



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

Letter No. PMS-12

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

April 13, 2012

MAY 08 2012
FILE COPY

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

12 APR 25 PM 2:56

RECEIVED

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

FROM: Michael H. Shigetani, Public Works Manager
Facilities Development Branch, Project Management Section

SUBJECT: Finding of No Significant Impact
Keaukaha Elementary School Cafeteria
Tax Map Key (3) 2-1-020: 001
Portion of Keaukaha Tract No. 1
District of South Hilo, Hawai'i

The Department of Education, State of Hawai'i, has reviewed all comments received during the 30-day public comment period for the subject project and has issued a Finding of No Significant Impact. Please publish this determination in the next edition of the Environmental Notice.

One printed copy of the Final Environmental Assessment (EA) and one CD with the document in .pdf format are attached. The Environmental Notice publication form will be emailed to OEQC.

Please call Mr. Ryan Yamamoto of the Facilities Development Branch, Project Management Section at 586-0966 should you have any questions.

MS:RY:lh

Enclosures: Final EA (1 Hard Copy/1 CD)

c: Design Partners, Inc.

OEQC Publication Form The Environmental Notice

Instructions to Applicant or Agency:

1. Fill out this Publication Form and email to: oeqc@doh.hawaii.gov
2. Send a pdf copy of the EA / EIS and 2 hardcopies to OEQC. Mahalo.

Name of Project: Keaukaha Elementary School Cafeteria
Applicable Law: Chapter 343, Hawai'i Revised Statutes
Type of Document: Final Environmental Assessment
Island: Hawai'i
District: Waiākea
3rd Division, 2-1-020: 001

Permits Required: Plan Approval; Grubbing, Grading, Excavation, and Stockpiling; Building, Electrical, and Plumbing; NPDES; Variance from Pollution Controls; Chapter 6E Clearance

Name of Applicant or Proposing Agency: Department of Education, State of Hawai'i
Facilities Development Branch
Address 1151 Punchbowl Street, Room 501
City, State, Zip Honolulu, Hawaii 96813
Contact and Phone Ryan Yamamoto, Project Coordinator @ 586-0966

Approving Agency: Department of Education, State of Hawai'i
Address Facilities Development Branch
City, State, Zip 1151 Punchbowl Street, Room 501
Honolulu, Hawai'i 96813
Contact and Phone Ryan Yamamoto, Project Coordinator @ 586-0966

Consultant: Gerald Park Urban Planner
Address 95-595 Kaname'e Street #324
City, State, Zip Mililani, Hawai'i 96789
Contact and Phone T: 625-9626

Short-term construction impacts include raising fugitive dust, mechanical and equipment noise, potential for construction related runoff, grubbing vegetation, land alteration, potential impacts on traffic circulation, and loss of open space used for outdoor recreation and school functions. There are no streams or historic features on the ground surface to be affected.

A new and larger cafeteria will benefit students, faculty, Keaukaha School as a whole, parents of students, and the Keaukaha community. The existing cafeteria will be renovated into classrooms adding to the classroom stock with benefits for students and faculty.

The cafeteria *per se* will neither affect ambient air quality nor generate noise and use of the facility is not expected to adversely affect surrounding areas. No significant increase in vehicle traffic is anticipated as a result of this project. The new cafeteria will serve the same function and uses as the existing cafeteria but at a different location. There should be no significant increase in domestic water usage and wastewater flow compared to existing conditions. Storm water runoff will increase but will be retained on-site.

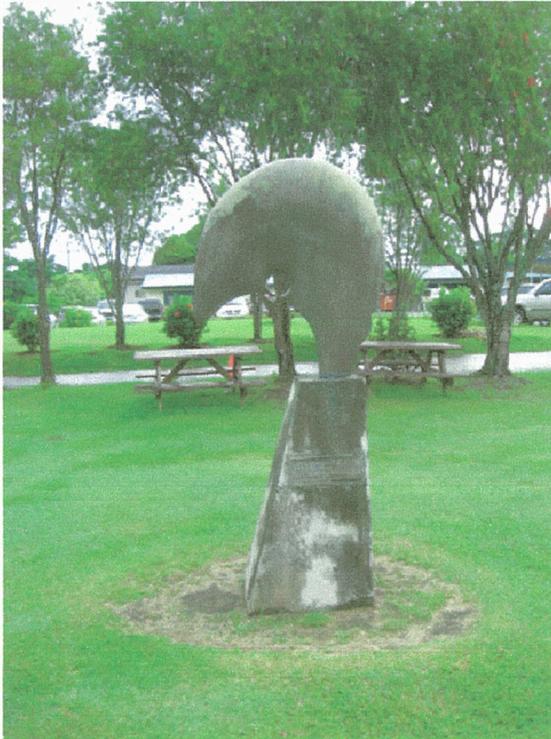
Designed as a sustainable building, the cafeteria will have lower operating costs, conserve energy and water, provide for the health and comfort of its users, and demonstrate a State commitment to sustainable building design and energy conservation. At one-story in height, it will be the same height as many campus buildings thus promoting the low-rise character of the school.

Open space currently used for outdoor recreation and school functions will be affected and this impact cannot be avoided. The Department of Education will confer with the Department of Parks and Recreation County of Hawai'i about using a section of Hualani Park during normal school hours for outdoor activities.

FINAL ENVIRONMENTAL ASSESSMENT

KEAUKAHA ELEMENTARY SCHOOL CAFETERIA

Portion of Keaukaha Tract No. 1, Waiākea, District of South Hilo, Hawai'i



Prepared for

Department of Education
State of Hawai'i
Facilities Development Branch
1151 Punchbowl Street, Room 501
Honolulu, Hawai'i 96813

April 2012

FINAL ENVIRONMENTAL ASSESSMENT

KEAUKAHA ELEMENTARY SCHOOL CAFETERIA

***Portion of Keaukaha Tract No. 1, Waiākea, District of South Hilo, Hawai'i
DOE Project Number Q11001-10***

Prepared in Partial Fulfillment of the Requirements of Chapter 343, Hawai'i Revised Statutes and Title 11-200, Hawai'i Administrative Rules, Department of Health, State of Hawai'i

Prepared for

Department of Education

State of Hawai'i
Facilities Development Branch
1151 Punchbowl Street, Room 501
Honolulu, Hawai'i 96813

Prepared by

Gerald Park Urban Planner

95-595 Kaname'e Street #324
Mililani, Hawai'i 96789

and

Design Partners, Inc.

1580 Makaloa Street
Suite 1100
Honolulu, Hawai'i 96814

April 2012

PROJECT PROFILE

Proposed Action:	Keaukaha Elementary School Cafeteria DOE Project No. Q11001-10
Location:	Portion of Keaukaha Tract No. 1, Waiākea, District of South Hilo, Hawai'i
Street Address:	Keaukaha Elementary School 240 Desha Avenue Hilo, Hawai'i 96720
Proposing Agency:	Department of Education Facilities Development Branch 1151 Punchbowl Street, Room 501 Honolulu, Hawai'i 96813
Determining Agency:	Department of Education Facilities Development Branch, Planning Section 1151 Punchbowl Street, Room 501 Honolulu, Hawai'i 96813
Tax Map Key:	3 rd Division, 2-1-020: 001
Land Area:	276,360 square feet or 6.34 acres
Landowner:	Department of Hawaiian Home Lands
Existing Use:	Public Elementary School
State Land Use Designation:	Urban
General Plan:	Low Density Urban
Zoning:	RS-10
Special Management Area:	Not Within Special Management Area
Need for Assessment:	Chapter 343, Hawai'i Revised Statutes §343-5 (1) Propose the use of state or county lands or the use of state or county funds.
Anticipated Determination:	Finding of No Significant Impact
Contact Person:	Ryan Yamamoto, Project Coordinator Department of Education Facilities Development Branch PO Box 2360 Honolulu, Hawai'i 96804 Telephone: 586-0966

Note: Substantive revisions to the text of the Draft Environmental Assessment are shown in ***bold italic*** type. Deleted text is indicated by ~~[strikethrough]~~.

TABLE OF CONTENTS

	Project Profile	i
	Table of Contents	ii
	List of Figures and Images	iv
SECTION 1	DESCRIPTION OF THE PROPOSED ACTION	1
	A. Need for the Project	1
	B. Technical Characteristics	1
	1. General	1
	2. Cafeteria Building	2
	3. Infrastructure	2
	4. Circulation and Off-Street Parking	2
	5. Accessibility	3
	6. Sustainable Design Features	3
	7. Landscaping	3
	C. Economic Characteristics	4
	D. Social Characteristics	4
SECTION 2	EXISTING CONDITIONS	13
	A. Existing Uses and Structures	13
	B. Climate	14
	C. Topography	14
	D. Soils	16
	E. Hazards	16
	F. Water Resources	16
	1. Surface Water	16
	2. Ground Water	16
	G. Historic Resources	18
	H. Cultural Resources	18
	I. Botanical Resources	18
	J. Wildlife Resources	18
	K. Acoustical Quality	18
	L. Land Use Controls	19
	M. Public Facilities	19
	1. Circulation	19
	2. Water	21
	3. Sewer	21
	4. Drainage	21
	5. Power and Communication	21
	6. Protective Services	21
	7. Parks	21
SECTION 3	SUMMARY OF ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS	22
	A. Short-term Impacts	22
	B. Long-term Impacts	24

TABLE OF CONTENTS

SECTION 4	ALTERNATIVES TO THE PROPOSED ACTION	27
	A. No Action	27
	B. Alternatives Sites	27
SECTION 5	PERMITS AND APPROVALS	28
SECTION 6	AGENCIES AND ORGANIZATIONS [TO BE] CONSULTED IN THE ENVIRONMENTAL ASSESSMENT PROCESS	29
SECTION 7	DETERMINATION OF SIGNIFICANCE	30
REFERENCES		33
APPENDIX A	COMMENT LETTERS AND RESPONSES	

FIGURES

Figure	Title	Page
1	Vicinity Map	5
2	Tax Map	6
Sheet C-2.0	Demolition Plan	7
Sheet C-3.0	Site Plan	8
Sheet A-2.1	Floor Plan	9
Sheet A-4.1	Exterior Elevations	10
Sheet A-5.1	Longitudinal Sections	11
Sheet L-1.1	Landscape Plan	12
3	Flood Insurance Rate Map	17
4	Zoning Map	20

SITE PHOTOGRAPHS

Photograph	Title	Page
1	Pua Avenue Looking North. Open Field is on the Right.	15
2	Open Field Looking East	15
3	Recess	15
4	Open Field Looking West	15
5	View to the Northwest	15
6	View to the Northeast	15

The Department of Education, State of Hawaii, proposes to construct improvements at Keaukaha Elementary School located at Keaukaha Tract No. 1, Waiākea ahupua'a, District of South Hilo, County of Hawai'i, State of Hawai'i. Keaukaha Elementary School is located approximately 2,000 feet north of Hilo International Airport and bounded by Desha Avenue on the north, Baker Avenue on the east, Hualani Park on the south, and Pua Avenue on the west. A Vicinity Map is shown in Figure 1.

The 6.344 acre school site is identified as Tax Map Key: 3rd Division, 2-1-020: 001 and owned by the Department of Hawaiian Home Lands (Hawaii County Real Property Tax Office, 2011). A Tax Map is shown in Figure 2.

A. Need for the Project

The purpose of the project is to construct a new permanent cafeteria building. The existing cafeteria is too small, antiquated, and falls short of Department of Education space programming standards for a cafeteria based on student enrollment. In addition to students at Keaukaha School, the cafeteria also serves meals to students of Ke 'Umeke Ka'eo Public Charter School. The Charter School occupies the same site and shares some school facilities with Keaukaha School.

To support the new cafeteria building, the proposed action includes drainage improvements and the installation of underground water, sewer, power, and communication systems and upgrading of same as needed. Modification to an existing parking lot near the proposed cafeteria building also is proposed.

B. Technical Characteristics

1. General

The new cafeteria will be constructed in the southwest corner of a large, rectangular-shaped open field at the rear of the school. The open field is approximately 62,000 square feet in area and used for recreational play and organized school activities during the school year.

A "construction area" of approximately 55,000 square feet has been designated and will be fenced for safety and security purposes during construction. Within the construction area, existing pavements, play apparatus areas, grass and trees, and some fencing will be demolished and existing utilities cut and plugged (See Sheet C-2.0, Demolition Plan).

The location of the new cafeteria and proposed improvements are shown on Sheet C-3.0 and described in the text below

A construction office and baseyard will be established between Classroom Buildings "B" and "C" in proximity to Pua Avenue.

2. Cafeteria Building

The new cafeteria will be a single-story structure with an approximate net floor area (or “building footprint”) of 12,600 square feet. The principal uses under roof are described below and a Floor Plan shown on Sheet A-2.1.

The planned 5,624 square foot student dining area will be the largest space and central feature of the building. The dining area will also function as a multi-purpose room for student art displays, large group instruction, and assemblies. An area for a portable stage (680 square feet) has been set aside on the east end of the dining area for performances and other uses. The cafeteria also will continue to function as a meeting place for the community. The dining area will have a maximum occupancy of 384 persons.

The dining room is located to maximize the amount of exterior wall openings for natural light and cross ventilation.

An approximately 2,600 square foot food serving kitchen is proposed with infrastructure for possible future conversion to a full cooking conventional kitchen. Meals will not be prepared at the cafeteria but prepared at and transported to Keaukaha School from a central kitchen at Hilo Intermediate School. Support areas for the kitchen include a manager’s office, locker room, and dry storage.

The kitchen will be equipped with two convection ovens to allow the school to occasionally prepare simple meals if needed. The provision of walk in freezers and a large grease trap are provided for future conversion to a complete conventional kitchen.

A 660 square foot staff dining room will be located in the southeast corner of the cafeteria. The dining room will also function as a faculty lounge and meeting place for teachers.

Space is allocated for ancillary uses as follows:

- A+ Program office
- Dressing rooms for boys and girls
- Restrooms for boys and girls
- Adult unisex restroom
- Storage space for chairs
- Custodial service center with shower and locker areas

The height of the proposed structure will be 27’-0” measured from finished grade to top of roof ridge (See Sheet A-4.1, Exterior Elevations and Sheet A-5.1, Longitudinal Sections) well below the 35-foot building height for the zoning district. The cafeteria will be erected on a poured in place concrete slab on spread-footing foundations. Concrete masonry exterior walls and columns will support glulam arch beams and pre-engineered wood trusses topped with a standing seam metal hip roof system over plywood sheathing.

The building will be painted with a light, earth-tone exterior color scheme to blend and complement the existing classroom buildings.

3. Infrastructure

Domestic water service will be provided from an existing 2" service lateral inside the school grounds.

Wastewater from the cafeteria will be discharged through a service lateral into a 10" off-site County of Hawai'i sewer main in Pua Avenue. The service lateral size will be determined at a later time but a 4" lateral is presumed.

Existing drainage patterns will be maintained where possible. The building pad will be graded to provide positive drainage away from the building foundation. Five drywells will be constructed to receive roof run-off from the cafeteria and adjoining classroom buildings. The drywells will have grated inlets to allow excess to overflow and surface flow onto lawn areas.

A 20-foot wide fire access road will be constructed on the west and south sides of the cafeteria. In addition, an automatic fire sprinkler system will be installed inside the cafeteria for fire protection.

A pre-cast concrete grease trap will be installed in a paved driveway between the cafeteria and Pua Avenue. A 6" lateral will connect the grease trap to an off-site County wastewater main in Pua Avenue. The grease trap will be sized in accordance with the 1997 Uniform Plumbing Code (Appendix H).

Electrical power will be routed in underground ductlines from the existing on-campus electrical system. Telecommunication, fire alarm, program bells, and intercom systems also will be routed in underground ductlines separate from electrical lines.

