4200.

Sincerely,

NOLAN S. HIRAI
Acting Manager, Clean Air Branch

BC:rg

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS
THOMAS S. WITTEN, ASLA
President
R. STAN DUNCAN, ASLA
Executive Vice-President
RUSSELL Y. J. CHUNG, FASLA, LEED® AP
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Associate
KIMI MIKAMI YUEN, LEED® AP
Associate
SCOTT ALIKA ABRIGO, LEED® AP
Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

State of Hawai'i
Department of Health (DOH)
Clean Air Branch
Nolan S. Hirai, Acting Manager
P.O. Box 3378
Honolulu, HI 96801-3378

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Hirai:

Thank you for your letter dated July 20, 2012 (your reference number 12:595A CAB). We offer the following responses to your comments.

We acknowledge the project will include demolition activities that will involve asbestos containing materials and your recommendation to contact the Indoor and Radiological Health Branch. On May 30, 2012, Mr. Thomas Lileikis was contacted to discuss the project as it pertains to asbestos abatement. The project proponent has been informed of Mr. Lileikis recommendations and that coordination with his office is necessary during design and construction to ensure DOH's asbestos containing material requirements are met.

We concur that demolition and construction have the potential to create fugitive dust emissions. The general contractor has been advised of Hawaii Administrative Ruse §11-60.1-33 regarding fugitive dust and will implement measures such as those provided in your letter or other to control dust.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF:

June 19, 2012

Regulatory Branch

File Number **POH-2012-00149**

Ms. Malia Cox
Environmental Planner
PBR Hawaii and Associates Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813

NO PERMIT REQUIRED

Dear Ms. Cox:

This responds to your letter dated May 25, 2012 requesting review comments for the proposed school improvement project for Hale Kula Elementary School located at Schofield Barracks. We have assigned this project the reference number **POH-2012-00149**. Please cite this reference number in any future communications with this office regarding this project.

We have completed our review of the submitted documents pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404). For your information, Section 10 requires that a Department of the Army (DA) permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to undertaking any construction, dredging, or other activity occurring in, over, or under or affecting navigable waters of the U.S. For tidal waters, the shoreward limit of the Corps' jurisdiction extends to the Mean High Water Mark (MHWM). Section 404 requires that a DA permit be obtained for the discharge (placement) of dredged and/or fill material into waters of the U.S., including wetlands. For tidally influenced waters, in the absence of adjacent wetlands, the shoreward limit of the Corps' jurisdiction extends to the High Tide Line, which in Hawai'i may be approximated by reference to the Mean Higher High Water Mark (MHWWM). For non-tidal waters, the lateral limits of the Corps' jurisdiction extend to the Ordinary High Water Mark or the approved delineated boundary of any adjacent wetlands.

Based on the information you have provided, the project area appears to be absent of navigable waters of the U.S. subject to the Corps' jurisdiction. Additionally, the proposed school improvement project would not involve the placement and/or discharge of dredged and/or fill material into waters of the U.S.; including wetlands. Therefore, **a DA permit is not required**.

This determination does not relieve you of the responsibility to obtain any other permits, licenses, or approvals that may be required under County, State, or Federal law for your proposed work.

Thank you for contacting us regarding this project and providing us with the opportunity to comment. Should you have any questions, please contact Ms. Michelle Lazaro at (808) 835-

4307, or through email at *Michelle.K.Lazaro@usace.army.mil*. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at *http://per2.nwp.usace.army.mil/survey.html*.

Sincerely,

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

PBR HAWAII
& ASSOCIATES, INC.

August 23, 2012

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Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

Department of the Army
U.S. Army Corps of Engineers, Honolulu District
Mr. Geoarge P. Young, P.E.,
Regulatory Branch
Fort Shafter, Hawai'I 96858-5440

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Young:

Thank you for your letter dated June 19, 2012 (your file number POH-2012-00149). We will advise all working on the project to cite this reference number in any future communications. We offer the following responses to your comments.

We concur with your assessment that the project area is absent of navigable waters of the U.S. and that the project will not involve the placement and/or discharge of dredged and/or fill material into the waters of the U.S., including wetlands.

We understand that a DA permit is not required but that the determination does not relieve the project proponent of the responsibility to obtain any other permits, licenses, or approvals that may be required by the County, State or Federal laws.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
SAFE DRINKING WATER BRANCH
919 ALA MOANA BLVD., ROOM 308
HONOLULU, HI 96814-4920

In reply, please refer to:
File: SDWB
Hale Kula Elem.docx

June 19, 2012

Ms. Malia Cox
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Cox:

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAII

The Safe Drinking Water Branch (SDWB) has reviewed the subject document and this project does not require SDWB review or approval as it does not affect a regulated public water system as defined in Hawaii Administrative Rules, Title 11, Chapter 20, "Rules Relating to Public Water Systems."

If there are any questions, please call Jennifer Nikaido of the SDWB Engineering Section at 586-4258.

Sincerely,

JOANNA L. SETO, P.E., CHIEF
Safe Drinking Water Branch
Environmental Management Division

JN:mc

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS
THOMAS S. WITTEN, ASLA
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Executive Vice-President
RUSSELL Y. J. CHUNG, FASLA, LEED® AP
Executive Vice-President
VINCENT SHIGEKUNI
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KEVIN K. NISHIKAWA, ASLA
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KIMI MIKAMI YUEN, LEED® AP
Associate
SCOTT ALIKA ABRIGO, LEED® AP
Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

State of Hawai'i
Department of Health
Ms. Joanna Seto, Branch Chief
Safe Drinking Water Branch
919 Ala Moana Blvd Room 308
Honolulu, HI 96814-4920

Attn: Jennifer Nikaido

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Ms. Seto:

Thank you for your letter dated June 19, 2012 (SDWB Hale Kula Elem.docx). We acknowledge your assessment that the proposed project does not required Safe Drinking Water Branch review or approval.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

Enclosure: Location Map
Site Plan

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NEIL ABERCROMBIE
GOVERNOR

PATRICIA McMANAMAN
DIRECTOR

BARBARA A. YAMASHITA
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment & Support Services Division
820 Mililani Street, Suite 606
Honolulu, Hawaii 96813

June 15, 2012

Refer to: 12:0358

Ms. Malia Cox
Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Cox:

SUBJECT: Pre-Consultation For The Hale Kula Elementary School Improvements, Schofield Barracks, Hawai`i

The Department of Human Services (DHS) received your letter advising us about the proposed conceptual plans for improvements to Hale Kula Elementary School and we thank you for consulting with us on the proposed project. The Director, Patricia McManaman, has forwarded your letter to us for a response.

DHS has no objections to the proposed plans as identified in your correspondence. However, we are aware of a growing number of children under kindergarten age that need preschool services and special education services in the Schofield Barracks community, and that there is currently a lack of space at existing facilities to provide these services.

The list of proposed activities and tasks included in your letter indicate two special education facilities. One appears to be a regular classroom size addition to Building A, and the other an undefined space in the new 10 classroom building at the far end of campus. It is not known if the intention is to serve different age groups in the two locations, or if one will serve only SPED children and the other an Inclusion program. To ensure sufficient space and allow flexibility in the type of programs provided, and to adequately serve the targeted population, we recommend that a needs assessment be completed to determine the sufficiency of the current plans. We believe intentional planning is needed to support the current and potential needs of the young families served by Hale Kula Elementary School and others in the vicinity of Schofield Barracks.

If you have any questions or need further information, please contact Ms. Marja Leivo, Child Care Program Specialist, at (808) 586-7112.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Patricia McManaman, Director

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& ASSOCIATES, INC.

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Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

State of Hawai'i
Department of Human Services
Benefit, Employment & Support Services Division
Mr. Scott Nakasone, Assistant Division Administrator
820 Mililani Street, Suite 606
Honolulu, HI 96813

Attn: Ms. Marja Leivo, Child Care Program Specialist

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Nakasone:

Thank you for your letter dated June 15, 2012 (your reference number 212:0358). We understand that DHS has no objections to the proposed plans and offer the following responses to your comments.

We acknowledge and concur with your comment that two special education facilities are being proposed. Both facilities will be special education/fully self-contained classrooms. One will be located within the new 10 classroom building and the other in the vicinity of building I. The special education facilities are being designed to provide the school with flexibility utilize these spaces to meet different program needs.

We acknowledge and agree that intentional planning is not only beneficial, but is preferred to ensure that the proposed plans are sufficient to serve the targeted population. In 2011, a Facilities Condition Assessment was prepared by the Department of Defense (DoD). The report assessed Hale Kula on facility condition, spatial adequacy, capacity and technical readiness. Based on the recommendations of the report, the DoD invited the Department of Education (DOE) to submit a proposal for improvements. As part of the proposal development, the DOE assessed its needs at Hale Kula Elementary School. The assessment included planning workshops that involved the Hale Kula Elementary Staff as well as DOE's Planning Section. DOE is continuing to work with its consultants, Schofield Barracks, and Hale Kula Elementary School staff as this project is developed in an effort to meet the educational needs of the student population today and for years to come.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, DOE, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR

DWIGHT TAKAMINE
DIRECTOR

AUDREY HIDANO
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
830 PUNCHBOWL STREET, ROOM 321
HONOLULU, HAWAII 96813
www.hawaii.gov/labor
Phone: (808) 586-8844/Fax: (808) 586-9099

June 4, 2012

Ms. Malia Cox
Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813

Dear Ms. Cox:

This is in response to your request for comments dated May 25, 2012 on the proposed project for the Hale Kula Elementary School improvements located in Schofield Barracks on the island of Oahu.

The Department of Labor and Industrial Relations has no comments, and we foresee no impact on our existing or proposed programs. Should you have any questions, please call me at 586-8844.

Sincerely,

DWIGHT TAKAMINE
Director

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& ASSOCIATES, INC.

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Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

State of Hawai'i
Department of Labor and Industrial Relations
Mr. Dwight Takamine
830 Punchbowl Street
Honolulu, HI 96813

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Takamine:

Thank you for your letter dated June 4, 2012. We acknowledge that the Department of Labor and Industrial Relations has no comments at this time and does not foresee any impact to existing or proposed programs.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

IN REPLY REFER TO:

STP 8.0862

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

June 7, 2012

Ms. Malia Cox
Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Dear Ms. Cox:

Subject: Hale Kula Elementary School Improvement-Pre Consultation for Draft Environmental Assessment (DEA)

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project.

DOT understands the Department of Education (DOE) in a jointly funded project with the United States Department of Defense (DoD) proposes to improve the facilities at Hale Kula Elementary School. The proposed improvements includes the removal of existing non-compliant portable classroom structures, installation of new classroom and support facilities and the improvement to other existing classrooms. This project is located within the boundaries of Schofield Barracks Military Installation.

Given the location and the nature of the project, DOT does not anticipate any significant adverse impacts to the State transportation facilities.

DOT appreciates the opportunity to provide comments. If there are any questions, please contact Mr. Garrett Smith of the DOT Statewide Transportation Planning Office at 831-7976.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

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& ASSOCIATES, INC.

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SCOTT ALIKA ABRIGO, LEED® AP
Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

State of Hawai'i
Department of Transportation
Mr. Glenn Okimoto, Director
Aliiaimoku Building
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Attn: Mr. Garrett Smith

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Okimoto:

Thank you for your letter dated June 7, 2012 (your reference number STP 8.0862). We acknowledge your assessment that the Department of Transportation does not anticipate the proposed project will have any significant adverse impacts to the State transportation facilities.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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PHONE (808) 594-1888

FAX (808) 594-1865

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

HRD12_6277

June 7, 2012

Malia Cox, Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484

Re: Chapter 343, Hawaii Revised Statutes and National Environmental Policy Act consultation
Hale Kula Elementary School Improvements Project
Island of O'ahu

Dear Malia Cox:

The Office of Hawaiian Affairs (OHA) is in receipt of your May 25, 2012 letter with enclosures seeking comments ahead of environmental compliance documents (documents) that will be prepared to support various improvements at Hale Kula Elementary School (project) proposed jointly by the State of Hawai'i Department of Education (DOE) and the United States Department of Defense (DOD). The Hale Kula Elementary School (school) is landlocked within the boundaries of Schofield Barracks, a military installation under the control of the DOD. The eleven (11) acres of land on which the school campus is situated are controlled by the DOE. OHA recognizes the DOE and the DOD for their effort to improve the conditions at the school for current and future students, parents and community members. We look forward to seeing this much needed project completed.

The documents will be prepared pursuant to the requirements of Chapter 343, Hawaii Revised Statutes and the National Environmental Policy Act to support the use of Federal and State land and funds for this project. The Federal nexus to this project indicates that the requirements of the National Historic Preservation Act may also be applicable. OHA is also in receipt of a May 24, 2012 letter from your consultant, Scientific Consulting Services, Inc. (SCS) seeking comments ahead of a cultural impact assessment (CIA) for this project. You are copied on our response to SCS and should be aware of the information we have requested in order to continue CIA consultation.

OHA acknowledges that the project's design and plans are intended to qualify for Leadership in Energy and Environmental Design (LEED) Silver certification. LEED certification will provide independent, third party verification that the project has been built using strategies which address impacts to the human environment, energy efficiency and reducing the use of resources such as water. OHA recommends that any project landscaping plans utilize native plant species that are common or adapted to the project area.

We have no other specific comments to offer at this time. Please send one hardcopy and one electronic copy of the completed documents to OHA: attn. Compliance Monitoring Program when they are prepared. Should you have any questions, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KM:kl

C: Cathleen Dagher, Senior Archaeologist
Scientific Consultant Services, Inc.
711 Kapi'olani Boulevard, Suite 975
Honolulu, Hawai'i 96813

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS
THOMAS S. WITTEN, ASLA
President
R. STAN DUNCAN, ASLA
Executive Vice-President
RUSSELL Y. J. CHUNG, FASLA, LEED® AP
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Associate
SCOTT MURAKAMI, ASLA, LEED® AP
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DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

State of Hawai‘i
Office of Hawaiian Affairs
Mr. Kamana‘opono Crabbe, Chief Executive Officer
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Attn: Keola Lindsey

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI‘I

Aloha mai Mr. Crabbe:

Mahalo for your letter dated June 7, 2012 (your reference number HRD12_6277). We offer the following responses to your comments.

We acknowledge and concur with your comment that the proposed project must comply with the requirements of the National Historic Preservation Act. Actions associated with compliance are underway. The information gathered during the investigations as well as recommendations from the State Historic Preservation Officer's and the U.S. Army Garrison, Hawaii, Directorate of Public Works, Cultural Resources Section will be incorporated into the Draft Environmental Assessment.

We acknowledge that the improvements will be designed to a level that would qualify for Leadership in Energy and Environmental Design (LEED) Silver certification. Although all components would qualify for LEED Silver, it is unknown at this time if LEED certification of all of the improvement components will be sought.

We acknowledge and concur with your recommendation that landscaping plans should utilize native plant species that are common or well adapted to the region. The recommendation has been provided to the project's landscape architect for incorporation in the areas where the existing landscaping is not retained.

Thank you for providing a copy of your comments as they relate to the preparation of a Cultural Impact Assessment. We acknowledge that additional information was requested to continue the consultation process.

Thank you again for your participation. Per your request, one hard copy and one electronic copy of the Draft Environmental Assessment will be provided to OHA's Compliance Monitoring Program once it becomes available for public comment. If you have any questions, do not hesitate to contact me at 521-5631.

Me ka mahalo,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai‘i, Department of Education, Planning Section-via email

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DEPARTMENT OF COMMUNITY SERVICES

CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 ● HONOLULU, HAWAII 96813 ● AREA CODE 808 ● PHONE: 768-7762 ● FAX: 768-7792

PETER B. CARLISLE
MAYOR

SAMUEL E. H. MOKU
DIRECTOR

BRIDGET HOLTHUS
DEPUTY DIRECTOR

May 30, 2012

Ms. Malia Cox, LEED AP BD+C, REM
Environmental Planner
PBR HAWAII
ASB Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813

Dear Ms. Cox:

Subject: Response to Pre-Consultation for the Hale Kula Elementary School Improvements, Schofield Barracks, Hawaii

Thank you for providing us with the opportunity to review and comment on the Pre-Consultation for the Hale Kula Elementary School Improvements. At this time, we have determined that the subject project will have no adverse impact on the projects and programs of the City and County of Honolulu's Department of Community Services.

In closing, we look forward to receiving the supplemental information and appreciate the opportunity to provide comments. In addition, we eagerly anticipate reviewing your Draft Environmental Assessment when it becomes available. Questions regarding this matter may be directed to Mr. Michael Shiroma at 768-7751.

Sincerely,

Samuel E. H. Moku
Director

SEHM:rg

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Associate
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Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

City and County of Honolulu
Department of Community Services
Mr. Sam Moku, Director
715 S. King Street, Room 311
Honolulu, HI 96813

Attn: Mr. Michael Shiroma

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Moku:

Thank you for your letter dated May 30, 2012. We acknowledge your assessment that the Department of Community Services (DCS) has determined the proposed project will have no adverse impacts on its projects and programs. DCS will be advised when the Draft Environmental Assessment is available.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:
12-105 Hale Kula Elem.

June 4, 2012

Ms. Malia Cox
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Cox:

SUBJECT: Pre-Consultation for the Hale Kula Elementary School Improvements, Schofield Barracks, Hawaii

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter, dated **May 25, 2012.** Thank you for allowing us to review and comment on the subject document. The document was routed to the various branches of the Environmental Health Administration. We have no comments at this time, but reserve the right to future comments. We strongly recommend that you review all of the Standard Comments on our website: www.hawaii.gov/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

The United States Environmental Protection Agency (EPA) provides a wealth of information on their website including strategies to help protect our natural environment and build sustainable communities at: http://water.epa.gov/infrastructure/sustain/ . The DOH encourages State and county planning departments, developers, planners, engineers and other interested parties to apply these strategies and environment principles whenever they plan or review new developments or redevelopments projects. We also ask you to share this information with others to increase community awareness on healthy, sustainable community design. If there are any questions about these comments please contact me.

Sincerely,

Laura Leialoha Phillips McIntyre, AICP
Environmental Planning Office Manager
Environmental Health Administration
Department of Heath
919 Ala Moana Blvd., Ste. 312
Honolulu, Hawaii 96814
Phone: 586-4337
Fax: 586-4370
laura.mcintyre@doh.hawaii.gov

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS
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Executive Vice-President
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Associate
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Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

State of Hawai'i
Department of Health (DOH)
Environmental Planning Office (EPO)
Laura Leialoha Phillips McIntyre, AICP
P.O. Box 3378
Honolulu, HI 96801-3378

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Ms. McIntyre;

Thank you for your letter June 4, 2012 (your reference number 12-105 Hale Kula Elem). We acknowledge your assessment that DOH-EPO has no comments specifically relating to the proposed project at this time. The standard comments have been reviewed and will be applied as applicable. In addition, we received comments directly from the Safe Drinking Water Branch regarding the proposed improvements. Their comments will also be applied to the project. The information regarding strategies to protect the environment and build sustainable communities on the EPA website has been reviewed.

Thank you again for your participation. If you have any questions, do not hesitate to call me at (808) 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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DEPARTMENT OF FACILITY MAINTENANCE
CITY AND COUNTY OF HONOLULU
1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

PETER B. CARLISLE
MAYOR

WESTLEY K.C. CHUN, Ph.D., P.E., BCEE
DIRECTOR AND CHIEF ENGINEER

KENNETH A. SHIMIZU
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 12-476

June 12, 2012

Ms. Malia Cox
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Cox:

Subject: Pre-Consultation for the Hale Kula Elementary School Improvements, Schofield Barracks

Thank you for the opportunity to review and comment on the subject project. We do not have any objections to the proposed project since most of the construction is on Federal Property.

Should you have any questions, please call Lan Yoneda of the Division of Road Maintenance, at 768-3600.

Sincerely,

Westley K.C Chun, Ph.D., P.E., BCEE
Director and Chief Engineer

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& ASSOCIATES, INC.

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THOMAS S. WITTEN, ASLA
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Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

City and County of Honolulu
Department of Facility Maintenance
Dr. Westley Chun, Ph.D., P.E., BCEE, Director and Chief Engineer
1000 Uluohia Street, Suite 215
Kapolei, HI 96707

Attn: Lan Yoneda

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Dr. Chun:

Thank you for your letter dated June 12, 2012 (your reference number DRM12-476). We acknowledge that the Department of Facility Maintenance has no objections to the proposed project. It should be noted that although Hale Kula Elementary School is surrounded by lands under Federal jurisdiction, the actual school property (both land and improvements) is owned and managed by the State of Hawai'i, Department of Education.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

PETER B. CARLISLE
MAYOR

DAVID K. TANOUE
DIRECTOR

JIRO A. SUMADA
DEPUTY DIRECTOR

2012/ELOG-1070(MH)

June 14, 2012

Ms. Malia Cox, Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Cox:

Subject: Pre-Consultation for the Hale Kula Elementary School Improvements, Schofield Barracks, Hawai'i

In response to your request for comments of May 25, 2012 regarding the preparation of the Draft Environmental Assessment (DEA) for the subject project, we have the following comments:

1. The DEA should include a discussion of how the proposed project is consistent with the objectives and policies of Section IX Health and Education in the City and County of Honolulu's General Plan. Refer to objective B, and applicable policies of this referenced section.

2. The DEA should also discuss how the proposed project is consistent with the Central Oahu Sustainable Communities Plan.

3. The site, TMK 7-7-001:003, is not located within the Special Management Area (SMA) and is not subject to the SMA requirements of Chapter 25, Revised Ordinances of Honolulu.

4. The DEA should further include a complete listing of required permits and approvals.

Should you have any questions, please contact Matt Higashida of our staff at 768-8045.

Very truly yours,

for David K. Tanoue, Director
Department of Planning and Permitting

DKT:js

cc: Department of Education, State of Hawaii
Department of Design and Construction

DivFunc\EA-EIS\2012\Pre-Consultation Hale Kula Elem Sch

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Associate
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Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

City and County of Honolulu
Department of Planning and Permitting
Mr. David Tanoue, Director
650 S. King Street, 7th Floor
Honolulu, HI 96813

Attn: Matt Hagashida

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Tanoue:

Thank you for your letter dated June 14, 2012 (your reference number 2012/ELOG-1070(MH)). We offer the following responses to your comments.

Per your request, the Draft Environmental Assessment (DEA) will include a discussion on the proposed projects consistency with the City and County of Honolulu's Central O'ahu Sustainable Communities Plan as well as Section IX Health and Education objective B of the General Plan.

We acknowledge you comment that a complete listing of required permits and approvals should be included in the DEA. Every effort will be made to include a listing of all permits and approvals known to be required for the proposed project at the time the DEA publication in the Office of Environmental Quality Control's *The Environmental Notice*.

We acknowledge and concur with your comment that the Site is not located within a Special Management Area.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

PETER B. CARLISLE
MAYOR

WAYNE Y. YOSHIOKA
DIRECTOR

KAI NANI KRAUT, P.E.
DEPUTY DIRECTOR

TP5/12-468490R

June 15, 2012

Ms. Malia Cox, LEED® AP BD+C, REM
Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Cox:

Subject: Pre-Consultation for the Hale Kula Elementary School Improvements, Schofield Barracks, Hawaii

This responds to your letter of May 25, 2012, requesting our comments concerning this project.

We have no comments to offer at this time since the proposed project is located in the Schofield Barracks. The construction access to the base at McNair Gate is from Wilikina Drive, which is under the jurisdiction of the State of Hawaii Department of Transportation.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

PBR HAWAII
& ASSOCIATES, INC.

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SCOTT ALIKA ABRIGO, LEED® AP
Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

August 23, 2012

City and County of Honolulu
Department of Transportation Services
Mr. Wayne Yoshioka, Director
650 S. King Street, 3rd Floor
Honolulu, HI 96813

Attn: Michael Murphy

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Yoshioka:

Thank you for your letter dated June 15, 2012 (your reference number TP5/12-468490R). We acknowledge your assessment that the Department of Transportation Services (DTS) has no comments at this time. While the nearest access gate to Hale Kula Elementary School is the McNair Gate, it should be noted that the Security Forces for the U.S. Army Garrison, Hawaii at Schofield Barracks will determine the construction access point for this project.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

PETER B. CARLISLE
MAYOR

KENNETH G. SILVA
FIRE CHIEF

EMMIT A. KANE
DEPUTY FIRE CHIEF

June 20, 2012

Ms. Malia Cox, LEED® AP BD+C, REM
Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Cox:

Subject: Preconsultation for the Hale Kula Elementary School Improvements
Schofield Barracks, Hawaii

In response to your letter of May 25, 2012, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; UFC™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an

approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151 or sbratakos@honolulu.gov.

Sincerely,

KENNETH G. SILVA
Fire Chief

KGS/SY:jl

PBR HAWAII
& ASSOCIATES, INC.

August 23, 2012

PRINCIPALS

THOMAS S. WITTEN, ASLA
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Executive Vice-President

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KEVIN K. NISHIKAWA, ASLA
Associate

KIMI MIKAMI YUEN, LEED® AP
Associate

SCOTT ALIKA ABRIGO, LEED® AP
Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

City and County of Honolulu
Fire Department
Chief Kenneth Silva
636 South Street
Honolulu, HI 96813

Attn: Battalion Chief Socrates Bratakos

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Chief Silva

Thank you for your letter dated June 20, 2012. We offer the following responses to your comments.

We acknowledge that fire department access roads shall be provided not more than 150 feet any portion of a facility or exterior wall of the first story of a building. While not included in the initial site plan provided during the consultation process, a fire access lane is part of the proposed project improvements. The fire land will provide access to the 10-classroom building proposed on the south-western portion of the campus. The access road will be designed to meet the National Fire Protection Association 1, Uniform Fire Code, 2006 Edition §18.2.3.2.1-2.

We further acknowledge that water supply must meet the required fire flow for fire protection, and that on-site fire hydrants and mains capable of supplying such flow may also be required.

Civil drawings will be submitted to the Honolulu Fire Department for review and approval.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR

RICHARD C. LIM
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

STRATEGIC INDUSTRIES DIVISION
235 South Beretania Street, Leiopapa A Kamehameha Bldg., 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-3807
Fax: (808) 586-2536

June 25, 2012

Ms. Malia Cox
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484

Dear Ms. Cox:

Subject: Pre-Consultation for the Hale Kula Elementary School Improvements
Hale Kula Elementary School, Schofield Barracks, Hawai'i

In response to your May 25, 2012, notice, thank you for the opportunity to provide comments on the proposed tasks and activities related to the Hale Kula Elementary School Improvements. The project plans to remove existing non-compliant classroom structures, install new classroom and support facilities, and improve existing classrooms located at Schofield Barracks on Oahu.

We would like to call your attention to: (l) State energy conservation goals; (2) the Hawaii Clean Energy Initiative (HCEI); and (3) Leadership in Energy and Environmental Design:

1. **State energy conservation goals.** Project buildings, activities, and site grounds should be designed and/or retrofitted with energy saving considerations. The mandate for such consideration is found in Chapter 344, HRS ("State Environmental Policy") and Chapter 226 ("Hawaii State Planning Act"). In particular, we would like to call to your attention HRS 226 18(c) (4) which includes a State objective of promoting all cost-effective energy conservation through adoption of energy-efficient practices and technologies as well as Act 155 (2009) that mandates that all State Facilities over 5,000 s.f. benchmark their buildings using ENERGY STAR Portfolio Manager.

2. **Hawai'i Clean Energy Initiative.** The Hawai'i Clean Energy Initiative is leading the way in relieving our dependence on oil by setting goals and a roadmap to achieve *70% clean energy by 2030* with *30% from efficiency* measures, and *40% coming from locally generated renewable* sources. See the HCEI website for more information at: http://www.hawaiicleanenergyinitiative.org/ .

3. **Leadership in Energy and Environmental Design (LEED).**
We note that the project's goal is to achieve the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Silver Certification. Also, consideration for the on-going operations and maintenance of the existing school should be based on the LEED for Existing Buildings: Operations and Maintenance Program.

Hawai'i can only meet its **70% clean energy goal by 2030** if we all do our part in reducing our energy use. Of the 70%, 30% of this clean energy goal focuses on energy efficiency and conservation measures. The Department of Business, Economic Development, and Tourism State Energy Office - Efficiency Branch, Hawaii Energy (State Energy Conservation Administrator), and Hawaii Energy have implemented programs that will help reduce the cost burden for taking efficiency measures in the form of subsidies, grants, loans, rebates, financial incentives, and other financial programs. See www.hawaiienergy.com for further information.

Our website (http://www.hawaiicleanenergyinitiative.org/energy_efficiency/) provides detailed information on guidelines, directives and statutes, as well as studies and reports on aspects of energy and resource efficiency. Also, please do not hesitate to contact Ms. Carilyn Shon, Energy Efficiency Branch Manager, at telephone number 587-3810, for additional information on energy efficiency, the Hawaii Clean Energy Initiative, and LEED.

Sincerely,

Mark B. Glick
Administrator

c: Carilyn Shon

PBR HAWAII
& ASSOCIATES, INC.

August 23, 2012

PRINCIPALS
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President
R. STAN DUNCAN, ASLA
Executive Vice-President
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Executive Vice-President
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Vice-President
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Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

State of Hawai‘i
Department of Business, Economic Development, and Tourism
Strategic Industries Division
Mr. Mark B. Glick, Administrator
PO Box 2359
Honolulu, HI 96804

Attn: Ms. Carilyn Shon, Energy Efficiency Branch Manager

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI‘I

Dear Mr. Glick:

Thank you for your letter dated June 25, 2012. We offer the following responses to your comments.

Thank you for providing information regarding the State's energy conservation goals, Hawai‘i Clean Energy Initiative, and Leadership in Energy and Environmental Design (LEED). We acknowledge and concur that Hawai‘i can only meet its energy goal when everyone does their part. The design team for the Hale Kula Elementary School Improvements is aware of the existing state mandates aimed at conserving energy reducing dependence on oil and designing to LEED standards. Various conservation and sustainability measures are being incorporated into the project design to reduce energy use. A copy of your letter has also been forwarded to the General Contractor for this project, Design Partners Incorporated as well as the Department of Education.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, DPW-via email
Robert S. Antonio, P.E., USAG-HI, DPW, Planning Division-via email
Brenda Lowery, State of Hawai‘i, DOE, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 22, 2012

PBR Hawaii & Associates, Inc.
Attn: Malia Cox
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

via email: mcox@pbrhawaii.com

Dear Ms. Cox,

SUBJECT: Pre-Consultation for the Hale Kua Elementary School Improvements, Schofield Barracks, Hawai`i

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

At this time, enclosed are comments from (1) Land Division – Oahu District; and (2) Engineering Division on the subject matter. No other comments were received as of our suspense date. The State Historic Preservation Division may be responding to you separately. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

PBR HAWAII
& ASSOCIATES, INC.

August 23, 2012

PRINCIPALS
THOMAS S. WITTEN, ASLA
President
R. STAN DUNCAN, ASLA
Executive Vice-President
RUSSELL Y. J. CHUNG, FASLA, LEED® AP
Executive Vice-President
VINCENT SHIGEKUNI
Vice-President
GRANT T. MURAKAMI, AICP, LEED® AP
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SCOTT ALIKA ABRIGO, LEED® AP
Associate
SCOTT MURAKAMI, ASLA, LEED® AP
Associate
DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

State of Hawai'i
Department of Land and Natural Resources
Mr. Russell Tsuji, Land Administrator
P.O. Box 621
Honolulu, HI 96809

Attn: Steve Molmen

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Tsuji:

Thank you for the letter dated June 22, 2012. We appreciate your making available the pre-consultation material provided. We acknowledge and will be providing responses directly to the Engineering Division and Land Division-O'ahu Districts. We understand that the State Historic Preservation Division may respond separately from your letter.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 30, 2012

MEMORANDUM

FROM: TO:

DLNR Agencies:
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
__Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

TO: FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Consultation for the Hale Kua Elementary School Improvements, Schofield Barracks, Hawai`i
LOCATION: Hale Kula Elementary School, "landlocked within the boundaries of Schofield Barracks Military Installation."
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the State of Hawai`i Department of Education and United States Department of Defense

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document. Please submit any comments by June 21, 2012.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

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

Signed: T Chee
Date: 6/1/2012

cc: Central Files

PBR HAWAII
& ASSOCIATES, INC.

August 23, 2012

PRINCIPALS
THOMAS S. WITTEN, ASLA
President
R. STAN DUNCAN, ASLA
Executive Vice-President
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DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

State of Hawai'i
Department of Land and Natural Resources
Land Division- O'ahu District
P.O. Box 621
Honolulu, HI 96809

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr. Chee:

Thank you for the letter dated June 1, 2012. We acknowledge your review of the project and that the Land Division-Oahu District has no comments to the project.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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GOVERNOR OF HAWAII

2012 JUN 01 PM 03:53 ENGINEERING

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 30, 2012

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
__Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

RECEIVED
LAND DIVISION
2012 JUN -8 P 1:24
DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Pre-Consultation for the Hale Kua Elementary School Improvements, Schofield Barracks, Hawai`i
LOCATION: Hale Kula Elementary School, "landlocked within the boundaries of Schofield Barracks Military Installation."
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the State of Hawai`i Department of Education and United States Department of Defense

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document. Please submit any comments by June 21, 2012.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

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

Signed: _____
Date: 6/7/12

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/SteveMolmen
RE: PreConHaleKuaElementarySchool
Oahu.895

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

(X) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone D. The Flood Insurance Program does not have any regulations for developments within Flood Zone D.

