



OCT - 2 2020

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

OFFICE OF FACILITIES AND OPERATIONS

September 23, 2020

TO: Keith E. Kawaoka
Acting Director, Office of Environmental Quality Control
Department of Health

FROM: Tracy Okumura 
For Public Works Administrator
Facilities Development Branch

SUBJECT: Draft Environmental Assessment for
Kohala Middle School – Covered Play Court
DOE Job No. Q16200-17
TMK: (3) 5-3-010:056
Kapaau, Hawaii County, Hawaii

The Hawaii State Department of Education has reviewed the Draft Environmental Assessment (DEA) for the subject project and anticipates a Finding of No Significant Impact (FONSI) determination.

The information and the file required for publication, including an electronic copy of the DEA, have been provided via the Office of Environmental Quality Control (OEQC) online submission platform. We respectfully request the publication of this DEA-FONSI in the upcoming issue of the OEQC's, *The Environmental Notice*.

Should there are any questions, please contact Jolene Velasco, Project Coordinator of the Facilities Development Branch, Project Management Section, at 784-5129.

TO:jv
Enclosures

c: Facilities Development Branch

From: webmaster@hawaii.gov
To: [HI Office of Environmental Quality Control](#)
Subject: New online submission for The Environmental Notice
Date: Thursday, October 1, 2020 4:24:49 PM

Action Name

Kohala Middle School New Covered Play Court

Type of Document/Determination

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

North Kohala, Hawai'i

Tax Map Key(s) (TMK(s))

(3) 5-3-010:056

Action type

Agency

Other required permits and approvals

Numerous

Proposing/determining agency

Department of Education, State of Hawaii

Agency contact name

Jolene Velasco

Agency contact email (for info about the action)

jolene.velasco@k12.hi.us

Email address or URL for receiving comments

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Agency contact phone

(808) 784-5129

Agency address

3633 Waialae Avenue
Honolulu, Hawaii 96813
United States
[Map It](#)

Was this submittal prepared by a consultant?

Yes

Consultant

AGY LLC

Consultant contact name

Aolani Yamasato-Gragas

Consultant contact email

aolani_y@yahoo.com

Consultant contact phone

(808) 741-6089

Consultant address

1100 Ward Avenue
Suite 1020
Honolulu, Hawaii 96814
United States
[Map It](#)

Action summary

The proposed action will provide the students of Kohala Middle School a sheltered area for physical education classes, play during recess and a flexible space for various school related activities. The proposed one-story structure will be located in an open area in the middle of the property and behind the classroom buildings along Akoni Pule Highway.

The structure is approximately 8,653 square feet. The play court will provide one regulation size basketball court, four half-court basketball courts, one regulation size volleyball court and two practice volleyball courts. The covered structure will be completely enclosed and secured by a continuous chain link fence with locking gates.

Reasons supporting determination

Refer to Section 8, DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION in Draft EA.

Attached documents (signed agency letter & EA/EIS)

- [Kohala-Middle-School-Draft-Environmental-Assessment-2020.09.22.pdf](#)
- [9-24-2020_-Kawaoka-DEA-FONSI-Kohala-MS-Q16200-17.pdf](#)

Action location map

- [Kohala-Middle-School-Parcels_-Hawaii_County-shp.zip](#)

Authorized individual

Aolani Yamasato-Gragas

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

KOHALA MIDDLE SCHOOL

New Covered Play Court

North Kohala District, Island of Hawai'i
TMK [3] 5-3-010:056 por.

Draft Environmental Assessment

Prepared for:
Facilities Development Branch
State of Hawai'i Department of Education
Office of School Facilities and Support Services
3633 Waialae Avenue
Honolulu, Hawai'i 96813

Prepared by:
AGY, LLC
1100 Ward Avenue Suite 1020
Honolulu, Hawaii 96814

October 2020

TABLE OF CONTENTS

1.	PROJECT SUMMARY	1
2.	DESCRIPTION OF PROPOSED PROJECT	2
2.1	Purpose and Need of Project	2
2.2	Site Background and Description	2
2.3	Existing Structures and Uses	3
2.4	Technical Characteristics	8
2.4.1	Covered Play Court	8
2.4.2	Circulation and Off-Street Parking	9
2.4.3	Infrastructure	9
2.4.4	Demolition and Grading	11
2.4.5	Landscaping	11
2.4.6	Economic Characteristics	11
2.4.7	Social Characteristics	23
3.	DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES.....	23
3.1	Climate	23
3.2	Topography and Soils	24
3.3	Hydrology	26
3.4	Wastewater	27
3.5	Flood Hazard	28
3.6	Biological Resources	28
3.7	Historical, Cultural, and Archeological Resources	29
3.8	Social Characteristics	31
3.9	Visual Resources	32
3.10	Air Quality	33
3.11	Noise	34
3.12	Public Services	35
4.	RELATIONSHIP TO LAND USE POLICIES AND CONTROLS	36
4.1	State of Hawai'i	36
	Hawai'i State Plan	36
	State Land Use Classification	37
4.2	County of Hawai'i	40
	Zoning	40
	General Plan	40
	North Kohala Community Development Plan	42
5.	ALTERNATIVES TO THE PROPOSED ACTION	44
5.1	No Action	44
5.2	Alternative Site	44

6.	PERMITS AND APPROVALS	45
7.	CONSULTED PARTIES	46
8.	DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION ...	47
8.1	Significance Criteria	47
8.2	Findings	51
8.3	Reasons Supporting Determination.....	51

LIST OF FIGURES

<i>Figure 1:</i>	<i>Location Map</i>	<i>5</i>
<i>Figure 2:</i>	<i>TMK Map.....</i>	<i>6</i>
<i>Figure 3:</i>	<i>General Site Plan.....</i>	<i>7</i>
<i>Figure 4:</i>	<i>Site Layout Plan.....</i>	<i>12</i>
<i>Figure 5:</i>	<i>Grading Plan</i>	<i>13</i>
<i>Figure 6:</i>	<i>Floor Plan</i>	<i>14</i>
<i>Figure 7:</i>	<i>Floor Plan (Additive Alternate).....</i>	<i>15</i>
<i>Figure 8:</i>	<i>Marking Plan.....</i>	<i>16</i>
<i>Figure 9:</i>	<i>Roof Plan</i>	<i>17</i>
<i>Figure 10:</i>	<i>Exterior Elevations</i>	<i>18</i>
<i>Figure 11:</i>	<i>Exterior Elevations (Additive Alternate).....</i>	<i>19</i>
<i>Figure 12:</i>	<i>Building Sections</i>	<i>20</i>
<i>Figure 13:</i>	<i>Individual Wastewater System</i>	<i>21</i>
<i>Figure 14:</i>	<i>Individual Wastewater System</i>	<i>22</i>
<i>Figure 15:</i>	<i>Soil Map</i>	<i>25</i>
<i>Figure 16:</i>	<i>State Land Use Map</i>	<i>38</i>
<i>Figure 17:</i>	<i>Zoning Map</i>	<i>39</i>

LIST OF TABLES

<i>Table 1:</i>	<i>Existing Buildings</i>	<i>4</i>
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APPENDIX

Appendix A –	Addendum Archaeological Monitoring Plan for the Hawai'i DOE Cesspool Conversion Project, Honoka'a School District, Kohala Middle School, Pueke & Kukuiwaluhia Ahupua'a, North Kohala District, Hawai'i Island TMK: [3] 5-3-010:056 por.
Appendix B –	Drainage Runoff Calculation for Kohala Middle School Covered Playcourt DOE Job No. Q16200-17
Appendix C -	Early Consultation Comment Letters

1. PROJECT SUMMARY

Proposed Action:	Kohala Middle School Covered Play Court DOE Job No. Q16200-17
Applicant:	Facilities Development Branch State of Hawai'i Department of Education Office of School Facilities and Support Services 3633 Wai'alae Avenue Honolulu, Hawai'i 96813
Land Owner:	State of Hawai'i
Agent for the Applicant:	AGY LLC 1100 Ward Avenue, Suite 1020 Honolulu, Hawai'i 96814
Project Location:	Halaula, North Kohala, Hawai'i
Approximate Area:	8.606 acres
Tax Map Key:	TMK [3] 5-3-010:056
Address:	53-4155 Akoni Pule Highway Kapaau, Hawai'i 96755
Existing Uses:	Public
Proposed Uses:	Public
State Land Use District:	Urban District
Zoning District:	RS-15
Community Development Plan:	North Kohala
Special Management Area (SMA):	Outside the SMA
Flood Insurance Rate Map:	Flood Zone X: areas designated outside the 2% annual chance flood plain
Need for Assessment:	Chapter 343, Hawai'i Revised Statutes §343-5 (a) Use of State Lands and Funds
Anticipated Determination:	Finding of No Significant Impact

2. DESCRIPTION OF PROPOSED PROJECT

The State of Hawai'i Department of Education (DOE) proposes to construct a multi-purpose covered play court on the Kohala Middle School campus (Figure 1). Kohala Middle School is located in the town of Halaula, on the island of Hawai'i. The school is within the North Kohala District and located on the makai side of Akoni Pule Highway, approximately 2.8 miles southeast of Kohala High and Elementary School. The property is identified as Tax Map Key 5-3-010:05 with a total area of 8.606 acres (Figure 2).

2.1 Purpose and Need of Project

The purpose of the project is to provide a sheltered play area for the students of Kohala Middle School. Located on the northeast coast of the Big Island, the windward side of Kohala receives approximately 60 inches of rain annually. The significant amount of rain reduces the number of days and times for outdoor recess, recreation, and physical education.

In addition to the physical education classes and a play space during recess, the new covered play court will provide the school with a flexible space for creative projects, school gatherings, and celebrations. The student body currently holds assemblies in the front outdoor courtyard or the back open field. The new space will allow the entire school to gather in one place under shelter during inclement weather conditions.

2.2 Site Background and Description

Kohala High and Elementary School, formerly Honomaka'u School, opened in 1837 and was renamed Kohala High and Grammar School in 1926. Halaula School opened later in 1939 for grades one through eight for the workers of the flourishing Kohala Sugar Plantation Company. In the 1930s there were nine public schools in the district.

However, by the 1950s, local sugar mills began slowing down, new generations were leaving the plantations, and stores and schools began closing. By the 1960s, as schools consolidated to address the dwindling population, only Halaula School and Kohala High School remained. In the mid-1970s the last of the sugar plantations closed in Kohala. During those years, Halaula School was also referred to as the Kohala Annex, and considered a part of the Kohala High and Elementary School.

In the late 1970s Halaula School was briefly used as a preschool and also by other local community organizations. In the late 1990s, a group of staff and community members lobbied the Board of Education for a separate school devoted the unique needs of middle school students in grades six through eight. By 1993 the Halaula School was once again used as a middle school, as a satellite campus of Kohala High and Elementary School, and referred to as Halaula Annex. The school shared a few facilities with the Kohala High and Elementary campus in the 1990s, however by 2000 the school was a separate campus with separate facilities. In 2000, Kohala Middle School was formally created and renamed from Halaula School to Kohala Middle School.

2.3 Existing Structures and Uses

Today the Kohala Middle School campus is comprised of six classroom buildings and an outdoor basketball court (Figure 3). The entire campus is compliant with the Americans with Disabilities Act of 1990 (ADA) requirements. Three of the classroom buildings are modular classrooms, with the most recent modular classroom addition completed in 2006. Most of the campus buildings are located approximately 40 feet to 60 feet from Akoni Pule Highway, with a 3-foot high chain link fence fronting the campus. Tall coconut trees, approximately 35 feet high, line the street front with a large grass courtyard opening up to Building A. The outdoor basketball court and two of the

modular classrooms are located behind Building A, B and C. Two-thirds of the 8.606 acre campus is a large open field at the makai side of the property.

Table 1: Existing Buildings

Building	Function	Square Feet (sf)	Year Built
Building A	Administrative Offices, General Classrooms, Cafeteria (Lower Level), Kitchen (Lower Level), Health Room (Lower Level)	11,969 sf	1939
Building B	General Classrooms	2,000 sf	1940
Building C	Restrooms	457 sf	1940
P-1	General Classrooms	750 sf	1991
P-2/P-3	General Classrooms	1,500 sf	1991
TB-1/TB-2	General Classrooms	1,800 sf	1996

There are six additional dwelling structures on the lower Kapaau side of the property boundary, but not part of the Kohala Middle School campus. These dwellings are used as teachers' cottages and managed by the DOE Project Control System Accountability Branch.

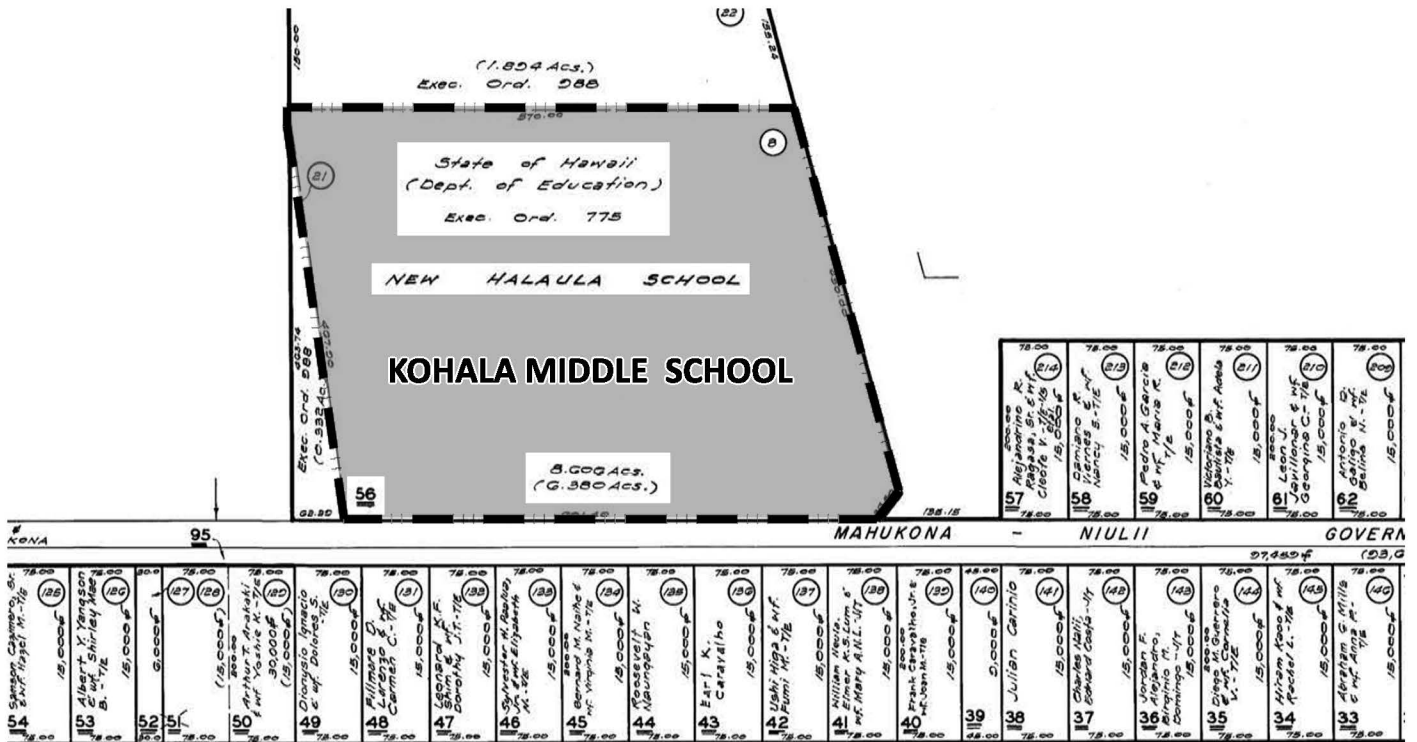


FIGURE 1
KOHALA MIDDLE SCHOOL LOCATION MAP

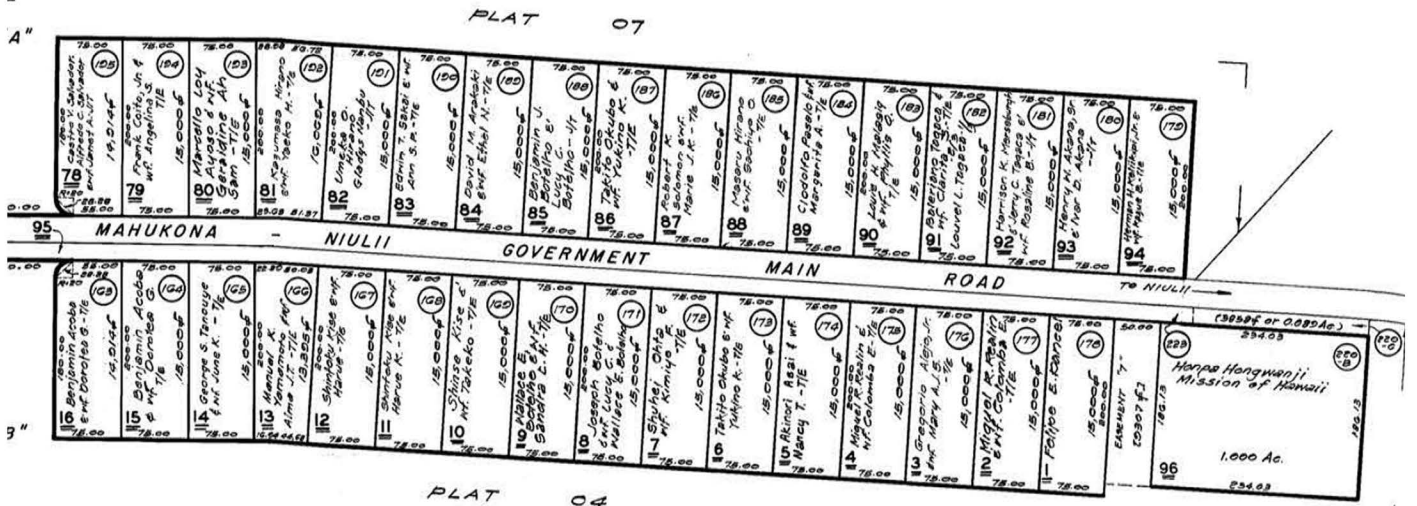
KOHALA MIDDLE SCHOOL
NEW COVERED PLAY COURT

NOT TO SCALE





PLAT 04



PLAT 04

NOTE: All lots owned by Kohala Corporation unless otherwise noted.

FOR REAL PROPERTY TAXATION PURPOSES
SUBJECT TO CHANGE

Parcels Dropped: 31.

POR. HALAULA SUB'D., LD. CT. APP. 1116, N. KOHALA, HAWAII. (Formerly por. 5-3-04 & 07)

DEPARTMENT OF TAXATION PROPERTY ASSESSMENT DIVISION TAX MAPS BRANCH STATE OF HAWAII TAX MAP		
THIRD TAXATION DIVISION		
ZONE	SEC.	PLAT
5	3	10
SCALE: 1 IN. = 100 FT.		

FIGURE 2

TAX MAP

KOHALA MIDDLE SCHOOL
NEW COVERED PLAY COURT

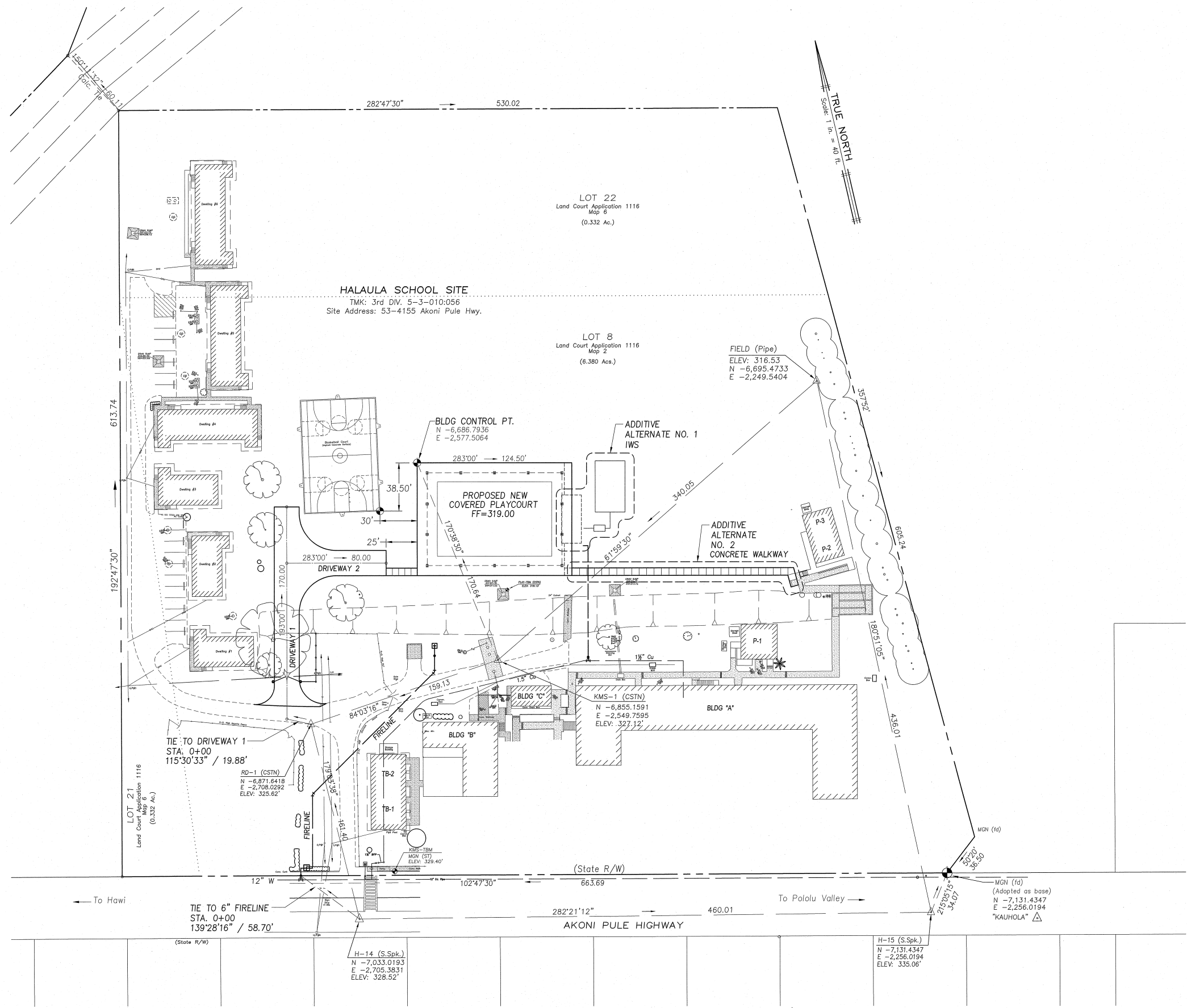


Figure 3: General Site Plan

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: PUBLIC WORKS ADMINISTRATOR
<p align="center">DEPARTMENT OF EDUCATION STATE OF HAWAII</p> <p align="center">KOHALA MIDDLE SCHOOL COVERED PLAYCOURT</p> <p align="center">HALAULA, N. KOHALA, HAWAII TMK: (3) 5-3-10:56</p> <p align="center">GENERAL SITE PLAN SITE CONTROLS</p>					
<p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</p> <p><i>Jason K. Inaba</i> EXPIRATION DATE: 04/30/22</p>		<p>INABA ENGINEERING, INC.</p> <p>DESIGNED BY: CHECKED BY: DATE: SHEET: 64</p> <p>DRAWN BY: APPROVED BY: DATE: SHEET: 64</p>		<p>DOE JOB NO. DRAWING NO. C003</p> <p>SCALE: AS NOTED OF: SHTS.</p>	
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2.4 Technical Characteristics

2.4.1 Covered Play Court

The proposed covered play court is approximately 8,653 square feet (sf), with current layout dimensions measuring approximately 108'-6" by 74'-0" for the play court and an additional 15'-8" by 39'-8" for storage and restrooms. The play court will be marked for one regulation size basketball court, four half-court basketball courts, one regulation size volleyball court, and two practice volleyball courts. The court surface is an all-weather court surface per Department of Education specifications. The courts will have six basketball backboards and five sleeve boxes for volleyball net poles. The interior walls and columns will be padded with matching foam pads for safety. The covered structure will be completely enclosed and secured by a continuous chain link fence with locking gates.

The structure will be built on a poured in place concrete foundation with a rigid steel frame and topped with a pitched standing seam metal roof. The storage and restrooms, on the east side of the structure, will be framed with cement masonry unit (CMU) walls for protection and privacy. Chain link fencing around the remainder of the structure will allow for natural ventilation and visual security. The roof eaves will extend over the concrete walkways around the building to provide cover and prevention of rain on the play court.

The maximum building height allowed within the Residential District, in the Hawai'i County Code Section 25-5-5, is 35'-0". The new single-story structure is approximately 33'-6" in height measured from finished grade to top of roof vent (Figure 10, Figure 11). The structure meets the building height requirements for Hawai'i County Code. The roof height for the new covered play court is required to meet the interior clear ceiling

height standards for basketball and volleyball courts. The DOE Education Specifications (EDSPECS) for Middle/Intermediate Schools (March 2006) Subsection 372 Covered Playcourt provides the standards for the development of the given space.

The new structure is surrounded on the west, south and east by existing structures, and has a large open field to the south. The new structure is well within Hawai'i County Yard and Setback Requirements for Residential zoned properties on all sides.

2.4.2 Circulation and Off-Street Parking

A new 20-foot wide asphalt driveway will be built to provide a fire apparatus access to the new structure. The existing school driveway is approximately 12 feet wide and located off of Akoni Pule Highway, west of the modular classrooms at the front of the campus. The existing school driveway veers west after about 150 feet then extends north along the entire western property boundary. The new fire lane will commence connecting to the existing school driveway, near the drive bend, about 160 feet from Akoni Pule Highway (Figure 4). A new 21'-6" wide pipe gate will be constructed to secure access to the new fire lane driveway.

A new ADA accessible walkway will connect the proposed structure with existing ADA walkways and ramps connecting to the buildings on campus.

Changes to on-campus vehicle circulation and parking configurations are not proposed. Short-term modifications may be required to accommodate the movement of construction equipment and traffic to and from the building site.

2.4.3 Infrastructure

Domestic water will be supplied from the existing on-campus water system. A new 1.5-inch water line will tie into an existing copper 1.5-inch service water line near the

northwest corner of Building A to the proposed structure (Figure 4). New boys' and girls' restrooms are also included in the Additive Alternate for development. The new individual wastewater system for the restrooms is comprised of a 4-inch wastewater line, septic tank system and 41-foot by 24-foot absorption bed (Figure 13, Figure 14).

Electrical power will be routed in underground conduits from the existing electrical system to an electrical panel installed in the utility closet.

Fire sprinklers are not required for the structure. A fire lane with a latching pipe gate will be constructed to provide access to the new fire hydrant as required by fire department standards. A new fire hydrant will be installed between Building B and the new covered play court. The new 6-inch fire water line will connect to the existing 12-inch water line along Akoni Pule Highway, on the west side of the campus driveway. The new fire line will be installed with a new 6-inch detector check meter and box and 6-inch backflow preventor near the point of connection in compliance with the rules and regulations of the Hawai'i County Department of Water Supply.

Roof runoff will be collected and discharged into the existing campus drainage system. The new driveway, walkways and drain lines off of the south side of the new structure will exit to the two existing drain sumps, one located between Building C and the new covered play court, and the other located between Building A and the new covered play court (Figure 5). Runoff from the new driveway, walkways and drain lines exiting on the west, north and east sides of the new structure will surface flow to the large grass area north of the project site. Surface flow drainage between existing and new paved surfaces will be guided via gently grassed swales dissipating to the large grass field. The large open grass area has gentle slopes of around two percent to the north, in the makai direction.

2.4.4 Demolition and Grading

The construction project limit is approximately 39,000 sf which includes 11,225 sf for the covered play court, walkways and utilities and 5,175 sf for the fire lane driveways. The project limits are defined in the Grading and Erosion Control Plan (Figure 5).

The open, grass field is free of above ground structures, therefore, demolition will not be required for the covered play court. However, there is a banyan tree with a 35 foot height and 60 foot spread, as well as an octopus tree with an 18 foot height and 20 foot spread located in the fire lane access route. Both trees are considered invasive with aggressive roots and not recommended for replanting. Trees, root ball and stumps will be properly removed and disposed.

Earthwork quantities are estimated at removing approximately 247 cubic yards (cy) of material and importing 523 cy of fill for the topping off of the ground surface. Areas disturbed by construction will be restored to pre-construction conditions or better.

2.4.5 Landscaping

Aside from re-grassing disturbed areas with construction, landscaping is not proposed.

2.4.6 Economic Characteristics

The construction costs are estimated at \$3.6 million and will be funded by the State of Hawai'i. The project will be completed in one phase with construction to commence around Spring / Summer 2021 with completion by Spring / Summer 2022.

