LINDA LINGLE
GOVERNOR

RUSS K. SAITO
COMPTROLLER

BARBARA A. ANNIS
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

PM-1064.7

Mr. Laurence K. Lau
Acting Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

Dear Mr. Lau:

Subject: Finding of No Significant Impact (FONSI)
Kohala Public Library
D.A.G.S. Job No. 11-36-6367
Tax Map Key: 5-4-008: 002
Puehuehu, District of North Kohala, Hawaii

The Department of Accounting and General Services, State of Hawaii, has reviewed all comments received during the 30-day comment period that began on July 23, 2007, and ended on August 22, 2007. We have determined that this project will not have significant environmental effects and have issued a Finding of No Significant Impact (FONSI). Please public this notice in the next edition of *The Environmental Notice.*

A completed OEQC Publication Form and four copies of the Final Environmental Assessment are attached. A project summary will be e-mailed to OEQC.

Please call Mr. Ricky Sasaki of my staff at 586-0474 if you have any questions.

Very truly yours,

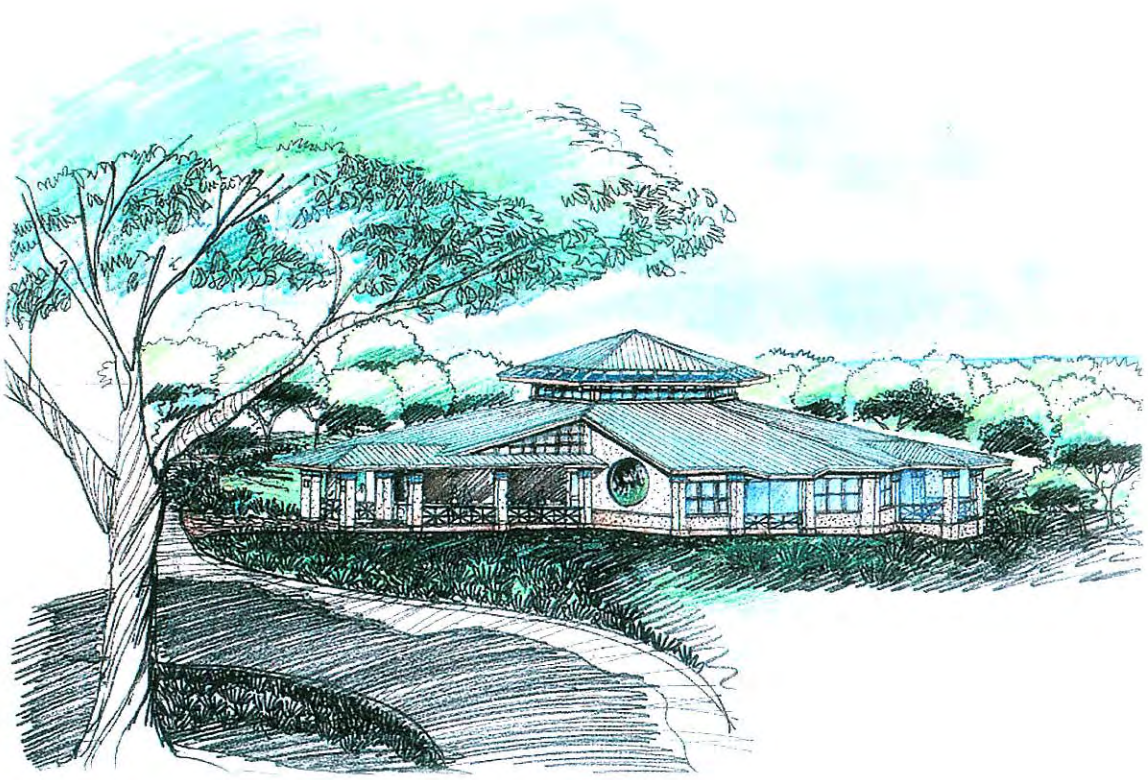
ERNEST Y. W. LAU
Public Works Administrator

RS/si
Attach.
c: Janet Lam, Kohala Public Library
Keith Fujio, Hawaii State Public Library System
Brian Isa, DAGS Planning Branch
Ricky Sasaki, DAGS Project Management Branch

FINAL ENVIRONMENTAL ASSESSMENT

KOHALA PUBLIC LIBRARY

Puehuehu, District of North Kohala, Hawaii
DAGS JOB No. 16-36-6367



Prepared for

Department of Accounting and General Services
State of Hawaii
Project Management Branch
PO Box 119
Honolulu, Hawaii 96810-0119

October 2007

FINAL ENVIRONMENTAL ASSESSMENT

KOHALA PUBLIC LIBRARY

Puehuehu, District of North Kohala, Hawaii
DAGS JOB No. 16-36-6367

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

Prepared for

Department of Accounting and General Services
State of Hawaii
Project Management Branch
PO Box 119
Honolulu, Hawaii 96810-0119

Prepared by

Gerald Park Urban Planner
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawaii 96814

and

CDS International, Inc.
1000 Bishop Street
Pauahi Tower, Suite 400
Honolulu, Hawaii 96813

October 2007

PROJECT PROFILE

Proposed Action:	Kohala Public Library
Location:	Puehuehu, District of North Kohala, Hawaii
Proposing Agency and Accepting Authority:	Department of Accounting and General Services State of Hawaii Honolulu, Hawaii 96813
Need for Assessment:	Use of State funds §11-200-6 (2) (B)
Tax Map Key:	5-4-008: 002
Land Area:	3.809 acres
Landowner:	Surety Kohala Corporation
Previous Use:	Sugar Cane Production
Existing Use:	Vacant
State Land Use Designation:	Urban/Agricultural
County of Hawaii *LUPAG* Map:	Low Density Urban
Zoning:	RS-15, AG-20
Determination:	Finding of No Significant Impact
Contact Person:	Ricky Sasaki, Project Manager State of Hawaii Department of Accounting and General Services Project Management Branch PO Box 119 Honolulu, Hawaii 96810-0119 Telephone: 586-0474

Note: Substantive revisions to the text of the Draft Environmental Assessment are in ***bold italic*** type. Deleted text is [underscored and enclosed by brackets].

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FIGURES

TABLES

1 DESCRIPTION OF THE PROPOSED PROJECT

The Department of Accounting and General Services, State of Hawaii, proposes to construct a new public library on land in the *ahupua'a* of Puehuehu, District of North Kohala, Island, County, and State of Hawaii. The flag-shaped lot is bordered by vacant agricultural land to the north and partially to the east and west, Akoni Pule Highway to the south, Takata Store on the west, and a residence on the east. A Location Map is shown on Figure 1. The property, identified as TMK: 5-4-008: 002 and encompassing an area of 3.809 acres, is owned by Surety Kohala Corporation. A Tax Map is shown on Figure 2.

A. Purpose and Need for the Project

The purpose of the project is to replace an existing public library with a new library. Currently, there is only one public library in the District of North Kohala---Bond Memorial Library---serving rural communities between the towns of Hawi on the west and Halaulua-Niulii on the east.

The Bond Memorial Library deed, written by Caroline Bond in 1927, gave the then Territory and now the State of Hawaii the right to use the site for a public library and specifies that when the building ceases to be a public library, the land will revert back to Caroline Bond, her heirs, or her estate. After the Bond Memorial Library operations are ceased, the State has one year to remove the building and anything else, off the land. After the one years time, anything left on the land will become the property of Caroline Bond, her heirs, or her estate.

The Hawaii State Library System Master Plan for 1991-2000 recommended that the Bond Library be replaced on a new site. "In describing the deficiencies and present conditions of the existing Bond Library, the Library master Plan noted that the facility is too small for the projected population, requires electrical and plumbing upgrades, has no air conditioning, poor fire exiting, no fireproof book drop, limited ability to expand and inadequate parking".

The population of North Kohala is growing. A 40% increase in population was enumerated in the year 2000 (6,038 persons) over the 1990 population (4,291 persons). New or upgraded water, sewer, roads, and parks are needed to accommodate the growth in population. Less visible but just as needed are public facilities and services that foster the educational, recreational, and social development of a population. The proposed Kohala Public Library is one of those facilities.

B. Technical Characteristics

1. Library Building

A single-story building of approximately 5,875 square feet (enclosed) is proposed (See Figure 3 Site Plan). In Plan view, the building is separated into three principal spaces. The concept plan arranges the collection and sitting areas for adults, children, and young adults on the north side of the building. Here, patrons will be able to browse the collection and sit and peruse library materials. Glass windows ringing the entire north side of the building will let in natural light.

Core library functions are placed in the center of the building. These functions include the reception desk, checkout area, catalog area, lobby/display area, staff lounge, work room, storage, and staff restroom. An enclosed, secured area identified as the North Kohala Archive will be located adjacent to the manager's work station. This room will house historical data, photographs, and sensitive data in a controlled environment. A clerestory in the center of the building will let light into the central area. Computer work stations are located between the circulation desk and collection areas.

The library entry, restrooms for men and women, and a community room are located on the south side of the building. The community room would be used for educational, recreational, and cultural activities offered by the library. The room also would be available for community meetings and activities. The community room and restrooms are on the outside of the library building per se so their use should not disturb library activities.

An Architectural Space Program and the square footage assigned to each space are shown in Table 1. A Floor Plan is shown in Figure 4.

Table 1. Architectural Space Program: Kohala Public Library

Area	Typical Area (SF)	Provided Area (SF)
Lobby Area	125	113
Public Restrooms	300	601
Check Out (Circulation Desk)	250	161
Copy Area	100	45
Catalog Area (PCs)	125	128
Index/Atlas/etc	200	0
Supervisor's Office	125	128
Workroom	425	339
Storeroom	100	96
Staff Lounge	125	133
Staff Restroom	60	73
Custodian/Mechanical	125	83
Grounds/Maintenance	40	100
Meeting Room	0	395
Reference Desk	150	67
Adults (Periodicals, Seating)	940	1554
Young Adult (Books, Seating)	200	184
Children's Area (Books, Seating)	585	1086
North Kohala Archive		190
Circulation (20%)	795	400
SQUARE FOOT TOTALS	**4,770**	**5,876**

The approximately 35-foot high structure will be erected on a poured in place concrete foundation and floor, framed with steel studs (interior non-load bearing walls) and plaster finished. "Glulam" beams with wood decking will support a pitched, corrugated metal roof. The building will be painted in earth tones to blend with its surroundings.

The Kohala Public Library will be designed and built as a "sustainable" building per Leadership in Energy and Environmental Design (LEED) standards. The LEED rating

system is "a nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality (www.usgbc.org)". LEED silver certification is being sought for the project. A colored rendering of the completed library is shown on the Cover.

2. Circulation and Off-Street Parking

An approximately 650 foot long paved driveway will connect the library with Akoni Pule Highway. Located to the east of Takata Store, the 24-foot wide driveway is within a 70-foot wide "pole" section of the flag lot. The driveway will be striped for two-way traffic. Outbound turning movements at Akoni Pule Highway will be controlled by a STOP sign.

A paved, off-street parking area for 20 vehicles is proposed in the front of the library building on the western half of the lot. The eastern half will be vacant and undeveloped.

3. Infrastructure

Water will be supplied from an 8-inch main in Akoni Pule Highway. Water use is estimated at 1,000 gallons per day.

Wastewater will be collected and disposed of in an individual wastewater system to be located on the eastern half of the site. The system would consist of a septic tank for collecting solids and a leach field or injection well for effluent disposal. Wastewater flow is estimated at less than 1,000 gallons per day.

Power and communication services will be brought to the library site from Akoni-Pule Highway via underground conduits.

On-site runoff will be directed by earthen swales to low areas (or detention ponds) on the eastern half of the site and areas around the building. Runoff would either percolate into the ground or evaporate. Alternatively, dry wells may be considered for direct discharge into the ground.

Roof runoff will be collected and used as gray water for flushing toilets and urinals. The gray water system will not be connected to the potable water system.

The library will be air conditioned for the comfort of the staff, patrons, and mildew and mold control. Air conditioning also is required to provide a controlled environment for the North Kohala Archive repository.

A fire sprinkler system will not be installed because it is not required by the building code.

4. Landscaping

Much of the site will be cleared of exotic species such as Christmas berry, guava, and Java plum. Additional trees will be planted along both sides of the driveway and along the edges of the parking lot. Areas adjoining the building will be appropriately landscaped with groundcover, shrubs, and assorted palms and trees. Native plants will be incorporated as much as possible into the landscape design.

C. Economic Characteristics

Construction costs are estimated at $5.54 million. The project's total cost (design and construction) is $6.361 million and will be funded by Capital Improvement Program appropriations from the State Legislature.

Construction will commence after all design plans are approved and construction permits received. In addition, a State land use district boundary amendment and change of zone are required to achieve consistency in land use controls for the proposed use and area.

The property is owned by Surety Kohala Corporation ("SKC") who will turn it over to the State of Hawaii in the near future. There are no SKC lessees on the property.

D. Social Characteristics

No resident, business, or active agricultural activity will be displaced as a result of the proposed action.

E. Site Selection History

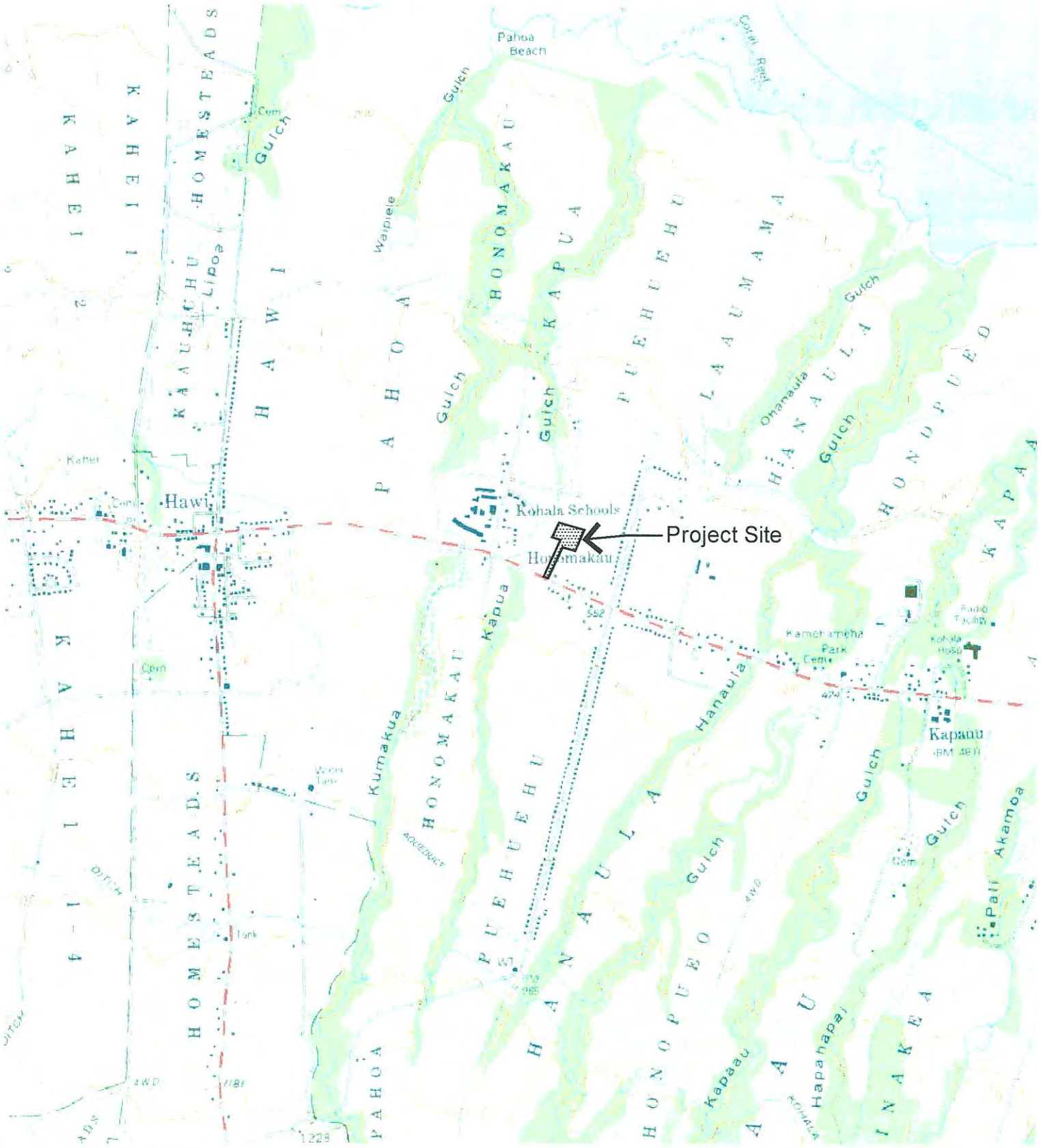
In 1996, a Site Selection Environmental Impact Statement was completed by the State to identify and evaluate library sites. The site desired by the Hawaii State Public Library System ("HSPLS") was a portion of Tax Map Key 5-5-008: 048 (then owned by Chalon International of Hawaii, Inc. predecessor to Surety Kohala Corporation). The proposed site acquisition was for 0.5 acres.

The original proposed acquisition was not received well by the community and so rather than proceed with land acquisition by condemnation a committee of North Kohala residents was formed by then librarian, Dawn Shibano. Their task was to review the 1996 report and identify and consider alternative sites for a library. This committee, along with Representative Dwight Takamine and the HSPLS administration reviewed the candidate sites from the 1996 report and eliminated each site for cause.

During this time, the HSPLS criterion for a site was also revised to 2.0 acres (to allow for future building expansion) in size and a desire to be in close proximity to a commercial center. Surety Kohala Corporation ("SKC") then suggested a lot they owned (Tax Map Key: 5-4-008: 001) that was near to Takata Store in North Kohala.

The Committee reviewed the site conditions and the proposed site shape and agreed to proceed with the acquisition and development of this site for the Kohala Public Library. The proposed site was verbally accepted by the HSPLS and SKC. SKC then subdivided the lot creating a new parcel (Tax Map Key: 5-4-008: 002) for the library site of approximately 3.809 acres.

The Kohala Library Committee endorsed the selection of this site by letter to the Hawaii State Librarian on June 9, 2003 (See Appendix A).



Source: USGS, Hawi Quadrangle

Figure 1
Location Map

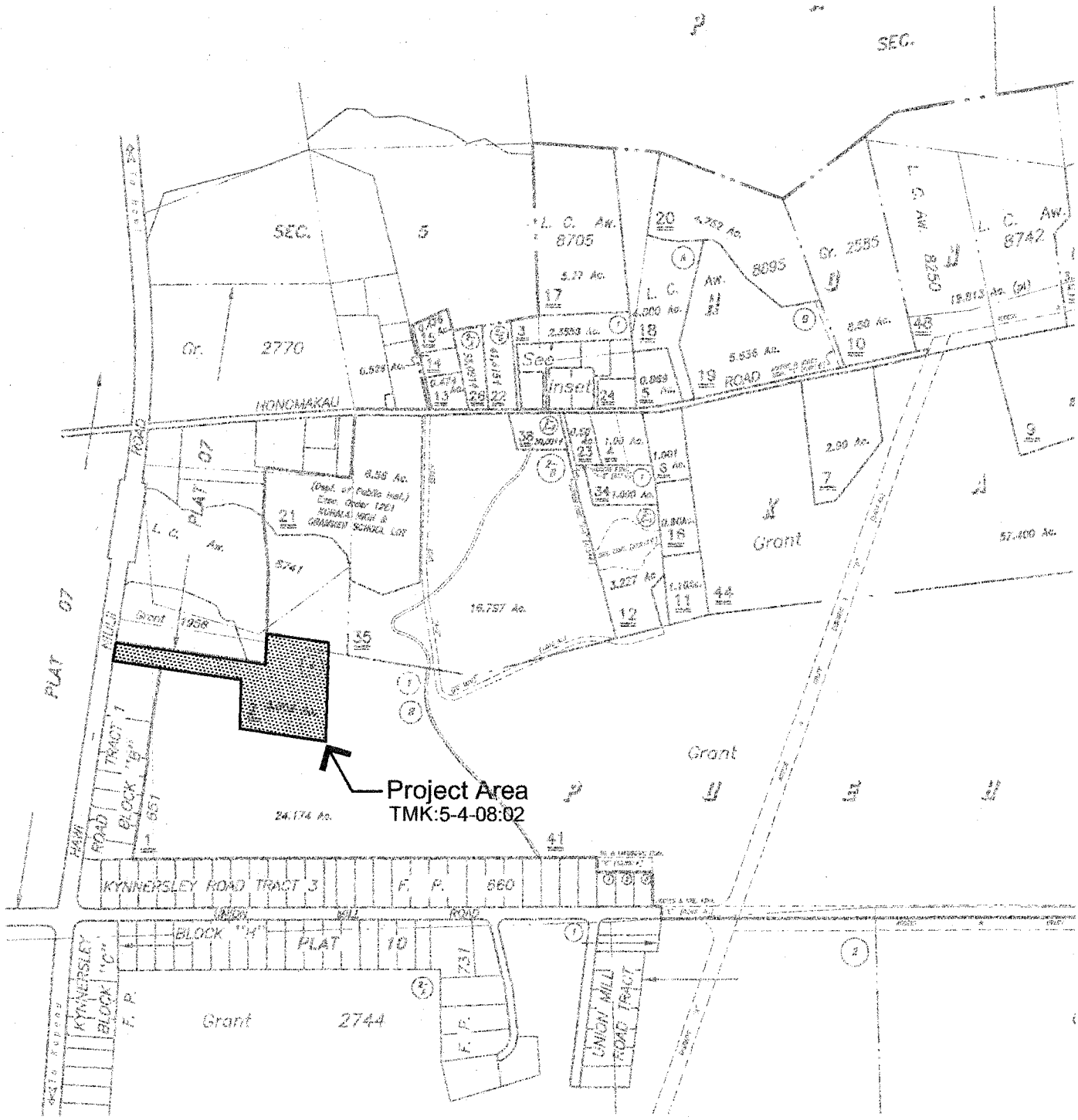
Kohala Public Library

Puehuehu, North Kohala District, Hawaii

NORTH

LINEAL SCALE (FEET)
1000 500 0 500 1000 2000

Gerald Park
Urban Planner
June 2006



PUEHUEHU, KAPUA & HONOMAKAU, NORTH KOHALA, HAWAII

DEPARTMENT OF FINANCE PROPERTY ASSESSMENT DIVISION MAPPING BRANCH STATE OF HAWAII TAX MAP		
COUNTY OF HAWAII		
ZONE	SECTION	PLAT
5	4	08

Source:Department of Taxation, Taxation Maps Bureau

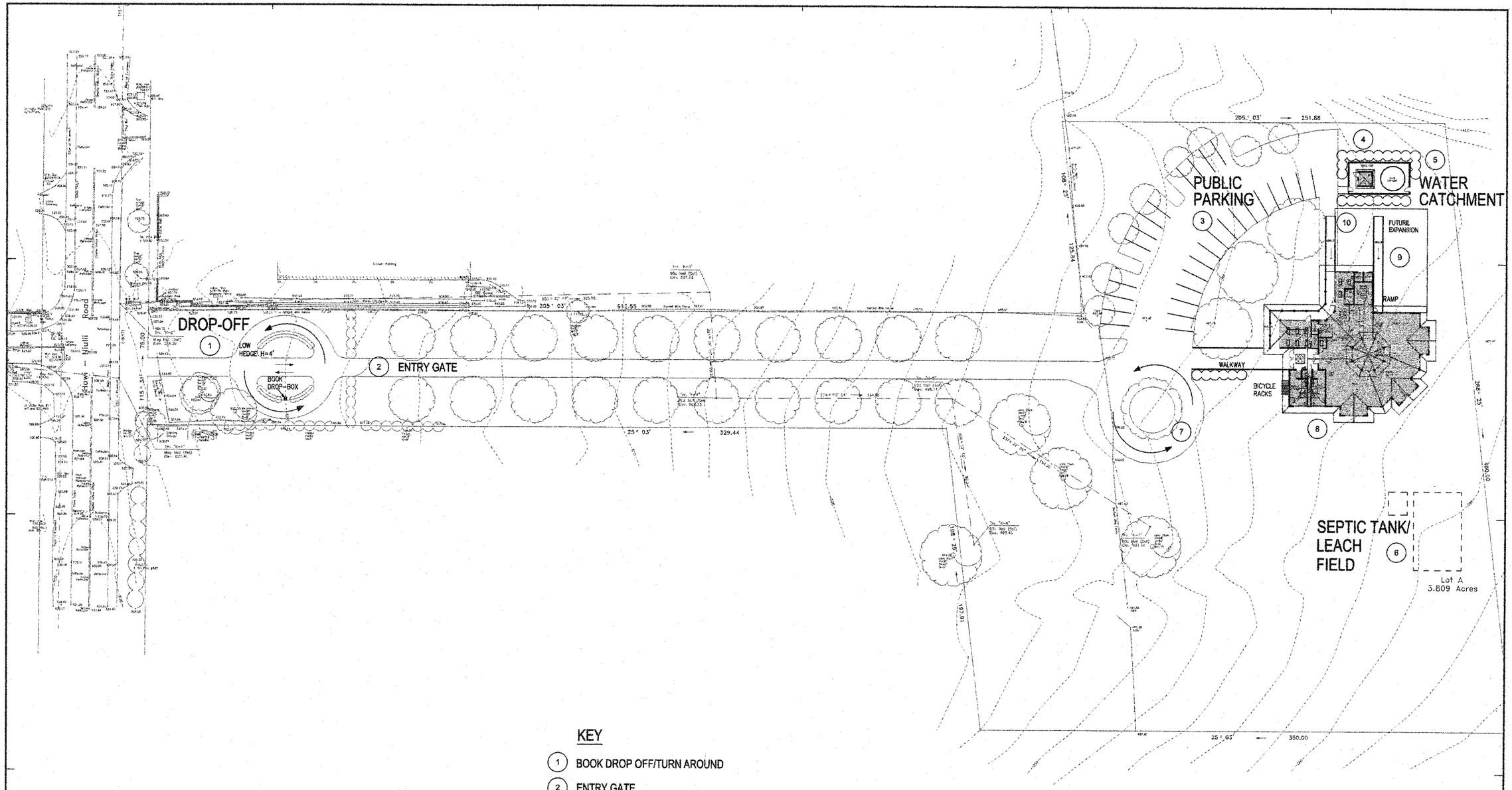
Figure 2
Tax Map
Kohala Public Library

Puehuehu, North Kohala District, Hawaii

NORTH

LINEAL SCALE (FEET)
300 150 0 150 300 600

Gerald Park
Urban Planner
June 2006



KEY

1. BOOK DROP OFF/TURN AROUND
2. ENTRY GATE
3. PUBLIC PARKING
4. MAINTENANCE STORAGE SHED
5. WATER CATCHMENT SYSTEM (TANK)
6. SEPTIC TANK / LEACH FIELD
7. VEHICLE TURN AROUND
8. MAIN LIBRARY BUILDING
9. FUTURE LIBRARY EXPANSION
10. ACCESS RAMPS

FIGURE 3
SITE PLAN
SC: 1" = 20'

REVISION NO.	SYM.	DESCRIPTION	SHT.___ OF___	DATE	APPROVED: STATE PUBLIC WORKS ADMINISTRATOR
				7/09/2007	

DEPT. OF ACCOUNTING & GENERAL SERVICES
DIVISION OF PUBLIC WORKS
STATE OF HAWAII

KOHALA PUBLIC LIBRARY
NORTH KOHALA, PUEHUEHU, HAWAII

SITE PLAN

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

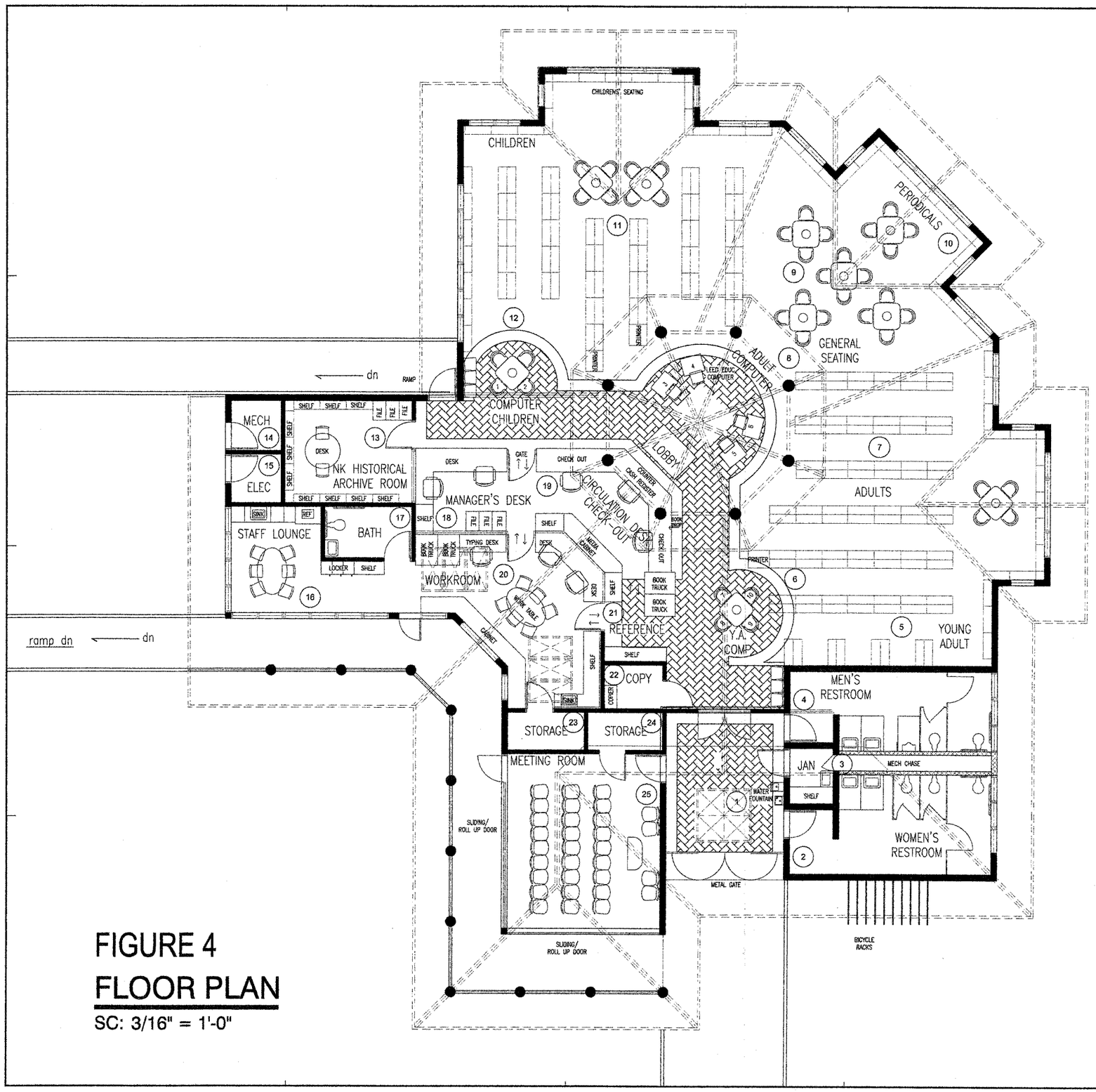
CDS International

DESIGNED BY:	CHECKED BY:	DAGS JOB NO.	DRAWING NO.
DRAWN BY:	APPROVED BY:	05019.00	A-3
SCALE: 1"=20'		DATE	SHEET OF SHTS

SIGNATURE

Expiration Date of the License

FILE ..... DRAWER ..... FOLDER .....