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

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

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

( ) Mr. Mario Siu Li at (808) 768-8098 or Ms. Ardis Shaw-Kim at (808) 768-8296 of t he City and County of Honolulu, Department of Planning and Permitting.
( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
( ) Mr. Wynne Ushigome at (808) 241-4890 of the County of Kauai, Department of Public Works.

(X) The applicant should include water demands and infrastructure required to meet project needs. Please note that projects within State lands requiring water service from the Honolulu Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

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

( ) Additional Comments: _____

( ) Other: _____

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

Signed: _____
for CARTY S. CHANG, CHIEF ENGINEER
Date: 6/7/12

PBR HAWAII
& ASSOCIATES, INC.

August 23, 2012

PRINCIPALS

THOMAS S. WITTEN, ASLA
President

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Executive Vice-President

VINCENT SHIGEKUNI
Vice-President

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Associate

KIMI MIKAMI YUEN, LEED® AP
Associate

SCOTT ALIKA ABRIGO, LEED® AP
Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

State of Hawai'i
Department of Land and Natural Resources
Mr. Carty S. Chang, Chief Engineer
P.O. Box 621
Honolulu, HI 96809

Attn: Ms. Suzie S. Agraan

SUBJECT: PRE-CONSULTATION FOR THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, SCHOFIELD BARRACKS, HAWAI'I

Dear Mr Chang:

Thank you for the letter dated June 7, 2012 (your reference number PreConHaleKuaElementary SchoolOahu.895). We offer the following response to your comments.

We acknowledge and concur with your assessment that the project is located in Flood Zone D and that the Flood Insurance Program does not have any regulations for developments within Flood Zone D.

We acknowledge your recommendation that water demands and infrastructure requirements should be included. Per your request, the information will be included in the Draft Environmental Assessment.

We acknowledge your assessment that the proposed project is located within State lands and will requiring water service from the Honolulu Board of Water Supply (BWS) system. We further acknowledge that Department of Education will be required to pay resource development as well as transmission and storage charges. Coordination with BWS has been initiated and will identify BWS requirements as they relate specifically to the proposed project.

Per your request, water demands and calculations will be provided to the Department of Land and Natural Resources, Engineering Division for inclusion in the State Water Projects Plan Update.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,

Malia Cox, LEED® AP BD+C, REM
Environmental Planner

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowery, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR

MAJOR GENERAL DARRYLL D. M. WONG
DIRECTOR OF CIVIL DEFENSE

DOUG MAYNE
VICE DIRECTOR OF CIVIL DEFENSE

PHONE (808) 733-4300
FAX (808) 733-4287

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

September 17, 2012

Ms. Malia Cox
PBR Hawaii
1001 Bishop Street
Suite 650
Honolulu, Hawaii 96813

Dear Ms. Cox:

Draft Environmental Assessment (EA) for
Hale Kula Elementary School Improvements
TMK: (1) 7-7-001:003, Wahiawa, Oahu, Hawaii

Thank you for the opportunity to comment on this proposed project.

After review of the documents provided, we find that the proposed parcel is covered by the arc of an existing warning siren.

We suggest that either the proposed cafetorium or gymnasium facility be hardened for protection against natural disasters. This could then be used as an emergency shelter in case of disaster.

Mitigation measures should be considered in planning and the design phase of any new construction, as mitigation prevents loss of life, minimizes loss of property, and plans for continuity of essential services. Generally, the cost of integrating mitigation measures during construction is approximately one-third the cost of post-construction retrofit.

If you have any questions please call Ms. Havinne Okamura, Hazard Mitigation Planner, at 733-4300, extension 556.

Sincerely,

DOUG MAYNE
Vice Director of Civil Defense

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS

THOMAS S. WITTEN, ASLA
President

R. STAN DUNCAN, ASLA
Executive Vice-President

RUSSELL Y. J. CHUNG, FASLA, LEED®AP BD+C
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KIMI MIKAMI YUEN, LEED®AP BD+C
Senior Associate

SCOTT ALIKA ABRIGO, LEED®AP BD+C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED®AP
Associate

DACHENG DONG, LEED®AP
Associate

MARC SHIMATSU, ASLA
Associate

MICHAEL SHIBATA, AICP
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

printed on recycled paper

November 28, 2012

Mr. Doug Mayne, Vice Director of Civil Defense
State of Hawai'i
Department of Defense
Office of the Director of Civil Defense
3949 Diamond Head Road
Honolulu, Hawai'i, 96816-4495

Attn: Ms. Havinne Okamura, Hazard Mitigation Planner

SUBJECT: HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA) SCHOFIELD BARRACKS, HAWAI'I, TMK:(1)7-7-001:003

Dear Mr. Mayne:

Thank you for your letter dated September 17, 2012. We offer the following responses to your comments.

We acknowledge the project will include improvements to the existing cafetorium as well as the construction of a covered playcourt. The cafetorium will not be replaced with a new structure. Instead the improvement project will include the installation of an addition along the eastern side of the existing cafetorium. The playcourt proposed is a brand new structure designed to provide protection from rain. It will include a roof, but will not have walls that fully enclose the interior space. In both instances hardening the facilities (by retrofitting the cafeteria, or installing walls on the playcourt) would substantially increase the cost of the proposed improvements.

On September 28, 2012, Ms. Okamura was contacted by telephone. She concurred that hardening of either facility would substantially increase the cost. She indicated that if possible safety measures should be incorporated into the design where feasible. The design team was advised of yours office's concerns regarding safety relating particularly to high winds. Safety is an important element of this project and has been incorporated into the design. Just a few of the safety elements of the project include the following:

- roof top equipment will be appropriately secured and anchored for high winds;
- all windows in proposed new construction will possess the performance to withstand 105 mile per hour winds and will be laminated to aid in resisting potential impact projectile during high wind and rain events;

- all new proposed buildings are to be of concrete masonry block construction and structural steel roof framing or concrete roof decks, materials serve as strong building components to resist uplifting forces because of their sheer mass; and,
- the new construction of concrete masonry is inherently more heat and flame resistant than wood-constructed structures.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 26, 2012

PBR Hawaii
Attn: Ms. Malia Cox
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

via email: mcox@pbrhawaii.com

Dear Ms. Cox,

SUBJECT: Hale Kula Elementary School Improvements, Draft Environmental Assessment

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

At this time, enclosed are comments from (1) Land Division – Oahu District; and (2) Engineering Division, on the subject matter. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

PBR HAWAII
& ASSOCIATES, INC.

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Associate

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MICHAEL SHIBATA, AICP
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
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November 28, 2012

State of Hawai'i
Department of Land and Natural Resources
Mr. Russell Tsuji, Land Administrator
P.O. Box 621
Honolulu, HI 96809

Attn: Steve Molmen

SUBJECT: HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA) SCHOFIELD BARRACKS, HAWAI'I, TMK:(1)7-7-001:003

Dear Mr. Tsuji:

Thank you for the letter dated September 26, 2012. We acknowledge and will be providing responses directly to the Engineering Division and Land Division-O'ahu Districts.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 28, 2012

MEMORANDUM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_X_Engineering Division
___Div. of Forestry & Wildlife
___Div. of State Parks
___Commission on Water Resource Management
___Office of Conservation & Coastal Lands
_X_Land Division – Oahu District
_X_Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment, Hale Kula Elementary School Improvements
LOCATION: Schofield Barracks, Wahiawa, Oahu, TMK (1) 7-7-001:003
APPLICANT: PBR Hawaii for State of Hawai`i Department of Education

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document. Please submit any comments by September 20, 2012.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

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

Signed: T Chao
Print Name: Tracy Chao
Date: 9/5/2012

cc: Central Files

PBR HAWAII
& ASSOCIATES, INC.

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November 28, 2012

State of Hawai'i
Department of Land and Natural Resources
Land Division- O'ahu District
P.O. Box 621
Honolulu, HI 96809

SUBJECT: HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA) SCHOFIELD BARRACKS, HAWAI'I, TMK:(1)7-7-001:003

Dear Mr. Chee:

Thank you for the letter dated September 5, 2012. We acknowledge your review of the project and that the Land Division-Oahu District has no comments to the project.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

O:\Job28\2899.01_02 Hale Kula Elementary School EA\Correspondence\Responses\DEA comments\BL-DEA_responses.doc

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

'12 AUG 30 ... ENGINEERING

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

August 28, 2012

MEMORANDUM

RECEIVED
LAND DIVISION
2012 SEP 11 A 9:38
DEPT. OF LAND & NATURAL RESOURCES STATE OF HAWAII

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
X Engineering Division
___Div. of Forestry & Wildlife
___Div. of State Parks
___Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Draft Environmental Assessment, Hale Kula Elementary School Improvements
LOCATION: Schofield Barracks, Wahiawa, Oahu, TMK (1) 7-7-001:003
APPLICANT: PBR Hawaii for State of Hawai`i Department of Education

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document. Please submit any comments by September 20, 2012.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

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

Signed: _____
Print Name: Carty S. Chang, Chief Engineer
Date: 9/7/12

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
REF: DEA for Hale Kula Elementary School Improvements, Schofield Barracks, Wahiawa Oahu.005

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone D, an area where flood hazards are undetermined.**

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

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

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

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

( ) Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.

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

( ) Ms. Wynne Ushigome at (808) 241-4890 of the County of Kauai, Department of Public Works.

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

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

( ) Additional Comments: _____

( ) Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 9/7/12

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& ASSOCIATES, INC.

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1001 Bishop Street, Suite 650
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Tel: (808) 521-5631
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E-mail: sysadmin@pbrhawaii.com

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Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
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HILO OFFICE
1719 Haleloke Street
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printed on recycled paper

November 28, 2012

State of Hawai'i
Department of Land and Natural Resources
Mr. Carty S. Chang, Chief Engineer
P.O. Box 621
Honolulu, HI 96809

SUBJECT: HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA) SCHOFIELD BARRACKS, HAWAI'I, TMK:(1)7-7-001:003

Dear Mr Chang:

Thank you for the letter dated September 7, 2012 (your reference identifier: DEA for Hale Kula Elementary School Improvements, Schofield Barracks, Wahiawa Oahu.005). We offer the following response to your comments.

We acknowledge and concur with your assessment that the project is located in Flood Zone D and that the Flood Insurance Program does not have any regulations for developments within Flood Zone D.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
DOH/CWB

09011PMT.12

September 26, 2012

Mr. Duane Kashiwai
Administrator
Public Works
State of Hawaii Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804

Dear Mr. Kashiwai:

SUBJECT: Draft Environmental Assessment
Hale Kula Elementary School Improvements
Schofield Barracks, Island of Oahu, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), has reviewed the subject document transmitted by letter, dated August 23, 2012, and offers these comments on your project. Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf.

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

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

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

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

2. The Kaukonahua Stream waters is identified as a Category 5 waters in the Clean

Water Act, Section 303(d) list of impaired water bodies in Chapter IV of the *2008/2010 State of Hawaii Water Quality Monitoring and Assessment Report*. Priority 5 waters are described as surface waters where available data and/or information indicate that at least one (1) of the designated use is not being supported or is threatened. The Kaukonahua Stream waters are presently identified as not attaining the applicable water quality criteria for total nitrogen, nitrate + nitrite nitrogen, and turbidity. Accordingly, the subject project should include considerations toward ensuring the protection and improvement of the Kauakonahua Stream waters for these parameters, in addition to considerations for maintaining the storm water runoff at present flow conditions.

3. You may be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

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

   b. Construction dewatering effluent.

   c. Hydrotesting water effluent.

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

4. For types of wastewater not listed in Item 3 above or wastewater discharging into Class 1 or Class AA waters, you may need an NPDES individual permit. The NPDES application forms may be picked up at our office or downloaded from our website at http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html.

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

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

Sincerely,

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

MT:jst

c: DOH - EPO # 12-155 [via email only]
Mr. Duane Kashiwai, DOE, Public Works [via fax (808) 586-0532]
Mr. Malia Cox, PBR Hawaii [via fax (808) 523-1402 only]

PBR HAWAII
& ASSOCIATES, INC.

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HILO OFFICE
1719 Haleloke Street
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November 28, 2012

Mr. Alec Wong, P.E., Chief
State of Hawai'i
Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, HI 96801-3378

Attn: Engineering Section (586-4309)

SUBJECT: HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA) SCHOFIELD BARRACKS, HAWAI'I, TMK:(1)7-7-001:003

Dear Mr. Wong:

Thank you for the letter dated September 26, 2012 (your reference number 09011PMT.12). We offer the following response to your comments.

1. We acknowledge and concur that the project and its potential impacts must meet Hawai'i Administrative Rules (HAR), Sections 11-54-1.1, and 11-54-4 through 8. The will be no net increase in runoff from the Site in the long-term. The project will incorporate Low Impact Design (LID) system that creates decentralized filtration and infiltration of waters on site. The project will disturb more than one acre of land, therefore, the National Pollution Discharge Elimination System (NPDES) permit requirements applies. Sections 3.4 and 4.6.3 of the Final Environmental Assessment (EA) provide details regarding conformance with HAR Sections 11-54-1.1, and 11-54-4 through 8.

2. We acknowledge and concur that Kaukonahua Stream is identified as an impaired water body on the States' Clean Water Act (CWA) Section 303(d) list. However, we did not specifically state that it is a Category 5 waters in the Draft EA. This information, as well as the water quality criteria that are not currently being met within Kaukonahua Stream has been incorporated into Section 3.4 of the Final EA.

   The project will incorporate LID and limit directly connected impervious areas (DCIA). DCIA result in increases in speed and volume of runoff that can result in higher peak flows and erosion. Increases in runoff speed, volume and erosion potential can impact downstream turbidity if runoff leaves the Site in flood event. The current design will limit DCIA. Most of the new building will use splash blocks to allow roof areas to drain on to the grassed areas. This decentralized approach allows runoff to flow across vegetation in multiple, smaller areas on Site where it is naturally filtered, collected and infiltrates into the ground. Pervious pavers will be utilized within the proposed emergency access lanes allowing infiltration to occur within the emergency access lane. These efforts to reduce speed, volume, and erosion potential provide added protection to the nearby Kaukonahua stream should a flood event occur on Site. Information regarding proposed LID measures is described in sections 3.4 and 4.6.3 of the Final EA.

3. We acknowledge and concur that an NPDES permit is required for construction activities, hydrotesting, and construction dewatering effluent. The General Contractor-Design Partners Incorporated as well as the Department of Education, and the U.S. Army Garrison-Hawai'i have been notified that separate Notices if Intent must be filed for these activities.

4. We acknowledge that wastewater discharged to Class 1 or Class AA waters may need an NPDES individual permit. The project as proposed will not discharge wastewater to Class 1 or Class AA waters. As described in Section 4.6.2 of the Draft EA, "Wastewater generated at Hale Kula Elementary School is captured and treated by the U.S. Army Garrison Hawai'i wastewater conveyance and treatment system operated by Aqua Engineers located within Schofield Barracks. Connection to the wastewater system is already in place." Aqua Engineers wastewater treatment plant at Schofield Barrack has a current design capacity of 4.2 million gallons per day. The wastewater treatment plant operated by Aqua Engineers is operating under an extension of NPDES Permit number HI0110141.

   The project as proposed will include improvements to Hale Kula Elementary School, but it is not considered a vessel, nor are the activities performed at Hale Kula Elementary School associated with Industrial Activities under the Multi-Sector NPDES requirements, a wastewater treatment facility, an animal feeding operation, an aquatic animal production, mining or silviculture operation, manufacturing, commercial operation, new industrial activities, etc. Therefore, none of these NPDES general permits apply.

   The project is part of the US Army Garrison Hawai'i's (Garrison) municipal separate storm sewer system (MS4). Non-storm water discharges from the Site are subject to the Garrison's MS4 permit requirements.

5. We acknowledge that any discharges resulting from the construction and or operation of Hale Kula Elementary School will comply with the State's water quality standards.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Romeo Gampong, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

PETER B. CARLISLE
MAYOR

DAVID K. TANOUE
DIRECTOR

JIRO A. SUMADA
DEPUTY DIRECTOR

2012/ELOG-1070(MH)

September 21, 2012

Ms. Malia Cox, Environmental Planner
PBR Hawai'i & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484

Dear Ms. Cox:

Subject: Hale Kula Elementary School Improvements
Draft Environmental Assessment
Schofield Barracks, Hawai'i
Tax Map Key: 7-7-001: 003

This is in response to your request for comments of August 23, 2012, regarding the Draft Environmental Assessment (DEA) for the subject project.

We note that this project will connect to a private sewer system located within Schofield Barracks and operated by Aqua Engineers. Any improvements to this existing system should not affect the City's wastewater system.

On pages 41 and 44, the DEA mentions an Architectural Survey in the Appendices and buildings of the school over 50 years old warranting an assessment to determine eligibility for listing on the State or National Registers of Historic Places. The Architectural Survey appears to be missing.

There also appears to be missing text between pages 44 and 45.

Should you have any questions, please contact Matt Higashida of our staff at 768-8045.

Very truly yours,

for David K. Tanoue, Director
Department of Planning and Permitting

DKT:bkg
EA-EIS12HKESI

cc: Department of Education, State of Hawaii
Department of Design and Construction

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS

THOMAS S. WITTEN, ASLA
President

R. STAN DUNCAN, ASLA
Executive Vice-President

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KIMI MIKAMI YUEN, LEED*AP BD+C
Senior Associate

SCOTT ALIKA ABRIGO, LEED*AP BD+C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED*AP
Associate

DACHENG DONG, LEED*AP
Associate

MARC SHIMATSU, ASLA
Associate

MICHAEL SHIBATA, AICP
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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November 28, 2012

City and County of Honolulu
Department of Planning and Permitting
Mr. David Tanoue, Director
650 S. King Street, 7th Floor
Honolulu, HI 96813

Attn: Matt Higashida

SUBJECT: HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA) SCHOFIELD BARRACKS, HAWAI'I, TMK:(1)7-7-001:003

Dear Mr. Tanoue:

Thank you for your letter dated September 21, 2012 (your reference number 2012/ELOG-1070(MH)). We offer the following responses to your comments.

We acknowledge and concur with your comment that this project will be connected to a private wastewater treatment system and should not affect the City's system.

We acknowledge that an Architectural Survey was not included in the DEA. It will be included in the Final Environmental Assessment.

We acknowledge that several lines of text were inadvertently omitted from the DEA. The following is the paragraph in its entirety, with the omitted text shown in italics.

> *"Based on the assessment conducted by Ms. Tasaki as part of the Architectural Survey, the buildings are not considered 'historic' under any of the criterion. (a) there are no direct* "associations with events that have made a significant contribution to the broad patterns of our history; (b) there are no associations "with the lives of persons significant in our past"; and (c) although the campus does have "distinctive characteristics of a type, period, or method of construction" "finger-plan" schools were typical of 1950s school construction."

The FEA will be revised accordingly.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

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NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

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

In reply, please refer to:
File:

12-155
DEA Hale Kula

September 14, 2012

Ms. Malia Cox
PBR Hawaii
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Ms. Cox:

SUBJECT: Draft Environmental Assessment
Hale Kula Elementary School Improvements, Wahiawa, Oahu
TMK: (1) 7-7-001: 003

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter, dated **August 23, 2012.** Thank you for allowing us to review and comment on the subject document. The document was routed to the various branches of the Environmental Health Administration. We have no comments at this time, but reserve the right to future comments. We strongly recommend that you review all of the Standard Comments on our website: www.hawaii.gov/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

The United States Environmental Protection Agency (EPA) provides a wealth of information on their website including strategies to help protect our natural environment and build sustainable communities at: http://water.epa.gov/infrastructure/sustain/ . The DOH encourages State and county planning departments, developers, planners, engineers and other interested parties to apply these strategies and environment principles whenever they plan or review new developments or redevelopments projects. We also ask you to share this information with others to increase community awareness on healthy, sustainable community design. If there are any questions about these comments please contact me.

Sincerely,

Laura Leialoha Phillips McIntyre, AICP
Environmental Planning Office Manager
Environmental Health Administration
Department of Heath
919 Ala Moana Blvd., Ste. 312
Honolulu, Hawaii 96814
Phone: 586-4337
Fax: 586-4370
laura.mcintyre@doh.hawaii.gov

c: Mr. Duane Kashiwai, DOE, Public Works

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS

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President

R. STAN DUNCAN, ASLA
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Executive Vice-President

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Chairman Emeritus

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TOM SCHNELL, AICP
Senior Associate

RAYMOND T. HIGA, ASLA
Senior Associate

KIMI MIKAMI YUEN, LEED*AP BD+C
Senior Associate

SCOTT ALIKA ABRIGO, LEED*AP BD+C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED*AP
Associate

DACHENG DONG, LEED*AP
Associate

MARC SHIMATSU, ASLA
Associate

MICHAEL SHIBATA, AICP
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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November 28, 2012

State of Hawai'i
Department of Health (DOH)
Environmental Planning Office (EPO)
Laura Leialoha Phillips McIntyre, AICP
P.O. Box 3378
Honolulu, HI 96801-3378

SUBJECT: THE HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA), SCHOFIELD BARRACKS, HAWAI'I, (TMK:(1) 7-7-001:003)

Dear Ms. McIntyre;

Thank you for your letter September 14, 2012 (your reference number 12-155 Hale Kula Elem). We acknowledge your assessment that DOH-EPO has no comments specifically relating to the proposed project at this time. The standard comments have been reviewed and will be applied as applicable. The information regarding strategies to protect the environment and build sustainable communities on the EPA website has been reviewed.

Thank you again for your participation. If you have any questions, do not hesitate to call me at (808) 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

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GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

STP 8.0958

September 4, 2012

Mr. Duane Kashiwai, Administrator
State of Hawaii
Department of Education
Public Works
P.O. Box 2360
Honolulu, Hawaii 96804

Dear Mr. Kashiwai:

Subject: Hale Kula Elementary School Improvements
Draft Environmental Assessment (DEA)
TMK: (1) 7-7-001:003

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project.

DOT understands the Department of Education (DOE), in a jointly funded project with the United States Department of Defense (DoD), proposes to improve the facilities at Hale Kula Elementary School. The proposed improvements include the removal of existing non-compliant portable classroom structures, installation of new classroom and support facilities, and the improvement of existing classrooms. The project is located within the boundaries of Schofield Barracks Military Installation.

Given the location and the nature of the project, DOT does not anticipate any significant adverse impacts to the State transportation facilities.

DOT appreciates the opportunity to provide comments. If there are any other questions, please contact Mr. Garrett Smith of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: Malia Cox, PBR Hawaii & Associates, Inc.

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Executive Vice-President

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Senior Associate

RAYMOND T. HIGA, ASLA
Senior Associate

KIMI MIKAMI YUEN, LEED*AP BD+C
Senior Associate

SCOTT ALIKA ABRIGO, LEED*AP BD+C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED*AP
Associate

DACHENG DONG, LEED*AP
Associate

MARC SHIMATSU, ASLA
Associate

MICHAEL SHIBATA, AICP
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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November 28, 2012

State of Hawai'i
Department of Transportation
Mr. Glenn Okimoto, Director
Aliiaimoku Building
869 Punchbowl Street, Room 509
Honolulu, HI 96813

Attn: Mr. Garrett Smith

SUBJECT: HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA), SCHOFIELD BARRACKS, HAWAI'I (TMK: (1) 7-7-001:003)

Dear Mr. Okimoto:

Thank you for your letter dated September 4, 2012 (your reference number STP 8.0958). We acknowledge your assessment that the Department of Transportation does not anticipate the proposed project will have any significant adverse impacts to the State transportation facilities.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

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GOVERNOR

DWIGHT TAKAMINE
DIRECTOR

AUDREY HIDANO
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS
830 PUNCHBOWL STREET, ROOM 321
HONOLULU, HAWAII 96813
www.hawaii.gov/labor
Phone: (808) 586-8844/Fax: (808) 586-9099

September 11, 2012

Ms. Malia Cox
PBR Hawaii
1001 Bishop Street, Suite 650
Honolulu, HI 96813

Dear Ms. Cox:

This is in response to the request for comments dated August 23, 2012 on the Draft Environmental Assessment for the Hale Kula Elementary School Improvements located in Wahiawa, island of Oahu.

The Department of Labor and Industrial Relations has no comments, and we foresee no impact on our existing or proposed programs. Should you have any questions, please call me at (808) 586-8844.

Sincerely,

DWIGHT TAKAMINE
Director

c: Mr. Duane Kashiwai, Administrator, Dept. of Education

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS

THOMAS S. WITTEN, ASLA
President

R. STAN DUNCAN, ASLA
Executive Vice-President

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Executive Vice-President

VINCENT SHIGEKUNI
Vice-President

GRANT T. MURAKAMI, AICP, LEED*AP BD+C
Vice-President

W. FRANK BRANDT, FASLA
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Senior Associate

RAYMOND T. HIGA, ASLA
Senior Associate

KIMI MIKAMI YUEN, LEED*AP BD+C
Senior Associate

SCOTT ALIKA ABRIGO, LEED*AP BD+C
Managing Director - Kapolei

ROY TAKEMOTO
Managing Director - Hilo

SCOTT MURAKAMI, ASLA, LEED*AP
Associate

DACHENG DONG, LEED*AP
Associate

MARC SHIMATSU, ASLA
Associate

MICHAEL SHIBATA, AICP
Associate

CATIE CULLISON, AICP
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
Tel: (808) 521-5631
Fax: (808) 535-3163

HILO OFFICE
1719 Haleloke Street
Hilo, Hawai'i 96720-1553
Tel/Cel: (808) 315-6878

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November 28, 2012

State of Hawai'i
Department of Labor and Industrial Relations
Mr. Dwight Takamine
830 Punchbowl Street
Honolulu, HI 96813

SUBJECT: HALE KULA ELEMENTARY SCHOOL IMPROVEMENTS, DRAFT ENVIRONMENTAL ASSESSMENT (DEA) SCHOFIELD BARRACKS, HAWAI'I, TMK:(1)7-7-001:003

Dear Mr. Takamine:

Thank you for your letter dated September 11, 2012. We acknowledge that the Department of Labor and Industrial Relations has no comments at this time and does not foresee any impact to existing or proposed programs.

Thank you again for your participation. If you have any questions, do not hesitate to contact me at 521-5631.

Sincerely,
PBR HAWAII

Catie Cullison, AICP
Associate

Copy:
Kanako Suzuki, Project Manager, Design Partners Inc.-via email
Dale Kanehisa-Lam, USAG-HI, Directorate of Public Works-via email
Robert S. Antonio, P.E., USAG-HI, Directorate of Public Works, Planning Division-via email
Brenda Lowrey, State of Hawai'i, Department of Education, Planning Section-via email

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Appendix B
Archaeological Assessment

SCS Project Number 1294-AA-1

AN ARCHAEOLOGICAL ASSESSMENT OF HALE KULA ELEMENTARY SCHOOL CAMPUS IMPROVEMENTS SCHOFIELD BARRACKS MILITARY RESERVATION WAI`ANAE UKA AHUPUA`A, WAHIAWĀ DISTRICT ISLAND OF O`AHU [TMK (1) 7-7-001:003]

Prepared by:
Cathleen A. Dagher, B.A.
and
Robert L. Spear, Ph.D.

October 2012
DRAFT

Prepared for:
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai`i 96707

SCIENTIFIC CONSULTANT SERVICES Inc.

711 Kapiolani Blvd. Suite 975 Honolulu, Hawai`i 96813

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ABSTRACT

At the request of, PBR Hawaii & Associates, Inc., Scientific Consultant Services, Inc. conducted an Archaeological Assessment (Archaeological Inventory Survey with negative findings) of the Hale Kula Elementary School campus project area. The 10.666 acre project area is situated on land owned by the State of Hawai`i (Department of Public Instruction) surrounded by the Schofield Barracks Military Reservation, Wai`anae Uka Ahupua`a, Wahiawā District, Island of O`ahu [TMK: (1) 7-7-001:003]. The purpose of the Archaeological Assessment was to conduct pedestrian survey of the 10.666 acre project area in order to determine the presence/absence of archaeological sites greater than 50 years old.

Hale Kula Elementary School has been selected for upgrades to improve conditions and capacity issues. The proposed improvements to Hale Kula Elementary School will include renovations to 10 existing 4-classroom buildings; additions to 2 existing buildings; and the construction of 1 new two-story classroom building. The proposed improvements also include the demolition of the existing library and Administration Building and the construction of a new Library/Media Tech Center; a new Student Support Center; a new covered Playcourt, and a new covered dining canopy. At the request of the U.S. Army Garrison, Hawaii, Cultural Resources Manager, archaeological inspection was conducted during geological borings in an attempt to locate intact former A and B Horizons. Subsequently, limited subsurface testing of building footprints for the new covered playcourt, library/Student Support Center building, and a larger classroom revealed the presence of modern construction materials such as corroded ferrous metal nails, concrete fragments, and basalt gravel. These construction materials were interpreted as associated with various construction activities that occurred over the years at Hale Kula Elementary School.

No new sites were identified during the Archaeological Inventory Survey. Thus, the Archaeological Inventory Survey has been completed. No further archaeological work is recommended for the proposed undertaking.

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INTRODUCTION

At the request of PBR Hawaii & Associates, Inc., Scientific Consultant Services, Inc. conducted an Archaeological Assessment (Archaeological Inventory Survey with negative findings) of the 10.666 acre Hale Kula Elementary School campus project area which is located on State of Hawai`i (Department of Public Instruction) owned land surrounded by the Schofield Barracks Military Reservation, Wai`anae Uka Ahupua`a, Wahiawā District, Island of O`ahu [TMK: (1) 7-7-001:003] (Figures 1 and 2). The purpose of the Archaeological Assessment, which was carried out carried out in accordance with the provisions of Section 106, of the National Historic Preservation Act of 1966 (NHPA); the Antiquities Act of 1906; the Archaeological Resources Protection Act (ARPA); and ARPA implementing regulations (32 CFR Part 229), was to identify and document all archaeological historic properties greater than 50 years old within the project area and to gather sufficient information to evaluate the significance of each historic property in accordance criteria established for the Hawai`i State Register of Historic Places (HAR§13-275-6).

The Hale Kula Elementary School, which was constructed between 1958 and 1959, has been selected for upgrades to improve conditions and capacity issues. The proposed improvements to Hale Kula Elementary School will include renovations to 10 existing 4-classroom buildings; additions to 2 existing buildings; and the construction of a new two-story classroom building. The proposed improvements include the demolition of the existing library and Administration Building and the construction of a new Library/Media Tech Center; a new Student Support Center; a new covered Playcourt. In addition, the site improvements will include improvements to the existing drainage system around the buildings, storm water surface drainage and storm water management; minor grading; infrastructure and utility upgrades.

ENVIRONMENTAL SETTING

The project area consists of a developed property containing an existing elementary school (Hale Kula Elementary School). Hale Kula Elementary School is located within the eastern portion of the Schofield Barracks Military Reservation. is situated in the interior of the south-central portion of the island of O`ahu and positioned on the slopes of the Schofield Plateau, "…which was formed by the lavas from the Koolau Range banking against the older Waianae Range" (Armstrong 1980:12; Stearns 1966:79). The project area is located approximately 1609 m (1.0 miles) northwest of the North Fork of Kaukonahua Stream, north of an unnamed stream, and approximately 26,000 m (16 miles) northwest of the Pearl Harbor and is

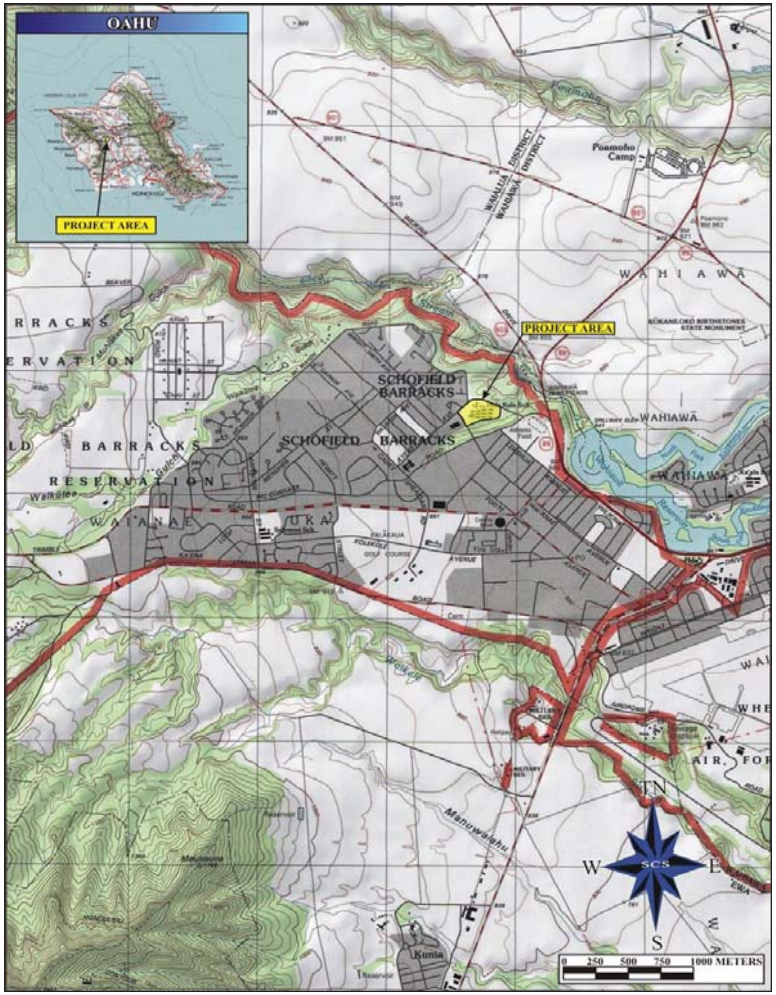

Figure 1: USGS Quadrangle (Schofield, 1998) Map Showing Location of Project Area.