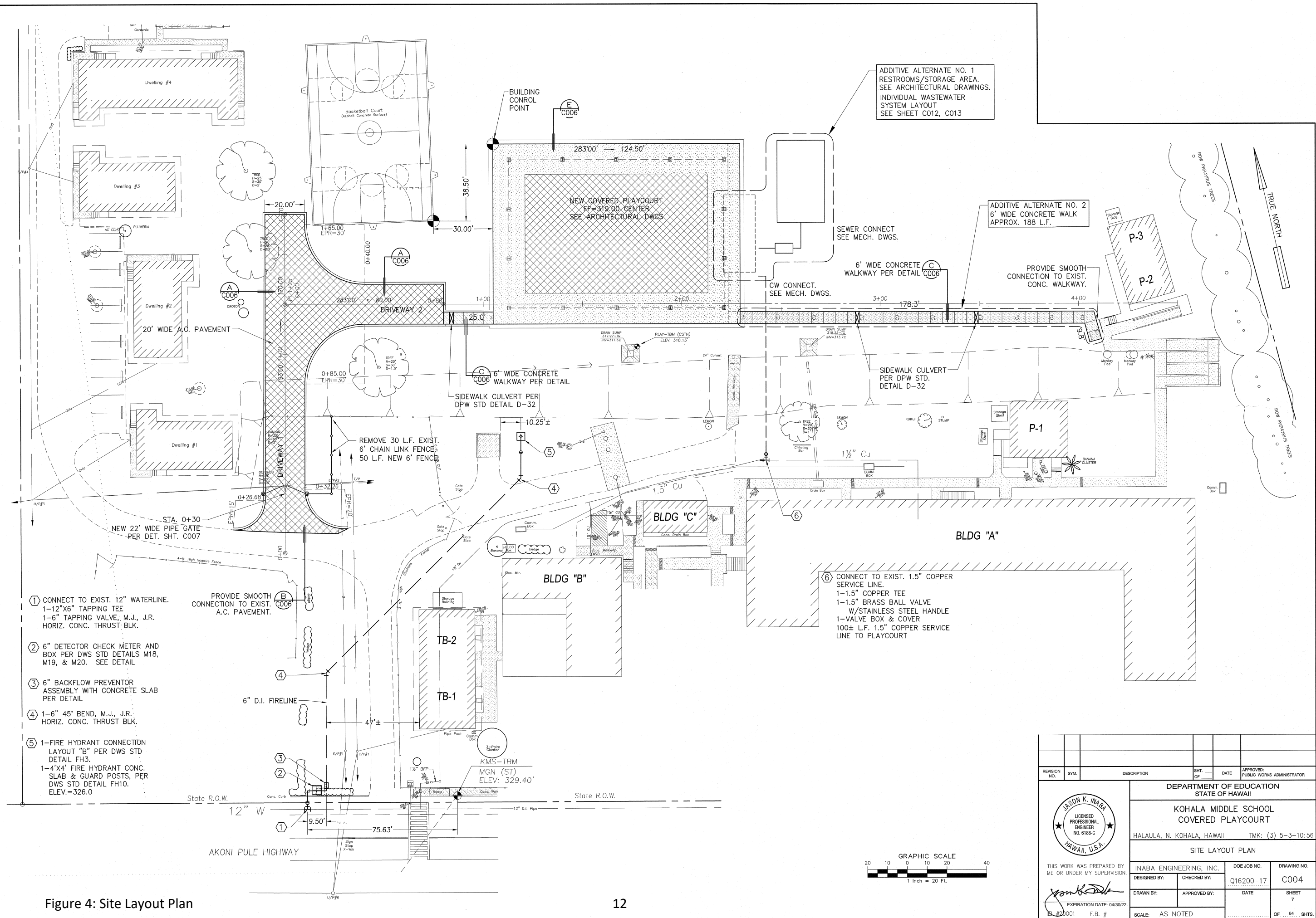


Figure 4: Site Layout Plan

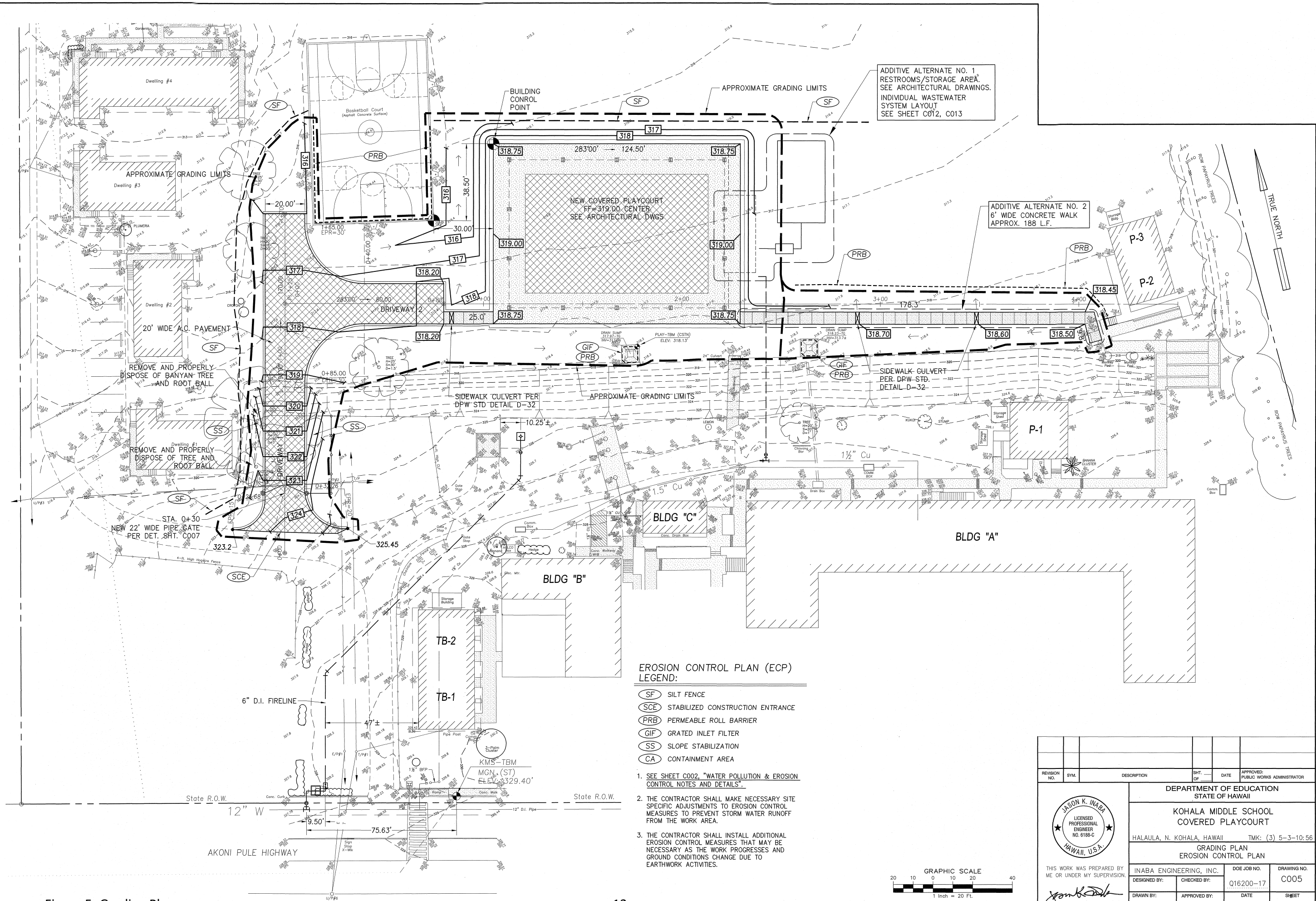
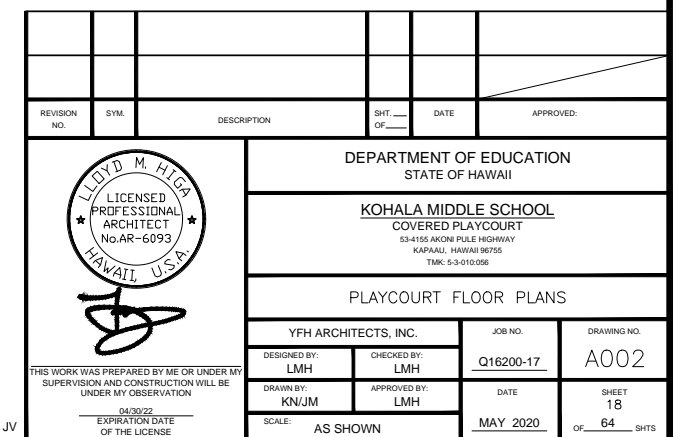
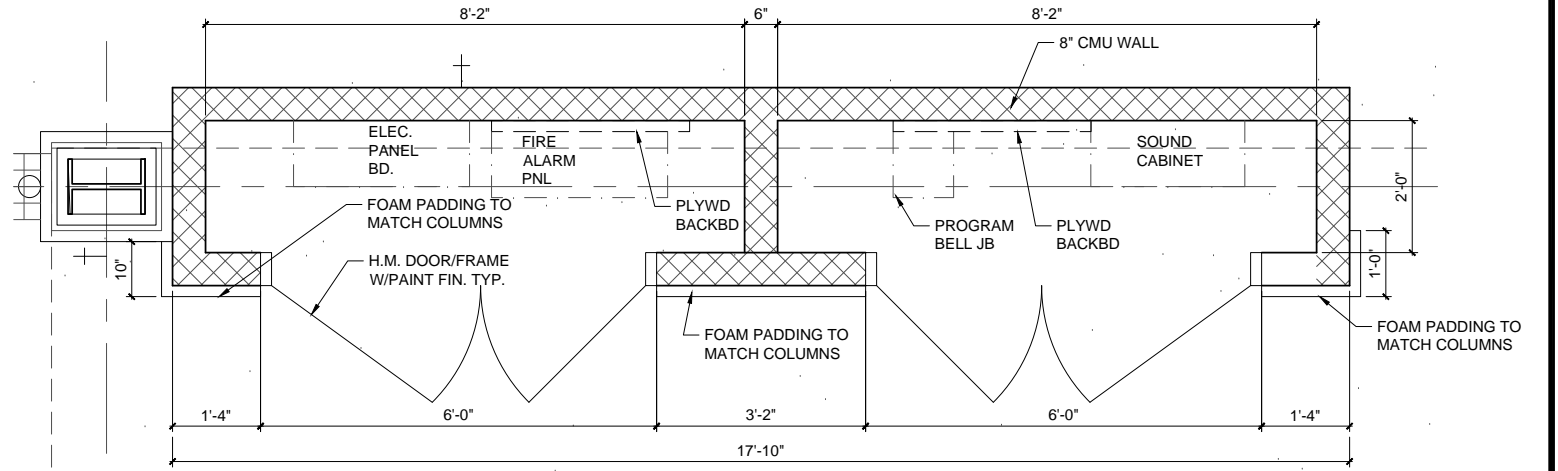


Figure 5: Grading Plan

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<p align="center">JASON K. INABA LICENSED PROFESSIONAL ENGINEER NO. 6188-C HAWAII, U.S.A.</p>		<p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</p> <p align="center"><i>Jason K. Inaba</i> EXPIRATION DATE: 04/30/22 TEL #20001 F.B. #</p>			
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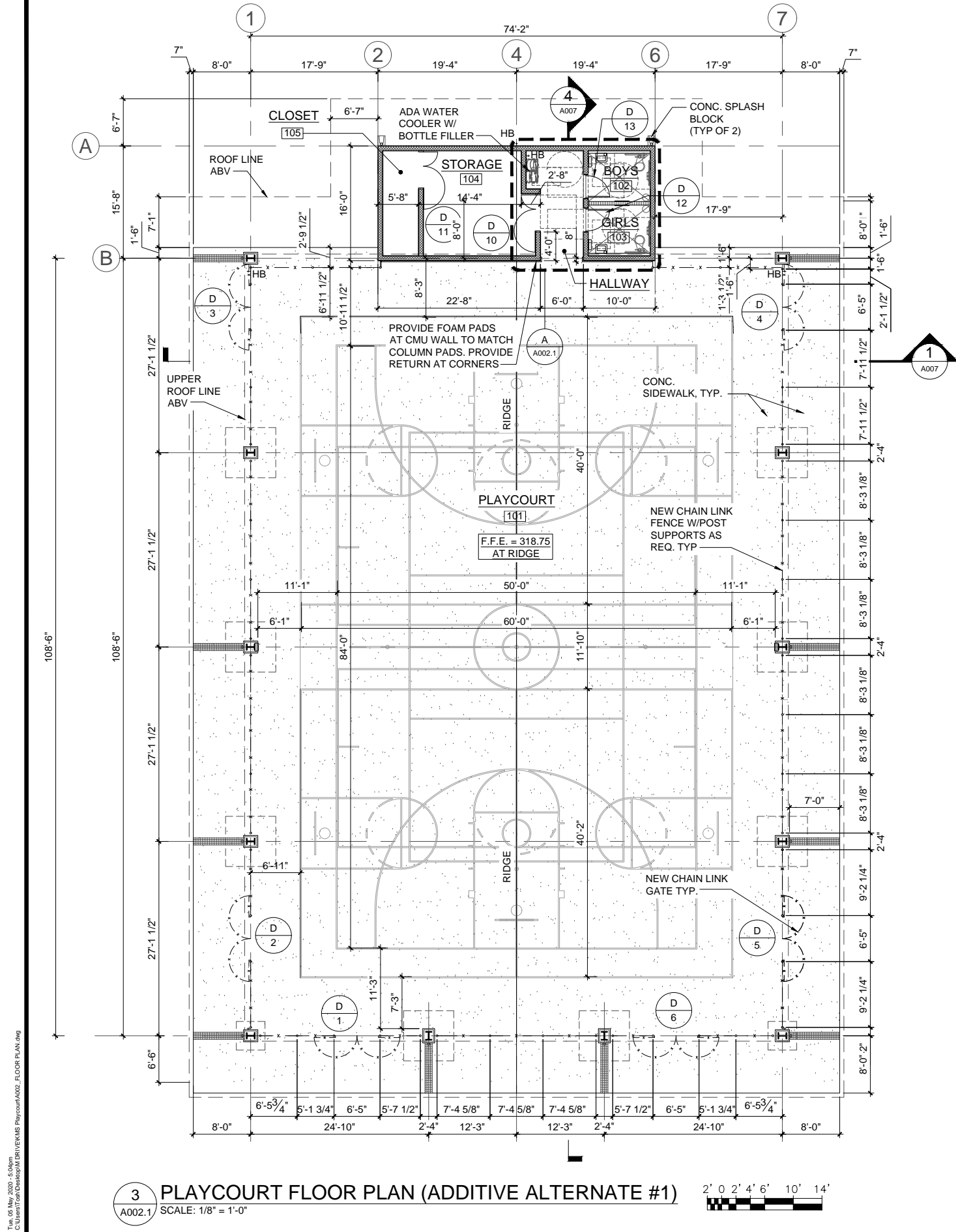



Figure 7: Floor Plan (Additive Alternate)

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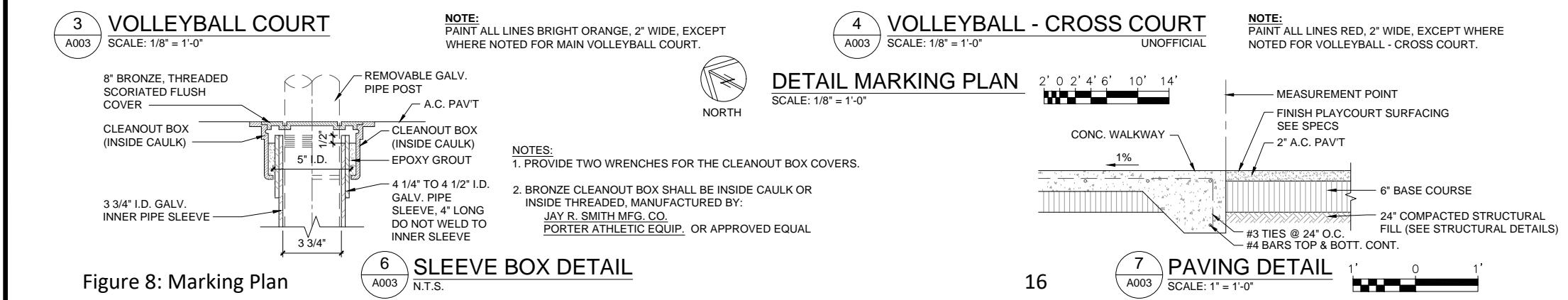
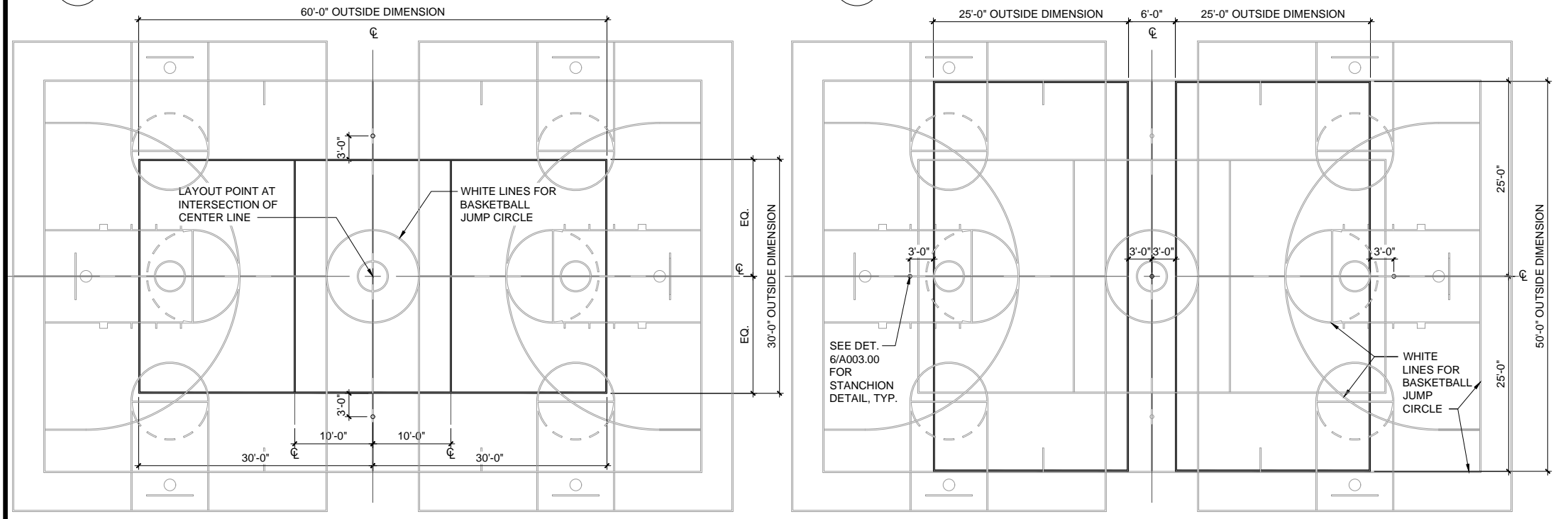
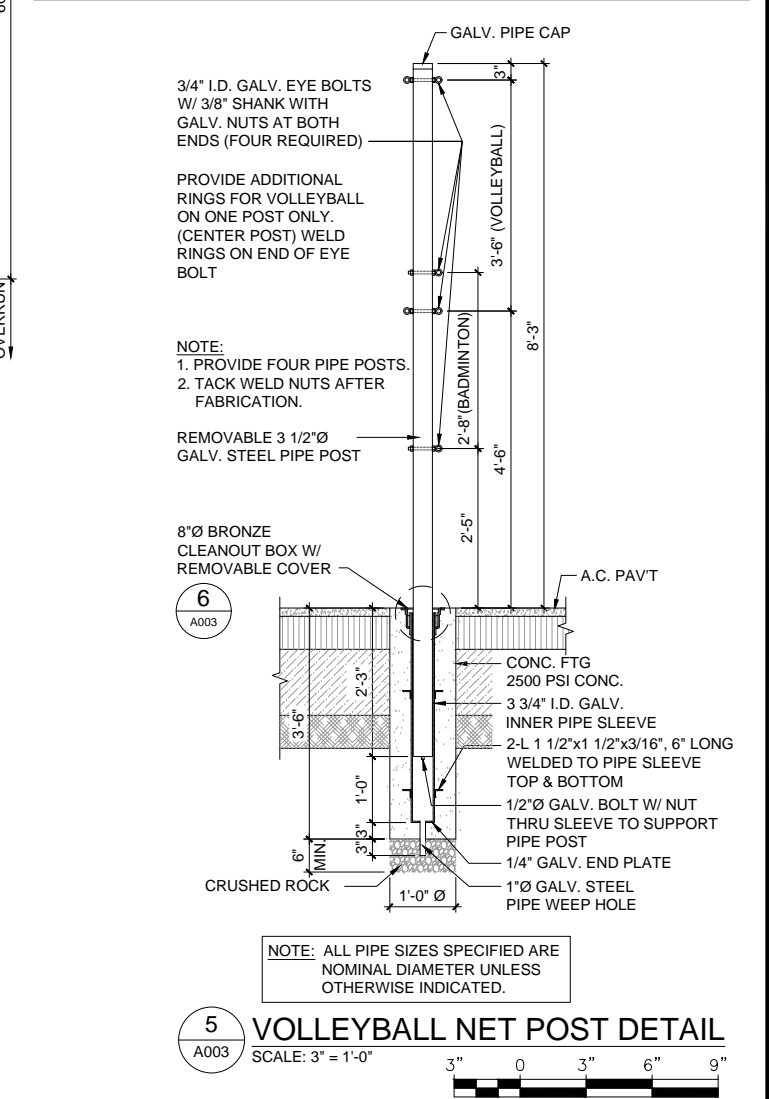
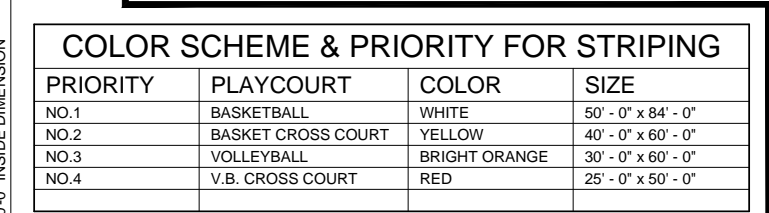


Figure 8: Marking Plan




2' 0 2' 4' 6' 10' 14'



Figure 9: Roof Plan

REVISION NO.	SYM.	DESCRIPTION	SHT. ____ OF ____	DATE	APPROVED:
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DEPARTMENT OF EDUCATION
STATE OF HAWAII

KOHALA MIDDLE SCHOOL
COVERED PLAYCOURT
53-4155 AKONI PULE HIGHWAY
KAPPAU, HAWAII 96755
TMC 5-3-010.056

ROOF PLAN

YFH ARCHITECTS, INC.	JOB NO.	DRAWING NO.
DESIGNED BY: LMH	CHECKED BY: LMH	<u>Q16200-17</u>
DRAWN BY: KN/JM	APPROVED BY: LMH	DATE
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04/09/22

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MAY 2020

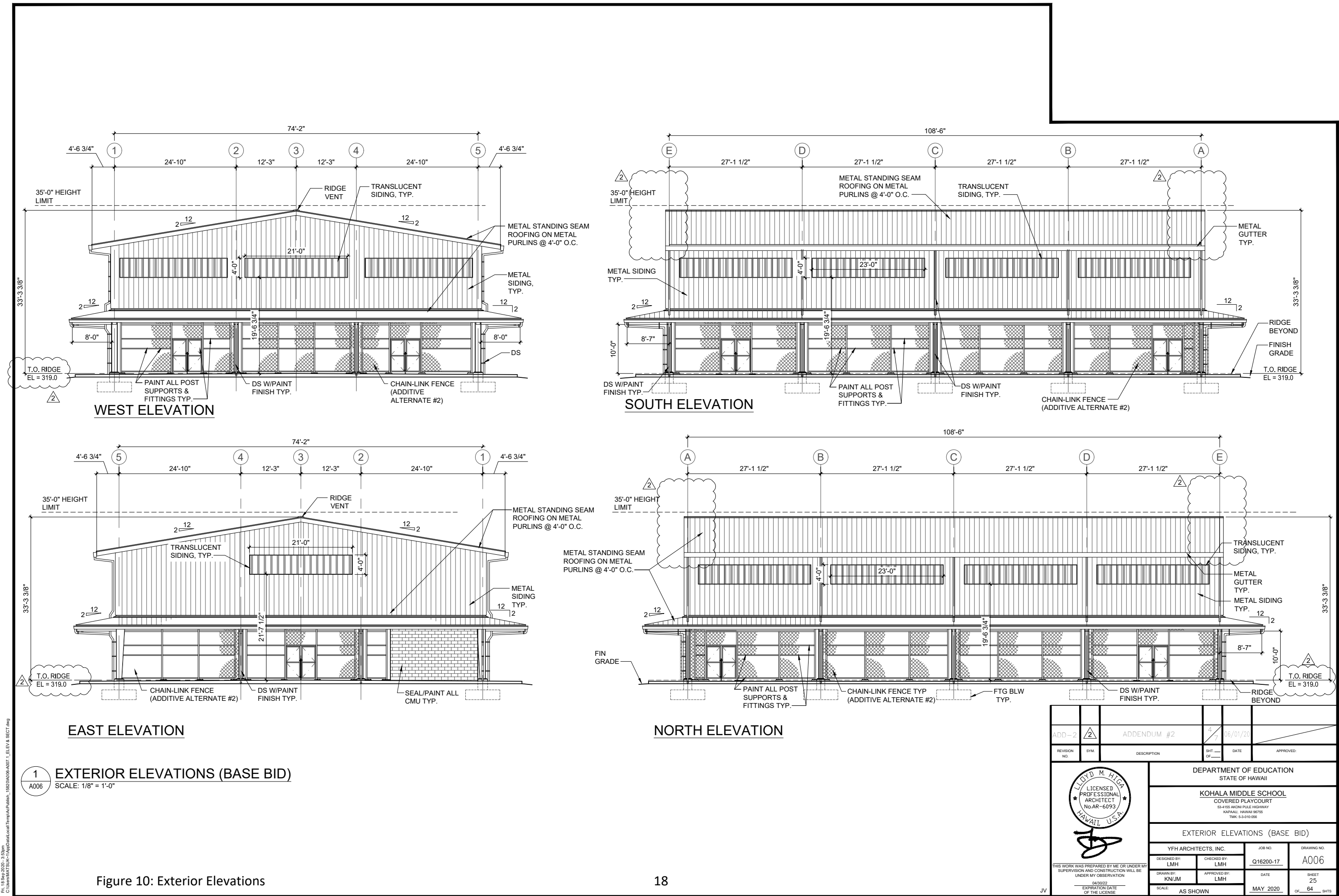


Figure 10: Exterior Elevations

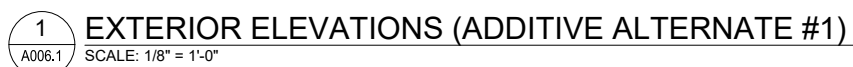
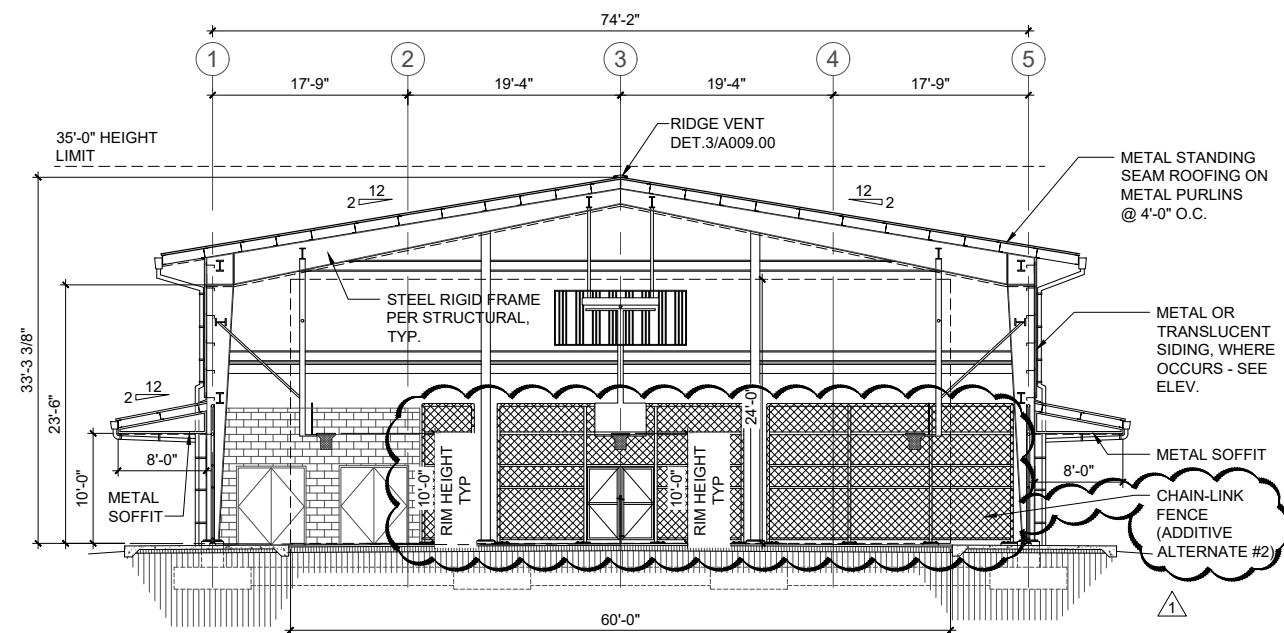
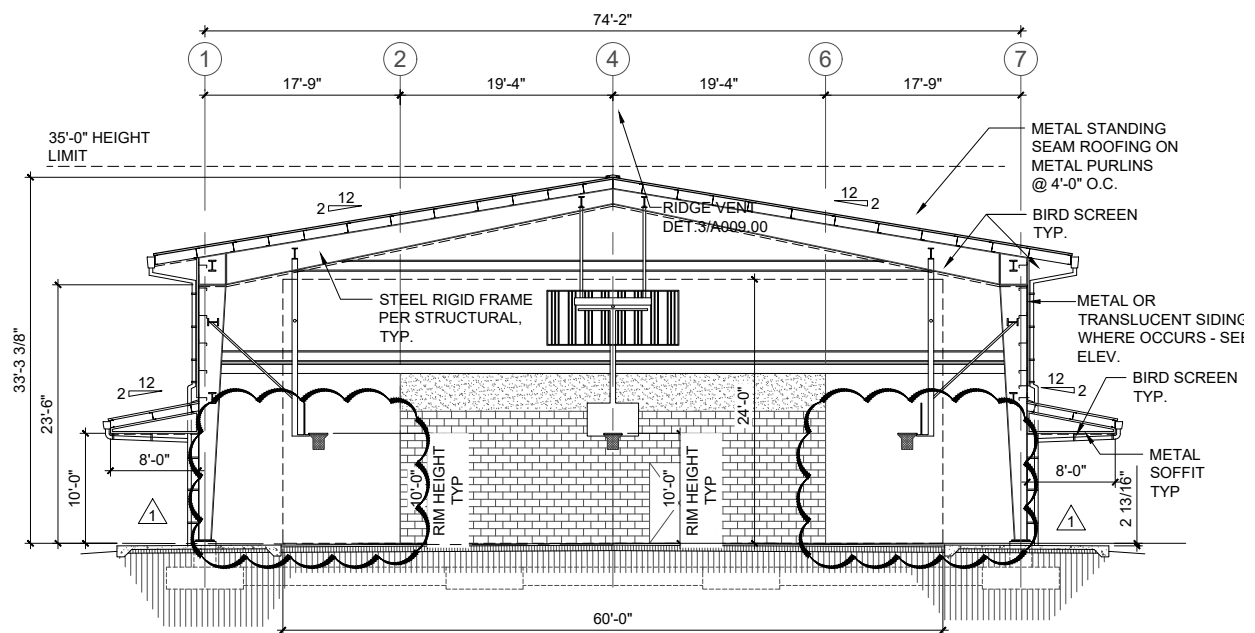


Figure 11: Exterior Elevations (Additive Alternate)

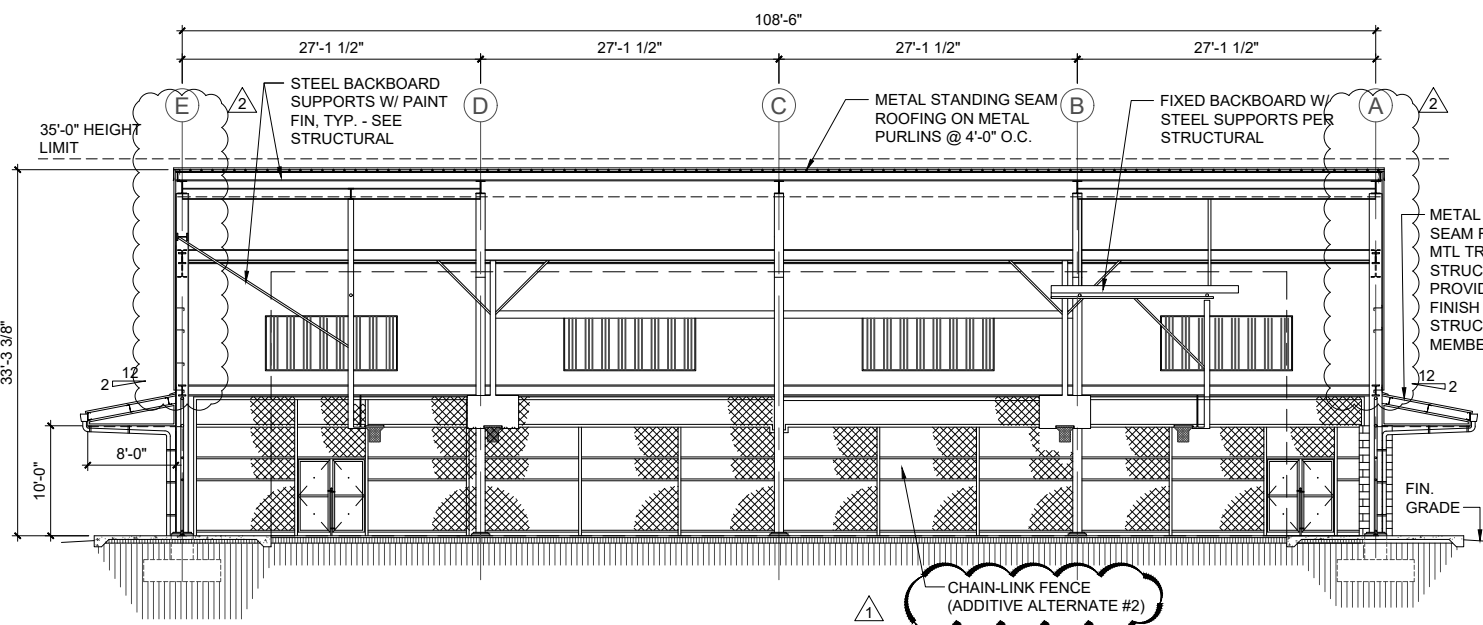
18-Sep-2020 1:13pm
C:\Users\LMH\OneDrive\Templates\A007_1_ELEV & SECT.dwg