KEY

1. OPEN -AIR ENTRY
2. MEN'S PUBLIC RESTROOM
3. JANITOR CLOSET/MECH CHASE
4. WOMEN'S PUBLIC RESTROOM
5. YOUNG ADULTS READING ROOM
6. YOUNG ADULTS COMPUTER AREA
7. ADULTS READING AREA
8. ADULTS COMPUTER AREA
9. GENERAL SEATING
10. PERIODICALS
11. CHILDREN'S READING AREA
12. CHILDREN'S COMPUTER AREA
13. ARCHIVE ROOM
14. MECHANICAL ROOM
15. ELECTRICAL ROOM
16. STAFF LOUNGE
17. EMPLOYEE RESTROOM
18. MANAGER'S DESK
19. CIRCULATION/ CHECKOUT
20. WORKROOM
21. REFERENCE DESK
22. COPY ROOM
23. WORKROOM STORAGE
24. COMMUNITY STORAGE
25. COMMUNITY ROOM

0 5' 10' 20'

PLAN NORTH

FIGURE 4
FLOOR PLAN
SC: 3/16" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT.__ OF__	DATE	APPROVED: STATE PUBLIC WORKS ADMINISTRATOR
				7/09/2007	

DEPT. OF ACCOUNTING & GENERAL SERVICES
DIVISION OF PUBLIC WORKS
STATE OF HAWAII

KOHALA PUBLIC LIBRARY

NORTH KOHALA, PUEHUEHU, HAWAII

FLOOR PLAN

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE

Expiration Date of the License

CDS International

DESIGNED BY:	CHECKED BY:	DAGS JOB NO.	DRAWING NO.
		05019.00	A-4
DRAWN BY:	APPROVED BY:	DATE	SHEET
SCALE: 3/16"=1'-0"			OF

FILE ..... DRAWER ..... FOLDER .....

2 DESCRIPTION OF THE AFFECTED ENVIRONMENT

The description of existing conditions is based in part on documents prepared by the State of Hawaii in its search for alternate sites for a new public library. The data has been updated to account for current conditions.

A. Existing Uses and Structures

Located on the north side or *makai* of Akoni-Pule Highway, the site is vacant and there are no structures on the premises. The entire property was as one time in cultivated agriculture with sugar cane the primary crop. It has been estimated that sugar was last grown on the property or in the vicinity of the property about 33 years ago (EKNA, 2004). Since the demise of the sugar industry in North Kohala in the 1970s, this former cane field has been overgrown by trees, grass, and weedy vegetation (See discussion in botanical resources). Access to the site from Akoni Pule Highway and adjoining lots is restricted by a barbed wire fence.

Properties surrounding the site are a mix of agricultural land, pasture land, a commercial store (Takata Store), single-family dwellings, and a church. Kohala Elementary and High School Is located about 0.2 miles to the west.

B. Climate

Climatic conditions in North Kohala can be characterized as mild and semi-tropical. Annual rainfall averages 40" inches along the coast (Upolu Point) to 175" at the top of Kohala Mountain. It is estimated that annual rainfall ranges between 80" to 90" at the 500 foot elevation, which is about the elevation of the Kohala Library.

Temperatures vary from the low $60s^0$ F during the winter to the low $80s^0$ F during the summer. February is usually the coolest month and August/September the warmest months.

The prevailing winds are the north east trades which blow about 98% of the time averaging about 10.5 knots (12.4 miles per hour). Ground slope averages 6%.

C. Topography

The site slopes from Akoni Pule Highway on the south *(mauka)* towards the ocean on the north *(makai).* Ground elevation falls from a high of 526 feet above sea level at the highway to 474 feet along the north boundary.

D. Geology

The Kohala Mountain area is defined by two distinct lava flow series. Kohala Mountain emerged from the sea approximately 450,000 years ago forming two broad rift zones through which lava rlowed from the volcano. The Pololu series was the first of the lava flows and consisted of a mass flow of soft, porous basalt erupting from cinder cones. The second major flow, the Hawi series, consisted of lava much harder in texture than that of the Pololu

flow. Both formations consist of numerous pyroclastic (material composed of rock fragments of volcanic origin) deposits (Schweitzer, 2003 in Noh, 2005).

E. Soils

The Soil Conservation Service (1973) maps a single surface soil type on the premises. Kohala silty clay (Kha) is a well-drained silty clay formed from igneous rock influenced by volcanic ash. The soils are predominantly found on the windward side of Kohala Mountain at elevations ranging from sea level to 1,500 feet. Kohala soils are used primarily for irrigated sugarcane cultivation although small areas are used for pasture, truck crops, and orchards. The soil poses a slight erosion hazard, runoff is slow and permeability is moderately rapid.

This soil has favorable features for building foundations.

The Land Study Bureau (1965) Detailed Land Classification maps and publications provide an analysis of lands and their suitability for agricultural production. A range of factors including soils, geology, topography, climate, and water resources were analyzed and a rating scheme for assessing overall agricultural productivity developed. Lands are classified from "A" to "E" according to their agricultural suitability with "A" indicating a master productivity rating of very good, and "E" indicating a rating of very poor for agricultural uses.

A single land type--- B114i--- is identified in the project area (Land Study Bureau, 1965). The capital letter is the master productivity rating of the overall suitability of the land for agricultural production, the number identifies the land type (Kohala soil series), and the "i" means irrigated. A "B" master productivity rating means the land is rated "good" for selected agricultural uses (vegetables, sugarcane, orchard, grazing, and forage crops). Most of the agricultural land in the vicinity of the proposed library bears this same rating.

Agricultural Lands of Importance to the State of Hawaii (ALISH) maps have been prepared by the State Department of Agriculture to determine the agricultural importance of agricultural property within the State of Hawaii. The ALISH maps provide three agricultural land designations: Prime, Unique, and Other Important Agricultural Lands.

Agricultural land surrounding and including the library site is designated Prime agricultural land on the ALISH map for this section of Hawaii County (See Figure 5). Prime agricultural land is defined as land which has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern farm methods (ALISH, 1977).

F. Water Resources

1. Surface Water

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

2. Ground Water

The library site overlies the Hawi aquifer of the Kohala Sector (Mink and Lau, 1993). The Hawi aquifer (Aquifer Code: 80101111) is a basal aquifer in the flank lavas of volcanic

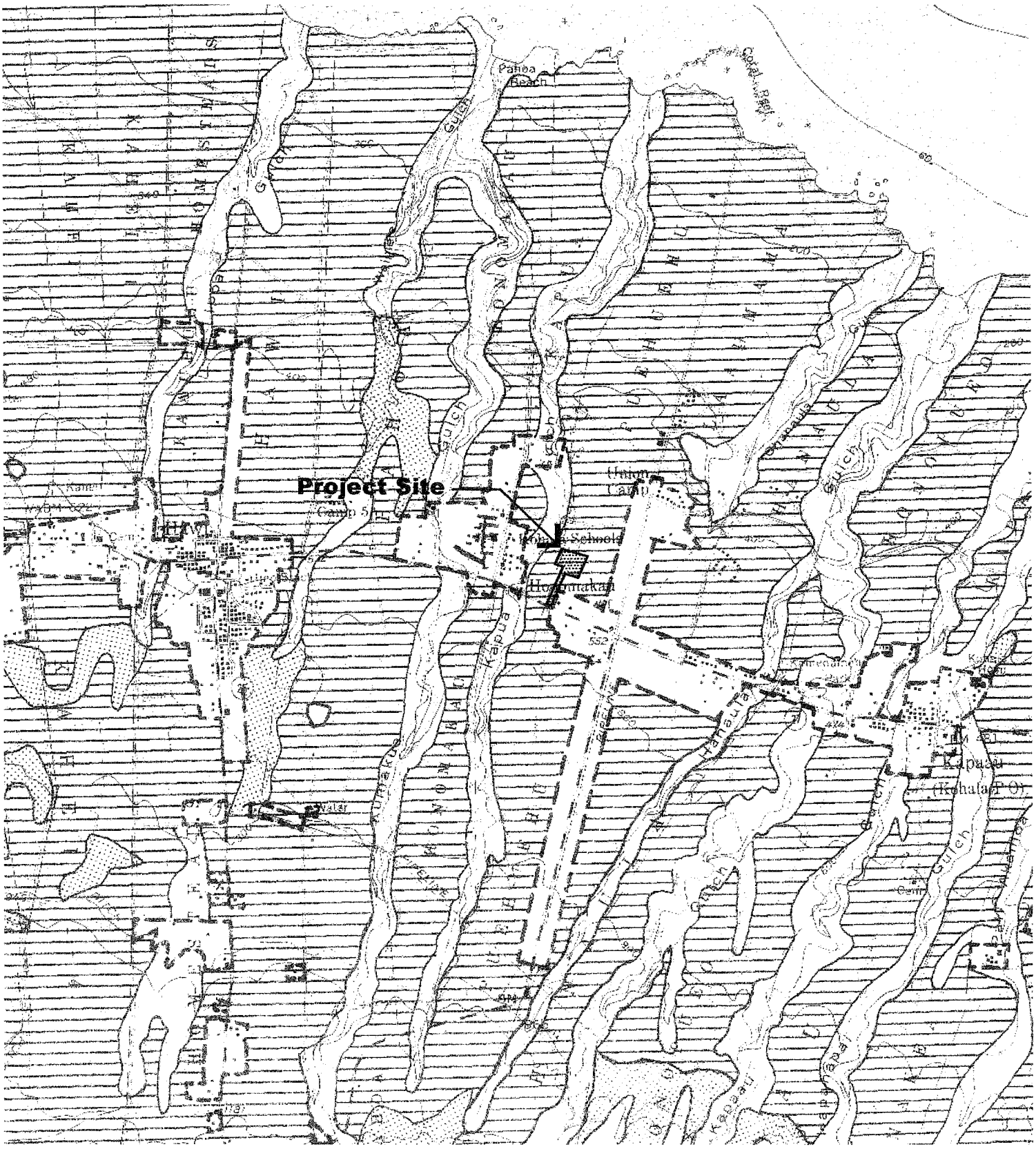


Figure 5
Agricultural Lands of Importance to the State of Hawaii

Kohala Public Library

Puehuehu, North Kohala District, Hawaii

Legend

- Prime Agricultural Land
- Unique Agricultural Land
- Other Important Agricultural Land

NORTH

LINEAL SCALE (FEET)
1000 500 0 500 1000 2000

Source: Department of Agriculture, State of Hawaii. 1977.

Gerald Park
Urban Planner

June 2006

domes (Kohala Mountain). This developed groundwater source is used for drinking and has a salinity of <250 parts per million chloride. The aquifer is categorized as irreplaceable and highly vulnerable to contamination.

G. Flood Hazard

The Flood Insurance Rate Map for this section of North Kohala (See Figure 6) places the property in Flood Zone "X". This zone is defined as "areas determined to be outside the 500-year flood plain (Federal Emergency Management Agency, 1988)".

H. Archaeological Resources

An archaeological, cultural, and botanical report was prepared for the subject property. The report is found in Appendix B. Excerpts from the report are presented in the discussion of archaeological resources, cultural resources, and botanical resources.

The entire parcel appears to have been former sugar cane land on the basis of the uniformity of the ground surface, the absence of relief and the absence of stones. The ground surface was virtually stone free. The ruins of two small shacks were observed in the northeast portion of the project area. These did not appear to have been primary residences of long standing but may have been work places associated with plantation work or squatters sheds from the 1970s. No historic significance was attributed to these structures or the late twentieth century trash piles.

One aggregation of approximately a dozen small boulders and large cobbles was observed in an area approximately 2m by 1.5m in the northeast portion of the project area. These did not appear to be set in the ground or to be in alignment. Consideration was given to whether these could mark a historic grave but this was discounted because: 1) the rocks were not set in the ground, 2) they were not in an alignment, 3) there were no other aggregates of stones in the vicinity, 4) the area did not seem to be typical of the known small graveyards in the general vicinity that tend to be near breaks in slope at the edge of former fields, and 5) because the are is understood to have been under continuous sugar cane cultivation for nearly a century.

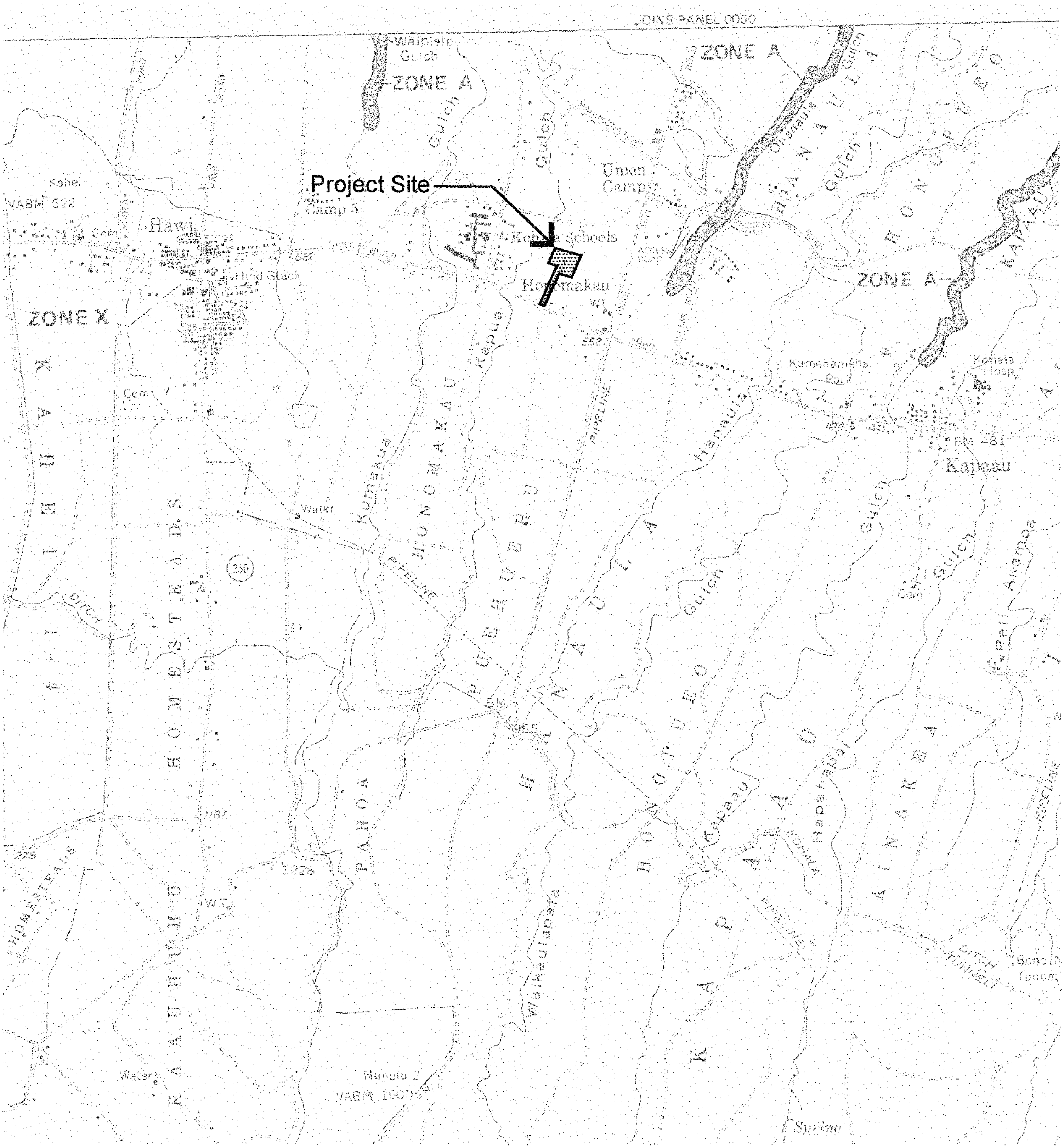
In summary no archaeological sites or features were identified during the fieldwork or are believed to exist within the Honomaka'u Town and Puehuehu project location.

I. Cultural Resources

A cultural impact assessment was prepared by Cultural Surveys Hawaii, Inc. (2006). Their findings as related to traditional practices and resources pertaining to the Honomaka'u project area are summarized below.

Upland resources were utilized by Hawaiians for a multitude of purposes. Forest resources were gathered, not only for the basic needs of food and clothing, but for tools, weapons, canoe-building, house construction, dyes, adornments, hula, medicinal and religious purposes. Within the project area itself no specific documentation was found in regards to gathering of plants during traditional Hawaiian times.

A review of the botanical study indicates that no native plant species are present within the



Legend

Special Flood Hazard Zone Inundated by 100-Year Flood

Zone A No Base Flood Elevation Determined.

Zone X Areas Determined to be Outside 500-Year Floodplain.

Source: Federal Emergency Management Agency
Flood Insurance Rate Map
Map Number 1551660100 C
Date: September 16, 1988.

Figure 6
Flood Insurance Rate Map
Kohala Public Library

Puehuehu, North Kohala District, Hawaii

NORTH

LINEAL SCALE (FEET)
1000 500 0 500 1000 2000

Gerald Park
Urban Planner
June 2006

Honomaka'u project area. Although certain exotic species present such as guava (*Psidium guajava*) and castor bean (*Ricinus communis*) have been used for cultural practices historically these plant species are ubiquitous on disturbed lands in the vicinity and no particular value is attributed to these exotic weedy plants.

During this evaluation there were no ongoing practices related to traditional gathering rights identified in the present project area.

No hunting practices are known to take place in the project area or vicinity. No signs of pigs or any other game were observed during the fieldwork. While we know of no detailed information regarding pig hunting in the vicinity a distribution of pig densities indicates pigs are "sparse" in the area (van riper & van riper 1928:25).

The project area lies more than two kilometers back from the coast and no direct or indirect impact to marine resources or [to] access to marine resources is indicated.

No historic properties of cultural concern are known within or in the immediate vicinity of the Honomaka'u project area.

No specific documentation was found regarding *iwi* (ancestral remains) in the project area. None of the people contacted mentioned any burials that would be affected by the proposed project.

The main cross-*ahupua'a* inland trails appears to have been more or less the present Akoni-Pule Highway alignment since time immemorial. Roads to the coast are present just to the east and west of the present Honomaka'u project area. Development of this parcel is anticipated have no effect on access issues.

No *Wahi pana* or "Storied Places" are known in the vicinity.

J. Botanical Resources

The project area was found to be densely overgrown with a variety of exotic vegetation dominated by Christmas-berry *(Schinus terebinthifolius*) and guava (*Psidium guajava*) trees. Java plum (*Syzgium cumini*), octopus tree (*Scheffleria actinophylla*), and African tulip (*Spathodea campanulata*) are quite common. Common understory vegetation includes white shrimp plant (*Justica betonica*), indigo (*Indigofera suffuiticosa*), beggarweed (*Desmodium sp.),* lantana (*Lantana camara*), and elephant grass (*Pennesitum purpureum*). This area was previously all in sugar cane, abandoned since the demise of sugar production in Kohala in the 1970s. The current vegetation is composed entirely of alien species and so completely disturbed as to leave no native species at all (Cultural Surveys Hawaii, Inc, 2006).

K. Wildlife Resources

No wildlife was observed at the time of the field investigation. Barking dogs and crowing roosters were heard but none were seen. A grazing cow (and her calf) was seen browsing the property.

Mynah bird and barred dove were the only two avian species recorded.

L. Hazardous Materials

A Phase I Environmental Site Assessment performed for the property in 2004 (EKNA Services, Inc. 2004) reported the following:

Site Inspection Observations

- There is no evidence of current or past usage of underground fuel storage tanks (USTs) on the Site (e.g. vent pipes, fill caps, abandoned dispensers, etc.).
- At present, there are no pits, trenches, landfills, open or closed dumps for disposal of solid waste on the Site.
- No suspect asbestos containing materials (ACM) were observed on the Site.
- No suspect lead containing paints (LCP) were observed on the Site.
- There were no electrical transformers observed on the Site. Electrical transformers are a potential source of polychlorinated biphenyls (PCB) contamination.
- There were no signs that would indicate the presence of contamination by petroleum or other toxic/hazardous agents in the soils at the parcel.
- There was no direct evidence that subsurface contaminants from nearby facilities have migrated to the soils and ground water beneath the assessed Site to cause any adverse environmental impacts.

Regulatory Agency List Review

- There are no facilities within one (1) mile of the Site that are listed as CORRACTS Sites.
- There are no facilities within ¼ mile of the Site that is listed as a CERCLIS/NFRAP (Comprehensive Environmental Response, Compensation and Liability Act/No Further Remedial Action Planned) Site.
- There are no facilities within ¼ mile of the Site that are listed as State of Hawaii CERCLIS-Equivalent Hazardous Waste Sites (SHWS).
- State environmental databases do not list any facilities within ½ mile of the Site that have experienced a release of petroleum products from underground storage tank systems.
- Federal and State environmental databases do not indicate any facilities within ¼ mile of the assessed Site that are listed as generators of hazardous materials/wastes.
- There are currently no facilities listed as having an underground or aboveground storage tank (UST/AST) adjoining the assessed parcel.
- Federal and State databases did not list any solid waste facility/landfills (SWF/LF), active incinerators or transfer stations with ½ mile of the assessed Site.

In addition to the Phase I Environmental Site Assessment, a second study (Noh & Associates, 2005) was performed because it was suspected that the subject site may contain arsenic and organochlorine pesticides in the surface soil layers. The suspicion was prompted by the former use of the site for sugarcane cultivation. Arsenic is one of the heavy metals associated with some commonly used crop protection chemicals in sugarcane agriculture. Organochlorine compounds also are associated with various crop protection chemicals. Excerpts from the Noh report are presented below and the entire report is appended in this document as Appendix C.

Arsenic is a naturally occurring metalloid element that is widely distributed throughout the earth's crust. The primary source of arsenic contamination in Hawaii is arsenic containing herbicides used for weed control in sugarcane production between 1915 and 1950. Exposure to arsenic has been shown to have adverse health effects on the cardiovascular, hematologic, developmental, and nervous systems, the alimentary tract and the skin. It has also been shown to have carcinogenic effects.

Soil samples were collected at 29 sampling points which included duplicate samples in areas of anticipated high potential human exposure and single samples in areas of less human exposure. At each location, two samples were collected: one upper surface soil sample which included soil 1-8 inches below ground surface and one lower surface soil sample which included soil 18-24 inches below ground surface. The lower soil sample was to identify the depth of contamination, if any, in the areas where grading of the land is likely to occur. Since grading would remove the surface soil, the lower surface soil would become a potential exposure concern, and, therefore, was investigated.

Based on sampling and analysis of the surface soil samples, it was concluded that there are no significant levels or arsenic and organochlorine compounds in the surface soil at the proposed Kohala library site. No measurable levels or organochlorine pesticide compounds were found in the upper and lower surface soil samples. Arsenic levels found in the upper surface soil, 17.5 mg/Kg to 22.7 mg/Kg, however, were slightly elevated compared to the levels found in the lower surface soil, 3.81 mg/Kg to 13.5 kg/Mg. The Hawaii State Department of Health background Soil Action Level for arsenic is 22 mg/Kg. This is an indication of arsenic releases from anthropogenic sources (such as mining, smelting, coal combustion, wood combustion, waste incineration and pesticide/herbicide use) on the subject property

M. Land Use Controls

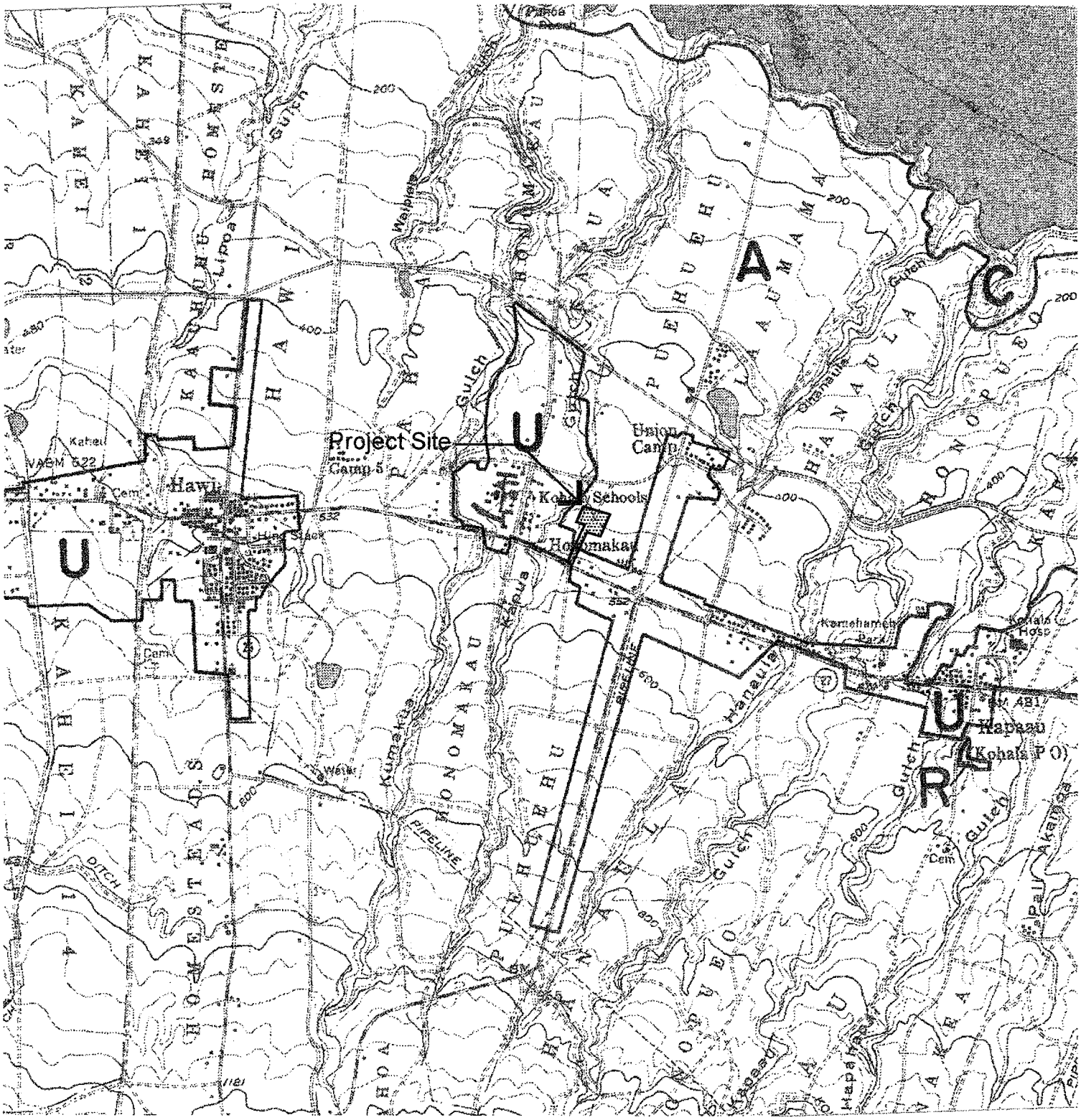
Pursuant to Chapter 205 HRS, the Hawaii Land Use Law, the State Land Use Commission classifies all land in the State of Hawaii into one of four classifications: Urban, Agricultural, Conservation, or Rural. The project site is designated Urban and Agricultural (See Figure 7). A boundary interpretation will be submitted to the Land Use Commission. The determination will help to ascertain the land area of the Agricultural district for conversion to the Urban district.

The County of Hawaii General Plan Land Use Pattern Allocation Guide (LUPAG Map) designates the entire property Low Density Urban

Most of the property is zoned Ag-20 or Agriculture with a minimum lot size of 20-acres. A section of the lot adjoining Akoni-Pule Highway is zoned RS-15 or single-family residential with a minimum lot size of 15,000 square feet (See Figure 8).

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

The Department of Accounting and General Services will be requesting a state land use district boundary amendment for 3.***475*** [0] acres (estimated) in the agricultural district to the urban district and a subsequent change of zone for the amended acreage from the Ag-20a zoning district to the RS-15 zoning district



Legend

- U — Urban
- R — Rural
- A — Agriculture
- C — Conservation

Source: State of Hawaii, Land Use Commission, Hawi Quadrangle

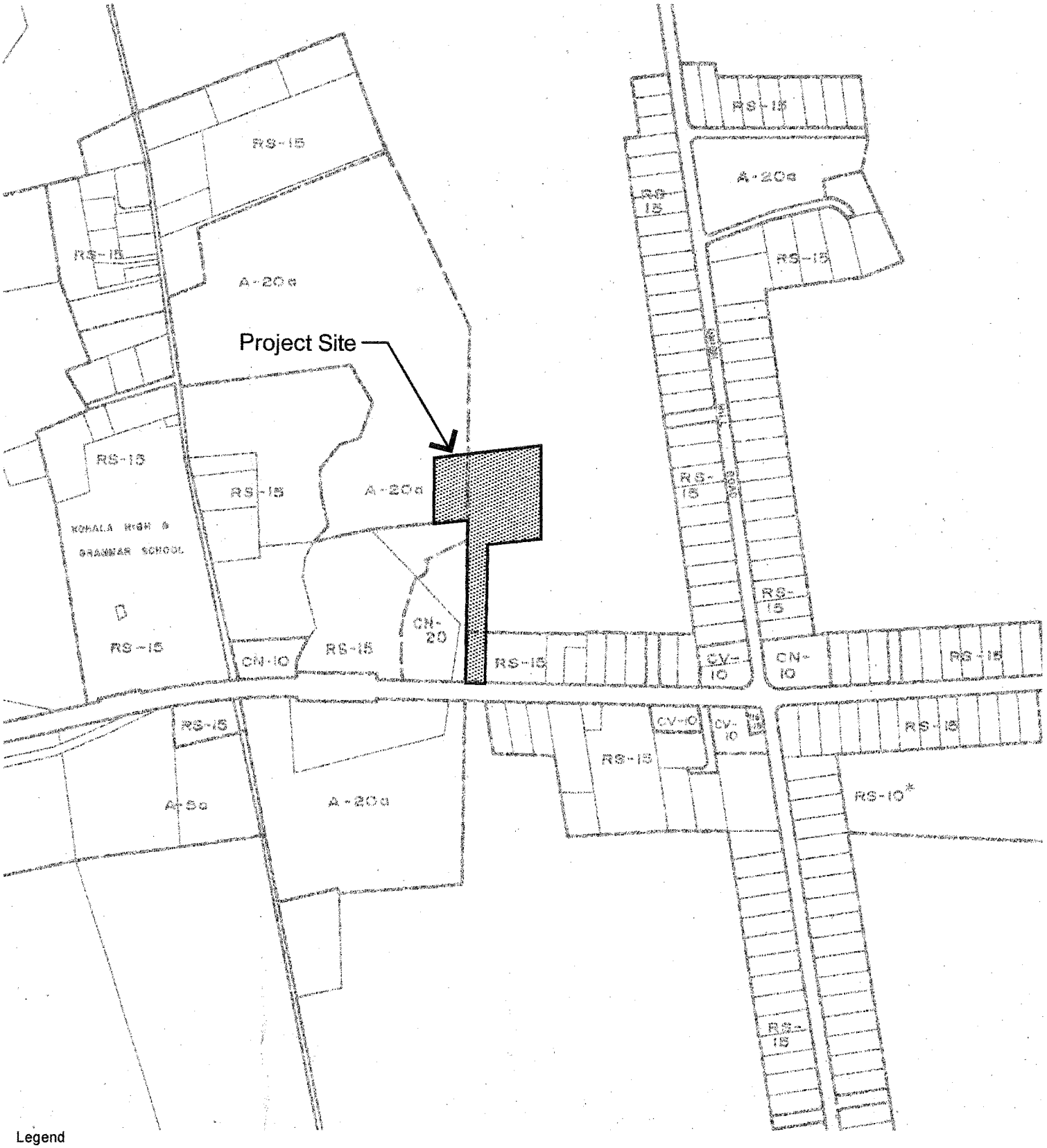
Figure 7
State Land Use Districts
Kohala Public Library

Puehuehu, North Kohala District, Hawaii

NORTH

LINEAL SCALE (FEET)
1000 500 0 500 1000 2000

Gerald Park
Urban Planner
June 2006



Legend

RS-15	SINGLE FAMILY	15,000 SQ. FT.
RS-10	SINGLE FAMILY	10,000 SQ. FT.
CV-10	VILLAGE COMMERCIAL	10,000 SQ. FT.
CN-10	NEIGHBORHOOD COMM.	10,000 SQ. FT.
A-5a	AGRICULTURE	5 ACRES
A-20a	AGRICULTURE	20 ACRES

Source: County of Hawaii, Department of Planning
Hawi-Kapaau Zoning Map, Section 25-95C, Ord #86-51
Effective Date: June 2, 1986

Figure 8
Zoning
Kohala Public Library

Puehuehu, North Kohala District, Hawaii

NORTH

LINEAL SCALE (FEET)
250 125 0 125 250 500

Gerald Park
Urban Planner
June 2006

N. Public Facilities

1. Circulation

Akoni Pule Highway (formerly Hawi-Niulii Road) and Kohala Mountain Road are the two roads linking communities in North Kohala with other island communities.