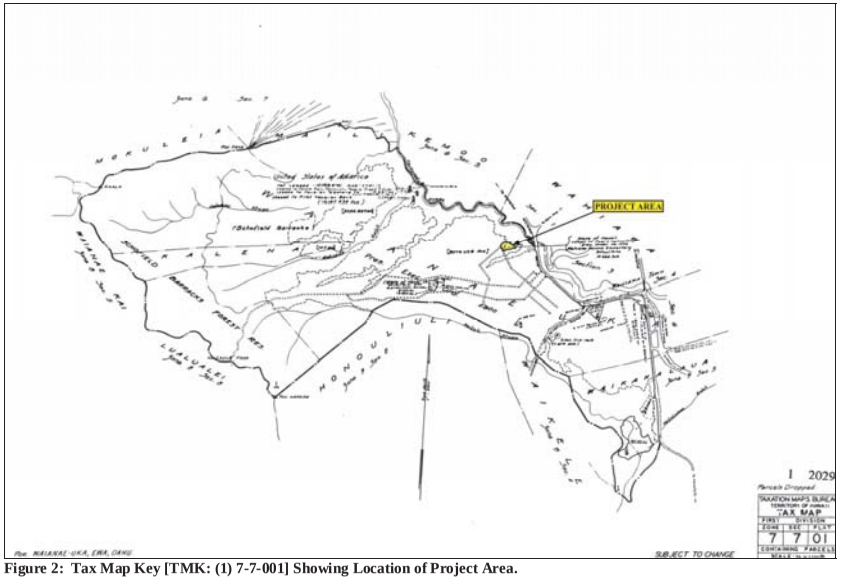

Figure 2: Tax Map Key [TMK: (1) 7-7-001] Showing Location of Project Area.

situated at approximately 800 to 900 feet above mean sea level (amsl). Temperatures in the project area can range from as low as the mid-40s during the winter months to as high as the low 90s during the summer (Armstrong 1980:58). During the summer months the project area is quite dry, primarily during the months of June and July, while the winter months can bring as much approximately 15 to 25 inches of rainfall annually (*ibid*:56).

SOILS

According to Foote *et al.* (1972: Sheet Map 40), soils within the project area are comprised of the Kunia Soil Series, specifically Kunia silty clay (KyA). Kunia Soils, derived from alluvium, are known to occur within the foothills of the Wai`anae Mountain Range in the Schofield Barracks area on the Island of O`ahu (*ibid*: 77). The well-drained KyA soils occur on 0 to 3 percent slopes and exhibit moderate permeability, slow runoff, and very slight erosion hazard. The KyA soils are utilized for the commercial production of sugarcane, pineapple, residential areas, and military installations (*ibid*: 88).

TRADITIONAL AND HISTORICAL SETTING

POLITICAL BOUNDARIES - PAST AND PRESENT

As a single land division, the *ahupua`a* of Wai`anae was unusual in that it crossed over the entire Wai`anae Mountain Range, the inland plateau of O`ahu and a third mountain slope on the leeward side of the Ko`olau Mountain Range. The historic era boundaries separating Wai`anae Kai and Wai`anae Uka are delineated at the summits of the central Wai`anae range. At least two significant landforms occur at the summit boundary: Mount Ka`ala, the highest peak on O`ahu, and Kolekole Pass, a prominent dip in the Wai`anae mountain range. Kolekole Pass provided an accessible, lowland passage between Wai`anae Kai and Wai`anae Uka. The fission of various Hawaiian *ahupua`a*, such as Wai`anae Uka and Wai`anae Kai, were a common occurrence during pre-Contact (pre-1778) times and especially in the historic times (Cordy 1994:17).

The separation of the Wai`anae Ahupua`a into two portions may have transpired during historic times as a result of land subdivisions during the Māhele (ca. 1840s). Some *ahupua`a* may have been subdivided during this time so that land could be allocated to a number of chiefs or *konohiki* or for the sole purpose of public sale (ibid.). Wai`anae Uka Ahupua`a and Wahiawa Ahupua`a, located to the north, are within the present day District of Wahiawa, while Wai`anae-Kai and several other leeward *ahupua`a* are part of the Wai`anae District. Similar to the fission

of *ahupua`a*, island districts were also subdivided or new ones became developed, mainly for political reasons or matters of convenience (Coulter 1935:214).

In accordance to Act 84 of the Session Laws of 1909, the districts of 'Ewa and Wai`anae were created [in 1859 both district areas were in the 'Ewa District (*ibid*: 216)] and Wai`anae Uka Ahupua`a was placed in the Waialua District (*ibid*: 220). The year 1909 was also when Schofield Barracks Military Reservation began to be constructed (Pukui *et al.* 1974:210). In 1913 a new district named Wahiawa was created to include the *ahupua`a* of Wahiawa and Wai`anae Uka (Coulter 1935:221).

PRE-CONTACT (PRE-1778 A.D.)

Traditional and historical accounts portray the central plateau of O`ahu as being an important birthplace and population center for the Hawaiian chiefs (*ali`i*).

SACRED PLACES

The birth place of Kukaniloko is located on the north side of Kaukonahua Stream in present day Wahiawa Ahupua`a, or what was once within Kamananui Ahupua`a, in the District of Waialua (Kirch and Sahlins 1992, Vol.1:19). Kukaniloko is said to have represented one of two famous *ali`i* birth places in Hawai'i, with Holoholoku on Kaua`i being the other (Kamakau 1992:38). Kukaniloko was originally established as a birth place by the chief Nanakaoko and his wife Kahihiokalani for the birth of their son Kapawa (Fornander 1980:20), which based on genealogical lines, may have transpired during the 1300s (Yent 1995). The royal lineage of Nanakaoko was appropriated by his father, who represented one of several families initially settling the Hawaiian islands from southern origins (Fornander 1919, Vol.6:247). This family consisted of three main branches named Nanakaoko, Nanakulei, and Nanamaoa, all of whom lived in central O`ahu at Wahiawa and Lihue (*ibid*).

Since the creation of Kukaniloko as an important *ali`i* birthplace, the *ali`i* subsequently born there were considered "born in the purple" and they "enjoyed the distinction, privileges, and tabus which that fact conferred" (*ibid*). These chiefs were also regarded as the *akua* of the land as well as *ali`i kapu* (Kamakau 1992:53). Some of the many distinguished *ali`i* born at the birth place includes the chiefess Kukaniloko, a high chiefess of O`ahu for whom the stone is named (Fornander 1980:Vol.11:20), her daughter Kalai-manuia, and the "wise, firm, and judicious chief' of O`ahu, Ma`ili-kukahi (*ibid*:89), among many others. The *ali`i mo `i* Ma`ili-kukahi was known as a benevolent chief whose *kulanakauhale* or "village" (Pukui and Elbert 1981:165) included the land between Oahunui and Halahape in Waialua (Kamakau 1991:55). He was considered to

be a "religious chief" who refused to conduct human sacrifices; such was "the way of Kukaniloko chiefs" (*ibid*).

The significance of Kukaniloko as a birthplace for *ali`i* was perpetuated into early historic times. According to Kamakau, Kamehameha I brought Keopuolani to Kukaniloko to give birth to their son Liholiho. However, Keopuolani left Kukaniloko without giving birth (Kamakau 1991:38). A slightly different story is accounted by Fornander (1969: Vol.2:21) in which he states that Keopuolani was not able to go to Kukaniloko because she was too ill.

After the birth of an *ali`i*, the child was taken into the *waihau heiau*, Ho`olonopahu, located "a furlong and a half" to the south of Kukaniloko (Kamakau 1991:38). With the help of 48 chiefs, the navel cord of the child was cut in the *heiau*. The birth of an *ali`i* was announced by beating the sacred drum Hawea, located to the west of Kukaniloko (*ibid*). Kukaniloko was also considered a *pu `uhonua*, or place of refuge, where a person could be saved after committing murder (I'i 1959:138).

Mount Ka`ala, located on the *mauka* boundary of Wai`anae Uka, is also accounted for in Hawaiian myth as being close to the home of the goddess Kaiona. Kaiona was known as the "lady of sunshine" and, according to Mrs. Mary Kawena Pukui; the goddess was kind and never harmed anyone (Pukui in Sterling and Summers 1978:133). A pond at the top of Mount Ka`ala is believed to have been guarded by the *mo`o* Kamaoha (McAllister 1933:133).

The place name Lihu'e, translated as "cold chill" (Pukui *et al.* 1974:132), was regarded as once being the home of a mythical figure named Kaupe. Kaupe was a legendary "cannibal dog-man" who was notorious for overthrowing the government of Ka-hanai-a-keakua (reared by gods) and ruled the land from Nu`uanu" (Beckwith 1970:345). Kaupe ate people from O`ahu and Maui but never attacked high chiefs. He was finally killed by a Hawai`i chief who had learned the prayer for killing an enemy (*ibid*).

The Kolekole Stone is located just above the pass and it was the only site recorded by McAllister (1933) that the Bishop Museum was able to relocate during their late 1970s survey (Rosendahl 1977: vol. 2:35). The Kolekole Stone was known as a place where students of warfare would practice *lua* fighting (Stokes in Sterling and Summers 1974:135). *Lua* was a fighting technique that included bone breaking, dislocating joints, and provoking pain by pressing on nerve centers (Pukui and Elbert 1981:213). Stokes asserts that the *lua* students would wait for passing victims to practice their combat techniques on the "plains of Leilehua"

(*ibid*). Leilehua was a historic-era name of the western plains of the central plateau of O`ahu, which included Wai`anae Uka (Tomanari-Tuggle 1994:14).

The Kolekole Stone is said to represent the female guardian of the pass named Kolekole (McAllister 1933:134). The actual stone contains ribbed depressions on its sides which may have formed a drainage of sorts ascending from a basin in the top of the stone (*ibid*:14). McAllister discredits a story that the stone was used as a platform for decapitating people, as he believed that such a story was started as a joke (*ibid*).

POPULATION CENTERS

Wahiawa, Halemano, and Lihu`e are mentioned by Kamakau as being chiefly settlements on the central plateau associated with the *loa li`i* (Kamakau 1991:40). These chiefs were considered to be gods that resembled men and they were classified as such because they "lived there continually and guarded their *kapu* (from whom a 'guaranteed' chief might be obtained, *loa`a*)" (*ibid*). Other chiefly settlements, including Oahunui and Kukaniloko, are also mentioned in legends and historical accounts.

Wahiawa, a traditionally named population center (Kamakau 1991:40) and historic *ahupua`a* that borders the Schofield Barracks Military Reservation (SBMR), is literally translated as "place of noise" apparently because rough seas could be heard there (Pukui *et al*. 1974:218). The suggested origin of these rough seas is along the Waialua coast, as is described in the legend of Hi`iaka's journey when she crosses over the region. In a portion of a chant translated in Henry *et al*. (1992:4), Hi`iaka hears the noise of the waves in Wahiawa:

> At Waialua is the great voiced ocean
> Heard to the uplands of Lihu`e,
> Rumbling atop Wahiawa,
> Deafening is the voice of the sea,
> It is a deafening voice,
> Indeed the ocean has a voice

The settlement of Halemano, also referred to as Helemano on United States Geological Survey Topographic maps or Halemanu (McAllister 1933:137), was at one time associated with a cannibalistic chief known as 'Aikanaka ("man eater"), Kalo`aikanaka, Kalo, or Keali`i`aikanaka (*ibid*). `Aikanaka's people lived in the area of "Halemanu" in Pa`ala`a, not far from `Aikanaka's house and ceremonial feasting grounds where human flesh was cooked and eaten (McAllister 1933:137, Beckwith 1970:340-341). `Aikanaka's people "were darker than the Hawaiians, with a different speech and no tapu laws" (Beckwith 1970:341). Some suggested that `Aikanaka's

people were foreigners who came from the "South Seas" and after being driven out of Kaua`i, and then Mokule`ia and Waialua, they settled in the upper lands of Helemanu (*ibid*:342; McAllister 1933:138; and Sterling and Summers 1978:111). Beckwith (1970:341) attributes a narrow ridge near Kukaniloko as being a place where "the last cannibals of Oahu took their stand and seized upon victims for their cannibal feasts."

A settlement referred to as Oahunui was apparently named for the chief Oahunui who once resided there. The settlement of Oahunui was located in proximity to the legendary Oahunui Stone, which may have been near the east fork of Kaukonahua Stream or along the nearby Waiakakalaua Stream to the south of Wai`anae Uka. The Oahunui Stone allegedly embodies the chief Oahunui at the place where he was murdered. The chief Oahunui was known to have been a friend and contemporary of the cannibalistic chief `Aikanaka, from whom he acquired a taste for human flesh (Sterling and Summers 1978:111). According to legend, Oahunui was killed after he arranged his brother-in-law, Lehuanui, to be absent from the village while he ate Lehuanui's two chiefly sons. Upon returning to Oahunui and discovering the deaths of his sons, Lehuanui killed Oahunui, Oahunui's wife (for allowing the murders), and any servants who complied with the killing of his sons. It is believed that each of these individuals turned to stone along the banks of Kaukonahua or Waiakakalaua Stream. In the 1890s, people from Honolulu would ride out to Oahunui and walk around the stone (McAllister 1933:132). Thus, it was contended that "no one could say that he had been entirely around the island of Oahu unless he had been around this stone" (*ibid*).

A settlement referenced as Lihu`e was inhabited by a long line of chiefs, According to Fornander (1969 Vol.2-85), the inland location of Lihu`e was too remote and distant from the sea for the chiefess Kelea, the Maui wife of the chief Lo-Lale:

> For several years Kelea lived with Lo-Lale at Lihue, and bore him three children...but the inland situation of Lihue, at the foot of the Ka`ala mountains, and far from the sea, became wearisome and monotonous to the gay and volatile temper of Kelea (*ibid*)

The actual location of Lihu`e on the central plateau of O`ahu differs among various historic accounts, Fornander describes Lihu`e as being on the "uplands of the Wai`anae side of Wahiawa" and that it included "Kalena on the plains of Haleauau" (in Sterling and Summers 1978:136). An 1850s land survey similarly refers to the *'ili* of Kalena as being in the district of Lihu`e (Department of Interior, Document 255). In contrast, other accounts given in Sterling and Summers (1978) describe Lihu'e as being in 'Ewa just south of Maunaauna and the place name Lihu`e is labeled as an *`ili* south of Maunaauna on an 1881 Hawaiian Government Survey map.

An "ancient Kahua Maika" *(ulu maika* field) once existed at a place called Kokoloea, Lihu`e, where Kuali`i was victorious. The `Ewa chiefs however, made another effort to retrieve their fortunes, and fought a second battle with Kuali`i at Malamanui and Paupauwela, in which they were worsted and the authority of Kuali`i as *Mō`ī* (monarch) of O`ahu finally secured and acknowledged. Kuali`i and his warriors battled against the chiefly factions of `Ewa and Waialua sometime during the middle to late 1600s (Tomonari-Tuggle 1994:13).

Later in prehistory another famous battle between the Maui chiefdom under Kahekili and the Oahu chiefdom under Kahahana occurred in the Wai`anae Mountain Range, and at one point in
proximity to Kolekole Pass on the western boundary of Wai`anae Uka. Under the direction of Kahekili's warrior Kahahawai, a battle at Niuhelewai was fought between the two factions and afterwards both forces retreated to the mountains of Wai`anae. That evening a crafty battle plan was ordered by Kahahawai, which lead to a successful defeat of the O`ahu forces:

> They were well supplied with war implements and other things necessary for the destruction of their enemies. So Kahahawai told them to prepare torches. When these were ready they went one evening to the top of a hill which was near to the rendezvous of the enemies where they lighted their torches.
> After the torches were lit they moved away to a cliff called Kolekole and hid themselves there, leaving their torches burning at the former place until they [the torches] died out. The enemies thought that Kahahawai and his men had gone off to sleep. They therefore made a raid on the men of Kahahawai. But Kahahawai and his men arose and destroyed all the people who were asleep on the hills and the mountains of Kaala. Thus, the enemies were annihilated, none escaping. Those who raided the torch encampment were captured, there being no avenue for escape from death and destruction by Kahahawai and his men." (Sterling and Summers 1978:135).

SUBSISTENCE RESOURCES

E.S. Craighill Handy and Elizabeth G. Handy (1972) characterize the central plateau of O`ahu as extraordinary because it represents the most level landscape on the island at such a high elevation (*ibid*:465). As is evidenced by an abundance of *lo`i* or irrigated taro fields "northwest of the present town of Wahiawa," Handy and Handy contend that the Wahiawa region once had a sizable population (*ibid*:*464*). Sweet potato and yams were also cultivated in the general region, with Wahiawa being known as one of only a few known irrigated sweet potato fields (*ibid*). Although there was some taro cultivated in the valleys of Wai`anae Uka, sweet potato, grown on *kula* lands, is claimed by Handy (1940:75) as being the main vegetable crop in the *ahupua`a.* Handy and Handy (1972:465) also speculate that Wai`anae Uka residents probably received most

of their fish from Wai`anae Kai which was well known for its deep-sea fishery. Freshwater fish were obtained from the streams bisecting the central plateau, as is suggested by a historic reference to a "fishing place" at a locality called Paka (Tomonari-Tuggle 1994:11).

A local informant, Hookala, remembered the presently existing swamp at the top of Mount Ka`ala as being a fish pond, which McAllister called Luakini Fish Pond (McAllister 1933: 133). Hookala mentioned that his father used to obtain fish from the pond at Ka`ala, and back then it was stocked with shore fish, *hinalea, wuwoa,* a kind of mullet and others (*ibid*).

TRANSPORTATION ROUTES

John Papa I`i (1959) described at least four trail sections that crossed through different portions of Wai`anae Uka. Although I`i observes that these trails were in use during the historic period, it is likely that some were used during the pre-Contact period. The main travel route in central O`ahu extended in a roughly north-south direction between the north and south shores of O`ahu.

Two additional trails in Wai`anae Uka (or close by) extended to the east and west of the main trail. One of these spur trails connected to the place name Oahunui (*ibid*:99) which was located somewhere near the south fork of the Kaukonahua Stream or nearby Waikakalaua Stream, in proximity to the legendary Oahunui Stone. The trail to Oahunui was probably the same travel route used during the 1890s by people from Honolulu who would ride out to Oahunui and walk around the stone (McAllister 1933:132). The other trail that extended to the west of the main trail is said to have begun at Kukaniloko from which point it crossed through Wai`anae Uka and ascended over Kolekole Pass (I'i 1959:96-97).

John Papa I`i (*ibid*) tells of a "long cliff trail called Elou" that passed over Mount Ka`ala to eastern Wai`anae from Kaukonahua Gulch. The Elou Cliff trail was described as running through Hale`au`au and Kalena in Wai`anae Uka (*ibid*).

POST-CONTACT PERIOD (POST-1778)

Following the first western contact to Hawai'i (*ca.* 1778), the onslaught of foreigners to the Hawaiian Islands brought a series of transformations to the natural and cultural landscapes throughout the island chain.

Victualing to the foreign shippers necessitated an increase in surplus of traditional crops (taro, sweet potato, and bananas) and the introduction of new western crops (Cuddihy and Stone 1990:37), such as Irish potato, cabbage, watermelon, and squash.

The establishment of mission stations in Waialua, Wai`anae and `Ewa resulted in improved roadways, such as the traditional route across the central plateau and across Kolekole Pass. In 1837 Reverend Emerson, pastor of the Waialua mission station, reported that the traditional Kolekole Pass trail was converted to a more traversable horse trail:

> During the year past, a number of patches of road have been made, which considerably facilitate our access to some remote parts of the station and to Waianae. The pali between Waialua and Waianae, which formerly rendered the latter place inaccessible from Waialua except on foot, has been so improved that a horse can be rode up and down without difficulty (Emerson 1837: Missionary Letters).

The over-harvesting of sandalwood and the taking of other timber for whaling ships to "fuel the boilers that rendered whale blubber into oil" (Cuddihy and Stone 1990:38) resulted in the destruction of many native trees. The central plateau of O`ahu was often exploited for its sandalwood by the O`ahu chiefs, commonly to satisfy debts to the King (Kamakau 1992:251-252). Wahiawa in particular was famous for its large sandalwood trees (*ibid*:207). The virtual devastation of most of the sandalwood forest was swiftly facilitated when the trees became more rare and the method of locating them was to burn the forest and identify a tree by the burning fragrance of sandalwood (Bishop in Tomonari-Tuggle 1994:17).

Foreign diseases probably had the most adverse effect on the native Hawaiian population. Reverend Artemis Bishop (1849: Missionary Letters) described a measles epidemic that devastated the Wai`anae and `Ewa native communities between 1848 and 1849:

> The past has been a year of trials and sorrows among my people in passing through scenes of sickness and death, beyond what I had ever witnessed... how strikingly their former athletic frames and warlike habits contrast with their present enfeebled and effeminate bodies.
>
> Middle of October the measles broke out and spread like wildfire...burning the dead was the great work, all other occupations were suspended and people staggered about like walking corpses.

LAND TENURE

Another conspicuous effect of the ever-growing influence of foreigners in Hawai'i was the systematic division of lands, called by some the "Māhele," or "great division." The Land Commission oversaw land divisions of three groups, Crown Lands (for the King), Konohiki Lands and Government Lands, all of which were "subject to the rights of native tenants" (Chinen

1958). With the exception of the *`ili* of Kalena, the *ahupua`a* of Wai`anae Uka was designated as Crown Lands and no *kuleana* were claimed.

Kalena 'Ili was a narrow tract of land (approximately 533 acres) that extended from near the 1000-foot elevation to the steep mountain peaks of the Wai`anae Range. At an unknown date, prior to Pahoa's death (ca.1848), half of Kalena `Ili (266.3 acres) was granted to him as Land Commission Award No. 16 (Records of the Board of Commissioners to Quiet and Titles). The remaining half of Kalena `Ili was granted to John Meek (Landrum *et al.* 1994:30).

In 1851 Pahoa's half of Ka`ena was conveyed to Rev. Artemis Bishop as Land Grant No. 527. In addition to being pastor of the 'Ewa and Wai`anae mission stations, Rev. Bishop participated in many "surveying expeditions," which he emphasizes was done primarily for exercise (Bishop 1851: Missionary Letters). Bishop's survey data of Kalena, consisting of boundary descriptions and a corresponding sketch map, provides a hint that traditional practices were maintained in Kalena during this period; he wrote:

> I can devise no method to divide the land without spoiling its value. The lower part is a ravine and contains taro patches for 4 or 5 families. The Upper part is stony and mountainous and is only fit for pasture (Department of the Interior Document 255).

Bishop's sketch map denotes the locations of at least six houses. These were likely inhabited by the 4 or 5 families whom the taro patches belonged to (*ibid*). Interestingly, Rev. Bishop writes in his survey notes that the *`ili* of Kalena was in the "District of Lihue, Wai`anae, Oahu," again suggesting that the traditional place name of Lihu`e probably included the western lands of Wai`anae Uka. It is suggested that an additional district named Lihu`e may have existed among the central plateau of Oahu.

On June 9 of 1851, the Rev. Bishop and his wife sold the property to John Meek (Bureau of Land Conveyances, Book 17: 148), whom later acquired the entirety of Wai`anae Uka for ranch lands. As Crown Land, the remaining land of Wai`anae Uka was leased to various foreign entrepreneurs, who were in one way or another involved with cattle ranching on the central plateau of O`ahu between the years 1875 and 1887, and the initial purchase of Wai`anae Uka in 1889 by J.I. Dowsett.

Prior to its being leased, sometime during the reign of Kamehameha IV (1855- I863), the *ahupua`a* of Wai`anae Uka was reportedly given by the King to a lawyer and legislator named Mahoe (Tomonari-Tuggle 1994:22). No records exist that confirm this land allocation. However,

it is said that Mahoe's claim to Wai`anae Uka "was later lost during the overthrow of the monarchy" (*ibid*). Nedbalek (1984) suggests that Kaliikaua wanted Wai`anae Uka for his own and in exchange, he gave Mahoe a land plot in Honolulu. According to a 1900-1901 Waialua Agricultural Co. map and grant records (on microfilm in the State Division of Land Management, DLNR), the area currently considered to be a northern section of western Wai`anae Uka, between the prominent Pu'u Pane ridge and north boundary of Wai`anae Uka, was subdivided into 9 grants referred to as the Maile Grants. Tomonari-Tuggle (1994:20) compiled a summary of these leaseholds:

WAIANAE UKA LEASEHOLDS:

1875 - May I

• 10-year lease for the lands of Wai`anae Uka and Pouhala Uka (except for timber trees) to the heirs of John Meek, who died on January 20, 1875 and James Dowsett; lease was $500.00 per year (Liber. 43 p. 97-101).

1879 - February 1

• The Meeks transferred their lease to James I. Dowsett; on the same day, Dowsett surrendered the lease to the Crown Lands Estate (Liber. 70, p. 424).

1882 - January 14

• Crown Lands Estate awarded a 30-year lease (at $500/year) to Hervey E. Whitney for the lands of Wai`anae Uka, Waikakalaua, and Pouhala (Brown 1886) "as by survey by W.D. Alexander in Crown Land Book of Survey, pages 160, 161, 162. Except the timber trees and all young trees fit and proper to be raised and preserved for timber trees**".**

• On the same day, Whitney sold 1/3 of the lease to Kalakaua and 1/3 to C.H. Judd for 1.00; the lease included Nanakuli and Aiea (Liber. 76, p. 140) and Whitney and Judd sold 2,000 head of cattle called the "Meek herd" to Alexander J. Cartwright and George Galbraith for $30,000; it also appears that Whitney assigned his lease to Cartwright and Galbraith (Liber. 70, p. 428).

1887 - November 21

• Kaliikaua transferred a deed to trustees of his estate, C.H. Judd, S.M. Damon, C.P. Iaukea, and A.J. Cartwright (Liber. 105, p. 268).

1889 - March 12

• Leilehua Ranch sold at auction to James I. Dowsett for $41,500; the ranch included 20,000 acres stretching from 'Ewa to about 5 or 6 miles south of Waialua, 3,000 head of cattle and other stock; was owned by Kalakaua and C.H. Judd (p.C. Advertiser 1889).

1889 - March 21

• Deed formally transferred to J.1. Dowsett; it included Kalauao Ewa, Nanakuli, Wai`anae Uka, Pouhala, Waikakalaua, Ke`elikolani taro patches at Waiawa, Kalena at Wai`anae, Aiea, as well as 2,500 to 3,000 head of cattle, 23 work horses, colts, and two

mules, three ox carts and yokes, and "all that property known as Leilehua Ranch", including among other things, all "cattle branded with a crown" (Liber. 112, p. 401.).

The boundaries of the nine grants extended on their *mauka* ends from a common point on Pu'u Pane (at a "Koa tree") and terminated at their widest points along the northwest side of Hale`au`au Stream or Kaukonahua Stream to the north. These grants were acquired between 1851 and 1853, and all but one of the grants (Grant 629, purchased by Mark Ivers) was associated with Hawaiian names (Index of Grants 1916). An 1881 survey map shows the location of a dairy on the opposite (southeast) side of Iver's grant land, thus suggesting that Ivers was affiliated with cattle ranching. All nine grants were clearly designed to incorporate the water resources of Hale' au' au or Kaukonahua Stream into the widest portions of each parcel.

In 1846 the east half of Waikakalaua, an 836-acre land parcel south of the present Wai`anae Uka boundaries, was conveyed to John L. Gilman (Grant 6) for the price of $1.00 (on microfilm in the State Division of Land Management, DLNR). The west half of Waikakalaua was retained as Crown Lands. A metes and bounds map of Grant 6 identifies the land immediately east of the grant, and within Wai`anae Uka, as Oahunui. A "rock at Oahunui" is shown as a boundary marker at the northeast comer of the grant.

RANCHING (CA. 1840 TO 1928)

John Meek, one of the earliest lease holders of Wai`anae Uka, was a well-known ship captain and Honolulu harbor master (*ibid*:19). He was also a prominent O`ahu cattle rancher. The success of Meek's ranching endeavors on the central plateau of O`ahu is elaborated in the later 1922 account:

> The days are recalled, also, when Captain Meek controlled Lihue and Wahiawa on Oahu under lease from the government. He raised thoroughbred horses, and his daughters rode the finest in the island. The Meek animals were known all over the group, especially his white horse which he called "Pu-a". His oldest daughter, Eliza, was often seen riding the horse through the streets of Honolulu garbed in a wonderful pa-u with a dozen or more followers wearing the same color of fluttering skirt garment (Taylor 1922:223 in Tomonari-Tuggle 1994: 19).

An 1881 Government Survey map shows a house labeled as "Crabbe" near Kokoloea at them center of Wai`anae Uka. This was probably a ranch house once occupied by Horatio Crabbe and his wife Elizabeth Meeks Crabbe, the daughter of John Meeks. Horatio Crabbe was also the executer of John Meek's will (*ibid*: 22). This same house was considered to be the "old Dowsett ranch house" by Alika Dowsett, the son of James Dowsett (Meek's lease partner of the

land). Wai`anae Uka was part of the Meek and/or Dowsett Ranch until 1879, at which time both families relinquished the lease back to Crown Lands (*ibid*).

Kalakaua apparently named the Wai`anae Uka ranch lands "Leilehua" and in 1882, this land was the two-thirds portion of the land leased to Kalakaua and C. H. Judd (Tomonari-Tuggle 1994:20). Kalakaua and Judd built a hunting lodge in Wai`anae Uka as a retreat, where they were known to have entertained other people of influence (Nedbalek 1984: 13). This lodge was named "Malamanui" by Kalakaua and is said to have been located where the former Schofield Golf Course was located.

Malamanui is also mentioned by Papa I`i (1959:97) as being a place that the Kolekole trail passed through. In an effort to payoff some large national debts accumulated by Kalakaua as a result of his extravagant lifestyle, Leilehua Ranch was sold to the original lease holder, James I. Dowsett, and maintained as a ranch up into the early 1900s (Tomonari-Tuggle 1994:20).

During the late 1800s, when much of Wai`anae Uka was part of the Meek Dowsett`s ranch lands, the 1878 government census indicated that 19 households still existed there, including 54 males and 41 females. All but 12 of the 96 residents were reported to be of Hawaiian ethnicity, and all but two of the names were Hawaiian names (*ibid*: 24). An 1886 photograph of what appears to be Waiele Stream gulch is evidence that irrigated taro *(lo`i*) was still being cultivated in Wai`anae Uka during the late 19th century. This photograph also shows the presence of a humble residence next to the taro fields.

A 1911 "Map of Taro and Watered Lands in the Kaukonahua Gulch" (Gomes 1911) shows the locations of several, presumably 18th century historic house sites, an area of graves, and a multitude of taro lands along the banks of Kaukonahua Stream west of the Wahiawa Dam. One of these house sites appears to have been located within the present day SBMR, at the confluence of Mohiakea and Kaukonahua stream gulches. The area of graves indicated on the map seems to lie roughly north of the present day Wright-Smith Avenue in Schofield Barracks.

MILITARY OCCUPATION (1899 THROUGH PRESENT)

In 1899 Wai`anae Uka was formally set aside by the U.S. government as a military reservation. However, it was not until 1909 that temporary and permanent barracks were constructed on the western central plains of Wai`anae Uka and occupied by army personnel. Most of the buildings and training infrastructure initially planned for Schofield Barracks were completed during the early 1920s, after World War 1. At the beginning of World War II,

Schofield Barracks offered the only major training area in the Hawaiian islands. The military base was also targeted during the infamous Japanese attack on O`ahu on December 7, 1941. Presently, the land of Wai`anae Uka is completely under U.S. military jurisdiction. The lower portion of Wai`anae Uka west of Wilikina Drive is encompassed by the Schofield Barrack's residential and operational facilities. Three training ranges *(i.e.,* Impact Area, South Range and East Range) and forest reserve land comprise the remaining portion of Wai`anae Uka.