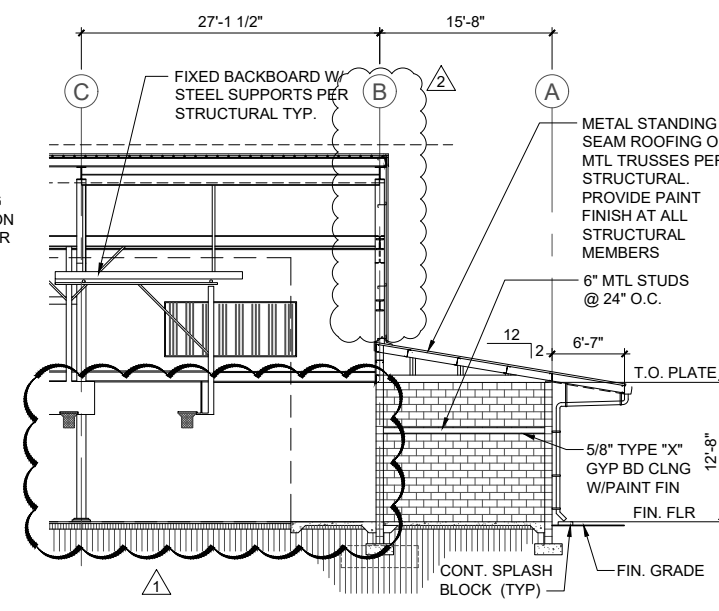
1 CROSS SECTION (BASE BID)
A007 SCALE: 1/8" = 1'-0"



3 CROSS SECTION (ADDITIVE ALTERNATE #1)
A007 SCALE: 1/8" = 1'-0"



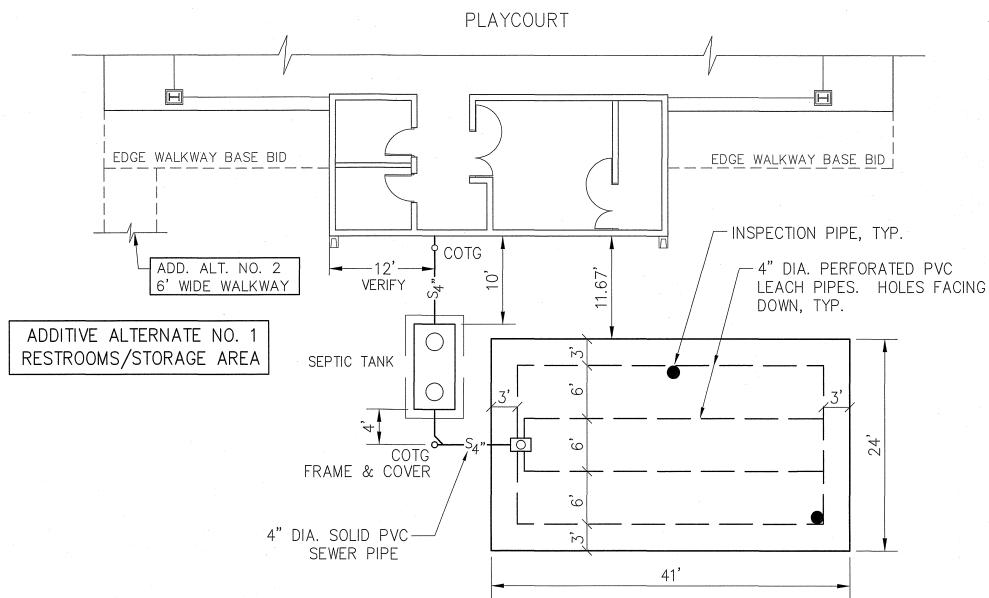
2 LONGITUDINAL SECTION (BASE BID)
A007 SCALE: 1/8" = 1'-0"



4 LONGITUDINAL SECTION (ADDITIVE ALTERNATE#1)
A007 SCALE: 1/8" = 1'-0"

Figure 12: Building Sections

ADD-2	2	ADDENDUM #2	6/1	06/01/20	
ADD-1	1	ADDENDUM #1	5/1	05/27/20	
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED:
<div><div><div>LLOYD M. HIGA</div><div>LICENSED PROFESSIONAL ARCHITECT</div><div>No. AR-6093</div><div>HAWAII, U.S.A.</div></div><div><div>DEPARTMENT OF EDUCATION</div><div>STATE OF HAWAII</div><div>KOHALA MIDDLE SCHOOL</div><div>COVERED PLAYCOURT</div><div>53-4155 AKOHI PULE HIGHWAY</div><div>KAPAAHI, HAWAII 96755</div><div>TNR: 5-3-10-556</div></div><div><div>BUILDING SECTIONS</div><div>YFH ARCHITECTS, INC.</div><div>DESIGNED BY: LMH</div><div>DRAWN BY: KN/JM</div><div>CHECKED BY: LMH</div><div>APPROVED BY: LMH</div><div>DATE: MAY 2020</div><div>SCALE: AS SHOWN</div></div><div><div>JOB NO. Q16200-17</div><div>DATE</div><div>SHEET 27</div><div>OF 64 SHEETS</div></div></div>					
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION WILL BE UNDER MY OBSERVATION					
04/30/22 EXPIRATION DATE OF THE LICENSE					
FILE _____ DRAWER _____ FOLDER _____					



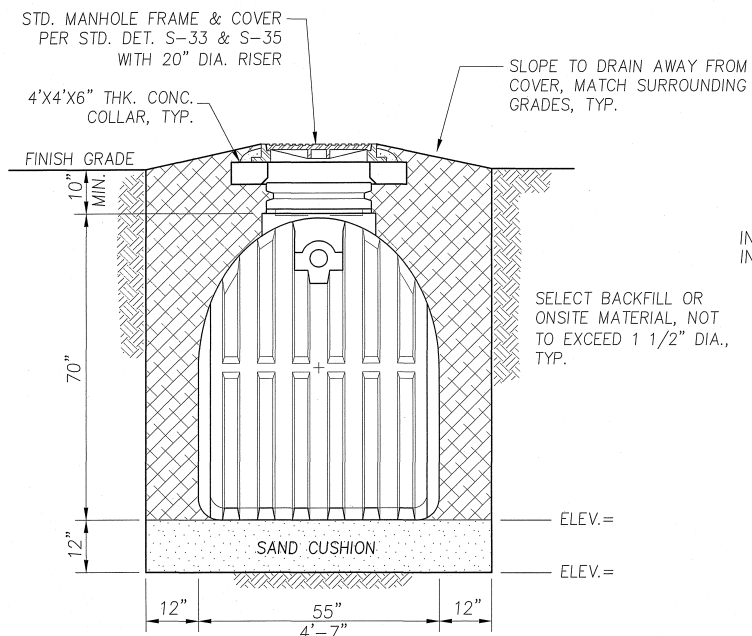
- NO EQUIPMENT SHALL BE OPERATED IN EXCAVATED BED.
- IN DEEP SOIL AREAS, BOTTOM AND SIDES OF EXCAVATED BED SHALL BE RAKED AND ROUGHENED TO REMOVE ANY SMEARING AND TO MAINTAIN A ROUGH POROUS SURFACE.

A ABSORPTION BED LAYOUT

NOT TO SCALE

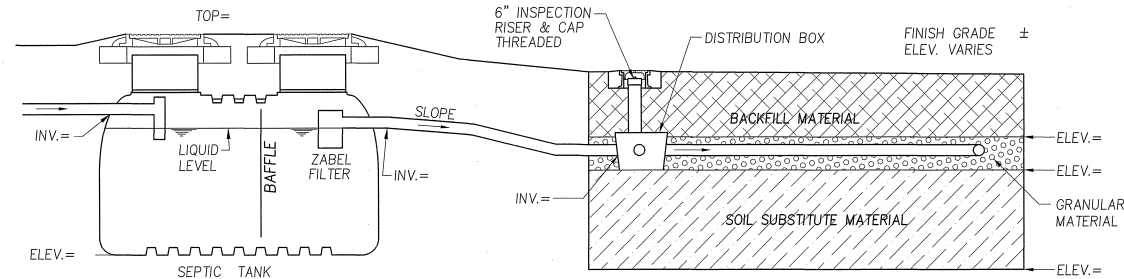
TANK NOTES

1. THE CONTRACTOR SHALL VERIFY ALL OF THE GRADES AND INVERTS GIVEN, AND SHALL ADJUST THEM AS NECESSARY TO PROVIDE POSITIVE FLOW AND A SEPTIC SYSTEM THAT WILL FUNCTION AS INTENDED.
2. THE CONTRACTOR SHALL USE EXTREME CAUTION TO PREVENT DAMAGE AND SHALL FOLLOW ALL MANUFACTURERS HANDLING & INSTALLATION INSTRUCTIONS WHEN BACKFILLING THE SEPTIC TANK TO ASSURE MANUFACTURERS WARRANTY COVERAGE. DAMAGED OR REPAIRED TANKS WILL NOT BE ACCEPTED.
3. POLYETHYLENE SEPTIC TANK BY NORWESCO OR APPROVED EQUAL. 1,250 GALLON CAPACITY, 2-20" MANHOLES, DOUBLE COMPARTMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE DELIVERED SEPTIC TANK AND SHALL MAKE NECESSARY ADJUSTMENTS TO THE SYSTEM AS NECESSARY TO ASSURE PROPER FUNCTION OF THE SYSTEM.



C POLYETHYLENE SEPTIC TANK DETAILS (1,250 GAL)

NOT TO SCALE



NOTES:

THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UNUSUAL CONDITIONS ENCOUNTERED DURING EXCAVATION THAT COULD IMPACT FUNCTION OF THE I.W.S., SUCH AS LAVA TUBES, UNDERGROUND HOLES, WATER, EVIDENCE OF INTERMITTENT FLOWING WATER, ETC.

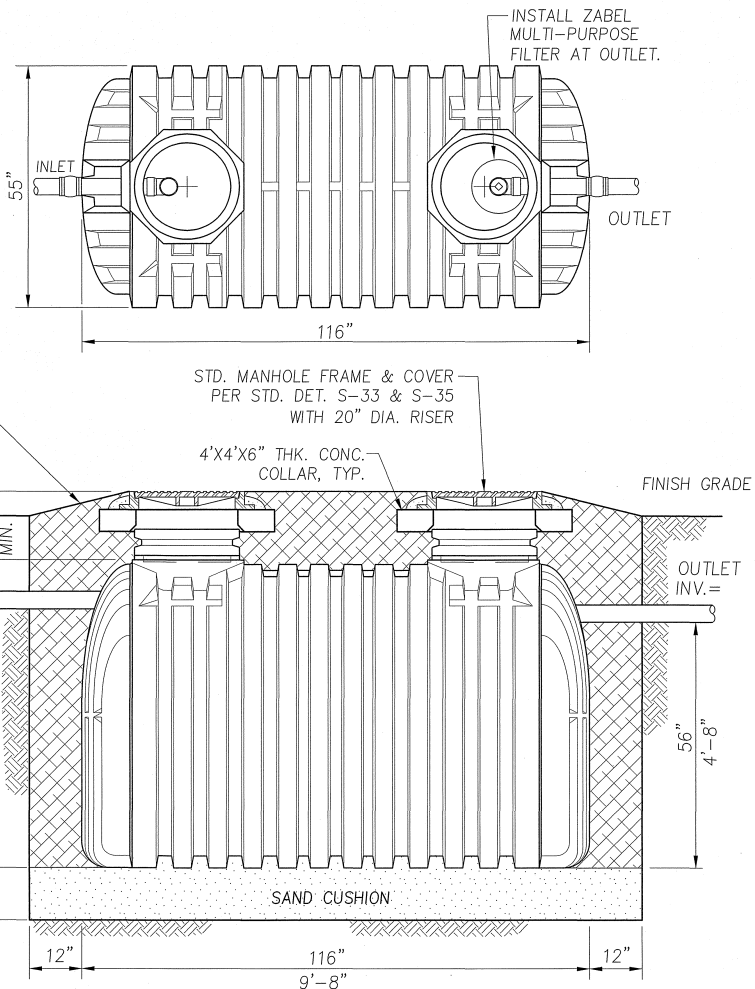
THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD PRIOR TO INSTALLATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS OR DISCREPANCIES FOUND.

B INDIVIDUAL WASTEWATER SYSTEM PROFILE

NOT TO SCALE

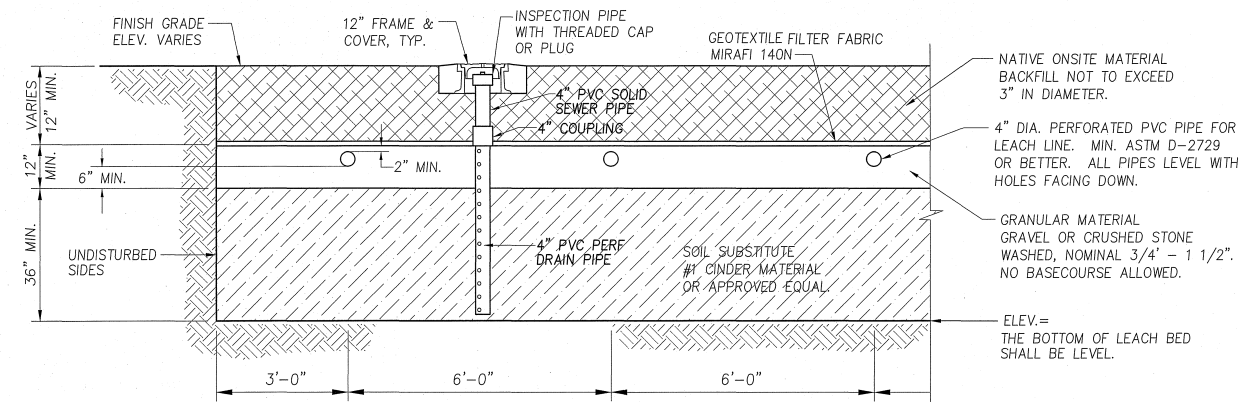
I.W.S. OBSERVATION NOTES

1. THE CONTRACTOR SHALL CALL THE ENGINEER FOR TWO FIELD OBSERVATIONS DURING INSTALLATION OF THE INDIVIDUAL WASTEWATER SYSTEM.
 - A. THE FIRST CALL SHALL BE WHEN EXCAVATION IS COMPLETED FOR THE ABSORPTION BED AND SEPTIC TANK, BUT BEFORE ANY BACKFILL IS PLACED.
 - B. THE SECOND CALL SHALL BE MADE WHEN:
 1. ABSORPTION BED IS CONSTRUCTED UP TO THE GRAVEL LAYER OVER THE DRAIN PIPE. FABRIC COVER MAY BE INSTALLED BUT NOT COVERED WITH BACKFILL. NO OBSERVATION WILL BE CONDUCTED IF ABSORPTION BED IS BACKFILLED OVER FABRIC COVER.
 2. TOP OF SEPTIC TANK SHALL BE LEFT UNCOVERED. SIDES OF THE TANK MAY BE FILLED.
 3. SEWER PIPE FROM THE SEPTIC TANK TO DISTRIBUTION BOX SHALL BE UNCOVERED TO VERIFY PIPE SLOPE.
 4. ALL DRAIN PIPE ELBOWS AND ENDS SHALL BE LEFT EXPOSED TO VERIFY THE IN PLACE DIMENSIONS OF PIPING.
 5. UNDER ONE OF THE DRAIN PIPE ELBOW, A HOLE SHALL BE DUG TO EXPOSE THE TOP OF THE SOIL REPLACEMENT MATERIAL.
 6. THE CONTRACTOR SHALL SUBMIT THE INVOICE AND DELIVERY TAGS FOR THE SOIL SUBSTITUTE MATERIAL TO THE ENGINEER AT THIS TIME.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS AND EXPENSES RELATED TO ANY ADDITIONAL CALL BACKS TO THE SITE FOR OBSERVATION DUE TO THE CONTRACTOR.
3. PRIOR TO SECOND FIELD INSPECTION, THE CONTRACTOR SHALL PROVIDE DIGITAL PHOTOGRAPHS OF EACH PHASE ON THE IWS INSTALLATION TO THE CONTRACTING OFFICER AND DESIGN ENGINEER.
4. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL BE PRESENT ON SITE DURING INSPECTION VISITS AND SHALL PROVIDE ACCESS, INFORMATION, EXPOSURE OF WORK, AND DELIVERY RECEIPTS AS REQUIRED.

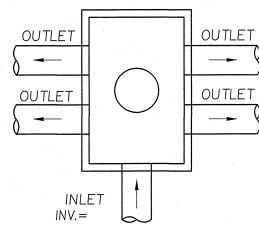


ADDITIVE ALTERNATE NO. 1

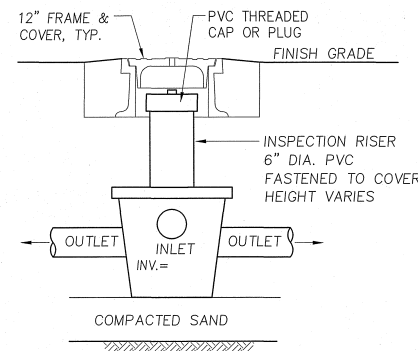
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: PUBLIC WORKS ADMINISTRATOR
<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</p> <p>EXPIRATION DATE: 04/30/22</p> <p>FILE # 22-001 F.B. #</p> </div> <div> <p>DEPARTMENT OF EDUCATION STATE OF HAWAII</p> <p>KOHALA MIDDLE SCHOOL COVERED PLAYCOURT</p> <p>HALAULA, N. KOHALA, HAWAII TMK: (3) 5-3-10:56</p> <p>INDIVIDUAL WASTEWATER SYSTEM NOTES, DETAILS</p> </div> <div> <p>INABA ENGINEERING, INC.</p> <p>DESIGNED BY: _____ CHECKED BY: _____</p> <p>DRAWN BY: _____ APPROVED BY: _____</p> <p>SCALE: AS NOTED</p> </div> <div> <p>DOE JOB NO. Q16200-17</p> <p>DATE _____</p> <p>DRAWING NO. C012</p> <p>SHEET 64 OF 64 SHTS.</p> </div> </div>					



A TYPICAL SECTION FOR LEACH FIELD ABSORPTION BED
NOT TO SCALE

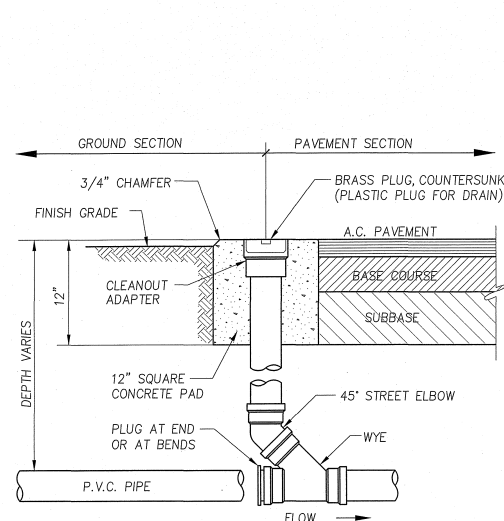


DISTRIBUTION BOX SHALL BE 6-HOLE "TUF-TITE" OR APPROVED EQUAL. PROVIDE NECESSARY PLUGS AND SPEED LEVELERS FOR FLOW CONTROL AND INSPECTION LID WITH 6" DIAMETER PVC PVC PIPE RISER AND THREADED CAP.

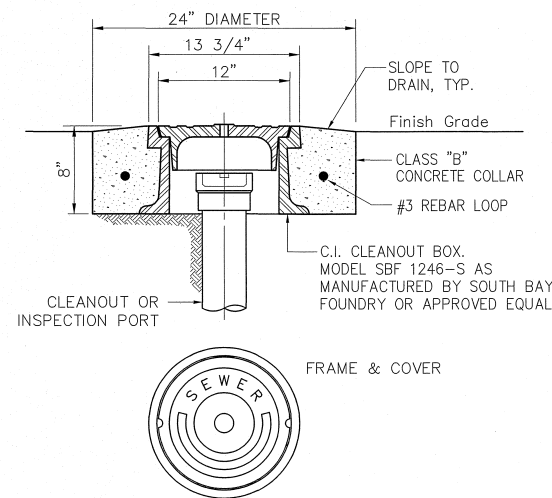


DISTRIBUTION BOX SHALL BE SET LEVEL AND TRUE SO THAT THE EFFLUENT IS EVENLY DISTRIBUTED TO EACH OUTLET PIPE. PROVIDE 6" MIN. SAND CUSHION.

B DISTRIBUTION BOX
NOT TO SCALE



C SEWER CLEAN OUT TO GRADE
NOT TO SCALE



D 12-INCH FRAME & COVER
NOT TO SCALE

SEWER SYSTEM REQUIREMENTS

1. ALL SEWER PIPES AND FITTINGS SHALL BE PVC SDR-26 BELL(S) AND SPIGOT.
2. MATERIALS FOR CLASS B BEDDING SHALL BE 3/4" AGGREGATE BASE COURSE PLACED IN SUCCESSIVE HORIZONTAL LAYERS OF LOOSE MATERIAL NOT TO EXCEED 6" IN DEPTH, AND SHALL BE UNIFORMLY CONSOLIDATED TO 95 PERCENT DRY DENSITY.
3. COMPACTION TESTING FOR COMPLIANCE SHALL BE ROUTINELY PERFORMED AND APPROVED BY AN INDEPENDENT TESTING AND QUALITY CONTROL LABORATORY. ALL TESTS SHALL BE SUBMITTED TO THE CONTRACTING ENGINEER FOR FINAL ACCEPTANCE.
4. ALL LATERAL CONNECTIONS TO THE SEWER MAIN SHALL BE MADE WITH A WYE FITTING ROTATED 45 DEGREES ABOVE THE SPRING LINE.

ADDITIVE ALTERNATE NO. 1

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: PUBLIC WORKS ADMINISTRATOR
<p>DEPARTMENT OF EDUCATION STATE OF HAWAII</p> <p>KOHALA MIDDLE SCHOOL COVERED PLAYCOURT</p> <p>HALAULA, N. KOHALA, HAWAII TMK: (3) 5-3-10:56</p> <p>INDIVIDUAL WASTEWATER SYSTEM NOTES, DETAILS</p>					
<p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.</p> <p>INABA ENGINEERING, INC.</p> <p>DESIGNED BY: CHECKED BY: Q16200-17</p> <p>DRAWN BY: APPROVED BY: DATE</p> <p>SCALE: AS NOTED</p>		<p>DOE JOB NO. DRAWING NO. C013</p> <p>64 SHTS.</p>			

2.4.7 Social Characteristics

The new covered play court will have an occupant load of 401 persons. The new structure will provide a place, during inclement weather, for students to play and for physical education classes, as well as a space large enough for all-school gatherings, celebrations, and other classes and events. The student body currently holds assemblies on the outdoor courtyard along Akoni Pule Highway or the back, open field.

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES ---

3.1 Climate

Existing Conditions

The island of Hawai'i is subtropical. The prevailing east and east-northerly trade winds occur approximately 70 percent of the year with higher percentages in the summer months than winter. This results in light and variable wind conditions. The climate in the area is warm and temperate with temperatures ranging between 50 and 90 degrees Fahrenheit. The area also receives a significant amount of rain with a mean annual rainfall amount of approximately 60 inches.

Potential Impacts and Mitigative Measures

The proposed covered play court is a single-story open air structure. The ground preparation for the new building, driveway, walkway and utilities will involve removing existing landscaping, but new landscaping will not be involved besides re-grassing of disturbed areas. The proposed play court is not expected to have any impact on the climate. As such, no significant impacts to local temperature, rainfall, or wind patterns are anticipated for either the short-term or long-term. No mitigation measures are proposed.

3.2 Topography and Soils

Existing Conditions

The Kohala Middle School property has been leveled and graded for school site development. The site elevation ranges from 335 feet to 305 feet. The campus is primarily an administration building, classrooms, outdoor play court and a large grassy field. The location for the covered play court will be near the outdoor basketball court in the large field area with slopes at roughly 1 to 3 percent in the northerly direction. The entire campus is generally sloping from the southeast to the northwest. The proposed driveway and walkways associated with the new structure are located on slopes ranging from 3 to 7 percent. The construction of the covered play court would be occurring around the 317-foot elevation area.

Soil for the entire campus is Kohala silty clay, 0 to 3 percent slopes (Figure 15). The Kohala silty clay soil type are deep, well-drained soils formed from weathered basic volcanic ash and residuum from basaltic lava.

Potential Impacts and Mitigative Measures

The proposed project will involve grading and site preparation for the new structure, utilities, driveway and walkway which will cause a minor change in topography. The soil type will remain unchanged and erosion will be controlled. The proposed covered play court will not involve any change to the topography or soils since the construction will occur in the middle of the campus.

Short-term construction related impacts associated with the construction may include minor soil loss or erosion. Construction will employ Best Management Practices (BMPs) to minimize or prevent such occurrences. BMPs include silt fences, periodic watering to minimize dirt particles, and stabilized construction road access.



Map Unit Symbol	Map Unit Name
416	Kohala silty clay, 3 to 12 percent slopes
435	Kohala silty clay, 0 to 3 percent slopes
436	Kohala silty clay, 12 to 20 percent slopes

SOURCE:
UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCE CONSERVATION SERVICE,
WEB SOIL SURVEY,
NATIONAL COOPERATIVE SOIL SURVEY

FIGURE 15
SOIL SURVEY MAP

NOT TO SCALE



KOHALA MIDDLE SCHOOL
NEW COVERED PLAY COURT

3.3 Hydrology

Existing Conditions

The project area is situated between two perennial stream gulches, Wainaia and Halelua Gulch. Halelua Stream is approximately 900 feet to the east of the school. Wainaia Stream is approximately 2000 feet to the east of the school. Surface drainage flows on the subject property run in the northerly direction. There are no surface water features on the premises.

The project area is within the Hawi aquifer system, which has a sustainable yield of approximately 27 million gallons per day (MGD). The existing water use is only 0.582 MGD.

Potential Impacts and Mitigative Measures

The proposed project does not involve any activities that would alter existing stream channels, wetlands, or other surface water bodies.

Short-term construction related impacts associated with the construction may include minor soil erosion. Construction will employ BMPs to prevent contaminants such as sediment, petroleum products, and debris from leaving the site via storm water runoff. BMPs include scheduling work during periods of minimal rainfall, placement of permanent erosion control measures on lands where vegetation is removed as quickly as possible, silt fences, dust fences and stabilized construction vehicle access ways.

The contractor will comply with Hawai'i Administrative Rules, Chapter 11-55 Water Pollution Control, Department of Health, regarding clean water and consult with the Clean Water Branch of the State of Hawai'i Department of Health, to ensure acceptable

construction methodology and materials. The contractor will also secure permits, if required, prior to construction activities.

Since the disturbed area is expected to be under an acre, National Pollutant Discharge Elimination System (NPDES) Construction Storm Water General Permit Coverage is not required.

The drainage study completed for this project estimated new construction will increase runoff volume by about 0.4 cubic feet per second (CFS). Mitigation measures for the construction include directing approximately 0.25 CFS to existing sumps and dissipating 0.15 CFS on the existing play field and grassed area. Due to the mitigation measures, there will be no increase to the existing runoff volume with the new construction. The proposed improvements will have negligible drainage impact.

Water will be connected to the school existing system. Only a small fraction of the sustainable yield for the Hawi Aquifer is currently being used. The proposed improvements will have negligible impact on surface or groundwater resources.

3.4 Wastewater

Existing Conditions

The North Kohala community is not served by a municipal wastewater treatment facility. In 2009, Kohala Middle School campus converted from a cesspool system to a septic tank system. Sewage effluent generated by the proposed project will be handled with an on-site individual wastewater system based on the requirements of Hawai'i Administrative Rules Chapter 11-62 Wastewater Systems, Department of Health.

Potential Impacts and Mitigation Measures

Sewage disposal will be handled by the new on-site individual waste water system designed for the proposed covered play court and approved by the Department of Health Wastewater Branch.

3.5 Flood Hazard

Existing Conditions

The project area is designated Zone X, outside flood prone areas, as determined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). The project site is located a mile south from Keawaeli Bay and outside the tsunami evacuation area.

Potential Impacts and Mitigative Measures

The campus is not within a flood prone area or the tsunami evacuation area. The proposed project will not increase flood hazards to the surrounding area. No mitigation measures are required.

3.6 Biological Resources

Existing Conditions

The Kohala Middle School campus is located in a cleared and graded area. There are no native plant or animal species in the project area, located on campus grounds. As such, no threatened or endangered species of plants or animals are anticipated within the project area.

Potential Impacts and Mitigative Measures

A banyan tree with a 35' height and 60' spread and an octopus tree with an 18' height and 20' spread are located in the path of the fire lane access route. Both trees are not native and considered invasive with aggressive roots, therefore not recommended for replanting in the project area. Both trees, root balls and stumps will be properly removed and disposed.

There will be no significant impact to native flora or fauna or habitats, as the vegetation was altered long ago.

3.7 Historical, Cultural, and Archeological Resources

Existing Conditions

The project area is located within the Pueke and Kukuiwaluhia Ahupua'a. The greater North Kohala region has been inhabited for centuries and was once a place of residence for Native Hawaiian chiefs and rulers, including Kamehameha I. In 1841, the first Christian missionaries settled in North Kohala, building homes, churches and schools. In 1863, the Kohala Sugar Company was established and the sugar plantations eventually proliferated in the area due to the ideal growing conditions. By the 1880s, six sugar mills were operating in North Kohala. In a 1911 map of the Kohala Sugar Company, the entire project area is shown as sugar cane fields.

According to State Historic Preservation Division an archeological inventory survey was conducted in 1994 in which no archeological historic properties were identified. The report stated that any pre-contact surface features that may have once been in the project area have probably been destroyed by mechanized land modifications associated with sugar cane cultivation and/or construction of the school grounds.

Archeological monitoring work was completed in 2009 during construction for the wastewater system upgrades at Kohala Middle School. At the time, no historic or cultural materials were discovered. Standard monitoring practices were followed, including documenting the project area and excavations trenches, and taking profiles of representative trench walls for soil analysis. According to the report, the stratigraphic sequences from the project indicated the importation of fill sediments associated with previous construction activities over natural silty clay. No burial pits, cultural features, or cultural layers were exposed, nor were pre-contact or historic cultural materials found.

There are no known cultural or subsistence gathering places, on property or nearby, to which the subject property must be travelled en route.

Potential Impacts and Mitigative Measures

Construction of the proposed covered play court, utility connections, and access improvements will involve ground disturbance in the form of grading and excavation. It is anticipated that no subsurface cultural or historical resources are present; however, should subsurface remains, artifacts, or other historical deposits be discovered during excavation activities, all work shall cease and the appropriate agencies and authorities, including the State Historic Preservation Division, will be notified.

State Historic Preservation Division requested archeological monitoring for identification purposes and archeological monitoring proceeding under the monitoring provisions provided by the Tulchin and Hammatt Archeological Monitoring Plan (January 2009). On-site archeological work is recommended for ground disturbing work due to the potential for hearths, storage pits, burials, or remains associated with the early founding of the school to be present below the former agricultural plow zone or at depths not impacted by initial school construction. Based on initial monitoring results, a written request may be made to the State Historic Preservation Division to change from on-site

to weekly spot monitoring, ensuring the archaeologists have the opportunity to observe and document appropriate stratigraphic and archaeological data within the project area.

The proposed project and school activities will have no effect on the existing public use of any uplands, beach or ocean waters, or traditional or customary gathering activities. No mitigation is proposed.

3.8 Social Characteristics

Existing Conditions

Kohala Middle School is a part of the Hawai'i State Department of Education, Hawai'i District Kohala Complex, which also includes Kohala High and Elementary School. The district serves a small community of about 6,000 people. The student enrollment at Kohala Middle School is about 180 students. The design enrollment for the school is 325 students.

The school currently uses the outdoor basketball court for physical education and recess. For school-wide assemblies or activities, the school uses the open space areas in the front and back of campus.

Potential Impacts and Mitigative Measures

The outdoor basketball court will remain open for use during most of the construction period but will be closed during certain construction phases. Temporary use of neighboring facilities at the Kohala High and Elementary School campus, as well as use of recreational facilities at Kamehameha Park can be arranged with the County of Hawai'i Department of Parks and Recreation and the administration at Kohala High and Elementary School, if needed, during school hours. Kamehameha Park is located 1.7 miles from Kohala Middle School. Kamehameha Park is a district park with a large

community center complex, gymnasium, playfield, tennis courts, swimming pool, outdoor courts and ball fields. The Kohala High and Elementary School campus has a gym, track and field, playground and outdoor courts. Kohala High and Elementary School is located approximately 2.8 miles from the proposed project.