Akoni Pule Highway, a two-way, two-lane all weather surface highway passes to the south of the proposed library site. Travel lanes are 12-feet wide with 5-foot shoulders on both sides fronting the library site. The posted speed limit near Takata Store is 35 mph.

State Department of Transportation traffic count data on Akoni Pule Highway were examined for existing traffic volumes and peak hour determination. A counting station (B71027001933) near Kohala High School provided count information nearest to the proposed library site. The counts were taken over a two day period beginning on May 23, 2006 and ending on May 25, 2006.

Traffic volume on both days was reported at 6,845 and 6,731 vehicles, respectively. For day one volume, traffic bound for Kapaau was reported at 3,179 vehicles and traffic eastbound to Hawai at 3,666 vehicles. On day 2, Kapaau bound traffic was recorded at 3,040 vehicles and Hawi bound traffic at 3,691 vehicles.

For the AM commuter period (5:00-9:00 AM), the peak hour occurs between 7:15 and 8:15 AM; the PM commuter peak hour occurs between 4:15 and 5:15 PM. Reported traffic volumes in both directions are shown in Table [1] **2**.

Table 2. Existing Traffic Volumes, Akoni Pule Highway @ Kohala School

Date	Peak Hour:	To Kapaau	To Hawi	Peak Total
5/23-24	7:15-8:15 AM	247	319	566
	3:30-4:30 PM	344	303	647
5/24-25	7:15-8:15 AM	212	306	518
	3:30-4:30 PM	294	278	572

Source: Department of Transportation, 2006.

2. Water

The Department of Water Supply operates and maintains four water systems in North Kohala. Hawi is served by the Hawi-Kokoiki Subsystem which draws water from Watt Tunnel No. 1 and a deep well in Hawi.

Water from both sources is distributed through an 8" ductile iron transmission main in Akoni-Pule Highway.

3. Sewer

There is no municipal collection and wastewater disposal facility in North Kohala. Domestic wastewater collection and disposal is via individual wastewater systems.

4. Power and Communication

Electrical and communication transmission and distribution services are provided from existing aerial lines along Akoni Pule Highway. ***The area is currently served by an existing Hawaii Electric Light Company 2.5 MVA Hawi electrical substation and a 4,160 volt distribution overhead system along Hawi-Niulii Road. The capacity of the the existing substation is adequate to serve the estimate load of the library (HECO Comment).*** An existing Hawaii Electric Light Company utility pole located on the *mauka* side of Akoni Pule Highway with a three-phase distribution line can provide power to the library. A telephone and cable TV pole is located on the *makai* side of the road with available service connections for telephone, cable TV, and Internet services.

5. Public Schools

Public Schools in the North Kohala District are organized into the Kohala High Complex. The three schools comprising the complex include Kohala Elementary (K-6), Kohala Middle (Grades 7-8), and Kohala High (Grades 9-12). In 2004-2005, total enrollment of regular and special education students was 402 elementary, 233 middle school, and 276 high school students (Department of Education, 2005).

The Bond Memorial Public Library in Kapaau is the only public library in North Kohala. It opened in January 1929 as the Kohala Free Library on land deeded to the Territory of Hawaii by Caroline Bond. The library sits on a 10,378 square foot site in the town of Kapaau approximately 1 mile to the west of the proposed Kohala Public Library. The existing 1,610 square foot library houses a collection of approximately 17,810 volumes (books, videos, DVDs, periodicals, pamphlets, and maps).

The library is open weekdays at the following times: Mondays from 12:00 PM to 8:00 PM, Tuesdays through Thursdays from 9:00 AM to 5:00 PM, and Fridays from 9:00 AM to 4:00 PM. It is closed on weekends. A recent count tallied 492 patrons during the week with more than half frequenting the library on a Monday, which is typically the busiest day of the week (Telephone Discussion with Janet Lam, 2006).

The library is staffed by two full time workers---a branch manager and library assistant---and a part-time maintenance worker. A student helper assists the staff.

6. Protective Services

Police and fire services originate from the town of Kapaau. The police station is located in the Kapaau Civic Center where a 10 man force serves the district.

Fire service is provided by [an 8-hour, one fire fighter] ***a 24-hour fire facility equipped with an engine and an ALS medic*** in Kapaau (***Hawaii Fire Department Comment***). [Fifteen volunteers supplement the lone fire fighter.] Twenty-four hour back-up can be summoned from the Waimea Fire Station located in Kamuela.

3 SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

The scope of the project was discussed with the consulting architect, members of the design team, and staff of the Project Management Branch, Department of Accounting and General Services. State and County agencies were contacted for information relative to their areas of expertise. Time was spent in the field noting site conditions and conditions in the vicinity of the project site. The sum total of the consultations and field investigations helped to identify existing conditions and features that could affect or be affected by the project. These conditions include:

- There are no rare, threatened, or endangered flora or fauna on the property;
- There are no archaeological resources on the property or cultural practices associated with the property;
- The property is not an identified visual resource;
- The property is not located in a flood hazard area;
- There are no streams, ponds, or wetlands on the premises;
- The property is devoid of hazardous substances (Noda, 2004);
- No significant levels of arsenic and organochlorine compounds are found in the surface soil (Noh, 2005);
- The land was previously used for cultivated agriculture and most recently used as pasture; and
- Existing water, power, and communication systems are available.

A. Short-term Impacts

Site work, a necessary function to prepare the land for building the temporary and permanent improvements to follow, is the first and probably the most disruptive construction activity on the environment. Grubbing will remove unwanted vegetation and grading will establish preliminary and final design elevations. Trees to be retained as part of the future landscaping will be flagged prior to site work and their canopies pruned to not interfere with construction.

Site work is a persistent source of fugitive dust. Site contractors are aware that fugitive dust is a nuisance to both construction workers and people living and working near work sites and it is imperative for them to maintain stringent dust controls. Water sprinkling is probably the most effective dust control measure given the size of the building site and the scale of the proposed improvements. The Contractor, however, may choose to implement other measures and best management practices based on their experience with similar projects and job site conditions.

The Contractor will be made aware that surface soils contain elevated levels of arsenic and it is imperative that soil moving activities be carried out with caution to minimize fugitive dust from spreading into adjoining residential and commercial areas.

The Contractor will be responsible for general housekeeping of the site and for keeping adjacent streets and properties free of dirt, mud, and construction litter and debris. Pollution

control measures shall comply with Chapter 60.1, Air Pollution Control regulations of the State Department of Health.

Site work will expose soil thus creating opportunities for runoff and erosion. All grubbing, grading, and excavation will be done in accordance with grading plans approved by the County of Hawaii. Best Management Practices (BMPS) will be included in grading plans for erosion control.

An NPDES permit for storm water runoff associated with construction activities will be required because more than one acre of the total land area will be disturbed during construction. Any discharges related to project construction or operation activities shall comply with applicable State Water Quality Standards as specified in Hawaii Administrative Rules, Chapter 11-54 (Department of Health).

Construction noise, like fugitive dust, cannot be avoided. Residential uses are considered noise sensitive facilities. Construction noise will be audible in residential areas adjoining the site but exposure is expected to vary in volume, frequency, and duration. Noise will vary also by construction phase, the duration of each phase, and the type of equipment used during the different phases. For this project, noise will be most pronounced during the early stages when the library site is grubbed, graded, and building foundations poured. Noise will diminish as the structure is erected and roofed. Once the structure is completed, most construction activities will take place inside the building and the exterior walls will help to attenuate noise.

Community Noise Control regulations establish a maximum permissible sound level for construction activities occurring within (acoustical) zoning districts. Land zoned agriculture is placed in the Class C zoning district [Note: Approximately 70 % of the property is zoned AG-20 and 30% RS-15. The greater acreage is used to assign the project site to a zoning district]. The maximum permissible sound level for excessive noise sources (to include stationary noise sources and construction and industrial activities) in the Class C zoning district is 70 dBA between the hours of 7:00 am and 10:00 pm and 70 dBA between the hours of 10:00 pm and 7:00 am (Chapter 46, Community Noise Control, 1996). Construction activities often produce noise in excess of the permissible daytime noise level and a variance (or Noise Permit) will be needed. The Contractor will be responsible for obtaining the variance and complying with applicable conditions. Work will be scheduled for normal working hours (7:00 am to 3:30 pm) Mondays through Fridays.

The project is proposed in an area that has been significantly altered by previous agricultural activity. Should excavation unearth subsurface archaeological sites, artifacts, or cultural deposits, work in the immediate area will cease and the proper authorities notified for disposition of the finds. If *iwi kupuna* are uncovered and appear to be less than 50 years old, the Hawaii County Police Department will be notified. If the burials appear to be more than 50 years old, then the State Historic Preservation Officer will be notified. As a matter of protocol, both agencies will probably be notified for inspection and disposition of the finds.

Work in the Akoni Pule Highway right-of-way will be required to connect utilities and to construct the driveway connection. If required, a traffic control plan will be prepared and submitted to the Department of Transportation, State of Hawaii for review and approval. Traffic control measures to mitigate potential impacts to traffic circulation on adjoining streets would include but are not limited to:

- Posting construction notices to alert residents and motorists of construction within

the road right-of-way.

- Posting flagmen to marshal vehicles around excavations in the roadway.
- Keeping one traffic lane open at all times to minimize inconveniences to motorists.
- Covering open trenches with steel plates during non-working hours.
- Posting devices with warning lights during night hours.
- Restoring excavated road sections to pre-construction conditions or better.

Vehicles carrying men and material will contribute to traffic on Akoni-Pule Highway, the main street through North Kohala Material deliveries will be scheduled during non-peak traffic hours to minimize impact on traffic. Most, if not all loading and unloading of material will occur on-site; if street loading and unloading is needed, flagmen will be posted for traffic control. Some traffic delays can be expected during this activity but should last only a few minutes.

The Department of Education requested that the principals of Kohala Elementary and Kohala High Schools be continually updated during the construction phase about periods of excessive construction noise or dust and periods when there may be increased traffic congestion due to construction activities. In response to this request, the Department of Accounting and General Services ("DAGS") will inform the high and elementary school principals of the construction schedule and invite school representatives to attend the regular meetings scheduled between DAGS and the contractor. In this way, the Department of Education can bring up noise, dust, vehicle traffic, and other issues/concerns that are impacting the school.

B. Long-term Impacts

Residents of North Kohala have sought a new and larger library for the area since 1990. The existing Bond Memorial Library in Kapaau, while providing a library for North Kohala residents, is short on space for housing and expanding its collection, reading areas, computer stations for internet access, storage, accessions, and staff and patron parking.

The new library will replace an aged facility that has served North Kohala communities since 1929. The proposed Kohala Public Library will allow the library staff to expand the range of library functions and improve conditions for patrons and staff. These improvements or benefits include:

- Increase in library materials collection for adults, young adults, and children
- Increase in reference materials
- Creation of special collections
- Increase space for sitting and reading
- Expand the range of library programs for all age groups
- Increase Internet access for the public
- Provide staff with a larger work area, staff room, and storage
- Provide a meeting room for library programs and community use
- Provide a special room for North Kohala archival materials
- Provide adequate parking for patrons and staff
- Expand public service hours
- Increase community pride

Associated with these anticipated benefits are costs associated with operating and maintaining a larger facility. Additional staffing will be required because of the larger facility. Ideally, two additional positions (library assistant and library technician) would be needed to operate the library and service its patrons. In addition, the current part-time maintenance position should be increased to full time. Actual staffing will be determined at a later time. Student helpers and community volunteers can supplement the library staff.

Energy costs may increase because of a possible increase in operating hours into the evenings and the need to air condition the building. Besides adding to the comfort of patrons and staff and special collections, air conditioning will dehumidify the building to reduce mold and mildew from forming thus prolonging the life of the collection and electrical and electronic equipment.

Increases in energy costs can be mitigated by incorporating natural lighting, energy efficient light fixtures, and high-efficiency air conditioning units into the design of the structure and its utility systems. Water use can be reduced by installing low-flush toilets and low-gallon fixtures.

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

Water, power, and communication service will be extended from existing systems on Akoni Pule Highway. ***The Department of Water Supply informed the DAGS that an existing 8-inch waterline within Akoni Pule Highway is currently inadequate to provide the minimum fire flow of 2,000 gallons per minute. However, the installation of a pressure reducing/pressure sustaining valve station at the Department's Kynnersley #1 site would allow the Department's water system to provide 2,000 GPM at the project site. The DAGS will install the pressure reducing/pressure sustaining valve per the Department of Water Supply comment.***

Roof runoff will be collected as gray water and used for flushing toilets and urinals thus reducing potable water consumption. Low flow toilet fixtures can also help to conserve gray water. Insulated building and walls, low-E double glazed glass, and an efficient air conditioning system should reduce energy consumption and costs.

An individual wastewater treatment system is proposed for domestic wastewater disposal. The disposal system will be located on the eastern half of the site. Solids will be collected in a septic tank and effluent discharged into a leach field or injection well. Percolation tests will have to be performed to determine the most feasible effluent disposal option. A private hauler will collect the solids from the septic tank on a scheduled basis. The system will be designed to comply with the requirements of Hawaii Administrative Rules, Department of Health, Title 11, Chapter 62, Wastewater Systems.

Surface runoff will be directed to low spots (or detention ponds) on the eastern half of the site. Runoff would then be allowed to evaporate or percolate into the ground. Alternatively, runoff may be discharged into dry wells for underground disposal. Runoff generated by areas above the project site should be collected in swales alongside Akoni-Pule Highway and not flow onto the project site.

A private hauler will collect and transport solid waste to approved disposal facilities. Solid waste quantities generated by administrative and library functions have not been determined.

A 6,000 gross square foot public library would generate an average rate of 1.06 trips per 1,000 gross floor area (GFA) during the AM peak hour and 4.32 trips during the PM peak hour (Institute of Transportation Engineers, 2003). Using these rates AM peak hour traffic would result in 6.3 or 6 total trips during the morning peak (72% entering, 28% existing) and 25.92 or 26 total trips during the PM peak hour (48% entering, 52% exiting). Library traffic is about evenly split in both directions during the PM peak and favors entering traffic during the AM peak.

Based on the trip generation calculations, traffic to and from the library during morning and afternoon peak hours is not considered significant. It is recognized that traffic will fluctuate during library hours and this is to be expected. If the library is used as a meeting facility during the evening, traffic flow to and from the library will be equal to or higher than the afternoon peak generation traffic.

People are attracted to the area because of Takata Store and the library would be a second attraction. Traffic flow on Akoni Pule Highway is relatively light, sight distance in both directions is good (from the library driveway), and the roadway should be able to accommodate traffic generated by library use.

An environmental site assessment found no hazardous materials or underground storage tanks on the property. A follow up study found that the surface soil layer contains measurable levels of arsenic at and below the State standard of 22 kg/Mg. No measurable quantities of organochlorine compounds were found in the collected samples. Based on the results of sampling and analysis of surface soil layers, Noh recommended no further soil assessment but offered the following recommendations:

- The site planners and contractors should be aware of the existing arsenic concentrations at the subject site and inform those who will be involved in its development.
- Soil dust control must be implemented whenever soil is disturbed. The major route of human exposure is ingestion of arsenic-containing dust.
- Keep vegetative cover or other types of surface material over soil to serve as a barrier to soil exposure.
- Soil known to be free of contaminants should be used as topsoil in landscaping.

In general, the library should not be readily visible to passersby on Akoni Pule Highway because of the flag-lot configuration. The library building will be sited approximately 700 feet from and 36 feet below the highway grade thus making it difficult to see through a narrow opening (the driveway). The structure will be visible through the landscaping as patrons descend the driveway to the facility.

At 30-feet in height and at a lower elevation than Akoni Pule Highway, the library building should not obstruct views of the ocean from the Highway and areas *mauka* of the highway.

The to-be-requested land use district boundary amendment from Agricultural to Urban and change in zoning from AG-20 to RS-15 should not affect the overall land use pattern for the area.

The changes will expand slightly the Urban district and the RS-15 zoning district. Given the public purpose of the proposed project, it is anticipated that the boundary amendment and change of zone if approved will not adversely affect land use in the surrounding area. The changes in land use designation are compatible with existing land use designations in the immediate area and necessary to bring consistency between state land use, County of Hawaii general plan, and zoning for land on which the library will be constructed.

The proposed action is supportive of Hawaii County General Plan policies and courses of action for public facilities in North Kohala. The identified courses of action are:

(a) Encourage the expansion of the public school and library facilities as needs arise.
(b) Encourage the Hawaii State Library System to establish a public library separate from the school facility.

Thus the State action to construct a new library is both consistent with and supportive of Hawaii County general plan public facility objectives.
The proposed Kohala Public Library is seeking LEED silver certification. Certification would be recognized nationwide "as proof that the building is environmentally responsible, profitable, and a healthy place to live and work (www.usgbc.org)". It is anticipated that the building will have lower operating costs and increased asset value, conserve energy and water, healthy and comfortable for their occupants, and demonstrate an owner's commitment to environmental stewardship and sustainable building design.

4 ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

A no action alternative would maintain the status quo of the site thus precluding the occurrence of all environmental impacts, short and long-term, beneficial and adverse described in this Assessment. Resources committed to plan and build the facility would be foregone and the stated objectives of the project unachieved.

B. Alternative Energy Source

The State is considering the use of photo-voltaic units to promote energy conservation and sustainable architecture and engineering. The photo-voltaic units would be mounted on the roof to collect sunlight for generating electrical energy. An array of panels would be positioned on the west facing side of the roof and angled to receive maximum daylight (See Figure 9). In appearance, the units would resemble solar water heating units which are commonly placed on the roofs of residential and commercial buildings. The photo-voltaic units are quiet and operationally should not result in adverse environmental impacts.

The State Department of Accounting and General Services and the consulting architect also are investigating the application of wind power to generate electrical energy. One type of wind turbine the design team is considering is a vertical axis turbine not the propeller blade type that resembles a wind mill. The turbine model generally resembles a circular cage and is mounted on top of a monopole of varying height. This type of windmill is capable of generating high power output at low wind speeds. At this time, it has not been determined if wind turbines will be part of the site and library building design.

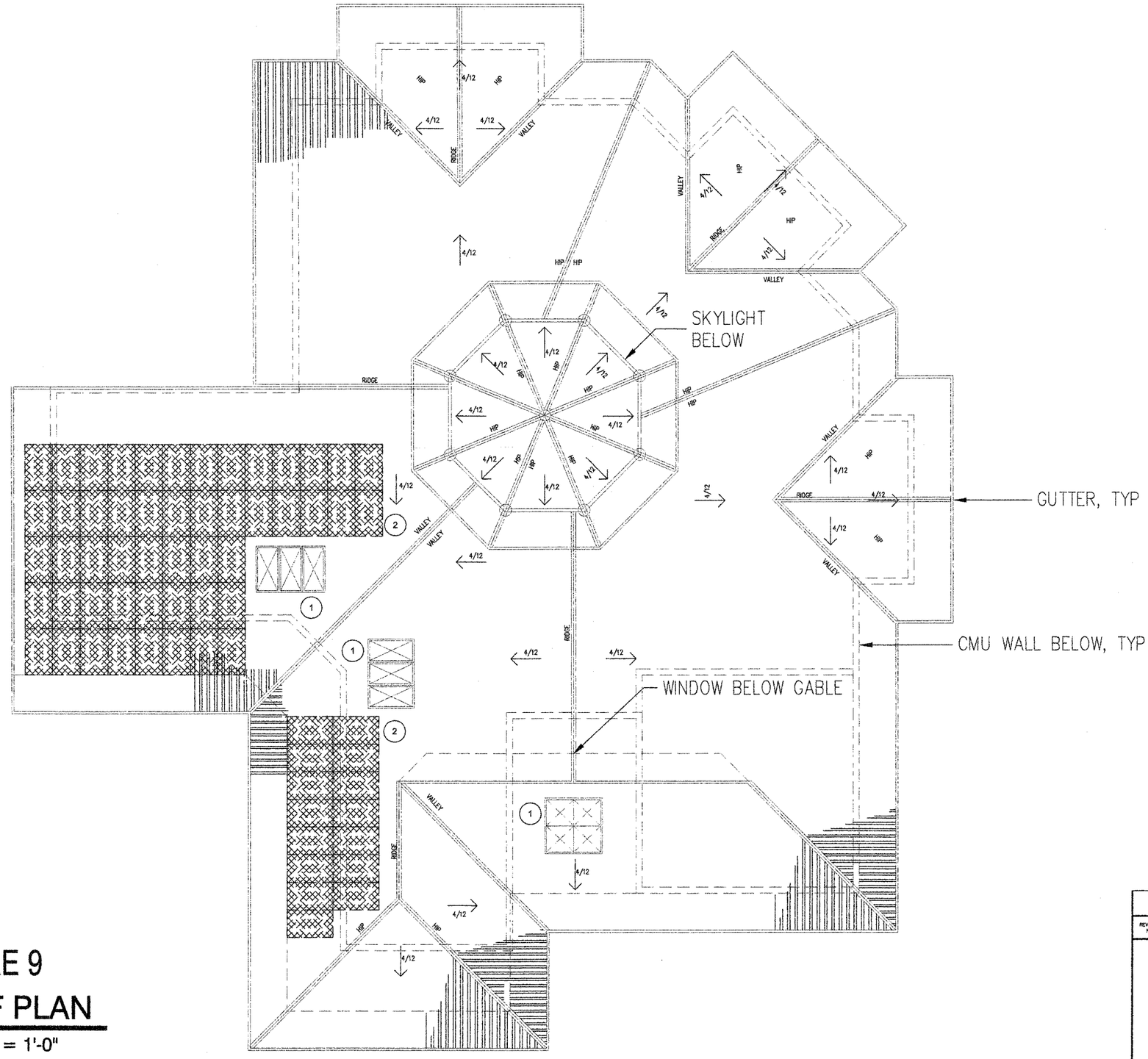


FIGURE 9
ROOF PLAN
SC: 3/16" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED: STATE PUBLIC WORKS ADMINISTRATOR
				7/09/2007	

DEPT. OF ACCOUNTING & GENERAL SERVICES
DIVISION OF PUBLIC WORKS
STATE OF HAWAII

KOHALA PUBLIC LIBRARY
NORTH KOHALA, PUEHUEHU, HAWAII
ROOF PLAN

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE

Expiration Date of the License

CDS International

DESIGNED BY:	CHECKED BY:	DAGS JOB NO.	DRAWING NO.
		05019.00	A-9
DRAWN BY:	APPROVED BY:	DATE	SHEET
SCALE: 3/16"=1'-0"			OF

FILE ..... DRAWER ..... FOLDER .....

5 PERMITS AND APPROVALS

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

State of Hawaii

Department of Health

Air Conditioning and Ventilation
NPDES Permit (Various)
Private Treatment Works and Individual Wastewater Systems
Variance from Pollution Controls (Noise Permit)

Department of Transportation-Highways Division

Approval Required for New Access Point or Relocating Existing Access for State Highways
Permit to Perform Work on State Highways

County of Hawaii

County Council

Land Use District Boundary Amendment
Change of Zone

Planning Department

Plan Approval

Department of Water Supply

Water Connection Plan

Department of Public Works

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

6 AGENCIES AND ORGANIZATIONS CONSULTED IN PREPARING THE ENVIRONMENTAL ASSESSMENT

The Draft Environmental Assessment for the Kohala Public Library was published in the Office of Environmental Quality Control Environmental Notice of July 23, 2007 and mailed to the agencies and organizations listed below. Publication initiated a 30-day public review period that ended on August 22, 2007. An asterisk * identifies agencies and organizations that submitted written comments during the review period. All comment letters and responses are found in Appendix D.

State of Hawaii

Department of Business Economic Development and Tourism
- Energy, Resources, and Technology Division
- *Land Use Commission
- Office of Planning

Department of Defense
- ***Office of the Director of Civil Defense***

Department of Education
- *Office of the Superintendent
- Hawaii State Public Library System

Department of Health
- *Environmental Planning Office
- *Office of Environmental Quality Control

Department of Land and Natural Resources
- Historic Sites Division
- Land Division

*Department of Transportation
*Office of Hawaiian Affairs

County of Hawaii

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

Federal

*U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service

Organizations/Utility Companies/Individuals

*Hawaii Electric Light Company
Hawaiian Telcom
Kohala Library Committee

Surety Kohala Corporation
The Honorable Dwight Takamine, 1st Representative District
The Honorable Paul Whalen, 3rd Senatorial District
Bond Memorial Library (Placement)
K. Takata Store
Michael K. Hasegawa
EWM Investments LLC

7 DETERMINATION OF SIGNIFICANCE

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

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

   There are no archaeological or cultural resources on or associated with the property thus no impacts are anticipated on these resources.

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

   The project does not curtail the beneficial uses of the environment.

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

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

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

   A new library will benefit the social and educational welfare of North Kohala residents that rely on the library as an educational, social, and cultural gathering place. The existing facility is too old and too small to accommodate the educational and reading pursuits of the general public,

5) **Substantially affects public health;**

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

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

   Substantial secondary impacts are not anticipated.

7) **Involves a substantial degradation of environmental quality;**

   Environmental quality will not be substantially degraded. The library site was previously in agricultural use (sugarcane cultivation) and may some sections may used today for grazing.

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

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

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

Flora observed on the property are not listed or candidates for rare, threatened or endangered status.

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

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

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

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

The proposed North Kohala Public Library site is not located in an environmentally sensitive area.

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

Scenic vistas and view planes were not identified in county or state plans or studies.

13) **Requires substantial energy consumption.**

Because this is a larger structure than the existing library, an increase in energy consumption is anticipated. An increase in consumption could be offset by the use of energy efficient air conditioning systems, updated electrical services, natural light, and low energy lighting fixtures.

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APPENDIX A

Kohala Library Committee Endorsement Letter

6/10/03 [illegible]
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JUN 10 [illegible]

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DIV. OF PUBLIC WORKS

2003 JUN 10 A 10:09

P.O. Box 248
Kapaau, HI 96755

June 9, 2003

Virginia Lowell, State Librarian
Hawaii State Public Library System
465 S. King Street, Rm. B-1
Honolulu, HI 96813

Ms Lowell;

The Kohala Library Committee would like to strongly recommend acceptance of the site designated for donation to the State by Surety, Kohala as the site for a new public library in North Kohala.

On May 19, 2003 a meeting was held to inform and update community members on the status of a new library for North Kohala. Those in attendance made no objections to the site and layout as presented at the meeting. A consensus was reached that the site was appropriate based on location, size and accessibility for our community.

It is our sincerest desire to have the new, larger library building at this location for the benefit of all Kohala residents.

Mahalo nui loa,

Mike Maddux

Mike Maddux, Co-chairman
Kohala Library Committee

cc: John Penebacker, Special Assistant to State Librarian
Brian Isa, Department of Accounting and General Services
Representative Dwight Takamine
Mike Gomes, Surety, Kohala

APPENDIX B

Archaeological Assessment, Cultural Impact Assessment and Botanical Survey for a 3.8-Acre Parcel at Honomaka'u, Pūehuehu Ahupua'a, North Kohala, Hawai'i Island.

Archaeological Assessment, Cultural Impact Assessment and Botanical Survey for a 3.8-Acre Parcel at Honomaka'u, Pūehuehu Ahupua'a, North Kohala, Hawai'i Island (TMK: 5-4-8:2)

Prepared for

Gerald Park Urban Planner

Prepared by

Hallett H. Hammatt, Ph.D.

and

David W. Shideler, M.A.

Cultural Surveys Hawai'i, Inc.

Kailua, Hawai'i

(Job Code: Puehu 1)

September 2006

O'ahu Office
P.O. Box 1114
Kailua, Hawai'i 96734
Ph.: (808) 262-9972
Fax: (808) 262-4950

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Fax: (808) 244-1994

Management Summary

Reference	Archaeological Assessment, Cultural Impact Assessment and Botanical Survey for a 3.8-Acre Parcel at Honomaka'u, Pūehuehu Ahupua'a, North Kohala, Hawai'i Island (TMK: 5-4-8:2).
Date	September 2006.
Project Number (s)	CSH project # PUEHU 1.
Investigation Permit Number	Cultural Surveys Hawai'i conducts archaeological studies under archaeology permit # 0605 issued by the State Historic Preservation Division.
Project Location	Honomaka'u on the north side of 'Akoni Pule Highway just east of Kohala School in Pūehuehu Ahupua'a, North Kohala District Hawai'i Island (TMK: [3] 5-4-008:002).
Land Jurisdiction	Understood to be owned by the State of Hawaii
Agencies	Study was prepared for review by the State Historic Preservation Division.
Project Description	The proposed development is for a North Kohala public library. While detailed plans are not available at this time they would at a minimum include grading and grubbing, foundation work, trenching for utility lines, paving of driveway and parking areas and landscaping.
Project Acreage	3.9-acres.
Area of Potential Effect (APE) and Survey Acreage	The Area of Potential Effect is understood as the 3.9-acre parcel.
Fieldwork Effort	3 man-days
Number of Historic Properties Identified	None
Effect Recommendation	Development of this land is suggested to have "no effect" on cultural resources
Mitigation Recommendation	No further archaeological, botanical or cultural study is recommended.

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Section 1 Introduction

1.1 Project Background

A 3.9-acre parcel at Honomaka'u on the north side of Akoni Pule Highway just east of Kohala School in Pūehuehu Ahupua'a, North Kohala District Hawai'i Island (TMK: [3] 5-4-008:002) is being proposed as the location for a future North Kohala public library (Figures 1-3). The purpose of the present study was to examine the potential effect the proposed project will have on archaeological, historical, cultural, and botanical resources.

1.2 Scope of Work

In consultation with Gerald Park, Urban Planner, it was agreed that the appropriate scope of work for this project would be a field check and literature review with an attendant botanical survey and a cultural impact evaluation. It was thought likely that the entire project area was under decades of sugar cane cultivation. This was indeed confirmed by a plantation field map (Figure 9), aerial photographs (Figures 10 & 11) and informant's testimony from their own experience (Section 6.9). Because of the long history of intensive commercial cultivation it was felt there was unlikely to be a need for a formal inventory survey with subsurface testing or for a formal cultural impact assessment following Office of Environmental Quality Control guidelines emphasizing the need for oral history interviews. We believe the information developed in this study is sufficient beyond a reasonable doubt to establish that the proposed project will have no adverse effect on archaeological, historical, cultural or botanical resources.

1.3 Environmental Setting

1.3.1 Natural Environment

The Honomaka'u project area lies on the north side of Akoni-Pule Highway on gently sloping table land on the east side of small Kapua Gulch at an elevation of approximately 500 feet. The soils are shown to be Kohala silty clay (KhA) (Figure 4). The area receives between 40 and 60-inches of rainfall per year. Historic maps, aerial photographs and informants all indicate that the property was under intensive sugar cane cultivation right up to the present 'Akoni-Pule highway. This cultivation probably lasted nearly a century from shortly after the opening of the Union mill in 1874 into the 1970s. With the end of sugar cultivation the land has remained fallow and is fairly densely covered with a diversity of exotic vegetation dominated by Christmas-berry (*Schinus terebinthifolius)* and guava (*Psidium guajava).*

1.3.2 Built Environment

The Honomaka'u project area is on the north side of 'Akoni-Pule Highway the major road in north North Kohala. The parcel is, at present, fallow old cane lands covered with scrub vegetation. The Takata Store on the west side of the Honomaka'u project area was established at its present location in the 1970s and is a major landmark in the area. The Kohala Schools located 250 m to the west of the Honomaka'u project area were formerly known as Honomaka'u School. Founded prior to 1917 as an elementary school it graduated its first twelfth-grade class in 1926.