4. Circulation and Off-Street Parking

Vehicle access will be taken from Pua Avenue on the west. An existing parking area will be expanded to provide a loading area at the rear of the cafeteria kitchen and a service yard. The service yard will provide space for trash receptacles, recycling bins, an electrical transformer, and an above-ground liquid propane gas tank. The service yard will be enclosed on three sides by a 6-foot high CMU wall and open to the sky.

A 20-foot wide, paved fire apparatus driveway will be constructed from the existing parking area along the west and south sides of the cafeteria to comply with fire code requirements.

5. Accessibility

The new cafeteria building will connect to the school's existing walkway between the Library and Building E. The walkway will be reconstructed in compliance with Americans with Disabilities Act Accessibility Guidelines.

6. Sustainable Design Features

The project will incorporate sustainable design features to best conform to Hawaii High Performance School Guidelines and Leadership in Energy and Environmental Design ("LEED") guidelines. The project will not seek LEED certification from the U.S. Green Building Council, however, it will be designed to achieve LEED Silver rating equivalent under LEED 2009 for Construction and Major Renovation.

Architectural, mechanical, electrical, and civil engineering design features for the project will maximize energy performance, use natural day lighting, promote natural air circulation, reduce water usage, use materials with low VOC (volatile organic compounds), provide for indoor air quality and thermal comfort, and reduce site disturbance.

Photovoltaic (PV) panels will not be installed as part of the project. The DOE, however, is reviewing third party installation and operation of PV panels statewide for public schools. The project will provide accommodation for PV panels and associated electrical facilities if deemed appropriate as the design progresses.

7. Landscaping

Landscaping will buffer, screen, provide shade, and frame views of and from the cafeteria. Grass will be the predominant plant material or ground cover but the judicious use of small trees, canopy trees, shrubs, other types of groundcover, and palms will add form and color around the building, play areas, and edges of the former open field (See Sheet L-1.1, Landscape Plan). The “plant palette” emphasizes the use of water conserving, low maintenance Native Hawaiian plants and Polynesian-introduced plants over other varieties of tropical plants. A permanent irrigation system is not required.

C. Economic Characteristics

Construction costs are estimated at \$6.5 million and will be funded by the Department of Education, State of Hawai‘i.

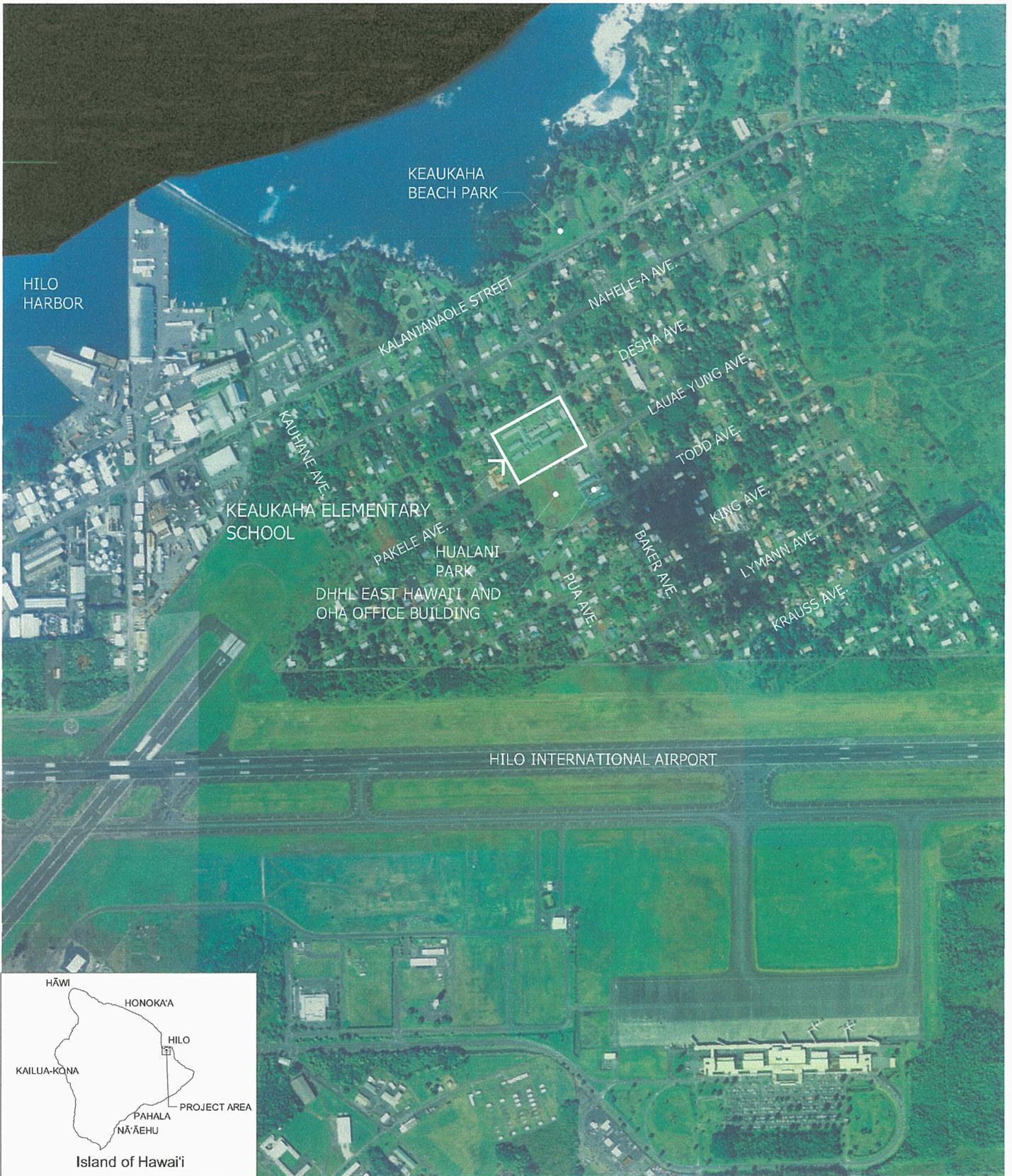
Construction will commence after all design plans are approved and construction permits received. Construction is projected to commence in December 2012 with completion in April 2014.

D. Social Characteristics

A replacement playground for two play apparatus’ will be constructed between the cafeteria and Classroom Building “G” and a new basketball court (94’ X 60’) on the east side of the new cafeteria.

The Department of Education will confer with the Department of Parks and Recreation, County of Hawaii about the use of Hualani Park for outdoor recreation and school functions during normal school hours.

The existing cafeteria will be converted into two classrooms and a faculty center if sufficient funds are available in the construction budget. Plans for the classrooms and faculty center have not been prepared at this time.



Source: University of Hawai'i, Coastal Geology Group Website

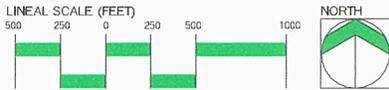
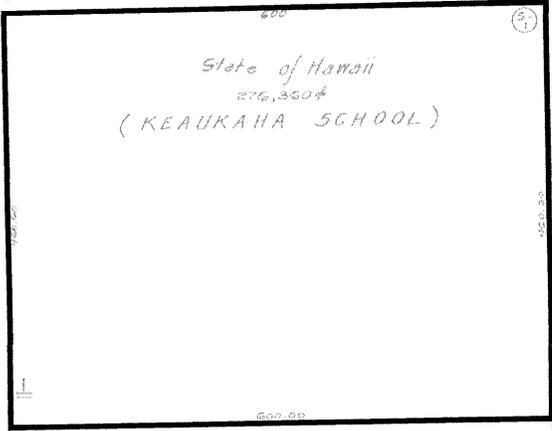
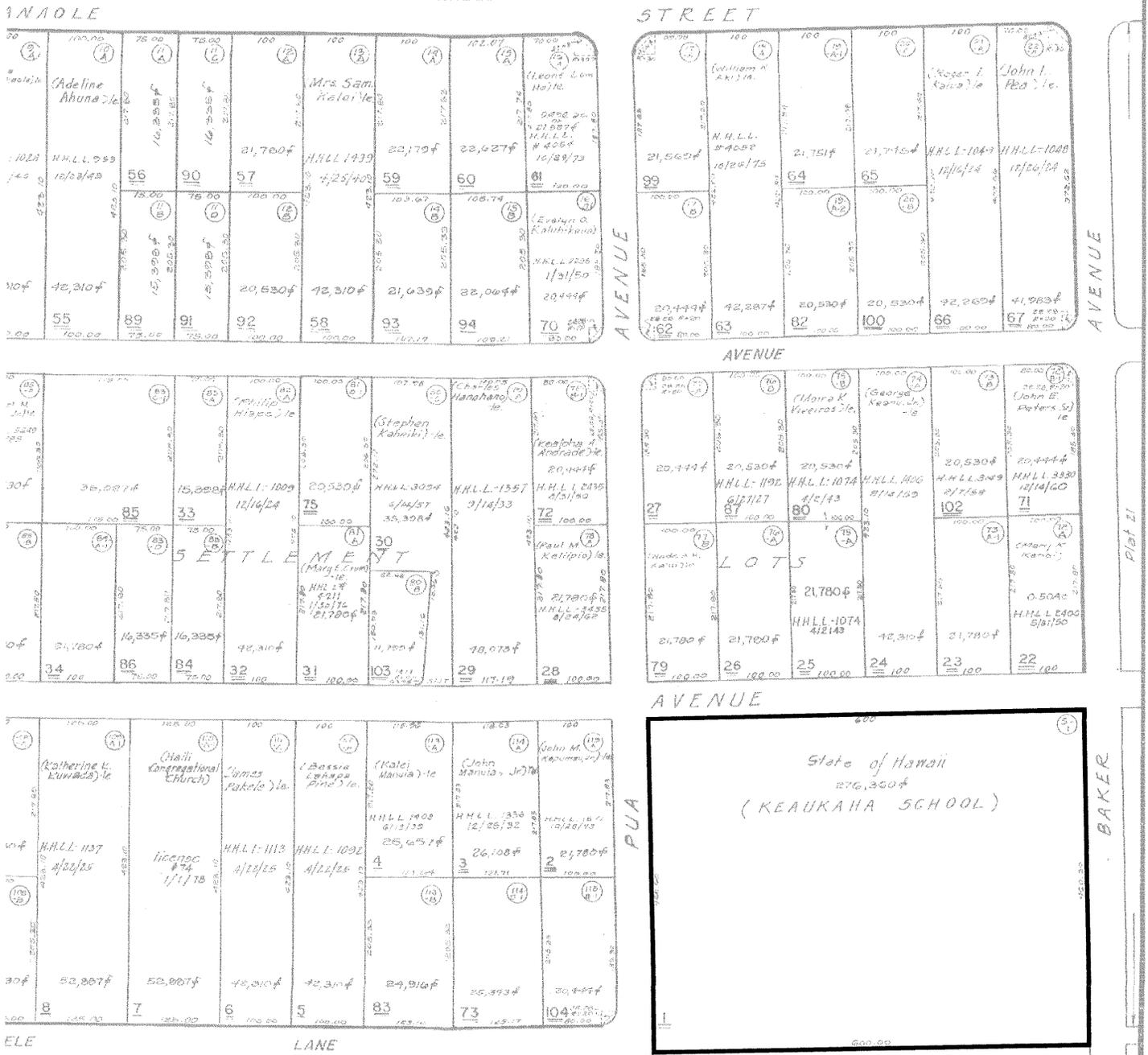


Figure 1
Vicinity Map
Keaukaha Elementary School Cafeteria



Plat 22

KEAUKAHA ELEMENTARY SCHOOL
 TMK:2-1-20:001
 276,360 SF.

used by the Hawaiian Home Lands
 otherwise Noted.

Dropped parcels: 15, 16, 17, 18, 19, 20,
 43, 44, 45, 51, 76, 98

SUBJECT TO CHANGE

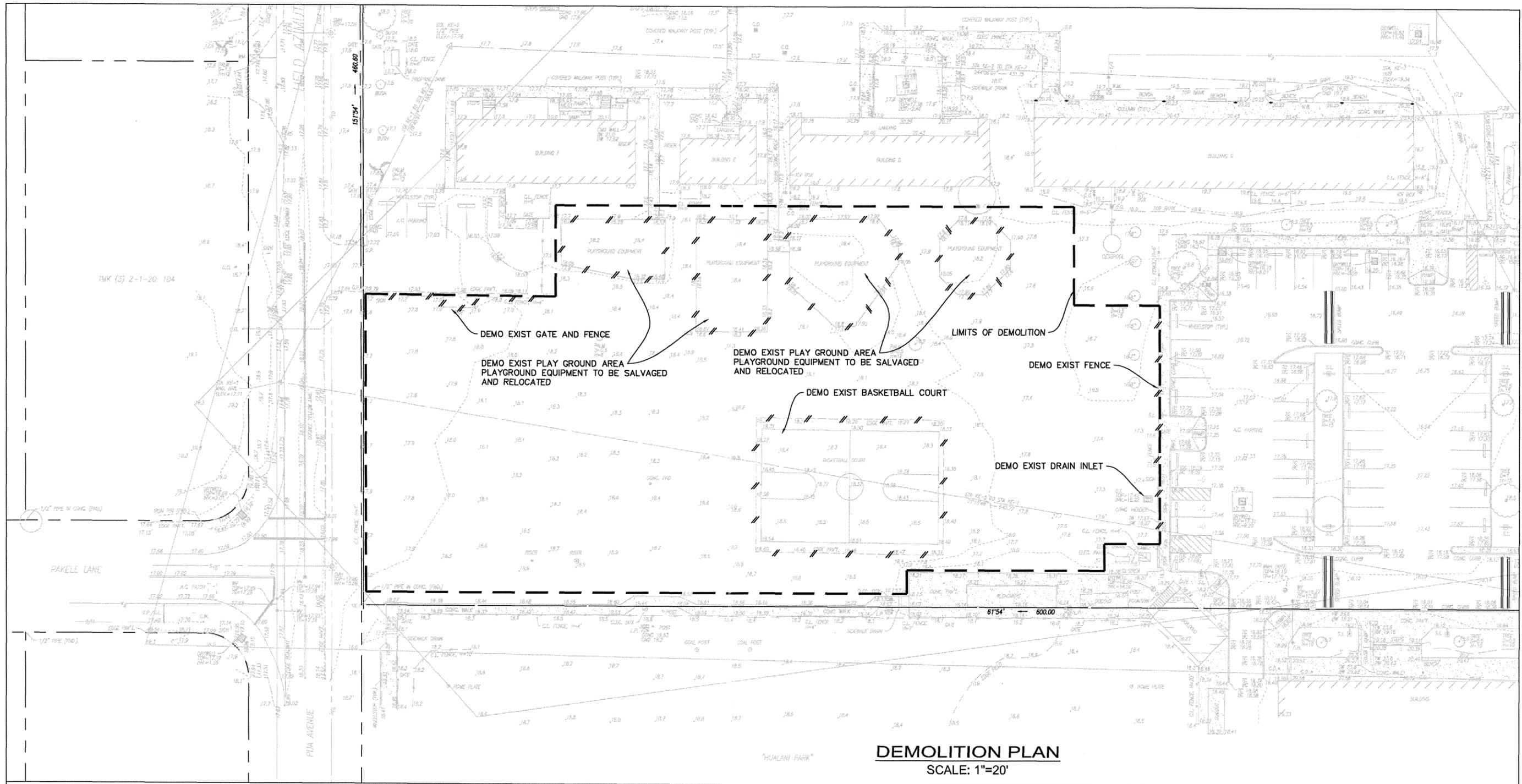
TAXATION MAPS BUREAU		
TERRITORY OF HAWAII		
TAX MAP		
THIRD DIVISION		
ZONE	SEC.	PLAT
2	1	20
CONTAINING PARCELS		
SCALE: 1 in = 100 ft.		