Additional staffing will not be required with the new structure. The use of the new covered play court by grade level, day, and time will be scheduled by teachers and school administrators. Custodial staff will maintain the structure and open and secure the facility as needed.

In addition to the physical education classes and a play space during recess, the new covered play court will provide the school with a flexible space for creative projects, school gatherings, and celebrations. The new covered play court will have an occupant load of 401 persons. The new space will allow the entire school to gather in one place under shelter during inclement weather conditions.

3.9 Visual Resources

Existing Conditions

The County of Hawai'i General Plan and North Kohala Community Development Plan both identify the views of the Kohala Mountains and the views of the green grazing lands and panoramic vistas of the coastline from Akoni Pule Highway and Kohala Mountain Road as important views to maintain.

Building A is the only two-story building on campus, approximately 25 feet high on the mauka side of the building with one floor, and two-floors on the makai side. Views of the coastline are not visible from Akoni Pule Highway due to existing structures on the property and the surrounding vegetation. The proposed structure does not exceed the County of Hawai'i Residential zoning district height limit of 35 feet.

Potential Impacts and Mitigative Measures

The proposed project, over the short-term and long term, will not significantly alter the views of the coastline from Akoni Pule Highway or Kohala Mountain Road. The proposed covered play court is a single story structure located behind other structures on campus, looking toward the coastline from the highway. Views of the Kohala Mountains from Akoni Pule Highway will not be affected since the entire campus is located on the makai side of the highway.

3.10 Air Quality

Existing Conditions

The air quality at Kohala Middle School is primarily affected by pollutants derived from the volcanic emissions from Kilauea Volcano. The emissions of sulfur dioxide occasionally affect the air quality, but are usually carried to the southwest around the island and not likely to affect the project site. Vehicle exhaust emissions from Akoni Pule Highway and neighboring roads also contribute to local air pollution. In general, the ambient air quality of the project area meets all federal and state standards as regulated by the State Department of Health, Clean Air Branch.

Potential Impacts and Mitigative Measures

Short-term noise impacts would be generated from construction-related activities, such as exhaust emissions and dust, at the project site. However, these impacts are not anticipated to be significant as they would be short term and temporary in nature and would not result in long-term adverse impacts to the surrounding environment.

Proposed mitigation measures include the installation of dust screen barriers, periodic watering to minimize air borne particles, and proper maintenance of construction vehicles. Construction activities will be conducted in accordance with State air pollution

control regulations as outlined in Hawai'i Administrative Rules, Chapter 11-60 Fugitive Dust, Department of Health. Construction will employ Best Management Practices to minimize or prevent such occurrences.

3.11 Noise

Existing Conditions

The noise at Kohala Middle School is typical of common noises at middle schools and include students playing and learning activities, school bells and facility grounds keeping and maintenance activities. The sound levels outside of the project site are typical of residential areas. Surrounding ambient sound levels are minimal and are influenced primarily by ambient noise typical of residential environments derived mainly from resident activities and motor vehicles along Akoni Pule Highway, such as emergency vehicle sirens, buses and heavy and medium duty trucks.

Potential Impacts and Mitigative Measures

Changes in ambient noise levels at the project site will be negligible because the proposed action will not subsequently alter existing land use and activities. As such, long-term, significant adverse noise impacts are not anticipated as the noise generated by the proposed covered play court would be consistent with the existing ambient noise typical of a middle school and residential environment. The noise is generally limited to school days between the hours of 7:30 AM and 4:30 PM.

Short-term noise impacts would be generated from construction-related activities at the project site. Noise generated by activities, such as construction vehicles, can generate intermittently high noise levels. However, these impacts are not anticipated to be significant as they would be short term and temporary in nature and would not result in long-term adverse impacts to the surrounding environment.

Short-term noise-generating activities would be conducted in accordance with Hawai'i Administrative Rules, Chapter 11-46 Community Noise Control, Department of Health. Mitigation includes limiting the hours and days of construction to daylight hours between 7:00 AM and 6:00 PM, Monday through Friday, excluding certain holidays, and 9:00 AM and 6:00 PM on Saturdays. Construction is not permitted on Sundays. The contractor will develop a time and work schedule in consultation with the school administration to minimize the interference while classes are in session.

3.12 Public Services

Existing Conditions

Police service for Kohala Middle School is provided by the Hawai'i Police Department, Kapaau Police Station. The station is located approximately 1.3 miles northwest from the project site. The Hawai'i Fire Department North Kohala Fire Station No. 15 is located on the same property as the Police Station. Kohala Hospital is also located in Kapaau, near the fire and police stations, approximately 1.4 miles northwest from Kohala Middle School.

Potential Impacts and Mitigative Measures

The proposed project will improve public service in the form of education and will not significantly increase the demand or create a burden on other public services, such as police, fire, trash, medical and other services. As such, no mitigation is proposed.

4. RELATIONSHIP TO LAND USE POLICIES AND CONTROLS

4.1 State of Hawai'i

Hawai'i State Plan

The Hawai'i State Plan (Chapter 226, Hawai'i Revised Statutes) establishes a statewide planning system with an overall theme, goals, objectives, policies, and priority guidelines to guide future long-range development of the State.

The proposed project components are consistent with the Hawai'i State Plan objectives and policies for socio-cultural advancement-health (§226-20), which states:

(b) To achieve the health objectives, it shall be the policy of this State to:

(1) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.

The proposed project components are consistent with the Hawai'i State Plan objectives and policies for socio-cultural advancement-education (§226-21), which states:

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

(b) To achieve the education objective, it shall be the policy of this State to:

(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.

- (2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.
- (3) Provide appropriate education opportunities for groups with special needs.
- (4) Promote educational programs which enhance understanding of Hawai'i's cultural heritage.
- (5) Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.

The new covered play court will promote these goals, objectives and policies by supporting educational programs relating to personal health and physical fitness. Enhancing school educational facilities in North Kohala also improves the quality of life, community, and social well-being of the region.

State Land Use Classification

State Land Use Districts are established by the State Land Use Commission in accordance with Chapter 205, Hawai'i Revised Statutes. There are four classifications of land under this districting system: Conservation, Agricultural, Rural, and Urban. Uses in the Conservation District are regulated by the Board of Land and Natural Resources; Agricultural District by the Land Use Commission; uses in the Rural District by the Land Use Commission and county governments; and uses in the Urban District by the respective county government. Kohala Middle School is within the Urban district (Figure 16). The following sections describe the County of Hawai'i regulations.

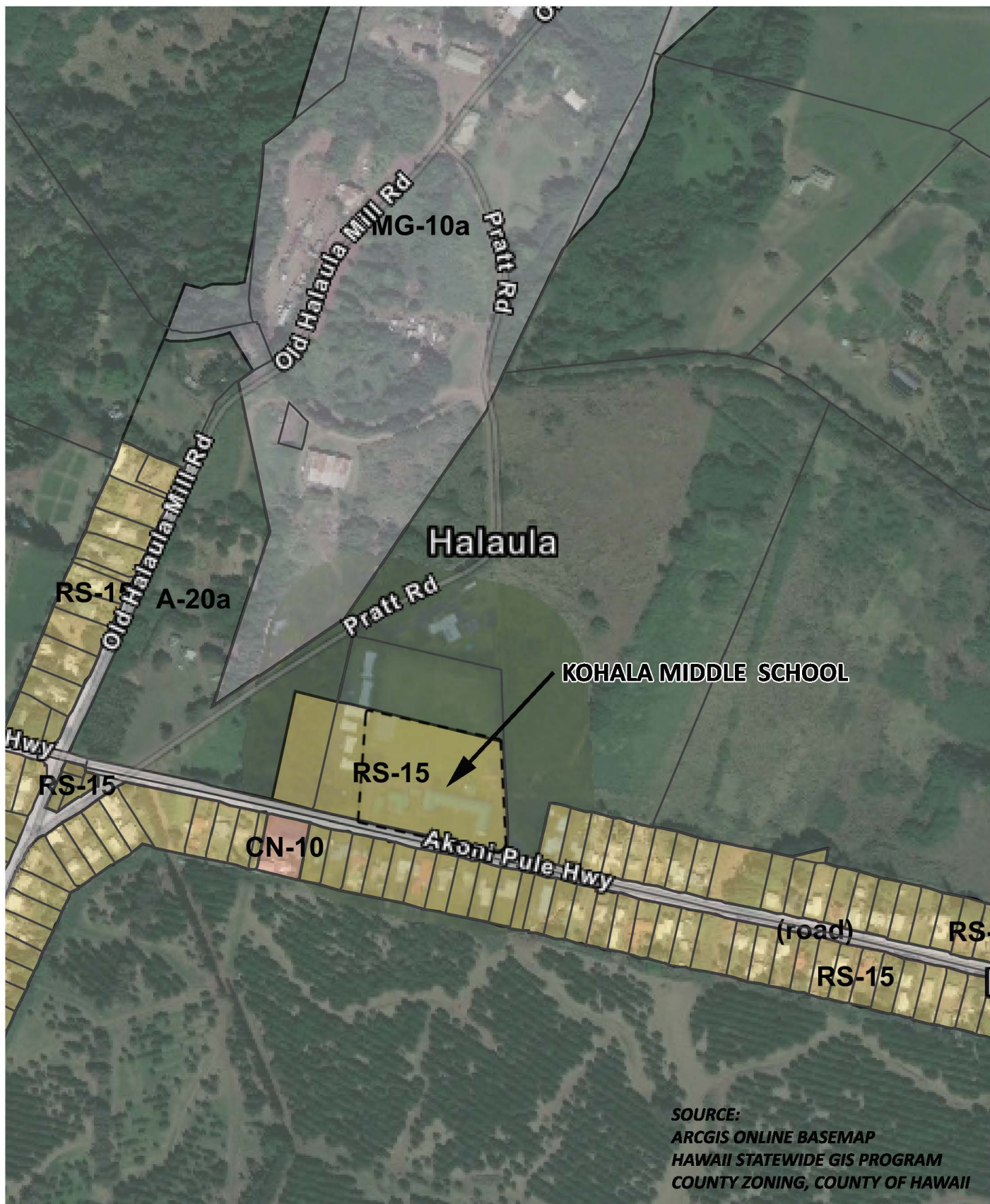


FIGURE 17

ZONING MAP

KOHALA MIDDLE SCHOOL
 NEW COVERED PLAY COURT

4.2 County of Hawai'i

Zoning

The County zoning for the proposed project is Residential (RS-15) (Figure 17). Schools are a permitted use in Residential zoned districts. The 8.6 acre TMK parcel has a split zoning approximately 60% Residential (RS-15) and 40% Agricultural (A-20). Kohala Middle School campus is entirely located in the RS-15 zone, and the Agricultural zoned portion is on the northern portion of the property. Adjacent parcels are zoned Agricultural (A-20a) and Residential (RS-15). Nearby parcels are also zoned Neighborhood Commercial (CN-10) and General Industrial (MG-10).

General Plan

The General Plan for the County of Hawai'i is "the blueprint that guides the long-term development of Hawai'i Island". The document provides the goals, policies, standards, and courses of action for the entire County. The General Plan guides the regional plans or Community Development Plans, as well as the County's functional plans and Area Improvement Plans.

The proposed project for construction of the Covered Play Court is consistent with the policies and goals of the County of Hawai'i General Plan, particularly the following:

2.1. Economic

2.3 Policies

- (f) Support all levels of educational, employment and training opportunities and institutions.

3.1. Energy**3.3 Policies**

- (n) Encourage energy-saving design in the construction of buildings.

7.1. Natural Beauty**7.2 Goals**

- (b) Protect scenic vistas and view plants from becoming obstructed.

7.5.5. Table 7-9, Natural Beauty Sites, District of North Kohala

- Coastline view plane from Akoni-Pule Highway
- Coastline view plane from Kohala Mountain Road

8.1. Natural Resources and Shoreline**8.2 Goals**

- (b) Provide opportunities for recreational, economic, and educational needs without despoiling or endangering natural resources.
- (f) Ensure that alterations to existing land forms, vegetation, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of an earthquake.

10.1. Public Facilities**10.2 Education****10.2.2 Policies**

- (d) Encourage implementation of the Department of Education's Educational Specifications and Standards for Facilities.

10.2.4.4.2 Courses of Action (North Kohala)

- (a) Encourage the expansion of the public school and library facilities as needs arise.
- (c) Encourage continual improvements to existing educational facilities.

12.1. Recreation

8.2 Goals

- (a) Provide a wide variety of recreational opportunities for the residents and visitors of the County.
- (b) Maintain the natural beauty of recreation areas.
- (c) Provide a diversity of environments for active and passive pursuits.

12.3 Policies

- (g) Facilities for compatible multiple uses shall be provided.

The proposed project complies with the policies and goals of the General Plan through the improvement of a public school facility and also providing increased recreational opportunities for the students of Kohala Middle School. The proposed new covered play court will not compromise the area's natural beauty, will not obstruct important views, endanger natural resources or pose environmental hazards.

North Kohala Community Development Plan

The County of Hawai'i's Community Development Plan (CDPs) further refines the General Plan policies by courses of action. The proposed project is consistent with the following North Kohala CDP priority issues and goals, and action program:

3.1. Priority Issues & Goals

Infrastructure and Community Facilities - to update Kohala's infrastructure systems that are aging or in disrepair, and provide infrastructure, community facilities, and services that adequately serve the community on an on-going basis, and especially in times of emergency.

4.4. Infrastructure & Public Facilities

GOAL - revamp, repair, and/or replace aging or damaged infrastructure; improve emergency preparedness; prioritize and implement future improvement to public facilities and service; and develop and implement rural infrastructure standards.

4.12c: Support Enhancement of Educational Facilities and Programs for the District

Background

Supporting improvements to educational faculties and programs continues to stand as a top priority of the community. With the exception of Private, Charter and on-line facilities, education in Kohala has been the charge of the State of Hawai'i's Department of Education. Nonetheless, the CDP recognizes the need for Hawai'i County to joining in supporting enhancement of educational opportunities for all Kohala's students regardless of age. To that end, the CDP recommends that, at a minimum, any land use applications for expansion or creation of educational facilities in the North Kohala District be considered favorable as long as the proposal will not adversely impact nearby land owners or significantly diminish Kohala's great natural beauty. For the same reasons and with the same conditions, enhancement of Educational

Outreach Programs for the community should also be supported by Hawai'i County whenever feasible.

The proposed project is consistent with the above as it will replace and modernize aged facilities and equipment, as well as improve the overall quality of the school. The proposed project will not adversely impact nearby land owners or significantly diminish the natural beauty of North Kohala.

The proposed use of the covered play court will provide additional physical education and recreational opportunities for the school, improving the facility and programs provided by the school.

5. ALTERNATIVES TO THE PROPOSED ACTION

5.1 No Action

Under the No-Action alternative, there would be no change to the Kohala Middle School campus. The students and teachers will continue to use the limited indoor areas during rainy weather. Resources committed to planning and design of the facility will be foregone and the purpose of the project not achieved.

5.2 Alternative Site

An alternative location was considered was near the eastern edge of the property behind the portables along to the tree line. This location was dropped primarily to minimize ground disturbance and keeping the area of work more central to the campus. Requirements for the installation of a fire line would increase the ground disturbance,

as the alternative location would require the fire lane and utilities to cross through the entire property.

The current location preserves sightlines, located near the existing basketball courts and structures. With the proposed covered play court, the students can be comfortably accommodated in a protected structure.

6. PERMITS AND APPROVALS

Several approvals and permits will be or may be required from various agencies within the County of Hawai'i, the State of Hawai'i, and/or federal government to implement the proposed project. A summary listing is as follows:

State of Hawai'i

Department of Health

- National Pollutant Discharge Elimination System (NPDES) Storm Water Permit

- Individual Wastewater System Permit

- Noise Permit

- Disability and Communication Access Board (DCAB) Approval

County of Hawai'i

Planning Department

- Plan Approval

- Construction and Building Permits

- Grading, Grubbing and Stockpiling Permits

Utility Connection Permits

Sewer Connection Application

Industrial Wastewater Discharge Permit

Department of Water Supply

Construction/ Connection Permit

Consultation with the County of Hawai'i Planning Department is on-going and this list may change.

7. CONSULTED PARTIES

State of Hawai'i

Department of Land and Natural Resources

State Historic Preservation Division (SHPD)

County of Hawai'i

Planning Department

Department of Public Works

Department of Water Supply

Hawai'i Fire Department

Engineering Department

Other

Hawai'i Electric Light Company

8. DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION

8.1 Significance Criteria

According to the Department of Health Hawai'i Administrative Rules §11-200-12, thirteen "Significance Criteria" shall be considered for determining if an action will have a significant impact on the environment. This includes all phases of a project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long term effects. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the criteria listed below.

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

The project will not result in an irrevocable commitment to loss or destruction of any natural or cultural resource. The proposed project would be constructed within the school campus, which has been leveled and graded for campus development. Due to the area's history, there is a possibility of encountering sub-surface archaeological resources during the construction of the project. Should that occur, all work will be stopped and following action will be in consultation and accordance with the State Historic Preservation Division.

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

The project will not curtail the range of beneficial uses of the environment. Opened as Halaula School over 80 years ago, the campus will remain as school use. The underlying Urban land use classification and RS-15 Residential zoning commits the subject property

to residential development and use, which include community facilities that service the residences, such as a public school.

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

The proposed project is consistent with the environmental policies established in Chapter 344, Hawai'i Revised Statutes. The proposed project will not alter the area's existing natural processes or resources and will not lower the quality of life for Hawai'i residents. The new covered play ground will provide a facility to support the educational needs of students at Kohala Middle School. Construction will produce some short-term impacts to air quality and noise, but these impacts are minor and will be mitigated in accordance with Department of Health regulations.

4. Substantially affects the economic or social welfare of the community or State.

The project will not significantly affect the socio-economic welfare of the community or state. The new covered play court will contribute to the improvement of the campus facilities, and used to meet the educational needs of the students. The proposed structure will not have an adverse effect to the economic or social welfare of the community.

5. Substantially affects public health.

The proposed project will not have an adverse effect on public health. The proposed project will create more opportunities for physical education and activities, which in turn will help improve physical and mental health of the students. Construction of the new covered play court and the associated utilities, driveways and walkways will produce some short-term impacts to air quality and noise, but these impacts are minor

and will be mitigated in accordance with Department of Health regulations. Other mitigation measures, described in the assessment, such as BMPs for erosion control, will be submitted with construction plans and documents. The new covered play court will help provide quality facilities for physical exercise in public schools which is important to community and public health.

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

The proposed project is part of a public facility and will have positive secondary impacts to the existing Kohala Middle School campus. The proposed use of the covered play court will provide additional physical education and recreational opportunities for the school, despite poor weather conditions. The proposed project is not expected to increase student enrollment. Substantial secondary impact on resident population is not expected since the surrounding communities are limited in density and the area is fairly remote. Demand on other public facilities, including utilities, will not increase significantly due to the proposed covered play court.

7. Involves a substantial degradation of environmental quality.

The proposed project will not degrade overall environmental quality. Minor impacts to air quality as the result of construction will be short-term. The proposed project will fit into the existing campus and will not substantially change or disturb the existing natural processes occurring in the area.

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

The proposed project is individually limited, will have an insignificant effect on the environment, and does not involve a commitment of larger actions. The proposed covered play court is for the Kohala Middle School campus only.

9. Substantially affect a rare, threatened or endangered species or its habitat.

There are no rare, threatened, or endangered plants or animal species on the Kohala Middle School campus. The project area and vicinity have been cleared and the vegetation has been altered.

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

Construction will produce temporary impacts to air quality, water quality, and noise levels. These impacts are short-term and will be mitigated using BMPs in compliance with the County of Hawai'i and the State of Hawai'i rules and regulations regarding construction and related activities. Long-term impacts to air and water quality, and ambient noise levels will be negligible.

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

The project area or campus are not in an environmentally sensitive area. The campus is not along the coastline or within a Special Management Area. It is outside of flood prone and tsunami inundation areas.

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

The proposed project is located on campus and will not significantly alter the views of the coastline from Akoni Pule Highway. The proposed covered play court is a single-story structure will be located behind other single-story structures of the school. Views of the Kohala Mountains from Akoni Pule Highway will not be affected since the campus is located makai of the highway.

13. Requires substantial energy consumption.

The proposed project will not require substantial energy consumption, primarily using natural lighting and ventilation.

8.2 Findings

Based on the foregoing information presented, it is anticipated that the proposed covered play court will not have a significant effect. As such, a Finding of No Significant Impact is appropriate for the proposed project.

8.3 Reasons Supporting Determination

The nature and scale of the proposed project within the existing school campus is such that no significant environmental effects are anticipated. Potential impacts, if any, can be mitigated through design and careful construction management practices and compliance with all governmental requirements including those of the Department of Public Works, State Department of Health and State Historic Preservation Division.

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Appendix A
Addendum Archaeological Monitoring Plan for the Hawai'i DOE
Cesspool Conversion Project, Honoka'a School District, Kohala Middle
School, Pueke & Kukuiwaluhia Ahupua'a, North Kohala District,
Hawai'i Island TMK: [3] 5-3-010:056 por.

Final
Addendum Archaeological Monitoring Plan
for the Hawai‘i DOE Cesspool Conversion Project,
Honoka‘a School District, Kohala Middle School,
Pueke & Kukuiwaluhia Ahupua‘a,
North Kohala District, Hawai‘i Island
TMK: [3] 5-3-010:056 por.

Prepared for
CH2MHill

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Management Summary

Reference	Addendum Archaeological Monitoring Plan for the Hawai'i DOE Cesspool Conversion Project, Honoka'a School District, Kohala Middle School, Pueke & Kukuiwaluhia Ahupua'a, North Kohala District, Hawai'i Island, TMK: [3] 5-3-010:056 por. (Tulchin & Hammatt 2009)
Date	January 2009
Project Number (s)	Cultural Surveys Hawai'i Inc. (CSH) Project Number: DOEC 2 H26
Investigation Permit Number	The monitoring component of the archaeological monitoring program will be carried out under archaeological permit number 08-14 (or subsequent 2009 permit when issued) to Cultural Surveys Hawai'i, Inc. (CSH) by the Hawai'i State Historic Preservation Division/ Department of Land and Natural Resources (SHPD/DLNR), per Hawai'i Administrative Rules (HAR) Chapter 13-282.
Project Location	The project area is located at 54-4155 Akoni Pule Highway and comprises TMK: [3] 5-3-010:056 por., which is bounded by Akoni Pule Highway to the south and by Maulili Loop to the north and west. This area is depicted on the 1995 Hawi USGS 7.5-minute topographic quadrangle.
Land Jurisdiction	Public, State of Hawai'i
Agencies	State of Hawai'i Department of Land and Natural Resources / State Historic Preservation Division (DLNR / SHPD)
Project Description	The proposed wastewater system improvements will include the installation of new sewer lines and a septic tank. Project related ground disturbance will involve excavations at existing cesspool locations and at locations proposed for the installation of new sewer lines and a septic tank.
Project Acreage	8.6 acres
Historic Preservation Regulatory Context	This archaeological monitoring program is to be implemented to facilitate the identification and treatment of any burials that might be discovered during subsurface disturbance and to mitigate the project's effect on any non-burial archaeological deposits that might be uncovered during project construction. At the request of CH2MHill, CSH has prepared this addendum archaeological monitoring plan. In consultation with SHPD, this monitoring plan is designed to fulfill the state requirements for monitoring plans [HAR Chapter 13-279-4]. This document was prepared to support the proposed project's historic preservation review under Hawai'i Revised Statutes (HRS) Chapter 6E-8 and HAR Chapter 13-275.

Historic Properties Potentially Affected	No historic properties have been identified within the project area.
Recommended Monitoring	On-site archaeological monitoring is recommended for all initial ground-disturbance to facilitate the identification and treatment of any burials that might be discovered during project construction, and to mitigate the project's effect on non-burial archaeological deposits. Any departure from this will only follow consultation with and written concurrence from, DLNR/SHPD.

Table of Contents

Management Summary	i
Section 1 Introduction	1
1.1 Project Background	1
1.2 Environmental Setting	5
1.2.1 Natural Environment.....	5
1.2.2 Built Environment	5
Section 2 Background Research	8
2.1 Historic Background.....	8
2.1.1 Kohala Middle School	8
2.1.2 Land Commission Awards in the Immediate Area.....	10
2.2 Previous Archaeological Studies in the Vicinity	10
2.3 Predictive Model.....	14
Section 3 Archaeological Monitoring Provisions	18
Section 4 References Cited	21
Appendix A SHPD Acceptance of Monitoring Plan	1
Appendix B Construction Plans.....	1
Appendix C LCA Documentation	1

List of Figures

Figure 1. U.S. Geological Survey 7.5-Minute Series Topographic Map, Hawi Quadrangle (1995), showing the location of the project area	2
Figure 2. Tax Map Key [3] 5-3-010, showing the location of the project area	3
Figure 3. Aerial photograph showing the location of the project area (source: Google Earth 2008)4	
Figure 4. Overlay of Soil Survey of the State of Hawai'i (Foote et al. 1972), indicating sediment types within the project area	6
Figure 5. Photograph of Kohala Middle School soccer field, view to northeast	7
Figure 6. Photograph of Kohala Middle School administration building, view to north	7
Figure 7. 1911 map of Kohala Sugar Company cane lands showing the project area within lands used for sugarcane cultivation (source: Condé & Best 1973).....	9
Figure 8. Portion of Land Court Application Map 1116, showing LCAS in the vicinity of the project area	11
Figure 9. USGS 7.5-Minute Series Topographic Map, Hawi quadrangle (1995), showing archaeological studies in the vicinity of the project area	13
Figure 10. Diagram of earthen crypts utilized at unmarked cemetery sites within the Kohala Plantation Village study area (source: Erkelens & Athens 1994).....	15
Figure 11. USGS 7.5-Minute Series Topographic Map, Hawi quadrangle (1995), showing historic properties in the vicinity of the project area.....	16
Figure 12. USGS 7.5-Minute Series Topographic Map, Hawi quadrangle (1995), showing cemeteries within 1.5 miles of the project area.....	17

List of Tables

Table 1. Land Commission Awards Located in the vicinity of the Project Area	12
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Section 1 Introduction

1.1 Project Background

The State of Hawai'i Department of Education (DOE) has entered into an agreement with the Environmental Protection Agency to carry out improvements to existing wastewater systems at Hawai'i's public schools. The firm CH2MHill has been chosen to design and implement wastewater system improvements at public schools located on five of the Hawaiian Islands. In 2007, Cultural Surveys Hawai'i, Inc. (CSH) prepared an archaeological monitoring plan for eight schools in the Honoka'a School District designated for wastewater system improvements (O'Hare et al. 2007). The monitoring plan was reviewed and approved by the State Historic Preservation Division of the Department of Land and Natural Resources (SHPD/DLNR) on January 24, 2008 (LOG NO: 2007.2637; DOC NO: 0801TD05; see Appendix A). This document serves as an addendum to the original monitoring plan as it incorporates a new location, Kohala Middle School, into the monitoring program for wastewater system improvements at Honoka'a School District public schools.

At the request of the project proponent, CH2MHill, CSH has prepared this addendum archaeological monitoring plan for the Hawai'i DOE Cesspool Conversion Project, Honoka'a School District, Kohala Middle School, Pueke and Kukuiwaluhia Ahupua'a, North Kohala District, Hawai'i Island. The project area is within land publicly owned by the State of Hawai'i and comprises TMK: [3] 5-3-010:056 por., which is bounded by Akoni Pule Highway to the south and by Maulili Loop to the north and west. This area is depicted on the 1995 Hawi USGS 7.5-minute topographic quadrangle, a Tax Map Key (TMK), and an aerial photograph (Figure 1, Figure 2, & Figure 3).

The proposed wastewater system improvements will include the installation of new sewer lines and a septic tank (see Appendix B). Project related ground disturbance will involve excavations at existing cesspool locations and at locations proposed for the installation of new sewer lines and a septic tank.

This archaeological monitoring program is to be implemented to facilitate the identification and treatment of any burials that might be discovered during subsurface disturbance and to alleviate the project's effect on any non-burial archaeological deposits that might be uncovered during project construction. At the request of CH2MHill, CSH has prepared this archaeological monitoring plan. In consultation with SHPD, this monitoring plan is designed to fulfill the state requirements for monitoring plans [HAR Chapter 13-279-4]. This document was prepared to support the proposed project's historic preservation review under Hawai'i Revised Statutes (HRS) Chapter 6E-8 and HAR Chapter 13-275.