Patricia Alvarez in *A History of Schofield Barracks Military Reservation* (1982) provides a detailed account of the history and modern events associated with the U.S. military occupation of Wai`anae Uka. The historical sequence of military use of Wai`anae Uka *(ca.* 1909-1946) began in the year 1899 when Wai`anae Uka (with the exception of Kalena `Ili) (*ibid*: 9*)* was set aside as a United States military reservation (Executive Order G. O. 147). The initial intent was that the reserve be a place for soldiers to recuperate after fighting in the Philippines (O'Hare *et al.* 1993: A-7).

The location of Wai`anae Uka was also considered to be advantageous as the "base for Oahu's mobile defense troops because of its strategic central location on the island" (Tomonari-Tuggle 1994:25). Despite the 1907 request of the Hawaiian Governor Walter Frear to reserve Wai`anae Uka for homesteading (Alvarez 1982:21), the U.S. military first occupied the central plains of Wai`anae Uka in 1909. The pioneer group, consisting of 473 men from the 5th Cavalry Regiment, was housed in temporary and permanent structures (Tomonari-Tuggle 1994:27) in the southeast comer of modern day Schofield Barracks.

Schofield Barracks was originally called Castner Village, named after Captain Castner who initiated the construction of the barracks and associated structures (Alvarez 1982:25). In April 1909, the military settlement was formally named Schofield Barracks, in honor of a former Commanding General of the U.S. Army, Lt. General John M. Schofield. According to a 1910 Reservation Map of Schofield Barracks, a network of Oahu Sugar Co. ditches and associated tunnels extended across the Wai`anae side of the reservation between Waiele Stream (near a cantonment), and Hale`au`au, Kalena and Mohiakea streams to the northwest.

By 1916 several new barracks were constructed at Schofield Barracks, each of which were designed to be self-contained units and included kitchen and mess hall facilities, eight squad rooms, and an administration building. The administration building provided housing and office space for the residents, as well as reading and music rooms, and a medical examination

room. The top third floor of each newly constructed barrack housed a large auditorium that had a stage and orchestra pit (*ibid*: 34).

Although a pause in construction occurred during World War I, following the declaration of war in 1917, most of the major building projects initially planned for Schofield were finished in the early 1920s (*ibid*: 42). Such projects included the construction of general officer's bungalows in 1918, the 1919 and 1923 construction of new artillery barracks for the increasing number of artillery troops at Schofield (located away from the infantry and cavalry areas), the 1920 and 1921 construction of new infantry barracks, and the addition of many officer's quarters in association with the infantry and cavalry sections (*ibid*: 43).

During the Japanese attack on O`ahu on December 7, 1941, Schofield Barracks received minimal damage in the form of bullet holes in buildings, such as Carter Hall, Upper Post storage tanks, and building T-1632. The attack gave the Post's 25th Division the distinction of being the first army unit to receive hostile fire in the war. The 25th Division units were responsible for shooting down two fighter planes, one Japanese and one American (*ibid*: 64-65).

At the beginning of World War II Schofield Barracks comprised the only major training area in the Hawaiian islands, which included artillery ranges, small arms firing ranges, and bayonet and obstacle courses (*ibid*: 69). Soon after, larger facilities were constructed to accommodate the newly established Ranger Combat School "whose objective was to toughen the soldier for the jungle's rigors" commonly experienced in the Pacific battleground *(ibid.)*. By the end of World War II (this marked by the Japanese surrender in 1945) the population at Schofield Barracks decreased to just 5,000 individuals (*ibid*: 74).

Currently the Schofield Barracks Military Reservation comprises three active training ranges: the Impact Area, South Range and East Range. The Impact Area, containing approximately 2,800 acres, encompasses the lower slope of the Wai`anae Range west of the main Schofield Barracks housing and administration area. This range is the primary range for live mortar and artillery firing, but is also used for field training of squad and platoon size units, headquarters, elements and service support units. The South Range, just south of the Impact Area, is commonly used for field training of headquarters and service support units. At the time of the 2010 U.S. Census, Schofield Barracks contained a population of 16,370 (United States Census Bureau Website (http://quickfacts.census.gov/qfd/states).

PREVIOUS ARCHAEOLOGICAL RESEARCH

A number of archaeological and science-related studies have been conducted in Wai`anae Uka (McAllister 1933; Griffin and Yent 1977; Rosendahl 1977; O'Hare *et al*. 1993; McIntosh *et al*. 1994a and 1994b; and Tomonari-Tuggle 1994). Sterling and Summers (1978) provide information regarding legendary sites and some of the previously recorded sites in the SBMR.

Archaeological sites were observed in the western portion of Wai`anae Uka by Bishop Museum Zoologist W.A. Bryan in 1901. While on route to Hale`au`au Valley (written as "Hale o o") from a cabin to the south, Bryan observed "as many as perhaps a dozen stone enclosures, which probably were the walls of old dwellings" (Bryan 1901). Bryan describes "Hale o Temple" as being "farther down the valley" from the settlement, below a large enclosure *(ibid.)*. The large enclosure measured 190 ft by 100 ft and had an elevated "square place" in one of its comers (*ibid*). At a vantage point at "Hale 0 Temple," Bryan observed walls "a few hundred yards" down the valley that he hypothesized as being "the house of a thrifty kanaka country gentleman surrounded by his lots and pens" (*ibid*). Further up in this same valley, Bryan observed the "remains of ancient kalo ponds".

The earliest formal archaeological work in the region was done during a 1930 island-wide survey by J. Gilbert McAllister, under the auspices of the Bishop Museum. McAllister (1933) recorded seven sites in Wai`anae Uka. All but one of these sites were located in the western portion of Wai`anae Uka, along the northeast slope of the Wai`anae mountain range.

The sites documented by McAllister (1933 in Sterling and Summers 1978:134-137) consisted of two *heiau*, and a habitation site located near Mohiakea Gulch, the "Kolekole Stone" (Site 214) near Kolekole Pass, Kumakalii Heiau (Site 213) in Pukaloa Gulch below Pu'u Kumakali'i and Pu'u Kalena, and Luakini fishpond at the top of Mauna Ka`ala. In the east portion of Wai`anae Uka, McAllister recorded the "Oahunui Stone" (Site 204), on the South Fork of Kaukonahua Gulch. McAllister (1933 in Sterling and Summers 1978: 132, 137) noted that all but three of the seven sites had been destroyed and one site, the fish pond on top of Mauna Ka' ala, was no longer an active fish pond, but a swamp. Twenty years later, Thomas McGuire contended that it was unlikely that the swamp at Mt. Ka`ala was ever a fish pond because of the lack of dykes or stone walls necessary to contain such a pond and the apparent old age of the vegetation growth in the marsh (McGuire in Sterling and Summers 1978: 132).

Of the more eminent sites recorded in the area by McAllister were the Kukaniloko birth stones and the associated Ho`olonopahu *heiau* (McAllister 1933: 134-137), located in Wahiawa

just north of Schofield Barracks. Unfortunately nothing remained of Ho`olonopahu *heiau* at the time of McAllister's survey and the surrounding land was planted in pineapple (*ibid*).

Three *heiau* have been recorded in Wai`anae Uka within the western portion of the SBMR. Kumakali'i Heiau was recorded as being in the upper part of "Pukaloa Gulch" (McAllister 1933: 133) at approximately the 2,200 foot contours (SHPD files). Pukaloa Gulch, also named by Bryan (1901) in his explorations, seems to refer to present day Kumakali'i Stream valley.

Haleauau Heiau was shown by Sterling and Summers (1978) as being located on the west side of the confluence of Kalena Gulch and Mohiakea Gulch. McAllister described the *heiau* to be on the side of "Pukaloa Gulch" (McAllister 1933: 133), which may be an older name for Mohiakea Gulch. However, the heiau name suggests an association with Hale' au' au Stream located north of Kalena and Mohiakea. This location is further supported by a 1933 McAllister photograph of Haleauau Heiau that exhibits a closer back drop of the Wai`anae mountain range and road (currently called Firebreak Road) than would be expected if the site was located at Kalena and Mohiakea.

Hale`au`au Heiau was described by McAllister as a stepped platform with a pit feature, situated on "a natural hill on the side of the gulch" (*ibid*: 134-135). Although Hale`au`au Heiau was reportedly in better condition than the other two *heiau*, most of its features had been destroyed by artillery as the site was located on the edge of a military range.

The location of Kalena Gulch Heiau is more dubious as it was identified by McAllister as being located "in Kalena Gulch on the land of Mohiakea" (*ibid*: 134). However, Sterling and Summers (1978) shows the location of Kalena Gulch Heiau as being on the upper plateau about 100 feet to the east of the confluence of Kalena Gulch and Mohiakea Gulch. McAllister (1933) reported that Kalena Gulch Heiau had been completely destroyed by artillery because it was also located on a military range. Local residents once claimed that an underground "tunnel" containing burials existed in Kalena Gulch Heiau (*ibid*: 134).

Thrum (1907 in McAllister 1933) depicts Kumakali`i Heiau as being "an important heiau in its day and of large size; visited by Kalakaua in the '70s". McAllister reported that Kumakali'i Heiau was dismantled and "the stones were used in the building of the Wahiawa dam" (*ibid*: 134) located nearly 5 miles to the east of the site. A local informant (in Tomonari-Tuggle 1994: 14) has mentioned the presence of a "navigational *heiau"*, referred to as "Kumakali'i", located at the

base of Maunaauna just south of Kolekole Pass. The names Kumakali'i and Kumakali'i may be synonymous for the same *heiau* site, although the locations are different.

During the late 1970s, the Bishop Museum conducted a reconnaissance survey of Schofield Barracks, under contract to the U.S. Army Corps of Engineers (Rosendahl 1977). The work included a ground survey that focused on approximately 8% of the total 9,280-acre project and literature research and oral histories. The resulting report presents an inventory of nine sites, including six of the seven sites recorded by McAllister (1933), the Elou Cliff trail (State Site 50-80-08-9516) described by Papa I`i (1959:97), and two newly identified sites: a series of dryland agricultural terraces (State Site 50-80-08-9527) and a platform (State Site 50-80-08-9528) (Rosendahl 1977: vol. 2-36). Although Papa I'i's narrative seems to describe the trail as crossing over the east side of Mauna Ka`ala from Hale`au`au and Kalena, Rosendahl (1977) places State Site 50-80-08-9516 in closer proximity to the Kolekole Pass Road (map on file at the State Historic Preservation Division, Kapolei) and Rosendahl (1977) states that the site was "destroyed probably by construction of the present road" (*ibid*).

An archaeological "surface survey" was conducted at the Wahiawa Fresh Water Park situated at the west boundary of the SBMR's East Range (Griffin and Yent 1977). As a result of this survey, two historic era sites were located adjacent to the South Fork of Kaukonahua Stream: an Oahu Railway and Land railroad bed, and a terrace complex. Griffin and Yent were uncertain whether the terrace complex was prehistoric in origin and historically modified or historic in origin (*ibid*: 2). Likewise, they speculate that either "the terraces may have been used to grow and irrigate wild taro" or they were "used to prevent erosion along the slope of the stream bank" (*ibid*).

The "Kalo ponds" observed by Bryan further up Hale`au`au Valley probably correlate with agricultural terraces, 'auwai and associated house sites observed in the "Aerial Tram Valley" during an early 1980s botanical survey conducted by the Waimea Arboretum (Powell 1984 letter). On a 1954 USGS Topographical Map of the Island of Oahu, "Aerial Tram" refers to a dashed line that extends from Hale`au`au Stream valley to the peak of Mt. Ka`ala. The following excerpt from Powell's letter to the Army Corp of Engineers provides a detailed summary of the Hale`au`au Valley sites (ibid):

> Terraces seen were of loose rock formation. To my untrained eye they seem typical of the walls observed in Waimea Valley. Most appear to be terrace retaining walls... I began counting easily noted walls on my … trek and they numbered 35. I did not count small sections or pieces, only those that were

> obviously untouched walls. There were 4 sites that might have more significance. They were enclosures of some sort. One was quite intact and measured approximately 10 feet. Another was slightly smaller and two of the walls were formed partially by large boulders. Walls had been constructed up to and including them. There were two auwai trenches that I counted and one that I did not have the time to clear but suspect it was as well. One of interest to me was a section along the river that was carefully walled and seemed to form a viaduct of sorts away from the river. It was leading off into an area that I did not follow.

A survey of historic buildings was undertaken at Schofield Barracks by Paul H. Rosendahl, Inc. (O'Hare *et al.* 1993). The goal of the study was "to identify and evaluate all structures with potential historic significance at the installation," including those structures that were constructed before 1942 (upon review of the report, the DLNR requested that the cut off date be 1950) (*ibid*: 1 and E-1). This work supplemented an inventory and evaluation of historic buildings in Schofield Barracks previously done by the Bishop Museum (Rosendahl 1977). A total of 374 properties were ultimately identified at Schofield Barracks. The historic significance of the 374 sites were evaluated in accordance with four categories (Category I through IV) used by the Army. It was proposed that a number of "buildings constructed before World War 1or as a result of the 1916 construction plan" be included in the Schofield Barracks Historic District (O'Hare *et al.* 1993:7).

Four archaeological or historical studies have been conducted on the more developed portions of Wai`anae Uka in the centrally located areas of Schofield Barracks and Wheeler Army Airfield (O'Hare *et al*. 1993; McIntosh 1994a and I994b; and Tomonari-Tuggle 1994).

In the early 1990s, the International Archaeological Research Institute, Inc. conducted an "assessment of cultural resources" was done at Wheeler Army Airfield (Tomonari-Tuggle 1994). The study included a comprehensive compilation of the traditional and historical background and previous archaeological studies of the area. A ground survey was conducted in selected areas determined as having the least degree of ground disturbance and thus, greater probability of site preservation. Five archaeological sites were recorded in the sample areas including a remnant of the Oahu Rail and Land Co. railroad and four probable military structures.

An inventory of historic properties was also undertaken and all buildings dating before 1952 were evaluated (Bouthillier in Tomonari-Tuggle 1994). Fifty-four buildings were identified and a portion of these were recommended to be designated a National Register Historic District (Tomonari-Tuggle 1994: iii).

Two separate archaeological studies were conducted by BioSystems at several parcels along the perimeter of Wheeler Army Airfield (McIntosh *et al.* 1994a) and on the south side of Kaukonahua Stream adjoining Schofield Barracks (McIntosh 1994b). Two historic buildings and a grinding stone next to one of the buildings, were identified in the Wheeler Army Airfield parcels. The grinding stone was interpreted as prehistoric in origin and because it was "out of context" (McIntosh *et al.* 1994b:27), and it was recommended to be preserved elsewhere where it could be better protected.

Scientific Consultant Services, Inc. conducted three Phases of work in SBMR (Robins and Spear 1997a, 1997b, and Carson 2000). This work was primarily aimed at developing an inventory of archaeological sites and assessing site functions and was completed through detailed mapping, recording and excavation. A total of 76 traditional Hawaiian sites, 21 ranching or military sites, and four sites of undetermined function were investigated.

Scientific Consultant Services, Inc. conducted Cultural Resources Inventory Survey and Limited Testing, Phase I, of the Schofield Barracks Training Areas for the Preparation of a Cultural Resource Management Plan for U.S. Army Training Ranges And Areas, O`ahu Island, Hawai'i (TMK 7-6-01 and 7-7-01) (Robins and Spear 2002a). A total of73 archaeological sites were identified as a result of the inventory survey. The site inventory consists primarily of Traditional-type Hawaiian structures t hat are interpreted as irrigated (pondfield) and non-irrigated (dryland) agriculture, habitation, burial, and trails. Several historic ranching and US military structures are also included in the inventory. Limited testing was conducted at two Hawaiian pondfield agriculture sites (50-80-08-5392 and 5394), a permanent habitation enclosure (in Site 50-80-08-5448) and a dryland agriculture terrace (in Site 50-80-08-5427). The stratigraphy of the pondfield sites suggested the presence of at least two cultivation zones that are evidenced by alternating oxidation and reduction soils. It is posited that the field boundaries exposed on the surfaces of the pondfield sites are a later, possibly historic era development. Radiocarbon dating analysis of the four sites revealed a continuation of Hawaiian settlement and agricultural developments in Wai`anae Uka between the 13th and 17th centuries.

Scientific Consultant Services, Inc. also conducted Cultural Resources Inventory Survey And Limited Testing, Phase II, of the U.S. Army Schofield Barracks Training Areas for the U.S. Army Garrison Hawaii Ecosystem Management Program, Island Of O`ahu, Hawai`i (Robins and Spear 2002b). Eleven individual areas were selected for survey based on a site prediction model generated from background research of the region. A total of 19 archaeological sites were identified during the inventory survey. The site inventory consists of nine traditional Hawaiian

sites interpreted as irrigated (pondfield) and non-irrigated (dryland) agriculture and habitation, one possible road section associated with ranching or military training, and eight U.S. military sites. Limited testing was conducted at one Hawaiian pondfield agriculture sites (50-80-08-5393), a permanent habitation terrace (in Site 50-80-08-5448), an *imu* (subterranean earth oven) and dryland agriculture feature (in Site 50-80-08-5423), and two temporary habitation sites (Sites 50-80-08-5431 and 5507). Radiocarbon dating analysis of the four sites revealed a continuation of Hawaiian settlement and agricultural developments in Wai`anae Uka between the 15th and 20th centuries.

In 2004, Garcia and Associates (GANDA) conducted Archaeological Surveys for the Stryker Brigade Combat Team (SBCT) U.S. Army Hawaii Schofield Barracks Hawaii (Buffum *et al*. 2004). This study focused on SBCT training facilities at Schofield Barracks Military Reservation, Kahuku Training Area, Wheeler Army Airfield, military vehicle trails from Schofield Barracks to Dillingham Training Area and to Helemano Military Reservation, O`ahu Island, and at the Pohakuloa Training Area, Hawai`i Island. However, only the findings at the SBCT training facilities at Schofield Barracks will be discussed. No, or previously identified sites were encountered.

Scientific Consultant Services, Inc. conducted a site relocation project involving Global Positioning System (GPS)/site survey fieldwork on 48 previously identified sites within the U. S. Army's Kawailoa Training Area (KLOA) on O`ahu (Kaschko and Dega 2005). Global Positioning System coordinates were acquired from all but two sites formerly identified during Phase I and Phase II archaeological research. Global Positioning System points were taken in the approximate location of the two small, non-identified sites. All other sites were subject to GPS measurement and assessed for preservation integrity. All the sites but one, a hearth remnant on Pu'u Kapu, have retained their integrity since original recordation in 1997 and 1998. During this survey, several previously unidentified sites were located.

In 2006, Archaeological Monitoring was conducted of the Duckfield Water-line Installation at Schofield Barracks Military Reservation (Descantes 2006). During the monitoring activities no new, or previously identified archaeological sites were identified. However, three historic artifacts were observed during trench excavations. These artifacts included one glass Coca Cola bottle and two horseshoes, which most likely date between the 1920s and the 1950s.

Scientific Consultant Services, Inc. conducted an Archaeological Assessment of nine locations totally 13.76 acres situated at Wheeler Army Air Field and Schofield Barracks Military Reservation, Wai`anae Ahupua`a, Wahiawā District, Island Of O`ahu [TMK: (1) 7-7-001: various] (Tome and Spear 2010). A total of six sites were identified during the assessment work;

these included site TS-1, a culvert; TS-2, a pulley target system; TS-3, a wooden structure; TS-4, a concrete structure; TS-5 a historic trash dump; and TS-6, which included a culvert and six artificial excavations found in a cliff face.

METHODOLOGY

On May 25, 2012, Robert L. Spear, Ph.D., Principal Investigator, accompanied by Malia Cox (PBR Hawaii, Inc.), conducted an Archaeological Inventory Survey-level investigation of the portions project area. The survey consisted of a pedestrian survey of the Hale Kula Elementary School grounds including the photo-documentation of the grounds and existing buildings (Figures 3-14). The existing structures which are over 50 years old are being evaluated by another agency and were not included in the current scope of work. Thus, no new or previously documented archaeological sites were present.

In an effort In an effort to locate intact former A and B Horizons and at the request of Laurie Lucking (U.S. Army Garrison, Hawaii, Cultural Resources Manager), archaeological inspection was conducted by SCS archaeologists Guerin Tome, B.A., and Cathleen Dagher, B.A., between July 18, 2012 and July 24, 2012, of geological borings on the building footprints for the new covered playcourt, library/Student Support Center building, and a large classroom. The soil borings were 4 inches (10.16 cm) in diameter and extended to a maximum depth of 20 feet (6.1 m) below ground surface. Soil analysis was conducted for all soil samples using the United States Department of Agriculture (USDA) *Munsell Soil Color Charts* (2000). Due to the small scale of the boring excavations stratigraphic profiles could not be obtained or interpreted.

As the small scale of the boring excavations restricted visibility of the boring excavations, limited subsurface testing was conducted of building footprints for the new covered playcourt, library/Student Support Center building, and a large classroom was conducted by SCS archaeologist Guerin Tomes, B.A., between August 31, 2012 and September 2, 2012. A total of three stratigraphic trenches (ST) were manually excavated utilizing a spade shovel, pick, and a pinch point crowbar. These stratigraphic trenches were utilized to search for the presence of subsurface cultural material and look for human influence to subsurface contexts. The three stratigraphic trenches were placed on a plan view map (construction plan and Google Earth image) showing the sampled horizontal areas within the project area confines. Soil stratigraphy encountered during excavation was documented utilizing metric graph paper and United States Department of Agriculture (USDA) *Munsell Soil Color Charts* (2000). All measurements were recorded in metric with centimeters below ground surface.

Figure 3: Photographic View Showing General View of Hale Kula Elementary School. View to Southwest.

Figure 4: Photographic View Showing New Administration Building Area. View to East.

Figure 5: Photographic View of Northern Boundary of Hale Kula Elementary School. View to Southwest. Note: Un-named Stream is on the Left.

Figure 6: Photographic View of Northern Boundary of Hale Kula Elementary School. View to Northeast. Note: Un-named Stream is on the Right.

Figure 7: Photographic View of General Area of New Two-Story Classroom Building and New Covered Play Area. View to Northwest.

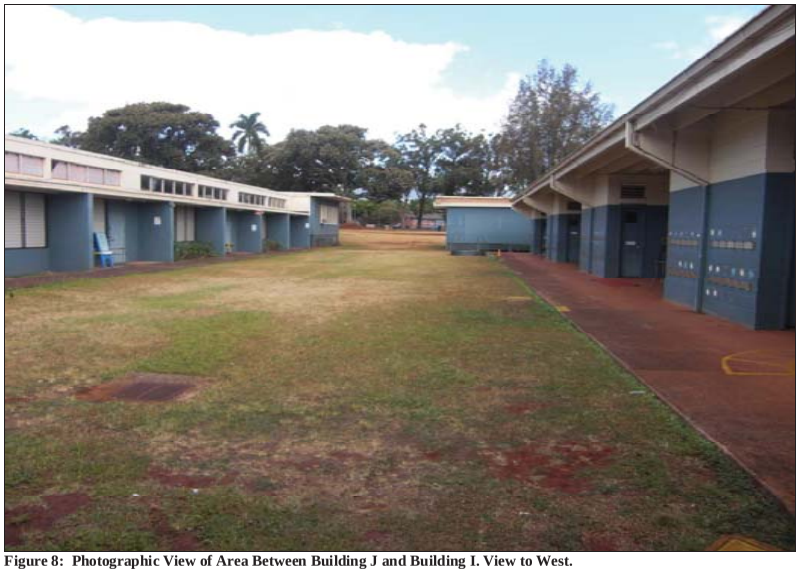

Figure 8: Photographic View of Area Between Building J and Building I. View to West.

Figure 9: Photographic View of Area Between Building F and Building G. View to East.

Figure 10 Photographic View of Area Between Building F and Cafeteria. View to West.

Figure 11: Photographic Overview of Front of Hale Kula Elementary School with Ayers Road at the Far Right. View to Northwest.

Figure 12: Photographic Overview of New Covered Play Ground Area. View to South.

Figure 13: Photographic Overview of New Custodial Area. View to West.

Figure 14: Photographic View of New Library and New Student Center Building Area. View to Southwest.

LABORATORY METHODOLOGY

All field notes and digital photographs were curated at the SCS laboratory in Honolulu. Representative plan view sketches showing location and morphology of identified sites/features/deposits were illustrated. No archaeological food midden or Traditional-type artifacts were observed within excavations. Thus, none are available for analysis. The only cultural material observed within the excavations was interpreted as having modern associations. Significant artifacts are scanned or photographed and classified for qualitative analysis. All metric measurements and weights are also recorded for quantitative analysis. All data are clearly recorded on standard laboratory forms that included numbers and weights (as appropriate) of each constituent category.

FIELDWORK RESULTS

The current archaeological investigation did not identify any archaeological sites through pedestrian survey or subsurface testing on the Hale Kula Elementary School grounds located on TMK: (1) 7-7-001:003). Most of the existing Hale Kula Elementary School structures which are over 50 years old are being evaluated by another agency and were not included in the current scope of work. No archaeological cultural material was observed on the ground surface of the school.

In an effort to locate intact former A and B Horizons and at the request of Laurie Lucking (U.S. Army Garrison, Hawaii, Cultural Resources Manager), Archaeological Monitoring was conducted of geological boring excavations. Archaeological inspection was conducted of 13 geologic boring excavations conducted on the building footprints for the new covered playcourt, library/Student Support Center building, and a large classroom. Of the 13 borings, Boring Excavations B11 and B10 were conducted via manual auguring, the remaining 11 borings were mechanically excavated. All boring excavations measured 4 inches (10.16 cm) in diameter and were conducted to depths of 20 feet (6.1 m) below ground surface. All of the geological boring excavations were culturally sterile. Boring samples were collected whole and were not opened. Thus, complete analysis of the soil samples was not conducted. A representative sample of the Archaeological Monitoring results for the boring excavations are provided below.

BORING EXCAVATIONS

BORING EXCAVATION B11

Boring Excavation B11 was located in the manicured grassy area west of the existing Building B and south of the existing Library/Custodial Building.

BORING EXCAVATION B11, SOIL SAMPLE NUMBER 1

Boring Excavation B11, Soil Sample Number 1 (2 ftbs/0.61 mbs) consisted of dark reddish brown (2.5YR 2.5/3, dry) very compacted silty clay (Figure 15). Sample not open. No cultural materials were encountered.

BORING EXCAVATION B11, SOIL SAMPLE NUMBER 2

Boring Excavation B11, Soil Sample Number 2 (4 ftbs/1.22 mbs) consisted of dark reddish brown (2.5YR 3/3, dry) very compacted silty clay (Figure 16). Sample not open. No cultural materials were encountered.

BORING EXCAVATION B11, SOIL SAMPLE NUMBER 3

Boring Excavation B11, Soil Sample Number 3 (8 ftbs/2.44 mbs) consisted of very dark brown (7.5YR 2.5/2, dry) very compacted slightly sandy silty clay (Figure 17). Sample not open. No cultural materials were encountered.

BORING EXCAVATION B11, SOIL SAMPLE NUMBER 4

Boring Excavation B11, Soil Sample Number 4 (13 ftbs/3.96 mbs) consisted of dark reddish brown (5YR 3/4, dry) very compacted slightly sandy silty clay (Figure 18). Sample not open. No cultural materials were encountered.

BORING EXCAVATION B11, SOIL SAMPLE NUMBER 5

Boring Excavation B11, Soil Sample Number 5 (18 ftbs/5.49 mbs) consisted of dark reddish brown (5YR 3/4, dry) very compacted slightly sandy silty clay (Figure 19). Sample not open. No cultural materials were encountered.

BORING EXCAVATION B10

Boring Excavation B10 was located in the manicured grassy area south of the existing Library/Custodial Building and east of the Existing Building F.

BORING EXCAVATION B10, SOIL SAMPLE NUMBER 1

Boring Excavation B10, Soil Sample Number 1 (1 ftbs/0.3 mbs) consisted of dark reddish brown (2.5YR 2.5/4, dry) very compacted sandy silty clay (Figure 20). Sample not open. No cultural materials were encountered.

Figure 15: Photograph of Boring B11, Soil Sample Number 1. View Down.

Figure 16: Photograph of Boring B11, Soil Sample Number 2. View Down.

Figure 17: Photograph of Boring B11, Soil Sample Number 3. View Down.

Figure 18: Photograph of Boring B11, Soil Sample Number 4. View Down.

Figure 19: Photograph of Boring B11, Soil Sample Number 5. View Down.

Figure 20: Photograph of Boring B10, Soil Sample. Number 1. View Down.

BORING EXCAVATION B10, SOIL SAMPLE NUMBER 2

Boring Excavation B10, Soil Sample Number 2 (3 ftbs/0.91 mbs) consisted of dark reddish brown (2.5YR 2.5/3, dry) very compacted silty clay (Figure 21). Sample not open. No cultural materials were encountered.

BORING EXCAVATION B10, SOIL SAMPLE NUMBER 3

Boring Excavation B10, Soil Sample Number 3 (5 ftbs/1.52 mbs) consisted of dark reddish brown (2.5YR 2.5/3, dry) very compacted silty clay. Sample not open. No cultural materials were encountered.

BORING EXCAVATION B10, SOIL SAMPLE NUMBER 4

Boring Excavation B10, Soil Sample Number 4 (9 ftbs/2.74mbs) consisted of dark reddish brown (2.5YR 2.5/3, dry) very compacted silty clay. Sample not open. No cultural materials were encountered.

Figure 21: Photograph of Boring B10, Soil Sample Number 2. View Down.

BORING EXCAVATION B10, SOIL SAMPLE NUMBER 5

Boring Excavation B10, Soil Sample Number 5 (14 ftbs/4.27 mbs) consisted of dusky red (2.5YR 3/3, dry) very compacted sandy silty clay (Figure 22). Sample not open. No cultural materials were encountered.

STRATIGRAPHIC EXCAVATIONS

To supplement the pedestrian survey, a total of three stratigraphic trenches were manually excavated on the building footprints for the new covered playcourt, library/Student Support Center building, and a large classroom (Figures 23 and 24). Collectively, the three stratigraphic trenches revealed the presence of Modern construction-type debris such as severely corroded ferrous metal nails. Thus, no Traditional-type or Historic-type artifacts were encountered during excavation.

Figure 22: Photograph of Boring B10, Soil Sample Number 5. View Down.

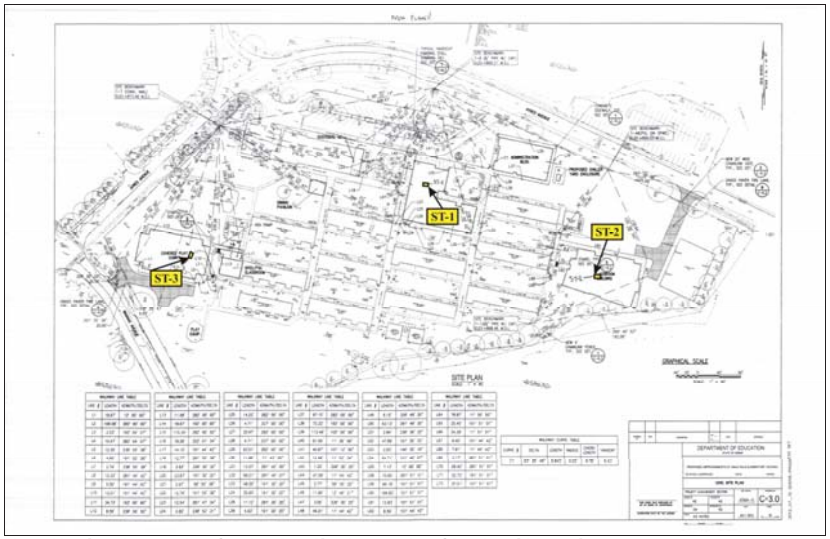

Figure 23: Plan View Drawing of Project Area Showing Location of Stratigraphic Trenches.

Figure 24: Google Earth Image (2012) Showing Project Area and Location of Stratigraphic Trenches.

STRATIGRAPHIC TRENCH 1 (ST-1)

Stratigraphic Trench 1 (ST-1) (1.0 x 0.5 x 0.70 m), oriented on a north/south axis (94/274°), was placed in the grassy area behind the current Administration Building (Figure 25, see Figures 23 and 24). This location was selected as the current Administrative Building and the Library will be merged to create one large L-shaped building in this area. The surface of ST-1 consisted of a manicured lawn and was sloped downward from north to south. Three stratigraphic layers were encountered in ST-1 (Figures 26 and 27). Based on the extremely compacted nature of the Layer III deposit and the absence of cultural materials, excavation of ST-1 was terminated prior to encountering naturally occurring bedrock.