Gerald Park
 Urban Planner
 November 2011

Portion of Keaukaha Tract No. 1, Waiākea, District of South Hilo, Hawai'i

Figure 2
 Tax Map
 Keaukaha Elementary School Cafeteria



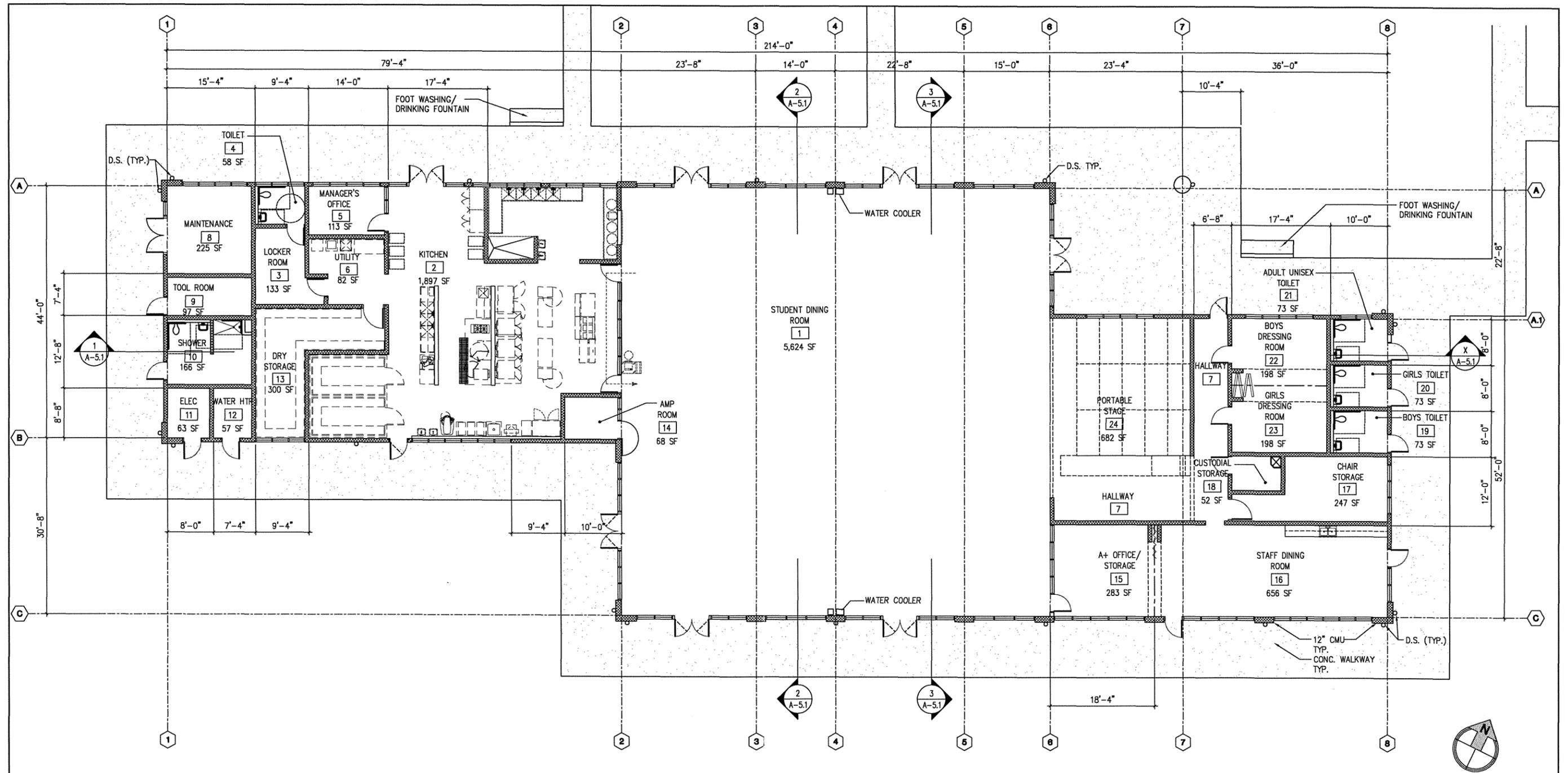
DEMOLITION PLAN
SCALE: 1"=20'

DEMOLITION NOTES:

1. ALL ITEMS WHICH ARE TO BE DEMOLISHED OR REMOVED SHALL BECOME THE PROPERTY AND RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
2. THE AREA WITHIN THE LIMITS OF DEMOLITION SHALL BE CLEARED AND GRUBBED OF ALL VEGETATION AND ROOTS WITHIN THE TOP 12" SOIL.
3. SEE LANDSCAPE PLANS FOR TREE AND LANDSCAPE REMOVAL PLAN.
4. SEE LANDSCAPE PLANS FOR IRRIGATION SYSTEM REMOVAL.
5. ALL FEATURES WHICH ARE TO INCLUDE BUT NOT BE LIMITED TO PAVEMENTS, SIDEWALKS, FENCES, GATES, WATER AND SEWER PIPING TO BE REMOVED UNLESS INDICATED TO REMAIN.
6. IF REMOVAL OF WATER LINES WILL DISRUPT SERVICE TO THE SCHOOL, THE PRINCIPAL SHALL BE NOTIFIED AND EITHER TEMPORARY OR PERMANENT RELOCATION OF THE WATER LINES SHALL BE PROVIDED SUCH THAT WATER SERVICE IS MADE AVAILABLE.
7. THE EXISTING BASKETBALL COURT SHALL BE REMOVED IN IT'S ENTIRETY INCLUDING PAVEMENT, CURBING, BASE COURSE, SUB BASE AND ALL EQUIPMENT.
8. PLAYGROUND EQUIPMENT SHALL BE SLAVAGED AND REINSTALLED AT THE NEW PLAYGROUND EQUIPMENT AREAS. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO ENSURE THAT REMOVAL AND STORAGE OF THE EQUIPMENT IS DONE IN A CAUTIOUS MANNER. THE EQUIPMENT SHALL BE INSPECTED BY THE CONTRACTOR AND ANY PRE-EXISTING DAMAGES SHALL BE REPORTED TO THE PROJECT MANAGER. IF EQUIPMENT IS DAMAGED BY THE CONTRACTORS OPERATIONS THEN THE CONTRACTOR SHALL REPAIR/REPLACE THE EQUIPEMENT TO THE SATISFACTION OF THE PROJECT MANAGER.

REV. NO.	SYM.	DESCRIPTION	DATE	APPROVED BY:

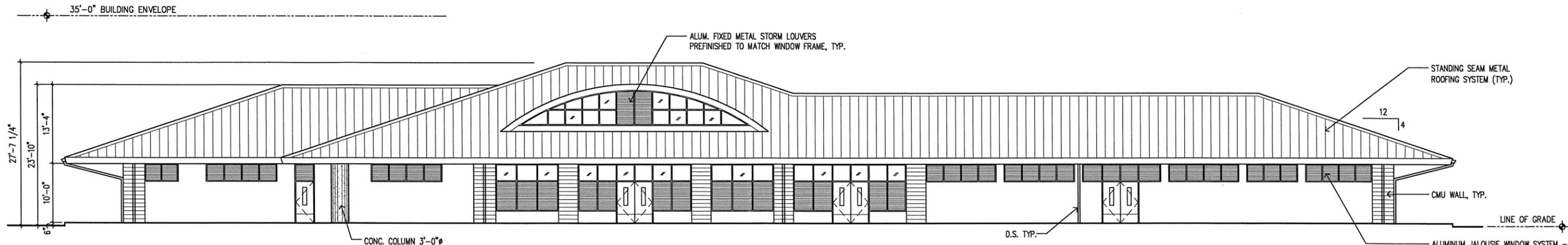
DEPARTMENT OF EDUCATION STATE OF HAWAII			
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA			
WAIAKEA, SOUTH HILO, HAWAII			
DEMOLITION PLAN			
DESIGN PARTNERS INC		DOE JOB NO.	DRAWING NO.
DESIGNED BY: CYO	CHECKED BY: CYO		C-2.0
DRAWN BY: CYO	APPROVED BY: HKH	DATE	SHEET
EXPIRATION DATE OF THE LICENSE	SCALE: 1" = 20'-0"	OCT 2011	OF 1 SHEET



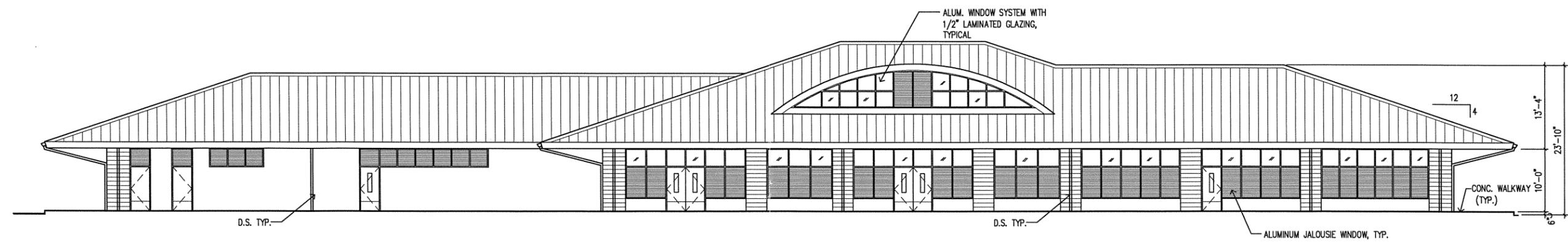
1 **CAFETERIA BUILDING FLOOR PLAN**
 A-2.1 SCALE: 1/8" = 1'-0"

REV. NO.	SYMBOL	DESCRIPTION	BY	DATE	APPROVED BY

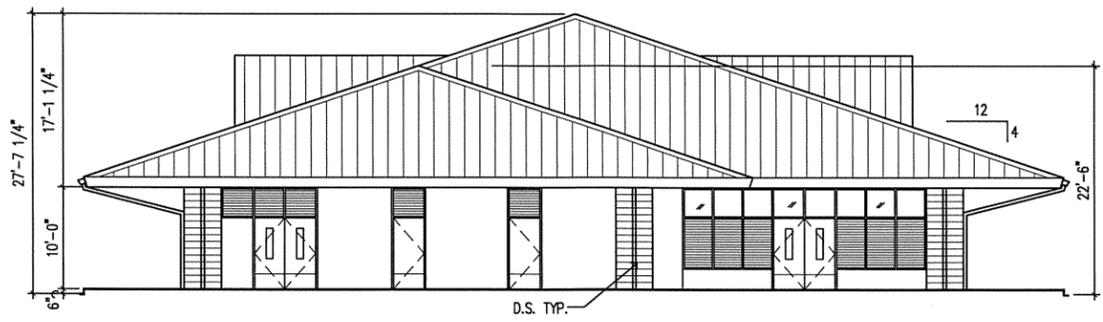
DEPARTMENT OF EDUCATION STATE OF HAWAII			
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA KEAUKAHA, HILO, HAWAII			
FLOOR PLAN			
DESIGN PARTNERS INC		DOE JOB NO.	DRAWING NO.
DESIGNED BY: VI, NN	CHECKED BY: NN	Q11001-10	A-2.1
DRAWN BY: RB	APPROVED BY: NN	DATE	SHEET
APRIL 30, 2012			
EXPIRATION DATE OF THE LICENSE	SCALE: AS SHOWN	OCT 2011	OF ___ SHEETS



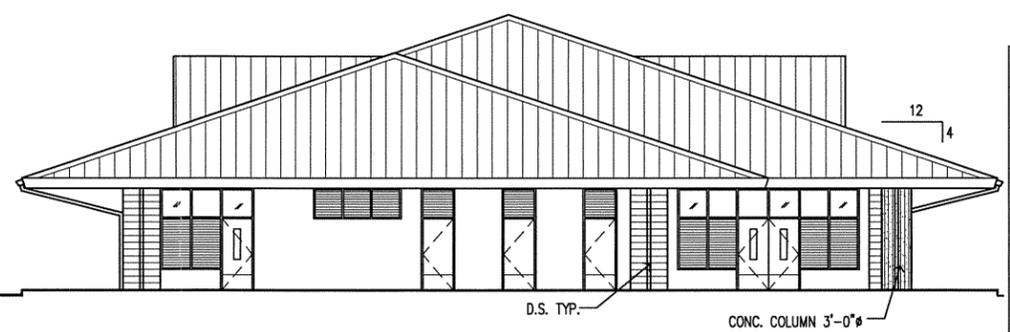
1 **NORTH ELEVATION**
A-4.1 SCALE: 1/8" = 1'-0"



2 **SOUTH ELEVATION**
A-4.1 SCALE: 1/8" = 1'-0"

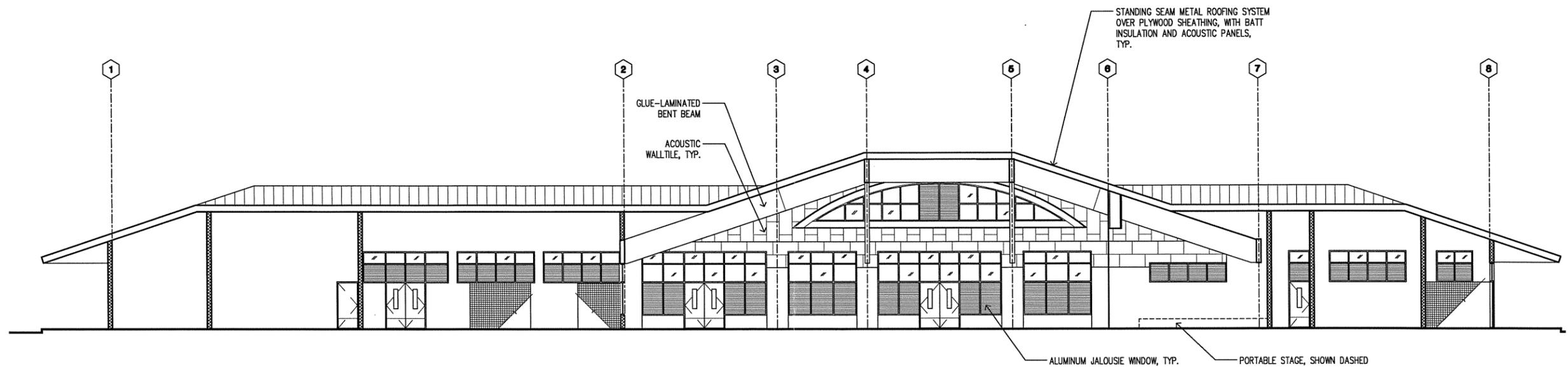


3 **WEST ELEVATION**
A-4.1 SCALE: 1/8" = 1'-0"

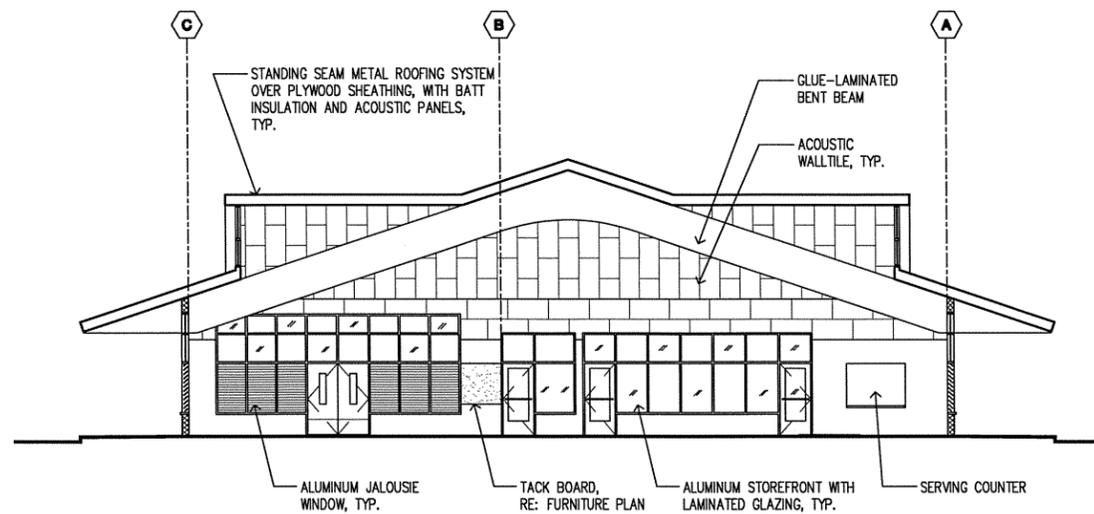


4 **EAST ELEVATION**
A-4.1 SCALE: 1/8" = 1'-0"