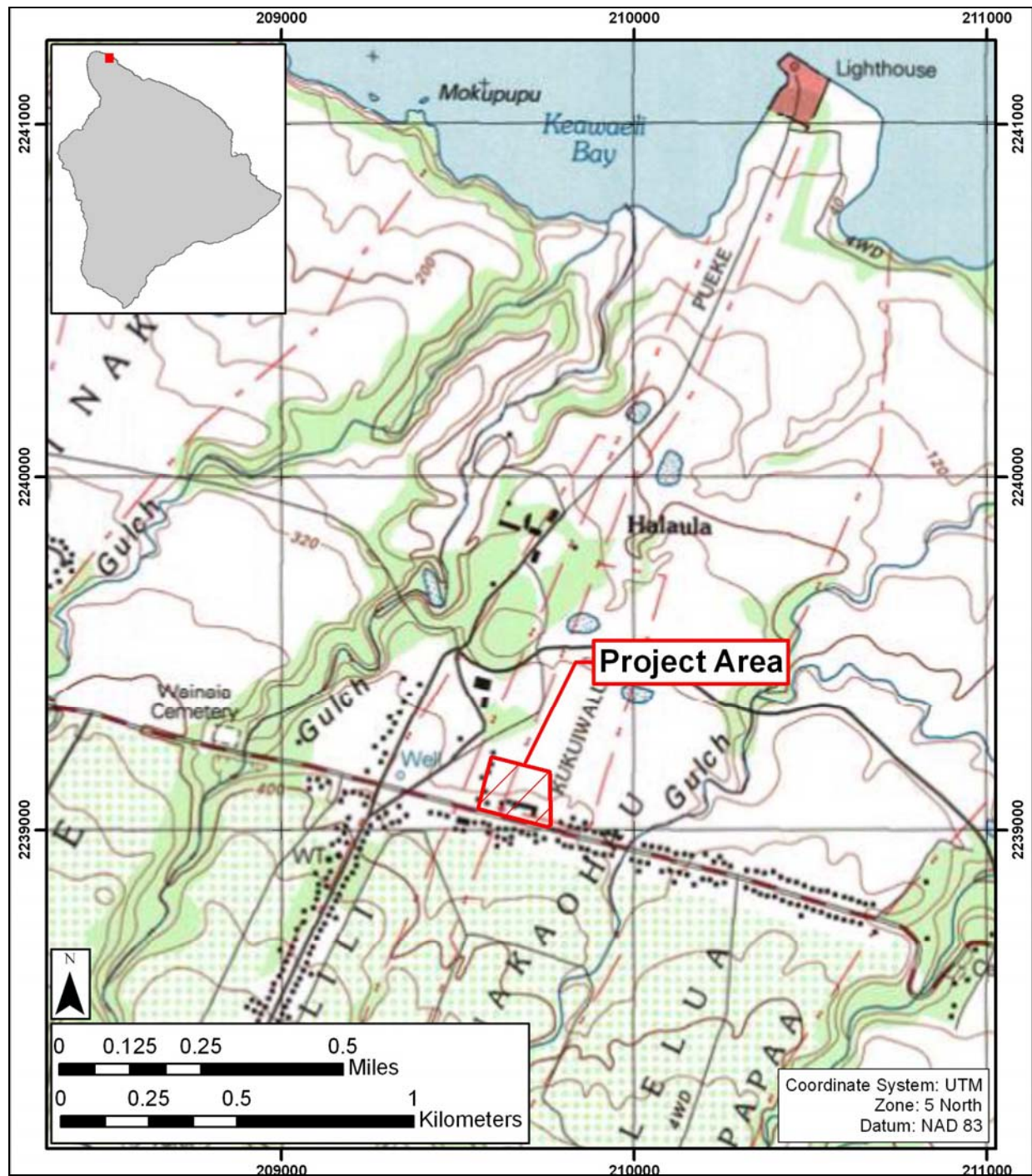


Figure 1. U.S. Geological Survey 7.5-Minute Series Topographic Map, Hawi Quadrangle (1995), showing the location of the project area

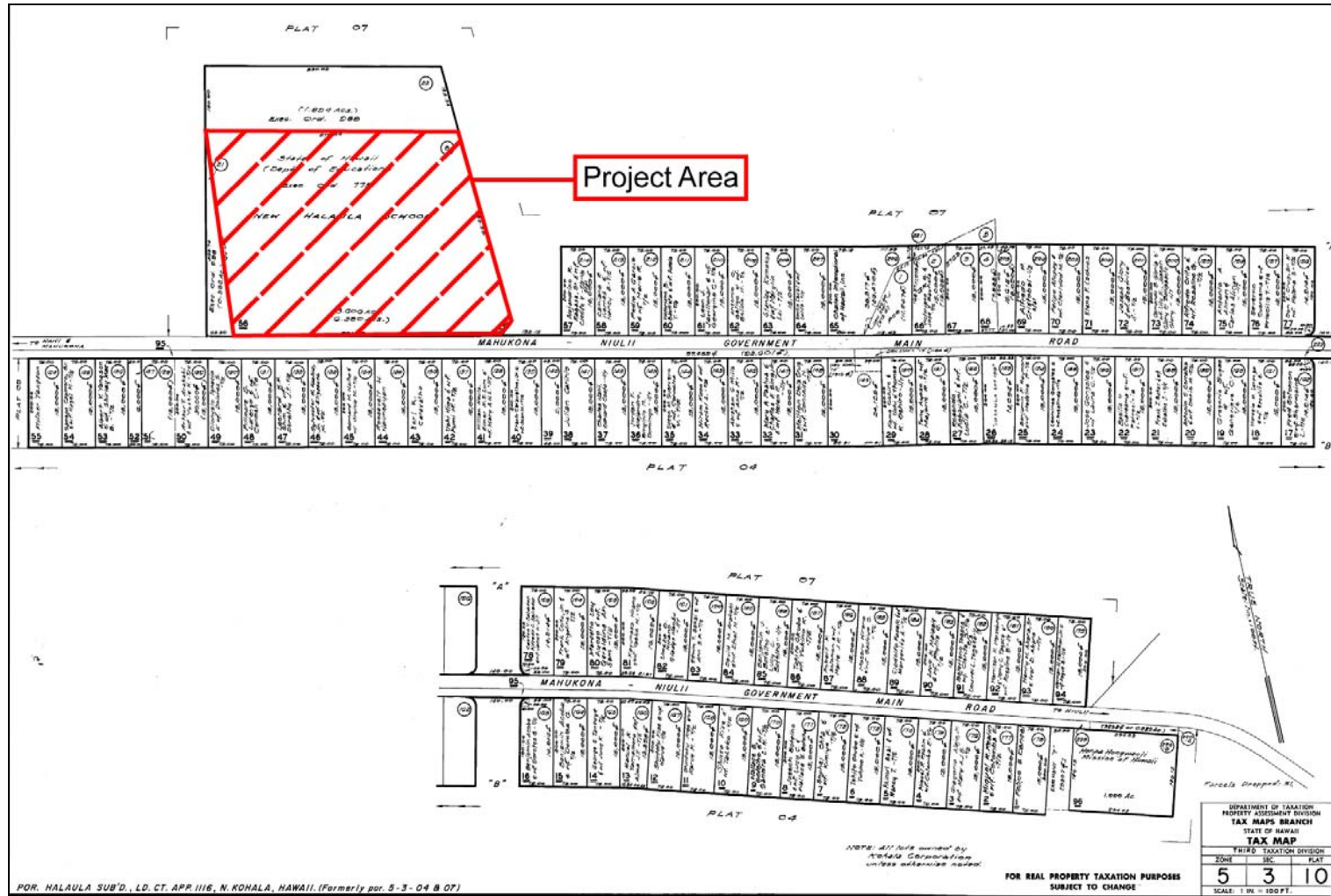


Figure 2. Tax Map Key [3] 5-3-010, showing the location of the project area

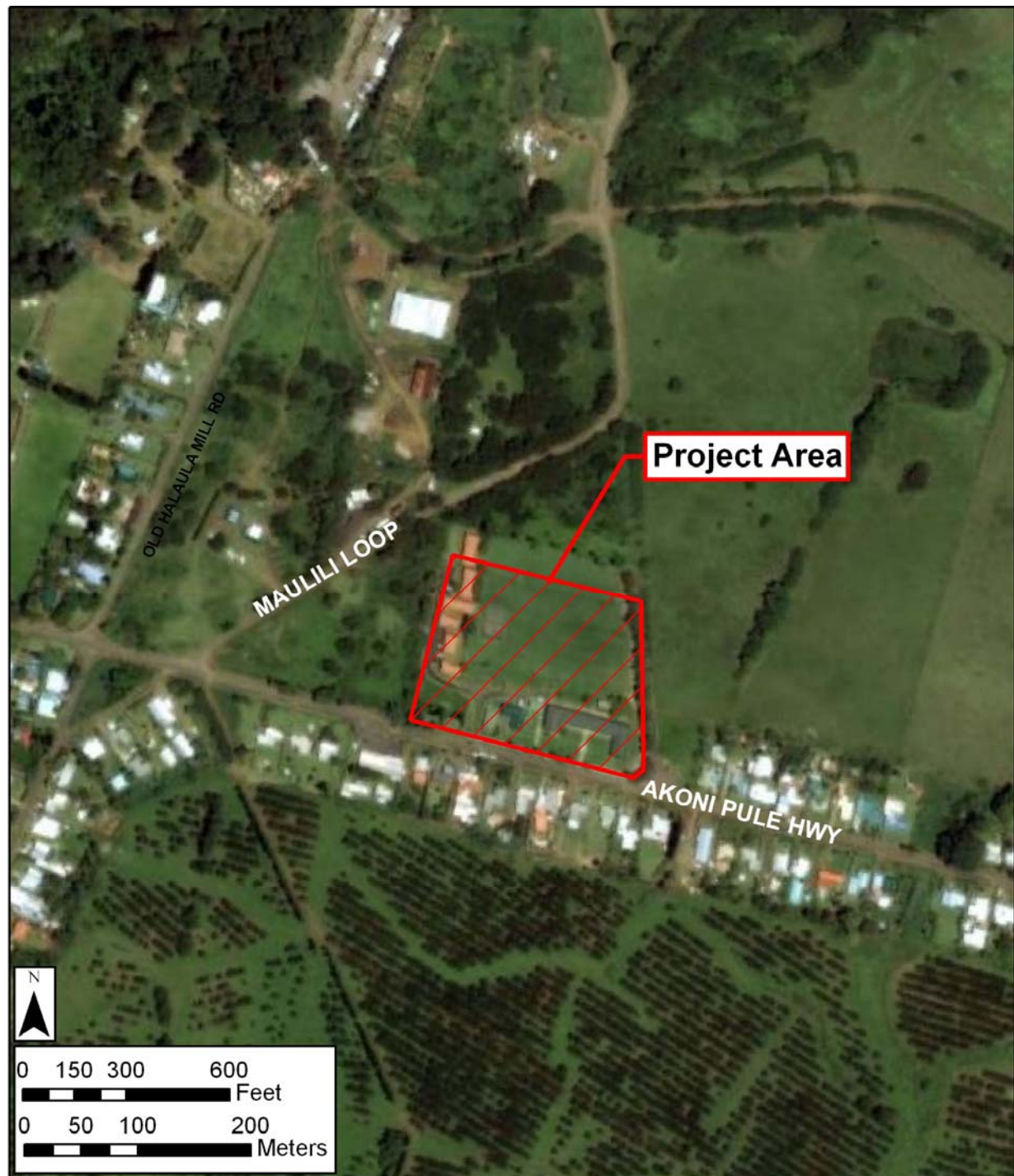


Figure 3. Aerial photograph showing the location of the project area (source: Google Earth 2008)

1.2 Environmental Setting

1.2.1 Natural Environment

The project area is located approximately 1 mile (1.6 km) south of Keawaeli Bay and is situated in between two perennial stream gulches, Waiania and Halelua. Lands within the project area are level with an elevation of 320 ft (97 m) A.M.S.L. (Average Mean Sea Level).

According to U.S. Department of Agricultural (USDA) soil survey data (Foote et al. 1972) the sediments within the project area consist entirely of Kohala Silty Clay (KhA) (Figure 4). Soils of the Kohala Series are described as “well-drained silty clays that formed in material from basic igneous rock influenced by volcanic ash...used mostly for sugarcane” (Foote et al. 1972).

The project area receives an average of 59 in. (1500 mm) of annual rainfall (Giambelluca et al. 1986). The entire project area has been extensively disturbed and transformed by human activity leaving no naturally occurring vegetation within the subject parcel.

1.2.2 Built Environment

The entire project area has been leveled and graded due to the development of the existing Kohala Middle School. A large grassy field makes up approximately two-thirds of the project area (Figure 5), with classrooms and administrative buildings located within the western and southern borders of the project area accounting for the other third (Figure 6).

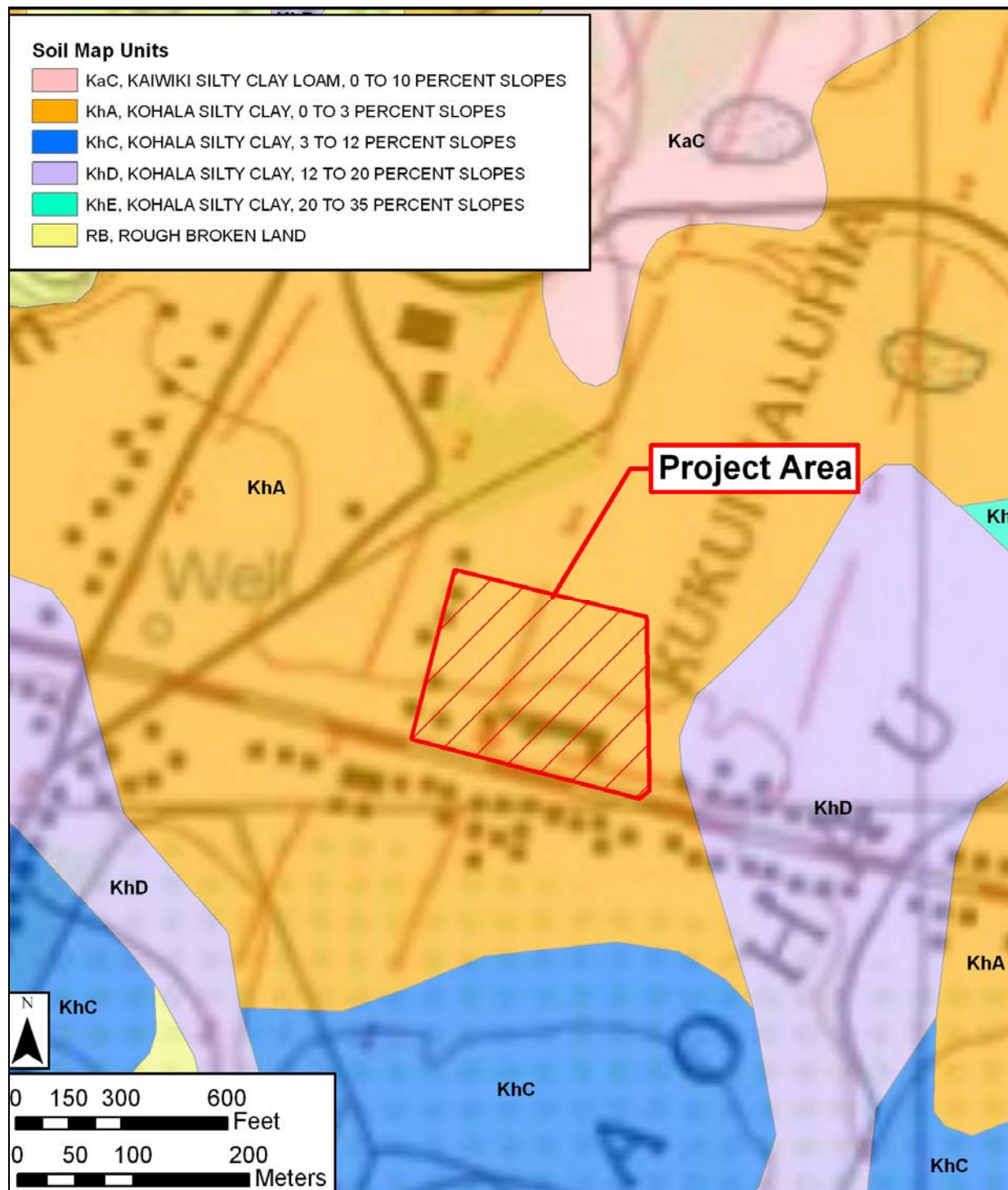


Figure 4. Overlay of Soil Survey of the State of Hawai'i (Foote et al. 1972), indicating sediment types within the project area



Figure 5. Photograph of Kohala Middle School soccer field, view to northeast



Figure 6. Photograph of Kohala Middle School administration building, view to north

Section 2 Background Research

2.1 Historic Background

North Kohala District was long associated with sovereignty over the entire island of Hawai'i. In the early 1300s, political control of most of North Kohala was located at Niuli'i, some seven kilometers east of Honomaka'u. Around 1781, Hawai'i's ruling chief Kalani'ōpu'u moved his court to Kohala, where his headquarters were fixed at Kapa'au. Kamehameha the Great is traditionally said to have been born at Kokoiki in North Kohala approximately seven kilometers to the west of Honomaka'u (Schweitzer and Gomes (2003:20-21).

Prior to 1873, the only sugar plantation in North Kohala was the Kohala Sugar Plantation Company at Hala'ula (founded in 1863). Between 1873 and 1883, no less than nine plantations were begun. Much of North Kohala was transformed into a sea of cane in that decade. A 1911 map of Kohala Sugar Company cane lands indicates that the entire project area was utilized for sugarcane cultivation (Figure 7).

2.1.1 Kohala Middle School

The Kohala Middle School is located approximately 1.6 kilometers *mauka* (inland) of the coast in the district of North Kohala. The school buildings are on the *makai* (seaward) side of Akoni Pule Highway, which parallels the coastline (see Figure 1, Figure 2, & Figure 3).

The web site for Kohala Elementary School provided the history of Kohala Middle School's origin:

Kohala Elementary's roots start back 158 years ago. In the 1800's, there were many one and two room schools in Kohala, which served small geographical areas. These schools usually took the name of the area it served. Honomakau School was such a school started sometime after 1837. Through the ensuing years, sugar cane became the chief economic crop resulting in a more diverse population as immigrant plantation workers settled in Kohala. As the population grew, the small one and two room schools began consolidating. Thus, Honomakau School expanded adding classrooms to accommodate the increasing student enrollment. In 1926, Honomakau School was renamed Kohala High and Grammar School. In 1940, Kohala High and Grammar was renamed Kohala High and Elementary. This situation remained stable until 1995 when the school was split into two separate schools . . . Kohala Elementary (grades K-5) and Kohala High and Intermediate (grades 6-12). Finally, in 2001, Kohala High and Intermediate separated into Kohala High School (grades 9-12) and Kohala Middle School (grades 6-8) [<http://www.kohalael.k12.hi.us/home.nsf/dd5cab6801f1723585256474005327c8/cd971ae79f3746360a256a8500820442?OpenDocument>].

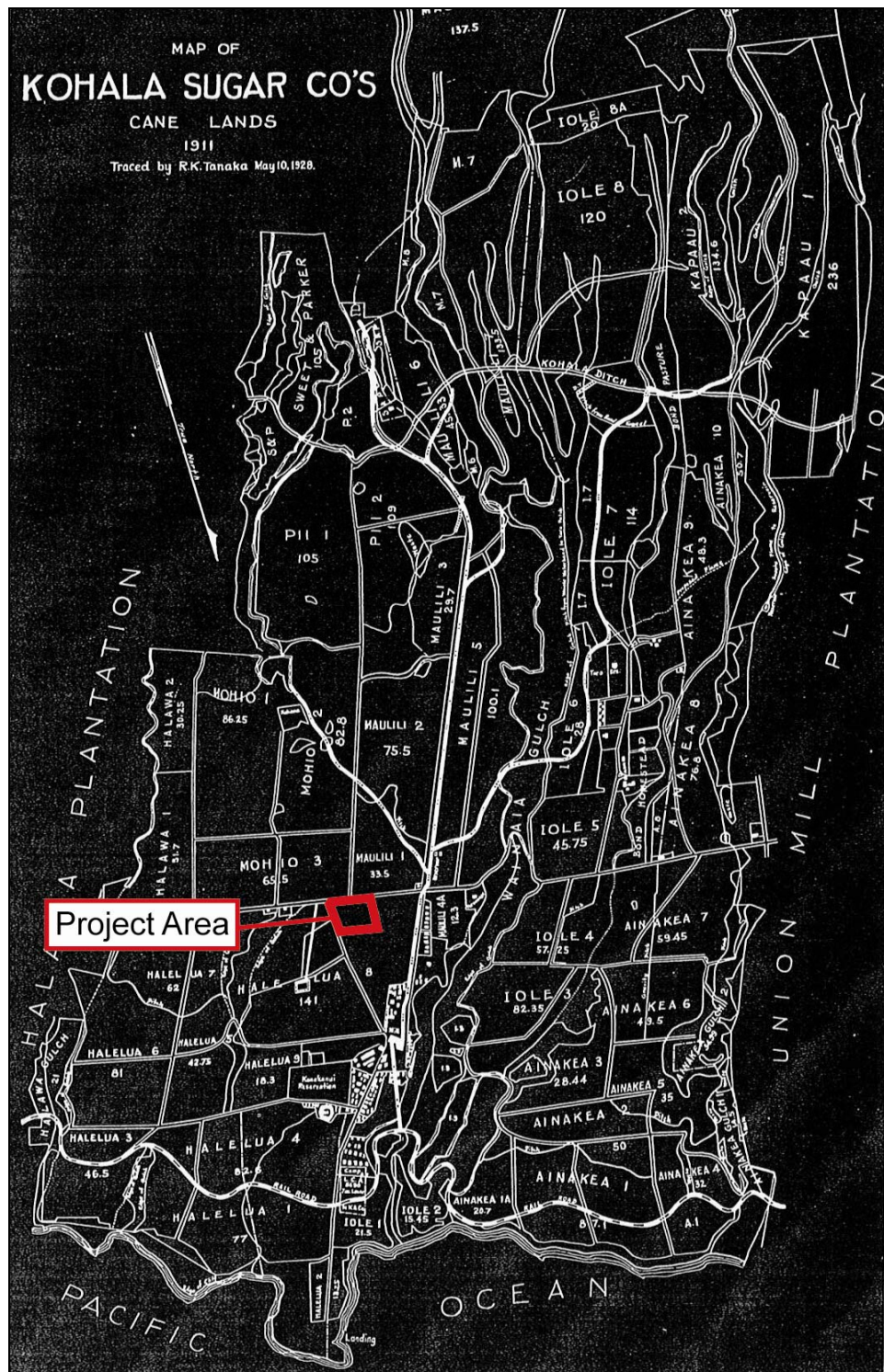


Figure 7. 1911 map of Kohala Sugar Company cane lands showing the project area within lands used for sugarcane cultivation (source: Condé & Best 1973)

2.1.2 Land Commission Awards in the Immediate Area

The Organic Acts of 1845 and 1846 initiated the process of the Māhele, the division of Hawaiian lands, which introduced private property into Hawaiian society. In 1848, the crown and the *ali'i* received their land titles. The common people (*maka'āinana*) received their *kuleana* awards (individual land parcels) in 1850. It is through records for Land Commission Awards (LCAs) generated during the Māhele that the first specific documentation of life in Hawai'i, as it had evolved up to the mid-nineteenth century come to light. Although many Hawaiians did not submit or follow through on claims for their lands, the distribution of LCAs can provide insight into patterns of residence and agriculture. Many of these patterns of residence and agriculture probably had existed for centuries past. By examining the patterns of *kuleana* (commoner) LCA parcels in the vicinity of the project area, insight can be gained to the likely intensity and nature of Hawaiian activity in the area.

A review of Land Court Application Map 1116 indicates two LCAs (8734 & 10620) in the general vicinity of the project area (Figure 8). Documentation from the LCAs was reviewed in an attempt to reconstruct indigenous Hawaiian land use patterns in the vicinity of the project area during the mid nineteenth century (Table 1; see Appendix C). LCA documentation indicates that the project area was utilized for indigenous Hawaiian habitation and agriculture. The presence of house lots and *kīhāpai* (cultivated patch, garden, orchard, field, small farm) are indicated, suggesting indigenous Hawaiian land use in the vicinity the project area.

2.2 Previous Archaeological Studies in the Vicinity

In 1994, International Archaeological Research Institute, Inc. (IARII) conducted an archaeological inventory survey of the Kohala Plantation Village, consisting of a 720-acre study area located *makai* (seaward) of Akoni Pule Highway and bounded by Hana'ula Gulch on the west and Hālawā Gulch to the east (Erkelens & Athens 1994; Figure 9). 17 historic properties were identified. All but one of the identified historic properties were determined to be of post-contact origin, consisting of railroad constructions, road embankments, clearing mounds, wire stations (utilized to transport cane and other various material), flumes and ditches, a taro pond field, and both marked and unmarked cemeteries. The single pre-contact historic property consisted of an amorphous rock alignment with an associated subsurface cultural layer containing evidence of indigenous Hawaiian occupation in the form of midden, charcoal, and volcanic glass flakes. All of the documented historic properties were observed in gulches with the exception of the cemetery sites.

Of note are the numerous cemeteries documented within the Kohala Plantation Village study area. Two of the documented cemeteries were marked with tombstones, while four of the documented cemeteries were unmarked, though it was noted that a shrub called copper leaf (*Acalypha wilkesiana* and *A. marginata*) was present at all of the unmarked cemetery sites and appeared to demarcate the extent of burial distribution within each site. Of further interest was the type of interment employed at the unmarked cemeteries. Many of the burials were interred within a crypt that was excavated into the ground. The crypts resembled a boot with a vertical

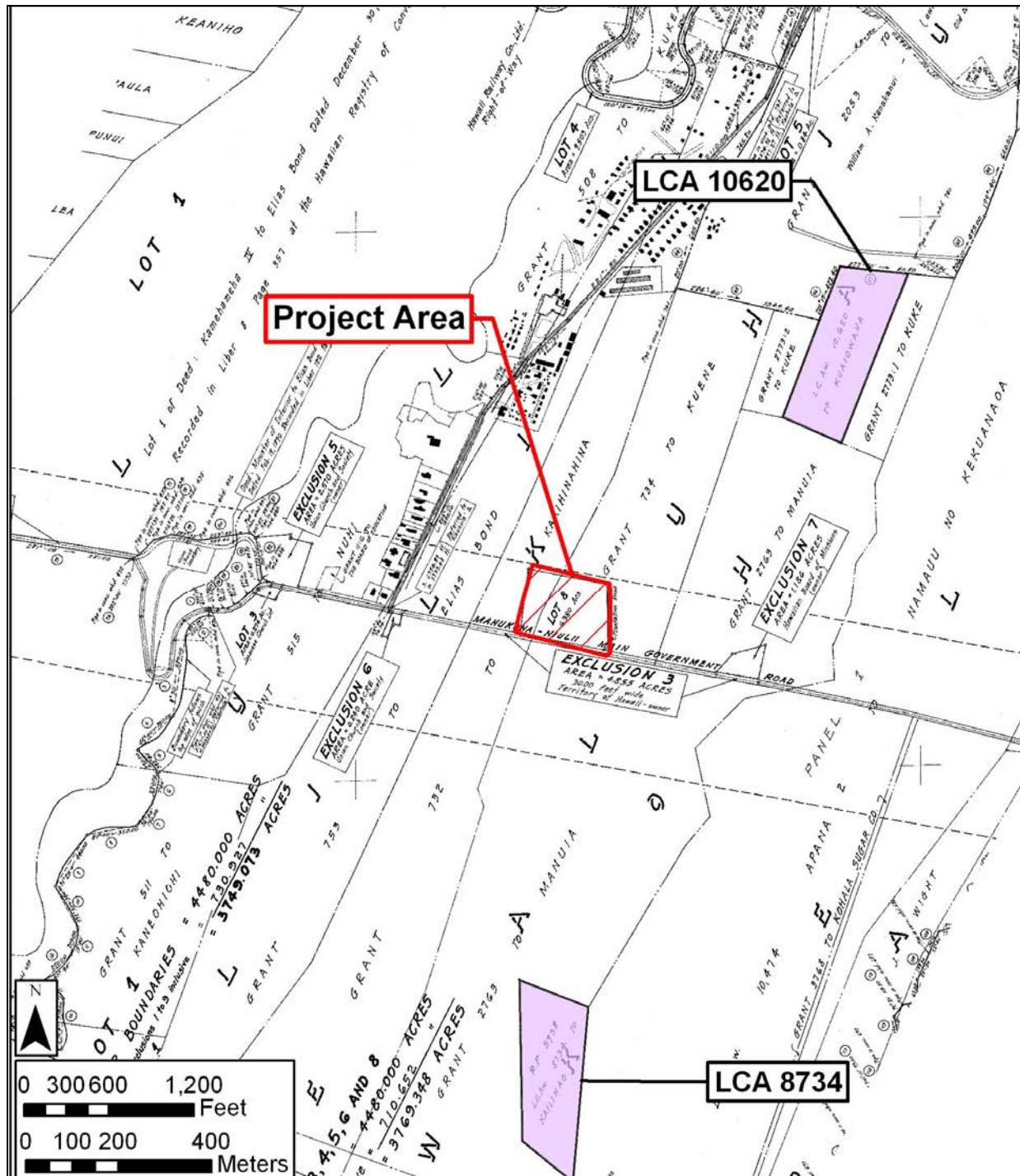


Figure 8. Portion of Land Court Application Map 1116, showing LCAS in the vicinity of the project area

Table 1. Land Commission Awards Located in the vicinity of the Project Area

Land Claim #	Claimant	‘Ili	Land Use	Landscape Feature
8734	Kailihau	Pahoa	House lot, 2 <i>kīhāpai</i> (cultivated patch, garden, orchard, field, small farm)	Bounded on all sides by “waste land”.
10620	Puaiowaha	Kekiki, Waiau, Koaloa	House lot, 5 <i>kīhāpai</i> (cultivated patch, garden, orchard, field, small farm)	Bounded by land of other Hawaiians.

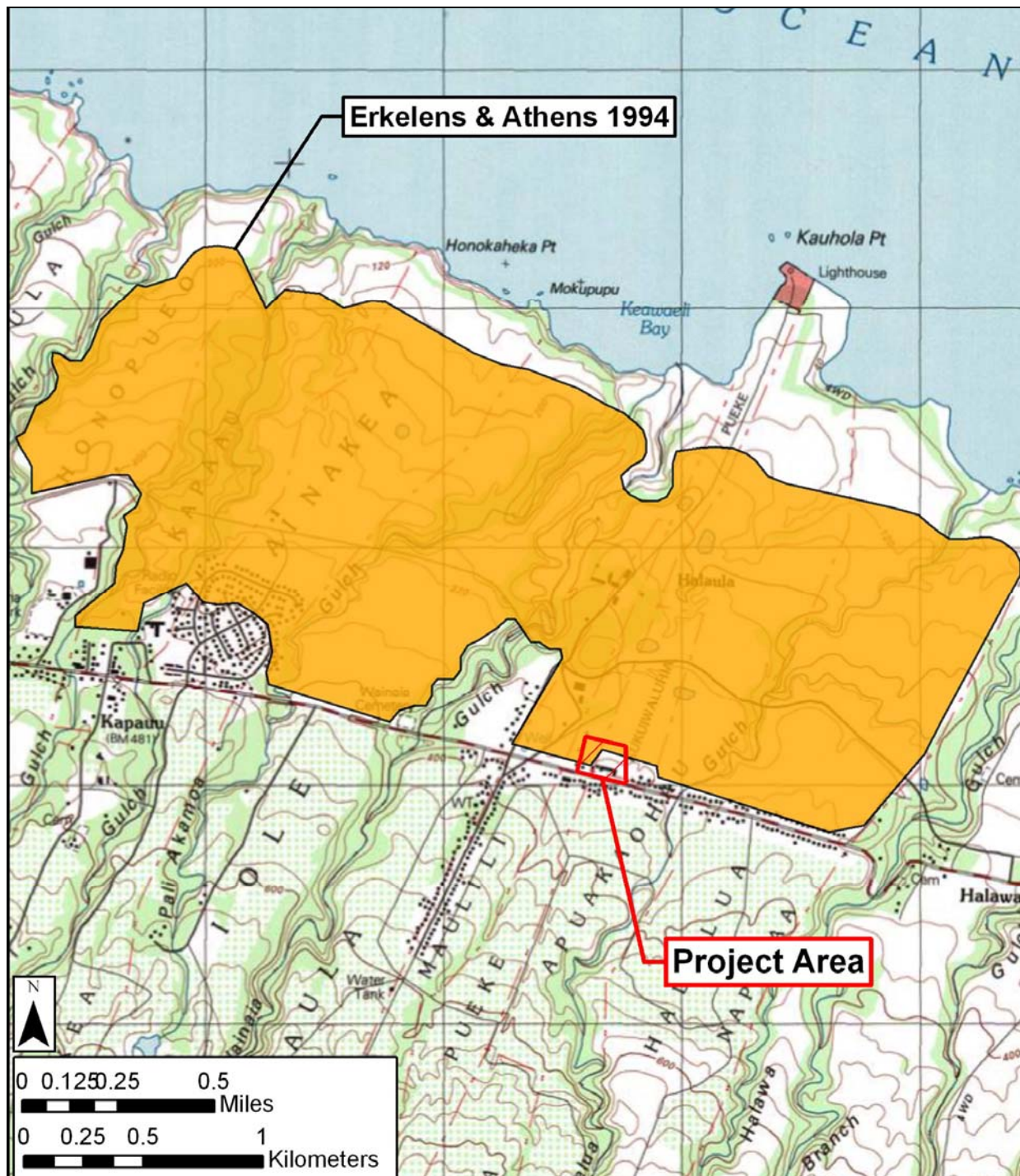


Figure 9. USGS 7.5-Minute Series Topographic Map, Hawi quadrangle (1995), showing archaeological studies in the vicinity of the project area

excavation utilized as an access pit and a horizontal excavation used for the placement of the burial, which was sealed off with basalt boulders (Figure 10).

The IARII study noted that the mechanized land modifications associated with sugarcane cultivation observed within the study area has virtually erased the pre-contact archaeological record through extensive earth moving and erosion. It is believed that if there are any additional pre-contact historic properties within the study area, they are few in number and buried.

A review of IARII's site location map indicates three historic properties in the vicinity of the current project area: SIHP -17825, an unmarked cemetery; SIHP -17826, a marked cemetery; and SIHP -17827, irrigation flume network remnants (Figure 11).

2.3 Predictive Model

Based on background research, historic properties (i.e. archaeological sites) in the form of pre- and post-contact subsurface cultural deposits may be encountered during archaeological monitoring of ground disturbance within the project area. Historic research has indicated two LCAs in the vicinity of the project area, suggesting indigenous Hawaiian land use in the form of habitation and agriculture. Previous archaeological research has documented evidence of both pre- and post contact land use in the area. Of note are the numerous post-contact cemetery sites identified *makai* of the current project area (Erkelens & Athens 1994). A review of IARII's site maps (Erkelens & Athens 1994) as well as modern topographic maps indicates 9 cemeteries within 1.5 miles of the current project area (Figure 12).

Evidence of indigenous Hawaiian land use could include subsurface cultural deposits containing midden, artifacts, and/or human burials. Evidence of post-contact land use could include subsurface cultural deposits in the form of trash pits, privies, building foundations, and/or human burials.

It should be noted that due to the documented sugarcane cultivation within the project area, mechanized land modifications associated with sugarcane cultivation have likely disturbed and/or destroyed any subsurface historic properties that may have been present. Thus the probability of encountering subsurface historic properties during ground disturbance within the project area is low.