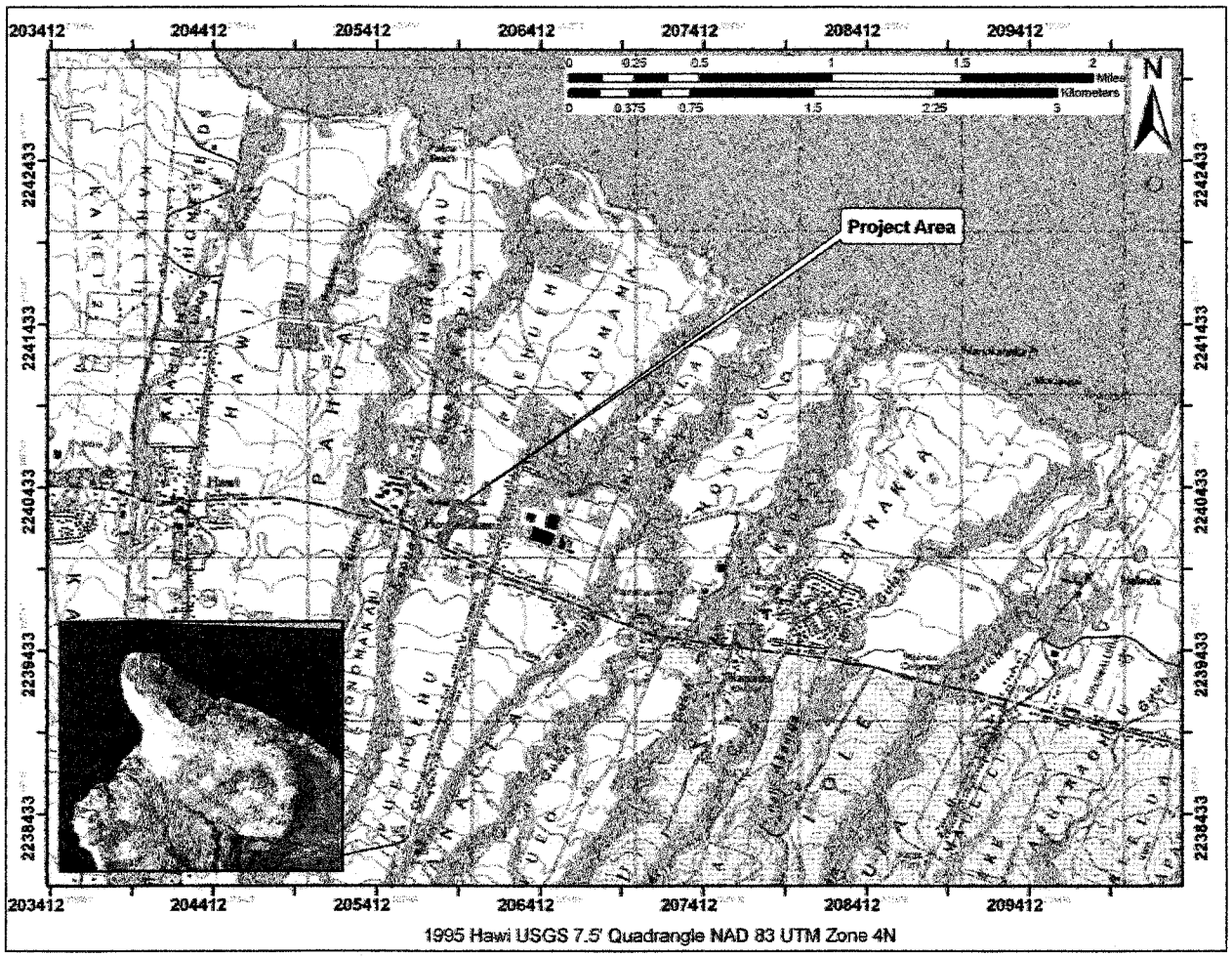

Figure 1. U.S. Geological Survey map showing Honomaka'u project area

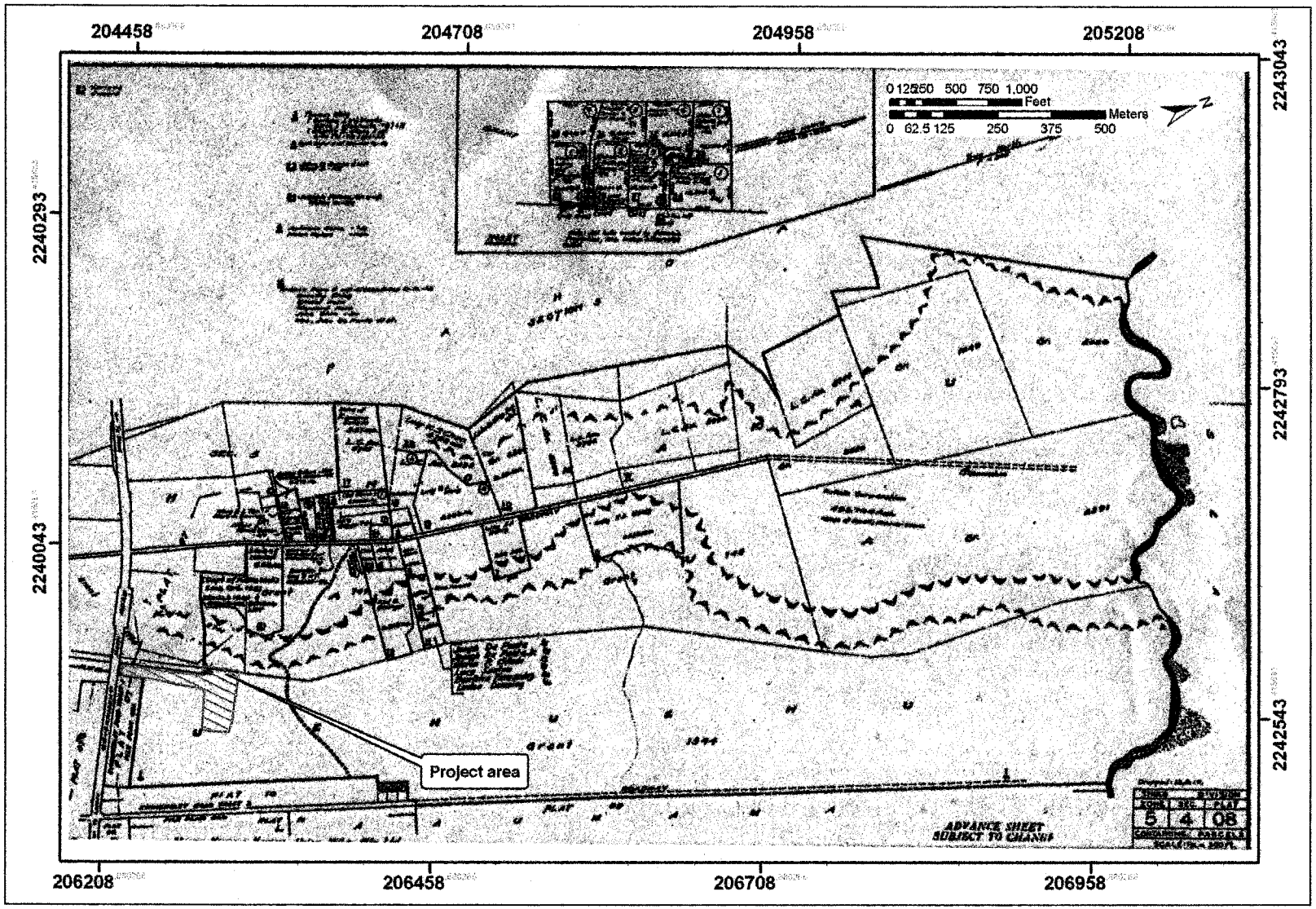

Figure 2. Tax Map Key (TMK) [3] 5-4-008 showing the Honomaka'u project area

Figure 3. Aerial photo showing Honomaka'u project area

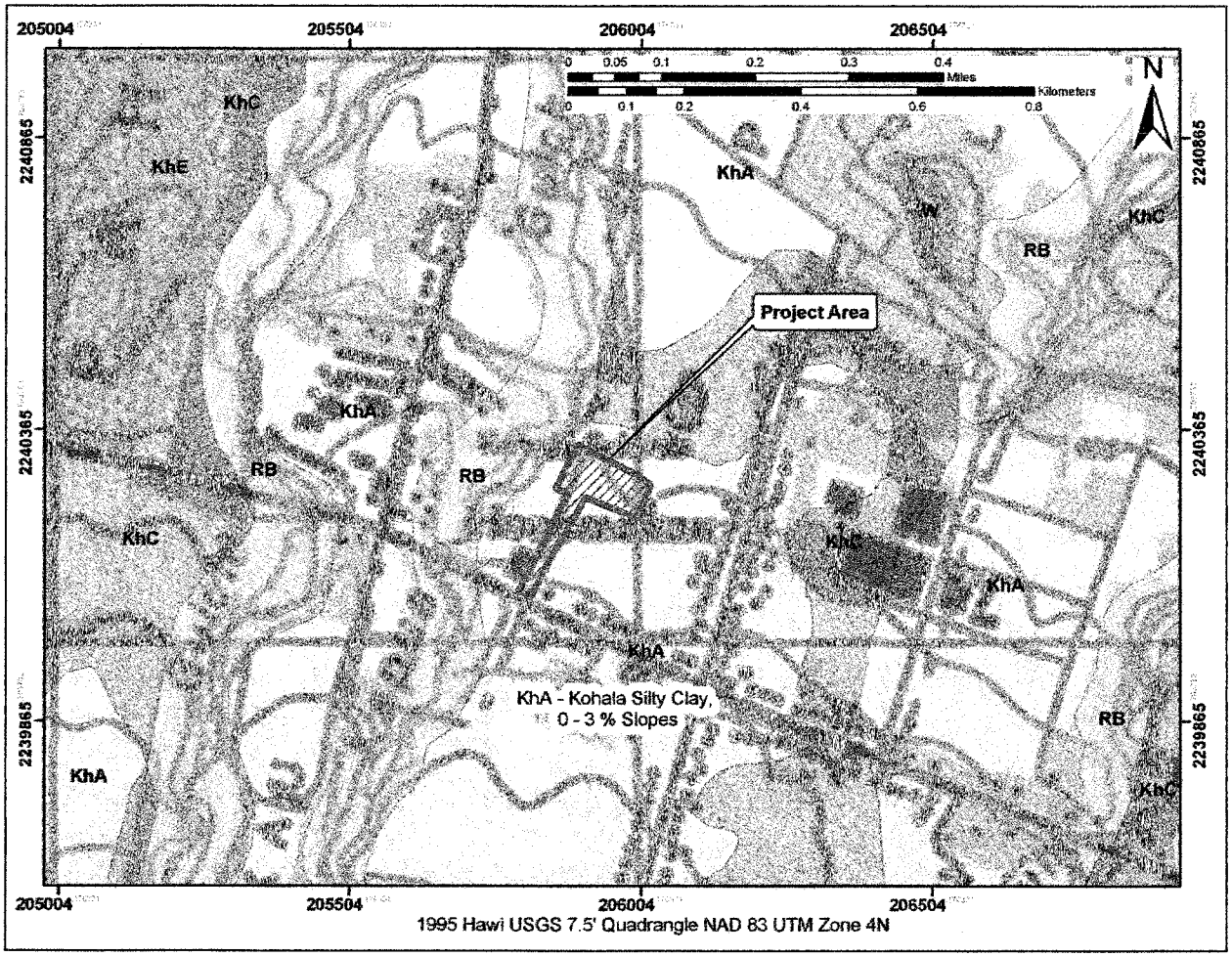

Figure 4. Soils in the vicinity of the Honomaka'u project area (2001 Soil Survey Geographic (SSURGO) database for Island of Hawai'i, U.S. Department of Agriculture, Natural Resources Conservation Service.

Section 2 Methods

Because it was suspected that the entire project area had been under decades of intensive commercial sugar cane cultivation it was felt that an Archaeological Assessment, Botanical Survey and Cultural Impact Evaluation was appropriate.

2.1 Field Methods

A field inspection was undertaken by Cultural Surveys Hawai'i staff members Auli'i Mitchell B.A., Leilani Pyle B.A. and David W. Shideler M.A. working under the general direction of Hallett H. Hammatt Ph.D. No excavation work appeared to be warranted.

2.2 Laboratory Methods

No materials were recovered from the project area and there was no laboratory work.

2.3 Document Review

Documents were reviewed at the State Historic Preservation Division library and the Cultural surveys Hawai'i library. Virtually every archaeological study ever written on north Kohala District was e examined.

The botanical work was aided with reference to standard resources including Haselwood et al. 1983, Motooka et al. 2003, Neal 1965, Staples and Herbst 2005 and Wagner, Herbst and Sohmer, 1990.

2.4 Consultation

The consultation for this study is summarized in Section 6.9

Section 3 Background Research

3.1 Traditional and Historical Background

3.1.1 Mythological and Traditional Accounts of North Kohala

North Kohala District was long associated with sovereignty over the entire island of Hawai'i. Schweitzer and Gomes (2003:20-21) offer the following succinct account of how the North Kohala ruling chiefs came to power:

> In the early 1300s, in a battle fought at Hinakahua, close to what is now Kapa'au, Hīkapoloa, the chief of Niuli'i defeated the chief of Kukuipahu, which lies toward Kohala's leeward side. Consequently, most of Kohala fell under the rule of Niuli'i. In the late 1600s and early 1700s, Niuli'i rose to even greater power under its own Mahi family. In the 1720's, the Mahi became the King's district chiefs over Kohala. Around 1740, upon the death of Hawai'i's ruler Keawe, Mahi chief Alapa'inui gathered his Kohala forces and defeated the powerful 'I family of Hilo, as well as Keawe's heir and son. Under Alapai'nui of Niuli'i, Kohala ruled Hawai'i. To placate the 'I, Alapa'inui named a high chiefess of that family and married her into his own line. To tighten connections with the Keawe family, he kept Keawe's two grandsons, Kalani'opu'u and Keōuakalani, at his court, and trained them to be his generals. Alapa'inui thus unified the Island. He made a serious attempt to conquer Maui and O'ahu as well. Eventually, Kamehameha, son to Keōuakalani and Keku'iapoiwa Lilihu, a Mahi descendent would complete that task."

This account places political control of most of North Kohala at Niuli'i, some seven kilometers east of the present Honomaka'u study area, in the early 1300s. In the triumph of Alapa'inui of Niuli'i circa 1740 the North Kohala chiefs came to rule the entire island.

Around 1781, Hawai'i's ruling chief Kalani'opu'u moved his court to Kohala. Scarcity of food, in Kona obliged Kalaniopu'u to relocate his court into the Kohala district, where his headquarters were fixed at Kapa'au. Here the same extravagant, laissez-faire, eat and be merry policy continued that had been commenced at Kona, and much grumbling and discontent began to manifest itself among the resident chiefs and the cultivators of the land,

Kamehameha the Great is traditionally said to have been born at Kokoiki in North Kohala approximately seven kilometers to the west of Honomaka'u.

3.1.2 Specific Traditional References to Pūehuehu

Regarding the early history of Pūehuehu Ahupua'a little is known. Mary Kawena Pukui (1983:8) offers the following *'Olelo Noe 'au* or poetical saying regarding Pūehuehu

Aia i Kohala, i Pūehuehu

Gone to Kohala, to Pūehuehu.

She offers the following explanation: "Nothing more is left. Used about someone who has lost everything. A play on Puehu (to scatter like fine dust). Also expressed *Hoi'i i Kohala i Pūehuehu.*" The saying would thus appear to be a matter of word play with little direct relationship to the land of Pūehuehu per se. The name "Pūehuehu means literally "spray scattered" thus suggesting evanescence or substance lost to the wind.

The only detailed tradition identified relating directly to Pūehuehu Ahupua'a is the Story of Uma related in full below:

He Mo'olelo no Uma Ha'i hou 'ia e Keonaona Kapuni-Reynolds

'O Uma he kanaka 'u'uku a akamai 'o ia i ka lua. 'O Kohala i Pūehuehu kona 'āina i noho ai. I kekahi lā hele aku 'o ia i ka nāhelehele 'o Pu'uhue kahi āna i hui ai me 'ehā kanaka. Aloha aku 'o Uma i kēia mau kānaka, akā 'a'ole i lohe 'ia, ho'oholo nā kānaka e hana 'ino iā Uma. Iā lākou i lele aku ma luna ona ua ho'omake 'ia 'ekolu o nā kanaka i ka lua, 'o ka hā, ua holo aku 'o ia i ka nahele.

Holo hou aku 'o Uma i Kapia, ma Waimea e nānā ala iā Mauna Kea. Iho a'e 'o ia a inu i ka wai kahawai a launa a'e 'o ia i 'umi kanaka nui. Aloha aku 'o ia iā lākou, 'a'ohe pane. Huli a'e 'o Uma e ha'alele, lele mai ke kanaka ma luna o Uma a ho'omake 'ia e Uma. Lele mai nā kānaka 'ē a'e ma luna 'o Uma, a make lākou a pau koe he 'elua kanaka i holo aku mai Uma mai.

Huaka'i hou 'o Uma i Mahiki, he wahi ma waena 'o Waimea a me Hāmākua, a aloha aku 'ia 'o ia e kekahi kanaka 'elemakule. Pane aku 'o Uma iā ia me ke aloha. Pupuhi a'e ka 'elemakule i ka paka, a ha'awi aku iā Uma. Iā Uma e pupuhi, ho'ā'o ka 'elemakule e pahu aku i ka ipu paka i loko o kona waha e ho'omake iā Uma. 'A'ole i hiki, 'ike mua i ka hana 'ino a ka 'elemakule, kiloi a'e 'o Uma i ka pa'akai i nā maka 'o ka 'elemakule, ho'olei i kona pikoi i ka 'ā'ī a hahaki 'ia nā iwi o ka 'elemakule.

Ho'omau aku 'o Uma a hiki aku i kekahi ulu lā'au neneleau. Ma laila 'o ia i 'ike aku i kekahi kanaka nunui e noho ana ma ka 'āina. Aloha aku 'o ia i ke kanaka, akā 'a'ole ke kanaka i aloha mai. Ho'ohuli a'e 'o Uma e ha'alele, lele mai ke kanaka nunui a hāpai a'e iā Uma i luna loa. 'Ike aku 'o Uma no ka pilikia, hā'ule 'o ia mai nā lima a hehe'e ma ke kua o ke kanaka nunui. Iā ia i hiki aku, pa'a a'ela 'o ia i ke kanaka a huhuki a'e i ka hua o ke kanaka, a make. Penei i ola ai 'o Uma ma kona mau huaka'i.

A Story of Uma Retold by Keonaona Kapuni-Reynolds

Uma was a man of short stature but he was skilled in the art of bone breaking. His home is in Pūehuehu, Kohala. One day he traveled out in the woods of Pu'uhue where he met four men. He greets them, but isn't acknowledged, and the men decide to make trouble to Uma. As they were jumping on him to kill him, Uma killed three of the men; the fourth escaped and ran off into the woods.

Uma continued on to Kapia, Waimea, facing Mauna Kea. He went down to drink the water from the stream and met ten big men. He greeted the men but there was no answer. As he turned around to leave the men jumped on him but Uma killed

them. The others jumped on him and were also killed, until they were all killed except for 2 men who ran off.

Uma then continues on his way to Mahiki, a place in the middle of Waimea and Hāmākua, where an old man greets him. Uma greets him with aloha. The old man is smoking a pipe, and offers some to Uma. As Uma starts to smoke; the old man tries to push the pipe down Uma's throat to kill him. But he failed, the trick was noticed and Uma threw salt into the eyes of the old man, threw his weapon where it entangled the man's neck and broke all his bones.

Continuing on he reaches a thicket of *neneleau*. There he saw a huge man sitting on the ground, he greets him but there is no reply, as he turns to leave, the big man jumps and lifts Uma over his head. Uma seeing the danger, slips and falls from his hands down the giant's back. When he reached the ground he held fast to the man and ripped his testicles instantly killing him. This is how Uma survived his journey throughout the island.

(www.edithkanakaolefoundation.org/project/kukulipo/akahi/102-neneleau.htm)

3.1.3 Early Historic Period

Missionary records in Kohala begin with the Journal of William Ellis where he recorded in 1823: " at noon we stopped at Kapa'au, an inland village, where with some difficulty, we collected a congregation of about fifty, principally women, to whom a short discourse was addressed." The mission field did not appear fruitful and no mission station was established in North Koala until Father Elias Bond arrived at 'Iole in 1841.

3.1.4 Pūehuehu in the Māhele

The *ahupua'a* of Pūehuehu was given to Kanaina, as part of LCA 8559, and he returned it to the Government as partial payment of taxes on his other lands. This seems to have been a pattern in the area as Schweitzer and Gomes (2003:93) note: "In the great Māhele, few claims were made on these *kula* slopes and most of the land fell to the government." Few commoner *kuleana* LCAs were awarded on the kula slopes of North Kohala (Figure 5). In fact there were two Land Claims LCAs 05239 and 05887 that were not awarded at Pūehuehu but their location is unclear.

3.1.5 Mid- to late-1800s

The major landmark in the vicinity of the Honomaka'u project area is the Kohala Schools located 400 m to the west on the west side of Kapua Gulch.. The Kohala High and Elementary School began as the Honomaka'u School sometime after 1837 when the government of the Kingdom of Hawai'i set aside 1.44 acres there for education. "By 1917, Honomaka'u enrolled 254 students and had seven teachers, overshadowing Hālawa and Makapala schools each with about 150 students and five teachers." (Schweitzer and Gomes 2003:115). The school expanded over time graduating the first twelfth grade class in 1926 with major improvements in the 1930s, 1950s and 1960s.

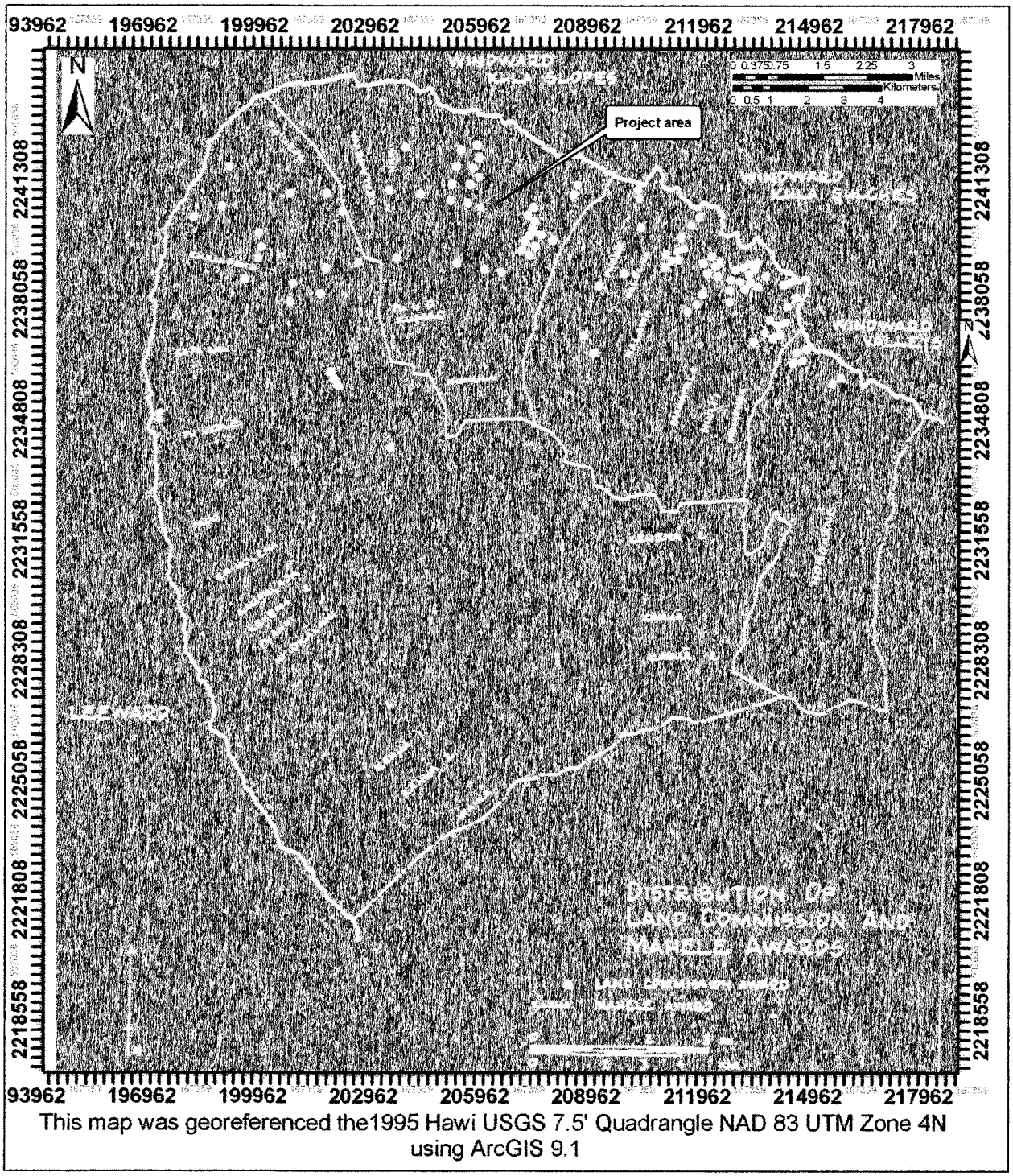

Figure 5. Distribution of commoner (*kuleana*) Land Commission Awards in North Kohala District (adapted from Tomonari-Tuggle DLNR Cultural Resources Study 1988:I 36)

The modern history of Pūehuehu is largely the history of the Union Mill. The 1870s were a time of rapid expansion in the North Kohala sugar industry. 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 9 plantations were begun (Halawa Mill and Plantation Company 1873, Union Mill and Plantation Company 1874, Niulii Mill and Plantation Company 1877, Hawi Mill 1878 – later Hawi Mill and Plantation Company, Beecroft Plantation 1879, Star Mill Company 1879, Thompson & Associates 1882, G. F. Holmes 1883 and Kynnersley Brothers 1883) (Dorrance and Morgan 2000:82). Much of North Kohala was transformed into a sea of cane in that decade (Figure 6).

In 1873 the Englishman Robert Robson Hind visited North Kohala to examine the prospects for sugar farming. Robert Robson Hind's grandson, Robert Renton Hind, produced an account of the memoirs of his father, John Hind, reporting:

> While on this visit (1873) he [Robert Robson Hind] appreciated the possibilities of sugar at Puuehuehu, better known later, as the Union Mill Plantation. He was advised by more than one that he was locating too far away from what was considered the rain belt, but he knew from his observations of vegetation, etc. that the chances for cane growing were far better than the locality on Maui which he had just left.
>
> Land was not considered of much value, and a small site was readily secured in fee at a very moderate price. I believe it was $20.00 per acre. In addition the lease of a large tract of land known as Puuehuehu was secured from one Kanehelau at, I believe, 37 ½ cents per acre, per annum, and agreements were entered into with Mr. Daniel Vida of Waikapu; Judge C. F. Hart of Kona, Hawaii; Mr. George F. Holmes of Kahua and Mr. James Woods of Puuhue. Shortly after these gentlemen were on the ground, land was being plowed, and in due time cane was planted and plans laid for the erection of the sugar factory. (Hind 1951:9)

John Hind would remember that when he went with his father to the location of the future Union Mill and Plantation Company that: "With the exception of a few patches of cane on upper Halawa, it was open grass land from the Kohala Sugar Co.'s west boundary at Kapaau for a matter of five to six miles." (Hind 1951:11) Mill construction was arduous with the boiler having to be hauled up from the rocky Honoipu Landing over bumpy roads by twelve yoke of oxen. The Union Mill sugar mill was located near the bottom of Union Mill Road approximately 500 m to the northeast of the present Honomaka'u project area. The proximity of the mill location suggests that the cane fields in the present project area (specifically field "Puuehuehu 46") would have been developed relatively early during field expansion.

The mill was plagued with disastrous fires that broke out in 1874 and 1878 causing much damage.

> Hind decided to sell the ill-fated mill and focus on the budding Hāwī enterprise instead. James Renton, Daniel Vida, Theo. H. Davies & Co. and the brothers Clement (Cecil) and Ralph Sneyd Kynnersley bought Union Mill for $78,000. New planters came in. The independents in Kohala organized themselves in the Puehuehu Plantation Company, and were joined by the Puehuehu Agricultural

> Company in 1910. Union Mill harvested 1,260 acres. (Schweitzer and Gomes 2003:108)

An account of the subsequent history of the plantation is offered in Hoyt's history of the Theo H. Davies Company:

> Each owned a quarter interest. Renton had capital, for he had made a fortune in the Australian gold fields. He moved from Honolulu to rebuild and then manage the mill, and they changed the name of the company to Union Mill. When the mill was finished, the partners staged a grand ball to celebrate, and James Renton led the march, with Queen Kapi'olani on his arm. It was a fine affair. (Hoyt 1983.78).

The population of North Kohala undoubtedly had already dropped precipitously by the time of the first missionary census in 1833 but fell to half that number by the time of the Māhele and continued to fall reaching a nadir circa 1973. The plantation boom brought in immigrant labor and the population grew sharply (Figure 7).

3.1.6 1900s

Throughout the first half of the twentieth century there was relatively little change in the total area of land in north Kohala under cane cultivation (Figure 8). Details of the twentieth century operations of Union Mill and Plantation are presented in a map of the plantation (Figure 9) and are summarized in *Kohala 'Aina*:

> Renton's son Henry took over in 1905, employing 280 employees, mostly Japanese. Leslie Wishard succeeded Renton, Jr in 1920. In 1932, Union Mill absorbed the remote Niuli'i Mill and Plantation and continued under Robert Lindsey and Andrew Walker as managers. Acreage reached three thousand acres, of which only one-fifth was leased. In 1937, Kohala Mill purchased Union under the supervision of J. Scott Pratt. The processing of cane was transferred to Hala'ula and Union Mill Closed. (Schweitzer and Gomes 2003:108)

> The workers at Union Mill and Plantation lived in seven camps that were developed in the vicinity including Japanese Camp and Puerto Rico camp and Haole Camp. A Portuguese oven is listed as being "Below Union Mill subdivision in a pasture" (Stevenson 1977:74). None of these camps are believed to have been located in or near the present Honomaka'u project area.

The Kohala Sugar Company was the most efficient survivor among the many sugar plantations of the Kohala coast. Castle and Cooke decided to shut it down in 1971 and the last cane was processed in 1975 (Dorrance and Morgan 2000:87). The project lands are believed to have remained in cane until the end of sugar production in the early 1970s (Figures 10 & 11) and to have lain fallow since. The relatively large Takata Store at the west side of the entrance to the project area was built in the 1970s.