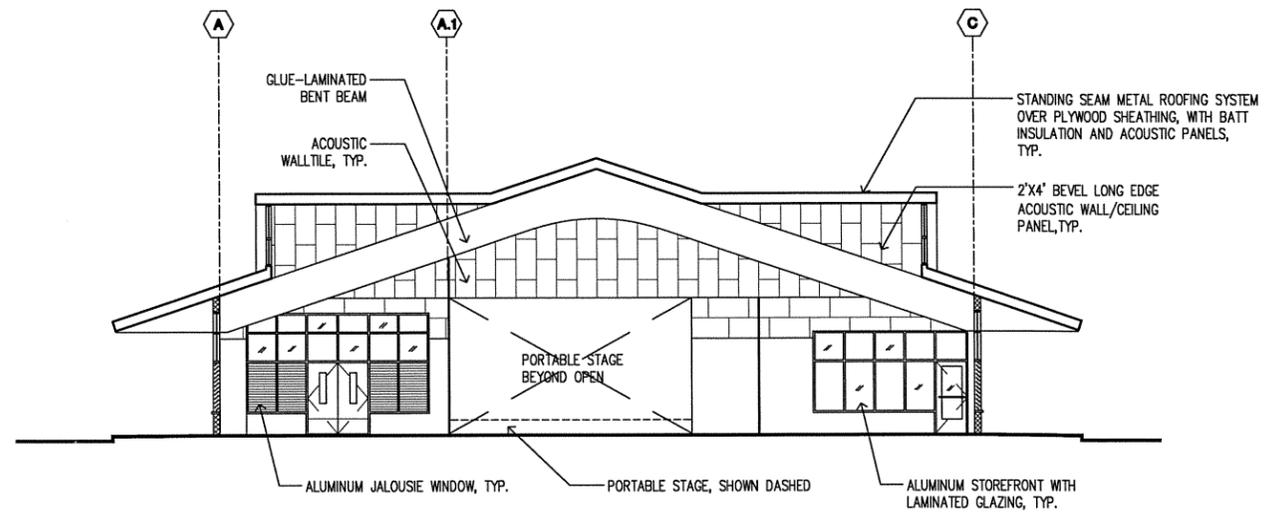
REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED BY:
DEPARTMENT OF EDUCATION STATE OF HAWAII					
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA KEAUKAHA, HILO, HAWAII					
EXTERIOR ELEVATIONS					
DESIGN PARTNERS INC			DOE JOB NO.	DRAWING NO.	
DESIGNED BY: VI, NN		CHECKED BY: NN	Q11001-10	A-4.1	
DRAWN BY: RB		APPROVED BY: NN	DATE	SHEET	
SCALE: AS SHOWN		EXPIRATION DATE OF THE LICENSE	OCT 2011	OF 1 SHEETS	



1 LONGITUDINAL SECTION
A-5.1 SCALE: 1/8" = 1'-0"

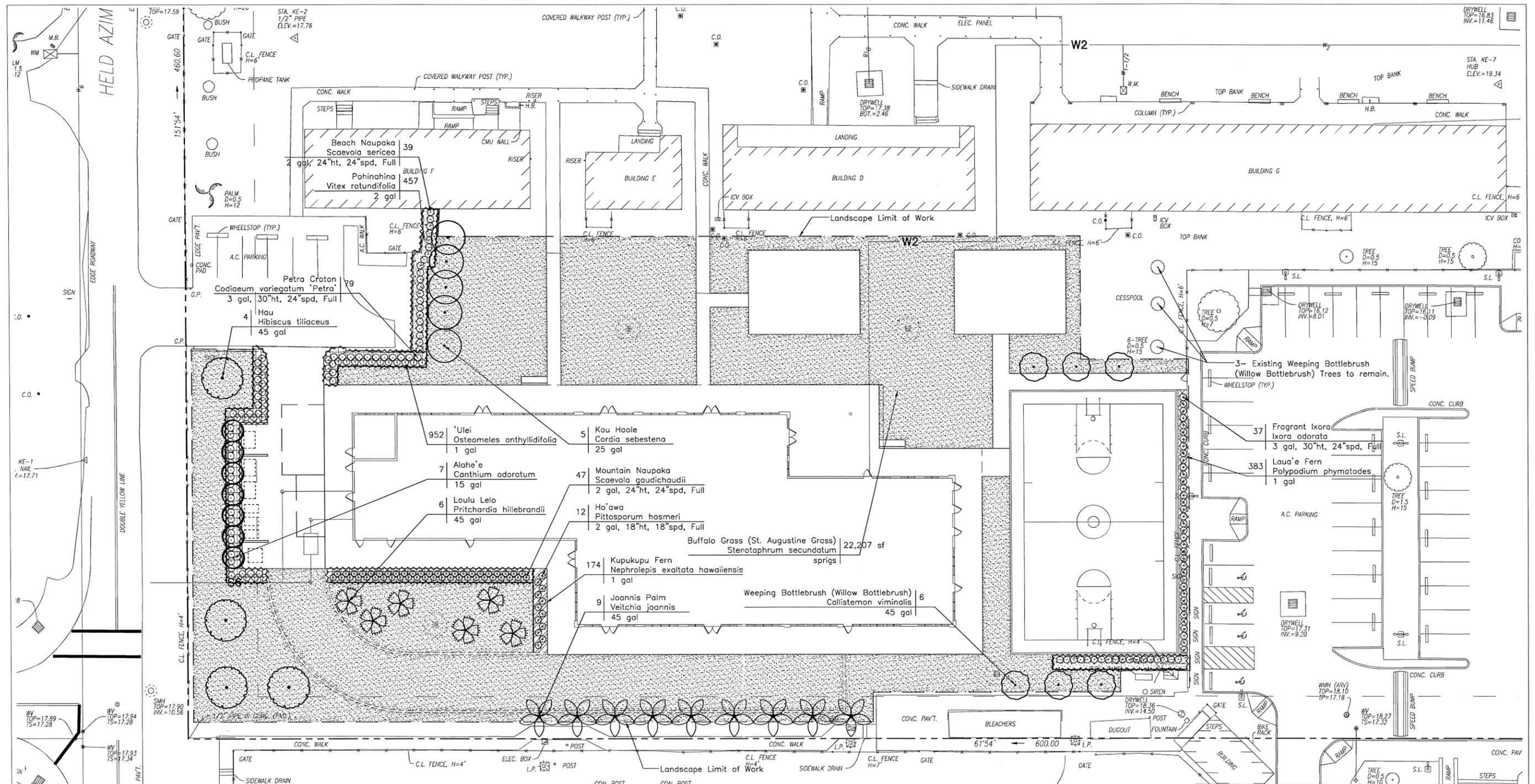


2 CROSS SECTION TOWARD KITCHEN
A-5.1 SCALE: 1/8" = 1'-0"



3 CROSS SECTION TOWARD STAGE
A-5.1 SCALE: 1/8" = 1'-0"

REV. NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED BY:
DEPARTMENT OF EDUCATION STATE OF HAWAII KEAUKAHA ELEMENTARY SCHOOL CAFETERIA KEAUKAHA, HILO, HAWAII BUILDING SECTIONS					
DESIGN PARTNERS INC <small>DESIGNED BY: VI, NN</small> <small>CHECKED BY: NN</small> <small>DRAWN BY: RB</small> <small>APPROVED BY: NN</small> <small>SCALE: AS SHOWN</small>			<small>DOE JOB NO.</small> Q11001-10	<small>DRAWING NO.</small> A-5.1	<small>DATE</small> OCT 2011
<small>THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION</small> <small>APRIL 30, 2012</small> <small>EXPIRATION DATE OF THE LICENSE</small>					



1 LANDSCAPE PLAN
L-1.1 SCALE: 1/16" = 1'-0"

Automatic Irrigation System Notes:
All planting areas will be automatically watered with LEEDS compatible equipment. The irrigation heads will be low flow rotary type nozzles. The irrigation controller shall be adjusted daily with a rainsensor/ weather sensing system.



REV. NO.	BY	DESCRIPTION	SHT. NO.	DATE	APPROVED BY

DEPARTMENT OF EDUCATION STATE OF HAWAII			
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA			
WAIKAEA, SOUTH HILO, HAWAII			
LANDSCAPE PLAN			
DESIGNED BY: DSS	CHECKED BY: DSS	DOE JOB NO.	DRAWING NO.
DRAWN BY: DSS	APPROVED BY: DSS	DATE	L-1.1
SCALE:		OCT 2011	SHEET 1 OF 1 PAGES



Douglas S. Saults
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
APRIL 30, 2012
EXPIRATION DATE OF THE LICENSE

2

DESCRIPTION OF THE AFFECTED ENVIRONMENT

A. Existing Uses and Structures

Keaukaha Elementary School (also Keaukaha School), established in 1930 at its present location, provides K-6 regular education and special education services. It is one of seven elementary schools in the Hilo Complex of public schools comprising the Hilo-Laupahoehoe-Waiakea Complex Area in Hawai'i County. The school has a design capacity of 360 students.

In school year 2010-2011, enrollment at Keaukaha School totaled 357 students in regular education and special education classes. The school principal is the sole administrator who manages the school and a staff of 24.5 certified teachers. Staffing includes classroom teachers, computer teachers, counselor, librarian, student services coordinator, and literacy and numeracy coaches.

Although located on Hawaiian Homestead Land, Keaukaha School is not a Hawaiian Language Immersion Program school but rather an English, cultural based K-6 school. A Hawaiian Language Immersion Program was started at Keaukaha School in 1987 and in 2001 the program sought and received Public Charter School status from the Board of Education. The program, now called Ka 'Umeke Ka'eo Public Charter School, operates as a separate educational entity from Keaukaha School. The program, however, continues to be housed in Keaukaha School buildings and is managed by the Principal of Keaukaha School. The current school enrollment is 196 students in grades K-4.

Since the first school building (Building A) was constructed in 1930, permanent structures were added as the school expanded with the last permanent structure constructed in 1983. Several portable classrooms on the east side of the campus were erected in 1999. The cafeteria was built in 1951 as part of a 5 classroom building program. Perhaps unique only to Keaukaha School, each of the seven buildings is named after individuals associated with the Kamehameha lineage.

<u>Building</u>	<u>Name</u>	<u>Year Built</u>	<u>Function</u>
A	Kūhiō	1930	Administration, Classroom
B	Pi'ikoi	1951	Classroom
Cafeteria	Kahanu	1951	Multi-Purpose
C	Kekaulike	1956	Classroom
D	Kaumuali'i	1954	Kindergarten
E	Kāwananakoā	1963	Classroom
F	Keli'iahonui	1973	Library, Computer Lab
G	Kapi'olani	1983	Classroom

The existing cafeteria was converted from a conventional kitchen to a serving kitchen several years ago. Meals are prepared at Hilo Intermediate School and delivered to Keaukaha School in vans. Approximately 515 lunches and 130 breakfasts are prepared and sold daily. The meal count includes students at Keaukaha School and Ka 'Umeke Ka'eo

Public Charter School. The cafeteria is staffed by one full-time cafeteria helper on-site and two staff members from Hilo Intermediate School that assist during meal services. There are three lunch periods daily to serve all the students.

In addition to its primary function, the cafeteria building is used for school and community activities. The Keiki Step Preschool program uses the dining room in the mornings (Mondays through Thursdays) and the A+ after school program during the afternoons. The school also has an 'Ohana night each month and holds professional development sessions for faculty, staff, and district level in-service training.

Monthly meetings of the Keaukaha Community Association and special meetings conducted by the Department of Hawaiian Home Lands and Office of Hawaiian Affairs are held at the cafeteria. The latter two entities occupy office buildings adjoining the school.

The site of the new cafeteria is located on the southern end of the school and bordered by Pua Avenue on the west and Hualani Park on the east and south. The construction area is a large open grass field. The field is fenced on three sides by chain link fencing. Four play apparatus are arrayed on the north and a paved play court is located near the middle of the field. During recess, children were observed climbing the play apparatus, using the playcourt, and playing pick-up field games. Students also use the adjoining County park field for free play.

Existing conditions are shown in the Site Photographs.

B. Climate

Owing to its proximity to Hilo International Airport, the climate at Keaukaha Elementary School is similar to weather conditions and data recorded at the Airport. The average daily low temperature at the Airport ranges from approximately 60^o Fahrenheit ("F") in February and March to 70^o F in August and September.

Rainfall averages 120-130 inches per year. Annual rainfall amounts have varied over the past 10 years ranging from a low of approximately 86 inches to a high of 211 inches. The winter months have the highest average rainfall while the summer has the lowest.

Wind patterns are largely a function of the interaction between the northeasterly trade winds and Mauna Loa volcano. In general, the trades are more persistent in the summer than in the winter, and stronger in the afternoon than at night. In the absence of trade winds, winds become light and variable. Diurnal heating and cooling of the island gives rise to onshore breezes during the day and offshore breezes during the night (Wilson Okamoto, 2003).

C. Topography

The open field is generally flat with no unusual topographical features. The width of the field is "crowned" near its center with an elevation of 18.4 feet and slopes towards the east and west directions. Ground elevation along the east boundary is approximately 17.6 feet and about 17.7 feet on the west.

The field also slopes away and towards the center of the field from the array of play apparatus' on the north and the edge of the County park on the south.



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6

Aerial: Coastal Geology Group Website
Photographs: Gerald Park

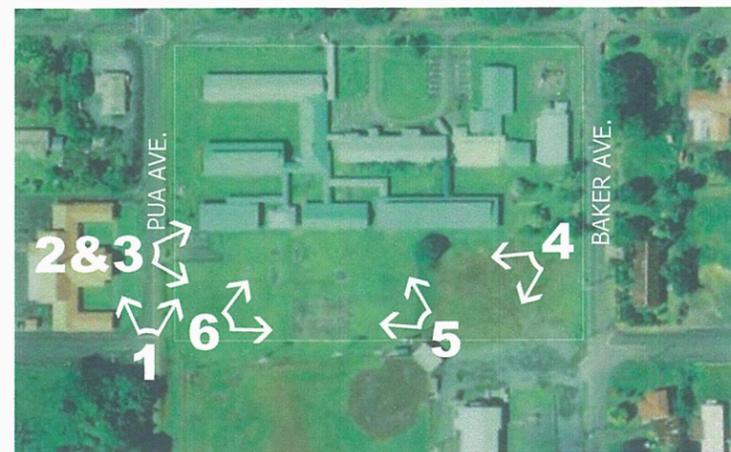


Photo Key Map
GRAPHIC SCALE IN FEET
80 40 0 80 160

Photograph 1. Pua Avenue Looking North. Open Field is on the Right

Photograph 2. Open Field Looking East

Photograph 3. Recess.

Photograph 4. Open Field Looking West.

Photograph 5. View to the Northwest.

Photograph 6. View to the Northeast.



D. Soils

Keaukaha Tract I is developed on a soil type classified as Keaukaha extremely rocky muck (rKFD) 6 to 20 percent slopes (Soil Conservation Service, 1973). The Keaukaha series consists of thin, well-drained organic soil overlying pahoehoe lava rock. The soil is generally found on the low levels of Mauna Loa volcano at elevations ranging from sea level to 1,000 feet. The surface layer is a dark brown muck about 8 inches thick. The soil is rapidly permeable, runoff is slow, and the erosion hazard is slight.