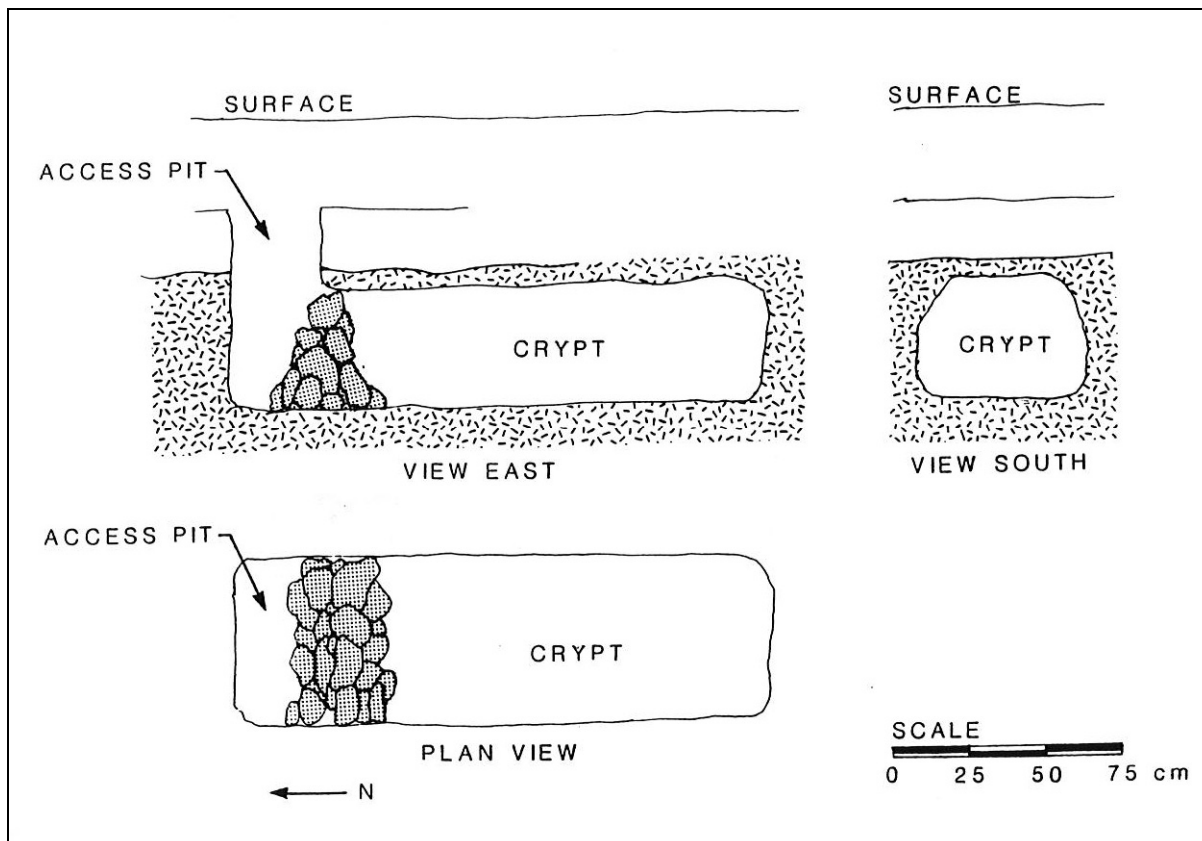


Figure 10. Diagram of earthen crypts utilized at unmarked cemetery sites within the Kohala Plantation Village study area (source: Erkelens & Athens 1994)

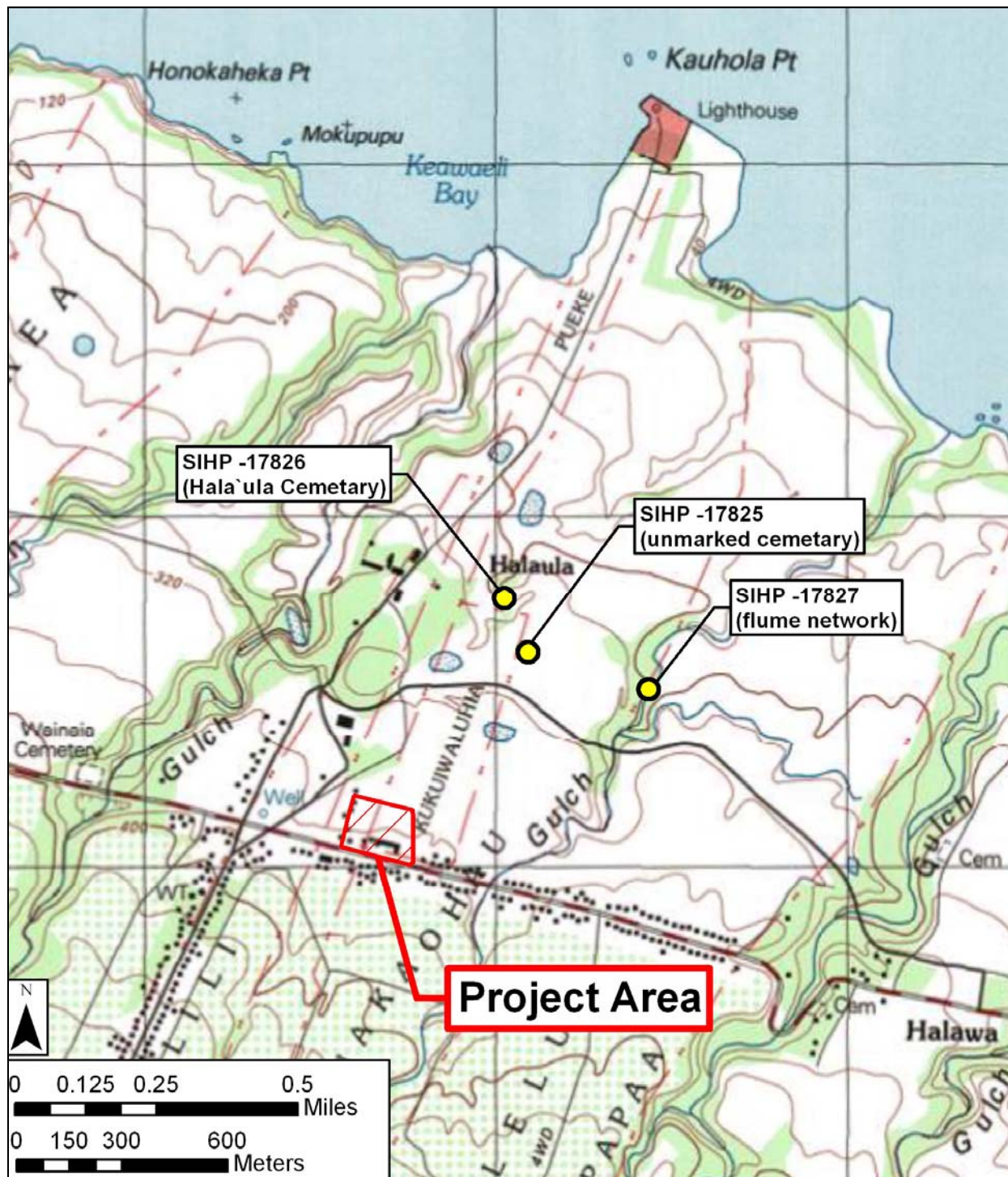


Figure 11. USGS 7.5-Minute Series Topographic Map, Hawi quadrangle (1995), showing historic properties in the vicinity of the project area

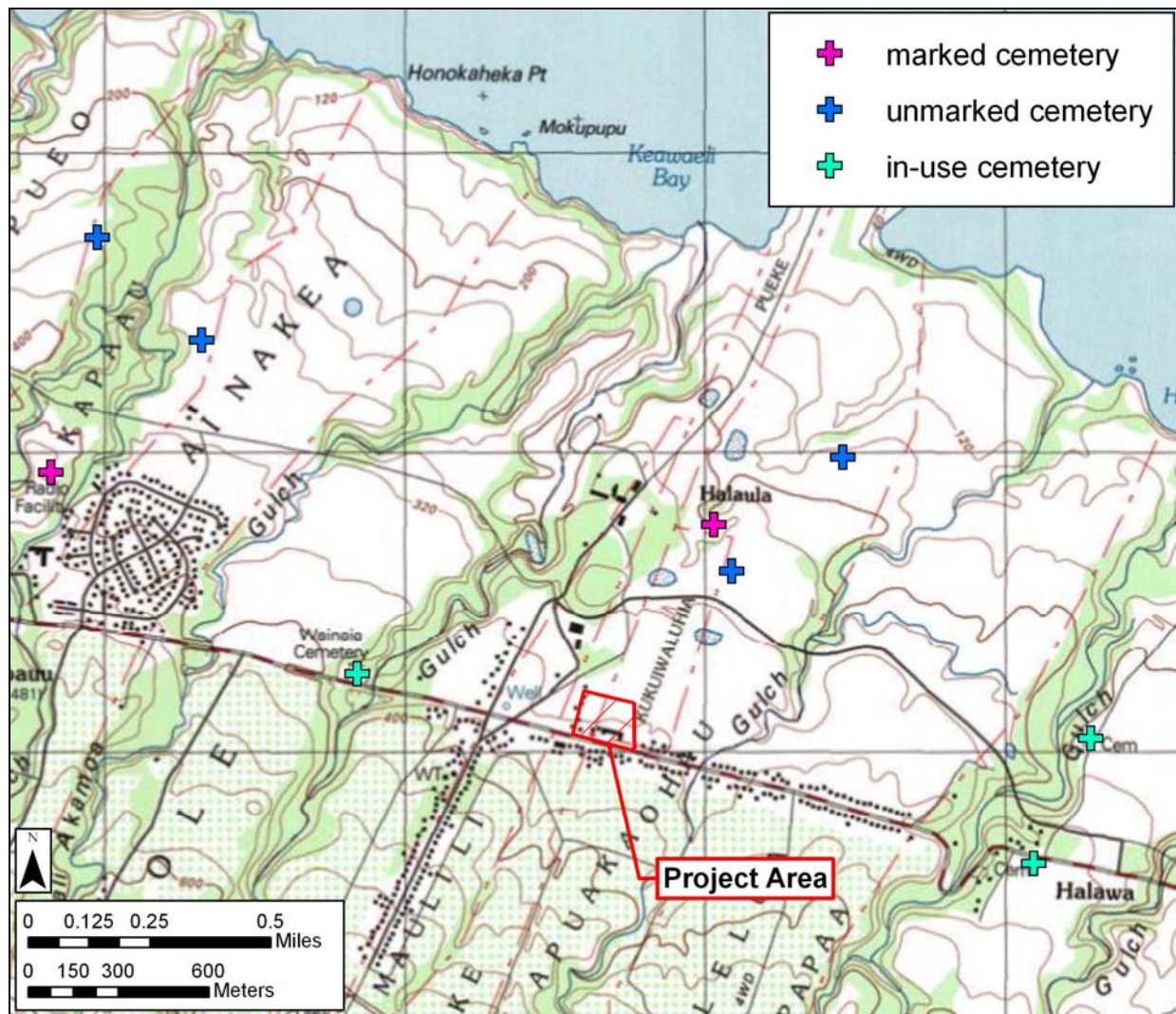


Figure 12. USGS 7.5-Minute Series Topographic Map, Hawi quadrangle (1995), showing cemeteries within 1.5 miles of the project area

Section 3 Archaeological Monitoring Provisions

In consultation with SHPD, it was determined that an archeological monitoring program was warranted as a historic preservation mitigation measure for the proposed project.

On-site archaeological monitoring is recommended for all ground disturbances to facilitate the identification and treatment of any burials that might be discovered during project construction, and to alleviate the project's effect on non-burial archaeological deposits. Any departure from this will only follow consultation with and written concurrence from, DLNR/SHPD.

Under Hawai'i State historic preservation legislation, "Archaeological monitoring may be an identification, mitigation, or post-mitigation contingency measure. Monitoring shall entail the archaeological observation of, and possible intervention with, on-going activities which may adversely affect historic properties" (HAR Chapter 13-279-3). For this project, the proposed monitoring program will serve as a mitigation measure that insures proper documentation should historic properties be encountered during development work.

Hawai'i State historic preservation legislation governing archeological monitoring programs requires that each monitoring plan discuss eight specific items (HAR Chapter 13-279-4). The monitoring provisions below address those eight requirements in terms of the archaeological monitoring for the construction within the project area.

1. Anticipated Historic Properties:

Based on background research, historic properties (i.e. archaeological sites) in the form of pre- and post-contact subsurface cultural deposits may be encountered during archaeological monitoring of ground disturbance within the project area.

Evidence of indigenous Hawaiian land use could include subsurface cultural deposits containing midden, artifacts, and/or human burials. Evidence of post-contact land use could include subsurface cultural deposits in the form of trash pits, privies, building foundations, and/or human burials.

2. Locations of Historic Properties:

Historic properties may be encountered anywhere within the project area.

3. Fieldwork:

On-site archaeological monitoring is recommended for all ground disturbance activities. Any departure from this will only follow consultation with and written concurrence from, SHPD/DLNR.

The monitoring fieldwork may encompass the documentation of subsurface archaeological deposits (e.g, trash pits and structural remnants) and will employ current standard archaeological recording techniques. This will include drawing and recording the stratigraphy of excavation profiles where cultural features or artifacts are exposed as well as representative profiles. These exposures will be photographed, located on project area maps, and sampled. Photographs and representative profiles of

excavations will be taken even if no historically-significant sites are documented. As appropriate, sampling will include the collection of representative artifacts, bulk sediment samples, and/or the on-site screening of measured volumes of feature fill to determine feature contents.

If human remains are identified, no further work will take place, including no screening of back dirt, no cleaning and/or excavation of the burial area, and no exploratory work of any kind unless specifically requested by the SHPD. All human skeletal remains that are encountered during construction will be handled in compliance with HRS Chapter 6E-7 and 6E-8 and HAR Chapter 13-300 and in consultation with SHPD/DLNR.

4. Archaeologist's Role:

The on-site archaeologist will have the authority to stop work immediately in the area of any findings so that documentation can proceed and appropriate treatment can be determined. In addition, the archaeologist will have the authority to slow and/or suspend construction activities in order to insure that the necessary archaeological sampling and recording can take place.

5. Coordination Meeting:

Before work commences on the project, the on-site archaeologist shall hold a coordination meeting to orient the construction crew to the requirements of the archaeological monitoring program. At this meeting the monitor will emphasize his or her authority to temporarily halt construction and that all historic finds, including objects such as bottles, are the property of the landowner and may not be removed from the construction site. At this time it will be made clear that the archaeologist must be on site during subsurface excavations, if warranted.

6. Laboratory work:

Laboratory analysis of non-burial related finds will include standard artifact and midden recording, as follows: Artifacts will be documented as to provenience, weight, length, width, type of material, and presumed function. Bone and shell midden materials will be sorted down to species, when possible, then tabulated by provenience, and presented in table form.

7. Report Preparation:

One of the primary objectives of the report will be to present a stratigraphic overview of the project area which will allow for predictive assessments of adjacent properties, which may be the subject of future development. The report will contain a section on stratigraphy, description of archaeological findings, monitoring methods, and results of laboratory analyses. The report will address the requirements of a monitoring report (HAR section 13-279-5). Photographs of excavations will be included in the monitoring report even if no historically-significant sites are documented. Should burial treatment be completed as part of the monitoring effort, a summary of this treatment will be included in the monitoring report. Should burials and/or human

remains be identified, then other letters, memos, and/or reports may be requested by the Burial Sites Program.

8. Archiving Materials:

All burial materials will be addressed as directed by the SHPD/DLNR. Materials not associated with burials will be temporarily stored at the contracted archaeologist's facilities until an appropriate curation facility is selected, in consultation with the landowner and SHPD.

Section 4 References Cited

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1973 *Sugar Trains: Narrow Gauge Rails of Hawai'i*. Glenwood Publishers, Felton California.

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Foote, Donald E., E.L. Hill, S. Nakamura, and F. Stephens

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Giambelluca, Thomas W., Michael A. Nullet, and Thomas A. Schroeder

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O'Hare, Constance R., Hallett H. Hammatt, and David W. Shideler


2007 Archaeological Monitoring Plan for Eight DOE Schools, Honoka'a School District, Island of Hawai'i, Hawai'i Inter-Island DOE Cesspool Project. Cultural Surveys Hawai'i, Inc., Kailua, HI.


Schweitzer, Sophia with Michael Gomes

2003 Kohala 'Aina, A History of North Kohala. Mutual Publishing, Honolulu.

Appendix A SHPD Acceptance of Monitoring Plan

LINDA LINGLE
GOVERNOR OF HAWAII





STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESEVERATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

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

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

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

January 24, 2008

Dr. Hallett H. Hammatt
Cultural Surveys Hawai'i, Inc.
P.O. Box 1114
Kailua, Hawaii 96734

Dear Dr. Hammatt:

Subject: Chapter 6E-8 Historic Preservation Review of an Archaeological Monitoring Plan for Eight DOE Schools, Hawai'i Inter-Island Cesspool Project, Honoka'a School District, Island of Hawai'i
TMKs: (3) 5-4-007:08 & 14; 5-4-08:21; 5-5-08:24; 6-7-02:15; 4-5-03:20; 4-5-05:01 & 02; 4-5-10:76; 4-5-12:21 & 25; 4-3-03: 25 & 02; 3-5-04:26 & 59; and 3-4-05:01

LOG NO: 2007.2637
DOC NO: 0801TD05
Archaeology

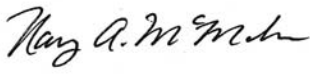
Thank you for re-submitting the subject plan for archaeological monitoring, to be conducted at eight schools in the Honoka'a School District (Constance R. O'Hare, Hallett H. Hammatt and David W. Shideler, February 2007). We apologize for the delay in responding to this re-submittal, which was received at the Kapolei office August 1, 2007.

The plan documents the setting and background information for DOE schools to be affected by the installation of new sewer lines and/or septic tanks. These include 1) Kohala Elementary, 2) Kohala Intermediate, 3) Kohala High, 4) Waimea Elementary and Middle, 5) Honoka'a Elementary, 6) Honoka'a Intermediate and High, 7) Pa'auilo Elementary and Intermediate, and 8) Laupahoehoe High and Elementary. All of the school sites are over 50 years in age, and three of the schools are listed in the Hawai'i Register of Historic Places (HRHP Site 50-10-08-7522). The HRHP sites include the two schools in Honoka'a and the Laupahoehoe School.

The plan contains the appropriate background information, maps and procedural stipulations as specified in Hawaii Administrative Rule §13-270-4 regarding monitoring plans. We accept the plan; however, we request that future submittals include the relevant TMK information on the cover, or on the title page.

Please direct any questions or comments regarding this review to Theresa K. Donham, Hawai'i Island lead archaeologist (808-281-4620).

Aloha,




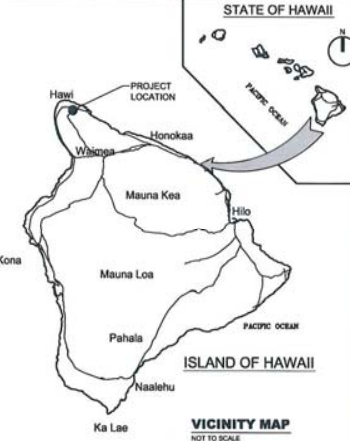
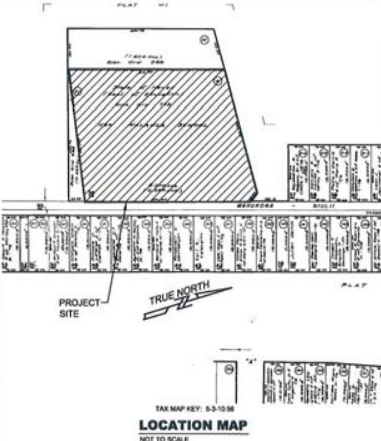

Nancy A. McMahon
Acting Archaeology Branch Chief

Appendix B Construction Plans

**CONSTRUCTION PLANS
FOR
KOHALA MIDDLE SCHOOL
HAWAII DEPARTMENT OF EDUCATION
CESSPOOL CONVERSION PROJECT**

KAPAAU, HAWAII, HAWAII
DOE JOB NO. P-00046-06
PREPARED BY:

 **CH2MHILL**
1132 BISHOP STREET, SUITE 1100
HONOLULU, HAWAII

 <p style="text-align: center;">VICINITY MAP NOT TO SCALE</p>	 <p style="text-align: center;">LOCATION MAP NOT TO SCALE</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">INDEX OF DRAWINGS</th> </tr> <tr> <th style="text-align: center;">SHEET NUMBER</th> <th style="text-align: center;">DRAWING TITLE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>HI-52T TITLE SHEET</td> </tr> <tr> <td style="text-align: center;">2</td> <td>HI-52G GENERAL NOTES AND LEGENDS</td> </tr> <tr> <td style="text-align: center;">3</td> <td>HI-52.00 KEY PLAN</td> </tr> <tr> <td style="text-align: center;">4</td> <td>HI-52.01 INDIVIDUAL WASTEWATER SYSTEM PLAN-1</td> </tr> <tr> <td style="text-align: center;">5</td> <td>DT-52.02 STANDARD DETAILS-1</td> </tr> <tr> <td style="text-align: center;">6</td> <td>DT-52.03 STANDARD DETAILS-2</td> </tr> </tbody> </table>	INDEX OF DRAWINGS		SHEET NUMBER	DRAWING TITLE	1	HI-52T TITLE SHEET	2	HI-52G GENERAL NOTES AND LEGENDS	3	HI-52.00 KEY PLAN	4	HI-52.01 INDIVIDUAL WASTEWATER SYSTEM PLAN-1	5	DT-52.02 STANDARD DETAILS-1	6	DT-52.03 STANDARD DETAILS-2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">DATE</td> <td style="text-align: center;">BY</td> <td style="text-align: center;">CHECKED BY</td> <td style="text-align: center;">APPROVED BY</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> <div style="text-align: center;">  <p>CH2MHILL 1132 BISHOP STREET, SUITE 1100 HONOLULU, HAWAII</p> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">DEPARTMENT OF EDUCATION STATE OF HAWAII</td> </tr> <tr> <td colspan="2" style="text-align: center;">KOHALA MIDDLE SCHOOL</td> </tr> <tr> <td colspan="2" style="text-align: center;">HAWAII DOE CESSPOOL CONVERSION PROJECT</td> </tr> <tr> <td style="text-align: center;">KAPAAU</td> <td style="text-align: center;">HAWAII</td> </tr> <tr> <td colspan="2" style="text-align: center;">TITLE SHEET</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">PROJECT NO.</td> <td style="text-align: center;">P-00046-06</td> </tr> <tr> <td style="text-align: center;">SHEET NO.</td> <td style="text-align: center;">HI-52T</td> </tr> <tr> <td style="text-align: center;">DATE</td> <td style="text-align: center;">7/19/2008</td> </tr> <tr> <td style="text-align: center;">SCALE</td> <td style="text-align: center;">1" = 6' 0"</td> </tr> </table>	DATE	BY	CHECKED BY	APPROVED BY					DEPARTMENT OF EDUCATION STATE OF HAWAII		KOHALA MIDDLE SCHOOL		HAWAII DOE CESSPOOL CONVERSION PROJECT		KAPAAU	HAWAII	TITLE SHEET		PROJECT NO.	P-00046-06	SHEET NO.	HI-52T	DATE	7/19/2008	SCALE	1" = 6' 0"
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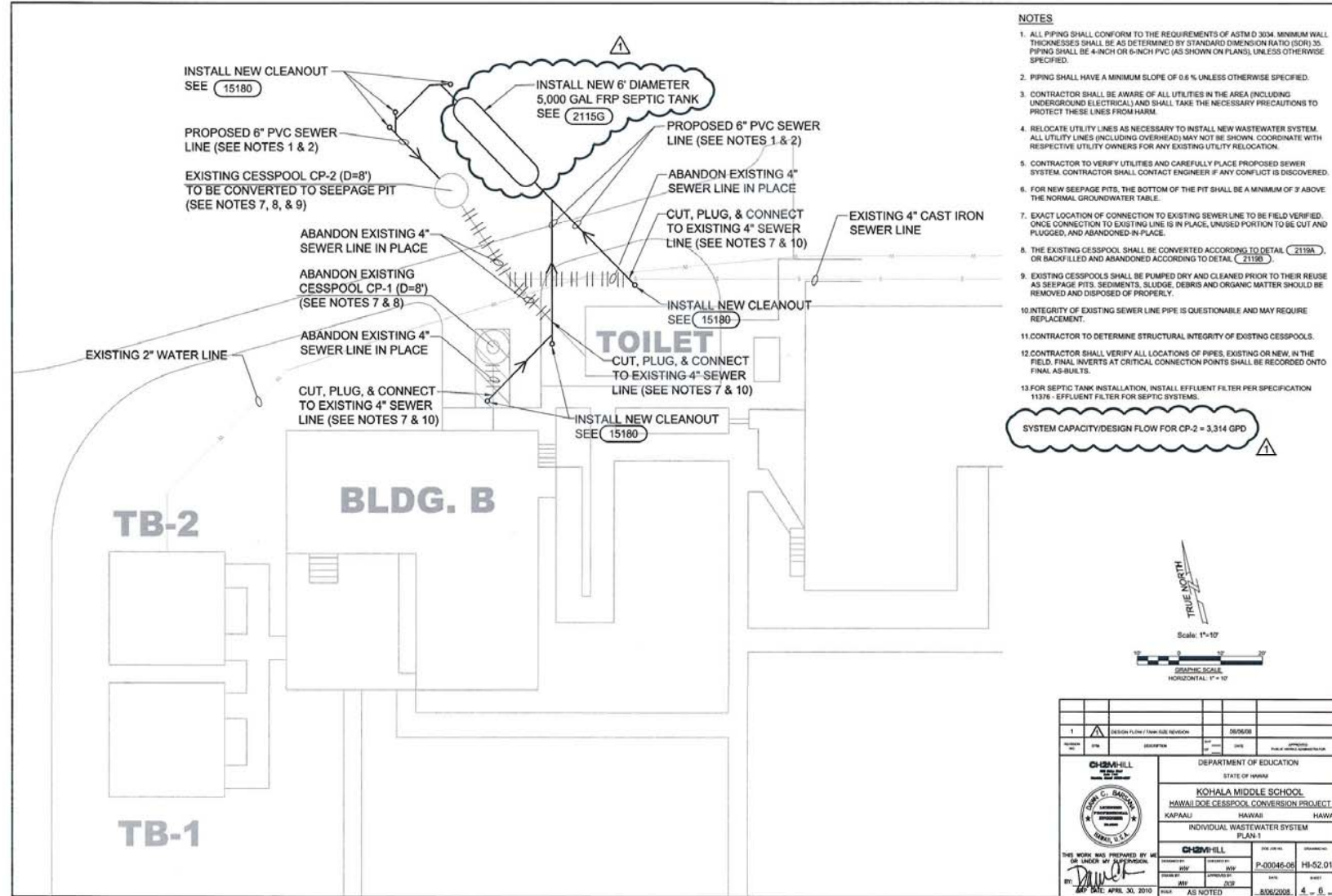
Addendum Archaeological Monitoring Plan for the Hawai'i DOE Cesspool Conversion Project