> Layer I (0-10 cmbs) consisted of semi-compacted dark reddish brown (5YR 3/3, dry) loamy clay. Grass roots present throughout Layer I. No Traditional-type or Historic-type artifacts were encountered in Layer I. However, several fragmented pieces of Modern low-grade concrete was present in Layer I. Layer I was interpreted as an imported fill deposit.
>
> Layer II (10-30 cmbs) consisted of compact dark reddish brown (5YR 3/4, dry) silty clay with a few grass roots and decomposing light brown (7.5YR 4/6, dry) basalt pebbles. Low-grade fragmented concrete were observed in the upper portion of Layer II. One piece of corroded rebar and two ferrous metal 8-penny framing nails were observed in Layer II. The presence of the construction material suggests Layer II may have been exposed during the construction of the Hale Kula Elementary School. Due to the presence of the construction materials, Layer II was interpreted as a naturally occurring stratum with the upper portion of the layer possibly impacted during the construction of the Hale Kula Elementary School. No Traditional-type artifacts were encountered in Layer II.
>
> Layer III (30-70 cmbs) consisted of a compact dark reddish brown (2.5YR 3/4, dry) silty clay with semi-rounded basalt pebbles (< 2 mm in diameter). No cultural materials were present in Layer III. Layer III was interpreted as a natural stratum.

STRATIGRAPHIC TRENCH 2 (ST-2)

Stratigraphic Trench 2 (ST-2) (1.0 x 0.5 x 0.85 m), oriented on a north/south axis (90/270°), was placed in a low grassy area selected as the construction site of a new classroom building (Figure 28, see Figures 23 and 24). The existing Building B is located approximately 26.0 meters to the west of the western edge of ST-2. The surface of ST-2 was relatively level and covered by low manicured grass. Four stratigraphic layers were encountered in ST-2 (Figures 29 and 30). Based on the extremely compacted nature of the Layer IV deposit and the absence of cultural materials, excavation of ST-2 was terminated prior to encountering naturally occurring bedrock.

Figure 25: Photographic Overview of Stratigraphic Trench 1 (ST-1). View to East.

Figure 26: Photograph of Stratigraphic Trench 1 (ST-1) North Wall Profile. View to North.

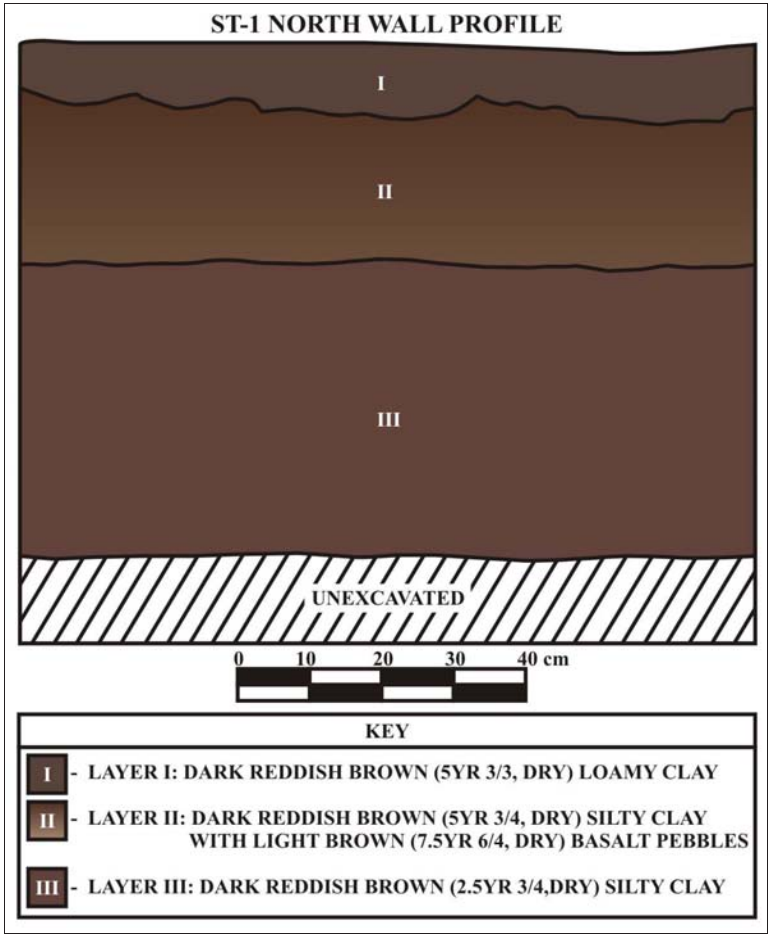

Figure 27: Stratigraphic Trench 1 (ST-1) North Wall Profile.

Figure 28: Photographic Overview of Stratigraphic Trench 2 (ST-2). View to Southwest.

Figure 29: Photograph of Stratigraphic Trench 2 (ST-2) North Wall Profile. View to North.

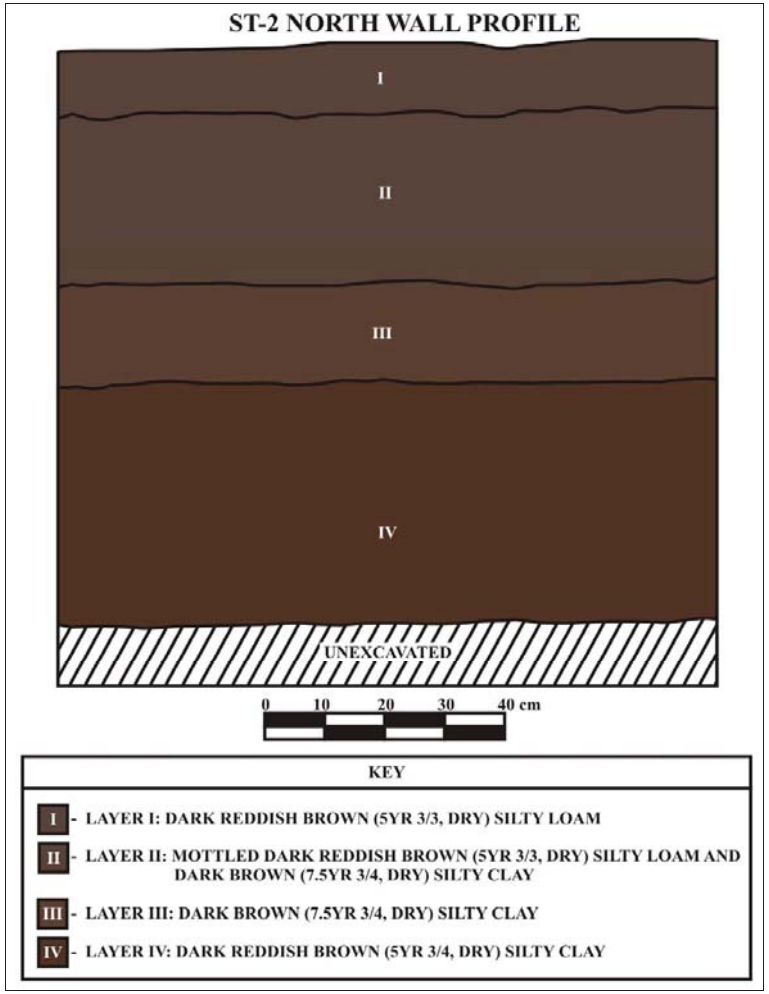

Figure 30: Stratigraphic Trench 2 (ST-2) North Wall Profile.

Layer I (0-10 cmbs) consisted of semi-compacted dark reddish brown (5YR 3/3, dry) silty loam. Grass roots present throughout Layer I. No Traditional-type or Historic-type artifacts were encountered in Layer I. Layer I was interpreted as an imported fill deposit.

Layer II (10-35 cmbs) consisted of compact mottled dark reddish brown (5YR 3/3, dry) silty loam and dark brown (7.5YR 3/4, dry) silty clay with a few grass roots. Cultural materials encountered within Layer II included: cement fragment, quartz pebbles, basalt base course, corroded ferrous metal machine-cut nails, clear (thick, glass sherds, porcelain sherd for electrical-related device, plastic red bead fragment. As these artifacts were non-diagnostic, it could not be determined whether they are Historic or Modern in origin. No Traditional-type artifacts were encountered in Layer II.

The dark brown (7.5YR 3/4, dry) silty clay matrix within Layer II appears to be the same material comprising Layer III (see below) suggesting that Layer II was a mechanically disturbed stratum. Thus, Layer II is interpreted as local fill.

Layer III (35-50 cmbs) consisted of a compact dark brown (7.5YR 3/4, dry) silty clay with a few grass roots. No cultural materials were present in Layer III. Layer III was interpreted as a natural stratum.

Layer IV (50-85 cmbs) was comprised of a dark reddish brown (5Y/R 3/4, dry) silty clay with a few roots. No cultural materials were present in Layer IV. Layer IV was interpreted as a natural stratum.

STRATIGRAPHIC TRENCH 3 (ST-3)

Stratigraphic Trench 3 (ST-3) (1.0 x 0.5 x 0.85 m), oriented on an east/west axis (0/180°), was placed approximately 16.0 meters west of a wooden portable building located on the west side of Building Number 10 (Figure 31, see Figures 23 and 24). The archaeological purpose of ST-3 was to locate intact former A and B Horizons, as well as identify cultural materials, to aid in the interpretation of the affect human activity may have had on the soil deposits. The surface of ST-3 sloped approximately 1° downward from the west to the east. The ground was partially covered with low manicured grass and exposed "red dirt" soil. Four stratigraphic layers were encountered in ST-3 (Figures 32 and 33). Based on the extremely compacted nature of the Layer IV deposit and the absence of cultural materials, excavation of ST-3 was terminated prior to encountering naturally occurring bedrock.

Figure 31: Photographic Overview of Stratigraphic Trench 3 (ST-3). View to Northeast.

Figure 32: Photograph of Stratigraphic Trench 3 (ST-3) West Wall Profile. View to North.

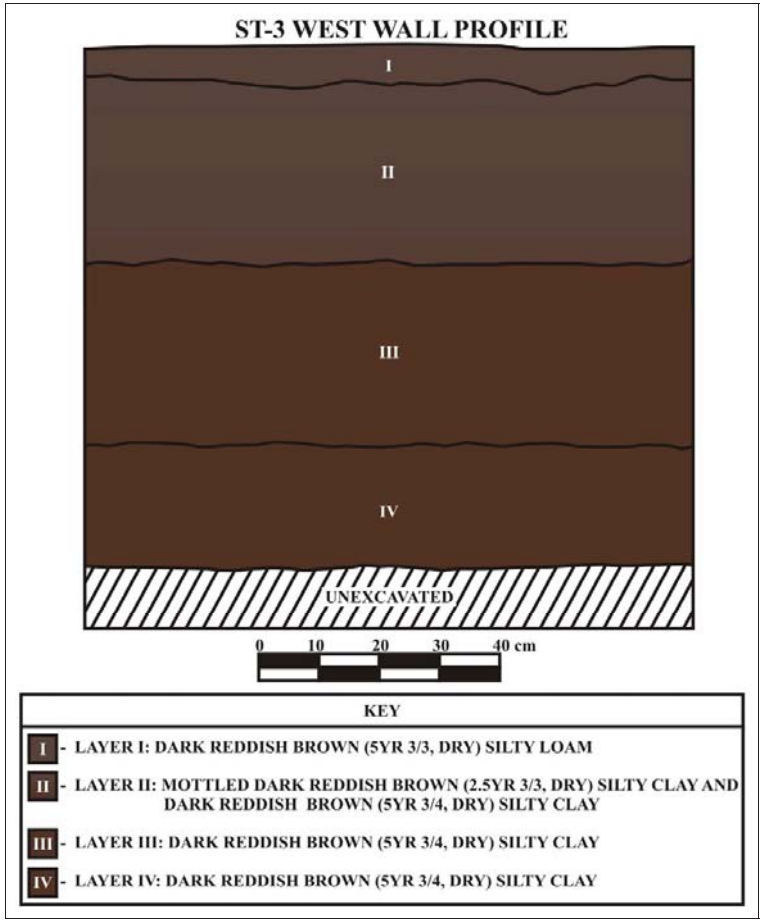

Figure 33: Stratigraphic Trench 3 (ST-3) West Wall Profile.

Layer I (0-8 cmbs) consisted of semi-compacted dark reddish brown (5YR 3/3, dry) silty loam. Grass roots present throughout Layer I. No Traditional-type or Historic-type artifacts were encountered in Layer I. Layer I was interpreted as an imported fill deposit.

Layer II (8-35 cmbs) consisted of compact mottled dark reddish brown (2.5YR 3/3, dry) silty loam and dark reddish brown (5YR 3/4, dry) silty clay with a few grass roots. Cultural materials encountered within Layer III included: basalt gravel, corroded ferrous metal machine-cut wire nails, and black plastic. As these artifacts were non-diagnostic, it could not be determined whether they are Historic or Modern in origin. No Traditional-type artifacts were encountered in Layer II.

The dark reddish brown (5YR 3/4, dry) silty clay matrix within Layer II appears to be the same material comprising Layer III (see below) suggesting that Layer II was a mechanically disturbed stratum. Thus, Layer II is interpreted as local fill.

Layer III (35-65 cmbs) consisted of a compact dark reddish brown (5YR 3/4, dry) silty clay with a few vegetative roots. Specks of sand from low-grade concrete were observed within Layer III. Thus, Layer III was interpreted as a mechanically disturbed stratum.

Layer IV (65-85 cmbs) was comprised of a dark reddish brown (5Y/R 3/4, dry) silty clay with a few vegetative roots. No cultural materials were present in Layer IV. Layer IV was interpreted as a natural stratum.

RECOMMENDATIONS

Based on the negative finding of the current study, and that the Hale Kula Elementary School is an existing facility located within a developed portion of the Schofield Barracks Military Reservation, it is unlikely that any archaeological sites will be encountered in subsurface contexts. Thus, no further archaeological work is recommended for the current undertaking.

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Appendix C
Cultural Impact Assessment

SCS Project Number 1295-CIA-1

A CULTURAL IMPACT ASSESSMENT OF THE HALE KULA ELEMENTARY SCHOOL CAMPUS IMPROVEMENTS PROJECT SCHOFIELD BARRACKS MILITARY RESERVATION WAI`ANAE UKA AHUPUA`A, WAHIAWĀ DISTRICT ISLAND OF O`AHU [TMK (1) 7-7-001:003]

Prepared by:
Cathleen A. Dagher, B.A.
and
Robert L. Spear, Ph.D.

August 2012
DRAFT

Prepared for:
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai`i 96707

SCIENTIFIC CONSULTANT SERVICES Inc.
711 Kapiolani Blvd. Suite 975 Honolulu, Hawai`i 96813

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INTRODUCTION

At the request of PBR & Associates Hawaii, Inc., Scientific Consultant Services, Inc. (SCS), prepared a Cultural Impact Assessment (CIA) for the Hale Kula Elementary School campus project area. The approximately 10.666 acre elementtary school campus is located on State of Hawai`i (Department of Public Instruction) owned land surrounded by the Schofield Barracks Military Reservation, Wai`anae Uka Ahupua`a, Wahiawā District, Island of O`ahu [TMK: (1) 7-7-001:003] (Figures 1 and 2).

The Hale Kula Elementary School, which was constructed between 1958 and 1959, has been selected for upgrades to improve conditions and capacity issues. The proposed improvements to Hale Kula Elementary School will include renovations to 10 existing 4-classroom buildings; additions to 2 existing buildings; and the construction of a new two-story classroom building. The proposed improvements include the demolition of the existing library and Administration Building and the construction of a new Library/Media Tech Center; a new Student Support Center; a new covered Playcourt; and a new covered dining pavilion. The Special Education (SPED) addition may be attached to Building A, B or between these buildings. In addition, the site improvements will include improvements to the existing drainage system around the buildings, storm water surface drainage and storm water management including; minor grading; infrastructure and utility upgrades (Figure 3).

The Constitution of the State of Hawai`i clearly states the duty of the State and its agencies is to preserve, protect, and prevent interference with the traditional and customary rights of Native Hawaiians. Article XII, Section 7 (2000) requires the State to "protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupua`a* tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778." In spite of the establishment of the foreign concept of private ownership and western-style government, Kamehameha III (Kauikeaouli) preserved the peoples traditional right to subsistence. As a result in 1850, the Hawaiian Government confirmed the traditional access rights to Native Hawaiian *ahupua`a* tenants to gather specific natural resources for customary uses from undeveloped private property and waterways under the Hawaiian Revised Statutes (HRS) 7-1. In 1992, the State of Hawai`i Supreme Court, reaffirmed HRS 7-1 and expanded it to include, "native Hawaiian rights…may extend beyond the *ahupua`a* in which a Native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner" (Pele Defense Fund v. Paty, 73 Haw.578, 1992).

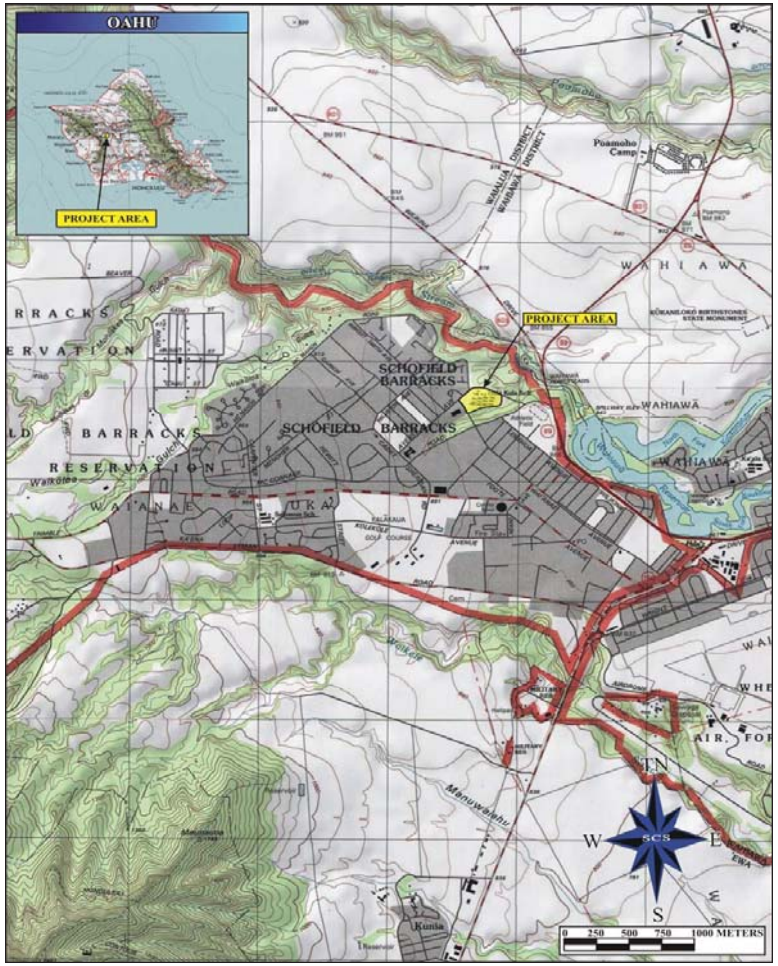

Figure 1: USGS Quadrangle (Schofield, 1998) Map Showing Location of Project Area.

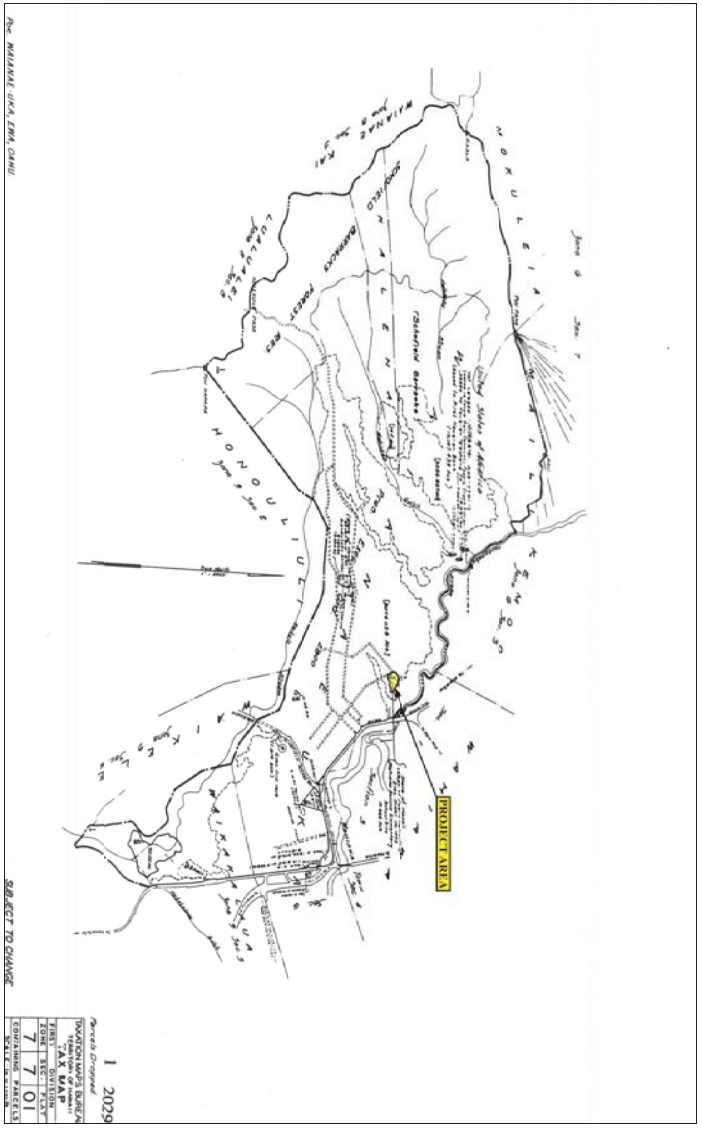

Figure 2: Tax Map Key [TMK: (1) 7-7-001] Showing Location of Project Area.

Figure 3: Plan View Drawing of Project Area (Design Partners, Inc. 2012).

Act 50, enacted by the Legislature of the State of Hawai`i (2000) with House Bill (HB) 2895, relating to Environmental Impact Statements, proposes that:

> …there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawaii's culture, and traditional and customary rights… [H.B. NO. 2895].

Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs and practices, and resources of Native Hawaiians as well as other ethnic groups. Act 50 also requires state agencies and other developers to assess the effects of proposed land use or shore line developments on the "cultural practices of the community and State" as part of the HRS Chapter 343 (2001) environmental review process.

It also re-defined the definition of "significant effect" to include "the sum of effects on the quality of the environment including actions impact a natural resource, limit the range of beneficial uses of the environment, that are contrary to the State's environmental policies . . . or adversely affect the economic welfare, social welfare or cultural practices of the community and State" (H.B. 2895, Act 50, 2000). Cultural resources can include a broad range of often overlapping categories, including places, behaviors, values, beliefs, objects, records, stories, etc. (H.B. 2895, Act 50, 2000).

Thus, Act 50 requires that an assessment of cultural practices and the possible impacts of a proposed action be included in Environmental Assessments and Environmental Impact Statements, and to be taken into consideration during the planning process. As defined by the Hawaii State Office of Environmental Quality Control (OEQC), the concept of geographical expansion is recognized by using, as an example, "the broad geographical area, e.g. district or *ahupua`a*" (OEQC 1997). It was decided that the process should identify 'anthropological' cultural practices, rather than 'social' cultural practices. For example, *limu* (edible seaweed) gathering would be considered an anthropological cultural practice, while a modern-day marathon would be considered a social cultural practice.

Therefore, the purpose of a Cultural Impact Assessment is to identify the possibility of on-going cultural activities and resources within a project area, or its vicinity, and then assessing the potential for impacts on these cultural resources. The CIA is not intended to be a document of in depth archival-historical land research, or a record of oral family histories, unless these

records contain information about specific cultural resources that might be impacted by a proposed project.

According to the Guidelines for Assessing Cultural Impacts established by the Hawaii State Office of Environmental Quality Control (OEQC 1997):

> The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religions and spiritual customs. The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both manmade and natural, which support such cultural beliefs.
>
> The meaning of "traditional" was explained in *National Register Bulletin*:
>
> Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations', usually orally or through practice. The traditional cultural significance of a historic property then is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. . . . [Parker and King 1990:1]

METHODOLOGY

This Cultural Impact Assessment was prepared as much as possible in accordance with the suggested methodology and content protocol in the Guidelines for Assessing Cultural Impacts (OEQC 1997). In outlining the "Cultural Impact Assessment Methodology", the OEQC states that:

"…information may be obtained through scoping, community meetings, ethnographic interviews and oral histories…"

This report contains archival and documentary research, as well as communication with organizations having knowledge of the project area, its cultural resources, and its practices and beliefs. Copies of the letters of inquiry are presented below in Appendix A; copies of the second group of letters of inquiry are presented below in Appendix B; copies of posted legal notices are presented in Appendix C; and responses to the inquiries are presented in the Response to Inquires section of this document and selected responses are presented in Appendix D. This Cultural Impact Assessment was prepared in accordance with the suggested methodology and

content protocol provided in the Guidelines for Assessing Cultural Impacts (OEQC 1997), whenever possible. The assessment concerning cultural impacts may include, but not be limited to, the following matters:

1. if consultation is available, a discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints of limitations which might have affected the quality of the information obtained;

2. a description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken;

3. if conducted, interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained;

4. biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or being interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area;

5. a discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken, as well as the particular perspective of the authors, if appropriate, any opposing views, and any other relevant constraints, limitations or biases;

6. a discussion concerning the cultural resources, practices and beliefs identified, and for the resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site;

7. a discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project;

8. an explanation of confidential information that has been withheld from public disclosure in the assessment;

9. a discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs;

10. an analysis of the potential effect of any proposed physical alteration on cultural resources, practices, or beliefs; the potential of the proposed action to isolate cultural

11. the inclusion of bibliography of references, and attached records of interviews which were allowed to be disclosed.

If on-going cultural activities and/or resources are identified within the project area, assessments of the potential effects on the cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

ARCHIVAL RESEARCH

Archival research focused on a historical documentary study involving both published and unpublished sources. These included legendary accounts of native and early foreign writers; early historical journals and narratives; historic maps, land records, such as Land Commission Awards, Royal Patent Grants, and Boundary Commission records; historic accounts, and previous archaeological reports.

INTERVIEW METHODOLOGY

Interviews are conducted in accordance with Federal and Hawai`i State laws, and guidelines, when knowledgeable individuals are able to identify cultural practices in, or in close proximity to, the project area. If they have knowledge of traditional stories, practices and beliefs associated with a project area or if they know of historical properties within the project area, they are sought out for additional consultation and interviews. Individuals who have particular knowledge of traditions passed down from preceding generations and a personal familiarity with the project area are invited to share their relevant information concerning particular cultural resources. Often people are recommended for their expertise, and indeed, organizations, such as Hawaiian Civic Clubs, the appropriate island branch of the Office of Hawaiian Affairs (OHA), historical societies, Island Trail clubs, and Planning Commissions are depended upon for their recommendations of suitable informants. These groups are invited to contribute their input, and suggest further avenues of inquiry, as well as specific individuals to interview. It should be stressed again that this process does not include formal or in-depth ethnographic interviews or oral histories as described in the OEQC's *Guidelines for Assessing Cultural Impacts* (1997). The assessments are intended to identify potential impacts to on-going cultural practices, or resources, within a project area or in its close vicinity.

If knowledgeable individuals are identified, personal interviews are sometimes audio recorded and then transcribed. These draft transcripts are returned to each of the participants for

their review and comments. After corrections are made, each individual signs a release form, making the interview available for this study. When telephone interviews occur, a summary of the information is usually sent for correction and approval, or dictated by the informant and then incorporated into the document. If no cultural resource information is forthcoming and no knowledgeable informants are suggested for further inquiry, interviews are not conducted.

Letters of Inquiry were sent, via the U.S. Postal Service or electronically, to individuals and organizations whose jurisdiction included knowledge of the area. Consultation was sought from Kamana`opono M. Crabbe, Chief Executive Officer, of the Office of Hawaiian Affairs (OHA); Agnes Leinau, Vice President, Hale Kula Elementary School; George Kaeliwai, Jr., Hawaiian Civic Club of `Ewa; Paulett Kaleikini, community member; Phyllis (Coochie) Cayan, State Historic Preservation Division; Shad Kane, community member, and Willie H. Ho`ohuli, community member (see Appendix A). As a reminder, follow-up letter were sent to these same individuals approximately three weeks after the initial letters (see Appendix B). In addition, a Cultural Impact Assessment Notice was published on May 30, 31, and June 3, 2012, in The Honolulu Star-Advertiser, and the June 2012 issue of the OHA newspaper, *Ka Wai Ola* (see Appendix C). These notices requested information of cultural resources or activities in the area of the proposed project, stated the TMK number, and where to respond with pertinent information. Based on the responses, an assessment of the potential effects on cultural resources in the project area and recommendations for mitigation of these effects can be proposed.

PROJECT AREA AND VICINITY

The project area consists of a developed property containing the existing Hale Kula Elementary School. Hale Kula Elementary School. The elementary school is located within the eastern portion of the Schofield Barracks Military Reservation, situated in the interior of the south-central portion of the island of O`ahu and positioned on the slopes of the Schofield Plateau, "…which was formed by the lavas from the Koolau Range banking against the older Waianae Range" (Armstrong 1980:12; Stearns 1966:79). The project area is located approximately 1609 m (1.0 miles) northwest of the North Fork of Kaukonahua Stream, north of an unnamed stream, and approximately 26,000 km (16 miles) northwest of the Pearl Harbor and is situated between 800 to 900 feet above mean sea level (amsl).

CULTURAL AND HISTORICAL CONTEXT

PAST POLITICAL BOUNDARIES

Traditionally, the division of land into districts (*moku*) and sub-districts (*`ili*) was said to be performed by a ruling chief, who was chosen by the islands' chiefs to be the *mō`īho`oponopono o ke aupuni* (administrator of the government; Kamakau 1991). Land was considered the property of the king or *ali`i `ai moku* (literally, the *ali`i* who eats the island/district), which he held in trust for the gods. The title of *ali`i `ai moku* ensured rights and responsibilities to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka`āinana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku, ahupua`a, `ili* or *`ili`āina* were used to delineate various land sections on all the islands. A district (*moku*) contained smaller land divisions (*ahupua`a*) that customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua`a* were therefore able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua`a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *`ili `āina* or *`ili* were smaller land divisions next in importance to the *ahupua`a* and were administered by the chief who controlled the *ahupua`a* in which it was located (Lyons 1875:33; Lucas 1995:40). The *mo`o`āina* were narrow strips of land within an *`ili*. The land holding of a tenant or *hoa `āina* residing in an *ahupua`a* was called a *kuleana* (Lucas 1995:61). The present project area is located in Wai`anae Uka Ahupua`a.

As a single land division, the *ahupua`a* of Wai`anae was unusual in that it crossed over the entire Wai`anae Mountain Range, the inland plateau of O`ahu and a third mountain slope on the leeward side of the Ko`olau Mountain Range. The historic era boundaries separating Wai`anae Kai and Wai`anae Uka are delineated at the summits of the central Wai`anae range. At least two significant landforms occur at the summit boundary: Mount Ka`ala, the highest peak on O`ahu, and Kolekole Pass, a prominent dip in the Wai`anae mountain range. Kolekole Pass provided an accessible, lowland passage between Wai`anae Kai and Wai`anae Uka. The fission of various Hawaiian *ahupua`a*, such as Wai`anae Uka and Wai`anae Kai, were a common occurrence during pre-Contact (pre-1778) times and especially in the historic times (Cordy 1994:17).

The separation of the Wai`anae Ahupua`a into two portions may have transpired during historic times as a result of land subdivisions during the Māhele (ca. 1840s). Some *ahupua`a*

may have been subdivided during this time so that land could be allocated to a number of chiefs or *konohiki* or for the sole purpose of public sale (*ibid*). Wai`anae Uka Ahupua`a and Wahiawa Ahupua`a, located to the north, are within the present day District of Wahiawa, while Wai`anae-Kai and several other leeward *ahupua`a* are part of the Wai`anae District. Similar to the fission of *ahupua`a*, island districts were also subdivided or new ones became developed, mainly for political reasons or matters of convenience (Coulter 1935:214).

In accordance to Act 84 of the Session Laws of 1909, the Districts of `Ewa and Wai`anae were created [in 1859 both district areas were in the `Ewa District (*ibid*: 216)] and Wai`anae Uka Ahupua`a was placed in the Waialua District (*ibid*: 220). The year 1909 was also when Schofield Barracks Military Reservation began to be constructed (Pukui *et al*. 1974:210). In 1913 a new district named Wahiawa was created to include the *ahupua`a* of Wahiawa and Wai`anae Uka (Coulter 1935:221).

PRE-CONTACT (PRE-1778 A.D.)

Traditional and historical accounts portray the central plateau of O`ahu as being an important birthplace and population center for the Hawaiian chiefs (*ali`i*).