E. Hazards

The Flood Insurance Rate Map (Federal Emergency Management Agency, 1988) for the area (See Figure 3) designates the school site "Zone X" which is defined as "areas determined to be outside the 500 year flood plain". During the field investigation, standing water was observed on the road shoulder of Pua Avenue and at the driveway entry to the parking lot behind the cafeteria.

Low-lying coastal lands in Keaukaha are subject to tsunami inundation. The 1946 tsunami that devastated Hilo had a reported wave height of 32 feet above sea level at Keaukaha and the 1960 tsunami had a wave height of 13 feet (Macdonald and Abbott, 1974).

Keaukaha School is located within a County of Hawai'i Civil Defense delineated tsunami evacuation zone (County of Hawai'i, 2003). For the residential area surrounding the school, Kauhane, Pua, and Baker Avenues are identified evacuation roads to Hilo International Airport on the south. Secured airport gates at the end of the identified roads are opened during an evacuation period.

The Island of Hawai'i is susceptible to seismic activity originating in fault zones under and adjacent to the island. The Hawaii County Code relating to the Uniform Building Code places the island in seismic Zone 4. The rating system is based on a scale of 1 to 4, with a rating of 4 having the highest risk associated with seismic activity. The Hawai'i County Building Code requires that all new structures be designed to resist forces to seismic Zone 4 standards (Wilson Okamoto, 2003).

Keaukaha is located below the Mauna Loa northeast rift zone in Volcanic Hazard Zone 3 (US Geological Survey, No Date). Zone 3, which is the third highest of nine hazard zones established for the Island of Hawaii, is defined as 1 to 5 percent of area covered by lava since 1800 and 15 to 75 percent of area covered by lava in the last 750 years.

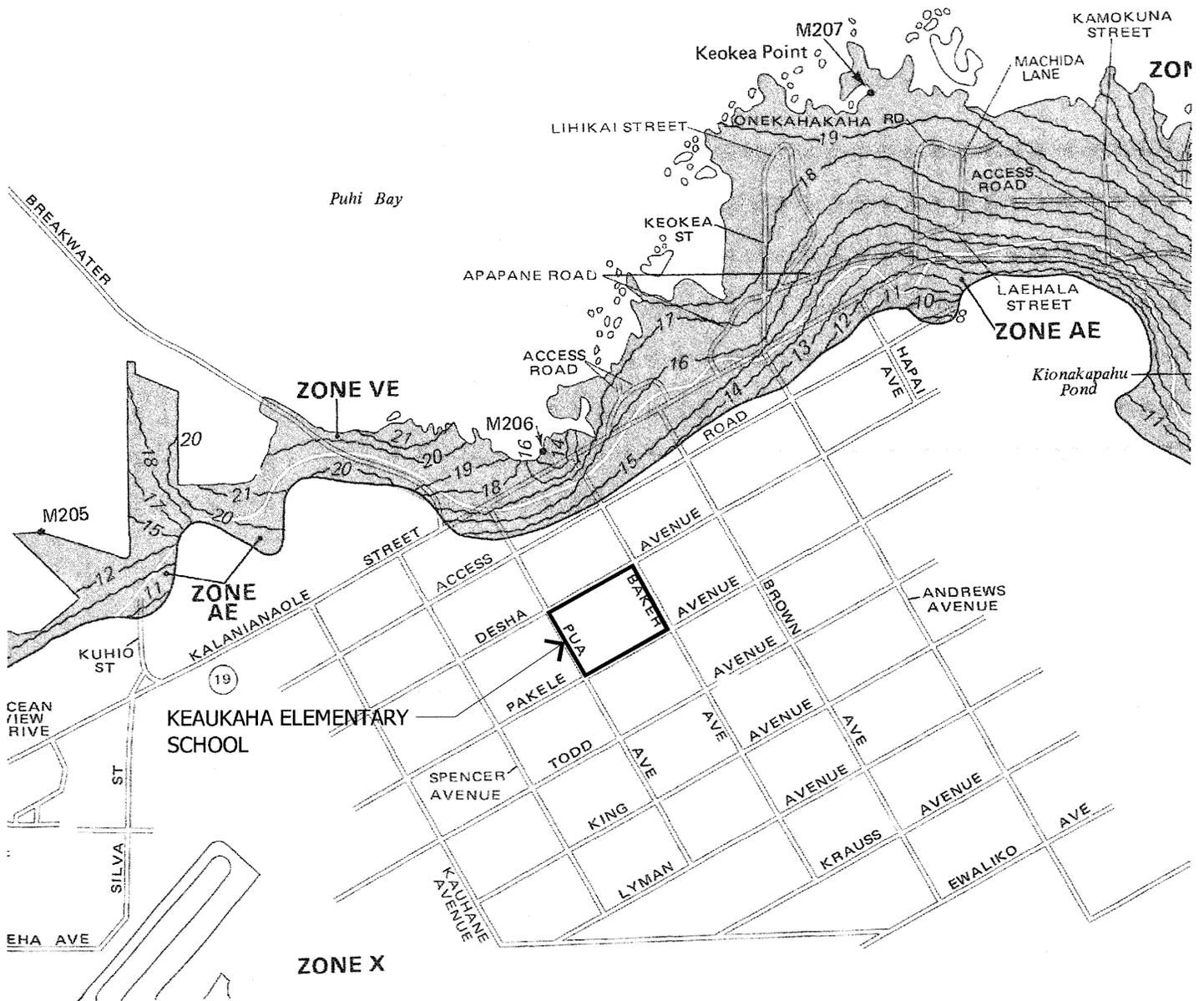
F. Water Resources

1. Surface Water

There are no streams, lakes, ponds, open bodies of water, or wetlands on the premises.

2. Ground Water

Most of the City of Hilo including Keaukaha is developed over the Hilo aquifer system of the Northeast Mauna Loa Aquifer Sector (Commission on Water Resources Management, 2008). The Hilo aquifer is composed of a basal, unconfined aquifer of horizontally extensive



Source: Federal Emergency Management Agency
 Flood Insurance Rate Map
 Map Number 155166 0885 C
 Date: Sept. 16, 1988.

Legend

-  Special Flood Hazard Zone Subject to Inundation by the 1% Annual Chance Flood
-  Zone X Areas Determined to be Outside 500 Year Flood Plain
- Zone A No Base Flood Elevation Determined.
- Zone AE Base Flood Elevation Determined.
- Zone VE Coastal Flood with Velocity Hazard (Wave Action) Base Flood Elevation Determined.



Figure 3
 Flood Insurance Rate Map
 Keaukaha Elementary School Cafeteria

lavas. Basal groundwater extends several miles inland to the crest of Mauna Loa where groundwater occurs as high level dike and perched water.

The sustainable yield of the Hilo aquifer is estimated at 349 million gallons per day. The aquifer has been developed and currently used as a source for drinking water.

G. Historic Resources

Owing to the improved and grassed condition of the open field, archaeological features were not observed on the ground surface. The State Historic Preservation Division has no record by tax map of archaeological surveys performed at the school. Archaeological surveys have been performed in the Kekaha area for parks (Scientific Consulting Services, 2004; 2006), trails (Rechtman Consulting, 2009), roads (Cultural Surveys Hawaii, 2010), and facilities at Hilo Harbor (Haun & Associates, 2000).

The existing cafeteria was constructed in 1951 and may qualify as a historic structure since it is 50+ years old.

H. Cultural Resources

Cultural resources are not known to be associated with the construction area. Residents of Keaukaha, however, consider the adjoining Hualani Park complex to be a valuable cultural and educational resource for the community (DHHL, 2010).

I. Botanical Resources

The open field is sparsely vegetated with grass the dominant vegetation. Two individual trees---bottle brush and nara---and a row of weeping bottle brush planted along the eastern edge of the open field are the only trees present.

J. Wildlife Resources

Wildlife resources were not observed during a field investigation but may frequent the open field at other times.

K. Acoustical Quality

Keaukaha School is not a source of loud, persistent, and disturbing noise compared to industrial uses at and around Hilo Harbor. For sure noise emanates from the school but is considered to be customary and reasonable school noises. A noise study for Hilo International Airport noted "extremely low background ambient noise levels were measured (40 to 45 Day-Night Average Sound Level or DNL) ...in the Hawaiian Home Lands, Keaukaha residential subdivision north of the airport, due to its distance from the surf and major highways" (Ebisu, in Wilson Okamoto, 2003). Over the course of a typical school day, there are several instances when noise exceeds this ambient range and can be heard in nearby residential areas. School related noise results from the school bell ringing several times a day, students congregating during lunch, recreational sounds during recess and PE, and from vehicle traffic on surrounding streets before and after school. When students are in class, ambient noise levels from the school more than likely are less than 40-45 DNL.

Because of its location north of Hilo International Airport, Keaukaha Elementary School and other schools, offices, churches, and approximately 200 residences in the subdivision are exposed to noise from jet aircraft taking off and landing at the airport. For the year 2000, base level noise exposure ranged between 60 to 65 DNL in the Keaukaha Tract I subdivision. In comparison noise exposure was 75 DNL measured along the Runway 8/26 (Ibid).

Helicopters, primarily tour helicopters, also are a source of aircraft noise. Helicopter flight paths do not overfly Keaukaha but one ingress and egress route is aligned northwest-southeast to the west of the subdivision. Noise exposure from helicopters is projected at between 65 to 70 DNL by the year 2020.

At these existing and projected noise exposure levels, jet aircraft and helicopter noises are audible inside classrooms at Keaukaha School. It has not been determined if said noises affect classroom instruction.

L. Land Use Controls

Pursuant to Chapter 205 HRS, the Hawaii Land Use Law, the State Land Use Commission classifies all land in the State of Hawaii into one of four classifications: Urban, Agricultural, Conservation, or Rural. The project site is designated Urban. Uses and activities in the Urban district are regulated by the respective counties.

The County of Hawai'i General Plan (2005) places Keaukaha School in the Low Density Urban district (Land Use Pattern Allocation Guide Map No.9). This land use designation provides for "residential, with ancillary community and public uses; and neighborhood and convenience-type commercial uses; overall residential density may be up to six units per acres (Ibid, Section 14.1)".

The school site is zoned RS-10 for residential uses (See Figure 4) with a minimum 10,000 square foot lot size. Elementary schools are permitted in the RS-10 zoning district as "public uses and structures" (Section 25-5.3 (a) (12), County of Hawaii Zoning Code). Keaukaha School and the new cafeteria are thus consistent with the zoning for the lot.

The property is not located within the County delineated Special Management Area.

M. Public Facilities

1. Circulation

The primary vehicle entry to Keaukaha School is from Desha Lane, a two-way, two-lane roadway on the north side of the school. The paved road is not improved with curbs, gutters, and sidewalks. The posted speed limit is 25 miles per hour but a 20 mile per hour is in effect when school is in session.

Pua Lane borders the school on the east. The two-lane, two-way roadway lacks curbs, gutters, and sidewalks. The approximately 18-foot wide road features a grassed shoulder on the school side. Vehicles diagonally park on the shoulder although No Parking signs are posted. The speed limit is 25 miles per hour but a 20 mile per hour limit is in effect when school is in session.

2. Water

Domestic water is available from Department of Water Supply 6" water mains in Desha and Pua Avenues. Water is drawn through a 2" meter on Desha Avenue and distributed throughout the school grounds.

Fire flow is provided from fire hydrants on streets surrounding the school. Fire hydrants nearest to the new cafeteria are at Pua and Desha Avenues and Pua Avenue and Pakele Lane.

3. Sewer

Approximately half of Keaukaha Subdivision Tract 1 to include Keaukaha School is connected to the County of Hawai'i sewer system (say from Kalaniana'ole Avenue inland to Pakele Lane and Todd Avenue). The school is connected to a sewer main in Desha Avenue. The cafeteria will connect to a 10" sewer main in Pua Avenue

4. Drainage

The open field appears to be graded to receive runoff from the school buildings where it is allowed to evaporate or percolate into the ground. Besides roof drains on the school buildings facing the open field, drain inlets were seen in the open field near the County park parking lot and the intersection of Pakele Lane and Pua Avenue.

5. Power and Communication

Electrical power and communication systems are available from overhead systems on Desha Avenue, underground systems along Pua Avenue, and within the school.

6. Protective Services

Fire protection originates from the Central Fire Station on Kino'ole Street at Ponahawai Street about 3.0 miles away in Hilo.

Police protection originates from the Police Department's main station on Kapiolani Street in Hilo about 3.5 miles from the school.

7. Parks

Hualani Park, a 4.8 acre County of Hawai'i park, adjoins the school on its east and south sides. The park is improved with a gymnasium (Kāwananakoā Gymnasium) for indoor recreational activities and facilities for field sports including baseball, football (and soccer), and play apparatus for children. Associated improvements include a covered grandstand and bleachers for one of the baseball fields, field lights for night use, an electronic scoreboard, and an off-street parking lot.

Keaukaha residents refer to the park as Keaukaha's "Piko" or center and identify the park as a valuable cultural and educational resource for the community (DHHL, 2010).

3

SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

The scope of the project was discussed with the consulting architect, members of the design team, and staff of the Facilities Development Branch, Department of Education. State and County agencies were contacted for information relative to their areas of expertise. The Principal of the school and staff kindly provided information about the school. Time was spent in the field noting site conditions and conditions in the vicinity of Keaukaha Elementary School. The sum total of the consultations and field investigations helped to identify existing conditions and features that could affect or be affected by the project. These conditions include:

- Rare, threatened, or endangered flora or fauna are not found on the property;
- Archaeological resources are not found on the proposed cafeteria site and traditional cultural practices are not associated with the property;
- The school is not located in a flood hazard area;
- The school is located within a tsunami evacuation zone;
- There are no streams, ponds, or wetlands on the premises;
- County water is available from the existing on-site water system.; and
- Wastewater from the cafeteria will discharge into the County of Hawai'i system.

As a prelude to actual construction, existing utilities to the open area will be cut and plugged. Temporary hook-up to the water system will provide water for dust control. The construction area will be fenced and dust curtains erected around the site. A construction office will be erected (or a modular trailer used for an office) and the area around the office fenced for security and safety purposes. The general contractor will select a location for construction vehicle access to Pua Avenue; the access will be secured by a gate.

A. Short-term Impacts

Site work, a necessary function to prepare the land for building the temporary and permanent improvements to follow, is the first and probably the most disruptive construction activity on the environment. Approximately 55,000 square feet will be cleared and grubbed. Grubbing will remove vegetation and grading will establish preliminary and final design elevations.

Site work is a persistent source of fugitive dust. Site contractors are aware that fugitive dust is a nuisance to construction workers, people living and working near work sites, and in this instance school age children and staff. Because the project is proposed on school grounds, it is imperative for the contractor to maintain stringent dust controls. Water sprinkling is probably the most effective dust control measure given the size of the project site and the scale of the proposed improvements. Hilo's frequent (and heavy) rainfall will help in dust control. The contractor, however, may choose to implement other measures and best management practices based on their experience with similar projects and job site conditions. The frequent rainfall can result in muddy conditions. The contractor will be responsible for general housekeeping of the site and for keeping adjacent streets free of dirt, mud, and construction litter and debris. Pollution control measures shall comply with Chapter 60.1, Air Pollution Control regulations of the State Department of Health.

Keaukaha soils pose a slight erosion hazard under normal conditions. Dust generation can be magnified on windy days and the contractor will have to implement stringent dust control measures at those times.

Construction of the proposed improvements will involve grading and excavation. These activities are not anticipated to affect site topography since the area is relatively flat and free of unusual topographical features. Site work will involve excavation and grading to achieve the desired finish elevation. An area of approximately 55,000 square feet will be grubbed graded and the grading quantity is estimated at 2,000 cubic yards. Site work activities will expose soil thus creating opportunities for erosion and construction-related runoff. Impacts associated with site work can be mitigated by complying with standards, regulations, and Best Management Practices (“BMPs”) specified in Chapter 10, Hawai‘i County Code for erosion and sedimentation control. BMPs will be prepared for review and approval by the Departments of Public Works and Environmental Management. Examples of BMP measures include erecting silt/dust fences around the work site, placing filters around drain inlets, placing gravel fill at driveways to the construction area, and covering exposed soil with grass or other ground cover.