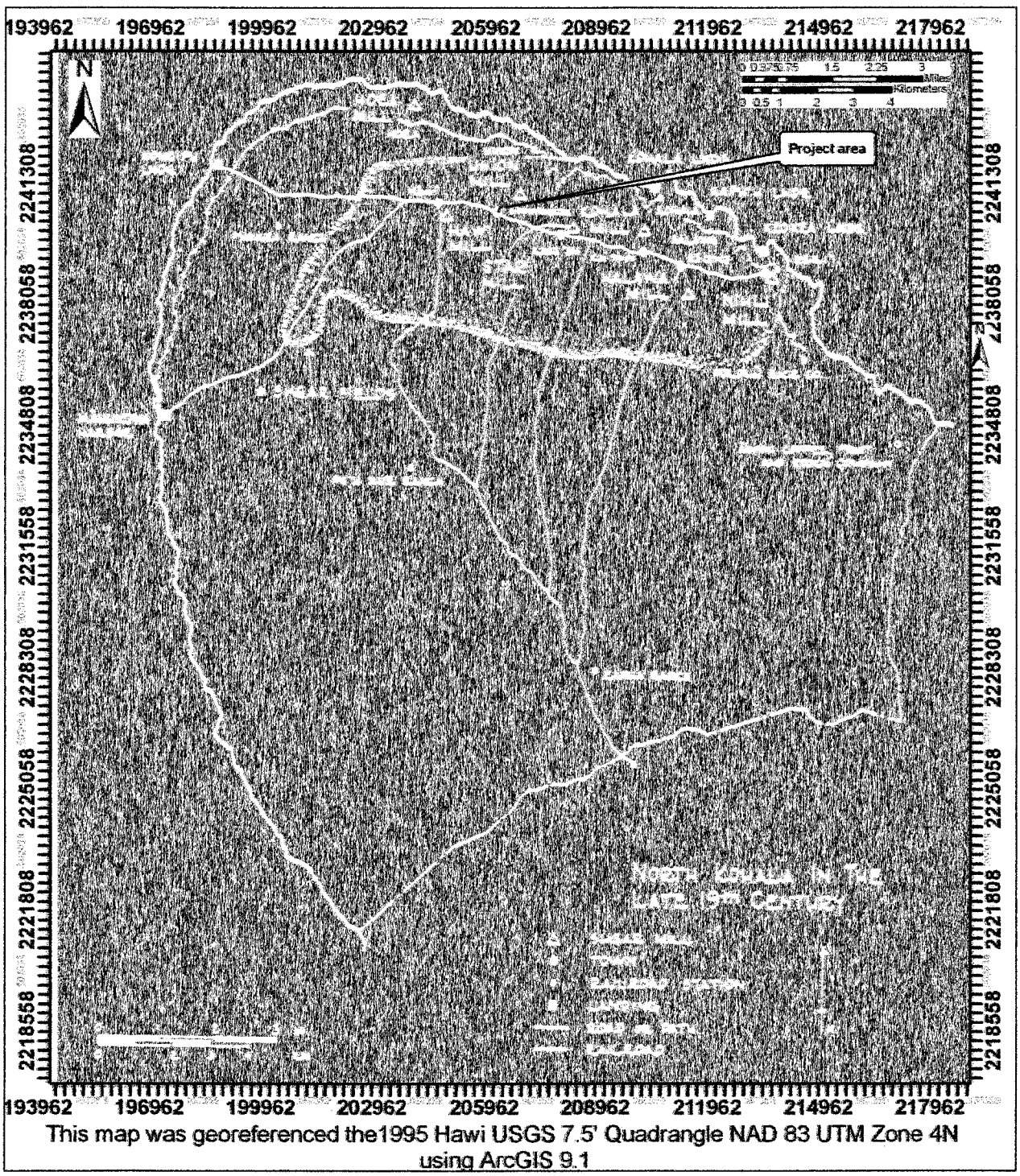

Figure 6. Sugar plantation infrastructure in North Kohala District in the late nineteenth century (adapted from Tomonari-Tuggle DLNR Cultural Resources Study 1988:I 41)

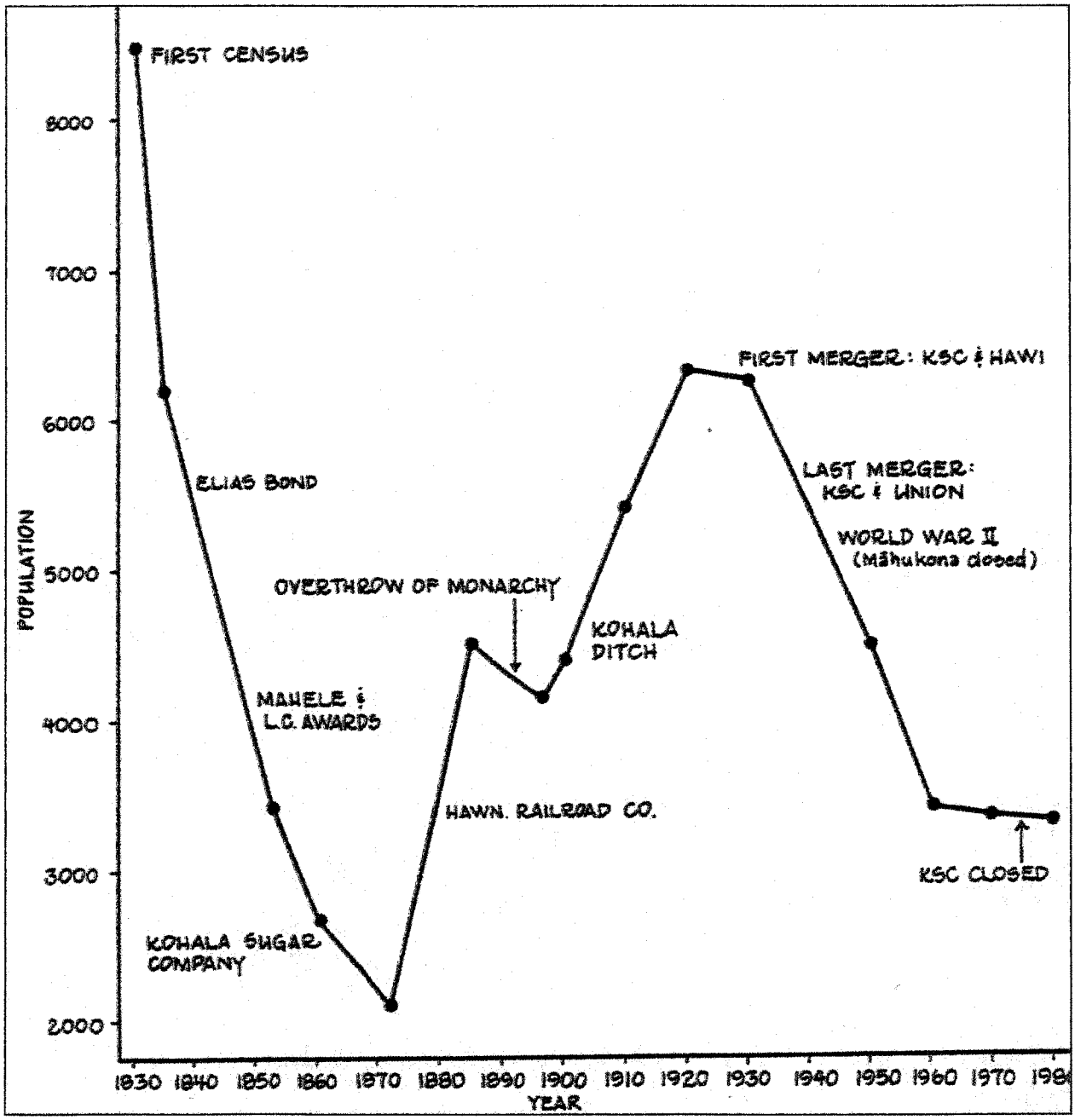

Figure 7. Graph of posited population of North Kohala District from 1830 to 1980 (adapted from Tomonari-Tuggle DLNR Cultural Resources Study 1988:I 34)

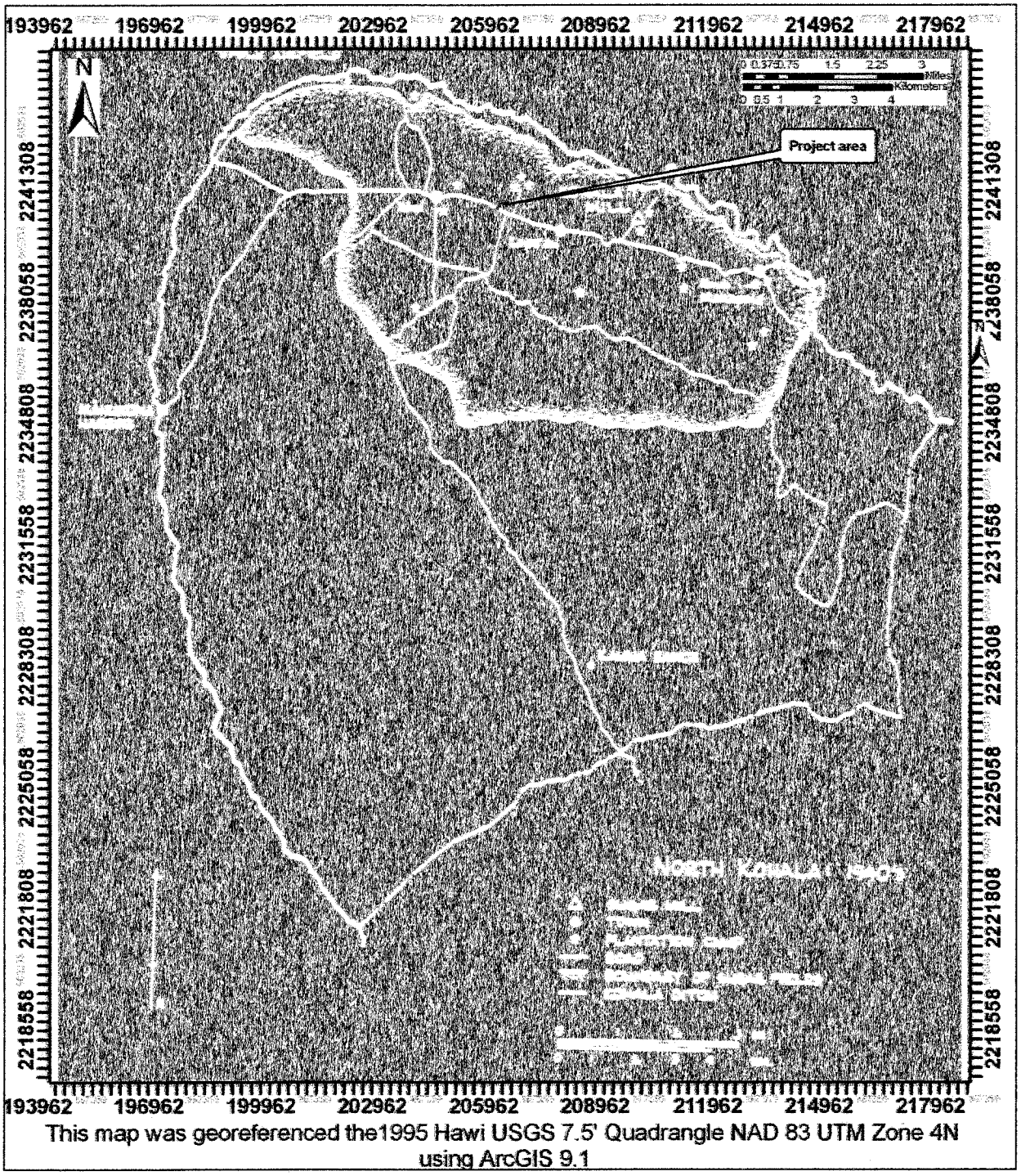

Figure 8. Sugar plantation infrastructure in North Kohala District in the 1940s (adapted from Tomonari-Tuggle DLNR Cultural Resources Study 1988:I 57)

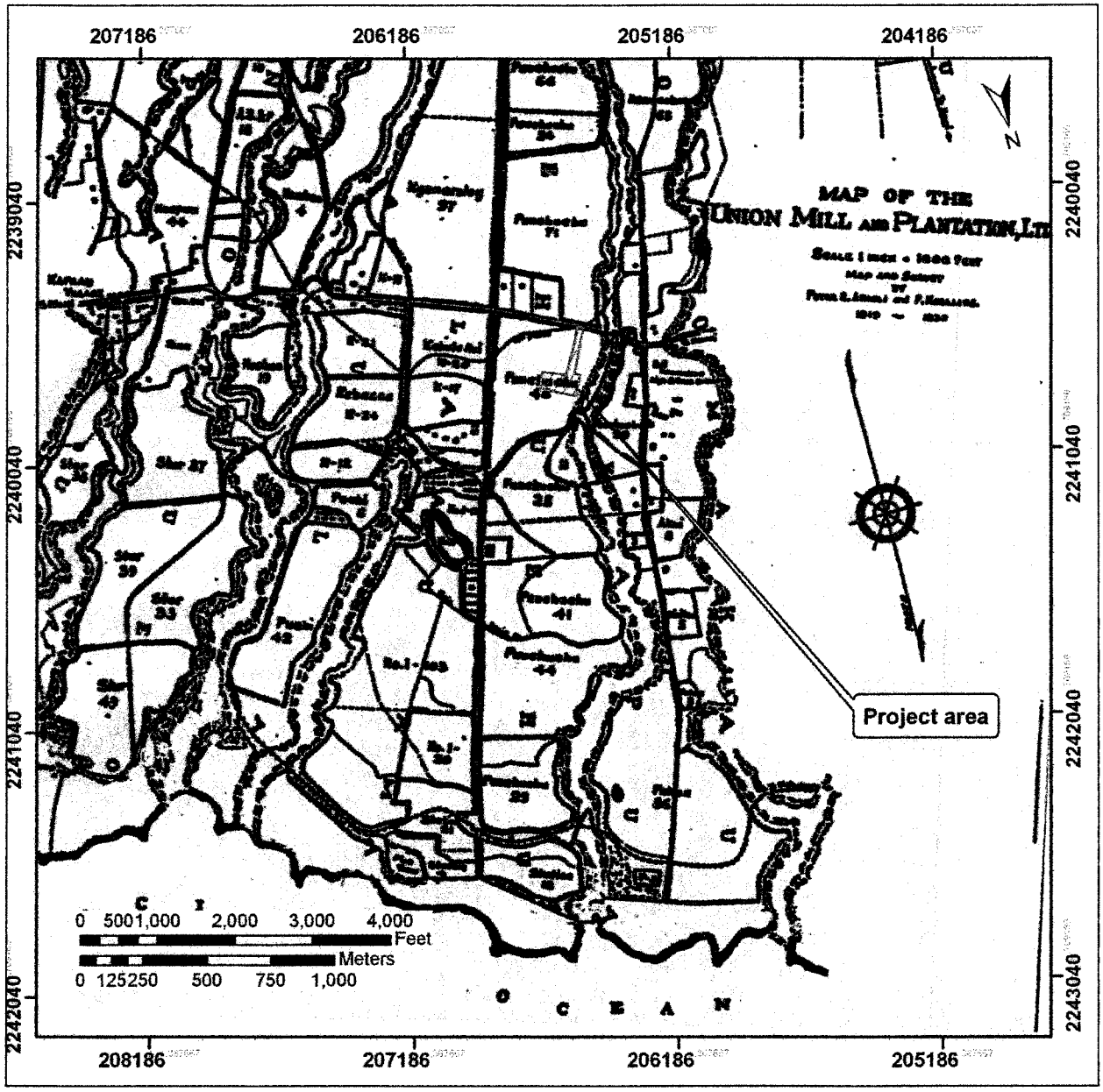

Figure 9. Portion of a map of Union Mill and Plantation showing present Honomaka'u project area as lying within sugarcane field "Puuehuehu 46"

Figure 10. Aerial photograph of Honomaka'u School in the 1950s Kapua Gulch, at right separates the school from the sugarcane fields that ran right up to the Akoni-Pule Highway within the present project area (at lower right) (adapted from Schweitzer and Gomes 2003:115)

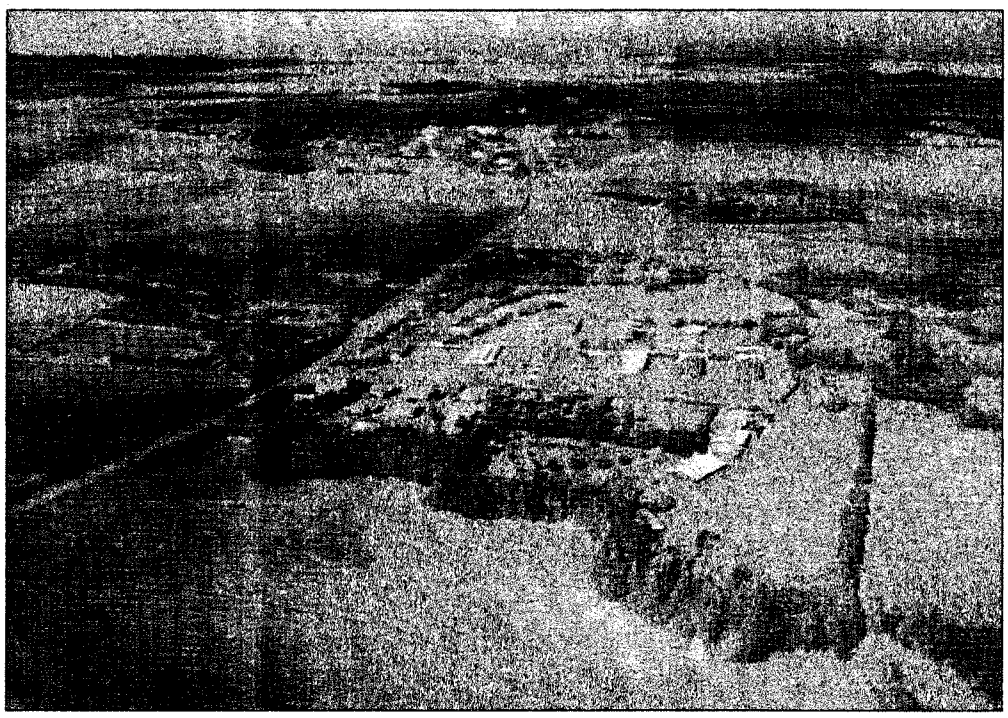

Figure 11. Aerial photo believed to show Honomaka'u School at center and most of present project area as an open field at lower left (no date)

3.2 Previous Archaeological Research

Previous archaeological studies in North Kohala are summarized in Table 1 below. A discussion of germane studies follows.

Table 1. Archaeological studies in North Kohala District

Source	Nature of Study	Location	Findings
Williams, 1919	Study of A Little Known Engineering Work In Hawai'i	Waiapuka, Nēnē Stream	Documents diversion dam & Aqueduct
Soehren, 1964	Archaeological Reconnaissance	Māhukona-Kawaihae Highway,	Brief (10 pg) description of 14 sites along 10 mile hwy corridor
Bonk, 1968	Archaeological Survey	Coastal Tract in North and South Kohala to 'Upolu	Sites very dense near S. Kohala boundary & at Lapakahi, less dense elsewhere
Cluff, 1968	An Analysis of the Fishhooks	Koai'e Fishing Village	Analysis of 193 fish hooks recovered from Koai'e fishing village
Newman, 1968	The Lapakahi Project: A Progress Report on Archaeological Research.	Lapakahi	Brief (7 pg) progress report documenting excavations by UH Mānoa students
Newman, Connor, Peterson, Small & Winter 1968	Lapakahi-selected Papers	Lapakahi	Compilation of 5 Lapakahi studies
Withrow, 1968	Study of Site Occupation and Desertion	Koai'e Village	Explores reasons for desertion of settlement
Newman, 1969	The Theory Behind the 1968 Lapakahi Project.	Lapakahi	Posits sequence of habitation at Lapakahi
Rosendahl, 1969	Archaeological Research In The Agricultural Uplands Of Lapakahi	Lapakahi	Reports results of major work in Lapakahi uplands
Soehren, 1969	Archaeological Reconnaissance	Parker Ranch Coastal Lands	Descriptions of sites 50-10-04-2353 & -2358

Source	Nature of Study	Location	Findings
Newman, Kelso Murabayashi, 1970	Hawaiian Fishing And Farming On The Island Of Hawai'i In A.D. 1778	Lapakahi	Analysis of traditional Hawaiian fishing and farming drawing upon Lapakahi data.
Rosendahl, 1972	Aboriginal Agriculture and Residence Patterns in Upland Lapakahi	Upland Lapakahi	Ph.D. dissertation places upland o 1400-1760, reports 10 C^{14} dates oldest was 1414-1614
Tuggle, 1973	Study of Prehistoric Agricultural Growth	Windward Valleys of Kohala TMK: 5-1	Mostly a discussion of research strategy
Tuggle & Griffin, 1973	Archaeological Studies	Lapakahi	Compilation of papers regarding Lapakahi work
Beggerly, 1974	Documentation of Prehistoric Occupation at a Dune – student paper	Pololu Valley	Reports data on 50-10-03-4916 dune site, basaltic glass dates
Rosendahl, 1974	Report on the Archaeological Walk-Through Survey	A Coastal Portion of Kukuipahu, TMK 5-6-01 40+ acres	Brief (6 pg) study notes numerous sites incl. habitations & probable burials
Tuggle, 1974	An Interim Report on Archaeological Research	Windward Valleys of Kohala, 1973 Field Season. (TMK: 3-5-1)	Pololu dune area settlement dated to about 1500 AD (basaltic glass dates)
Cordy, 1976	Re-Analysis of Social Organization Interpretations	Lapakahi	Concludes 10 residential groups of 10-30 people at Lapakahi
Tuggle, 1976	Study of Windward Kohala-Hamakua Archaeological Zone	Windward Kohala-Hamakua Archaeological Zone	Presents detailed account of Pololu work
Beggerly 1978	Partial inventory of archaeological resources	North Kohala District	Discusses approximately 2 dozen sites
Sinoto, 1979a	Archaeological Reconnaissance Survey	Proposed Road Corridor in Kohala Estates Development, TMK 5-9	Reports 12 sites incl. cave shelter, C-shape, enclosure, platform, terraces, U-shape

Source	Nature of Study	Location	Findings
Sinoto, 1979b	Archaeological Reconnaissance Survey	Mahukona Properties 5 parcels in Kapa'a Nui, Lamaloloa, Kaiholena, Kaupalaoa, & Kehena 2	Brief (10 pg) dentifies 30 features incl. *ahu*, cairn, C-shape, enclosure, mod. outcrop, shelter, trail
Hammatt, and Folk, 1980	Archaeological Surface Survey and Subsurface Testing	Coastal Lands in Pao'o, TMK: 5-7-1:5	27 sites mapped incl. 17 habitation sites, 5 canoe sheds, 4 burials & 1 *ko'a*
Rosendahl, 1980	Archaeological Reconnaissance Survey	Kohala Makai-I Development Site, Waika, TMK 3-5-9-01:6, 38.2 acre	Documents 8 features incl. mod. outcrop, walled shelter, midden conc., pavement & cairn
Schilt and Sinoto, 1980	Limited Phase I Archaeological Survey	Mahukona Properties, TMK 5-7-1:20 & 23; 5-8-1: 9, 10, 11,16, 17 & 18; 1,044 acres	Documents 45 sites and site clusters incl. C-shapes, mod. outcrops, *ahu*, trails, enclosures
Kaschko, 1982	Intensive Archaeological Survey and Test Excavations	Puakea Bay Ranch Roadway Corridor, Lands of Honoipu and Puakea, 5-6-01:24, 43, 68	Documents numerous features at sites 50-10-01-5667 & -5668; reports 2 C^{14} dates of 1640 +/-60 & 1720+/- 80 AD
Rosendahl, 1982a	Archaeological Reconnaissance of 3 road corridors	Proposed Access Road Corridors, Puakea Bay Ranch, Puakea and Honoipu, TMK 5-6	Brief (5 pg) study discusses site 50-10-02-4143 Honoipu Rock Gardens, a historic artifact scatter & boulder alignment
Rosendahl, 1982b	Archaeological Reconnaissance Survey,	Puakea Bay Ranch, Lands of Puakea and Honoipu, 440 acre	Documents features A t-R incl. garden areas, shelters, platforms, walls & old railroad bed
Barrera, 1984a	Preliminary Report on Archaeological Survey (Draft); B) Supplement: Ad'l Archaeological Sites; C) Archaeological Survey (Revised)	Puakea Bay Ranch, Hawai'i 5-6-01:24, 440 acres	Documentation of approx. 97 sites incl. mounds, walls, shelters interpreted as late pre-contact inland agricultural sites

Source	Nature of Study	Location	Findings
Barrera, 1984b	Archaeological Reconnaissance:	Maliu, 1700 acres	Notes Kukuipahu Heiau & 6 other sites incl. enclosures, walls, C-shape & a historic artifasct scatter
Kaschko, 1984	Archaeological Reconnaissance	Kohala Coastal Parcel, Kapaanui and Kou, TMK: 5-7-02:11; 232+ acres	Describes 12 sites incl. railroad bed, cairns, shelters, platforms, multiple burial complex
Rosendahl, 1984	Archaeological Field Inspection	Proposed Conservation District Residential Site, Puakea Bay Ranch Development, Land of Puakea, (Portion of lot C-1 Only). TMK: 5-6-01:024; 2 acres	Brief (4 pg) report. No sites but notes proximity of 50-10-01-7012 Honoipu Landing & 50-10-01-4143 Honoipu Gardens
Allen, 1985	Limited Archaeological Reconnaissance Survey	Kahua Shores Coastal Parcel; Kahua 1; TMK 3-5-9-01:007; 79.8 acres	Reports 38 sites mostly habitation and burial
Hammatt, and Borthwick, 1986	Archaeological Survey & Excavations	Kohala Ranch	Reports 30 sites incl. ahu, habitation terrace & burial platform
Neller, 1986	Archaeological Assessment	Proposed Educational Center And Museum In Pu'uepa and Kokoiki,	Discusses Mo'okini Heiau (site 2328) & Kamehameha birth place
Hammatt, and Borthwick, 1987	Archaeological Reconnaissance	1,288 Acres for a Proposed Residential Community, Kohala Ranch,	Describes 13 sites on relatively level table lands incl. ag. terraces, *ahu* & overhang shelter
Barrera, 1988	Archaeological Data Collection Letter to Rosemary M. J. Chen, Puakea Bay Ranch	HRHP 6785 Puakea Bay Ranch, Puakea 5-6	Brief (3 pg) report of minimal finds, tested possible grave
Tomonari-Tuggle 1988	A cultural Resources study	North Kohala District	Presents a historic summary analysis

Source	Nature of Study	Location	Findings
Bonk, 1989	Archaeological Survey	Waika, TMK 5-9-7:1 area of 1800' by 470' (19.4 acres)	No finds
Dunn & Rosendahl 1989	Archaeological Inventory Survey	Kapaanui Agricultural Subdivision, Land of Kapaanui and Kou, TMK: 3-5-7-02:11	Documents 26 sites with 66 + features incl. cairn, trail, mod. outcrop, enclosure, terrace, platform; excavated 47 test units (25.4 m^2); burials at 5 sites; reports 5 C^{14} dates oldest 1400-1660 AD
Rosendahl, 1989	Archaeological Inventory Survey	Kapaanui Agricultural Subdivision Reservoir Site, Lands of Kapaa 1st and 2nd, TMK 5-6-01: por. 035	Relocates cart road site 50-10-01-12350 (identified by Peterson 1968)
Hammatt, and Borthwick, 1990	Archaeological Reconnaissance Addended to Archaeological Reconnaissance of 1,314 Acres for a Proposed Residential Community Kohala Ranch, North Kohala	Gulch area within 1,314 Acres of Kohala Ranch, TMK: 5-9	Describes 24 sites; builds on Hammatt, and Borthwick, 1987 study that did not cover gulches reporting overhangs, cave shelters, trails, C-shape, *ahu*
Burgett and Rosendahl, 1990	Archaeological Inventory Survey	Mahukona Property, Lands of Kou, Kamano, Mahukona 1st and 2nd, Hihiu, and Kaoma,	Identified 101 sites comprising 246 features
Carlson & Rosendahl 1990	Archaeological Inventory Survey	Conservation District – Kapaanui Ag. Subdivision, Lands of Kapaanui and Kou, TMK: 3-5-7-02: Por. 11	21 sites identified within Kapaanui Conservation Zone project area & 2 other sites (13686 & 12446) east of the project area

Source	Nature of Study	Location	Findings
Stafford, Marlenajon, Hoshida, Coit, Hoshida, Soloman, 1990	Preliminary Report: Assessment of Cultural and Historical Values, Discussion of Site Relationships, Disclosure of Additional Site Discoveries, Recommendations for Development and Interpretation	Kou, Kamano, Mahukona 1st and 2nd	Discussion of sites 50-10-01-13575, -13576, -13577, -13578, -13580, -13581, -13582, -13584, -13586, -13587, -13588, -13593, -13597, -13599, -13600, -13601, -13602, -13603, 13612, -13650, -14892 and -14893
Barrera, 1991	Archaeological Inventory Survey Preliminary draft:	Kahua, TMK: 5-9-07:7; 28.8 acres	Notes 1 wall – no site # assigned
Burgett and Rosendahl, 1991	Additional Archaeological Inventory Survey	Mahukona Property, Lands of Kou, Kamano, Mahukona 1st and 2nd, Hihiu, and Kaoma, TMK: 3: 1-3, 10-14, 16-18	Reports 28 new sites with 63 features incl. mod. outcrops, terraces, trails, enclosures, alignments, cairns & C-shapes
Cordy, 1991a	Archaeological Reconnaissance	Proposed Access Road Corridors, Puakea Bay Ranch, Puakea and Honoipu,	SHPD review study
Cordy, 1991b	SHPD documentation of a site visit of collapsed grave	State land near Kapa'a Park, Kapa'a TMK: 5-6-01:37	Burial Site 50-10-01-14,949
Barrera, 1992	Archaeological Inventory Survey	Four Sites in the Conservation District.Puakea, TMK: 5-6-2:41	4 sites near Puakea Bay incl. Honoipu Dry Land Ag. Terraces & 3 habitation sites
Cordy, 1992	Documentation of Family Cemetery	Niuli'i Ahupua'a,	State Site 18,056
Graves, 1992	Archaeological Inventory Survey	Kohala Makai-I Project Area Land of Waika, TMK: 5-9-1:06	Reports 14 sites with 28 features incl. temp. hab., ag, shrine, military & trail
Streck, 1992	Archaeological Reconnaissance Survey	U.S. Coast Guard Loran Station, Upolu Point TMK: 5-6-01: 001-005, 009 & 010	No significant finds

Source	Nature of Study	Location	Findings
Barrera, 1993	Archaeological Inventory Survey1993 Supplement Investigations	Four Sites in the Conservation District Puakea, TMK: 5-6-2:41	Brief (11 pg) documentation of 4.5 m2 of excavations at sites reported in Barrera 1992, minimal findings
Burgett and Rosendahl 1993	Summary of Archaeological Inventory Surveys	Kapaanui Agricultural Subdivision and Mahukona Property, Lands of Kapaanui, Kou, Kamano, Mahukona 1st and 2nd, Hihiu, and Kaoma	Summaries findings of 5 archaeological surveys (Kaschko 1984, Dunn and Rosendahl 1989, Burgett and Rosendahl 1990, Carlson and Rosendahl 1990 and Burgett and Rosendahl 1991) documenting 179 sites with 465 features
Denham, Brennan and Kennedy, 1993	Archaeological Inventory Survey with Subsurface Testing Report	Property at TMK: 5-5-08:01, 20, 43, 45, 48, 51, & 52, in the Ahupua'a of Hawi, Pahoa, and Honomakau, 230 acres	Only 1 site, 50-80-02-17782 a low rock alignment
Denham, Cruz, Maigret and Kennedy 1993	Archaeological Inventory Survey of 100' wide corridors along cane haul road & along the coast	Along the North Kohala Trail Corridor, From Ka'auhuhu to Halawa Ahupua'a,	Only 2 sites both at Halawa Gulch: 50-80-02-18423 a taro ag complex and –18429 two terraces
Smith, 1993	SHPD Inadvertent Burial Discovery report	Meadows Subdivision Kahua 1 TMK 5-9-014:009 near Keawewai Gulch	Site 50-10-05-19821 bones in a lava blister
Yent, 1993	Archaeological Monitoring Report: Waterline Construction Project	Lapakahi State Historical Park North Kohala	Discusses impacts to site 0080 a mound, minimal finds
Adams, and Athens, 1994	Archaeological Inventory Survey	Upland Portions of Kukuipahu and Awalua, 614 acres	Mostly historic commercial sugar & Kukuipahu Heiau