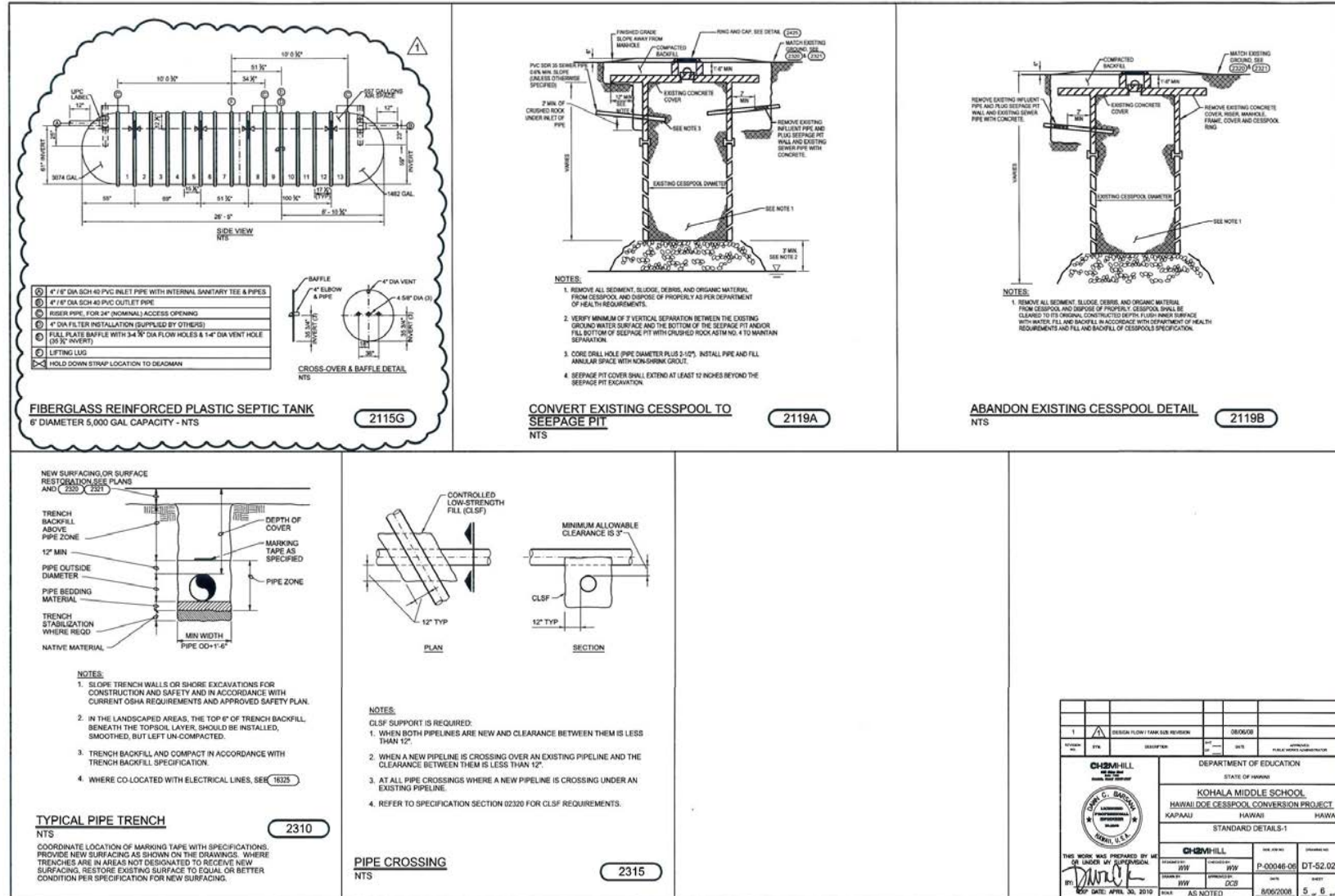
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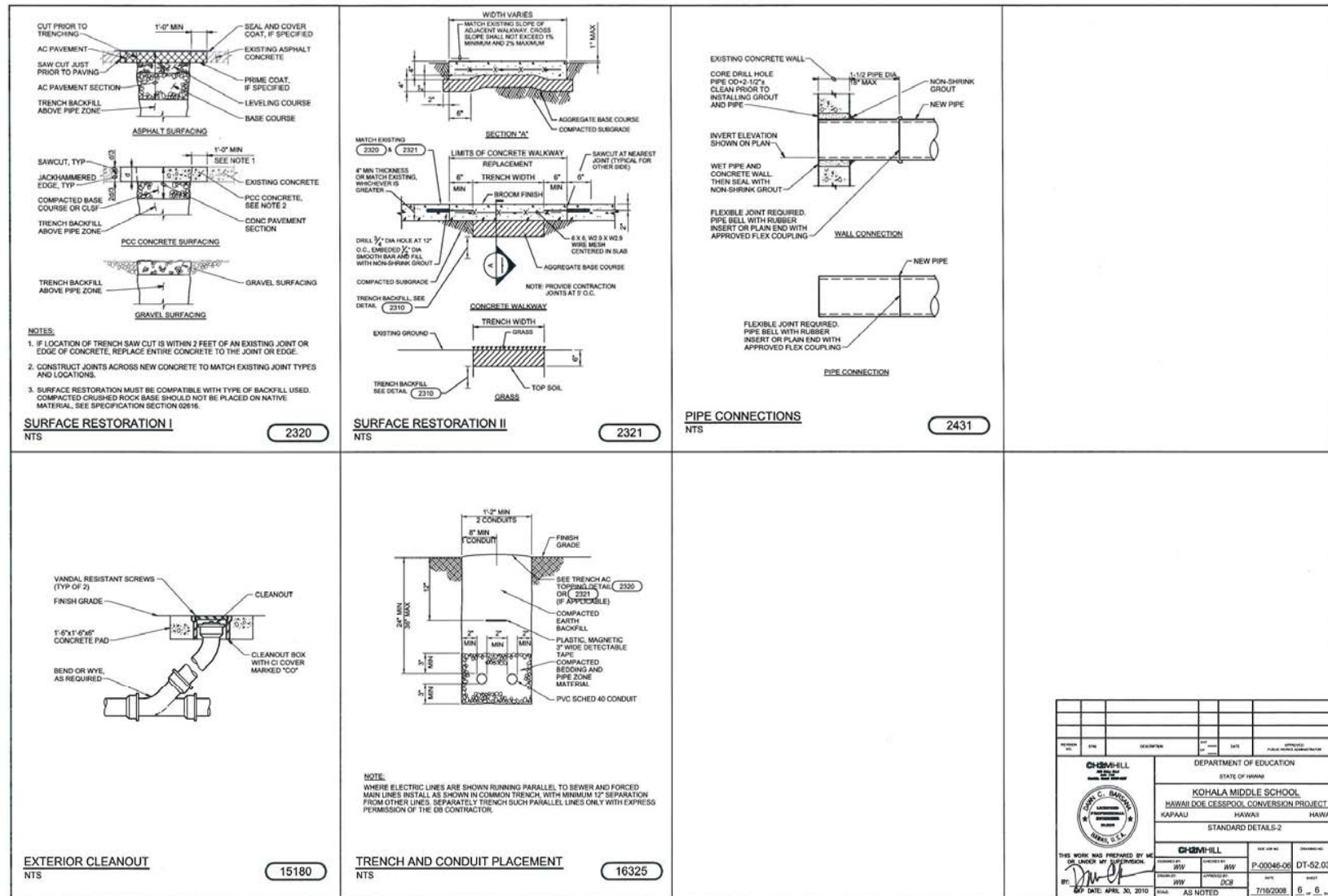
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<p>GENERAL NOTES:</p> <ol style="list-style-type: none"> ALL WORK SHALL BE IN ACCORDANCE WITH THE: <ol style="list-style-type: none"> PROJECT SPECIFICATIONS AND; THE MANUFACTURER'S INSTRUCTIONS AND; THE LATEST VERSION OF THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AND; THE LATEST VERSION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION BY THE DEPARTMENTS OF PUBLIC WORKS, COUNTY OF KAUAI, CITY AND COUNTY OF HONOLULU, COUNTY OF MAUI, AND COUNTY OF HAWAII OF THE STATE OF HAWAII. VERIFY AND CHECK ALL DIMENSIONS AND DETAILS ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE DOE PROJECT MANAGER. WORK INCIDENTAL TO THE CONTRACT AND NECESSARY TO COMPLETE THE PROJECT, ALTHOUGH NOT SPECIFICALLY REFERRED TO ON THE CONTRACT DOCUMENTS, SHALL BE IMMEDIATELY PERFORMED BY THE CONTRACTOR. IN PERFORMING ALL WORK, THE CONTRACTOR SHALL EXERCISE DUE CARE AND CAUTION NECESSARY TO AVOID ANY DAMAGE INFLECTED TO AND IMPAIRMENT IN THE USE OF ANY EXISTING UTILITY LINE. ANY DAMAGE INFLECTED ON EXISTING UTILITY LINES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE IMMEDIATELY REPAIRED OR RESTORED AS DIRECTED BY THE DOE PROJECT MANAGER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, REIMBURSE AND HOLD THE STATE AND DOE PROJECT MANAGER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE STATE OR DOE PROJECT MANAGER. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM RUBBISH, DUST, NOISE, EROSION, ETC. THE WORK SHALL BE DONE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH. THE UNDERGROUND PIPES, CABLES OR DUCTILES KNOWN TO EXIST FROM A SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR NEW LINES. THE CONTRACTOR SHALL PROTECT EXISTING SURFACE IMPROVEMENTS NOT DESIGNATED FOR DEMOLITION OR REMOVAL AND REPLACEMENT, AND RESTORE TO THEIR ORIGINAL OR BETTER CONDITION ALL IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION, INCLUDING PAVEMENTS, EMBANKMENTS, CURBS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, WALLS, FENCES, ETC. UNLESS PROVIDED FOR SPECIFICALLY IN THE PROPOSAL, DEMOLITION AND RESTORATION OF EXISTING ITEMS ARE INCIDENTAL AND INCLUDED IN THE CONTRACT PRICE. LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM LATEST RELIABLE SOURCES AND ARE APPROXIMATE ONLY. ALL EXISTING UTILITIES TO REMAIN IN USE, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION UNLESS SPECIFIED ON THE PLANS TO BE ABANDONED. ANY DAMAGES TO EXISTING UTILITIES SHALL BE REPAIRED AND PAID FOR BY THE CONTRACTOR. ALL DISTURBED AREAS SHALL BE RESTORED TO MATCH THEIR EXISTING GRADES AND PROVIDE POSITIVE DRAINAGE THAT CONFORMS TO EXISTING RUNOFF PATTERNS. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS RESULTING FROM HIS WORK. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION SHALL BE PAYABLE BY THE CONTRACTOR. FILLS SHALL BE COMPACTED TO 95 PERCENT (95%) RELATIVE DENSITY. PRESERVE EXISTING MONUMENTS, BENCH MARKS, RANGE TIES, PROPERTY MARKERS, REFERENCE POINTS, AND STAKES. SHOULD ANY UNIDENTIFIED MATERIAL, SITE OR REMAINS, SUCH AS ARTIFACTS, SHELL, BONE, OR CHRONOLOGICAL DEPOSITS, BARRIERS, ROCK OR CORAL ALGAE, ALGAE, PLANTS OR WALL BE ENCOUNTERED, WORK IN THE AFFECTED AREA SHALL CEASE, AND THE BPHD (PHONE 880-8076) AND THE DOE PROJECT MANAGER SHALL BE IMMEDIATELY NOTIFIED. PETROGLYPHS AND OTHER ARCHAEOLOGICAL FEATURES MUST BE PROTECTED DURING CONSTRUCTION. SUBSEQUENT WORK SHALL PROCEED ONLY UPON AN ARCHAEOLOGICAL CLEARANCE FROM THE STATE, THROUGH THE DOE PROJECT MANAGER, WHEN IT FINDS THAT SUFFICIENT MITIGATING MEASURES HAVE BEEN TAKEN. ALL STABILIZATION AND GRADING AREAL, PREPARATION OF PLANTING AREAS, PLANTING AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. CONFINED SPACE: FOR ENTRY BY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING: <ol style="list-style-type: none"> ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING: <ol style="list-style-type: none"> A FULL BODY HARNESS FOR UP TO TWO (2) PERSONNEL. LIFELINE AND ASSOCIATED CLIPS. RESPIRATORS AND FALL PROTECTION EQUIPMENT. TWO-WAY RADIOS (WALKIE TALKIES) IF OUT OF LINE OF SIGHT. EMERGENCY (SCARF) RESPIRATOR (CALCULATE DURATION). CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE. CONTINUOUS GAS DETECTOR CALIBRATED TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON MONOXIDE AND FLAMMABLES CAPABLE OF MONITORING AT A DISTANCE AT LEAST 25 FEET AWAY. PERSONAL MAIL GAS DETECTOR TO BE CARRIED BY INSPECTOR. CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO MAINTAIN SAFE ENTRY CONDITIONS. ONE (1) ATTENDANT/RESPIRATOR PERSONNEL, TOPSIDE (TWO (2) IF CONDITIONS WARRANT IT). TO ALLOW FOR TOPSIDE CUT AREAS SHALL BE OVEREXCAVATED BY 6 INCHES AND FILL AREAS SHALL BE STOPPED 6 INCHES BELOW GRADES SHOWN. 	<p>EROSION/TEMPORARY DUST CONTROL NOTES:</p> <ol style="list-style-type: none"> DURING CONSTRUCTION, PREVENTIVE MEASURES SHALL BE USED TO CONTROL FORESEEABLE DUST, EROSION OR SEDIMENTATION PROBLEMS, WHICH MAY ARISE AS THE JOB PROGRESSES. ALL FILL, SUBGRADE AND BASE MATERIAL PLACED WITHIN THE ROAD PAVEMENT PRISM SHALL BE SUBSTANTIALLY COMPACTED BY THE END OF THE DAY. THE CONTRACTOR SHALL CONDUCT HIS GRADING OPERATIONS SO THAT EXCAVATION EMBANKMENT AND IMPORTED MATERIAL SHALL BE DAMPENED WITH WATER DURING HIS GRADING OPERATIONS AT ALL TIMES. WATER SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES TO ENSURE BARE EARTH DOES NOT CREATE A DUST PROBLEM. FOOTWEAR DUST AND SOLID WASTE DISPOSAL, DURING GRUBBING AND GRADING ACTIVITIES SHALL MEET REQUIREMENTS OF ADMINISTRATIVE RULES, TITLE 8, CHAPTER 80, "AIR POLLUTION CONTROL," AND CHAPTER 86, "SOLID WASTE MANAGEMENT CONTROL." TEMPORARY VEGETATIVE COVER SHALL BE PLANTED WITHIN A PERIOD OF THIRTY (30) CALENDAR DAYS AFTER THE SITE HAS BEEN GRADED OR BARE OF VEGETATION OR IF FINAL GRADING OR LANDSCAPING OF THE SITE WILL BE SUSPENDED FOR MORE THAN THIRTY (30) CALENDAR DAYS. TEMPORARY VEGETATIVE COVER SHALL CONSIST OF 40 LB COMMON RYE GRASS SEED PER ACRE, AND 40 LB PER ACRE 30-10-10 OR EQUIVALENT FERTILIZER WORKED INTO RED RED BEFORE PLANTING. TEMPORARY SPRINKLER SYSTEM TO BE INSTALLED CONCURRENTLY WITH ALL PLANTING. PLANTING AND MAINTENANCE TO GRADE SHALL CONFORM TO THE LATEST VERSION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION." <p>CONSTRUCTION NOTES:</p> <ol style="list-style-type: none"> THE DOE PROJECT MANAGER RESERVES THE RIGHT TO MAKE CHANGES TO THE DRAINAGE SYSTEM AS SUCH CHANGES ARE FOUND TO BE NECESSARY AS THE LAND IS CLEARED AND BMP CONSTRUCTION PROGRESSES. THE CONTRACTOR SHALL CONDUCT ALL TESTS AS REQUESTED BY THE DOE PROJECT MANAGER AND BE RESPONSIBLE FOR ALL EXPENSES INCURRED IN CONDUCTING THESE TESTS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLAN OR NOT, AND SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH UTILITY IN THE EVENT OF DAMAGES DUE TO HIS CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE RESPECTIVE UTILITY COMPANIES. ALL AREAS THAT ARE AT FINISHED GRADE SHALL BE RESTORED TO FINISHED GRADE UPON COMPLETION OF ANY ADDITIONAL WORK IN THAT AREA. WHEN FEASIBLE, RELOCATE UTILITY LINES AS NECESSARY TO INSTALL NEW WASTEWATER SYSTEM. ALL UTILITY LINES (INCLUDING OVERHEAD) MAY NOT BE SHOWN. COORDINATE WITH RESPECTIVE UTILITY OWNERS FOR ANY EXISTING UTILITY RELOCATION. EXISTING UTILITIES NOT BEING RELOCATED, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR UNLESS SPECIFIED ON THE PLANS TO BE ABANDONED. ELEVATIONS SHOWN ON THE PLANS ARE BASED ON A LOCAL ASSUMED ELEVATION. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR UTILITIES, SUCH AS, ELECTRICITY, WATER, ETC., REQUIRED FOR HIS OPERATIONS AND ALL COSTS SHALL BE BORNE BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE TO THE DOE PROJECT MANAGER "AS-BUILT" DRAWINGS OF ALL NEW UTILITIES AND STRUCTURES UPON COMPLETION OF WORK. THE DRAWINGS SHALL INCLUDE ALL CHANGES AND ADJUSTMENTS PERFORMED IN THE FIELD AND BE DRAWN ACCURATELY AND TO SCALE WITH APPROPRIATE CALLOUTS, ORIENTATIONS AND DIMENSIONS. IF DIMENSIONAL ERRORS OR CONFLICTS OCCUR, THE CONTRACTOR SHALL NOTIFY THE DOE PROJECT MANAGER AND SHALL WAIT FOR CLARIFICATION BEFORE REBEGINNING WORK ON THE DISCREPANCY ITEM. THE CONTRACTOR SHALL OBTAIN AND PAY FOR REQUIRED PERMITS FROM APPROPRIATE GOVERNMENT AGENCIES, WHICH MAY HAVE BEEN OBTAINED BY OWNER. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF HIS MATERIAL AND EQUIPMENT WITH THE DOE PROJECT MANAGER. UTILITIES SHALL BE PLACED AFTER FILLS ARE CONSTRUCTED. THE BOTTOMS OF UTILITY TRENCHES SHALL BE DRAINAGE AT LOW POINTS AND GRADED TO DRAIN WATER. BACKFILL FOR THE TRENCHES SHALL BE COMPACTED PER DETAIL 2310 OF THE CONSTRUCTION DETAILS PACKET. PETROGLYPHS AND OTHER ARCHAEOLOGICAL FEATURES MUST BE PROTECTED DURING CONSTRUCTION. ALL GRUBBING, SIDEWALK OR OTHER PAVEMENT BEYOND THE LIMITS OF CONSTRUCTION THAT IS DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE REPLACED AND RESTORED AT NO ADDITIONAL EXPENSE TO THE STATE. ALL ASPECTS OF THE WASTEWATER SYSTEM TO BE INSTALLED BELOW GRADE. <p>CONSTRUCTION NOTES - SOLID WASTE:</p> <ol style="list-style-type: none"> ALL WASTE GENERATED BY CONSTRUCTION, INCLUDING GRUBBING, EXCESS AND UNSUITABLE EXCAVATION MATERIAL, SHALL BE DISPOSED OF IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. WASTE ROCK AND RUBBLE MAY BE DISPOSED ON SITE IN A LOCATION DESIGNATED BY THE DOE PROJECT MANAGER. IF A LANDFILL IS USED, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL NECESSARY LABOR, EQUIPMENT, MATERIALS AND SUPPLIES TO PROPERLY LANDFILL HIS WASTE. <p>SEWER NOTES:</p> <ol style="list-style-type: none"> UNLESS OTHERWISE INDICATED, PIPELINE INVERTS SHALL BE INSTALLED AT A CONSTANT SLOPE AND ON A STRAIGHT LINE CONNECTING TO INVERT ELEVATIONS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL FURNISH ALL FITTINGS/ADAPTORS AS NECESSARY FOR CONNECTIONS. CRUSHED ROCK GRADE IS REQUIRED FOR ALL SEWERS. SEWERS SHALL BE INSTALLED AT A CONSTANT SLOPE AND ON A STRAIGHT LINE CONNECTING TO INVERT ELEVATIONS SHOWN ON THE DRAWINGS. TESTING SHALL BE DONE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE CITY AND COUNTY OF HONOLULU DEPARTMENT OF ENVIRONMENTAL SERVICES, AND IN COORDINATION WITH THE COUNTY OF HAWAII, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT. THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH SCHOOLS, TO THE APPROVAL OF THE DOE PROJECT MANAGER, WHEN WASTEWATER-GENERATING FACILITIES ARE REMOVED FROM SERVICE, UNTIL SERVICE IS RESTORED. THE CONTRACTOR SHALL REHABILITATE AND CLEAN ALL OF THE CESSPOOLS TO BE REUSED AS SEPTIC TANK SEEPAGE PITS BY FIRST PUMPING OUT ALL STANDING LIQUID, ORGANIC MATERIAL AND FOREIGN DEBRIS. THE SIDERAILS AND BOTTOMS OF THE CESSPOOLS SHALL THEN BE COMPLETELY ATTACHED WITH A MINIMUM OF 10 PSI COMPRESSED AIR, AND THE ACCUMULATED MATERIAL SHALL BE REMOVED FROM THE BOTTOMS. ANY LIQUIDS OR SOLIDS REMOVED FROM THE CESSPOOLS SHALL BE TAKEN TO A MUNICIPAL WASTEWATER TREATMENT PLANT THAT ACCEPTS SUCH MATERIAL. MANHOLE ACCESS TO GRADE SHALL BE INSTALLED FOR ALL OF THE CESSPOOLS TO BE REUSED AS SEPTIC TANK SEEPAGE PITS. INTEGRITY OF PIPE IS QUESTIONABLE AND MAY REQUIRE REPLACEMENT. 	<p>PUBLIC HEALTH, SAFETY & CONVENIENCE NOTES:</p> <ol style="list-style-type: none"> THE CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL HEALTH. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM RUBBISH, DUST, NOISE, EROSION, ETC. THE WORK SHALL BE DONE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH. THE CITY, STATE OR DOE PROJECT MANAGER SHALL REQUIRE SUPPLEMENTARY MEASURES, IF REQUIRED. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES, AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION, CONVENIENCE AND SAFETY OF THE PUBLIC. SHOULD HAZARDOUS MATERIAL BE ENCOUNTERED, THE DOE PROJECT MANAGER SHALL BE NOTIFIED AND ALL WORK SHALL BE SUSPENDED UNTIL THE MATERIAL IS PROPERLY REMEDIATED, HANDLED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND REQUIREMENTS. SHOULD SOFT, YIELDING OR NONHOMOGENEOUS SOILS BE ENCOUNTERED, THE SOIL SHALL BE OVEREXCAVATED UNTIL COMPETENT UNDERLYING MATERIAL IS REACHED, AND DISPOSED OF PROPERLY OFF-SITE. THE OVEREXCAVATED LOCATIONS SHALL BE BACKFILLED AND COMPACTED PROPERLY IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS. <p>WASTEWATER SYSTEM CONSTRUCTION NOTES:</p> <ol style="list-style-type: none"> THE CONTRACTOR SHALL VISIT THE SITE AND BE COMPLETELY FAMILIAR WITH THE EXISTING CONDITIONS AND THE AMOUNT AND KIND OF WORK TO BE PERFORMED. THE CONTRACTOR SHALL VERIFY THE LOCATION, INVERT, SIZE, MATERIAL AND CONDITION OF EXISTING STRUCTURES AND UTILITIES AND NOTIFY THE DOE PROJECT MANAGER IMMEDIATELY IF ANY DISCREPANCIES ARE ENCOUNTERED. FOR THE ACTUAL FABRICATION, INSTALLATION AND TESTING OF WORK UNDER THIS SECTION, THE CONTRACTOR SHALL USE ONLY THOROUGHLY TRAINED AND EXPERIENCED WORKMEN, COMPLETELY FAMILIAR WITH THE ITEMS REQUIRED AND WITH THE MANUFACTURER'S RECOMMENDATIONS AS TO THEIR USE. ALL WORK SHALL CONFORM TO THE UFG, UFG, UFG, NEC, NFPA, AND ALL OTHER APPLICABLE CODES AND STANDARDS INCLUDING BUT NOT LIMITED TO APPLICABLE REQUIREMENTS OF CHAPTER 86, "WASTEWATER SYSTEMS," OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND PAY ALL APPLICABLE FEES PRIOR TO COMMENCING ANY WORK. MATERIALS, MANUFACTURERS LISTED IN CONSTRUCTION SPECIFICATIONS SHOW STYLE AND QUALITY. EQUIVALENT FEATURES MAY BE SUBSTITUTED WITH PROPER APPROVAL. THE CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS UPON COMPLETION AND ACCEPTANCE OF WORK. THE CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE TO REPAIR OR REPLACE AT HIS OWN EXPENSE ANY PARTS THAT MAY DEVELOP ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP FOR A PERIOD OF AT LEAST ONE (1) YEAR AFTER FINAL PAYMENT. 	<p>CIVIL AND YARD PIPING LEGEND (CONTINUED)</p> <p>GENERAL NOTE:</p> <ol style="list-style-type: none"> THIS IS A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.
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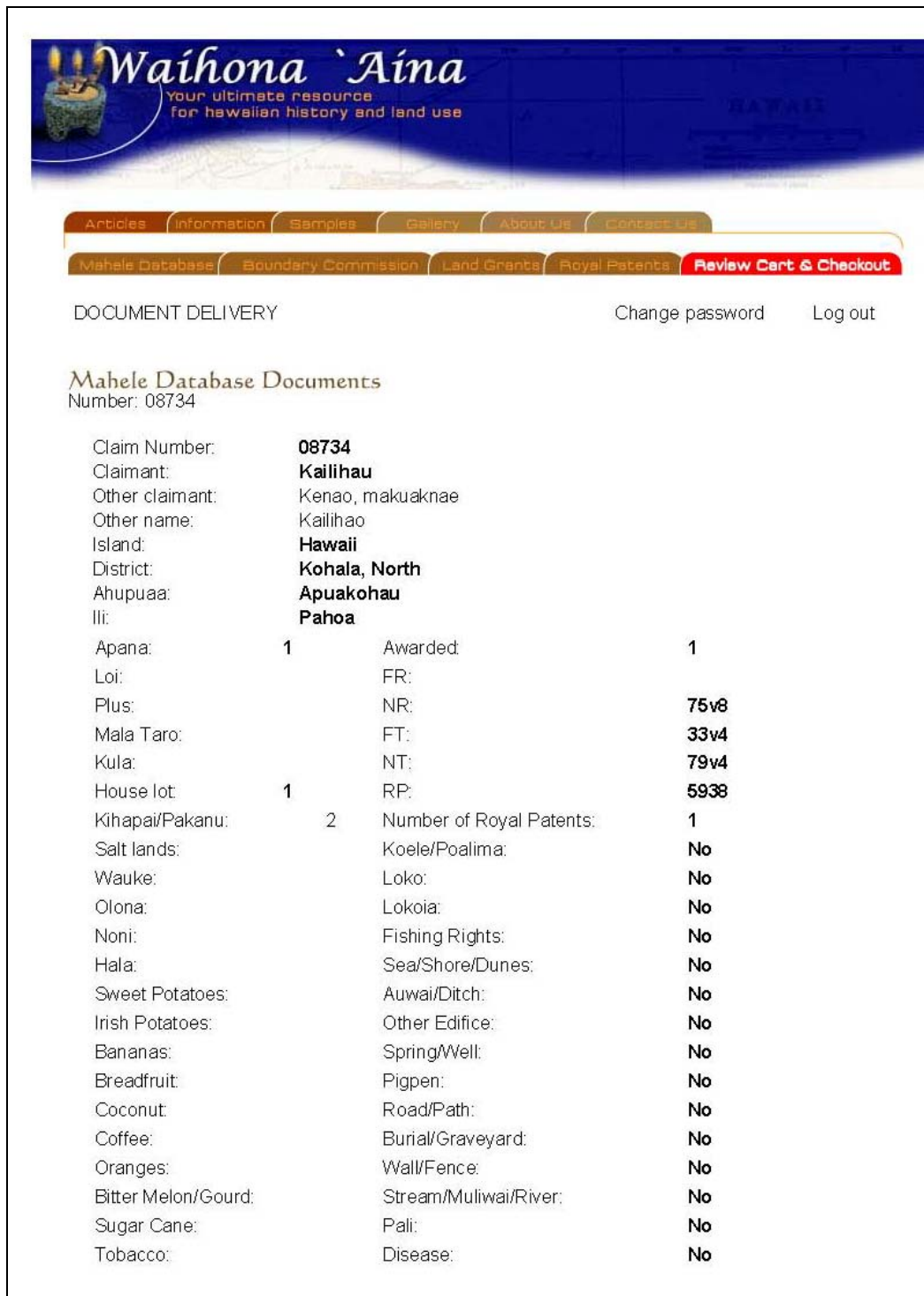








Appendix C LCA Documentation



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Articles Information Samples Gallery About Us Contact Us

Mahele Database Boundary Commission Land Grants Royal Patents **Review Cart & Checkout**

DOCUMENT DELIVERY Change password Log out

Mahele Database Documents
Number: 08734

Claim Number:	08734		
Claimant:	Kailihau		
Other claimant:	Kenao, makuaknae		
Other name:	Kailihao		
Island:	Hawaii		
District:	Kohala, North		
Ahupuaa:	Apuakohau		
Ili:	Pahoa		
Apana:	1	Awarded:	1
Loi:		FR:	
Plus:		NR:	75v8
Mala Taro:		FT:	33v4
Kula:		NT:	79v4
House lot:	1	RP:	5938
Kihapai/Pakanui:	2	Number of Royal Patents:	1
Salt lands:		Koele/Poolima:	No
Wauke:		Loko:	No
Olona:		Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	No
Bitter Melon/Gourd:		Stream/Muliwai/River:	No
Sugar Cane:		Pali:	No
Tobacco:		Disease:	No

Koa/Kou Trees:	Claimant Died:	No
Other Plants:	Other Trees:	
Other Mammals:	No	Miscellaneous:
		2 houses

No. 8734, Kailihau, January 31, 1848
N.R. 75v8

The Ahupuaa is Apuakohau, and the ili is Pahoa. I have a garden in this ili which is 200 fathoms long by 80 fathoms wide. The interest was from Kuakini to Kaiawa, from Kaiawa to Haupu, and from him to Kenao, who was my makuakane. On his death I inherited it. I have been on that land 24 years.
 KAILIHAU

F.T. 33v4

No. 8734, Kailihao

Kekuae, sworn, testifies that claimant occupies one piece of land in the Ili of Pahoa, Ahupuaa Apuakohau, which is thus bounded:
 South, West, North & East by waste land.

Said piece of dry land, unfenced, cultivated. Two houses on the premises owned by husband, J. Wilson[?], an Englishman. Claimant's title to the above lot of land in descent from her parents who received it in [time of] Kamehameha II.

Kekoa, sworn, affirms as above.

N.T. 79v4

No. 8734, Kailihao /Female/, September 28, 1848

Kekuae, sworn and stated, I have seen 1 section in the Pahoa ili of the Apuakohau ahupuaa. The surrounding boundaries are for the konohiki. There are two gardens and 2 houses for him [her]. The land has been cultivated. It is an old place from his [her] parents who had acquired it during the time of Kamehameha I; no one had objected.

Kekoa, sworn and stated, I have known exactly as Kekuae has stated here.

[Award 8734; R.P. 5938, Apuakohau N. Kohala; 1 ap.; 14.52 Acs]



Number: 10620

Claim Number:	10620	
Claimant:	Puaiowaha	
Other claimant:		
Other name:	Kuaiowaha	
Island:	Hawaii	
District:	Kohala, North	
Ahupuaa:	Apuakohau, Niulii	
Ili:	Kekiki, Waiau, Koaloa	
Apana:	1	Awarded: 1
Loi:		FR:
Plus:		NR: 8v8

Mala Taro:	FT:	32v4
Kula:	NT:	78v4
House lot: 1	RP:	
Kihapai/Pakanu: 5	Number of Royal Patents:	
Salt lands:	Koele/Poolima:	No
Wauke:	Loko:	No
Olona:	Lokoia:	No
Noni:	Fishing Rights:	No
Hala:	Sea/Shore/Dunes:	No
Sweet Potatoes:	Auwai/Ditch:	No
Irish Potatoes:	Other Edifice:	No
Bananas:	Spring/Well:	No
Breadfruit:	Pigpen:	No
Coconut:	Road/Path:	No
Coffee:	Burial/Graveyard:	No
Oranges:	Wall/Fence:	No
Bitter Melon/Gourd:	Stream/Muliwai/River:	No
Sugar Cane:	Pali:	No
Tobacco:	Disease:	No
Koa/Kou Trees:	Claimant Died:	No
Other Plants:	Other Trees:	
Other Mammals: No	Miscellaneous:	Awarded 1 apana

No. 10620, Puaiewaha, February 9, 1848
N.R. 8v8

Greetings to the Land Commissioners. I hereby state my claim at Kohala. Kekikiki is the name of the 'ili where my house is, in the Ahupua'a of Apuakohau, which was from /the time of/ Kamehameha I through Kamehameha III. That is where my house and land claims are. The 'ilis of Waiau and Koaloa, in Niulii, with claims for lots, are also from Kamehameha I through III.
 PUAIEWAHA

F.T. 32v4
 No. 10620, Puaiewaha

Kamai, sworn, testifies that claimant occupies one piece of land in the Ili of Kekikiki, Ahupuaa Apuakohau, thus bounded:

South by land held by witness
 West by land held by Moopuu
 North by land held by Pepe
 East by Ili of Kaihi.

Said section is dry land, unfenced & partly cultivated. No house on premises.

Keawekolohe (konohiki) gave claimant the above mentioned premises in [time of] Kamehameha II.
 Uncontested.

Moepuu, sworn, confirms the above testimony.

N.T. 78-79v4

No. 10620, Kuauiowaha [Puauiowaha], September 28, 1848

Kamai, sworn and stated, "I have seen in the ili land of Kekiki, Apuakohau ahupuaa, in Kohala, Hawaii, 1 section where:

Mauka is my land
Kohalawaho is Moopuu's land
Makai is Pepe's land
Hamakua is Kaihi ili land.

There are 5 dry gardens and a portion of this has been cultivated. There is no house and his interest is from Keawekolohe. No one has objected."

Moepuu, sworn and stated, "I have known exactly as Kamai has stated here."

[Award 10620; Apuakohau Kohala; 1 ap.; 12.63 Acs]



Appendix B
Drainage Runoff Calculation for Kohala Middle School Covered
Playcourt DOE Job No. Q16200-17

DRAINAGE RUNOFF CALCULATION

For

Kohala Middle School
Covered Playcourt
DOE Job No. Q16200-17

Halaula, North Kohala
Island of Hawaii, Hawaii
Tax Map Key: 3rd Div. 5-3-10: 056
53-4155 Akoni Pule Highway

TABLE OF CONTENTS

DESCRIPTION	PAGE
TABLE OF CONTENTS	1
SITE:	
Location	2
General	2
Topography	2
Flood Zone	2
On Site Pre-Development Runoff	3
On Site Post-Development Runoff	3
CONCLUSION	3

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ATTACHMENTS	Sheets
MAPS:	
Island Location Plan	1
General Site Plan	1
Site Layout Plan	1
CALCULATIONS:	
Rational Method Form	
Pre - Development	1
Post - Development	1
Storm Drainage Standard, Plate 1, Plate 3 & 4	2

SITE:

Location;

The proposed project is located on the northern tip of the island of Hawaii, in Halaula, North Kohala District, Island of Hawaii, State of Hawaii. The Kohala Middle School Campus address is 53-4155 Akoni Pule Highway. (North side of highway.)

General;

The campus is situated on a rectangular shaped parcel approximately 610 feet x 650 ft., which contains an area of 8.6 acres. The lot has split zoning, residential, RS-15 and Agricultural, A-20a, approximately 60% and 40% respectively. Current campus improvements include, a main classroom/administration building, restrooms, classroom building, and five portable classrooms, open playcourt and access driveways. Along the west boundary there are five teacher cottages. Approx existing impervious area is 64,000 sf or 1.45 acres

The new improvements will include an access driveway (5,175 sf / 0.12 acres), covered playcourt (11,225 sf / 0.26 acres) and optional walkways, and a 6" fire line.

Topography;

The site elevation ranges from 335' to 305', generally sloping from south east to north west at an average slope of approx. ± 3 percent. The playcourt will be located on the existing grassed play field area which has an approx. slope of $\pm 1\%$.

Flood Zone;

F.E.M.A.'s Insurance Rate Map and the County of Hawaii, Department of Public Works have determined that the project site is considered to be in Zone "X".

F.E.M.A. defines Zone "X" as; 1) "Areas determined to be outside the 500-year flood plain." 2) "Areas of 500-year flood; areas of 100-year flood with depths of less than 1 foot or with drainage areas of less than 1 square mile; and areas protected by levees from 100-year flood."