An NPDES permit for storm water runoff associated with construction activities will be required because more than one acre will be disturbed during construction.

Schools are considered noise sensitive facilities. Construction noise may be audible in classrooms and buildings adjoining the construction area but exposure is expected to vary in volume, frequency, and duration. Classroom buildings are located over 50 feet from the construction area and construction noise is not expected to persistently interfere with instruction. Construction barriers or fencing will be erected around the job site for noise mitigation, dust control (with dust screens), and people safety.

Noise will vary also by construction phase, the duration of each phase, and the type of equipment used during the different phases. For this project, noise will be most pronounced during the early stages when the site is grubbed, graded, and the foundation poured. Noise will diminish as the structure is erected and roofed. Once the structure is completed, most construction activities will take place inside and the exterior walls will help to attenuate noise.

Community Noise Control regulations establish a maximum permissible sound level for construction activities occurring within (acoustical) zoning districts. Land zoned residential is placed in the Class A zoning district. The maximum permissible sound level for excessive noise sources (to include stationary noise sources and construction and industrial activities) in the Class A zoning district is 55 dBA from 7:00 am to 10:00 pm and 45 dBA from 10:00 pm to 7:00 am (Hawaii Administrative Rules, Chapter 46, Community Noise Control, 1996). Construction activities often produce noise in excess of the permissible daytime noise level and a variance (or Noise Permit) may be needed. The contractor will be responsible for obtaining the variance and complying with applicable conditions.

Construction during nighttime hours is not proposed. Construction can be scheduled when school is not in session. This form of mitigation would preclude dust, noise, and construction vehicle traffic from adversely affecting daily school activities and provide for the safety of students, parents, and school staff.

The project is proposed on land that has been significantly altered by previous site work and construction of buildings and driveways. The open field has been altered by previous site work, landscaping in the form of grass, and several recreation facilities thus historic features were not observed. Should excavation unearth subsurface archaeological sites, artifacts, or cultural deposits, work in the immediate area will cease and the proper authorities notified for disposition of the finds. If *iwi kupuna* are uncovered and appear to be less than 50 years old, the County of Hawai'i Police Department will be notified. If the burials appear to be more than 50 years old, then the State Historic Preservation Officer and Hawai'i Island Burial Council will be notified. As a matter of protocol, both agencies will be notified for inspection and proper disposition of the finds.

Grass and on-site trees will be removed. The observed species are common to the Island of Hawai'i and State of Hawai'i. None are considered rare, threatened or endangered or proposed for that status.

A school driveway and parking lot off Pua Avenue will be the principal vehicle access for the cafeteria. Construction of the proposed service area and loading zone and construction traffic to and from the job site will, at times, temporarily impede traffic circulation on Pua Avenue. To minimize impacts, the contractor will:

- Post notices alerting drivers of scheduled work on and around the driveway and Pua Avenue;
- Position traffic cones or other directional devices to guide vehicles around work areas;
- Post flagmen for traffic control;
- Cover open trenches with steel plates during non-working hours and post safety devices with warning lights at night alerting motorists of the construction area; and

Vehicles carrying workers and material will contribute to traffic on Kalaniana'ole Street, the only direct route from Hilo Town and Hilo Harbor and on Pua Avenue. Material deliveries will be scheduled during non-peak traffic hours to minimize impact on traffic. Construction material will be unloaded at the construction area and not in the road right-of-way.

B. Long-term Impacts

The new cafeteria will replace the existing cafeteria that was constructed in 1951. Few persons would dispute the contention that a new and larger cafeteria will benefit students, faculty, Keaukaha School as a whole, parents of students, and the Keaukaha community.

Ambient air quality should not be adversely affected in the long-term. The principal source of air pollution is expected to be exhaust emissions from vehicles entering and exiting the school grounds and not the cafeteria. Emissions will be dispersed by the prevailing winds.

Cooking odors are not anticipated since the cafeteria will be a serving rather than a conventional kitchen. Meals will continue to be prepared at Hilo Intermediate School and delivered to Keaukaha School. Left over food will be returned to the central kitchen. Refuse (paper trays, napkins, and plastic utensils) will be deposited in on-site trash bins for collection and disposal or recycling.

Cafeteria operations and student use will generate noise during meals but this is to be expected in a congregate setting. Noise generally will be confined to within the cafeteria and should not affect classroom instruction in nearby buildings. Following meals there will be minimal noise emanating from the cafeteria until after school uses occupy the building. Aside from the school *per se*, there are limited noise sensitive uses such as residences to be affected.

Except for van that delivers daily meals (four trips per day for breakfast and lunch), no significant increase in vehicle traffic is anticipated as a result of this project. A change in delivery circulation is expected as the van will access the cafeteria from Pua Avenue rather than Desha Avenue as is now the case.

The new cafeteria will serve the same function and uses as the existing cafeteria but at a different location. Although larger in floor area than the existing cafeteria, there should be no significant increase in domestic water usage and wastewater flow compared to existing conditions. Consequently additional demands placed on existing public facilities are not anticipated. Changes or fluctuations in water use and wastewater flow are a function in part of student enrollment and not an in kind replacement building.

Storm water runoff is expected to increase. Runoff will be directed into drywells for retention and percolation into the ground. Low spots in the landscaped areas around the cafeteria also will aid in drainage control. A combination of on-site/off-site mitigation may be undertaken such that there are no adverse impacts to adjacent properties.

Electrical consumption and associated costs will be reduced through the use of energy efficient lighting, zone lighting in the dining area, occupancy sensors for automatically controlling light in the office, dry storage, and restrooms, fixtures, and using natural lighting and ventilation.

The Department of Water Supply indicated that the 6-inch water main within Desha Avenue is inadequate to provide the required 2,000 gallons per minute fire-flow required for school facilities. The Department of Education will consult with the Department of Water Supply to determine water system improvements needed to provide the required fire flow.

For fire protection purposes a 20-foot wide fire access road will be constructed on the west and south sides of the cafeteria. The cafeteria will be equipped with an automatic fire sprinkler system.

The cafeteria will be designed as a sustainable building as prescribed in LEED 2009 for Construction and Major Renovation. It is anticipated that the building will have lower operating costs, conserve energy and water, provide for the health and comfort of its users, and demonstrate a State commitment to sustainable building design and energy conservation.

The new cafeteria will present a new object to be seen on campus. At one-story in height, it will be the same height as many campus buildings. Trees and shrubs planted near or alongside the building will “soften” its mass and add a vertical element to its form. The new building will be visible to passersby on Pua Avenue and Hualani Park users because of its location adjacent to a road and public park, respectively. ~~[A Conceptual Rendering of the new cafeteria is shown on Figure 7.]~~

Constructing the cafeteria at the proposed location will displace open space currently used for outdoor recreation and school functions. Relocating playground equipment and a multi-purpose will replace some existing recreation facilities but will not replace the existing open field. This impact cannot be avoided. To provide outdoor recreation space for students, the Department of Education will confer with the Department of Parks and Recreation County of Hawai'i about using a section of Hualani Park during normal school hours for outdoor activities.

Renovating the existing cafeteria into classrooms will allow for additional learning environments for grade levels for example that are sharing classrooms, classes where there are no classrooms *per se*, and programs/activities in makeshift space. The additional classrooms will add to the classroom stock with benefits for students and faculty.

A. No Action

A no action alternative would not achieve the objective of the project and would maintain the status quo of the cafeteria and the open field. A no action alternative would preclude the occurrence of all environmental impacts, short and long-term, beneficial and adverse described in this Assessment. State of Hawai'i resources committed to the planning and design of the cafeteria would be foregone.

B. Alternative Sites

There are no alternative sites on the school grounds large enough to construct a cafeteria. The open field is the only available area that can accommodate the proposed improvements.

Permits required for the project and responsible authorities are identified below. Additional permits and approvals may be required depending on final construction plans.

State of HawaiiDepartment of Health

NPDES General Permit
Variance from Pollution Controls (Noise Permit)

Department of Land and Natural Resources

State Historic Preservation Division 6E Clearance

County of Hawai'iDepartment of Planning

Plan Approval

Department of Public Works

Building, Electrical, and Plumbing Permit
Grubbing, Grading, Excavation and Stockpiling Permit

6 AGENCIES AND ORGANIZATIONS [~~TO BE~~] CONSULTED IN THE ENVIRONMENTAL ASSESSMENT REVIEW PROCESS

*The Draft Environmental Assessment for the Keaukaha Elementary School Cafeteria was published in the Office of Environmental Quality Control Environmental Notice of February 8, 2012. Publication initiated a 30-day public review period ending on March 9, 2012. The Draft Environmental Assessment was mailed to the agencies and organizations identified below. An asterisk * identifies agencies and organizations that submitted written comments during the review period. All comment letters and responses are found in Appendix A.*

State of Hawai'i

- Department of Hawaiian Home Lands
- *Department of Health
- Department of Land and Natural Resources
 - State Historic Preservation Division
 - *Engineering Division
 - *Land Division
- *Department of Transportation (**Late Comment**)
 - Airports Division
- Office of Hawaiian Affairs

County of Hawai'i

- *Department of Environmental Management
- Department of Parks and Recreation
- *Department of Planning
- Department of Public Works
- *Department of Water Supply
- *Police Department
- *Fire Department

Elected Officials and Organizations

- The Honorable William P. Kenoi, Mayor
- Councilmember Dennis Onishi, Council District 4
- Senator Malama Solomon, 1st Senatorial District
- Representative Jerry L. Chang, 2nd Representative District
- Hawaii Electric Light Company
- Hawaii Tribune Herald
- Hilo Public Library (Placement)
- UH Hilo Library (Placement)
- Keaukaha Community Association
- Keaukaha Parent Teacher Association
- Keaukaha School Foundation

Pre-assessment Consultation

- State Historic Preservation Division
- Planning Department, County of Hawai'i
- Department of Water Supply, County of Hawai'i

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). The relationship of the proposed project to these criteria is discussed below.

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

Natural or cultural resources are not associated with the open field/cafeteria site.

Should excavation unearth subsurface archaeological sites, artifacts, or cultural deposits, work in the immediate area will cease and the proper authorities notified for disposition of the finds.

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

The project does not curtail the beneficial uses of the environment. The proposed project is a replacement project built on a different site but serving the same purpose and use as the existing cafeteria.

Constructing the new cafeteria on an open field used for recess and play by students cannot be avoided. Some of the playground facilities will be relocated and reconstructed but the loss of open space cannot be avoided.

Using the adjacent Hualani Park for outdoor recreation may be suitable mitigation measure but will require approval of the Department of Parks and Recreation, County of Hawai'i.

3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;

The project does not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii.

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

The project is not anticipated to substantially affect the economic or social welfare of the community or the State. It is anticipated, however, in the long-term that the project will provide more than just a cafeteria but a place for large group instruction, musical performances, assemblies, and other uses.

The cafeteria also will continue to be used as a meeting place for the community.

5) Substantially affects public health;

Public health will not be adversely affected. Short-term environmental impacts in the form of fugitive dust, noise from construction equipment, and minor erosion can be expected. These impacts can and will be mitigated by measures described in this Assessment and measures, such as best management practices for erosion control, to be submitted with construction plans and documents.

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

Substantial secondary impacts are not anticipated.

7) Involves a substantial degradation of environmental quality;

Environmental quality will not be substantially degraded.

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

The project does not involve a commitment for larger actions that would affect the environment or surrounding area where the cafeteria is proposed.

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

Flora observed in the grassed open field is common to the County of Hawai'i and not listed or proposed for rare, threatened or endangered status.

10) Detrimentially affects air or water quality or ambient noise levels;

Ambient air quality will be affected by fugitive dust and combustion emissions during construction but can be controlled by measures stipulated in this Assessment. Construction noise may be pronounced during site preparation work but should diminish once the structural improvements are completed. All construction activities will comply with air quality and noise pollution regulations of the State Department of Health.

Erosion control measures will be prescribed in grading plans and best management practices prepared for the project.

Construction noise will be audible at different parts of the school for the duration of construction. Food service operations and students talking will generate noise during lunch periods but this is to be expected. Following lunch periods and cafeteria clean up, there should be little to no noise emanating from building users.

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;

Keaukaha Elementary School is not located in an environmentally sensitive area.

12) Substantially affects scenic vistas and view planes identified in county or state plans or studies, or;

The one-story cafeteria building will not affect identified scenic vistas and view planes.

13) Requires substantial energy consumption.

Energy consumption and associated costs will be reduced through the use of energy efficient lighting, zone lighting in the dining area, occupancy sensors for automatically controlling light in the office, dry storage, and restrooms, fixtures, and using natural lighting and ventilation. PV panels may be included in the final design plans and would aid in reducing energy costs.

REFERENCES

Department of Land and Natural Resources, State Historic Preservation Division. Hawai'i and National Registers of Historic Places. <http://www.state.hi.us/dlnr/hpd/>

County of Hawaii. February 2005. *County of Hawaii General Plan*. Ordinance No. 05-025 (As Amended).

County of Hawaii. *County of Hawaii Code Chapter 25 Zoning*. Article 5. Zoning District Regulations, Division 1, RS, Single-Family Residential District.

Department of Geography, University of Hawaii. 1998 *Atlas of Hawaii Third Edition*. University of Hawai'i Press. Honolulu.

Department of Hawaiian Home Lands. December 2010. *Keaukaha Regional Plan*.

Federal Emergency Management Agency. September 1988. *Flood Insurance Rate Map*. Community Panel No. 1551660885C.

MacDonald, Gordon A. and Agatin T. Abbott. 1977 (Fourth Printing). *Volcanoes in the Sea*. University of Hawaii Press (Since 1971The University Press of Hawaii).

Park, Gerald Urban Planner. September 2011. *Field Observation*.

Wilson Okamoto & Associates, Inc. April 2003. *Hilo International Airport Final Environmental Assessment, Hilo, Hawaii*. Prepared for State of Hawaii Department of Transportation, Airports Division.

Wilson Okamoto Corporation. June 2008. *Hawaii Water Plan Water Resource Protection Plan*. Prepared for State of Hawaii Commission on Water Resource Management.

U.S. Department of Agriculture, Soil Conservation Service. December 1973. *Soil Survey Report for Island of Hawaii, State of Hawaii*. In Cooperation with the University of Hawaii Agricultural Experiment Station.

Websites

http://www.hawaiipropertytax.com/Forms/Datalets.aspx?mode=LANDALL_HAWAII&sl

Other

Communication from Principal Lehua M. Veincent, Principal, Keaukaha Elementary School

APPENDIX A

COMMENT LETTERS AND RESPONSES

NEL ABERCROMBIE
GOVERNOR OF HAWAII



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

February 06, 2012

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

In reply, please refer to:
File #



Mr. Gerald Park
Gerald Park Urban Planner
95-595 Kanamee St. #324
Mililani, HI 96789

Dear Mr. Park:

Thank you for your submittal requesting comments to the Draft Environmental Assessment
Keaukaha Elementary School Cafeteria, Waiakea, District of South Hilo, Hawaii.

Based on our review, we have no additional comments at this time.

Should you have any questions, please contact me at (808) 586-4701.

Sincerely,

Jeffrey M. Eckerd
Program Manager
Indoor and Radiological Health Branch

Promoting Lifelong Health & Wellness

William P. Kenoi
Mayor

William T. Takaha
Managing Director



County of Hawaii

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street • Hilo, Hawaii 96720
(808) 961-8083 • Fax (808) 961-8086
http://co.hawaii.hi.us/directory/dir_envmg.htm

February 8, 2012

Mr. Gerald Park
Urban Planner
95595 Kanamee St., #324
Mililani, HI 96789

RE: Keaukaha Elementary School Cafeteria
TMK: (3) 2-1-020:001
Portion of Keaukaha Tract NO. 1, Waiakea, South Hilo

Dear Mr. Nishimura,

Please find enclosed comments from our Wastewater Division.