SACRED PLACES

The birth place of Kukaniloko is located on the north side of Kaukonahua Stream in present day Wahiawa Ahupua`a, or what was once within Kamananui Ahupua`a, in the District of Waialua (Kirch and Sahlins 1992, Vol.1:19). Kukaniloko is said to have represented one of two famous *ali`i* birth places in Hawai`i, with Holoholoku on Kaua`i being the other (Kamakau 1992:38). Kukaniloko was originally established as a birth place by the chief Nanakaoko and his wife Kahihiokalani for the birth of their son Kapawa (Fornander 1980:20), which based on genealogical lines, may have transpired during the 1300s (Yent 1995). The royal lineage of Nanakaoko was appropriated by his father, who represented one of several families initially settling the Hawaiian islands from southern origins (Fornander 1919, Vol.6:247). This family consisted of three main branches named Nanakaoko, Nanakulei, and Nanamaoa, all of whom lived in central O`ahu at Wahiawa and Lihue (*ibid*).

Since the creation of Kukaniloko as an important *ali`i* birthplace, the *ali`i* subsequently born there were considered "born in the purple" and they "enjoyed the distinction, privileges, and tabus which that fact conferred" (*ibid*). These chiefs were also regarded as the *akua* of the land as well as *ali`i kapu* (Kamakau 1992:53). Some of the many distinguished *ali`i* born at the birth place includes the chiefess Kukaniloko, a high chiefess of O`ahu for whom the stone is named (Fornander 1980:Vol.11:20), her daughter Kalai-manuia, and the "wise, firm, and judicious chief'

of O`ahu, Ma`ili-kukahi (*ibid*:89), among many others. The *ali`i mo `i* Ma`ili-kukahi was known as a benevolent chief whose *kulanakauhale* or "village" (Pukui and Elbert 1981:165) included the land between Oahunui and Halahape in Waialua (Kamakau 1991:55). He was considered to be a "religious chief" who refused to conduct human sacrifices; such was "the way of Kukaniloko chiefs" (*ibid*).

The significance of Kukaniloko as a birthplace for *ali`i* was perpetuated into early Historic times. According to Kamakau (1991:38), Kamehameha I brought Keopuolani to Kukaniloko to give birth to their son Liholiho. However, Keopuolani left Kukaniloko without giving birth. A slightly different story is accounted by Fornander (1969: Vol.2:21) in which he states that Keopuolani was not able to go to Kukaniloko because she was too ill.

After the birth of an *ali`i*, the child was taken into the *waihau heiau*, Ho`olonopahu, located "a furlong and a half" to the south of Kukaniloko (Kamakau 1991:38). With the help of 48 chiefs, the navel cord of the child was cut in the *heiau*. The birth of an *ali`i* was announced by beating the sacred drum Hawea, located to the west of Kukaniloko (*ibid*). Kukaniloko was also considered a *pu `uhonua*, or place of refuge, where a person could be saved after committing murder (I`i 1959:138).

Mount Ka`ala, located on the *mauka* boundary of Wai`anae Uka, is also accounted for in Hawaiian myth as being close to the home of the goddess Kaiona. Kaiona was known as the "lady of sunshine" and, according to Mrs. Mary Kawena Pukui; the goddess was kind and never harmed anyone (Pukui in Sterling and Summers 1978:133). A pond at the top of Mount Ka`ala is believed to have been guarded by the *mo`o* Kamaoha (McAllister 1933:133).

The place name Lihu`e, translated as "cold chill" (Pukui *et al*. 1974:132), was regarded as once being the home of a mythical figure named Kaupe. Kaupe was a legendary "cannibal dog-man" who was notorious for overthrowing the government of Ka-hanai-a-keakua (reared by gods) and ruled the land from Nu`uanu" (Beckwith 1970:345). Kaupe ate people from O`ahu and Maui but never attacked high chiefs. He was finally killed by a Hawai`i chief who had learned the prayer for killing an enemy (*ibid*).

The Kolekole Stone is located just above the pass and it was the only site recorded by McAllister (1933) that the Bishop Museum was able to relocate during their late 1970s survey (Rosendahl 1977: vol. 2:35). The Kolekole Stone was known as a place where students of warfare would practice *lua* fighting (Stokes in Sterling and Summers 1974:135). *Lua* was a

fighting technique that included bone breaking, dislocating joints, and provoking pain by pressing on nerve centers (Pukui and Elbert 1981:213). Stokes asserts that the *lua* students would wait for passing victims to practice their combat techniques on the "plains of Leilehua" (*ibid*). Leilehua was a historic-era name of the western plains of the central plateau of O`ahu, which included Wai`anae Uka (Tomanari-Tuggle 1994:14).

The Kolekole Stone is said to represent the female guardian of the pass named Kolekole (McAllister 1933:134). The actual stone contains ribbed depressions on its sides which may have formed a drainage of sorts ascending from a basin in the top of the stone (*ibid*:14). McAllister discredits a story that the stone was used as a platform for decapitating people, as he believed that such a story was started as a joke (*ibid*).

POPULATION CENTERS

Wahiawa, Halemano, and Lihu`e are mentioned by Kamakau as being chiefly settlements on the central plateau associated with the *loa li`i* (Kamakau 1991:40). These chiefs were considered to be gods that resembled men and they were classified as such because they "lived there continually and guarded their *kapu* (from whom a 'guaranteed' chief might be obtained, *loa`a*)" (*ibid*). Other chiefly settlements, including Oahunui and Kukaniloko, are also mentioned in legends and historical accounts.

Wahiawa, a traditionally named population center (Kamakau 1991:40) and historic *ahupua`a* that borders the Schofield Barracks Military Reservation (SBMR), is literally translated as "place of noise" apparently because rough seas could be heard there (Pukui *et al.* 1974:218). The suggested origin of these rough seas is along the Waialua coast, as is described in the legend of Hi`iaka's journey when she crosses over the region. In a portion of a chant translated in Henry *et al.* (1992:4), Hi`iaka hears the noise of the waves in Wahiawa:

At Waialua is the great voiced ocean
Heard to the uplands of Lihu`e,
Rumbling atop Wahiawa,
Deafening is the voice of the sea,
It is a deafening voice,
Indeed the ocean has a voice

The settlement of Halemano, also referred to as Helemano on United States Geological Survey Topographic maps or Halemanu (McAllister 1933:137), was at one time associated with a cannibalistic chief known as `Aikanaka ("man eater"), Kalo`aikanaka, Kalo, or Keali`i`aikanaka (*ibid*). `Aikanaka's people lived in the area of "Halemanu" in Pa`ala`a, not far

from `Aikanaka's house and ceremonial feasting grounds where human flesh was cooked and eaten (McAllister 1933:137, Beckwith 1970:340-341). `Aikanaka's people "were darker than the Hawaiians, with a different speech and no tapu laws" (Beckwith 1970:341). Some suggested that `Aikanaka's people were foreigners who came from the "South Seas" and after being driven out of Kaua`i, and then Mokule`ia and Waialua, they settled in the upper lands of Helemanu (*ibid*:342; McAllister 1933:138; and Sterling and Summers 1978:111). Beckwith (1970:341) attributes a narrow ridge near Kukaniloko as being a place where "the last cannibals of Oahu took their stand and seized upon victims for their cannibal feasts."

A settlement referred to as Oahunui was apparently named for the chief Oahunui who once resided there. The settlement of Oahunui was located in proximity to the legendary Oahunui Stone, which may have been near the east fork of Kaukonahua Stream or along the nearby Waiakakalaua Stream to the south of Wai`anae Uka. The Oahunui Stone allegedly embodies the chief Oahunui at the place where he was murdered. The chief Oahunui was known to have been a friend and contemporary of the cannibalistic chief `Aikanaka, from whom he acquired a taste for human flesh (Sterling and Summers 1978:111). According to legend, Oahunui was killed after he arranged his brother-in-law, Lehuanui, to be absent from the village while he ate Lehuanui's two chiefly sons. Upon returning to Oahunui and discovering the deaths of his sons, Lehuanui killed Oahunui, Oahunui's wife (for allowing the murders), and any servants who complied with the killing of his sons. It is believed that each of these individuals turned to stone along the banks of Kaukonahua or Waiakakalaua Stream. In the 1890s, people from Honolulu would ride out to Oahunui and walk around the stone (McAllister 1933:132). Thus, it was contended that "no one could say that he had been entirely around the island of Oahu unless he had been around this stone" (*ibid*).

A settlement referenced as Lihu`e was inhabited by a long line of chiefs, According to Fornander (1969 Vol.2-85), the inland location of Lihu`e was too remote and distant from the sea for the chiefess Kelea, the Maui wife of the chief Lo-Lale:

> For several years Kelea lived with Lo-Lale at Lihue, and bore him three children...but the inland situation of Lihue, at the foot of the Ka`ala mountains, and far from the sea, became wearisome and monotonous to the gay and volatile temper of Kelea (*ibid*).

The actual location of Lihu`e on the central plateau of O`ahu differs among various historic accounts, Fornander (in Sterling and Summers 1978:136) describes Lihu`e as being on the "uplands of the Wai`anae side of

Wahiawa" and that it included "Kalena on the plains of Hale`au`au". An 1850s land survey similarly refers to the *`ili* of Kalena as being in the district of Lihu`e (Department of Interior, Document 255). In contrast, other accounts given in Sterling and Summers (1978) describe Lihu`e as being in `Ewa just south of Maunaauna and the place name Lihu`e is labeled as an *`ili* south of Maunaauna on an 1881 Hawaiian Government Survey map.

An "ancient Kahua Maika" *(ulu maika* field) once existed at a place called Kokoloea, Lihu`e, where Kuali`i was victorious. The `Ewa chiefs however, made another effort to retrieve their fortunes, and fought a second battle with Kuali`i at Malamanui and Paupauwela, in which they were worsted and the authority of Kuali`i as *Mō`ī* (monarch) of O`ahu finally secured and acknowledged. Kuali`i and his warriors battled against the chiefly factions of `Ewa and Waialua sometime during the middle to late 1600s (Tomonari-Tuggle 1994:13).

Later in prehistory another famous battle between the Maui chiefdom under Kahekili and the Oahu chiefdom under Kahahana occurred in the Wai`anae Mountain Range, and at one point in proximity to Kolekole Pass on the western boundary of Wai`anae Uka. Under the direction of Kahekili's warrior Kahahawai, a battle at Niuhelewai was fought between the two factions and afterwards both forces retreated to the mountains of Wai`anae. That evening a crafty battle plan was ordered by Kahahawai, which lead to a successful defeat of the O`ahu forces:

> They were well supplied with war implements and other things necessary for the destruction of their enemies. So Kahahawai told them to prepare torches. When these were ready they went one evening to the top of a hill which was near to the rendezvous of the enemies where they lighted their torches.
> After the torches were lit they moved away to a cliff called Kolekole and hid themselves there, leaving their torches burning at the former place until they [the torches] died out. The enemies thought that Kahahawai and his men had gone off to sleep. They therefore made a raid on the men of Kahahawai. But Kahahawai and his men arose and destroyed all the people who were asleep on the hills and the mountains of Kaala. Thus, the enemies were annihilated, none escaping. Those who raided the torch encampment were captured, there being no avenue for escape from death and destruction by Kahahawai and his men." (Sterling and Summers 1978:135).

SUBSISTENCE RESOURCES

E.S. Craighill Handy and Elizabeth G. Handy (1972) characterize the central plateau of O`ahu as extraordinary because it represents the most level landscape on the island at such a high elevation (*ibid*:465). As is evidenced by an abundance of *lo`i* or irrigated taro fields "northwest of the present town of Wahiawa," Handy and Handy contend that the Wahiawa region once had a sizable population (*ibid*:464). Sweet potato and yams were also cultivated in the general region, with Wahiawa being known as one of only a few known irrigated sweet potato fields (*ibid*). Although there was some taro cultivated in the valleys of Wai`anae Uka, sweet potato, grown on *kula* lands, is claimed by Handy (1940:75) as being the main vegetable crop in the *ahupua`a*. Handy and Handy (1972:465) also speculate that Wai`anae Uka residents probably received most of their fish from Wai`anae Kai which was well known for its deep-sea fishery. Freshwater fish were obtained from the streams bisecting the central plateau, as is suggested by a historic reference to a "fishing place" at a locality called Paka (Tomonari-Tuggle 1994:11).

A local informant, Hookala, remembered the presently existing swamp at the top of Mount Ka`ala as being a fishpond, which McAllister called Luakini Fishpond (McAllister 1933: 133). Hookala mentioned that his father used to obtain fish from the pond at Ka`ala, and back then it was stocked with shore fish, *hinalea, wuwoa,* a kind of mullet and others (*ibid*).

TRANSPORTATION ROUTES

John Papa I`i (1959) described at least four trail sections that crossed through different portions of Wai`anae Uka. Although I`i observes that these trails were in use during the historic period, it is likely that some were used during the pre-Contact period. The main travel route in central O`ahu extended in a roughly north-south direction between the north and south shores of O`ahu.

Two additional trails in Wai`anae Uka (or close by) extended to the east and west of the main trail. One of these spur trails connected to the place name Oahunui (*ibid*:99) which was located somewhere near the south fork of the Kaukonahua Stream or nearby Waikakalaua Stream, in proximity to the legendary Oahunui Stone. The trail to Oahunui was probably the same travel route used during the 1890s by people from Honolulu who would ride out to Oahunui and walk around the stone (McAllister 1933:132). The other trail that extended to the west of the main trail is said to have begun at Kukaniloko from which point it crossed through Wai`anae Uka and ascended over Kolekole Pass (I`i 1959:96-97).

John Papa I`i (*ibid*) tells of a "long cliff trail called Elou" that passed over Mount Ka`ala to eastern Wai`anae from Kaukonahua Gulch. The Elou Cliff trail was described as running through Hale`au`au and Kalena in Wai`anae Uka (*ibid*).

POST-CONTACT PERIOD (POST-1778)

Following the first western contact to Hawai`i (*ca.* 1778), the onslaught of foreigners to the Hawaiian Islands brought a series of transformations to the natural and cultural landscapes throughout the island chain.

Victualing to the foreign shippers necessitated an increase in surplus of traditional crops (taro, sweet potato, and bananas) and the introduction of new western crops (Cuddihy and Stone 1990:37), such as Irish potato, cabbage, watermelon, and squash.

The establishment of mission stations in Waialua, Wai`anae and `Ewa resulted in improved roadways, such as the traditional route across the central plateau and across Kolekole Pass. In 1837 Reverend Emerson, pastor of the Waialua mission station, reported that the traditional Kolekole Pass trail was converted to a more traversable horse trail:

> During the year past, a number of patches of road have been made, which considerably facilitate our access to some remote parts of the station and to Waianae. The pali between Waialua and Waianae, which formerly rendered the latter place inaccessible from Waialua except on foot, has been so improved that a horse can be rode up and down without difficulty (Emerson 1837: Missionary Letters).

The over-harvesting of sandalwood and the taking of other timber for whaling ships to "fuel the boilers that rendered whale blubber into oil" (Cuddihy and Stone 1990:38) resulted in the destruction of many native trees. The central plateau of O`ahu was often exploited for its sandalwood by the O`ahu chiefs, commonly to satisfy debts to the King (Kamakau 1992:251-252). Wahiawa in particular was famous for its large sandalwood trees (*ibid*:207). The virtual devastation of most of the sandalwood forest was swiftly facilitated when the trees became more rare and the method of locating them was to burn the forest and identify a tree by the burning fragrance of sandalwood (Bishop in Tomonari-Tuggle 1994:17).

Foreign diseases probably had the most adverse effect on the native Hawaiian population. Reverend Artemis Bishop (1849: Missionary Letters) described a measles epidemic that devastated the Wai`anae and `Ewa native communities between 1848 and 1849:

> The past has been a year of trials and sorrows among my people in passing through

> scenes of sickness and death, beyond what I had ever witnessed... how strikingly their former athletic frames and warlike habits contrast with their present enfeebled and effeminate bodies.
>
> Middle of October the measles broke out and spread like wildfire...burning the dead was the great work, all other occupations were suspended and people staggered about like walking corpses.

LAND TENURE

Another conspicuous effect of the ever-growing influence of foreigners in Hawai`i was the systematic division of lands, called by some the "Māhele," or "great division." The Land Commission oversaw land divisions of three groups, Crown Lands (for the King), Konohiki Lands and Government Lands, all of which were "subject to the rights of native tenants" (Chinen 1958). With the exception of the *`ili* of Kalena, the *ahupua`a* of Wai`anae Uka was designated as Crown Lands and no *kuleana* were claimed.

Kalena `Ili was a narrow tract of land (approximately 533 acres) that extended from near the 1000-foot elevation to the steep mountain peaks of the Wai`anae Range. At an unknown date, prior to Pahoa's death (ca.1848), half of Kalena `Ili (266.3 acres) was granted to him as Land Commission Award No. 16 (Records of the Board of Commissioners to Quiet and Titles). The remaining half of Kalena `Ili was granted to John Meek (Landrum *et al.* 1994:30).

In 1851 Pahoa's half of Ka`ena was conveyed to Rev. Artemis Bishop as Land Grant No. 527. In addition to being pastor of the `Ewa and Wai`anae mission stations, Rev. Bishop participated in many "surveying expeditions," which he emphasizes was done primarily for exercise (Bishop 1851: Missionary Letters). Bishop's survey data of Kalena, consisting of boundary descriptions and a corresponding sketch map, provides a hint that traditional practices were maintained in Kalena during this period; he wrote:

> I can devise no method to divide the land without spoiling its value. The lower part is a ravine and contains taro patches for 4 or 5 families. The Upper part is stony and mountainous and is only fit for pasture (Department of the Interior Document 255).

Bishop's sketch map denotes the locations of at least six houses. These were likely inhabited by the 4 or 5 families whom the taro patches belonged to (*ibid*). Interestingly, Rev. Bishop writes in his survey notes that the *`ili* of Kalena was in the "District of Lihue, Wai`anae, Oahu," again suggesting that the traditional place name of Lihu`e probably included the western lands of Wai`anae Uka. It is suggested that an additional district named Lihu`e may have existed among the central plateau of Oahu.

On June 9 of 1851, the Rev. Bishop and his wife sold the property to John Meek (Bureau of Land Conveyances, Book 17: 148), whom later acquired the entirety of Wai`anae Uka for ranch lands. As Crown Land, the remaining land of Wai`anae Uka was leased to various foreign entrepreneurs, who were in one way or another involved with cattle ranching on the central plateau of O`ahu between the years 1875 and 1887, and the initial purchase of Wai`anae Uka in 1889 by J.I. Dowsett.

Prior to its being leased, sometime during the reign of Kamehameha IV (1855- 1863), the *ahupua`a* of Wai`anae Uka was reportedly given by the King to a lawyer and legislator named Mahoe (Tomonari-Tuggle 1994:22). No records exist that confirm this land allocation. However, it is said that Mahoe's claim to Wai`anae Uka "was later lost during the overthrow of the monarchy" (*ibid*). Nedbalek (1984) suggests that Kaliikaua wanted Wai`anae Uka for his own and in exchange, he gave Mahoe a land plot in Honolulu. According to a 1900-1901 Waialua Agricultural Co. map and grant records (on microfilm in the State Division of Land Management, DLNR), the area currently considered to be a northern section of western Wai`anae Uka, between the prominent Pu`u Pane ridge and north boundary of Wai`anae Uka, was subdivided into 9 grants referred to as the Maile Grants. Tomonari-Tuggle (1994:20) compiled a summary of these leaseholds:

WAI`ANAE UKA LEASEHOLDS:

1875 - May I
• 10-year lease for the lands of Wai`anae Uka and Pouhala Uka (except for timber trees) to the heirs of John Meek, who died on January 20, 1875 and James Dowsett; lease was $500.00 per year (Liber. 43 p. 97-101).

1879 - February 1
• The Meeks transferred their lease to James I. Dowsett; on the same day, Dowsett surrendered the lease to the Crown Lands Estate (Liber. 70, p. 424).

1882 - January 14
• Crown Lands Estate awarded a 30-year lease (at $500/year) to Hervey E. Whitney for the lands of Wai`anae Uka, Waikakalaua, and Pouhala (Brown 1886) "as by survey by W.D. Alexander in Crown Land Book of Survey, pages 160, 161, 162. Except the timber trees and all young trees fit and proper to be raised and preserved for timber trees**".**

• On the same day, Whitney sold 1/3 of the lease to Kalakaua and 1/3 to C.H. Judd for 1.00; the lease included Nanakuli and Aiea (Liber. 76, p. 140) and Whitney and Judd sold 2,000 head of cattle called the "Meek herd" to Alexander J. Cartwright and George Galbraith for $30,000; it also appears that Whitney assigned his lease to Cartwright and Galbraith (Liber. 70, p. 428).

1887 - November 21
• Kaliikaua transferred a deed to trustees of his estate, C.H. Judd, S.M. Damon, C.P. Iaukea, and A.J. Cartwright (Liber. 105, p. 268).

1889 - March 12
• Leilehua Ranch sold at auction to James I. Dowsett for $41,500; the ranch included 20,000 acres stretching from `Ewa to about 5 or 6 miles south of Waialua, 3,000 head of cattle and other stock; was owned by Kalakaua and C.H. Judd (p.C. Advertiser 1889).

1889 - March 21
• Deed formally transferred to J.1. Dowsett; it included Kalauao Ewa, Nanakuli, Wai`anae Uka, Pouhala, Waikakalaua, Ke`elikolani taro patches at Waiawa, Kalena at Wai`anae, Aiea, as well as 2,500 to 3,000 head of cattle, 23 work horses, colts, and two mules, three ox carts and yokes, and "all that property known as Leilehua Ranch", including among other things, all "cattle branded with a crown" (Liber. 112, p. 401.).

The boundaries of the nine grants extended on their *mauka* ends from a common point on Pu`u Pane (at a "Koa tree") and terminated at their widest points along the northwest side of Hale`au`au Stream or Kaukonahua Stream to the north. These grants were acquired between 1851 and 1853, and all but one of the grants (Grant 629, purchased by Mark Ivers) was associated with Hawaiian names (Index of Grants 1916). An 1881 survey map shows the location of a dairy on the opposite (southeast) side of Iver's grant land, thus suggesting that Ivers was affiliated with cattle ranching. All nine grants were clearly designed to incorporate the water resources of Hale` au` au or Kaukonahua Stream into the widest portions of each parcel.

In 1846 the east half of Waikakalaua, an 836-acre land parcel south of the present Wai`anae Uka boundaries, was conveyed to John L. Gilman (Grant 6) for the price of $1.00 (on microfilm in the State Division of Land Management, DLNR). The west half of Waikakalaua was retained as Crown Lands. A metes and bounds map of Grant 6 identifies the land immediately east of the grant, and within Wai`anae Uka, as Oahunui. A "rock at Oahunui" is shown as a boundary marker at the northeast comer of the grant.

RANCHING (CA. 1840 TO 1928)

John Meek, one of the earliest lease holders of Wai`anae Uka, was a well-known ship captain and Honolulu harbor master (*ibid*:19). He was also a prominent O`ahu cattle rancher. The success of Meek's ranching endeavors on the central plateau of O`ahu is elaborated in the later 1922 account:

> The days are recalled, also, when Captain Meek controlled Lihue and Wahiawa on Oahu under lease from the government. He raised thoroughbred horses, and his daughters rode

> the finest in the island. The Meek animals were known all over the group, especially his white horse which he called "Pu-a". His oldest daughter, Eliza, was often seen riding the horse through the streets of Honolulu garbed in a wonderful pa-u with a dozen or more followers wearing the same color of fluttering skirt garment (Taylor 1922:223 in Tomonari-Tuggle 1994: 19).

An 1881 Government Survey map shows a house labeled as "Crabbe" near Kokoloea at them center of Wai`anae Uka. This was probably a ranch house once occupied by Horatio Crabbe and his wife Elizabeth Meeks Crabbe, the daughter of John Meeks. Horatio Crabbe was also the executer of John Meek's will (*ibid*: 22). This same house was considered to be the "old Dowsett ranch house" by Alika Dowsett, the son of James Dowsett (Meek's lease partner of the land). Wai`anae Uka was part of the Meek and/or Dowsett Ranch until 1879, at which time both families relinquished the lease back to Crown Lands (*ibid*).

Kalakaua apparently named the Wai`anae Uka ranch lands "Leilehua" and in 1882, this land was the two-thirds portion of the land leased to Kalakaua and C. H. Judd (Tomonari-Tuggle 1994:20). Kalakaua and Judd built a hunting lodge in Wai`anae Uka as a retreat, where they were known to have entertained other people of influence (Nedbalek 1984: 13). This lodge was named "Malamanui" by Kalakaua and is said to have been located where the former Schofield Golf Course was located.

Malamanui is also mentioned by Papa I`i (1959:97) as being a place that the Kolekole trail passed through. In an effort to payoff some large national debts accumulated by Kalakaua as a result of his extravagant lifestyle, Leilehua Ranch was sold to the original lease holder, James I. Dowsett, and maintained as a ranch up into the early 1900s (Tomonari-Tuggle 1994:20).

During the late 1800s, when much of Wai`anae Uka was part of the Meek Dowsett`s ranch lands, the 1878 government census indicated that 19 households still existed there, including 54 males and 41 females. All but 12 of the 96 residents were reported to be of Hawaiian ethnicity, and all but two of the names were Hawaiian names (*ibid*: 24). An 1886 photograph of what appears to be Waiele Stream gulch is evidence that irrigated taro *(lo`i*) was still being cultivated in Wai`anae Uka during the late 19th century. This photograph also shows the presence of a humble residence next to the taro fields.

A 1911 "Map of Taro and Watered Lands in the Kaukonahua Gulch" (Gomes 1911) shows the locations of several, presumably 18th century historic house sites, an area of graves, and a multitude of taro lands along the banks of Kaukonahua Stream west of the Wahiawa Dam.

One of these house sites appears to have been located within the present day Schofield Barracks Military Reservation, at the confluence of Mohiakea and Kaukonahua stream gulches. The area of graves indicated on the map seems to lie roughly north of the present day Wright-Smith Avenue in Schofield Barracks.

MILITARY OCCUPATION (1899 THROUGH PRESENT)

In 1899 Wai`anae Uka was formally set aside by the U.S. government as a military reservation. However, it was not until 1909 that temporary and permanent barracks were constructed on the western central plains of Wai`anae Uka and occupied by army personnel. Most of the buildings and training infrastructure initially planned for Schofield Barracks were completed during the early 1920s, after World War I. At the beginning of World War II, Schofield Barracks offered the only major training area in the Hawaiian Islands. The military base was also targeted during the infamous Japanese attack on O`ahu on December 7, 1941. Presently, the land of Wai`anae Uka is completely under U.S. military jurisdiction. The lower portion of Wai`anae Uka west of Wilikina Drive is encompassed by the Schofield Barrack's residential and operational facilities. Three training ranges *(i.e.,* Impact Area, South Range and East Range) and forest reserve land comprise the remaining portion of Wai`anae Uka.

Patricia Alvarez (1982) provides a detailed account of the history and modern events associated with the U.S. military occupation of Wai`anae Uka. The historical sequence of military use of Wai`anae Uka *(ca.* 1909-1946) began in the year 1899 when Wai`anae Uka (with the exception of Kalena `Ili) (*ibid*: 9*)* was set aside as a United States military reservation (Executive Order G. O. 147). The initial intent was that the reserve be a place for soldiers to recuperate after fighting in the Philippines (O'Hare *et al.* 1993: A-7).

The location of Wai`anae Uka was also considered to be advantageous as the "base for Oahu's mobile defense troops because of its strategic central location on the island" (Tomonari-Tuggle 1994:25). Despite the 1907 request of the Hawaiian Governor Walter Frear to reserve Wai`anae Uka for homesteading (Alvarez 1982:21), the U.S. military first occupied the central plains of Wai`anae Uka in 1909. The pioneer group, consisting of 473 men from the 5th Cavalry Regiment, was housed in temporary and permanent structures (Tomonari-Tuggle 1994:27) in the southeast comer of modern day Schofield Barracks.

Schofield Barracks was originally called Castner Village, named after Captain Castner who initiated the construction of the barracks and associated structures (Alvarez 1982:25). In April 1909, the military settlement was formally named Schofield Barracks, in honor of a former

Commanding General of the U.S. Army, Lieutenant General John M. Schofield. According to a 1910 Reservation Map of Schofield Barracks, a network of Oahu Sugar Co. ditches and associated tunnels extended across the Wai`anae side of the reservation between Waiele Stream (near a cantonment), and Hale`au`au, Kalena and Mohiakea streams to the northwest.

By 1916 several new barracks were constructed at Schofield Barracks, each of which were designed to be self-contained units and included kitchen and mess hall facilities, eight squad rooms, and an administration building. The administration building provided housing and office space for the residents, as well as reading and music rooms, and a medical examination room. The top third floor of each newly constructed barrack housed a large auditorium that had a stage and orchestra pit (*ibid*: 34).

Although a pause in construction occurred during World War I, following the declaration of war in 1917, most of the major building projects initially planned for Schofield Barracks were finished in the early 1920s (*ibid*: 42). Such projects included the construction of general officer's bungalows in 1918, the 1919 and 1923 construction of new artillery barracks for the increasing number of artillery troops at Schofield (located away from the infantry and cavalry areas), the 1920 and 1921 construction of new infantry barracks, and the addition of many officer's quarters in association with the infantry and cavalry sections (*ibid*: 43).

During the Japanese attack on O`ahu on December 7, 1941, Schofield Barracks received minimal damage in the form of bullet holes in buildings, such as Carter Hall, Upper Post storage tanks, and building T-1632. The attack gave the Post's 25th Division the distinction of being the first army unit to receive hostile fire in the war. The 25th Division units were responsible for shooting down two fighter planes, one Japanese and one American (*ibid*: 64-65).

At the beginning of World War II Schofield Barracks comprised the only major training area in the Hawaiian islands, which included artillery ranges, small arms firing ranges, and bayonet and obstacle courses (*ibid*: 69). Soon after, larger facilities were constructed to accommodate the newly established Ranger Combat School "whose objective was to toughen the soldier for the jungle's rigors" commonly experienced in the Pacific battleground *(ibid).* By the end of World War II (this marked by the Japanese surrender in 1945) the population at Schofield Barracks decreased to just 5,000 individuals (*ibid*: 74).

Currently the Schofield Barracks Military Reservation comprises three active training ranges: the Impact Area, South Range and East Range. The Impact Area, containing

approximately 2,800 acres, encompasses the lower slope of the Wai`anae Range west of the main Schofield Barracks housing and administration area. This range is the primary range for live mortar and artillery firing, but is also used for field training of squad and platoon size units, headquarters, elements and service support units. The South Range, just south of the Impact Area, is commonly used for field training of headquarters and service support units. At the time of the 2010 U.S. Census, Schofield Barracks contained a population of 16,370 (United States Census Bureau Website (http://quickfacts.census.gov/qfd/states).

SUMMARY

The "level of effort undertaken" to identify potential effect by a project to cultural resources, places or beliefs (OEQC 1997) has not been officially defined and is left up to the Cultural Impact Assessment investigator. A good faith effort can mean contacting agencies by letter, interviewing people who may be affected by the project or who know its history, research identifying sensitive areas and previous land use, holding meetings in which the public is invited to testify, notifying the community through the media, and other appropriate strategies based on the type of project being proposed and its impact potential. Sending inquiring letters to organizations concerning development of a piece of property that has already been totally impacted by previous activity and is located in an already developed industrial area may be a "good faith effort." However, when many factors need to be considered, such as in coastal or mountain development, a good faith effort would undoubtedly mean an entirely different level of research activity.

Historical and cultural source materials were extensively used and can be found listed in the References Cited section of this report. Such scholars as John Papa I`i; Samuel M. Kamakau; Martha Beckwith; Jon J. Chinen; Patrick Kirch, Marshall Sahlins; E.S. Craighill and Elizabeth Green Handy; Mary Kawena Puku`i, Samuel H. Elbert, and Esther Mookini; Ross Cordy; and Elspeth Sterling, and Catherine Summers have contributed, and continue to contribute, to our knowledge and understanding of Hawai`i, past and present. The works of these and other authors were consulted and incorporated in this report where appropriate. Land use document research was supplied by the Waihona `Aina 2012 Database.

A number of archaeological and science-related studies have been conducted in Wai`anae Uka (McAllister 1933; Griffin and Yent 1977; Rosendahl 1977; O'Hare *et al*. 1993; McIntosh *et al.* 1994a and 1994b; and Tomonari-Tuggle 1994). Sterling and Summers (1978) provide information regarding legendary sites and some of the previously recorded archaeological sites on the Schofield Barracks Military Reservation.

Archaeological sites were observed in the western portion of Wai`anae Uka by Bishop Museum Zoologist W.A. Bryan in 1901. While on route to Hale`au`au Valley (written as "Hale o o") from a cabin to the south, Bryan observed "as many as perhaps a dozen stone enclosures, which probably were the walls of old dwellings" (Bryan 1901). Bryan describes "Hale o Temple" as being "farther down the valley" from the settlement, below a large enclosure *(ibid)*. The large enclosure measured 190 ft by 100 ft and had an elevated "square place" in one of its comers (*ibid*). At a vantage point at "Hale O Temple," Bryan observed walls "a few hundred yards" down the valley that he hypothesized as being "the house of a thrifty kanaka country gentleman surrounded by his lots and pens" (*ibid*). Further up in this same valley, Bryan observed the "remains of ancient kalo ponds".