Source	Nature of Study	Location	Findings
Erkelens and Athens, 1994a	Archaeological Inventory Survey	Kohala Plantation Village, east from Hana'ula Gulch 720 acres	Documents 5 road sites, 2 wire station sites, 3 clearing mound sites, a flume/ditch construction, 2 railroad construction sites, 1 historic *lo'i*, 1 pre-european site & 5 historic cemeteries
Erkelens and Athens 1994b	Archaeological Inventory Survey	Seaward Portions of Waiapuka, Makanikahio 1, and Makanikahio 2, 122 acres near Pololu Lookout	Historic mule station buildings & 1 burial at cliff edge
Wulzen, Head and Goodfellow, 1994	Interim Report, Archaeological Inventory Survey	Chalon International Mahukona Mauka Parcel, Mahukona 1st and 2nd, Hihiu and Kaoma,	Interim Report, on Mahukona Mauka Archaeological Inventory Survey
Langlas, 1994	Report of an Investigation of the Hawaiian Cultural Significance of Candidate Sites for the Kamuela Area (Hawai'i) NEXRAD Installation Part 1:Candidate Sites for the NEXRAD Installation	Pu'u of Mauka Kawaihae & Kalala Ahupua'a, S & N Kohala TMK: 3-5-9 & 3-6	University of Hawai'i study including a review of historic literature
O'Hare and Goodfellow 1994	Interim Report: Archaeological Mitigation Program Phase II: Data Recovery Excavations	Kahua Makai/Kahua Shores Coastal Parcels, and of Kahua 1,	Interim Report: on Data Recovery Excavations Site 50-10-05-4015
O'Hare, and Goodfellow, 1994	Interim Report: Phase II - Data Recovery Archaeological Mitigation Program	Chalon Mahukona Lodge Project, Kapa`anui, Kou, Kamano, Mahukona 1st and 2nd, Hihui, and Kaoma, TMK: 5-7-003:001-003, 010-	Interim summary of work at 179 sites with 464 component features

Source	Nature of Study	Location	Findings
		014, 016-018	
Spear and Chaffee, 1994	Archaeological Inventory Survey of 2 long pipeline routes	Kohala Water Transmission System Project, North and South Kohala	Identifies 5 sites: 3 in Waikoloa & 2 in Makiloa S. Kohala. No sites in N. Kohala
Barrera, 1995	Archaeological Inventory Survey	Lamaloa, Kaipuhaa and Koaeae, , Hawaii Island: TMK: 5-7-01:11	19 sites several habitation sites & many burials
Wulzen and Goodfellow, 1995	Phased Archaeological Inventory Survey Phase II-Data Collection	Chalon International Mahukona Mauka Parcel 164 acres	25 sites with 53 features incl. roads, trails, enclosure, alignments, mounds & terraces; 30 excavations at 15 sites; 2 C^{14} dates oldest 1260-1420 AD
Barrera, 1997	Archaeological Inventory Survey	Waika TMK:5-9-05: 4, 5	Brief (7 pg) description of 1 site 21181 a series of stone walls interpreted as a historic livestock barrier
O'Hare and Goodfellow, 1997	Archaeological Mitigation Program Data Recovery	Kahua Makai/Kahua Shores Coastal Parcels, and of Kahua 1	Reports 4 C^{14} dates from Site 50-10-05-4015 all ranging into modern times
Barrera, 1998a	Archaeological Data Collection at Three Sites,	Puakea, TMK:5-6-002-011	Work at 3 sites recorded by Barrera in 1984: 6762, 6763 & 6754, one site not relocated, reports on 5.5 m2 of excavations; minimal finds
Barrera, 1998b	Archaeological Data Collection at Two Sites	Puakea, (TMK: 5-6-002:11)	See above
Graves and, Franklin, 1998	Archaeological Inventory Survey	Kahua Makai/Kahua Shores Coastal Parcels, Lands of Kahua 1-2 and Waika, TMK:5-9-01:007 & 008; 103	Reports 68 sites with 179 features including many permanent & temp. habitation sites; 5 C^{14} dates oldest 1420-1640 AD

Source	Nature of Study	Location	Findings
		acres	
Borthwick, 2000	Archaeological Assessment	Kaiholena TMK: 5-8-01:16; 262 acres	Brief (15 pg) reconnaissance documentation of 15 site areas
Corbin, 2000	Archaeological Data Recovery	Kohala Makai-I Project Area Land of Waika, (TMK: 5-9-01:06)	Results of Data Recovery at Sites 16170 & 16173
Corbin, n.d.	Archaeological Reconnaissance	Proposed Access Road Corridors, Puakea Bay Ranch, Puakea and Honoipu,	Not seen
Rechtman, 2000	Archaeological Survey	roughly 100 X 100 foot area on a Pu`u named Waiakanoula, in Kahuna 2nd Ahupua'a,	No finds
Corbin, 2001	Arch. Reconn. Survey	Mahukona-Offsite Irrigation Pipeline Corridor Project, Land of Awalua, Ha'ena, Kapunapuna, Kapa`a 1-2, Kapa-anui, Kou, Kamano, & Mahukona (TMK:5-6-01, 5-7-02)	Reports 25 features incl: 2 enclosures, 5 mod. outcrops, 2 ranch boundary walls & 16 pre-contact boundary walls
Dye and Maly, 2001	Archaeological Inventory Survey	Coastal Portion of Kaiholena Ahupua`a, (TMK: 5-8-01:11)	See Dye 2003
Haun, 2001	Archaeological Assessment	Proposed Wellness Retreat Buildings Lands of Hana'ula & Honopueo	No finds
Clark and Rechtman, 2003	Archaeological Data Recovery	Pāo'o Ahupua'a, TMK: 3-5-7-01:5	Data recovery at SIHP Site 2382, a habitation terrace, much disturbed, findings modest

Source	Nature of Study	Location	Findings
Corbin, 2003	Additional Archaeological Inventory Survey	Project IV of Kohala Ranch, Waikā and Kahuā 1 & 2, TMK 3-5-9, 930-acres	Further work at 4 sites described by Hammatt and Borthwick 1986, 87 & 90
Dye, 2003	Revised Archaeological Inventory Survey	Kaiholena Ahupua'a, TMK: 5-8-01:11; 260 acres	Describes 216 historic sites reporting 5 C^{14} dates all around 1800.
Kubo and Rosendahl, 2003	Archaeological Stabilization and Restoration	Habitation Complex, Land of Kahua 2nd,	Site 50-10-05-2489, Pre-contact habitation complex
Clark and Rechtman, 2004	Archaeological Inventory Survey	Kamano, Mahukona 1st and 2nd, & Hihiu Ahupua'a, TMK: 3-5-7-02:12, 190 acres	1 site, 24095 an enclosure yielded pre-contact artifacts

Archaeologists have tended to think of North Kohala District as falling into three topographic zones: the deep valleys of the northeast coast, the gulch dissected slopes of the windward side), and the generally little eroded slopes of the leeward side (Tuggle 1973; Tomonari-Tuggle 1988). More than 90% of the archaeological studies in North Kohala have been on the leeward side west of 'Upolu Point. Major studies of the gulch dissected slopes of the windward side (including the terrain of the present study area include: Tomonari-Tuggle 1988; Denham, Brennan & Kennedy 1993; Denham, Cruz, Maigret and Kennedy 1993; Erkelens and Athens 1994.

Tomonari-Tuggle 1988 (North Kohala Cultural Resources) study

Tomonari-Tuggle prepared a cultural resources study for North Kohala District for the DLNR Division of State Parks to serve as a data base for the management of cultural resources (Table 2 and Figures 12 & 13).

Table 2. Sites of the Windward Kula Slopes Described in Tomonari-Tuggle's 1988 North Kohala Cultural Resources Study

Historic Property	Interpretation
Site 7100	Father Elias Bond District (including church and school)
Site 7105	Sugar Mill Sites (Hoea Mill, Hawi Mill, Union Mill)
Site 7123	Kohala Club Hotel
Site 7125	Kapa'au Commercial District
Site 7127	Kohala Courthouse
Site 7128	Kamehameha Statue
Site 7139	Hāwī Commercial District

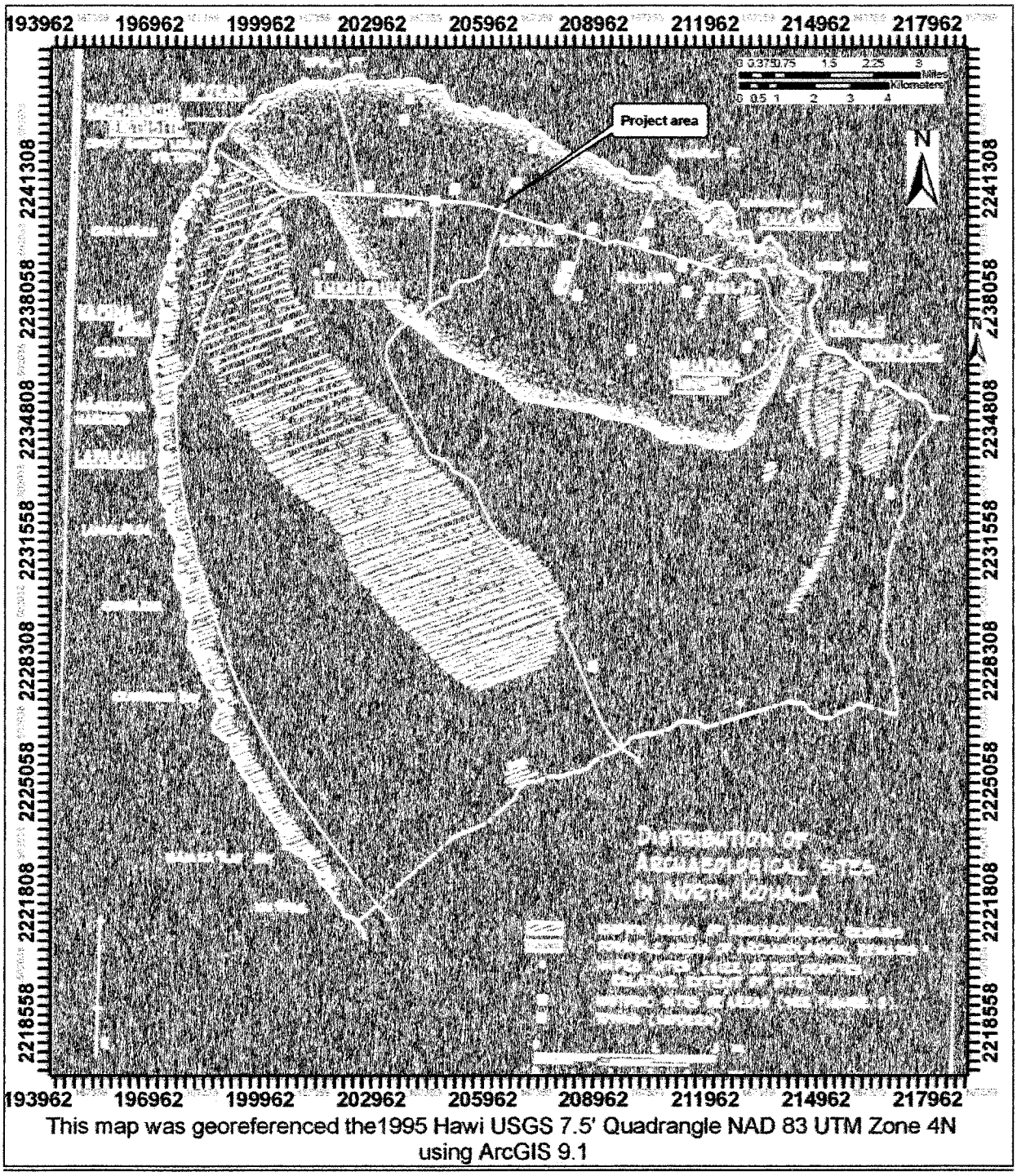

Figure 12. Distribution of archaeological sites in North Kohala District (adapted from Tomonari-Tuggle DLNR Cultural Resources Study 1988:II 8)

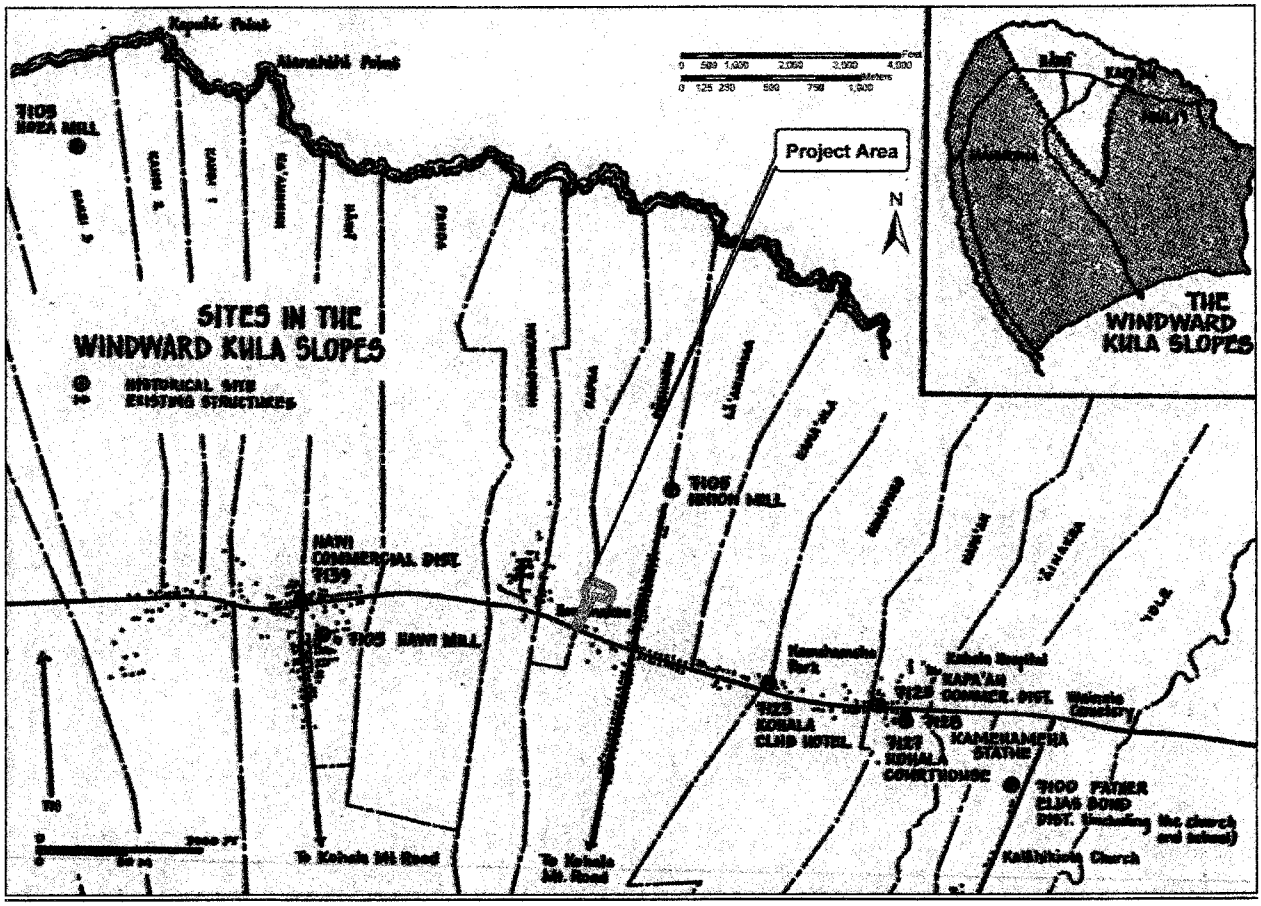

Figure 13. Distribution of cultural resources in the Windward *Kula* Slopes of North Kohala District (adapted from Tomonari-Tuggle DLNR Cultural Resources Study 1988:II 52)

Denham, Brennan & Kennedy 1993 (230-acre) study

Archaeological Consultants of Hawai'i carried out an archaeological inventory survey of a 230-acre project area on the seaward side of Akoni-Pule Highway between Hāwī and the Kohala Schools located approximately 1 kilometer west of the present Honomaka'u study area. Their study area is quite similar both in topography and land use history. Although it was known there had formerly been a sugarcane worker's camp "(Camp #5) for Japanese and Korean laborers in the project area no associated site was identified. This is explained in that in 1960 "the homes were picked up and moved to another location" (Denham, Brennan & Kennedy 1993:10) seemingly leaving no archaeological trace. "The only feature located on the subject property was a low rock alignment (Feature A) at State Site # 50-80-02-17782. The low rock alignment was interpreted to be a boundary of Site # 17782, a possible cemetery." (Denham, Brennan & Kennedy 1993:1) However this study did locate three other sites in Kukukua Gulch that proved to be just east (outside) of their project area (Table 3 and Figure 14). Furthermore, the authors noted two additional sites (Denham, Brennan & Kennedy 1993:B13). On the eastern bank of Kumakua Gulch they note the presence of a mound or platform 3.3 m by 2 m by 0.5 m high. In Līpoa Gulch another platform (5 m by 4 m by 1 m high) believed to be a burial. The authors conclude that the general absence of sites: "is attributable to the direct and indirect effects of sugar cane cultivation." (Denham, Brennan & Kennedy 1993:1)

Table 3. Sites Identified in the Inventory Survey of a Nearby 230-Acre North Kohala Project Area (adapted from Denham, Brennan & Kennedy 1993:B1)

Historic Property Designation	Interpretation	Recommendation
Site 17781	A boulder with petroglyphs interpreted as a possible birthing stone	Preservation
Site 17782	Two low rock alignments and at least 6 low rock mounds understood as a nineteenth century cemetery	Preservation
Site 17783	Two low burial platforms with headstones – a historic cemetery	Preservation
Site 17784	A low rock mound (interpreted to be a burial mound), 3 depressions and a low rock alignment	Preservation
Mound or platform 3.3 m by 2 m by 0.5 m high on the eastern bank of Kumakua Gulch (No site # assigned)	Function not suggested	Outside survey area on private property. no treatment recommendations were made
Platform (5 m by 4 m by 1 m high) at Līpoa Gulch (no details as to location)	Believed to be a burial	Outside survey area on private property. no treatment recommendations were made

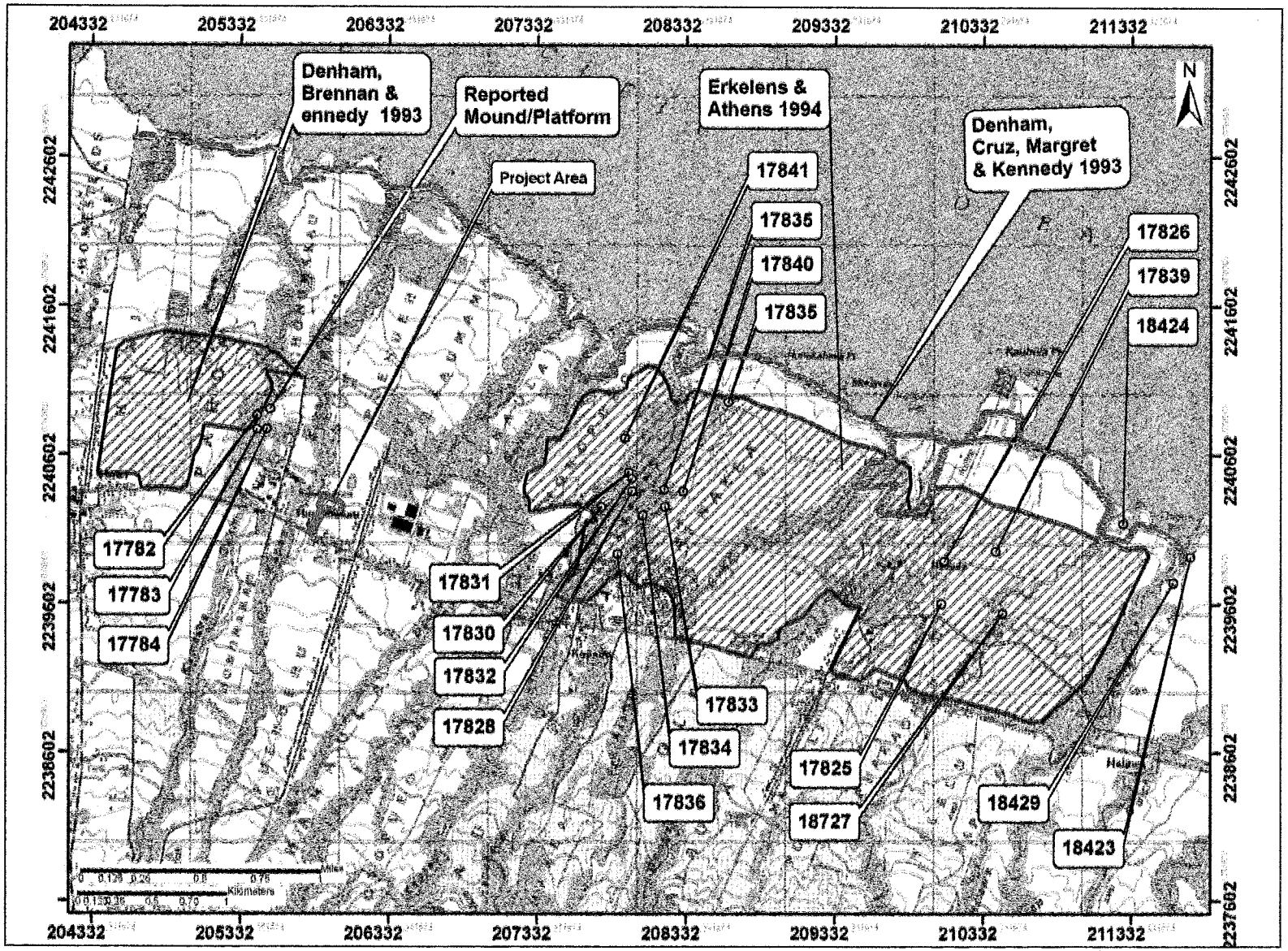

Figure 14. Map showing location of previously identified sites in the vicinity of the present Honomaka'u project area

Denham, Cruz, Maigret and Kennedy 1993

Archaeological Consultants of Hawai'i carried out another archaeological inventory survey in the vicinity in 1993 along a 6.3-mile long, 100-foot wide corridor for a coastal trail. The trail alignment extended from seaward of Hāwī Town to Hālawa passing through seaward Pūehuehu Ahupua'a. While the authors note that "Boulder scatters, low earthen mounds, and alignments litter the side of the trail" (Denham, Cruz, Maigret and Kennedy 1993:1) they were considered to be plantation deposits and were not treated as sites. Similarly two historic dumps and a blast hole were noted but were not treated as sites. Only two sites were designated both at the eastern end of the study corridor (at a distance of 5.5 kilometers or more east of the present Honomaka'u study area) at Halelua and Hālawa (Table 4). Site 50-80-02-18423 is a well-defined agricultural taro terrace complex and site 50-80-02-18429 two agricultural terraces (1 possibly natural).

In addition the Denham, Cruz, Maigret and Kennedy (1993:25, 26 & Appendix C) study presents data on Ohai Heiau (or "O'ahu" Heiau; Site 50-80-02-18424) at coastal Halelua Gulch located 5.5 kilometers east of the present Honomaka'u study area. The *heiau* was reported as destroyed by Thrum (1907:64) with remnants used for a wall. Thrum relates that some of the human remains uncovered during demolition of the *heiau* were re-interred at the site possibly within the wall.

Table 4. Sites Identified in the Denham, Cruz, Maigret and Kennedy 1993 6.3-Mile Long, 100-Foot Wide Coastal Trail Corridor Study

Historic Property Designation	Interpretation	Recommendation
Site 18423 (Hālawa Gulch)	Well-defined agricultural taro terrace complex	Interpretive Preservation
Site 18424 Ohau Heiau (Halelua Gulch)	"remains of the wall which was constructed after the demolition of Ohau Heiau" were noted	Concern for possible re-interments within wall
Site 118429 (Hālawa Gulch)	Two agricultural terraces	Preservation

Erkelens and Athens (1994) 720-acre study

Erkelens and Athens (1994) carried out an archaeological inventory survey of a 720-acre project area running along the seaward side of Akoni-Pule Highway between Kapa'au and Hālawa. The western edge of their study area at Hana'ula Gulch is approximately 1.5 kilometers east of the present Honomaka'u study area and is quite similar both in topography and land use history. A total of seventeen sites were identified and were described as shown in Table 5 and Figure 14.

Table 5. Sites Identified in the Erkelens and Athens (1994) Inventory Survey of a Nearby 720-Acre North Kohala Project Area (adapted from Erkelens and Athens 1994:157)

Historic Property Designation	Interpretation	Recommendation
Site 17825	Historical cemetery	Preservation
Site 17826	Historical cemetery, Historical taro *lo'i*	Preservation
Site 17827	Terraces and mounds	No Longer Significant
Site 17828	Historical mill road and clearing mounds	No Longer Significant
Site 17829	Mill wire station	No Longer Significant
Site 17830	Historical mill road	No Longer Significant
Site 17831	Mill wire station	No Longer Significant
Site 17832	Historical mill road	No Longer Significant
Site 17833	Pre-European activity area	Preservation
Site 17834	Historical mill road	No Longer Significant
Site 17835	Historical mill road and clearing mounds	No Longer Significant
Site 17836	Historical cemetery	Preservation
Site 17837	Train roadbed	No Longer Significant
Site 17838	Train roadbed	No Longer Significant
Site 17839	Possible historical cemetery	Preservation
Site 17840	Historical cemetery	Preservation
Site 17841	Historical cemetery	Preservation

It may be noted that only one site (Site 17833) was understood to predate western contact. No substantial features were found during test excavations at the site and the site was basically an "anomalous linear pile of rock" with associated midden, lithic artifacts (volcanic glass and a polished basalt flake) and charcoal concentrations that dated to c. A.D. 1600 - 1800 (Erkelens and Athens 1994:63, 100). The identified taro *lo'i* was thought to post-date the advent of the Kohala Sugar Company irrigation system.

Regarding the import of the post-European sites Erkelens and Athens (1994:99) comment:

> With the exceptions of the cemeteries identified during this survey and select portions of the Kohala Mill complex, none of the plantation era sites should be considered as significant historic resources. None of the sites have integrity of

construction, represent unique types, or contain potential information important to the interpretation of the past that is not already documented in available sources.

Erkelens and Athens (1994:iii) posit that the near century of sugar cane cultivation in the project lands "virtually erased the archaeological record from most of the area."

3.3 Background Summary and Predictive Model

Site densities on the gently sloping tablelands of windward North Kohala that were typically under sugarcane cultivation for nearly a century are indicated to be very low. Site 17833 described as a "Pre-European activity area" (Erkelens and Athens 1994:157) is just about the only pre-contact site recorded in the vicinity. Sugarcane infrastructure was largely removed after the period of its utility ended. Typically only roadbeds remain from former sugarcane cultivation activity. A number of small historic cemeteries and graveyards have been reported scattered over the landscape particularly at the edges of suitable cane land.

Section 4 Results of Fieldwork

Fieldwork was undertaken on June 20, 2006 by Auli'i Mitchell B.A., Leilani Pyle B.A. and David Shideler M.A. under the overall guidance of Hallett H. Hammatt Ph.D. Approximately 3 man-days were spent in the investigation including travel time. The project land was accessed from the 'Akoni Pule Highway (Highway 270) on the south side and also from the north side of the Takata Store that lies on west side of the flag-lot entry to the project area. The project area was found to be densely overgrown (Figures 15& 16) with a variety of exotic vegetation dominated by Christmas-berry (*Schinus terebinthifolius)* and guava (*Psidium guajava*) (see the following *Botanical Study for the Honomaka'u Project Area* for greater detail on the plant community). The land was relatively level and ground visibility varied from good to poor.

4.1 Survey Findings

The project area was traversed in pedestrian sweeps starting in the southern neck and then moving through the main northern body of the parcel. The entire parcel did indeed appear to have been former sugar cane land on the basis of the uniformity of the ground surface, the absence of relief and the absence of stones. The ground surface was virtually stone free. The ruins of two small shacks were observed just outside the northeast portion of the project area (Figures 17 & 18). These did not appear to have been primary residences of long standing but may have been work places associated with plantation work or squatters sheds from the 1970s. No historic significance was attributed to these structures or the late twentieth century trash piles (Figure 19) observed in the vicinity.

One aggregation of approximately a dozen small boulders and large cobbles (Figure 20) was observed in an area approximately 2 m by 1.5 m in the northeast portion of the project area. These did not appear to be set in the ground or to be in alignment. Consideration was given to whether these could mark a historic grave but this was discounted because: 1) the rocks were not set in the ground, 2) they were not in an alignment, 3) there were no other aggregates of stones in the vicinity, 4) the area did not seem to be typical of the known small graveyards in the general vicinity that tend to be near breaks in slope at the edge of former fields, and 5) because the area is understood to have been under continuous sugar cane cultivation for nearly a century.

In summary no archaeological sites or features were identified during the fieldwork or are believed to exist within the Honomaka'u project area.

Figure 15. General view of south portion of project area, view to northwest, Takata Store in background

Figure 16. General view of southern neck of project area, view to northwest

Figure 17. View of shack ruins just outside the northeast portion of the project area, view to southeast

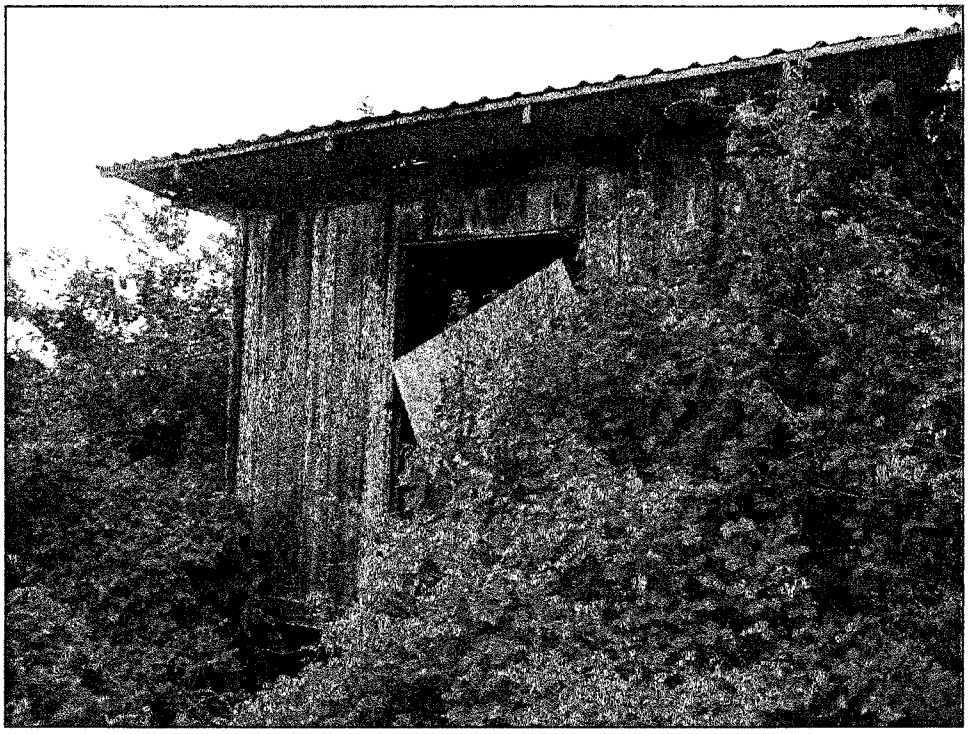

Figure 18. View of a second shack just outside the northeast portion of the project area, view to southwest

Figure 19. General view of late twentieth century trash in the northeast portion of the project area

Figure 20. view of possible alignment in northeast portion of project area

Section 5 Botanical Study for the Honomaka'u Project Area

This area was previously all in sugar cane, abandoned since the demise of sugar production in Kohala in the 1970s. The current vegetation is composed entirely of alien species. The area has been so completely disturbed as to leave no native species at all.