Thank you for allowing us to review and comment on this project.

Sincerely,

Dora Beck, P.E.
ACTING DIRECTOR

enclosure

cc: WWD



Dora Beck, P.E.
Acting Director

Hunter Bishop
Deputy Director

County of Hawaii is an Equal Opportunity Provider and Employer.



**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WASTEWATER DIVISION**

COUNTY OF HAWAII - 108 RAILROAD AVENUE - HILO, HI 96720
HILO (808) 961-8338 FAX (808) 961-8644

MEMORANDUM

February 7, 2012

To: Dora Beck, P.E., Acting Director
Via: Lyle Hirota, P.E., Deputy Division Chief 
From: Riz Manguang, P.E., Civil Engineer
Subject: Draft Environmental Assessment
Department of Education, State of Hawaii
Keaukaha Elementary School Cafeteria
TMK 2-1-020-001

The Wastewater Division (WWD) has reviewed the Draft Environmental Assessment from Gerald Park, Urban Planner dated January 27, 2012 and provides the following comments:

- Existing within Pua Avenue adjacent the Keaukaha Elementary School is a 10-inch sewer main. Connection of the new Cafeteria to the public sewer is feasible provided that a sewer study be submitted and accepted by the Wastewater Division which evaluates and confirms that the existing collection system is capable of accepting additional wastewater flow from the proposed development.
- Use of the facility as a food service kitchen, with the potential conversion to a commercial kitchen, will discharge fats, oils, and grease into the County's wastewater collection system. To prevent blockages and/or wastewater spills due to increased occupancy, installation of a grease interceptor is required and shall be sized accordingly to comply with Section 21-9 of the Hawaii County Code.

cc: Lyle Hirota, P.E., Deputy Division Chief
Toni Nakatani, EST III

Hawaii County is an equal opportunity provider and employer.



March 22, 2012

GERALD PARK
Urban Planner

- Planning
- Land Use Research
- Environmental Studies

95-595 Kanamee St.
#324
Mililani, Hawaii
96789

Telephone:
(808) 625-9626
e-mail:
gpark@qdup.biz

Dora Beck, P.E., Acting Director
Department of Environmental Management
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Acting Director Beck:

Subject: Keaukaha Elementary School Cafeteria
Tax Map Key: 3rd Division, 2-1-020: 001
Portion of Keaukaha Tract No.1, Waiākea, District of South Hilo, Hawaii

Thank you reviewing and commenting on the Draft Environmental Assessment prepared for the subject project. Our responses are offered in the order your comments were presented.

Wastewater Connection

Thank you for confirming the presence of a County 10-inch sewer main in Pua Avenue.

A sewer study will submitted to the Wastewater Division to evaluate and confirm the capacity of the existing system to receive wastewater flow from the proposed cafeteria.

Grease Interceptor

A grease interceptor is proposed as part of the project and will be sized per requirement of the Hawaii County Code.

The participation of the Department of Environmental Management, Wastewater Division in the environmental assessment review process is appreciated.

Sincerely,

GERALD PARK URBAN PLANNER



Gerald Park

C: R. Yamamoto, DOE

William P. Kenoi
Mayor



County of Hawai'i

POLICE DEPARTMENT
349 Kapaemohi Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 901-8865

Harry S. Kubojiri
Police Chief

Paul K. Ferreira
Deputy Police Chief



February 13, 2012

Mr. Gerald Park
Urban Planner
95-595 Kanamee St., #324
Mililani, HI 96789

Dear Mr. Park:

SUBJECT: KEAUKAHA ELEMENTARY SCHOOL CAFETERIA
TAX MAP KEY: 3RD DIVISION, 2-1-020:001
PORTION OF KEAUKAHA TRACT NO. 1
WAIAKEA, DISTRICT OF SOUTH HILO, HAWAII'

Staff, upon reviewing the provided documents, does not anticipate any significant impact to traffic and/or public safety concerns.

Thank you for allowing us the opportunity to comment.

If you have any questions, please contact Captain Robert Wagner of our S. Hilo Patrol Division at 961-2214.

Sincerely,

HENRY J. TAVARES, JR.
ASSISTANT POLICE CHIEF
AREA I OPERATIONS BUREAU

RW:lli
120055

This page intentionally left blank.

William P. Kenoi
Mayor



County of Hawaii
HAWAII FIRE DEPARTMENT
25 Aupuni Street • Room 2501 • Hilo, Hawaii 96720
(808) 932-2900 • Fax (808) 932-2928

Darren J. Rosario
Fire Chief
Renwick J. Victorino
Deputy Fire Chief



Gerald Park
February 9, 2012
Page 2

February 9, 2012

Gerald Park
Urban Planner
95-595 Kanamee Street #324
Milliani, Hawaii 96789

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA
TMK 3RD Division, 2-1-020:001
PORTION OF KEAUKAHA TRACT NO. 1, WAIAKEA

In regards to the above-mentioned draft Environmental Assessment consultation, the following shall be in accordance:

NFPA 1, UNIFORM FIRE CODE, 2006 EDITION

Note: NFPA 1, Hawaii State Fire Code with County amendments. County amendments are identified with a preceding "C~" of the reference code.

Chapter 18 Fire Department Access and Water Supply

18.1 General. Fire department access and water supplies shall comply with this chapter.

For occupancies of an especially hazardous nature, or where special hazards exist in addition to the normal hazard of the occupancy, or where access for fire apparatus is unduly difficult, or areas where there is an inadequate fire flow, or inadequate fire hydrant spacing, and the AHJ may require additional safeguards including, but not limited to, additional fire appliance units, more than one type of appliance, or special systems suitable for the protection of the hazard involved.



Hawaii's County is an Equal Opportunity Provider and Employer.

18.1.1 Plans.

18.1.1.1 Fire Apparatus Access. Plans for fire apparatus access roads shall be submitted to the fire department for review and approval prior to construction.

18.1.1.2 Fire Hydrant Systems. Plans and specifications for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction.

C~ 18.1.1.2.1 Fire Hydrant use and Restrictions. No unauthorized person shall use or operate any Fire hydrant unless such person first secures permission or a permit from the owner or representative of the department, or company that owns or governs that water supply or system. Exception: Fire Department personnel conducting firefighting operations, hydrant testing, and/or maintenance, and the flushing and acceptance of hydrants witnessed by Fire Prevention Bureau personnel.

18.2 Fire Department Access.

18.2.1 Fire department access and fire department access roads shall be provided and maintained in accordance with Section 18.2.

18.2.2* Access to Structures or Areas.

18.2.2.1 Access Box(es). The AHJ shall have the authority to require an access box(es) to be installed in an accessible location where access to or within a structure or area is difficult because of security.

18.2.2.2 Access to Gated Subdivisions or Developments. The AHJ shall have the authority to require fire department access be provided to gated subdivisions or developments through the use of an approved device or system.

18.2.2.3 Access Maintenance. The owner or occupant of a structure or area, with required fire department access as specified in 18.2.2.1 or 18.2.2.2, shall notify the AHJ when the access is modified in a manner that could prevent fire department access.

18.2.3 Fire Department Access Roads.

18.2.3.1 Required Access.

- 18.2.3.1.1 Approved fire department access roads shall be provided for every facility, building, or portion of a building hereafter constructed or relocated.
- 18.2.3.1.2 Fire Department access roads shall consist of roadways, fire lanes, parking lots lanes, or a combination thereof.
- 18.2.3.1.3* When not more than two one- and two-family dwellings or private garages, carports, sheds, agricultural buildings, and detached buildings or structures 400ft² (37 m²) or less are present, the requirements of 18.2.3.1 through 18.2.3.2.1 shall be permitted to be modified by the AHJ.
- 18.2.3.1.4 When fire department access roads cannot be installed due to location on property, topography, waterways, nonnegotiable grades, or other similar conditions, the AHJ shall be authorized to require additional fire protection features.
- 18.2.3.2 Access to Building.
- 18.2.3.2.1 A fire department access road shall extend to within in 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provided access to the interior of the building.
- 18.2.3.2.1.1 When buildings are protected throughout with an approved automatic sprinkler system that is installed in accordance with NFPA 13, NFPA 13D, or NFPA 13R, the distance in 18.2.3.2.2 shall be permitted to be increased to 300 feet.
- 18.2.3.2.2 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 ft (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility.
- 18.2.3.2.2.1 When buildings are protected throughout with an approved automatic sprinkler system that is installed in accordance with NFPA 13, NFPA 13D, or NFPA 13R, the distance in 18.2.3.2.2 shall be permitted to be increased to 450 ft (137 m).

18.2.3.3 Multiple Access Roads. More than one fire department access road shall be provided when it is determined by the AHJ that access by a single road could be impaired by vehicle congestion, condition of terrain, climatic conditions, or other factors that could limit access.

18.2.3.4 Specifications.

18.2.3.4.1 Dimensions.

C~ 18.2.3.4.1.1 FDAR shall have an unobstructed width of not less than 20ft with an approved turn around area if the FDAR exceeds 150 feet. **Exception:** FDAR for one and two family dwellings shall have an unobstructed width of not less than 15 feet, with an area of not less than 20 feet wide within 150 feet of the structure being protected. An approved turn around area shall be provided if the FDAR exceeds 250 feet.

C~ 18.2.3.4.1.2 FDAR shall have an unobstructed vertical clearance of not less than 13ft 6 in.

C~ 18.2.3.4.1.2.1 Vertical clearances may be increased or reduced by the AHJ, provided such increase or reduction does not impair access by the fire apparatus, and approved signs are installed and maintained indicating such approved changes.

18.2.3.4.1.2.2 Vertical clearances shall be increased when vertical clearances or widths are not adequate to accommodate fire apparatus.

C~ 18.2.3.4.2 Surface. Fire department access roads and bridges shall be designed and maintained to support the imposed loads (25 Tons) of the fire apparatus. Such FDAR and shall be comprised of an all-weather driving surface.

18.2.3.4.3 Turning Radius.

C~ 18.2.3.4.3.1 Fire department access roads shall have a minimum inside turning radius of 30 feet, and a minimum outside turning radius of 60 feet.

18.2.3.4.3.2 Turns in fire department access road shall maintain the minimum road width.

18.2.3.4.4 Dead Ends. Dead-end fire department access roads in excess of 150 ft (46 m) in length shall be provided with approved provisions for the fire apparatus to turn around.

18.2.3.4.5 Bridges.

18.2.3.4.5.1 When a bridge is required to be used as part of a fire department access road, it shall be constructed and maintained in accordance with county requirements.

18.2.3.4.5.2 The bridge shall be designed for a live load sufficient to carry the imposed loads of fire apparatus.

18.2.3.4.5.3 Vehicle load limits shall be posted at both entrances to bridges where required by the AHJ.

18.2.3.4.6 Grade.

C~18.2.3.4.6.1 The maximum gradient of a Fire department access road shall not exceed 12 percent for unpaved surfaces and 15 percent for paved surfaces. In areas of the FDAR where a Fire apparatus would connect to a Fire hydrant or Fire Department Connection, the maximum gradient of such area(s) shall not exceed 10 percent.

18.2.3.4.6.2* The angle of approach and departure for any means of fire department access road shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m) or the design limitations of the fire apparatus of the fire department, and shall be subject to approval by the AHJ.

18.2.3.4.6.3 Fire department access roads connecting to roadways shall be provided with curb cuts extending at least 2 ft (0.61 m) beyond each edge of the fire lane.

18.2.3.4.7 Traffic Calming Devices. The design and use of traffic calming devices shall be approved the AHJ.

18.2.3.5 Marking of Fire Apparatus Access Road.

18.2.3.5.1 Where required by the AHJ, approved signs or other approved notices shall be provided and maintained to identify fire department access roads or to prohibit the obstruction thereof of both.

18.2.3.5.2 A marked fire apparatus access road shall also be known as a fire lane.

18.2.4* Obstruction and Control of Fire Department Access Road.

18.2.4.1 General.

18.2.4.1.1 The required width of a fire department access road shall not be obstructed in any manner, including by the parking of vehicles.

18.2.4.1.2 Minimum required widths and clearances established under 18.2.3.4 shall be maintained at all times.

18.2.4.1.3* Facilities and structures shall be maintained in a manner that does not impair or impede accessibility for fire department operations.

18.2.4.1.4 Entrances to fire departments access roads that have been closed with gates and barriers in accordance with 18.2.4.2.1 shall not be obstructed by parked vehicles.

18.2.4.2 Closure of Accessways.

18.2.4.2.1 The AHJ shall be authorized to require the installation and maintenance of gates or other approved barricades across roads, trails, or other accessways not including public streets, alleys, or highways.

18.2.4.2.2 Where required, gates and barricades shall be secured in an approved manner.

18.2.4.2.3 Roads, trails, and other accessways that have been closed and obstructed in the manner prescribed by 18.2.4.2.1 shall not be trespassed upon or used unless authorized by the owner and the AHJ.

18.2.4.2.4 Public officers acting within their scope of duty shall be permitted to access restricted property identified in 18.2.4.2.1.

18.2.4.2.5 Locks, gates, doors, barricades, chains, enclosures, signs, tags, or seals that have been installed by the fire department or by its order or under its control shall not be removed, unlocked, destroyed, tampered with, or otherwise vandalized in any manner.

18.3 Water Supplies and Fire Hydrants

18.3.1* 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. For on-site fire hydrant requirements see section 18.3.3.

EXCEPTIONS:

1. When facilities or buildings, or portions thereof, are completely protected with an approved automatic fire sprinkler system the provisions of section 18.3.1 may be modified by the AHJ.
2. When water supply requirements cannot be installed due to topography or other conditions, the AHJ may require additional fire protection as specified in section 18.3.2 as amended in the code.
3. When there are not more than two dwellings, or two private garage, carports, sheds and agricultural. Occupancies, the requirements of section 18.3.1 may be modified by AHJ.

18.3.2* Where no adequate or reliable water distribution system exists, approved reservoirs, pressure tanks, elevated tanks, fire department tanker shuttles, or other approved systems capable of providing the required fire flow shall be permitted.

18.3.3* The location, number and type of fire hydrants connected to a water supply capable of delivering the required fire flow shall be provided on a fire apparatus access

road on the site of the premises or both, in accordance with the appropriate county water requirements.

18.3.4 Fire Hydrants and connections to other approved water supplies shall be accessible to the fire department.

18.3.5 Private water supply systems shall be tested and maintained in accordance with NFPA 25 or county requirements as determined by the AHJ.

18.3.6 Where required by the AHJ, fire hydrants subject to vehicular damage shall be protected unless located within a public right of way.

18.3.7 The AHJ shall be notified whenever any fire hydrant is placed out of service or returned to service. Owners of private property required to have hydrants shall maintain hydrant records of approval, testing, and maintenance, in accordance with the respective county water requirements. Records shall be made available for review by the AHJ upon request.

C- 18.3.8 Minimum water supply for buildings that do not meet the minimum County water standards:

Buildings up to 2000 square feet, shall have a minimum of 3,000 gallons of water available for Firefighting.

Buildings 2001- 3000 square feet, shall have a minimum of 6,000 gallons of water available for Firefighting.

Buildings, 3001- 6000 square feet, shall have a minimum of 12,000 gallons of water available for Firefighting.

Buildings, greater than 6000 square feet, shall meet the minimum County water and fire flow requirements.

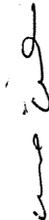
Multiple story buildings shall multiply the square feet by the amount of stories when determining the minimum water supply.

- conducting drafting operations at once, in mind.
- (5) Inspection and maintenance shall be in accordance to NFPA 25.
(6) The owner or lessee of the property shall be responsible for maintaining the water level, quality, and appurtenances of the system.