The earliest formal archaeological work in the region was done during a 1930 island-wide survey by J. Gilbert McAllister, under the auspices of the Bishop Museum. McAllister (1933) recorded seven sites in Wai`anae Uka. All but one of these sites were located in the western portion of Wai`anae Uka, along the northeast slope of the Wai`anae mountain range.

The sites documented by McAllister (1933 in Sterling and Summers 1978:134-137) consisted of two *heiau*, and a habitation site located near Mohiakea Gulch, the "Kolekole Stone" (Site 214) near Kolekole Pass, Kumakalii Heiau (Site 213) in Pukaloa Gulch below Pu`u Kumakali`i and Pu`u Kalena, and Luakini Fishpond at the top of Mauna Ka`ala. In the east portion of Wai`anae Uka, McAllister recorded the "Oahunui Stone" (Site 204), on the South Fork of Kaukonahua Gulch. McAllister (1933 in Sterling and Summers 1978: 132, 137) noted that all but three of the seven sites had been destroyed and one site, the fishpond on top of Mauna Ka`ala, was no longer an active fishpond, but a swamp. Twenty years later, Thomas McGuire contended that it was unlikely that the swamp at Mt. Ka`ala was ever a fishpond because of the lack of dykes or stone walls necessary to contain such a pond and the apparent old age of the vegetation growth in the marsh (McGuire in Sterling and Summers 1978: 132).

Of the more eminent sites recorded in the area by McAllister were the Kukaniloko birth stones and the associated Ho`olonopahu Heiau (McAllister 1933: 134-137), located in Wahiawa just north of Schofield Barracks. Unfortunately, nothing remained of Ho`olonopahu Heiau at the time of McAllister's survey and the surrounding land was planted in pineapple (*ibid*).

Three *heiau* have been recorded in Wai`anae Uka within the western portion of the SBMR. Kumakali`i Heiau was recorded as being in the upper part of "Pukaloa Gulch"

(McAllister 1933: 133) at approximately the 2,200 foot contours (State Historic Preservation Division, Kapolei, files). Pukaloa Gulch, also named by Bryan (1901) in his explorations, seems to refer to present day Kumakali`i Stream valley.

Hale`au`au Heiau was shown by Sterling and Summers (1978) as being located on the west side of the confluence of Kalena Gulch and Mohiakea Gulch. McAllister described the *heiau* to be on the side of "Pukaloa Gulch" (McAllister 1933: 133), which may be an older name for Mohiakea Gulch. However, the *heiau* name suggests an association with Hale` au` au Stream located north of Kalena and Mohiakea. This location is further supported by a 1933 McAllister photograph of Hale`au`au Heiau that exhibits a closer back drop of the Wai`anae mountain range and road (currently called Firebreak Road) than would be expected if the site was located at Kalena and Mohiakea.

Hale`au`au Heiau was described by McAllister as a stepped platform with a pit feature, situated on "a natural hill on the side of the gulch" (*ibid*: 134-135). Although Hale`au`au Heiau was reportedly in better condition than the other two *heiau,* most of its features had been destroyed by artillery as the site was located on the edge of a military firing range.

The location of Kalena Gulch Heiau is more dubious as it was identified by McAllister as being located "in Kalena Gulch on the land of Mohiakea" (*ibid*: 134). However, Sterling and Summers (1978) shows the location of Kalena Gulch Heiau as being on the upper plateau about 100 feet to the east of the confluence of Kalena Gulch and Mohiakea Gulch. McAllister (1933) reported that Kalena Gulch Heiau had been completely destroyed by artillery because it was also located on a military firing range. Local residents once claimed that an underground "tunnel" containing burials existed in Kalena Gulch Heiau (*ibid*: 134).

Thrum (1907 in McAllister 1933) depicts Kumakali`i Heiau as being "an important heiau in its day and of large size; visited by Kalakaua in the '70s". McAllister reported that Kumakali`i Heiau was dismantled and "the stones were used in the building of the Wahiawa dam" (*ibid*: 134) located nearly 5 miles to the east of the site. A local informant (in Tomonari-Tuggle 1994: 14) has mentioned the presence of a "navigational *heiau",* referred to as "Kumakali`i", located at the base of Maunaauna just south of Kolekole Pass. The names Kumakali`i and Kumakali`i may be synonymous for the same *heiau* site, although the locations are different.

During the late 1970s, the Bishop Museum conducted a reconnaissance survey of Schofield Barracks, under contract to the U.S. Army Corps of Engineers (Rosendahl 1977). The

work included a ground survey that focused on approximately 8% of the total 9,280-acre project and literature research and oral histories. The resulting report presents an inventory of nine sites, including six of the seven sites recorded by McAllister (1933), the Elou Cliff trail (State Site 50-80-08-9516) described by Papa I`i (1959:97), and two newly identified sites: a series of dryland agricultural terraces (State Site 50-80-08-9527) and a platform (State Site 50-80-08-9528) (Rosendahl 1977: vol. 2-36). Although Papa I`i's narrative seems to describe the trail as crossing over the east side of Mauna Ka`ala from Hale`au`au and Kalena, Rosendahl (1977) places State Site 50-80-08-9516 in closer proximity to the Kolekole Pass Road (map on file at the State Historic Preservation Division, Kapolei) and Rosendahl (1977) states that the site was "destroyed probably by construction of the present road" (*ibid*).

An archaeological "surface survey" was conducted at the Wahiawa Fresh Water Park situated at the west boundary of the Schofield Barracks Military Reservation's East Range (Griffin and Yent 1977). As a result of this survey, two Historic Era sites were located adjacent to the South Fork of Kaukonahua Stream: an Oahu Railway and Land railroad bed, and a terrace complex. Griffin and Yent were uncertain whether the terrace complex was prehistoric in origin and historically modified or historic in origin (*ibid*: 2). Likewise, they speculate that either "the terraces may have been used to grow and irrigate wild taro" or they were "used to prevent erosion along the slope of the stream bank" (*ibid*).

The "Kalo ponds" observed by Bryan further up Hale`au`au Valley probably correlate with agricultural terraces, `auwai and associated house sites observed in the "Aerial Tram Valley" during an early 1980s botanical survey conducted by the Waimea Arboretum (Powell 1984 letter). On a 1954 USGS Topographical Map of the Island of Oahu, "Aerial Tram" refers to a dashed line that extends from Hale`au`au Stream valley to the peak of Mount Ka`ala. The following excerpt from Powell's letter to the Army Corp of Engineers provides a detailed summary of the Hale`au`au Valley sites (ibid):

> Terraces seen were of loose rock formation. To my untrained eye they seem typical of the walls observed in Waimea Valley. Most appear to be terrace retaining walls... I began counting easily noted walls on my … trek and they numbered 35. I did not count small sections or pieces, only those that were obviously untouched walls. There were 4 sites that might have more significance. They were enclosures of some sort. One was quite intact and measured approximately 10 feet. Another was slightly smaller and two of the walls were formed partially by large boulders. Walls had been constructed up to and including them. There were two auwai trenches that I counted and one that I did not have the time to clear but suspect it was as well. One of interest to me was a

section along the river that was carefully walled and seemed to form a viaduct of sorts away from the river. It was leading off into an area that I did not follow.

A survey of historic buildings was undertaken at Schofield Barracks by Paul H. Rosendahl, Inc. (O'Hare *et al.* 1993). The goal of the study was "to identify and evaluate all structures with potential historic significance at the installation," including those structures that were constructed before 1942 (upon review of the report, the DLNR requested that the cut off date be 1950) (*ibid*: 1 and E-1). This work supplemented an inventory and evaluation of historic buildings in Schofield Barracks previously done by the Bishop Museum (Rosendahl 1977). A total of 374 properties were ultimately identified at Schofield Barracks. The historic significance of the 374 sites were evaluated in accordance with four categories (Category I through IV) used by the U.S. Army. It was proposed that a number of "buildings constructed before World War 1or as a result of the 1916 construction plan" be included in the Schofield Barracks Historic District (O'Hare *et al*. 1993:7).

Four archaeological or historical studies have been conducted on the more developed portions of Wai`anae Uka in the centrally located areas of Schofield Barracks and Wheeler Army Airfield (O'Hare *et al*. 1993; McIntosh *et al.* 1994a and 1994b; and Tomonari-Tuggle 1994).

In the early 1990s, the International Archaeological Research Institute, Inc. conducted an "assessment of cultural resources" was done at Wheeler Army Airfield (Tomonari-Tuggle 1994). The study included a comprehensive compilation of the traditional and historical background and previous archaeological studies of the area. A ground survey was conducted in selected areas determined as having the least degree of ground disturbance and thus, greater probability of site preservation. Five archaeological sites were recorded in the sample areas including a remnant of the Oahu Rail and Land Company railroad and four probable military structures.

An inventory of historic properties was also undertaken and all buildings dating before 1952 were evaluated (Bouthillier in Tomonari-Tuggle 1994). Fifty-four buildings were identified and a portion of these were recommended to be designated a National Register Historic District (Tomonari-Tuggle 1994: iii).

Two separate archaeological studies were conducted by BioSystems at several parcels along the perimeter of Wheeler Army Airfield (McIntosh *et al*. 1994a) and on the south side of Kaukonahua Stream adjoining Schofield Barracks (McIntosh *et al.* 1994b). Two historic buildings and a grinding stone next to one of the buildings, were identified in the Wheeler Army Airfield parcels. The grinding stone was interpreted as prehistoric in origin and because it was

"out of context" (McIntosh *et al*. 1994b:27), and it was recommended to be preserved elsewhere where it could be better protected.

Scientific Consultant Services, Inc. conducted three Phases of work in SBMR (Robins and Spear 1997a, 1997b, and Carson 2000). This work was primarily aimed at developing an inventory of archaeological sites and assessing site functions and was completed through detailed mapping, recording and excavation. A total of 76 traditional Hawaiian sites, 21 ranching or military sites, and four sites of undetermined function were investigated.

Scientific Consultant Services, Inc. conducted Cultural Resources Inventory Survey and Limited Testing, Phase I, of the Schofield Barracks Training Areas for the Preparation of a Cultural Resource Management Plan for U.S. Army Training Ranges And Areas, O`ahu Island, Hawai`i (TMK 7-6-01 and 7-7-01) (Robins and Spear 2002a). A total of 73 archaeological sites were identified as a result of the Inventory Survey. The site inventory consists primarily of Traditional-type Hawaiian structures that were interpreted as irrigated (pondfield) and non-irrigated (dryland) agriculture, habitation, burial, and trails. Several historic ranching and U.S. military structures are also included in the inventory. Limited testing was conducted at two Hawaiian pondfield agriculture sites (50-80-08-5392 and 5394), a permanent habitation enclosure (in Site 50-80-08-5448) and a dryland agriculture terrace (in Site 50-80-08-5427). The stratigraphy of the pondfield sites suggested the presence of at least two cultivation zones that were evidenced by alternating oxidation and reduction soils. It is posited that the field boundaries exposed on the surfaces of the pondfield sites are a later, possibly Historic Era development. Radiocarbon dating analysis of the four sites revealed a continuation of Hawaiian settlement and agricultural developments in Wai`anae Uka between the 13th and 17th centuries.

Scientific Consultant Services, Inc. also conducted Cultural Resources Inventory Survey And Limited Testing, Phase II, of the U.S. Army Schofield Barracks Training Areas for the U.S. Army Garrison Hawaii Ecosystem Management Program, Island Of O`ahu, Hawai`i (Robins and Spear 2002b). Eleven individual areas were selected for survey based on a site prediction model generated from background research of the region. A total of 19 archaeological sites were identified during the inventory survey. The site inventory consists of nine traditional Hawaiian sites interpreted as irrigated (pondfield) and non-irrigated (dryland) agriculture and habitation, one possible road section associated with ranching or military training, and eight U.S. military sites. Limited testing was conducted at one Hawaiian pondfield agriculture sites (50-80-08-5393), a permanent habitation terrace (in Site 50-80-08-5448), an *imu* (subterranean earth oven) and dryland agriculture feature (in Site 50-80-08-5423), and two temporary habitation sites (Sites

50-80-08-5431 and 5507). Radiocarbon dating analysis of the four sites revealed a continuation of Hawaiian settlement and agricultural developments in Wai`anae Uka between the 15th and 20th centuries.

In 2004, Garcia and Associates (GANDA) conducted Archaeological Surveys for the Stryker Brigade Combat Team (SBCT) U.S. Army Hawaii Schofield Barracks Hawaii (Buffum *et al*. 2004). This study focused on SBCT training facilities at Schofield Barracks Military Reservation, Kahuku Training Area, Wheeler Army Airfield, military vehicle trails from Schofield Barracks to Dillingham Training Area and to Helemano Military Reservation, O`ahu Island, and at the Pohakuloa Training Area, Hawai`i Island. However, only the findings at the SBCT training facilities at Schofield Barracks will be discussed. No new or previously identified sites were encountered.

Scientific Consultant Services, Inc. conducted a site relocation project involving Global Positioning System (GPS)/site survey fieldwork on 48 previously identified sites within the U. S. Army's Kawailoa Training Area (KLOA) on O`ahu (Kaschko and Dega 2005). Global Positioning System coordinates were acquired from all but two sites formerly identified during Phase I and Phase II archaeological research. Global Positioning System points were taken in the approximate location of the two small, non-identified sites. All other sites were subject to GPS measurement and assessed for preservation integrity. All the sites but one, a hearth remnant on Pu`u Kapu, have retained their integrity since original recordation in 1997 and 1998. During this survey, several previously unidentified sites were located.

In 2006, Archaeological Monitoring was conducted of the Duckfield Water-line Installation at Schofield Barracks Military Reservation (Descantes 2006). During the monitoring activities no new, or previously identified archaeological sites were identified. However, three historic artifacts were observed during trench excavations. These artifacts included one glass Coca Cola bottle and two horseshoes, which most likely date between the 1920s and the 1950s.

Scientific Consultant Services, Inc. conducted an Archaeological Assessment of nine locations totally 13.76 acres situated at Wheeler Army Air Field and Schofield Barracks Military Reservation, Wai`anae Ahupua`a, Wahiawā District, Island Of O`ahu [TMK: (1) 7-7-001: various] (Tome and Spear 2010). A total of six sites were identified during the assessment work; these included site TS-1, a culvert; TS-2, a pulley target system; TS-3, a wooden structure; TS-4, a concrete structure; TS-5 a historic trash dump; and TS-6, which included a culvert and six artificial excavations found in a cliff face.

In addition, Scientific Consultant Services, Inc. is currently conducting an Archaeological Inventory Survey of the Hale Kula Elementary School project area. To date, SCS archaeologists have conducted a field inspection and Archaeological Monitoring of mechanical and manual boring excavations. Both the field inspection and the monitoring produced negative findings. The subsurface testing activities are pending.

CULTURAL IMPACT ASSESSMENT INQUIRY RESPONSE

Analysis of the potential effect of the project on cultural resources, practices or beliefs, the potential to isolate cultural resources, maintain practices or beliefs in their original setting, and the potential of the project to introduce elements that may alter the setting in which cultural practices take place is a requirement of the OEQC (No. 10, 1997). As stated earlier, this includes the cultural resources of the different groups comprising the multi-ethnic community of Hawai`i.

As stated elsewhere in this document, consultation was sought from individuals and organizations whose jurisdiction included knowledge of the area. Consultation was sought from Kamana`opono M. Crabbe, Chief Executive Officer, of the Office of Hawaiian Affairs (OHA); Agnes Leinau, Vice President, Hale Kula Elementary School; George Kaeliwai, Jr., Hawaiian Civic Club of `Ewa; Paulett Kaleikini, community member; Phyllis (Coochie) Cayan, State Historic Preservation Division; Shad Kane, community member, and Willie H. Hoohuli, community member (see Appendix A). As a reminder, follow-up letter were sent to these same individuals approximately three weeks after the initial letters (see Appendix B). In addition, a Cultural Impact Assessment Notice was published on May 30, 31, and June 3, 2012, in The Honolulu Star-Advertiser, and the June 2012 issue of the OHA newspaper, *Ka Wai Ola* (see Appendix C). Responses to the Letters of Inquiry are presented in Appendix D.

The Office Of Hawaiian Affairs provided a written response dated June 7, 2012 (see Appendix D). This letter did not provide any information pertaining to traditional cultural activities being conducted in the vicinity, nor did it provide referrals to knowledgeable individuals who may have provided information pertaining to traditional cultural practices which were, or are still, practiced in the vicinity of the project area.

Responses were received from two community members: Paulett Kalekini and William Hoohuli. Ms. Kalekini indicated that she would like to be a full participant in the process and that she would be willing to prove her standing as a descendant to the first inhabitants of the area, should the need arise. Mr. Hoohuli stated that the Hoohuli Ohana (family) has lived and worked the *aina* (land) in the vicinity of Schofield Barracks for generations. Mr. Hoohuli stated

in his letter that "...[i] was a we;; established custom of old Hawaii to bury their ohana in marked or unmarked graves...". Mr. Hoohuli furthers states that burial sites may include caves, holes, lava tubes, hollowed out rocks, or in the ground, as the *aina* of each family was their farm, home, and burial ground. As Ms. Kalekini and Mr. Hoohuli requested that portions of their letters remain confidential, these letters are not presented in Appendix D.

CULTURAL ASSESSMENT AND RECOMMENDATIONS

As no additional suggestions or information pertaining to traditional cultural practices or access rights were received from the contacted individuals and organizations, via the legal notices newspapers, and the negative results of the archival research, it is reasonable to conclude that, pursuant to Act 50, the exercise of native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities will not be affected by development activities. Because there were no cultural activities identified within the approximately 10.666-acre Hale Kula Elementary School project area, there are no adverse effects.

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APPENDIX A: LETTERS OF INQUIRY

Mr. Willie H. Ho`ohuli
94-1067 Leomama Street
Waipahu, Hawai`i 96797
(aweau@aol.com)

July 12, 2012

Dear Mr. Ho`ohuli:

In compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i on November 19, 1997. At the request of PBR, Hawai`i, Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

According to documents supplied by PBR, Hawaii, Hale Kula Elementary School, which was constructed between 1958 and 1959, has been selected for upgrades to improve conditions and capacity issues. The proposed improvements to Hale Kula Elementary School will include renovations to 10 existing 4-classroom buildings; additions to 2 existing buildings; and the construction of 1 new 2-story 11 classroom building. The proposed improvements also include the demolition of the existing library and Administration Building and the construction of a new Library/Media Tech Center; a new Student Support Center; and a new covered Playcourt.

If you are interested, archaeological reports of studies conducted in the area can be found on file at the State Historic Preservation Division (SHPD) Office, Kapolei.

According to the *Guidelines for Assessing Cultural Impacts* (Office of Environmental Quality Control, Nov. 1997):

> The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs…The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural which support such cultural beliefs…

We are asking you for any information that you or other individuals might contribute to the knowledge of traditional cultural activities, or traditional rights that might be impacted by the proposed improvements. The assessment results are dependent on the response and contributions made by individuals and organizations such as yours.

Enclosed are maps showing the location of the proposed project area. Please contact me at our SCS Honolulu office at (808) 597-1182 with any information or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

Cathleen Dagher
Senior Archaeologist
Enclosures (2)
Cc: George Kaeliwai, Jr., Hawaiian Civic Club of `Ewa; Kamana`opono M. Crabbe, Office of Hawaiian Affairs; Shad Kane, O`ahu Island Burial Council; Phyllis (Coochie) Cayan, State Historic Preservation Division

Agnes Leinau June 20, 2012
Hale Kula Elementary School, Vice President
(Hand Delivered)

Dear Mr. Kaeliwai:

In compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i on November 19, 1997. At the request of PBR, Hawai`i, Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

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Sincerely yours,

Cathleen Dagher
Senior Archaeologist
Enclosures (2)
Cc: Phyllis (Coochie) Cayan, State Historic Preservation Division; Kamana`opono M. Crabbe, Office of Hawaiian Affairs; Shad Kane, O`ahu Island Burial Council; George Kaeliwai, Jr.,Hawaiian Civic Club of `Ewa

George Kaeliwai, Jr.
Hawaiian Civic Club of `Ewa
2460-A Na`ai Street
Honolulu, HI 96819

May 24, 2012

Dear Mr. Kaeliwai:

In compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i on November 19, 1997. At the request of PBR, Hawai`i, Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

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Sincerely yours,

Cathleen Dagher
Senior Archaeologist
Enclosures (2)
Cc: Phyllis (Coochie) Cayan, State Historic Preservation Division; Kamana`opono M. Crabbe, Office of Hawaiian Affairs; Shad Kane, O`ahu Island Burial Council

Kamana`opono M. Crabbe, Chief Executive Officer May 24, 2012
Office of Hawaiian Affairs
711 Kapi`olani Blvd, Suite 500
Honolulu, HI 96813

Dear Mr. Crabbe:

In compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i on November 19, 1997. At the request of PBR, Hawai`i, Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

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Sincerely yours,

Cathleen Dagher
Senior Archaeologist
Enclosures (2)
Cc: Phyllis (Coochie) Cayan, State Historic Preservation Division; George Kaeliwai, Jr., Hawaiian Civic Club, `Ewa; Shad Kane, O`ahu Island Burial Council

Paulette Kaleikini
Email : pkaleikini@hawaii.rr.com

June 1, 2012

Dear Ms. Kaleikini:

In compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i on November 19, 1997. At the request of PBR, Hawai`i, Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

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Sincerely yours,

Cathleen Dagher
Senior Archaeologist
Enclosures (2)
Cc: George Kaeliwai, Jr., Hawaiian Civic Club of `Ewa; Kamana`opono M. Crabbe, Office of Hawaiian Affairs; Shad Kane, O`ahu Island Burial Council, Phyllis Cayan, State Historic Preservation Division

Phyllis (Coochie) Cayan
State Historic Preservation Division
601 Kamokila Blvd, Suite 555
Kapolei, Hawaii 96707

May 24, 2012

Dear Ms. Cayan:

In compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i on November 19, 1997. At the request of PBR, Hawai`i, Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

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Sincerely yours,

Cathleen Dagher
Senior Archaeologist
Enclosures (2)
Cc: George Kaeliwai, Jr., Hawaiian Civic Club of `Ewa; Kamana`opono M. Crabbe, Office of Hawaiian Affairs; Shad Kane, O`ahu Island Burial Council

APPENDIX B: FOLLOW-UP LETTERS OF INQUIRY

Shad Kane July 12, 2012
shadkane@gmail.com

Dear Mr. Kane:
This is our follow-up letter to our May 23, 2012 letter which was in compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i, on November 19, 1997.

Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

Hawaii, Hale Kula Elementary School, which was constructed between 1958 and 1959, has been selected for upgrades to improve conditions and capacity issues. The proposed improvements to Hale Kula Elementary School will include renovations to 10 existing 4-classroom buildings; additions to 2 existing buildings; and the construction of 1 new 2-story 11 classroom building. The proposed improvements also include the demolition of the existing library and Administration Building and the construction of a new Library/Media Tech Center; a new Student Support Center; and a new covered Playcourt.

We are asking you for any information that might contribute to the knowledge of traditional activities, or traditional rights that might be impacted by development of the property. The assessment results are dependent on the response and contributions made by individuals and organizations such as yours.

Please contact me at our SCS Honolulu office at (808) 597-1182; with any information or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

Cathleen Dagher

Senior Archaeologist

Cc: Phyllis Phyllis (Coochie) Cayan, State Historic Preservation Division; George Kaeliwai, Jr., Hawaiian Civic Club of `Ewa

C

Agnes Leinau July 13, 2012
Hale Kula Elementary School, Vice President
(C/O Mali Cox; mcox@pbrhawaii.com)

Dear Mrs. Leinau:

This is our follow-up letter to our June 20, 2012 letter which was in compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i, on November 19, 1997.

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Please contact me at our SCS Honolulu office at (808) 597-1182; with any information or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

Cathleen Dagher
Senior Archaeologist
Cc: Phyllis (Coochie) Cayan, State Historic Preservation Division; Shad Kane, O`ahu Island Burial Council; George Kaeliwai, Jr., Hawaiian Civic Club of `Ewa

D

George Kaeliwai, Jr. July 13, 2012
Hawaiian Civic Club of `Ewa
2460-A Na`ai Street
Honolulu, HI 96819

Dear Mr. Kaeliwai:

This is our follow-up letter to our May 24, 2012 letter which was in compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i, on November 19, 1997.

Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

Hawaii, Hale Kula Elementary School, which was constructed between 1958 and 1959, has been selected for upgrades to improve conditions and capacity issues. The proposed improvements to Hale Kula Elementary School will include renovations to 10 existing 4-classroom buildings; additions to 2 existing buildings; and the construction of 1 new 2-story 11 classroom building. The proposed improvements also include the demolition of the existing library and Administration Building and the construction of a new Library/Media Tech Center; a new Student Support Center; and a new covered Playcourt.

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Please contact me at our SCS Honolulu office at (808) 597-1182; with any information or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

Cathleen Dagher
Senior Archaeologist

Cc: Phyllis (Coochie) Cayan, State Historic Preservation Division; Shad Kane, O`ahu Island Burial Council

Phyllis (Coochie) Cayan July 13, 2012
State Historic Preservation Division
601 Kamokila Blvd, Suite 555
Kapolei, Hawaii 96707

Dear Ms. Cayan:

This is our follow-up letter to our May 24, 2012 letter which was in compliance with the statutory requirements of the Federal National Environmental Policy Act (NEPA), the State of Hawai`i Revised Statute (HRS) Chapter 343 Environmental Impact Statements Law, and in accordance with the State of Hawai`i Department of Health's Office of Environmental Quality Control (OEQC) Guidelines for Assessing Cultural Impacts as adopted by the Environmental Council, State of Hawai`i, on November 19, 1997.

Scientific Consultant Services, Inc. (SCS) is in the process of preparing Cultural Impact Assessments (CIA) pertaining to approximately 11 acres of land located within Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, Island of O`ahu [TMK: (1) 7-7-001:003].

Hawaii, Hale Kula Elementary School, which was constructed between 1958 and 1959, has been selected for upgrades to improve conditions and capacity issues. The proposed improvements to Hale Kula Elementary School will include renovations to 10 existing 4-classroom buildings; additions to 2 existing buildings; and the construction of 1 new 2-story 11 classroom building. The proposed improvements also include the demolition of the existing library and Administration Building and the construction of a new Library/Media Tech Center; a new Student Support Center; and a new covered Playcourt.

We are asking you for any information that might contribute to the knowledge of traditional activities, or traditional rights that might be impacted by development of the property. The assessment results are dependent on the response and contributions made by individuals and organizations such as yours.

Please contact me at our SCS Honolulu office at (808) 597-1182; with any information or recommendations concerning this Cultural Impact Assessment.

Sincerely yours,

Cathleen Dagher
Senior Archaeologist
Cc: George Kaeliwai, Jr., Hawaiian Civic Club of `Ewa; Shad Kane, O`ahu Island Burial Council

APPENDIX C: LEGAL NOTICES

CULTURAL IMPACT ASSESSMENT NOTICE POSTED IN THE OFFICE OF HAWAIIAN AFFAIRS NEWSLETTER (KA Wai OLA NEWSPAPER) AND THE STAR-ADVERTISER NEWSPAPER

Information requested by Scientific Consultant Services, Inc. (SCS) on cultural resources or on-going cultural activities on or near the proposed Hale Kula Elementary School, Schofield Barracks, Wai`anae Uka Ahupua`a, `Ewa District, O`ahu Island, Hawai`i [TMK: (1) 7-7-001:003]. Please respond within 30 days to Cathleen Dagher at (808) 597-1182

APPENDIX D: RESPONSES TO LETTERS OF INQUIRY

PHONE (808) 594-1888

FAX (808) 594-1865

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

HRD12_6277B

June 7, 2012

Cathleen Dagher, Senior Archaeologist
Scientific Consultant Services, Inc.
711 Kapi'olani Boulevard, Suite 975
Honolulu, Hawai'i 96813

Re: Pre-Cultural Impact Assessment consultation
Hale Kula Elementary School Improvements Project
Island of O'ahu

Dear Cathleen Dagher:

The Office of Hawaiian Affairs (OHA) is in receipt of your May 24, 2012 letter with enclosures seeking comments ahead of a cultural impact assessment (CIA) that will be prepared to support various improvements at Hale Kula Elementary School (project) proposed jointly by the State of Hawai'i Department of Education (DOE) and the United States Department of Defense (DOD). The Hale Kula Elementary School (school) is landlocked within the boundaries of Schofield Barracks, a military installation under the control of the DOD. The eleven (11) acres of land on which the school campus is situated are controlled by the DOE. OHA recognizes the DOE and the DOD for their effort to improve the conditions at the school for current and future students, parents and community members. We look forward to seeing this much needed project completed.

OHA is also in receipt of a May 25, 2012 letter from PBR Hawaii & Associates, Inc. seeking comments on this project ahead of environmental compliance documents that will be prepared pursuant to requirements of Chapter 343, Hawaii Revised Statutes and the National Environmental Policy Act to support the use of Federal and State lands and/or funds for this project. The Federal nexus to this project indicates that the requirements of the National Historic Preservation Act may also be applicable.

Your letter states that should CIA consulting parties be "interested", *archaeological reports of studies conducted in the area can be found on file at the State Historic Preservation Office, Kapolei*. This statement implies that it is the responsibility of CIA consulting parties to conduct background research on our own to determine whether historic properties of religious and/or cultural significance to the Native Hawaiian people are have been previously identified within the project area and then determine whether these resources and any associated traditional and customary practices and beliefs will be impacted by the project. This is an unacceptable statement that is contrary to the "good faith" and "meaningful" consultation requirements of State and Federal laws. OHA believes that a summary of the findings of any archaeological reports for the geographic area that is within the scope of a given CIA should always be included in the information provided with your request for comments. Please provide OHA with a summary of the *archaeological reports of studies conducted in the area* referenced in your letter so that we can continue CIA consultation for this specific project with you.

Your letter also states that the CIA *results are dependent on the response and contributions made by individuals and organizations such as yours*. OHA agrees that consulting parties have a responsibility to respond to a request for comments ahead of a CIA. From OHA's perspective however, our ability to respond and contribute to the development of your CIA is dependent on our ability to comprehensively review the information contained within technical reports relative to a given project area, including those related to historic property identification. Providing these needed technical reports are the responsibility of the preparer of the CIA so that meaningful consultation can occur. Thus, all parties have an inherent kuleana to contribute to the findings and determinations within a CIA.

We look forward to receiving the information we have requested and continuing CIA consultation with you. Should you have any questions, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

Kamana'opono M. Crabbe, Ph.D.
Ka Pouhana, Chief Executive Officer

KM:kl

C: Malia Cox, Environmental Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484

Appendix D
Archaeological Inventory Survey

Demolition of Administration and Library Buildings, and Relocation of Portable Buildings; Additions to Building A and the Cafetorium Building; and Construction of New Buildings (Administration, Library & Student Center, and Classroom), and a Covered Play Area, at Hale Kula Elementary School, Schofield Barracks, Hawaii

1. This architectural survey provides documentation and an evaluation of the Administration and Library Buildings prior to their demolition, and 9 Portable Buildings at Hale Kula Elementary School (School) prior to their relocation, under the Proposed Improvements at Hale Kula Elementary School Project. The survey assesses the buildings that are over fifty years old to examine their historic significance and to propose a determination of their eligibility.

    a. The project includes the relocation of 9 Portables (Buildings P-4, P-5, P-6, P-7, P-8, P-9, P-10, P-11, & P-14) (to be located with P-17, then demolished later), and demolition of the Library (Building L) and Administration (Building K) Buildings & adjacent covered walkways. New construction involves a Classroom Building, Library/Student/Technology Center, Administration Building, a covered Dining Pavilion, covered playground, a Custodial addition on one end of the Cafetorium (Cafeteria/M) Building, and a Special Education Classroom addition at the end of Bldg. B.

    b. The project is jointly-funded by the Department of Education (DOE) and the Department of Defense-Office of Economic Adjustment (DoDEA). The Project was triggered by a 2011 Facilities Condition Assessment report and a Department of Defense program to improve public schools located within military installations.

    c. DPW is providing the architectural survey for the Section 106 consultation process with the State Historic Preservation Division (SHPD) on behalf of the DOE and DoDEA.

    d. Although more than fifty years old, the buildings are not considered 'historic': (a) no direct "associations with events that have made a significant contribution to the broad patterns of our history; (b) no associations "with the lives of persons significant in our past"; and (c) although the campus does have "distinctive characteristics of a type, period, or method of construction," "finger-plan" schools were typical of 1950s school construction & elements of the "Prairie School" & "Modernist" architecture styles are visible.

    e. The Area of Potential Effect is the School's campus, bounded on the north and east by Ayres Avenue, the southwest by Waianae Avenue, and the southeast by McCornack Road.

    f. The School's facilities are located along the northeast boundary of the at Schofield Barracks (SB) Historic District. Building 750, the Old Nehelani Building, is southeast and across Waianae Avenue from the School. The former Hospital Complex is located directly south, across the intersection of McCornack Road and Waianae Avenue. The Canby Houses are southeast, across McCornack Road. Stoneman Field is east, across McCornack Road.