Plant Species Checklist - North Kohala Library Project

Families are arranged alphabetically within each of two groups, Dicotyledons (Table 6) and Monocotyledons (Table 7). Nomenclature of these two groups follow Wagner, Herbst and Sohmer, 1990. Other works consulted include: Haselwood et al. 1983, Motooka et al. 2003, Neal 1965, and Staples, and Herbst 2005. For each species the following information is provided:

1. Scientific name
2 Common English or Hawaiian name when known
3.Occurrence of species in the project area.
4. Status (all species identified are "exotic" except for the ubiquitous *Ipomoea indica* which is indigenous)

Table 6. Dicotyledons Present within the Honomaka'u Project Area

Scientific name	Common name	Occurrence	Status
ACANTHACEAE			
Justica betonica	White Shrimp Plant	Common near edges.	Exotic
Thunbergia fragrans	White thunbergia, vine,	Very common in understory	Exotic
ANACARDIACEAE			
Schinus terebinthifolius	Christmas berry	Dominant tree	Exotic
ARALIACEAE			
Scheffleria actinophylla	Octopus tree	Numerous	Exotic
ASCLEPIADACEAE			
Asclepias physocarpus	Balloon Plant	Patches in open sunny places	Exotic
ASTERACEAE			
Conyza bonariensis	Hairy Horseweed	Uncommon on open edges	Exotic
Senecio madagascariensis	Madagascar ragwort	Scattered	Exotic
BIGNONIACEAE			

Scientific name	Common name	Occurrence	Status
Spathodea campanulata	African Tulip Tree	Few trees scattered	Exotic
CONVOLVULACEAE			
Ipomoea indica	Morning-Glory, *Koali*	Only one patch seen	Indigenous
EUPHORBIACEAE			
Ricinus communis	Castor bean	Scattered	Exotic
FABACEAE			
Chamaecrista nicitans ssp. Patellaria var. glabrata	Partridge pea	Common understory	Exotic
Desmodium sp.	Florida Beggarweed	Common in understory	Exotic
Indigofera suffruticosa	Indigo	Common understory	Exotic
Macroptilum atropurpeum	No common name	Uncommon vine	Exotic
Mimosa pudica	Sensitive plant	Not common	Exotic
LAMINACEAE			
Hyptis pectinata	Comb hyptis	Uncommon	Exotic
MALVACEAE			
Sida rhombifolia	No common name	Uncommon	Exotic
MYRTACEAE			
Psidium guajava	Guava	Co-dominant with Christmas berry	Exotic
Syzgium cumini	Java Plum	Scattered trees	Exotic
PASSIFLORACEAE			
Passiflora edulis	*Lilikoi*	Fairly common vine growing over other vegetation	Exotic
Passiflora pulchella	Wing-leaf Passiflora	Not common	Exotic
PHYTOLACCACEAE			
Rivina humilis	Coral berry	Common in understory	Exotic
RUBIACEAE			
Borreria laevis	Button weed	Not common	Exotic
TILIACEAE			
Triumfetta semitriloba	Sacramento burr	Common in understory	Exotic

Scientific name	Common name	Occurrence	Status
VERBENACEAE			
Clerodendron chinense	*Pikake Pilau*	Uncommon	Exotic
Lantana camara	*Lantana*	Scattered in understory	Exotic
Stachytarpheta, jamaicensis	Jamaica vervain, *oi*	Common in more open areas	Exotic

Table 7. Monocotyledons Present within the Honomaka'u Project Area

Scientific name	Common name	Occurrence	Status
LILIACEAE			
Hippeastrum striatum	Amaryllis, Barbados Lily	Small patches, widely scattered, "naturalized in pastures" (Staples and Herbst, 2005)	Exotic
COMMELINACEAE			
Commelina diffusa	*Honohono*, dayflower	Uncommon	Exotic
POACEAE			
Pennisetum purpureum	Napier grass, Elephant Grass	Large, dense patches	Exotic
Setaria glauca	Yellow Foxtail	Sparse in understory	Exotic

The development of the Honomaka'u project area will have no adverse effect on native plant species.

Section 6 Cultural Impact Evaluation for the Honomaka'u Project Area

6.1 Traditional Cultural Practices

Traditional cultural practices are based on profound awareness concerning harmony between man and their natural resources. The Hawaiians of old depended on these cultural practices for survival. Based on their familiarity with specific places and through much trial and error, Hawaiians communities were able to devise systems that fostered sustainable use of nature's resources. Many of these cultural practices have been passed down from generation to generation and are still practiced in some of Hawaii's communities today.

This project seeks to assess traditional cultural practices as well as resources pertaining to the Honomaka'u project area within Pūehuehu Ahupua'a. This section will convey the different types of traditional practices, cultural resources associated with the vicinity.

6.2 Gathering for Plant Resources

Upland resources were utilized by Hawaiians for a multitude of purposes. Forest resources were gathered, not only for the basic needs of food and clothing, but for tools, weapons, canoe-building, house construction, dyes, adornments, hula, medicinal and religious purposes. Within the project area itself no specific documentation was found in regards to gathering of plants during traditional Hawaiian times.

A review of the botanical study indicates that no native plant species are present within the Honomaka'u project area. Although certain exotic species present such as guava *(Psidium guajava)* and castor bean *(Ricinus communis)* have been used for cultural practices historically these plant species are ubiquitous on disturbed lands in the vicinity and no particular value is attributed to these exotic weedy plants.

During this evaluation there were no ongoing practices related to traditional gathering rights identified in the present project area. Mrs. Clara Takata, owner of the Takata Store knew of no native gathering practices within the project area.

6.3 Hunting Practices

No hunting practices are known to take place in the project area or vicinity. No signs of pigs or any other game were observed during the fieldwork. While we know of no detailed information regarding pig hunting in the vicinity a distribution map of pig densities indicates pigs are "sparse" in the area (van Riper & van Ripper 1982:25)

6.4 Marine Resources

The project area lies more than two kilometers back from the coast and no direct or indirect impact to marine resources or to access to marine resources is indicated.

6.5 Historic Properties

No historic properties of cultural concern are known within or in the immediate vicinity of the Honomaka'u project area.

6.6 Burials

No specific documentation was found regarding *iwi* (ancestral remains) in the project area. None of the people contacted mentioned any burials that would be affected by the proposed project.

6.7 Trails

The main cross-*ahupua'a* inland trail appears to have been more or less the present Akoni-Pule Highway alignment since time immemorial. Roads to the coast are present just to the east and west of the present Honomaka'u project area. Development of this parcel is anticipated to have no effect on access issues.

6.8 *Wahi pana* (Storied Places)

No *Wahi pana* or "Storied Places" are known in the vicinity.

6.9 Results of Community Contact Process

During this study an effort was made to contact and consult with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge of and/or concerns about traditional cultural practices at the proposed Kohala Public Library project location on a 3.8-acre parcel in Pūehuehu, North Kohala in Honomaka'u Town.

The individuals, organizations, and agencies we attempted to contact and the results of consultations are presented in the table below.

Table 8. Cultural consultations regarding the proposed Kohala Public Library project at Honomaka'u, Pūehuehu Ahupua'a, North Kohala District

Name	Background, Affiliation	Comments
Ayau, Halealoha	*Hui Mālama O Nā Kūpuna O Hawai'i Nei*	No cultural concerns at this time.
MacDonald, Ruby	Office of Hawaiian Affairs Community Resource Manager	No response.
Solomon, Malama	*Kama'āina* of Kohala	No response.
Takata, Clara	Owner of Takata Store	See interview.

On June 12, 2006 Cultural Surveys conducted an on-site interview with Mrs. Clara Takata, owner of the Takata Store in Hāwī, Kohala on the island of Hawai'i. Mrs. Takata specifically commented:

> It was my father-in-law who started Takata Store in the 1920s, I think it was 1923. The land behind where they are planning to build the library was the property of Mr. Mike Gomes. All I remember is that the area as all sugar cane before time. I know of no burials or cultural sites that can be found in the planned area. I have never seen anyone use that are to gather plants or anything else. The Fernwhite Family used to raise horses and would go through the area. It might be a problem for parking. I think they should parking closer to the Highway.
>
> This new store was built in the 1970s. My father-in-law Keizo opened up a shop in a small building that is no longer here to sell kimono. Later groceries were brought in to sell. That is pretty much all I know.

Section 7 Project Effect and Mitigation Recommendations

No archaeological, historical, or cultural sites were identified within the Honomaka'u project area. No native plants were observed at all on these recent sugarcane field lands and there are no concerns regarding potential impacts to plant species or communities. No on-going cultural practices were identified and no impact to traditional cultural practices would occur through development of this parcel.

7.1 Project Effect

Development of this Honomaka'u project area will have no adverse impact on archaeological, historical or botanical resources or on any on-going cultural practices

7.2 Mitigation Recommendations

No further archaeological, cultural impact assessment or botanical study is indicated for this Honomaka'u project area.

7.3 Disposition of Materials

No materials were recovered or removed from the Honomaka'u project area.

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APPENDIX C

Surface Soil Screening Report for the Proposed Kohala Public Library Site, TMK 3-5-4-008: 001, Lot A, North Kohala, Island of Hawaii.

This report is prepared for:

State of Hawaii, D.A.G.S.
P.O. Box 110
Honolulu, Hawaii 96810-0119

and

Ronald H. Nagata AIA, Inc.
280 Ponahawai Street, Suite 203
Hilo, Hawaii 96720

SURFACE SOIL SCREENING REPORT FOR THE PROPOSED KOHALA PUBLIC LIBRARY SITE TMK 3-5-4-008:001, LOT A NORTH KOHALA, ISLAND OF HAWAII

3.809 Acres

D.A.G.S. Job No. 11-36-6278

MNA Job No. 20375

August 31, 2005

Melissa Farris
Environmental Scientist

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Principal Consulting Chemist

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LIST OF ABBREVIATIONS

bgs	Below ground surface
DAGS	Department of Accounting and General Services (State of Hawaii)
DOH	Department of Health (State of Hawaii)
SAL	Soil Action Level
ESA	Environmental Site Assessment
mg/Kg	Milligrams per kilogram
µg/Kg	Micrograms per kilogram
MNA	Myounghee Noh & Associates, L.L.C.
RPD	Relative Percent Difference
TMK	Tax Map Key
UIC	Underground Injection Control
VSP	Visual Sampling Plan (software program version 4.0a)

EXECUTIVE SUMMARY

Myounghee Noh & Associates, L.L.C. (MNA), was retained to conduct a surface soil investigation at the subject property located adjacent to Takata Store, North Kohala, Island of Hawaii (TMK 3-5-4-008:001, Lot A). This work was completed for Ronald H. Nagata AIA, Inc., at 280 Ponahawai Street, Suite 203, Hilo, Hawaii 96720. The purpose of this investigation was to screen surface soil samples for arsenic and organochlorine pesticides at the project area. It was suspected that the subject site was formerly used for sugarcane cultivation. Arsenic is one of the heavy metals associated with some commonly used crop protection chemicals in sugarcane agriculture. Organochlorine compounds are also associated with various crop protection chemicals. The data obtained in this study is intended to serve as screening data for these contaminants prior to acquisition and development of the property.

A total of 29 sampling locations were selected at random throughout the proposed Kohala library site. The area was then divided into three decision units (Area A – location of proposed library and parking, Area B – open area adjacent to the library, likely to be landscaped, and Area C – location of the driveway to the library). At each of the sampling locations, soil was collected at 1-8 inches below ground surface (bgs) and at 18-24 inches bgs. The goal of the lower surface soil sampling was to identify the depth of contamination, if any, in the areas where grading of the land is likely to occur. Since grading would remove the topmost surface soil, deeper soil would become a potential exposure concern, and, therefore, was screened. Samples were collected on June 29, 2005 in Area C, on August 8, 2005 in Area A, and on August 9, 2005 in Area B. The samples were analyzed by SGS (Anchorage, AK). Based on the analysis, MNA provides the following summary and recommendations:

Organochlorine Pesticide Results (Method SW 8081A):
No measurable quantities of 21 organochlorine compounds were found in the 12 composite samples submitted. All organochlorine results were reported as below quantitation limits.

Arsenic Results (Method SW6020):
The laboratory results indicated arsenic concentrations in soils 1-8 inches bgs ranging from 17.5 to 22.7 milligrams per kilogram (mg/Kg). Concentrations in soils 18-24 inches bgs ranged from 3.81 to 13.5 mg/Kg. The Hawaii Department of Health (DOH) background Soil Action Level for arsenic is 22 mg/Kg.

Conclusion and Recommendation:
Based on sampling and analysis of 12 surface soil samples, conducted during June-August, 2005, MNA concludes that there are no significant levels of arsenic and organochlorine contaminants in the surface soil at the proposed Kohala library site. No measurable levels of organochlorine pesticide compounds were found in the upper and lower surface soil samples. Arsenic levels found in the upper surface soil, 17.5 mg/Kg to 22.7 mg/Kg, however, were slightly elevated compared to the levels found in the lower surface soil, 3.81 mg/Kg to 13.5 mg/Kg. This is an indication of arsenic releases from anthropogenic sources on the subject property. MNA recommends no further soil assessment and offers the following recommendations for users of the project site:

- The site planners and contractors should be aware of the existing arsenic concentrations at the subject site and inform those who will be involved in its development.
- Soil dust control must be implemented whenever soil is disturbed. The major route of human exposure is ingestion of arsenic-containing dust.
- Keep vegetative cover or other types of surface material over soil to serve as a barrier to soil exposure.
- Soil known to be free of contaminants should be used as topsoil in landscaping.

1.0 INTRODUCTION

Myounghee Noh & Associates, L.L.C. (MNA), was retained to conduct a surface soil investigation at the subject property located adjacent to Takata Store, North Kohala, Island of Hawaii (TMK 3-5-4-008:001, Lot A). This work was completed for Ronald H. Nagata AIA, Inc., at 280 Ponahawai Street, Suite 203, Hilo, Hawaii 96720. The purpose of this investigation was to screen surface soil samples for arsenic and organochlorine pesticides at the project area. It was suspected that the subject site was formerly used for sugarcane cultivation. Arsenic is one of the heavy metals associated with some commonly used crop protection chemicals in sugarcane agriculture. Organochlorine compounds are also associated with various crop protection chemicals. The data obtained in this study are intended to serve as screening data for these contaminants prior to acquisition and development of the property.

The analytes were selected based on the suspected former use of the subject site. On May 12, 2005, Brian Isa of the Department of Accounting and General Services (DAGS), Steven Mow of the Department of Health (DOH), and Myounghee Noh discussed the data objectives and agreed on the analytes, decision units, total number of samples including duplicates, and sample depths.

For this screening, a total of twelve samples were submitted for laboratory analysis between June 29, 2005, and August 11, 2005. SGS (Anchorage, AK) performed the laboratory analysis of arsenic and organochlorine compounds.

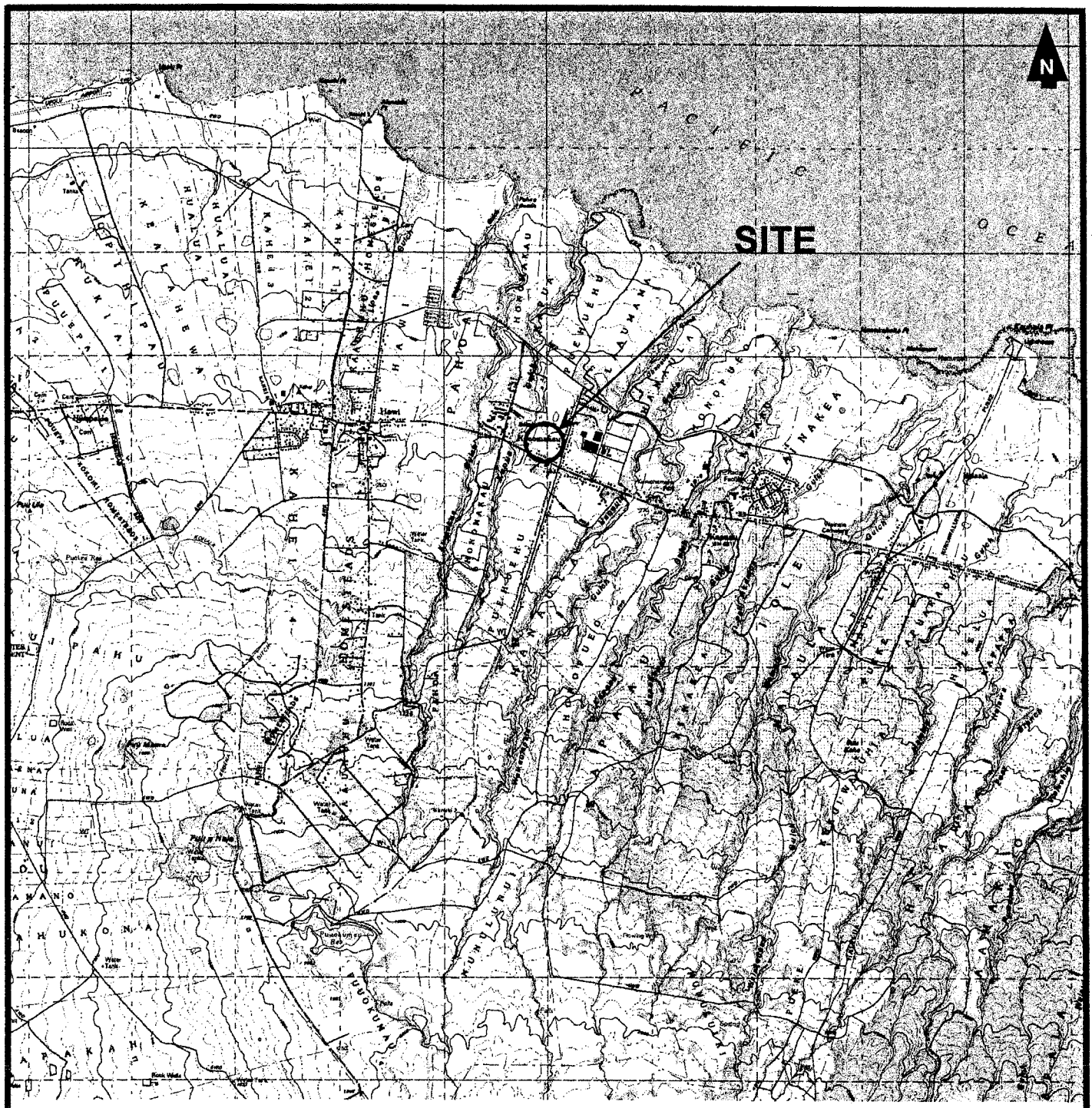
2.0 BACKGROUND INFORMATION

2.1 SITE LOCATION

The subject site is located in Hawi, North Kohala, on the Island of Hawaii (Figure 1). The Tax Map Key of the site is Division 3, Zone 5, Section 4, Plat 008, Parcel 001, Lot A (TMK 3-5-4-008: Parcel 001, Lot A). The subject lot is bordered by Takata Store to the southwest, the Akoni Pule Highway (formerly Hawi-Niulii Road) to the south, the Hasegawa residence to the southeast, and Surety Kohala Corporation property to the east and north (Figure 2). The Akoni Pule Highway and the landscaped open area north of the Takata Store give access to the subject lot. The subject site encompasses 3.809 acres of land according to EKNA Services, Inc (2004).

2.2 DEMOGRAPHY AND LAND USE

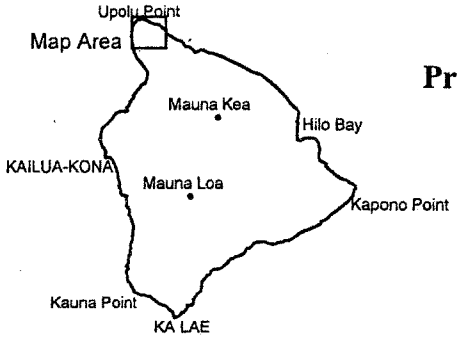
The North Kohala area was one of the early-recognized regions of the island, set off from the other districts by both the Kohala Mountains and the deep valleys along the windward coast (Stephenson, 1977). With substantial fishing resources and fertile soil, Kohala supported a large Hawaiian population prior to contact with western civilization (Stephenson, 1977). As in other regions of the Hawaiian Islands, the arrival of



Source: USGS Topographic Map, 1995

0 1 2 3 miles

Figure 1. Site Location



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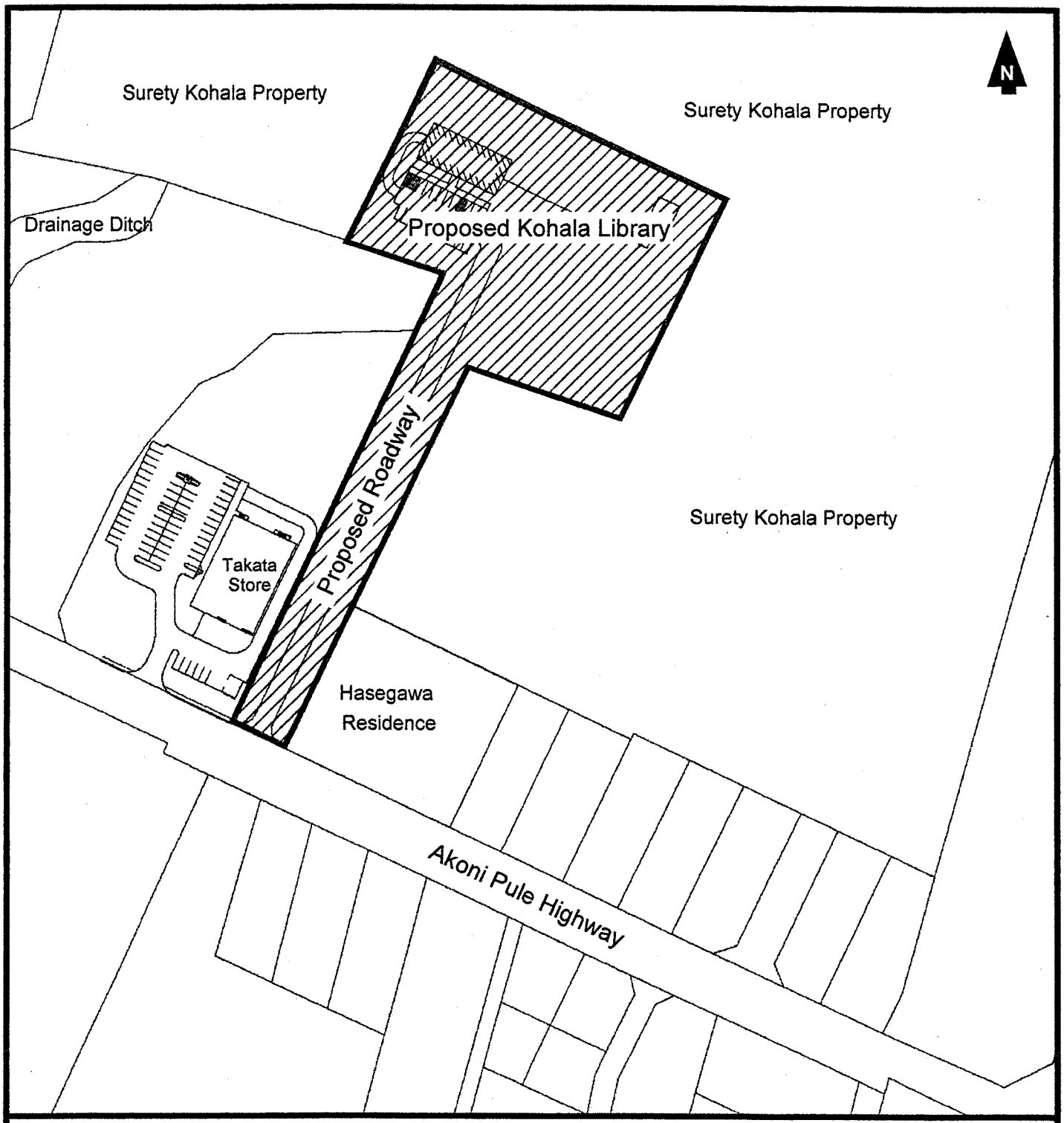
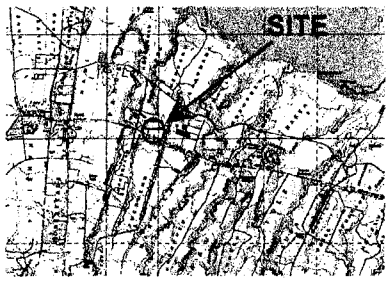


Figure 2. Site Map (not to scale)



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missionaries and sugarcane planters to Kohala greatly altered the traditional Hawaiian lifestyle. A shift from a subsistence-based agricultural economy, focused on traditional Hawaiian food crops like taro and sweet potatoes, to a market-based economy, centered on commercial agricultural plantations, was observed in the region in the early- to mid-1800s (Stephenson, 1977).

According to Sophia Schweitzer, in her 2003 book *Kohala 'Aina*, the Hawi region of North Kohala emerged as an important contributor to the area's sugarcane economy in the second half of the 1800s. The Hawi Mill was opened in 1881 by Robert Robson Hind. Despite a lack of irrigation, the Hawi Mill plantation flourished drawing new residents to the region. In 1931, Hawi Mill was sold to Kohala Sugar Company under the management of George Watt. At this time, the Hawi village consisted of approximately 136 houses scattered throughout the area. By the 1930s at least 34 individual businesses were established in Hawi, mostly consisting of dry goods and grocery store industries owned by contract-free Japanese and Chinese entrepreneurs. In *Kohala 'Aina*, Schweitzer further describes development in Hawi after the Mill's acquisition by the Kohala Sugar Company:

> Hawi kept expanding throughout the years. But after the war [World War II], ongoing mechanization of the Kohala Sugar Company cut jobs. Population dwindled, commerce slowed, and stores closed. The announcement of phase-out [of sugar cultivation] accelerated closures. When business at last picked up with a new wave of "immigrants," mostly well-off Americans, only a handful of the old-timers had survived.

It was suspected that the subject site was formerly used for sugarcane cultivation. The lot is presently vacant, unused, and heavily overgrown with a dense mix of shrubs, bushes, tall grasses, weeds, and trees. The site is zoned as Agricultural district by the County of Hawaii, Department of Planning and Permitting.

2.3 PREVIOUS ASSESSMENT

A Phase I Environmental Site Assessment (ESA) of the subject site was conducted by EKNA Services, Inc. (Honolulu, HI) for Surety Kohala Corporation in October 2004. As a result of this ESA, EKNA Services, Inc., concluded that no environmental concerns were identified at the site and that no further investigations or actions were necessary for development of the site (EKNA Services, Inc., 2004).

2.4 GEOLOGY

The Kohala Mountain area, defined by two distinct lava flow series, is the oldest surface region of the Island's five shield volcanoes. Kohala Mountain emerged from the sea approximately 450,000 years ago, forming two broad rift zones through which lava flowed from the volcano's magma chamber (Schweitzer, 2003). Cinder cones were created at locations where lava broke through the ground surface. The Pololu lava series was the first of the region's two distinctive lava flow series. This series consisted of a

mass flow of soft, porous basalt erupting from the cinder cones (Schweitzer, 2003). After the Pololu flow, the volcano lay dormant for several thousands of years, during which weathering, erosion, and landslides created cliffs, narrow valleys and hanging gulches in the region (Schweitzer, 2003). Red dirt and new soil had already developed atop the Pololu lava series before Kohala Mountain produced its second major lava series. The Hawi series occurred approximately 50,000 to 60,000 years ago during the Middle Pleistocene, flowing in a southwestern direction and consisting of lava much harder in texture than that of the Pololu flow (Schweitzer, 2003). Both formations consist of numerous pyroclastic (material composed of rock fragments of volcanic origin) deposits (Mink & Lau, 1993). Presently, the subject site consists of relatively level terrain with a gentle slope (0 to 5%) to the north. Ground surface elevation is approximately 500 feet above sea level.

2.5 SOIL

The surface soils on the site have been classified by the U.S. Department of Agriculture as Kohala Silty Clays, which consist of well-drained silty clays formed from basic igneous rock influenced by volcanic ash on the windward side of the Kohala Mountains (EKNA Services, Inc., 2004). The surface layer is largely dark grayish-brown and dark brown silty clay loam about 14 inches thick, while the subsurface soil is dark brown to dark yellowish-brown silty clay loam and silty clay about 25 inches thick (EKNA Services, Inc., 2004). Surface soils are slightly acidic, subsurface soils range from slightly acidic to neutral, and substratum materials have a neutral pH (EKNA Services, Inc., 2004). Soils in the region have a slight erosion hazard, slow runoff, and moderately rapid permeability (EKNA Services, Inc., 2004).

2.6 HYDROGEOLOGY

In Hawi, average annual rainfall ranges from 20 inches at Upolu Point (northwest of Hawi) to 125 inches at Pololu Valley (southeast of Hawi) (Mink & Lau, 1993). Deep gulches between Hawi and Pololu have been carved by streams, perennial in some places, draining off the Hawi volcanics (Mink & Lau, 1993). Gulches between Hawi and Upolu are shallower and streams are non-perennial (Mink & Lau, 1993). Perched water occurs where rainfall is substantial and the Hawi lava flow series overlies Pololu basalt. High-level dike water occurs inland in the rift zone. A basal lens can be found in the Pololu basalt over a distance of 2 to 3 miles inland of the coast (Mink & Lau, 1993).

Based on the Hawaii DOH Underground Injection (UIC) Map for the Island of Hawaii, the subject site is located above (mauka of) the UIC line (See Appendix F). This indicates that the underlying aquifer is considered a source of drinking water, signifying that limited types of injection wells are allowed in the area. Furthermore, injection wells require a UIC Permit or Permit Exemption from the Hawaii State DOH. According to the Mink & Lau Technical Report #191, published by the University of Hawaii Water Resources Research Center, the subject site is located above one aquifer as indicated in Table 1.

Table 1. Aquifer Classification System

Aquifer Code	**80101111**
Island Code	8 – Hawaii
Aquifer Sector	01 – Kohala
Aquifer System	01 – Hawi
Aquifer Type, hydrogeology	1 – Basal
Aquifer Condition	1 – Unconfined
Aquifer Type, geology	1 – Flank
Status Code	**11111**
Development Stage	1 – Currently Used
Utility	1 – Drinking
Salinity (in mg/L Cl^-)	1 – Fresh (<250)
Uniqueness	1 – Irreplaceable
Vulnerability to Contamination	1 – High

2.7 CLIMATE

According to The Weather Channel Interactive, Inc. (2005), average annual rainfall ranges from 2.6 (September) to 8.3 (March) inches, with March generally being the wettest month of the year. Mean maximum temperatures range from 76 degrees Fahrenheit in February to 82 degrees in September, with February usually being the coolest month and September typically the warmest of the year. Similarly, mean minimum temperatures range from 63 degrees in February to 68 degrees in September.

3.0 SAMPLING AND ANALYSIS

Twelve composite surface soil samples were collected between June 29, 2005, and August 9, 2005, and were submitted for laboratory analysis of arsenic and 21 organochlorine compounds. The samples were analyzed by SGS (Anchorage, AK).

3.1 SAMPLING LOCATIONS

A sampling plan was developed by MNA prior to entering the project site. Twenty-nine sampling locations were plotted using the Visual Sampling Plan (VSP) version 4.0a software program. The primary purpose of sampling at this site is to compare a mean value with a fixed threshold level, the DOH Environmental Action Levels for soil. The working hypothesis (or null hypothesis) is that the mean value at the site was equal to or exceeded the threshold. The alternative hypothesis is that the mean value is less than the threshold. The VSP program calculated the number of samples required to reject the null hypothesis in favor of the alternative one. Further information about the program's operation can be found in Appendix E.