EXCEPTIONS TO SECTION 18.3.8:

- (1) Agricultural buildings, storage sheds, and shade houses with no combustible or equipment storage.
(2) Buildings less than 800 square feet in size that meets the minimum Fire Department Access Road requirements.
(3) For one and two family dwellings, agricultural buildings, storage sheds, and detached garages 800 to 2000 square feet in size, and meets the minimum Fire Department Access Road requirements, the distance to the Fire Department Connection may be increased to 1000 feet.
(4) For one and two family dwellings, agricultural buildings, and storage sheds greater than 2000square feet, but less than 3000 square feet and meets the minimum Fire Department Access Road requirements, the distance to the Fire Department Connection may be increased to 500 feet.
(5) For buildings with an approved automatic sprinkler system, the minimum water supply required may be modified.

If there are any questions regarding these requirements, please contact the Fire Prevention Bureau at (808) 932-2912.


DARREN J. ROSARIO
Fire Chief

RP/lc

Commercial buildings requiring a minimum fire flow of 2000gpm per the Department of Water standards shall double the minimum water supply reserved for firefighting.

Fire Department Connections (FDC) to alternative water supplies shall comply with 18.3.8 (1)-(6) of *this code*.

NOTE: In that water catchment systems are being used as a means of water supply for firefighting, such systems shall meet the following requirements:

- (1) In that a single water tank is used for both domestic and firefighting water, the water for domestic use shall not be capable of being drawn from the water reserved for firefighting;
(2) Minimum pipe diameter sizes from the water supply to the Fire Department Connection (FDC) shall be as follows:
(a) 4" for C900 PVC pipe;
(b) 4" for C906 PE pipe;
(c) 3" for ductile Iron;
(d) 3" for galvanized steel.

(3) The Fire Department Connection (FDC) shall:

- (a) be made of galvanized steel;
(b) have a gated valve with 2-1/2 inch, National Standard Thread male fitting and cap;
(c) be located between 8 ft and 16 ft from the Fire department access.
The location shall be approved by the AHJ;
(d) not be located less than 24 inches, and no higher than 36 inches from finish grade, as measured from the center of the FDC orifice;
(e) be secure and capable of withstanding drafting operations. Engineered stamped plans may be required;
(f) not be located more than 150 feet of the most remote part, but not less than 20 feet, of the structure being protected;
(g) also comply with section 13.1.3 and 18.2.3.4.6.1 of *this code*;

(4) Commercial buildings requiring a fire flow of 2000gpm shall be provided with a second FDC. Each FDC shall be independent of each other, with each FDC being capable of flowing 500gpm by engineered design standards. The second FDC shall be located in an area approved by the AHJ with the idea of multiple Fire apparatus'



April 10, 2012

GERALD PARK
Urban Planner

■ Planning
Land Use
Research
Environmental
Studies

■ 95-595 Kanamee St.
#374
Mililani, Hawaii
96789

■ Telephone:
(808) 625-9626
e-mail:
gpart4@gpuu.biz

Darren J. Rosario, Fire Chief
County of Hawaii'i
Fire Department
25 Aupuni Street, Room 103
Hilo, Hawaii'i 96720

Dear Chief Rosario:

Subject: Keaukaha Elementary School Cafeteria
Tax Map Key: 3rd Division, 2-1-020: 001
Portion of Keaukaha Tract No.1, Waiākea, District of South Hilo, Hawaii'i

Thank you reviewing and commenting on the Draft Environmental Assessment prepared for the subject project. We offer the following responses to your comments.

1. The cafeteria will be equipped with an automatic fire sprinkler system to aid in fire protection. The project also will provide a fire department access road as required by NFPA 1, Uniform Fire Code, 2006 Edition as amended by the County of Hawaii'i, Section 18-2. Fire Department Access.
2. The requirement for providing on-site fire hydrants may be modified if facilities or buildings are equipped with an approved automatic fire sprinkler system (Section 18.3.1.(1).
3. The availability of water for fire flow will be confirmed with the Department of Water Supply.
4. Construction plans will be submitted to the Fire Department for review and approval prior to construction.

The participation of the Hawaii'i Fire Department in the environmental assessment review process is appreciated.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

C: R. Yamamoto, DOE

This page intentionally left blank.

William P. Kenoi
Mayor

West Hawaii Office
74-5044 Ane Keohokalole Hwy
Kailua-Kona, Hawaii 96740
Phone (808) 323-4770
Fax (808) 327-3563



County of Hawaii
PLANNING DEPARTMENT

BJ Leithhead Todd
Director
Margaret K. Masunaga
Deputy

East Hawaii Office
101 Puuahi Street, Suite 3
Hilo, Hawaii 96720
Phone (808) 961-8288
Fax (808) 961-8742

February 22, 2012



Mr. Gerald Park
Urban Planner
95-595 Kanamee Street, #324
Mililani, Hawaii 96789

Dear Mr. Park:

Subject: Review of Draft Environmental Assessment
Project: Keaukaha Elementary School Cafeteria
TMK: (3) 2-1-020:001; Portion of Keaukaha Tract No. 1, Waiakea, South
Hilo, Hawaii

Thank you for a copy of the Draft Environmental Assessment (DEA) received on January 30, 2012 requesting comments from this office. The Department of Education, State of Hawaii, proposes to construct improvements at Keaukaha Elementary School. The purpose of the project is to construct a new permanent cafeteria building. To support the new cafeteria building, the proposed action includes drainage improvements and the installation of underground water, sewer, power, and communication systems and upgrading of same as needed. Modification to an existing parking lot near the proposed cafeteria building also is proposed.

The subject property consists of 6.3444 acres and is zoned Single-Family Residential (RS-10) by the County. The property is situated within the State Land Use Urban District. In addition, the Hawaii County General Plan Land Use Pattern Allocation Guide (LUPAG) Map designates the parcel as Low Density Urban. The subject parcel is not located within the Special Management Area (SMA).

Please note that Section 25-2-71 of the Hawaii County Code (Zoning) states that Plan approval shall be required for all public uses, structures and buildings and community buildings, as permitted under section 25-4-11. Therefore, Plan approval will be required for the proposed cafeteria building and related improvements.

Mr. Gerald Park
Urban Planner
February 22, 2012
Page 2

We have no further comments to offer, at this time. However, please provide our department with a copy of the Final Environmental Assessment for our records.
If you have any questions or if you need further assistance, please feel free to contact Bethany Morrison of this office at 961-8138.

Sincerely,

BJ LEITHHEAD TODD
Planning Director

BJM:CS
P:\pwwind\Bethany\EA-EIS Review\draft\ea_Keaukaha_Elementary_School_Cafeteria.doc

cc: Mr. Ryan Yamamoto
Facilities Development Branch
Department of Education
State of Hawaii
1151 Punchbowl Street, Room 501
Honolulu, Hawaii 96813



March 21, 2012

GERALD PARK
Urban Planner

Bobby Jean Leithead-Todd, Planning Director
County of Hawaii
Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720

Dear Director Leithead-Todd:

Subject: Keaukaha Elementary School Cafeteria
Tax Map Key: 3rd Division, 2-1-020: 001
Portion of Keaukaha Tract No.1, Waiākea, District of South Hilo, Hawaii

Thank you reviewing and commenting on the Draft Environmental Assessment prepared for the subject project. Our responses to your comments are offered in the order presented.

Construction plans for the proposed cafeteria building and associated improvements will be submitted to the Planning Department for Plan Approval.

The Final Environmental Assessment will be provided to the Planning Department as requested.

The participation of the Planning Department in the environmental assessment review process is appreciated.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

C: R. Yamamoto, DOE

This page intentionally left blank.

NEIL ABERNETHY, JR.
GOVERNOR OF HAWAII
COMMISSIONER OF LAND AND NATURAL RESOURCES
DEPARTMENT OF LAND AND NATURAL RESOURCES



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
LAND DIVISION
2012 FEB 15 A 10:05
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

February 8, 2012

MEMORANDUM

- TO: DLNR Agencies:
- Div. of Aquatic Resources
 - Div. of Boating & Ocean Recreation
 - Div. of Engineering Division
 - Div. of Forestry & Wildlife
 - Div. of State Parks
 - Commission on Water Resource Management
 - Office of Conservation & Coastal Lands
 - Land Division - Hawaii District
 - Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator

SUBJECT: Draft Environmental Assessment for the Keaukaha Elementary School Cafeteria

LOCATION: Waiakea, District of South Hilo, Island of Hawaii; TMK: (3) 2-1-020-001

APPLICANT: Gerald Park Urban Planner on behalf of the 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 March 7, 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 Dartene Nakamura at 587-0417. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:

Date: 2/15/12

cc: Central Files

NEIL ABERNETHY, JR.
GOVERNOR OF HAWAII



WILLIAM LALLA, JR.
CHAIRMAN
COMMISSION ON WATER MARKET MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

March 16, 2012

Gerald Park Urban Planner
Attention: Mr. Gerald Park
95-595 Kanamee Street, #324
Mililani, Hawaii 96789

via email: gpark@gpup.biz



Dear Mr. Park:

SUBJECT: Draft Environmental Assessment for the Keaukaha Elementary School Cafeteria, Waiakea, District of South Hilo, Island of Hawaii; TMK: (3) 2-1-020-001

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 (a) Engineering Division, and (b) Land Division - Hawaii District on the subject matter. Should you have any questions, please feel free to call Kevin Moore at 587-0426. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)



DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
REF: DEA for Keaukaha Elementary School Cafeteria, Waiakae, District of South Hilo
Hawaii.001

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 631
HONOLULU, HAWAII 96809

7017 FEB 13 P 1:30

RECEIVED
LAND DIVISION
HILO, HAWAII

RECEIVED
LAND DIVISION

2012 FEB 29 A 10:35

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

February 8, 2012

MEMORANDUM

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division - Hawaii District
- Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator
Draft Environmental Assessment for the Keaukaha Elementary School
Cafeteria

SUBJECT:

LOCATION: Waiakae, District of South Hilo, Island of Hawaii; TMK: (3) 2-1-020:001
APPLICANT: Gerald Park Urban Planner on behalf of the Department of Education

- (X) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone X. The National Flood Insurance Program does not have any regulations for developments within Zone X.
- () Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood 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 site 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 Tyeu-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 Cerizzo 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 to the Engineering Division upon its availability the water demands and calculations for the selected site, 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:
CARYS CHANG, CHIEF ENGINEER

Date: 2/14/12

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by March 7, 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 Darlene Nakamura at 587-0417. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached

Signed:
Date: 2/14/12

cc: Central Files



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
 345 KEKŪANAŌA STREET, SUITE 20 • HILO, HAWAII 96720
 TELEPHONE (808) 961-8050 • FAX (808) 961-8657

March 20, 2012

Gerald Park Urban Planner
 95-595 Kanamee Street, #324
 Miiilani, HI 96789



**DRAFT ENVIRONMENTAL ASSESSMENT
 KEAUKAHA ELEMENTARY SCHOOL CAFETERIA
 TAX MAP KEY 2-1-020:001**

We have reviewed the subject Draft Environmental Assessment and have the following comments.

1. Water can be made available from an existing 6-inch waterline within Desha Avenue fronting the proposed project site. Prior to issuing a water commitment for the project, the Department would request estimated maximum daily water usage calculations prepared by a professional engineer licensed in the State of Hawai'i for review. After review of the calculations, the Department will determine the water commitment deposit amount, facilities charges due, and other conditions for final approval.
2. As the applicant is proposing to utilize an existing meter to serve the project, the applicant must inform the Department, in writing, the account number of the meter to be used. The Department will make the final determination as to whether an existing meter may be utilized for subject project.
3. Please be informed that the existing 6-inch waterline within Desha Avenue is inadequate to provide the required 2,000 gallons per minute (GPM) fire-flow required for school facilities. The applicant will be required to submit plans showing the water system improvements necessary to provide the required fire-flow.
4. Please also be informed that any meter(s) serving the proposed project will require the installation of a reduced principle type backflow prevention assembly within five feet of the meter on private property, if one does not already exist. The Department must inspect and approve the installation prior to commencement of water service.

Should there be any questions, please contact Mr. Ryan Quitariano of our Water Resources and Planning Branch at 961-8070, extension 256.

Sincerely yours,


 Quirino Antonio, Jr., P.E.
 Manager-Chief Engineer

RQ:dfg

copy – Ryan Yamamoto, Department of Education

... *Water, Our Most Precious Resource* ... *Ka Wai A Kāne* ...

The Department of Water Supply is an Equal Opportunity provider and employer.



GERALD PARK
 Urban Planner

- Planning
- Land Use
- Research
- Environmental
- Studies

95-595 Kanamee St.
 #324
 Miiilani, Hawaii
 96789

Telephone:
 (808) 625-9626
 e-mail:
 gpark@gpup.biz

April 10, 2012

Quirino Antonio, Jr., P.E.
 Manager-Chief Engineer
 Department of Water Supply
 County of Hawai'i
 345 Kekuanāoa Street, Suite 20
 Hilo, Hawai'i 96720

Dear Mr. Antonio:

Subject: Keaukaha Elementary School Cafeteria
 Tax Map Key: 3rd Division, 2-1-020: 001
 Portion of Keaukaha Tract No.1, Waiākea, District of South Hilo, Hawai'i

Thank you reviewing and commenting on the Draft Environmental Assessment prepared for the subject project. We offer the following responses to your comments in the order they were presented.

1. Applicant will submit estimated maximum daily water usage calculations as requested. The calculations will be prepared by a professional engineer licensed in the State of Hawai'i.
2. This comment is acknowledged.
3. The civil engineer for the project will consult with Department of Water Supply staff about water system improvements to provide the required fire flow.
 Fire protection for the new cafeteria will be provided from the existing onsite fire hydrant located in the parking lot of the school which comes off of Baker Avenue. In addition to the existing hydrant a fire sprinkler system will be installed in the new cafeteria with service coming off the fire hydrant supply line.
4. This comment is acknowledged.

The participation of the Department of Water Supply in the environmental assessment review process is appreciated.

Sincerely,

GERALD PARK URBAN PLANNER


 Gerald Park

C: R. Yamamoto, DOE

NEIL ABERCROMBIE
GOVERNOR



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

April 2, 2012

GLENN M. OKIMOTO
DIRECTOR

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

IN REPLY REFER TO:

STP 8.0777



Mr. Gerald Park
Gerald Park Urban Planner
95-595 Kanamee Street
Mililani, Hawaii 96789

Dear Mr. Park:

Subject: Keaukaha Elementary School Cafeteria –
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) is proposing to construct a new cafeteria building, drainage improvements, installation of underground water, sewer, power and communication systems, and modification to an existing parking lot. The primary vehicle entry to the project is from Desha Lane.

Given the project location in proximity to DOT's Hilo International Airport (ITO) and Highway facilities, DOT offers the following comments:

1. The subject project is located less than 1/2 mile from ITO and is within the 65-60 Day-Night Average Sound Level (DNL) contour line on the ITO 5-Year (2005) Noise Exposure Map. The proposed cafeteria building will be subject to noise from aircraft arriving and departing airport. We recommend the building be sound attenuated to an interior noise level of 45 dBA since the building may also be used for meetings and possible additional classrooms.
2. Additionally, the proposed cafeteria may be subject to smoke, fumes and vibrations from aircraft which may impact cafeteria users due to the natural ventilation being proposed.
3. It is not anticipated that the subject project will have any significant adverse impacts to the State transportation roadways facilities. However, the DOE is required to obtain a permit from DOT Highways Division, if any oversize and overweight equipment/loads for the subject project will be transported on State highways facilities.

Mr. Gerald Park
Page 2
April 2, 2012

DOT appreciates the opportunity to provide comments. If there are any questions or the need to meet with DOT staff, 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

STP 8.0777

Comment received after the end of the 30-day
review period. A reply is not required