On Site Pre-Development Runoff by Rational Method;

A 10 year design storm interval will be used for onsite pre-development and post-development runoff calculations.

A pre-development 10 yr. storm runoff quantity was estimated to be 4.1 cfs peak from a drainage area of 8.3 acres, using the Rational Method. The runoff coefficient for the site is based on a weighted average of existing improvement areas and grassed play field and other areas. (See attached Rational Method calculation sheet.)

On Site Post-Development Runoff;


A post-development 10 yr storm runoff was calculated to be 4.5 cfs peak from the same drainage area. This runoff quantity is base on the following assumptions:

- 1) Increased CN value due to estimated increase in impervious areas from playcourt and driveway improvements.

CONCLUSION:

The increase in runoff for Tm 10 yr. design storm due to new improvements is estimated at approximately 0.4 cfs. The new playcourt is located adjacent to two existing drain sumps. Down spouts for the south side of structure will be directed to these sumps. Down spouts on north side of structure will be directed to the grassed play field. Runoff from the driveway will be dissipated along its length and into existing sumps. Estimated distribution of runoff; 0.25 cfs from driveway and structure will be directed to the sumps and 0.15 cfs will be dissipated on the play field and other grassed areas.




Jason K. Inaba, P.E.

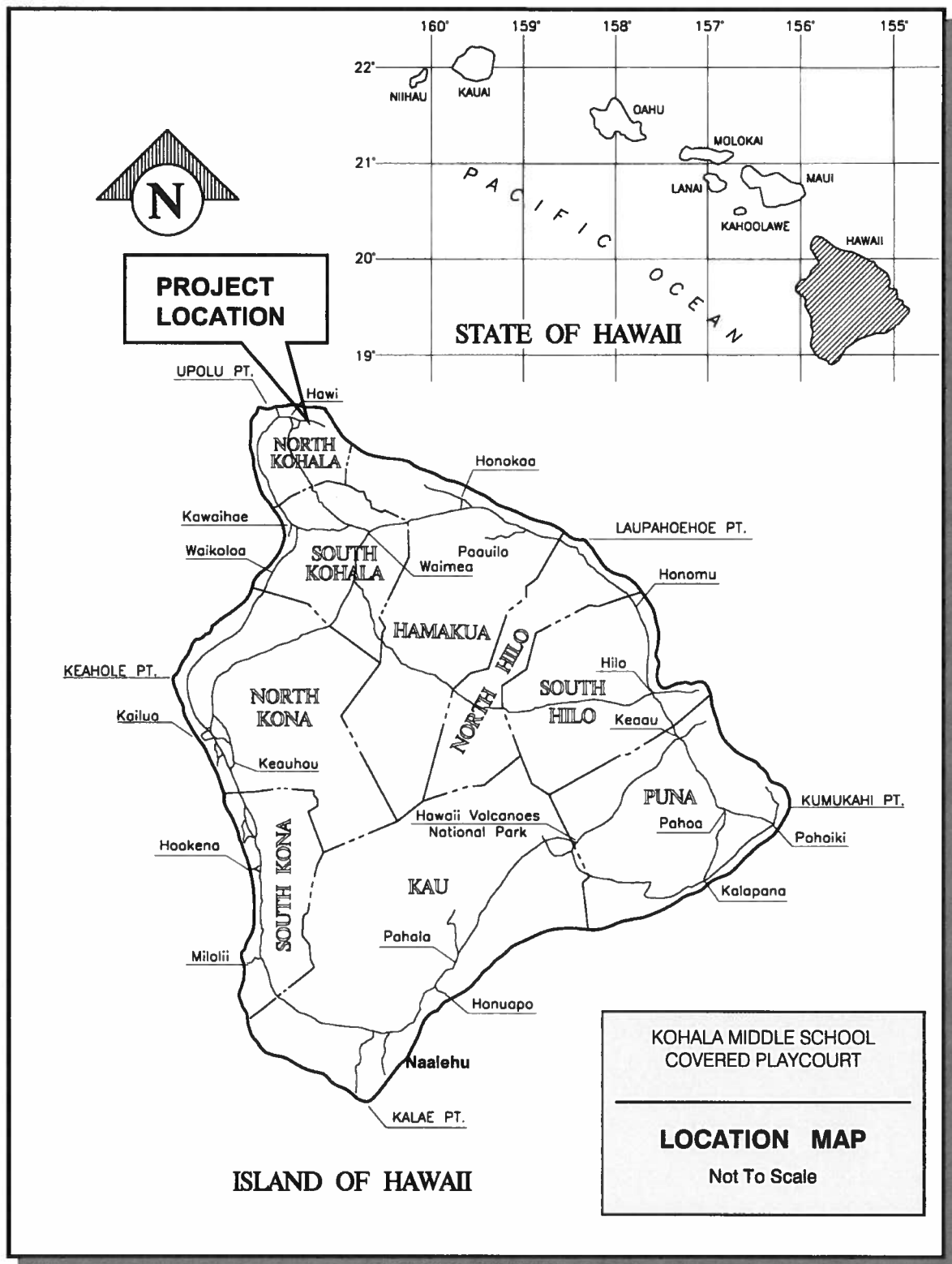


Figure 1 - Island Location Map

INABA ENGINEERING, INC.
273 WAIANUENUE AVE.
HILO, HAWAII 96720
PHONE: 808.961-3727

Project: Kohala Middle School, Playcourt
Location: Halaula, N. Kohala, Hi
Job No.: 20001 Date: 04.27.20
Calc. By: MKI Chk By:

HYDROLOGY FOR SMALL WATERSHEDS BY RATIONAL METHOD

DESIGN STORM:



Tm10 YR

Tm25 YR

Tm50 YR

DEVELOPMENT CONDITION:

Present Condition



Future Condition

A - DRAINAGE AREA:

DIFFERENCE IN ELEVATION: _____ FT. LENGTH: 850 FT.
AVERAGE SLOPE: .02 FT/FT. DRAINAGE AREA: 8.3 ACRES.

(See copy of map showing drainage area.)

C - RUNOFF COEFFICIENT: 0.33

SOIL TYPE: KhA (Class B)

WATERSHED CHARACTERISTICS	EXTREME	HIGH	MODERATE	LOW
INFILTRATION	Negligible 0.20	Slow 0.14	Medium 0.07	High 0.0
RELIEF	Steep (>25%) 0.08	Hilly (15-25%) 0.06	Rolling (5-15%) 0.03	Flat (0-5%) 0.0
VEGETAL COVER	None 0.07	Poor (<10%) 0.05	Good (10-50%) 0.03	High (50-90%) 0.0
DEVELOPMENT Type	Industrial/business 0.55	Hotel/Apartment 0.45	Residential 0.40	Agriculture 0.15

((0.22 FOR SCHOOL YARD) (6.6 AC) + (0.90 FOR BLDG & WALK) (1.7))/8.3=0.36

RUNOFF COEFFICIENT = _____ + _____ + _____ + _____ = _____

Coef. Table from "Storm Drainage Standard" County of Hawaii. - (Circle & Sum watershed characteristics)

i - RAINFALL INTENSITY: 1.5

TIME OF CONCENTRATION = 60 MIN. From: S.D.S. page 17, Plate 3

1 HOUR INTENSITY RAINFALL = 1.5 IN. From: ☒ Plate 1 ☐ Plate 2

RAINFALL INTENSITY (i) = 1.5 From: page 17, Plate 4

Q - RUNOFF QUANTITY: $Q = (C) \times (i) \times (A)$

AREA (A)	INTENSITY (i)	COEFFICIENT (C)	QUANTITY
8.3	1.5	0.36	4.5 CFS

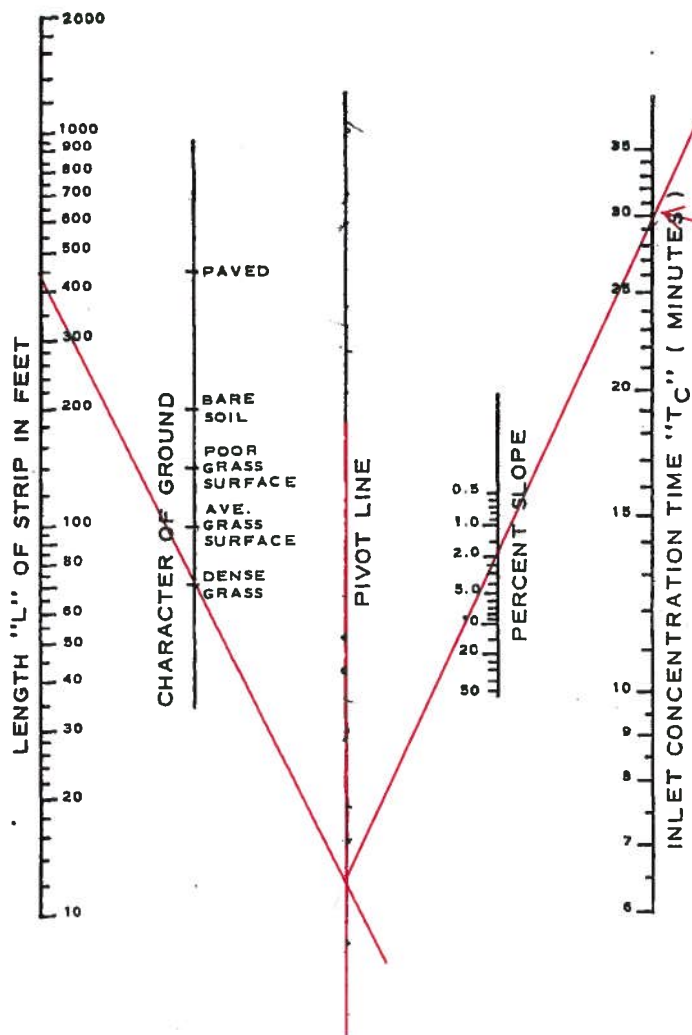


Plate 3

Overland Flow Chart

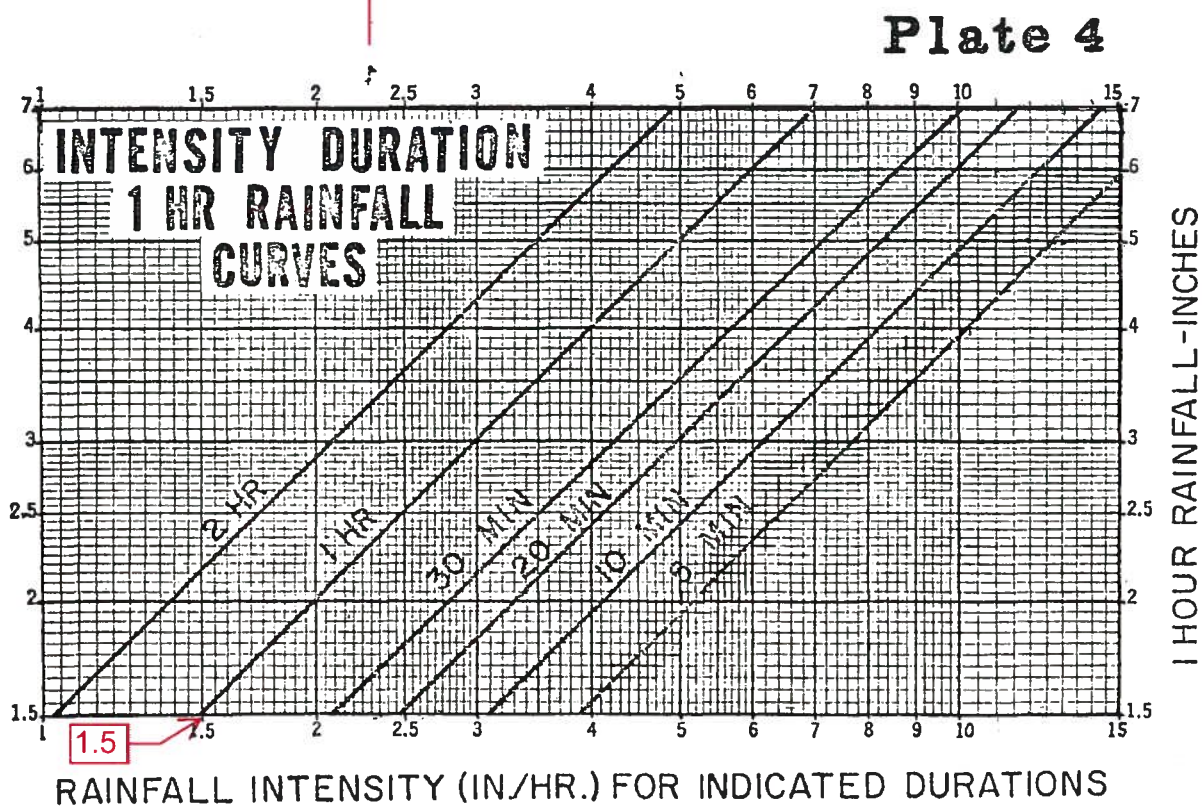


Plate 4

1 HOUR RAINFALL - INCHES

INABA ENGINEERING, INC.
273 WAIANUENUE AVE.
HILO, HAWAII 96720
PHONE: 808.961-3727

Project: Kohala Middle School, Playcourt
Location: Halaula, N. Kohala, Hi
Job No.: 20001 Date: 04.27.20
Calc. By: MKI Chk By:

HYDROLOGY FOR SMALL WATERSHEDS BY RATIONAL METHOD

DESIGN STORM:	<input checked="" type="checkbox"/> Tm10 YR	<input type="checkbox"/> Tm25 YR	<input type="checkbox"/> Tm50 YR
DEVELOPMENT CONDITION:	<input checked="" type="checkbox"/> Present Condition	<input type="checkbox"/> Future Condition	

A - DRAINAGE AREA:

DIFFERENCE IN ELEVATION: _____ FT. LENGTH: 850 FT.
AVERAGE SLOPE: .02 FT/FT. DRAINAGE AREA: 8.3 ACRES.
(See copy of map showing drainage area.)

C - RUNOFF COEFFICIENT: 0.33

SOIL TYPE: KhA (Class B)

WATERSHED CHARACTERISTICS	EXTREME	HIGH	MODERATE	LOW
INFILTRATION	Negligible 0.20	Slow 0.14	Medium 0.07	High 0.0
RELIEF	Steep (>25%) 0.08	Hilly (15-25%) 0.06	Rolling (5-15%) 0.03	Flat (0-5%) 0.0
VEGETAL COVER	None 0.07	Poor (<10%) 0.05	Good (10-50%) 0.03	High (50-90%) 0.0
DEVELOPMENT Type	Industrial/business 0.55	Hotel/Apartment 0.45	Residential 0.40	Agriculture 0.15

((0.22 FOR SCHOOL YARD) (7.0 AC) + (0.90 FOR BLDG & WALK) (1.3))/8.3=0.33

RUNOFF COEFFICIENT = _____ + _____ + _____ + _____ = _____

Coef. Table from "Storm Drainage Standard" County of Hawaii. - (Circle & Sum watershed characteristics)

i - RAINFALL INTENSITY: 1.5

TIME OF CONCENTRATION = 60 MIN. From: S.D.S. page 17, Plate 3

1 HOUR INTENSITY RAINFALL = 1.5 IN. From: ☒ Plate 1 ☐ Plate 2

RAINFALL INTENSITY (i) = 1.5 From: page 17, Plate 4

Q - RUNOFF QUANTITY: Q = (C) x (i) x (A)

AREA (A)	INTENSITY (i)	COEFFICIENT (C)	QUANTITY
8.3	1.5	0.33	4.1 CFS

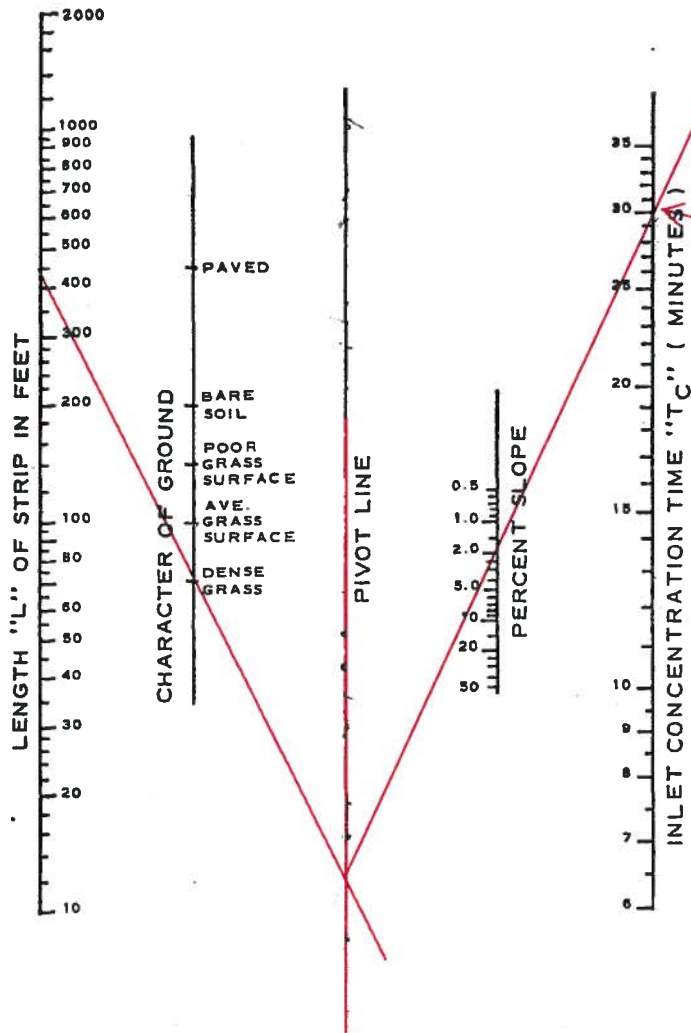


Plate 3

Overland Flow Chart

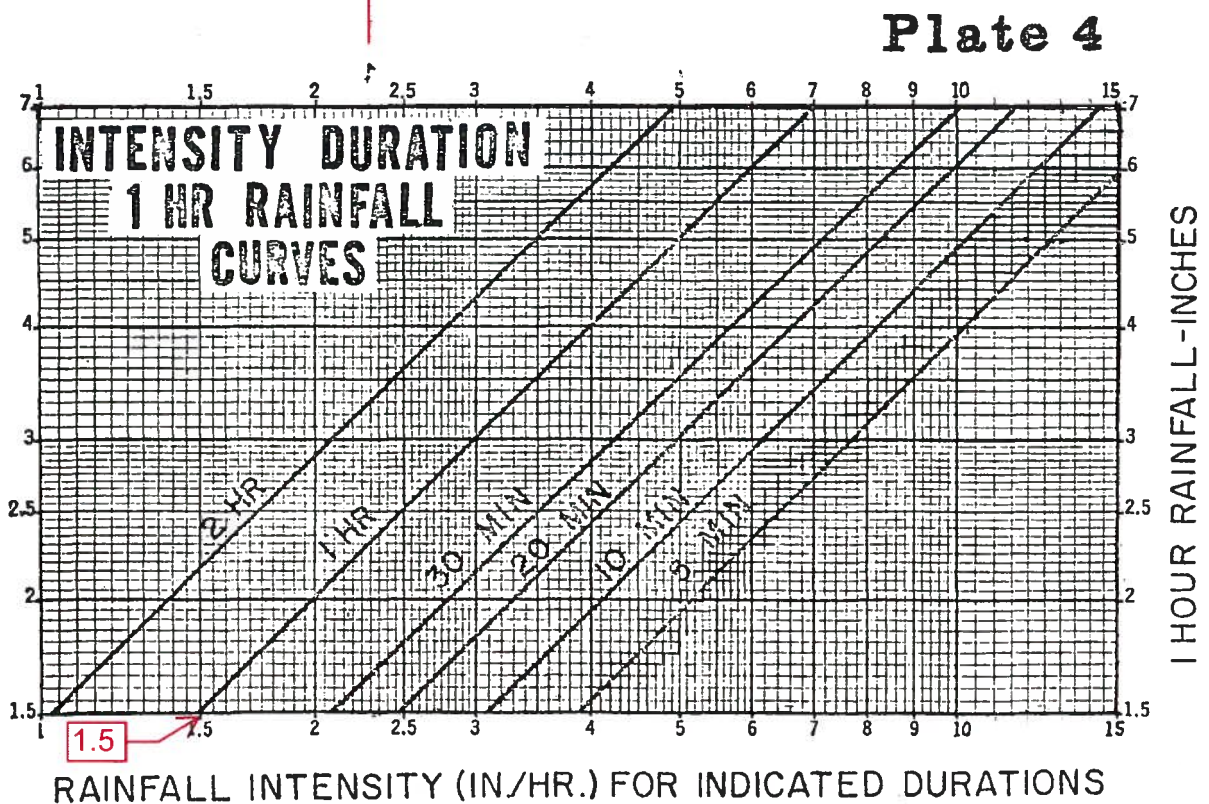


Plate 4

1 HOUR RAINFALL-INCHES

RAINFALL INTENSITY (IN./HR.) FOR INDICATED DURATIONS

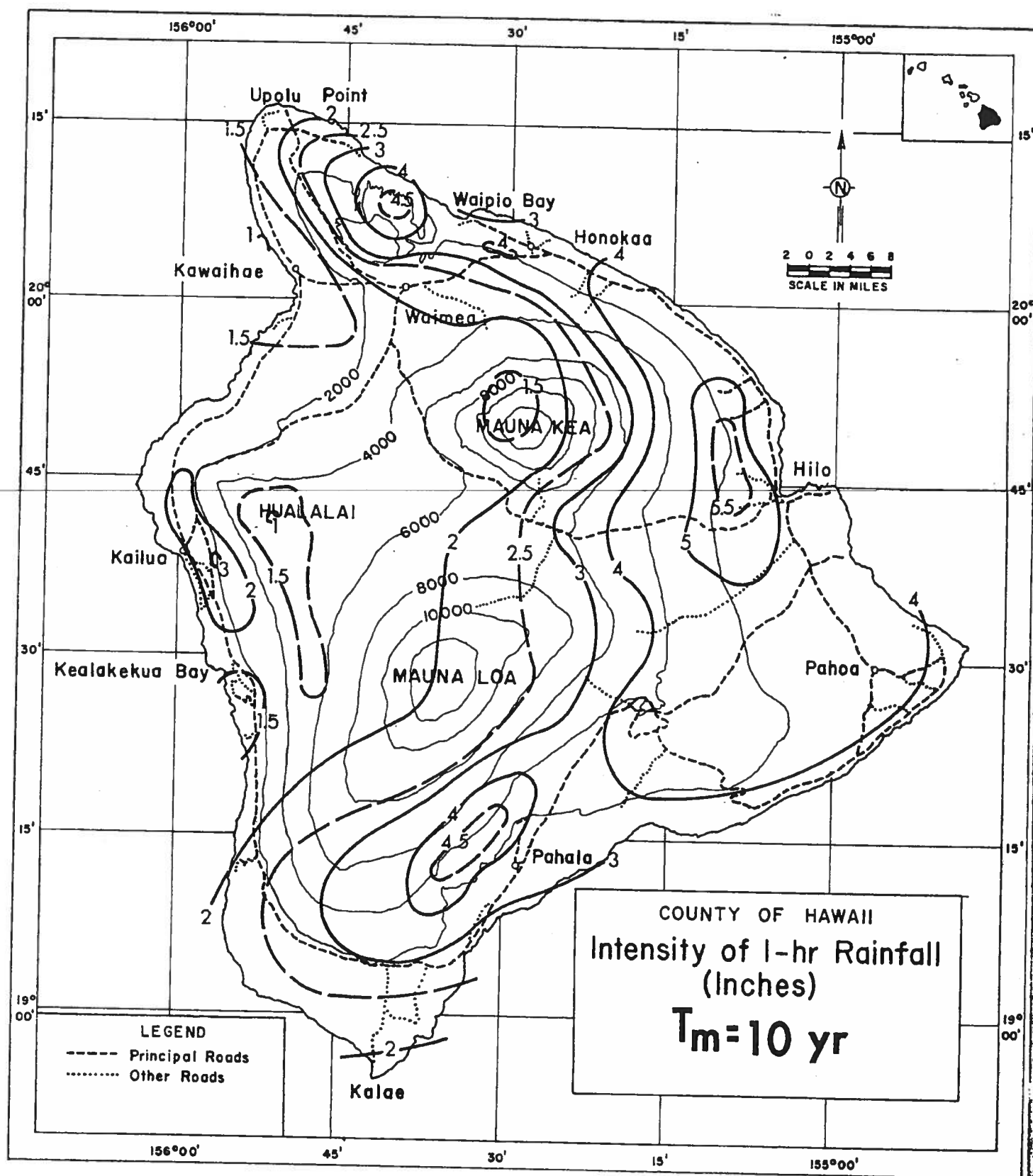
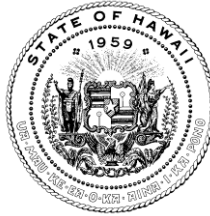


Plate 1

Appendix C
Early Consultation Comment Letters

DAVID Y. IGE
GOVERNOR OF
HAWAII



SUZANNE D. CASE
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD., STE 555
KAPOLEI, HI 96707

July 29, 2020

Duane Y. Kashiwai, Administrator
Facilities Development Branch
State of Hawaii, Department of Education
Office of School Facilities and Support Services
3633 Waiālae Avenue
Honolulu, Hawai'i 96813
c/o, Jolene Velasco
jolene.velasco@k12.hi.us

IN REPLY REFER TO:
Log No. 2020.01631
Doc. No. 2007DB08
Archaeology
Architecture

Dear Mr. Kashiwai:

SUBJECT: **HRS Chapter 6E-8 Historic Preservation Review –
Kohala Middle School – Covered Play-court, DOE Job No. Q16200-17
Request for Concurrence with “No historic properties Affected”
Pueke and Kukuīwaluhia Ahupua‘a, North Kohala District, Island of Hawai‘i
TMK: (3) 5-3-010:056**

This letter provides the State Historic Preservation Division's (SHPD's) HRS §6E-8 review of the Hawaii State Department of Education's (HIDOE's) proposed project titled, *Kohala Middle School, Covered Playcourt, HIDOE Job No.: Q16200-17*. The SHPD received this submittal on July 8, 2020. The submittal included the HIDOE's cover letter, TMK map and photographs, construction plans, a SHPD HRS 6E Submittal Form, and the supporting document titled, *Addendum Archaeological Monitoring Plan for the Hawai'i DOE Cesspool Conversion Project, Honoka'a School District, Kohala Middle School, Pueke & Kukuīwaluhia Ahupua'a, North Kohala District, Hawai'i Island [TMK: (3) 5-3-010:056 por.]* (Tulchin and Hammatt, January 2009). The HIDOE requests concurrence with the determination of "effect, with proposed mitigation commitments."

The Kohala Middle School campus was constructed over time. Building A (classroom/administration/cafeteria) was constructed in 1939, and Buildings CT1 and CT2 are cottages built in 1940. According to the HIDOE, Building A (SIHP # 50-10-08-7522) generally retains its original appearance and features, except for the recently constructed off grade ramps leading to the raised main floor, and qualifies for listing on the Hawaii Register of Historic Places.

The school is located at 53-4155 Akoni Pule Highway, Kapaau, Hawai'i. The campus lies on 8.606 acres, and the project area is 8,835 square ft. The scope of work includes a new covered play-court, connecting walkway, and a 20-ft.-wide fire apparatus route and fire hydrant. The new play-court will be installed in the large grassy field located east of the existing outdoor play-court. It is an independent structure and does not alter the aesthetic of the existing buildings. The entire project area has been previously leveled and graded during the development of the school. Ground disturbance will include roughly 420 ft. of utility trenching (water, sewer, power) to a depth of 2-6 ft below surface. Excavation for the IWS absorption bed is estimated to be 7 ft. deep.

A review of SHPD's records show that an archaeological inventory survey was conducted (Erkelens and Athens 1994). No archaeological historic properties were identified, and the report stated that any pre-contact surface features that may have once been in the project area have probably been destroyed by mechanized land modifications associated with sugarcane cultivation and/or construction on school campus ground. Additionally, the USDA (Foote et. al 1972) identifies the soils within the project area as Kohala silty clay (ash fields on lava flows), 0 to 3 percent slopes (435).

The proposed new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired and would not destroy the historic materials, features and spatial relationships that characterize the historic school campus. Therefore, the proposed project will not affect the design, materials, workmanship, setting, location, association and feeling of the historic school campus.

The HIDEOE proposes the use of the Tulchin and Hammatt (2009) archaeological monitoring plan (AMP) prepared for an earlier on-campus project. SHPD Accepted this earlier AMP in a letter dated February 3, 2009 (Log No. 2009.0092, Doc. No. 0902TD01). Additionally, the HIDEOE requests SHPD concur with on-call rather than on-site archaeological monitoring due to the low potential to encounter historic properties. Although no archaeological historic properties or cultural materials were identified during project archaeological monitoring, the archaeological monitoring report (Wilkinson et al. 2009) recommended on-site archaeological monitoring for future ground disturbing work due to the potential for hearths, storage pits, burials, or remains associated with the early founding of the school to be present below the former agricultural plow zone or at depths not impacted by school construction. SHPD approved the archaeological monitoring report in a letter dated September 16, 2009 (Log No. 2009.3342, Doc. No. 0909MD25).

SHPD does not concur with the HIDEOE's project effect determination of "effect, with proposed mitigation commitments" for the current project. No archaeological historic properties have been identified and the proposed project will not adversely affect the campus buildings. **SHPD requests** archaeological monitoring be conducted for identification purposes and approves archaeological monitoring proceeding under the monitoring provisions provided in the Tulchin and Hammatt (2009) AMP **with the stipulation** that archaeological monitoring shall initially proceed on an on-site basis. Based on initial monitoring results, a written request may be made to change from on-site to weekly spot monitoring, ensuring the archaeologists have the opportunity to observe and document appropriate stratigraphic and archaeological data within the project area.

Please contact Tanya Gumapac-McGuire, Architecture Branch Chief, at Tanya.Gumapac-Mcguire@hawaii.gov for any concerns regarding architectural resources, and Sean Nāleimaile, Hawaii Island Lead Archaeologist, at (808) 933-7651 or at Sean.P.Naleimaile@hawaii.gov for any questions regarding archaeological resources or this letter.

Mahalo,

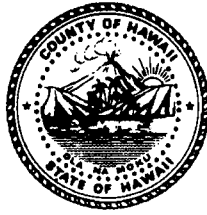
Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

cc: May Price, may.price@k12.hi.us
Terryann Oshiro, terryann.oshiro@k12.hi.us
Marjorie Vicari, marjorie.vicari@k12.hi.us

Harry Kim
Mayor

Roy Takemoto
Managing Director



David Yamamoto, P.E.
Director

Allan G. Simeon, P.E.
Deputy Director

County of Hawai'i
DEPARTMENT OF PUBLIC WORKS
Aupuni Center
101 Pauahi Street, Suite 7 · Hilo, Hawai'i 96720-4224
(808) 961-8321 · Fax (808) 961-8630
public_works@hawaiicounty.gov

August 25, 2020

Jason K. Inaba, P.E.
Inaba Engineering, Inc.
273 Waianuenue Avenue
Hilo, Hawaii 96720
(sent via email to inabaeng@hawaii.rr.com)

SUBJECT: DRAINAGE PLAN IN ACCORDANCE WITH SECTION 25-2-72(3)
Proposed Project: Kohala Middle School Covered Playcourt
Tax Map Key: 5-3-010:056

We have reviewed the Drainage Report (submitted 8/6/2020) for the proposed development submitted in accordance with Section 25-2-72(3) of the Hawaii County Code and provide the following:

As detailed in the Drainage Report, its calculations and drainage map, the developmental runoff increase of 0.4 cfs is considered minimal with approximately 0.25 cfs directed to existing sumps and 0.15 cfs dissipated on an existing playfield and grassed area. Due to the minimal increase in runoff and the distance from the project site to neighboring properties, no drainage measures are proposed. We approve the subject drainage plan based on the stated negligible effect.

Should you have any questions or concerns, please contact Melanie DeMello of the Engineering Division at 961-8327.

Melanie DeMello

for BEN E. ISHII, Division Chief
Engineering Division

MD

C: ENG-KON