2. Background History:

    The property was originally part of the Schofield Barracks Military Reservation that was set aside by the U.S. government in 1899. Army personnel occupied temporary and permanent barracks that were built in 1909. Post-World War I construction that involved most of the buildings and training facilities were done in the early 1920s. By the onset of World War II, SB was the only major training facility in the Hawaiian Islands.

    The DOE received ownership of the property under Executive Order 10719 - Restoring Certain Lands of the Schofield Barracks Military Reservation to the Jurisdiction of the Territory of Hawaii.

    > "Whereas certain lands in Waianae-Uka, District of Wahiawa, and Waikakalaua, District of Ewa, Island of Oahu, Territory of Hawaii, which form a part of the public lands ceded and transferred to the United States under the

> joint resolution of annexation of July 7, 1898, 30 Stat. 750 were reserved for military purposes by Executive Order of July 20, 1899,…
>
> "Whereas the hereinafter-described parcel of such lands is desired by the Territory of Hawaii as a site for a public school; and
>
> "Whereas it is deemed advisable and in the public interest that it be restored to the possession, use, and control of the Territory of Hawaii , subject to the limitations hereinafter set forth:
>
> > "Being a portion of U.S. Military Reservation of Schofield Barracks (Presidential Executive Order No. 2800, dated February 4, 1918), situated at Waianae Uka, Wahiawa, Oahu, T.H.
> >
> > "Unless and until otherwise permitted by the Department of the Army, the parcel of land hereinabove described shall be used for public-school purposed only, and in the event the said land is used for other purposes, in whole or in part, and such other use shall continue for a period of sixty days after notice to cease and desist wherefrom, then the said parcel of land shall revert to the jurisdiction and control of the Department of the Army as a part of the Schofield Barracks Military Reservation."

The School's buildings were designed by Law & Wilson, Architects & Engineers, based in Honolulu, Territory of Hawaii (T.H.). Plans for "Wahiawa 2nd Elementary School, Schofield Barracks, Oahu, T.H." were submitted to the Department of Buildings, City & County of Honolulu in 1956. The architect for the 1959/1960 construction was Robert M. Law (deceased). He was the president of the Hawaii Chapter of the American Institute of Architects in 1955.

Schools designed by Law & Wilson in the same time period as Hale Kula include:

- Nimitz Elementary (1954)
- Kaewai Elementary (1956)
- Aliamanu Intermediate (1958)

Hale Kula Elementary School:

> "is located on the Schofield Barracks Army Installation. Built in 1959, the school is one of ten schools (seven elementary, two middle, and one high school) in the Leilehua Complex, we service students from special education pre-school to the fifth grade. 98% of our students are military dependents, making transition and deployment issues unique challenges for our staff. With the completion of new, environmentally-friendly houses in our geographic area and the re-drawing of geographical boundaries, our enrollment has increased to over 975 students this school year."

3. 10 Leilehua Complex schools are geographically the closest schools to Hale Kula. Many of the schools were built within 5 years (before/after) of the establishment of Hale Kula.

    Three other schools are situated within military bases:

    - Helemano Elementary School, built in 1956 at 1001 Ihi Ihi Avenue, Wahiawa
    - Iliahi Elementary School, built in 1963 at 2035 California Avenue, Wahiawa
    - Kaala Elementary School, built in 1958/1959 at 130 California Avenue, Wahiawa
    - Leilehua High School, built in 1924/at present location since 1949 at 1515 California Avenue, Wahiawa

- Schofield High and Grammar School, built in 1924 on the site of King Kalakaua's hunting ground; the high school division was a branch of McKinley High School; in 1949, the Schofield and Leilehua High Schools were combined and built on its present 32 acre site.
- Sargent Samuel K. Solomon Elementary School, built in 1968 at 2875 Waianae Uka Avenue, Wahiawa, within SB
- Wheeler Elementary School, built in 1960 at 1 Wheeler Army Air Field, Wahiawa, within Wheeler Army Air Field
- Wheeler Middle School, built in 1968 at 2 Wheeler Army Air Field, within Wheeler Army Air Field
- Wahiawa Middle School, built in 1960 at 275 Rose Street, Wahiawa
- Wahiawa Elementary School, built in 1899, at present location since 1949/1950

4. "Many schools designed in the 1950s & '60s used similar 'finger building' classroom building configurations oriented to maximize natural ventilation. A list would include schools such as:

- Kainalu Elementary School (1954)
- Alvah Scott Elementary School (1956)
- Kaewai Elementary School (1956)
- Kaneohe Elementary School (1956)."

Also called "finger-plan" schools, the noted architect, Ernest Kump (1911-1999) first designed the Acalanes High School (1939) in Lafayette, California and Exeter High School (1941). These:

> "were early examples of Kump's much imitated 'finger-plan' campus model.' This influential design was used from the late 1940s to the mid-1960s to address the post-war building boom quickly and efficiently."
>
> "(Mr. Kump) was one of the most extraordinary, innovative and provocative architects to come out of California," said noted architect Hiko Takeda in London. "He leaves a legacy of distinctive architectures of enduring dignity and informality with some of the best examples of built-environment that is in harmony with the aspirations of people and its natural setting."
>
> "Ernest J. Kump, Jr., who began his career in Fresno, achieved early recognition within a small circle of American modernists as one of the most advanced architectural thinkers of the late 1930s and early 1940s. Kump initiated his experiments in modernism working with architect and engineer Charles H. Franklin (1891-1956), who hired Kump as a draftsman in 1935."

Typical features were flat roofs, one-storied buildings, and:

> "parallel rows of classroom wings linked together by covered outdoor halls edged with pipe columns. At the main entrance was a barren, concrete-paved quadrangle with a flagpole; beyond was an auditorium known as the Multipurpose Room. Inside it were ranks of long lunch tables that folded neatly into the walls, a wardrobe filled with traffic patrol uniforms, and an elevated stage. (A) vast, tile-floored room, redolent with the smell of countless cafeteria lunches…"

The design was adjustable to different site conditions. Windows typically covered the north wall and a high clerestory stood above the south hallway. "School globe" and fluorescent bulb light fixtures hung below perforated acoustical tile dropped ceilings that also covered the upper parts of walls. Inexpensive concrete slabs formed the foundations and wood or concrete masonry unit (CMU) was used for walls that were stuccoed or painted. Classroom widths followed the widths determined by 2x12 roof joist spans.

"Modern" architecture was influential at the turn of the 20th century, typified by simple forms ornamented by the building's structure and theme. Architectural design reconciled with technological advancements and a modernized society. This dominant style was popularized after World War II by influential architects and architectural educators. Although single-dwelling residential buildings never embraced the modernist high-style, institutional and corporate design of the 21st century expressed "the only acceptable, design solution from about 1932 to about 1984."

The "Prairie School" style was also influential at the turn of the 20th century. Typical features include:

> "integration with the surrounding landscape, horizontal lines, flat or hipped roofs with broad eaves, windows assembled in horizontal bands, solid construction, craftsmanship, and restraint in the use of decoration. Horizontal lines were intended to unify the structure with the native prairie landscape of the Midwest."
>
> "a desire for simplicity and function….embraced handcrafting and craftsman guilds as a response in opposition to the new assembly line…dominant horizontality echoes the wide, flat, tree-less expanses of the mid-Western United States…a structure should look as if it belongs on the site, as if it naturally grew there."

5. The staff of DPW Environmental (Susan Tasaki) met with PBR Hawaii staff (Malia Cox) on site (Thursday, 19 April 2012) at the School regarding the proposed demolition project. The following observations identify character-defining features of the original buildings:

Flat roofs with deep eaves cover all the one-storied buildings, which are found in finger plan schools. Classroom wings are connected by covered walkways that are supported by pipe columns. The flagpole is located on a concrete-paved area, though plants & palm trees populate the typically barren entry quadrangle. A Cafetorium serves as an auditorium or multipurpose room. Long lunch tables can be folded into the walls, & there is an elevated stage with dressing rooms. The floors are concrete tile in the dining area and mahogany on the stage.

Use of simple horizontal lines, integration with the landscape, flat roofs, & broad eaves are reminiscent of the Prairie School. The covered walkways have flat-slabbed concrete roofs supported by thin pipe columns. The walkways visually tie the campus together & functionally provide shelter from the elements. They create a major character-defining feature of the campus, in keeping with the horizontal broad expanses of the open playground areas. The tall mature trees interspersed & at the edges of the campus accentuate the horizontality of the school. Other site features are the entry area parking lot site grading,

Like finger-planned schools, the campus layout has been adjusted to the site. Facing north broad horizontal bands of windows on these façades, also found in the Prairie School, receive northeasterly trade winds. The modular Classroom buildings were designed with concrete wing walls on both the north & south facades. Solid construction is typical of the Prairie School. Recessing the walls & having deep roof overhangs create lanais that provide protection from the inclement weather & the hot afternoon sun. Broad eaves are typical of the Prairie School. The south-facing walls have high clerestory jalousies or awning windows to vent out hot accumulated air. Fluorescent light fixtures hang below perforated acoustical tile dropped ceilings, also typical of finger-planned schools. Inexpensive concrete slabs form foundations & walls are of painted CMU. Asphalt/ceramic tile or carpet cover concrete slab floors. Building widths are determined by the spans of double-tee concrete roof joists that provide economy of materials, design, & construction, which integrates modern technology with the building's design. Built-in features include cubby holes, counters, book shelves, & sinks.

Similar in design & construction to the Classroom buildings, the Library building has modular bays defined by CMU wing walls, a flat roof, and jalousie & awning windows. The Administration building does not have the wing walls, but is similarly constructed. Both buildings have built-in features some of which are reminiscent of the "craftsman" influence, such as mailboxes, counters, shelves, & bookshelves.

The portable classroom buildings were also built with similar intentions of economy in materials, design, & construction. These one-storied wooden buildings have flat or low-hipped roofs. Jalousie windows allow natural ventilation. Fluorescent lights hang below canec or plywood ceilings. Walls are painted T&G. Classroom widths are similar in dimension to those of the permanent buildings.

The Cafetorium building continues the same campus design, though on a larger scale, having approximately double the height & width of Classroom buildings. The building uses simple forms that are ornamented by its structure & theme. The building is characterized by: modular bays defined by similar wing walls; high clerestory awning windows providing ventilation; painted CMU walls; concrete slab foundations; low hipped roof; & building width determined by spaces of roof trusses. Concrete-framed beams & columns have 'Butler' frame profiles and a Howe roof truss system are used, also providing economy of materials, design, & construction. Technological advancements are incorporated into the architectural design.

Administration Building (K): to be demolished; constructed 1959, single-story concrete & CMU, two bays wide, with a flat concrete roof.

- Function: used as an administration building as originally constructed; general & business offices; principal & vice principal's offices; conference room; health & nurse's room;
- Siting: in original location as constructed;
- Roof: asphalt built-up roofing over concrete, double-tee joists over concrete beams and columns;
- Windows: originally designed to have natural ventilation, now with air conditioning (AC); rear wall with a combination of aluminum two upper awning rows, middle fixed, & bottom row of hoppers for natural ventilation; aluminum exterior & wood interior windows in front office & public areas; bull-nosed quarry tile & wood sills; jalousie transoms over front double doors & over three-paned, fixed side lites on both sides of the doors;
- Doors: three-paneled glass over solid base panel; four-paneled wood; solid core wood; wood frames;
- Walls: concrete fascias over CMU walls;
- Ceilings: originally exposed concrete; currently with acoustical tile ceilings below concrete roof structure;
- Floors: asphalt/resilient & ceramic/quarry tile over concrete slab substrate; some areas with exposed concrete slab;
- Colors: blue walls, white roof & window trim; some trim painted blue or exposed aluminum;
- Light Fixtures: fluorescent & incandescent;
- Toilet Rooms: ceramic tile floors, incandescent lighting;
- Foundation: concrete slab over coral fill;

- Built-in features: cabinets, book and storage shelves, mail box cabinet, counters, chalk & tack board, mop racks.

Library (L): to be demolished; constructed 1959, single-story concrete & CMU, four bays wide, with a flat concrete roof.

- Function: used as originally constructed as a Library with reading room, storage, work room, stacks;
- Siting: in original location as constructed;
- Roof: asphalt built-up over concrete, double-tee joists over concrete beams and columns;
- Windows: operable aluminum awning & jalousie for natural ventilation; fixed glass; sheet metal louver over wire mesh screens; bull-nosed quarry tile sills; three bays on rear wall each with 18-foot-wide windows, divided into twelve panes; hopper ribbon windows in concrete fascia; sheet metal louvers;
- Doors: non-original front door with single glass panel above & solid panel below; originally three-paneled glass over solid base panel; solid core wood; four-paneled solid wood;
- Walls: concrete fascias over CMU walls;
- Ceilings: acoustical tile ceilings below concrete roof structure;
- Floors: asphalt/resilient tile & exposed concrete;
- Colors: blue walls, white roof & window trim;
- Light Fixtures: fluorescent & incandescent;
- Toilet Rooms: ceramic tile floors, incandescent lighting;
- Foundation: concrete slab over coral fill;
- Built-in features: cabinets, book and storage shelves, card-file cabinets, counters.

Portable Classroom Buildings (P-4, P-5, P-6, P-7, P-8, P-9, P-10, P-11, & P-14): to be relocated adjacent to P-17 & Bldg. B; based on original plans (1956), a Kindergarten Bldg. (#11) was proposed where P-4, P-5, P-6, & P-7 currently sit; typical Classroom buildings were designed to expand by modules; two modules of Classroom Bldg. J were built & the remaining two modules were added later to complete the typical building footprint; all the permanent classroom buildings have modular configurations that are close in design, footprint, & scale of a row of portable buildings;

P-4, P-5, & P-10 were constructed in 1966; P-6 in 1967; P-7 in 1959; P-8 in 1988; P-9 in 1989; P-11 in 1964; P-14 in 1992; & P-17 in 1995; single-story, wood-framed, with hipped roofs of similar slopes; P-8, P-9, P-14, & P-17 have ramps;

- Function: used as originally constructed as classrooms;
- Siting: in original locations as constructed;
- Roof: asphalt built-up over plywood;
- Windows: operable wood jalousie for natural ventilation;
- Doors: solid-core;

- Walls: tongue-&-groove (T&G) panels;
- Ceilings: plywood, canec;
- Floors: plywood with resilient tile or carpet;
- Colors: blue walls, white jalousies;
- Light Fixtures: fluorescent;
- Foundation: wood post & pier on concrete block footings;
- Built-in features: storage shelves, counters.

Cafetorium: An addition is proposed to be attached on the wall behind the Stage. Constructed in 1959 the single-story building has stepped heights. The highest profile defines the Dining & Stage area, that has a 13-foot-high (approx.) clear space to the bottom of the trusses below a shallow hipped roof. The Main Kitchen area has a slightly lower hipped roof, below which another low-pitched, hipped roof covers the support area of the Kitchen (offices, storage, loading dock).

- Function: used as originally constructed as a cafeteria with a stage, dining area, kitchen;
- Siting: in original location as constructed;
- Roof & Structure: hipped higher roof over dining & stage; hipped lower roof over kitchen asphalt built-up roofing over 3-1/2"-timber decking; plywood joists; flat concrete roofs below clerestory awning windows; concrete-framed beams & columns with 'Butler' frame profile and Howe roof truss system on higher Dining/Stage portion of the building;
- Windows: operable aluminum awning for natural ventilation in walls & clerestory; 12 clerestory windows fill each of 6 bays on both north & south elevations along roof line and above flat concrete roofs on the higher Dining/Stage portion of the building; fixed wood-framed glass windows on west elevation at Kitchen;
- Doors: 'crystal glass' aluminum storefront with fixed side lites & transoms; fixed 'crystal glass' top panel over two solid bottom panels; four-paneled wood; hollow-metal louvered with fixed, expanded-metal transom windows;
- Walls: concrete frames; defined 'Butler' frame profile is visible on end wall with CMU in-fill; douglas fir plywood;
- Ceilings: mahogany plywood at proscenium & furred-down ceiling; canec; exposed concrete; acoustical tile;
- Floors: asphalt tile & exposed concrete; mahogany wood on the stage and access stairs;
- Colors: blue walls & doors; white roof, clerestory, window trim, and front wall & doors;
- Light Fixtures: (original fixtures not shown in drawings);
- Toilet Rooms: acid-stained concrete floors; CMU walls; concrete ceiling;
- Foundation: concrete slab over coral fill;
- Built-in features: (Kitchen features not identifiable in drawings); Stage, proscenium, stairs.

6. The following is an assessment of the historic integrity of the individual buildings and the campus, seen as a district:

The campus retains its original look and feel, as seen from the front along Ayres Avenue. The design expresses typical features of "finger-plan" schools as well as those of "Modern" architecture and the "Prairie School." Typical of 1950s and 1960s school designs, the classroom buildings were aligned as "finger buildings" inter-connected by covered walkways for protection against the elements. The buildings were oriented to take optimal advantage of the trade winds, designed to address the environment and climate. Post-war schools were designed to be economic, sustainable, and reusable.

Given the flat site and buildings with strong horizontal lines, the campus design is also reminiscent of the architectural Prairie School style of the late 19th and early 20th century:

> "integration with the surrounding landscape, horizontal lines, flat or hipped roofs with broad eaves, windows assembled in horizontal bands, solid construction, craftsmanship, and restraint in the use of decoration. Horizontal lines were intended to unify the structure with the native prairie landscape of the Midwest."

The campus blends in with the surrounding, tall mature trees that define the perimeter of the site. It blends in with the relatively level ground with the long and flat roofs of buildings and walkways with broad eaves. Thin steel pole supports visually 'disappear' under the horizontal, flat concrete roofs of the covered walkways that are mirrored in the flat, horizontal concrete walkways. The individual window designs & CMU wall units in themselves, have strong horizontal dimensions. The horizontal rhythm extends from the window bands below the roof lines on the outside, to the inside with repetitive rows of fluorescent lights & exposed double-tee beams. The simple concrete buildings have minimal decorations: quartz tile window sills; pebble-finished glass windows in alignment with windows on paneled wood doors of interior offices; the designed rhythm of classroom windows, sliding glass doors, tackboards, chalkboards, book niches, hand-crafted wood mailboxes, bookcases, shelves, & counters; intricately-patterned, ceramic tile toilet room floors; and marble thresholds.

Although more than fifty years old, the buildings are not considered 'historic': (a) no direct "associations with events that have made a significant contribution to the broad patterns of our history; (b) no associations "with the lives of persons significant in our past"; and (c) although the campus does have "distinctive characteristics of a type, period, or method of construction" "finger-plan" schools were typical of 1950s school construction.

These solidly-engineered buildings have been disappearing as a part of the nation's cultural and historic fabric. Many of these finger-plan schools have been closed, demolished, or adapted for other uses across the country.

In addition, an assessment by an arborist would determine the existence of exceptional & significant trees, any effects of the proposed work, and recommended treatment & actions.

Figs. 1, 2. Above: Upon entering the campus, the Cafeteria Bldg. (M) on the right, precedes the Admin. Bldg. (K) beyond. Below: Mature palm trees are located where a Custodial addition is proposed on the left side of the Cafeteria. The 'Butler' frame profile can be seen on the flat exterior wall.

Fig. 3. As seen from the middle of the campus, a mature tree behind the Cafeteria is located next to the proposed Covered Dining Pavilion.

Fig.4. The covered walkway that visually and functionally connects the campus together, can be seen beyond the mature palm trees along the side of the Library Bldg. (L) (center) that is proposed for demolition & Classroom Bldg. (D) (right).

Figs. 5, 6. Above: To be demolished, the higher roof line of the covered walkway & the Admin. Bldg. define the main entry to the campus. Below: Side view of the central covered walkway. Mature palm trees surround the flagpole area that is part of the original design.

Fig. 7. Close-up of original flagpole base, on the right of the main entry & the Admin. Bldg. The covered walkway connects to the Library building on the right, to be demolished.

Fig. 8. A new Library/Student Center will be built in place of the Admin. Bldg., right. Classroom Bldg. (A) is to the left of mature trees & Portable Bldg. (P-17) is on the far left end.

Fig. 9. The original parking lot fronts the Admin. Bldg. & main campus entry.

Fig. 10. Mature trees edge the campus beyond. The new Admin. Bldg. is proposed for the grassy area fronting Bldg. A.

Fig. 11. P-17 is on the left of Classroom Bldg. A. Relocated portables P-7, P-6, P-5, & P-4 will line up to the left of P-17.

Fig.12. Looking back towards the front of the campus entry area, mature trees are between Classroom Bldg. A on the left and the Admin. Bldg. in the center. The new Admin. Bldg. will be in this grassy area & the new Library/Student Center will take the place of the existing Admin. Bldg.

Fig. 13. Close-up of Admin. Bldg. where a new Library/Student Center will be built. Both fixed & operable aluminum windows maintain the original fenestration pattern. Building modules are defined by the ends of concrete beams.

Fig. 14. A hierarchy is defined by the stepped roof connection of the Admin. Bldg., main entry, & covered walkway connecting to the classroom buildings.

Fig. 15. Seen from the walkway fronting the Library is the fenestration pattern on the left & rear of the Admin. Bldg.

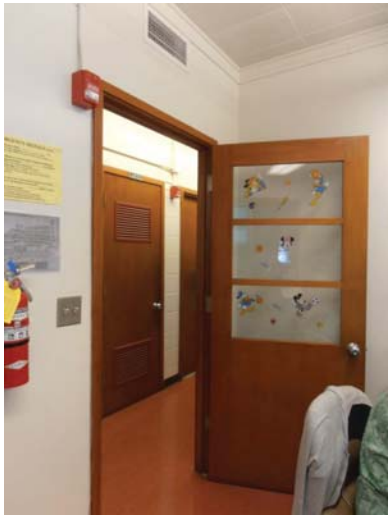
Fig. 16. Roof structure of Admin. Bldg.'s double-tee concrete joists over concrete beams. Flat, simple concrete slabs form the covered walkway's roof supported by thin steel poles.

Fig. 17. Operable jalousie windows above the Admin. Bldg.'s double, front entry doors with single glass vision panels, & fixed, three-paned side lites on both sides.

Fig. 18. Admin. Bldg.'s reception area with built-in counter, drawers, & mail boxes. Jalousie windows along the ceiling provide natural ventilation as needed.

Fig. 19. Vice Principal's office beyond with wired, pebble-finished glass windows.

Fig. 20. Doors have three panels of glass windows over a solid bottom panel. The door's windows align with wired, pebble-finished glass windows along office walls.



Figs. 21, 22. Close-up of a door with three-paneled glass windows at Nurse's office, left. Right, a built-in bulletin board in the Hallway.

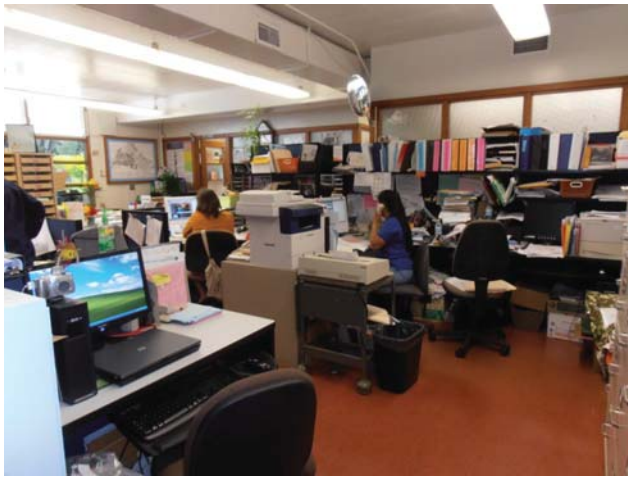


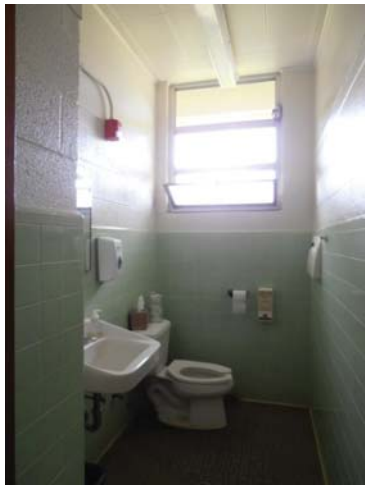
Fig. 23. The central office work area maintains a repetitive rectangular unit that ties the building's design together in the: resilient floor tiles; the pebble-finished, private office glass windows; acoustic ceiling tiles; ceiling light fixtures; & exterior windows.

Fig. 24. The Health office has built-in counters, cabinets, & sink. The CMU wall joints and wood-framed window align with the counter & cabinets.

Fig. 25. Built-in counters & cabinets in the Kitchen align with the window.

Fig. 26. Wide hopper windows sit on quarry tile sills.

Figs. 27, 28. A ceiling light fixture in a closet, left, & dropped pedestal light fixtures, right, in the acoustical tile ceiling, maintain the repetitive rectangular design module.



Figs. 29, 30. The Toilet Room's decorative ceramic floor tile contrasts with the simple, ceramic tile wainscoted walls, left. The simple, modular progression of the rectangular form can be seen in the tiles of the floor & walls, the CMU joint lines, the windows, and the ceiling panels & lighting, right.

Fig. 31. Close-up of the transition from the Hallway resilient tile floor to a marble threshold to the Toilet Room's decorative ceramic floor tile.

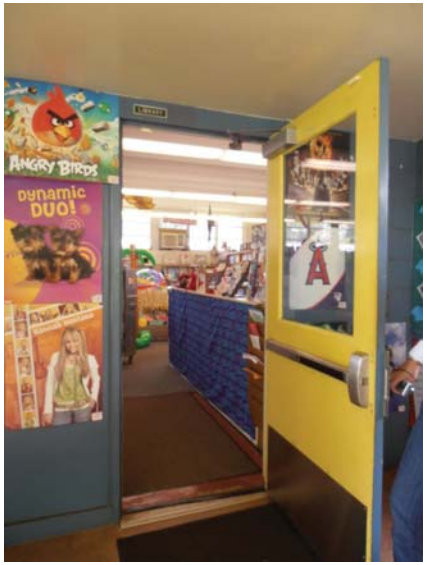
Figs. 32, 33, 34. Above: View of Classroom Bldg. A, left, with an extended roof forming the covered walkway. Below, left: To be demolished, the covered walkway extends from Bldg. A to the Library on the left and the Admin. Bldg. on the right. Strong horizontal planes & lines are accentuated by the walkway roof mirrored by the concrete walkway below. The repetitive rectangular module that ties the campus design is seen defined in the negative spaces formed by the thin steel poles, the concrete walkway & roof, and the typical CMU building walls. Below, right: Rectangular ceiling-mounted light fixtures also seen in the Library & Admin. Bldg. are repeated in the covered walkway's ceiling.

Figs. 35, 36. Above: Front façade of the Library. Below: The covered walkway fronts the Library's entry on the left & connects to the Admin. Bldg. on the right. The footprint of the new Library/Student Center will encompass the area now covered by both the Admin. & Library buildings.

Figs. 37, 38. Above: The Library's non-original entry doors. Below: CMU wing walls create modular bays in an otherwise flat façade below the roof line extending from the covered walkway.

Figs. 39, 40. Above: The Custodian's facility at the left end of the Library. Below: CMU wing walls.

Fig. 41. The repetitive rectangular module blends in a mechanical room on the front right corner of the Library.



Figs. 42, 43. Left: The Library's front door is non-original. Right: Rectangular glass windows provide natural light in the entry area. Ribbon windows in fascia continue the visual rhythm of fluorescent lights hung between exposed, double-tee concrete beams.

Fig. 44. The repetitive rectangular rhythm is visible in CMU walls & ribbon windows, below the exposed double-tee concrete-beamed roof structure.

Figs. 45, 46. A custom-made card file cabinet on the left and built-in bookcases on the right.

Fig. 47. Facing Classroom Bldg. E on the left are P-16, left, & P-15 along the rear area of the campus. (No work is proposed here.)

Fig. 48. Left to right, P-11 & P-10 at far end, the right side of P-4, & Classroom Bldg. H in the foreground. A new Classroom Bldg. will be in the grassy area in front of P-4, P-5, P-6, & P-7 after they are relocated. (1956 plans show that a kindergarten building like Bldg. H was to have completed the finger-planned campus in this same location.)

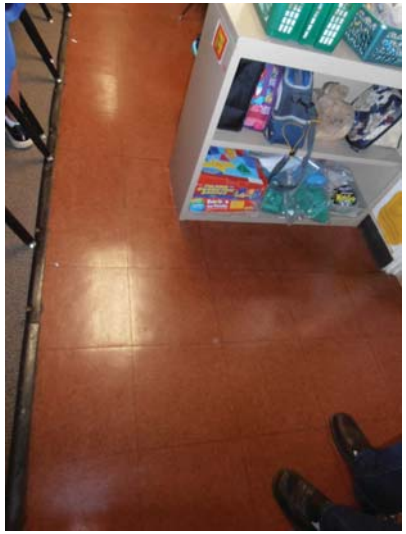
Fig. 49. Cafeteria at left & mature palm trees at main entry area beyond. To be relocated are P-14 & P-9 in the center, and on the right P-4, P-5, P-6, P-7, & P-8 (left to right). A Covered Playground is proposed for the foreground area & a Classroom Bldg., on the right.

Fig.50. P-17, left, is next to Classroom Bldg. A. P-4, P-5, P-6, & P-7 will line up with P-17. P-8, P-9, P-10, P-11, & P-14 will align with Bldg. B in the grassy area beyond. Mature jacaranda trees overlook P-13, P-12, & Classroom Bldg. C beyond.

Figs. 51, 52. Above: P-17 is on the right of Classroom Bldg. A in the center. Classroom Bldg. B is on the left, where a Special Education Addition Classroom Addition will be attached. P-8, P-9, P-10, P-11, & P-14 will align with Bldg. B. Below: P-17 next to Classroom Bldg. A.

Fig. 53. A typical portable (P-17) has built-in shelves, pendant fluorescent lights, & jalousie windows.

Fig. 54. Resilient flooring defines the area around a sink & built-in counters in the carpeted portables.



Figs. 55, 56. Built-in storage cabinets (left) & shelves (right) on a resilient-tiled area.

Fig. 57. Jacaranda trees line the fenced border between Hale Kula Elementary School & the Schofield Barracks Military Barracks.

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Susan Tasaki Historic Architect

DPW, Environmental

Appendix E
National Historic Preservation Act Compliance

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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

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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAHUHIHEWA BUILDING
601 KAMOKILA BLVD, KAPOLEI HI 96707

DATE: December 12, 2012 **LOG:** 2012.2868
DOC: 1212AW01

TO: Robert Eastwood
Director of Public Works
Department of the Army
US Army Installation Management Command, Pacific Region
Headquarters, United States Army Garrison, Hawaii
851 Wright Avenue, Wheeler Army Airfield
Schofield Barracks, Hawaii 96857-5000

SUBJECT: **National Historic Preservation Act (NHPA) Section 106 Consultation**
Project: Hale Kula Elementary School Improvements
Owner: Department of the Army
Location: Schofield Barracks, Hawaii
Tax Map Key: (1) 7-7-001:003

Description of Project/Undertaking: Removal of portable classroom structures, demolition of existing administration and library buildings and construction of new; construction of new classroom and support facilities, addition to existing cafetorium; renovations to existing classroom and support facilities; new covered walkways; site improvements; and utilities upgrades. Hale Kula Elementary School was listed ninth on a nation-wide prioritized list of schools needing improvements.

Area of Potential Effect (APE): Hale Kula Elementary School campus and views

Description of Resource: Constructed in 1958 and designed by Law and Wilson Architects**,** Hale Kula Elementary School is a good example of mid-century school architecture in the "finger plan" school design model. Character defining features include this classroom configuration, flat roofed buildings in an unadorned "international style" with exterior halls supported by pipe columns, and wide cantilevered overhangs with clerestory windows above reminiscent of the Prairie Style.

Eligibility: The school possesses much of its historic integrity and would be eligible for the Hawaii and National Register of Historic Places.

Documentation Received: Historic background, archaeological assessment, architectural survey, archive and proposed construction drawings

SHPD Comments: Based on project information provided and a meeting with the architects, *SHPD concurs with the "no historic properties affected" determination.* Although historic support facilities are being demolished, we feel the proposed design integrates well with the existing campus and agree these buildings and the other improvements are necessary to the continued functionality of the school.

Any questions should be addressed to Angie Westfall at (808) 692-8032 or angie.r.westfall@hawaii.gov.

Mahalo for the opportunity to comment.

AWestfall

Angie Westfall
Architecture Branch Chief, Hawaii Historic Preservation Division