A total of 29 sampling points were randomly selected given the defined values as follows:

False rejection rate (alpha):	5%
False acceptance rate (beta):	10%
Width of gray region (delta):	2
Standard deviation:	3
True mean:	Equal to or greater than action level

At each discrete sampling location, two samples were collected: one upper surface soil sample, which included soil 1-8 inches below ground surface (bgs), and one lower surface soil sample, which included soil 18-24 inches bgs. The goal of the lower surface soil sampling was to identify the depth of contamination, if any, in the areas where grading of the land is likely to occur. Since grading would remove the surface soil, the lower surface soil would become a potential exposure concern, and, therefore, was investigated.

3.2 DECISION UNITS AND COMPOSITE SAMPLING

The subject area was divided into three decision units based on the proposed use of specific areas. The three decision units were:

- Area A: Proposed library and parking lot location
- Area B: Open field area, likely to be landscaped
- Area C: Driveway

Quality control was implemented according to the anticipated level of potential human exposure to contamination in each of the decision units. For example, Area A is expected to have the highest level of potential human exposure; therefore, two duplicate samples were analyzed in addition to the primary samples. Furthermore, Area B is expected to have less potential human exposure, yielding only one duplicate in addition to the primary sample. Only primary samples were analyzed in Area C since this area has a low risk of potential human exposure, as it is likely to be paved. The breakdown of sample collection is listed in Table 2. Decision units and discrete sampling locations are identified in Figure 3.

Each composite sample includes combined soil material from the discrete sample locations identified in Figure 3. For example, the two primary samples for Area A (one for upper surface soil and one for lower surface soil) contain combined soil from sampling locations A1-1, A1-2, A1-3, A1-4, and A1-5. Similarly, the Duplicate 1 samples for Area A contain combined soil from sampling locations A2-1, A2-2, A2-3, and A2-4. This same methodology was applied to the other samples and decision units.

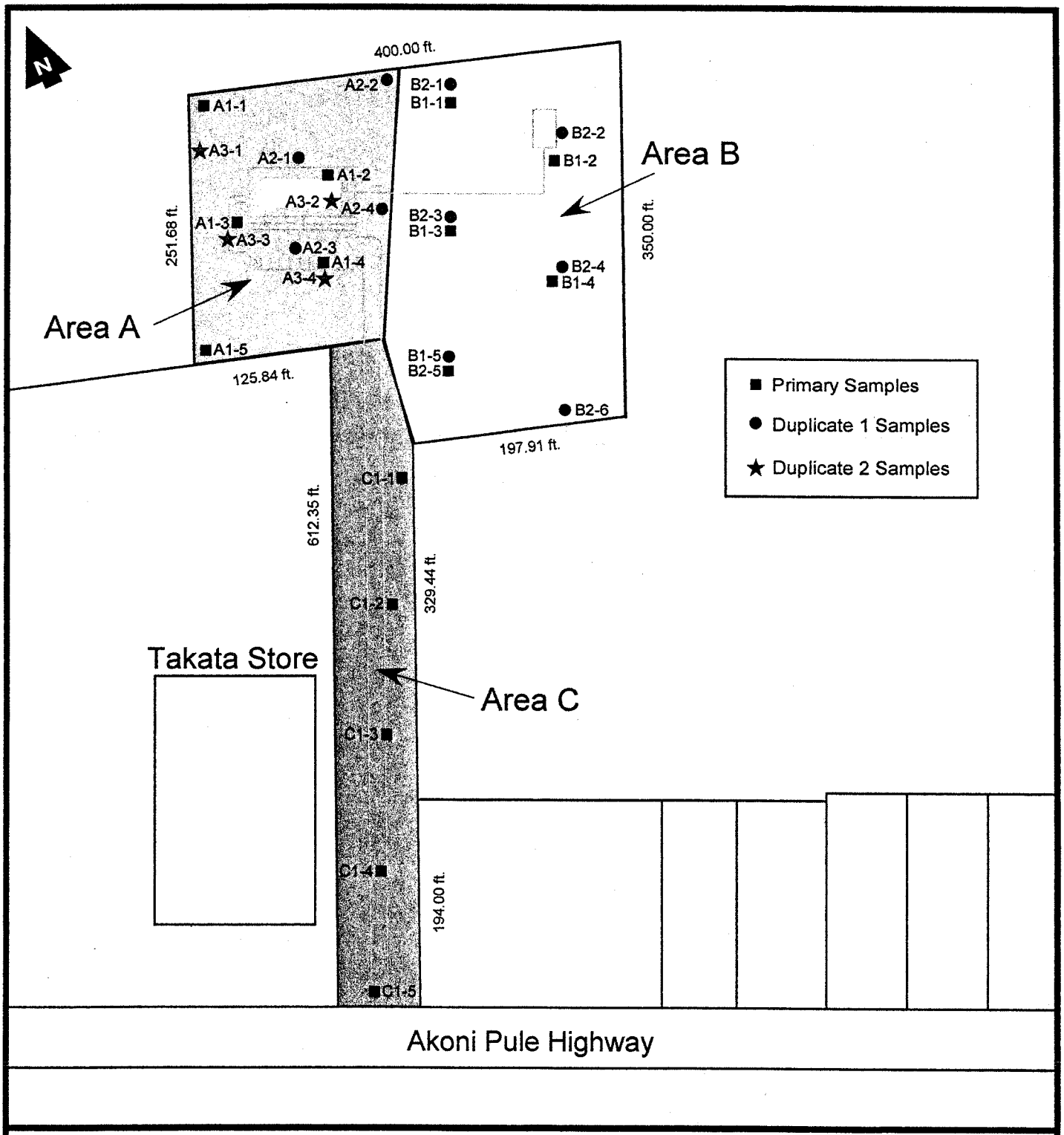

Figure 3. Approximate Sample Locations (not to scale)

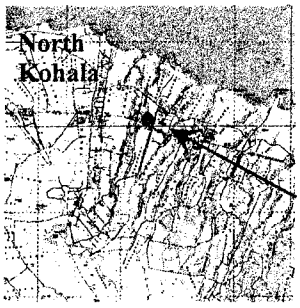

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Table 2. Number of Surface Soil Samples

Decision Unit	No. Primary Samples	Duplicate 1	Duplicate 2	Total No. Samples
Upper Surface Soil (1-8 inches below ground surface)				
Area A – Proposed Library and Parking	1	1	1	3
Area B – Open, Landscaped Area	1	1	0	2
Area C – Driveway	1	0	0	1
Lower Surface Soil (18-24 inches below ground surface)				
Area A – Proposed Library and Parking	1	1	1	3
Area B – Open, Landscaped Area	1	1	0	2
Area C – Driveway	1	0	0	1

3.3 SOIL SAMPLE COLLECTION

Discrete soil samples in Area C were collected by Edwin Boyette and Robert Kuwaye using a hand-held auger and shovel on June 29, 2005 (Photograph 11, Appendix A). The exact geographic coordinates for all sampling locations are presented in Appendix D. At each sampling location, the first inch of surface organic material was removed. Upper surface samples were collected at 1 to 8 inches bgs and lower surface samples were collected at 18 to 24 inches bgs. The discrete samples were combined onsite by field personnel and placed in plastic bags. The samples were then homogenized by hand in the plastic bag. A small hole was cut at the bottom of each bag to serve as a filter to separate twigs, roots, gravel, and rocks from the soil material. The soil samples were then placed in appropriate laboratory containers (8 ounce glass jars), sealed, labeled, and stored in a chilled cooler before being submitted for laboratory analysis.

Similar collection procedures were followed for sampling in Areas A and B. Sampling was conducted by Melissa Farris and Robert Kuwaye in Area A on August 8, 2005 and in Area B on August 9, 2005. Although sampling in these two areas followed the same procedure as in Area C, Green Thumb Incorporated was subcontracted to assist with the project. Two Green Thumb employees, Rick Mahi and Joey Pung, used an Echo CS-301 chainsaw and a Shindaiwa Trimmer with a Shindaiwa 9-inch Bush Blade attachment to clear pathways through the dense vegetation to the various sampling locations (Photographs 8 and 9). The physical locations of the various sampling points were estimated according to distances given on a survey map prepared by Towill, Shigeoka & Associates (Appendix C). A tape measure was used to estimate the distance between sample locations and was therefore used as a guide for the Green Thumb employees.

4.0 FINDINGS

4.1 FIELD OBSERVATIONS

MNA field personnel observed dense vegetation, including shrubs, bushes, tall grasses, weeds, and trees throughout the project site (Photograph 1). While sampling, field personnel encountered heavily-rooted soil, which was difficult at times to penetrate (Photograph 14). Barbwire fencing was observed near the northern boundary of the site as well as in a few select areas in the middle of the site. On June 29, 2005, the soil was relatively dry. On August 8 and 9, 2005, the soil was very moist and highly compacted due to recent rainfalls. No odors or discoloration were observed in the soil samples.

4.2 LABORATORY ANALYTICAL RESULTS

SGS (Anchorage, AK) performed the laboratory analysis for arsenic and organochlorine compounds. Organochlorine compound results are summarized in Table 3, and arsenic results are summarized in Table 4. The data obtained in this study is intended to serve as screening data for these contaminants. The complete laboratory results are provided in Appendix B.

4.2.1 Organochlorine Compounds Results

No measurable quantities of organochlorine compounds were found in the samples. All organochlorine results were reported as below quantitation limits (Table 3).

4.2.2 Arsenic Results

The laboratory results indicated arsenic concentrations in upper surface soils, 1-8 inches bgs, ranging from 17.5 to 22.7 milligrams per kilograms (mg/Kg). Concentrations in lower surface soils, 18-24 inches bgs, ranged from 3.81 to 13.5 mg/Kg. The Hawaii DOH background Soil Action Level for arsenic is 22 mg/Kg, which is considered the natural concentration of arsenic in Hawaiian soil. Concentrations of metal and metalloid compounds are generally higher in Hawaii than in other regions due to the volcanic nature of the soil.

4.2.3 Arsenic Quality Control Results

Precision is a measure of the distribution of the reported values about their mean. Precision in environmental samples may be affected by the natural variation of the matrix or contamination within the matrix, as well as by errors made in field and/or laboratory handling procedures. Precision in this screening is estimated by calculating the relative percent difference (RPD) of the field duplicates. The RPD is defined by the difference of two samples as follows:

$$RPD = \frac{|(\text{Value 1}) - (\text{Value 2})| * 100\%}{\left[\frac{1}{2}\right](\text{Value 1} + \text{Value 2})}$$

Table 3. Summary of Organochlorine Compounds Analytical Results (SW 8081A)

Sample No.	Organochlorine Compounds (µg/Kg)																				
	α-Chlordane	γ-Chlordane	α-BHC	β-BHC	γ -BHC	δ-BHC	Heptachlor	Aldrin	Heptachlor epoxide	Endosulfan I	4,4'-DDE	Dieldrin	Endrin	Endosulfan II	4,4'-DDD	Endrin aldehyde	4,4'-DDT	Endosulfan sulfate	Endrin ketone	Methoxychlor	Toxaphene
375-A1(s)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.6	<2.0	<2.6	<2.0	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<66
375-A1(b)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.6	<2.0	<2.6	<2.0	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<66
375-A2(s)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<68
375-A2(b)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<66
375-A3(s)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<67
375-A3(b)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<68
375-B1(s)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<67
375-B1(b)	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.8	<2.1	<2.8	<2.1	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<69
375-B2(s)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<68
375-B2(b)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<67
375-C1(s)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<67
375-C1(b)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.7	<2.0	<2.7	<2.0	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<68
DOH Direct Exposure SAL (µg/Kg)	1600	1600	---	---	---	---	110	29	53	37	2400	30	18,000	37	2400	---	1700	---	---	310,000	400
EPA Region IX PRG (µg/kg)	1600	1600	---	---	---	---	110	29	53	37	1700	30	18,000	37	2400	---	1700	---	---	310,000	440

DOH - Hawaii Department of Health; SAL - Soil Action Level; B – Background Level; DE – Direct Exposure Level; GP – Groundwater Protection Level;
EPA – Environmental Protection Agency; PRG – Preliminary Remedial Goal; --- Not available
(s) Upper surface samples (1-8" below ground surface)
(b) Lower surface samples (18-24" below ground surface)
* Potentially impacted groundwater is a current or potential drinking water resource; Surface water body is not located within 150 meters of the release site;
† Preliminary Remedial Goals (PRGs) for residential soil, direct contact exposure pathways.

Table 4. Summary of Arsenic Analytical Results (SW 6020)

Sample ID	Sample Depth (inches)	Arsenic (mg/Kg)	RPD
Area A – Upper Surface			
375-A1 (s)	1-8	18.1	
375-A2 (s)	1-8	22.7	22.5
375-A3 (s)	1-8	17.5	25.9
Area A – Lower Surface			
375-A1 (b)	18-24	6.57	
375-A2 (b)	18-24	4.36	40.4
375-A3 (b)	18-24	4.75	8.6
Area B – Upper Surface			
375-B1 (s)	1-8	21.5	
375-B2 (s)	1-8	18.4	15.5
Area B – Lower Surface			
375-B1 (b)	18-24	7.12	
375-B2 (b)	18-24	3.81	60.6
Area C – Upper Surface			
375-C1 (s)	1-8	21.4	
Area C – Lower Surface			
375-C1 (b)	18-24	<13.5	
Hawaii DOH Final SAL*	---	**22.0**	---
Hawaii DOH Direct Exposure SAL*	---	**0.420**	---

DOH – Department of Health; SAL – Soil Action Level; RPD – Relative Percent Difference
* Potentially impacted groundwater is a current or potential drinking water resource; Surface water body is not located within 150 meters of the release site
--- Not applicable

A total of six primary and six duplicate samples were analyzed. No significant disagreements (>2x) between the duplicate samples were found. RPDs ranging from 8.6 to 60.6 were calculated as shown in Table 4; however, due to relatively low concentrations found in the environmental samples, the RPDs are not very useful as a qualitative measure (the RPD value is linked to the magnitude of the results).

5.0 CONTAMINANT FATE AND TRANSPORT

Arsenic, which is the contaminant of concern at the subject site, is a naturally occurring metalloid element that is widely distributed throughout the earth's crust. Although arsenic is a natural component of the earth's crust, releases to the environment from anthropogenic sources (such as mining, smelting, coal combustion, wood combustion, waste incineration, and pesticide/herbicide use) far exceed releases from natural sources, namely wind-blown

dirt and volcanic releases. The primary source of arsenic contamination in Hawaii is arsenic-containing herbicides used for weed control in sugarcane production between 1915 and 1950. Exposure to arsenic has been shown to have adverse health effects on the cardiovascular, hematologic, developmental, and nervous systems, the alimentary tract, and the skin. It has also been shown to have carcinogenic effects. Arsenic compounds have no distinct odor, taste or visible appearance (U.S. Department of Health and Human Services, 2000).

5.1 POTENTIAL ROUTES OF MIGRATION

Arsenic in soil may be transported by wind or runoff. Although leaching into subsurface soil may occur, it does not generally transport arsenic to substantial depths since arsenic-containing compounds are likely to partition in soil under oxidizing conditions (U.S. Department of Health and Human Services, 2000). The primary route of concern for human exposure to arsenic is ingestion. The Hawaii DOH (2004) summarizes the potential for arsenic ingestion as follows:

> The main concern is that some people will unintentionally swallow contaminated soil, especially young children who are unaware of the hazards and may be exposed to contaminated soil through normal play activities. Most children put their hands, toys, or other objects in their mouths, and these often have small amounts of soil and dust on them that the child shallows.

Human exposure to arsenic can occur when arsenic-contaminated soil is disturbed and dust control procedures are not implemented.

5.2 CONTAMINANT PERSISTENCE

Although transport via wind, runoff, or leaching may occur, arsenic is largely immobile in agricultural soils and tends to concentrate and remain in upper soil layers indefinitely. If ingested, arsenic does not have a tendency to accumulate in the body, and cessation of exposure will reduce arsenic levels in the body (Hawaii Department of Health, 2004).

6.0 SUMMARY

During June-August 2005, MNA conducted a surface soil screening at the subject site located adjacent to Takata Store in the North Kohala district on the Island of Hawaii (TMK 3-5-4-008:001, Lot A). Laboratory analysis of twelve composite samples was performed by SGS (Anchorage, AK). No measurable quantities of organochlorine compounds were found in the samples. The metal analysis indicated arsenic concentrations near the DOH background action level of 22 mg/Kg in upper surface samples (1-8" bgs), and concentrations well below the background level in lower surface samples (18-24" bgs). The data obtained in this study is intended to serve as screening data for these contaminants.

7.0 CONCLUSION AND RECOMMENDATIONS

Based on sampling and analysis of 12 surface soil samples, conducted during June-August, 2005, MNA concludes that there are no significant levels of arsenic and organochlorine contaminants in the surface soil at the proposed Kohala library site. No measurable levels of organochlorine pesticide compounds were found in the upper and lower surface soil samples. Arsenic levels found in the upper surface soil, 17.5 mg/Kg to 22.7 mg/Kg, however, were slightly elevated compared to the levels found in the lower surface soil, 3.81 mg/Kg to 13.5 mg/Kg. This is an indication of arsenic releases from anthropogenic sources on the subject property. MNA recommends no further soil assessment and offers the following recommendations for users of the project site:

- The site planners and contractors should be aware of the existing arsenic concentrations at the subject site and inform those who will be involved in its development.
- Soil dust control must be implemented whenever soil is disturbed. The major route of human exposure is ingestion of arsenic-containing dust.
- Keep vegetative cover or other types of surface material over soil to serve as a barrier to soil exposure.
- Soil known to be free of contaminants should be used as topsoil in landscaping.

8.0 LIMITATIONS

Typically, 30 to 50 stratified random or systematic random increments of soil sample are taken to form one multi-incremental sample. A larger number of sampling increments in each decision unit ensures that the results are truly representative of the site conditions. However, due to time and money constraints, the scope of this study was more limited. Consequently, the results from this study do not fulfill the Hawaii DOH requirements for *multi-incremental investigation* data. Therefore, it is suggested that the samples collected in this study are designated as *composite* samples and the data are used as screening data for surface soil conditions.

Also, it is preferred that the laboratory conducting the sample analysis be given the entire sample population collected in the field from which to make sub-samples. Laboratories should then dry and sieve this material, filtering it to a specific particulate size. However, in this study MNA conducted its own sub-sampling in the field by manually filtering out twigs, roots, rocks, and gravel. As a result, the samples are more biased than truly representative of the population.

MNA's conclusion and recommendation were based on the site conditions existing in the surface soil at the time of our screening. They cannot apply to site changes of which MNA is not aware of and has not had the opportunity to evaluate.

MNA makes no guarantee or warranty, expressed or implied, except that our services were performed in accordance with generally accepted practices and applicable regulations in effect at the time and location of the screening.

REFERENCES

EKNA Services, Inc. **2004.** *Phase I Environmental Site Assessment, Proposed Kohala Library Site, Hawi-Niulii Road, Kapua and Puehuehu, North Kohala, Hawaii, TMK: (3) 5-4-008:001, Lot A.* Prepared for Surety Kohala Corp., P.O. Box 249, Hawi, Hawaii 96719, October.

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Stephenson, L. **1977.** *Kohala Keia: Collected Expressions of a Community.* Reprinted April 1999 by the Kohala Library Fund with agreement signed by individual authors and Larry K. Stephenson.

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U.S. Geological Survey. **1995.** Topographic Map. U.S. Department of Interior, U.S. Geological Survey, Washington.

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APPENDIX D

Comment Letters and Responses

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 223
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF: CEPOH-EC-T

received
7.19.07

July 18, 2007

Civil Works Technical Branch

Mr. Gerald Park, Urban Planner
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawaii 96814

Dear Mr. Park:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Kohala Public Library Project, North Kohala, Hawaii (Tax Map Key 5-4-8: 2). The flood zone designation provided on page 12 of the DEA is correct.

The DEA has been forwarded to our Regulatory Branch to determine Department of the Army permit requirements. They will respond to your office under separate cover. Should you require additional information, please call Ms. Jessie Dobinchick of my staff at 438-8876.

Sincerely,

James Pennaz

James Pennaz, P.E.
Chief, Civil Works Technical Branch

Harry Kim
Mayor

Bobby Jean Leithead-Todd
Director

Nelson Ho
Deputy Director

County of Hawaii
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
25 Aupuni Street • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086
email: cohdem@co.hawaii.hi.us

received
7.26.07

July 24, 2007

Mr. Gerald Park
Gerald Park Urban Planner
1221 Kapiolani Blvd, Suite 211
Honolulu, HI 96814

Re: Kohala Public Library EA
TMK: 5-4-008:002
Puehuehu, District of North Kohala, Hawai'i

Dear Mr. Park,

Thank you for allowing us the opportunity to review the subject EA. We have no comments to offer at this time.

Bobby Jean Leithead-Todd
DIRECTOR

Hawai'i County is an equal opportunity provider and employer.

981A

JE 8/2 BI 8/6

LINDA LINGLE
GOVERNOR OF HAWAII

LAURENCE K. LAU
ACTING DIRECTOR

RECEIVED DAGS
DIV. OF PUBLIC WORKS
2007 AUG -1 A 8:16

AUG 2 2007

STATE OF HAWAI'I
DEPARTMENT OF HEALTH
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
LEIOPAPA A KAMEHAMEHA, SUITE 702
HONOLULU, HAWAI'I 96813
Telephone (808) 586-4185
Facsimile (808) 586-4186
Electronic Mail: OEQC@doh.hawaii.gov

DIVISION OF PUBLIC WORKS

TO:	INITIAL:	FOR:
1 PW Adm		Approval
PW Sec		Signature
Staff Svcs Office		Information
2 Planning Br	RM	Your File
Proj Mgmt Br		Let Me
Construction Mgmt Br		Comments
Technical Svcs Office		Investigate &
Leasing Br		Report

8/2/07

July 31, 2007

Ernest Y. W. Lau
Public Works Administrator
Department of Accounting & General Services
P.O. Box 119
Honolulu, Hawaii 96810

Dear Mr. Lau:

Subject: Draft Environmental Assessment (DEA) for Kohala Public Library,
D.A.G.S. Job No. 11-36-6367
Tax Map Key: V
Puehuehu, District of North Kohala, Hawaii

Thank you for the opportunity to review the subject document. The Office of Environmental Quality Control has no comments at this time.

Please call Herman Tuiolosega at (808) 586-4185 if you have any questions.

Sincerely,

George Casen

George Casen
Planner

c: Janet Lam, Kohala Public Library
Keith Fujio, Hawaii State Public Library System
Brian Isa, DAGS Planning Branch
Ricky Sasaki, DAGS Project Management Branch

Harry Kim
Mayor

Lawrence K. Mahuna
Police Chief

Harry S. Kubojiri
Deputy Police Chief

County of Hawaii

POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-2389

received
8.2.07

July 27, 2007

Mr. Gerald Park
Urban Planner
1221 Kapiolani Boulevard, Ste. 211
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Kohala Public Library
Tax Map Key: 5-4-008:002
Puehuehu, District of North Kohala, Hawaii County

This responds to your July 12, 2007, letter requesting comments regarding the Environmental Assessment on the above-referenced project.

Staff has reviewed the assessment and has no comments or objections to offer at this time.

Should you have any questions, please contact Captain James Sanborn, Commander of the North Kohala District, at 889-6540.

Sincerely,

LAWRENCE K. MAHUNA
POLICE CHIEF

DEREK D. PACHECO
ASSISTANT CHIEF
AREA II OPERATIONS

JS:dmv

"Hawai'i County is an Equal Opportunity Provider and Employer"

LINDA LINGLE
GOVERNOR

ANTHONY J.H. CHING
EXECUTIVE OFFICER

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, Hawaii 96804-2359
Telephone: 808-587-3822
Fax: 808-587-3827

August 6, 2007

Mr. Gerald Park
Urban Planner
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Draft Environmental Assessment (DEA) for the Kohala Public Library
Department of Accounting and General Services (DAGS)
Puehuehu, North Kohala, Hawaii
Tax Map Key No. 5-4-08: 2

We have reviewed the subject DEA forwarded by your letter dated July 12, 2007, and confirm that the project site, as represented on Figure 7, is located within the State Land Use Urban and Agricultural Districts.

We acknowledge that the DAGS will file a boundary interpretation request with our office to determine the area within the Agricultural District in support of a boundary amendment petition.

Thank you for the opportunity to comment on the DEA. Should you have any questions, please feel free to call me or Bert Saruwatari of our office at 587-3822.

Sincerely,

ANTHONY J. H. CHING
Executive Officer

Harry Kim
Mayor

Darryl J. Oliveira
Fire Chief

Glen P.I. Honda
Deputy Fire Chief

County of Hawai'i
HAWAI'I FIRE DEPARTMENT
25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720
(808) 981-8394 • Fax (808) 981-2037

received
8.14.07

August 8, 2007

Mr. Gerald Park
1221 Kapiolani Boulevard
Suite 211
Honolulu, Hawaii 96814

RE: KOHALA PUBLIC LIBRARY
TMK: 5-4-008:002
Puehuehu, District of North Kohala, Hawaii

In regards to your request for review of the draft environmental assessment for the above referenced project, a correction to page 20, under Item 6 – Protection Services, second paragraph, should state, "Fire service is provided by a 24-hour fire facility equipped with an engine and an ALS medic."

If you require further assistance regarding the above project, please contact our Inspectors for the West Hawaii Division of our Fire Prevention Bureau at (808) 327-3546.

DARRYL OLIVEIRA
Fire Chief

PBW:lpc

Hawai'i County is an Equal Opportunity Provider and Employer.

GERALD PARK
Urban Planner

Planning
Land Use
Research
Environmental
Studies

1221 Kapiolani Blvd.
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Honolulu, Hawaii
96814

Telephone:
(808) 596-7484

Facsimile:
(808) 596-7485

e-mail:
gparkurbanplanner
@hawaiiantel.net

October 2, 2007

Darryl J. Oliveira, Fire Chief
County of Hawaii
Fire Department
25 Aupuni Street, Room 103
Hilo, Hawaii 96720

Dear Chief Oliveira:

Subject: Kohala Public Library
Tax Map Key 5-4-008: 002
Puehuehu, North Kohala, Hawaii

Thank you for reviewing the draft environmental assessment prepared for the subject project. The Draft Environmental Assessment will be revised with the information you provided about current fire service in the District of North Kohala.

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

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: R. Sasaki, DAGS-PMB
G. Miura, CDSI

LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

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

received
8-16-07

OFFICE OF THE SUPERINTENDENT

August 15, 2007

Mr. Gerald Park
Gerald Park Urban Planner
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawai`i 96814

Dear Mr. Park:

Subject: Draft Environmental Assessment for the Kohala Public Library
Puehuehu, North Kohala, TMK: 5-4-008: 002

The Department of Education (DOE) has reviewed the Draft Environmental Assessment for the Kohala Public Library. We do not have specific comments or concerns about the plans. However, we request that the principals of Kohala Elementary and Kohala High schools be continually updated during the construction phase about periods of excessive construction noise or dust and periods when there may be increased traffic congestion due to construction activities.

If you have any questions, please call Heidi Meeker of the Facilities Development Branch at 733-4862.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:jmb

c: Randolph Moore, Assistant Superintendent, OBS
Duane Kashiwai, Public Works Administrator, FDB
Art Souza, CAS, Honokaa/Kealakehe/Kohala/Konawaena Complex Areas

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

GERALD PARK
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96814

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Facsimile:
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e-mail:
gparkurbanplanner
@hawaiiantel.net

October 2, 2007

Patricia Hamamoto, Superintendent
Department of Education
State of Hawaii
PO Box 2360
Honolulu, Hawaii 96804

Dear Ms. Hamamoto:

Subject: Kohala Public Library
Tax Map Key 5-4-008: 002
Puehuehu, District of North Kohala, Hawaii

Thank you for reviewing the draft environmental assessment prepared for the subject project.

Excessive construction noise and dust generated during site work can be a nuisance to sensitive land uses near construction sites such as residences and schools. To mitigate these concerns prior to and during construction, the Department of Accounting and General Services ("DAGS") will inform the high and elementary school principals of the construction schedule and invite school representatives to attend the regular meetings scheduled between DAGS and the contractor. In this way, the Department of Education can bring up noise, dust, vehicle traffic, and other issues/concerns that are impacting the school.

We appreciate the participation of the Department of Education in the environmental assessment review process.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: R. Sasaki, DAGS-PMB
G. Miura, CDSI
DAGS-Hawaii District Office w/DOE Comment

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

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

IN REPLY REFER TO:

STP 8.2578

August 15, 2007

received
8.13.07

Mr. Gerald Park
Gerald Park Urban Planner
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Kohala Public Library
Draft Environmental Assessment (DEA)
TMK: 5-4-008: 002

Thank you for your transmittal requesting our comments on the subject project to develop a 5,875 square foot single story building on Akoni Pule Highway.

The proposed project is not anticipated to have a significant impact on our State highway facilities. However, the Department of Accounting and General Services (DAGS) should contact our Highways Division, Hawaii District Office, to discuss or coordinate any matters related to traffic at or around the project's driveway to the highway.

We appreciate the opportunity to provide our comments.

Very truly yours,

BARRY FUKUNAGA
Director of Transportation

c: Ricky Sasaki, DAGS

Hawaii Electric Light Company, Inc. • PO Box 1027 • Hilo, HI 96721-1027

August 23, 2007

Mr. Gerald Park
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawaii 96814

Dear Mr. Park:

Subject: Kohala Public Library
TMK: (3) 5-4-008:002
Puehuehu, District of North Kohala, Hawaii

Thank you for the opportunity to review the Subject Project located in North Kohala. HELCO will be able to provide electrical service to the subject development as described subject to detailed analysis to be performed after receipt of your consultant's detailed design drawings and estimated demand.

1. Generation Capacity - HELCO's current system peak load is 196,370 kW and our total generation system capability is 269,330 kW. Our reserve margin is 37 percent and has adequate generation to serve the above.

2. Electrical Substation – The area is currently served by our existing 2.5MVA Hawi electrical substation and a 4,160 volt distribution overhead system along Hawi Niulii Road. Based on an assumption of 10W/sq-ft demand (5,875 sq-ft), the capacity of our existing substation is adequate to serve the estimated load of 58.75kW. However, a detailed distribution engineering analysis needs to be done if this substation could serve as the source pending your detailed design drawings.

3. Electrical Distribution System – The existing 4,160 volt distribution system along Hawi Niulii Road is adequate to serve the proposed development however, distribution line extensions are required to connect the existing distribution system along the Hawi Niulii Road to the project on-site developments. After the development's detailed loading and civil plans are submitted, HELCO will prepare a firm cost for the off-site distribution system to connect to the development.

HELCO recommends energy efficient and conservation measures to reduce the maximum electrical demand and energy consumption. The developer may call HELCO's Energy Services Manager, Curtis Beck, at (808) 969-0134 for questions or details on available programs.

It is encouraged that the developer's electrical consultant opens a service request with HELCO's Engineering Department as soon as practicable to ensure timely electrical facility installation.

Should you have any questions, please contact Hal Kamigaki at (808) 969-0322.

Sincerely,

Fw Jose S. Dizon, P.E.
Engineering Department Manager

JSD:HKK/gk

cc: STT
SSO

GERALD PARK
Urban Planner

Planning
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Research
Environmental
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1221 Kapiolani Blvd.
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96814

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e-mail:
gparkurbanplanner
@hawaiiantel.net

October 2, 2007

Jose S. Dizon, P.E.
Engineering Department Manager
Hawaii Electric Light Company, Inc.
PO Box 1027
Hilo, Hawaii 96721-1027

Dear Mr. Dizon:

Subject: Kohala Public Library
Tax Map Key 5-4-008: 002
Puehuehu, District of North Kohala, Hawaii

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

1. Generation Capacity and Electrical Substation

The information you provided about Hawaii Electric Company's generation capacity, electrical substation, and electrical distribution system will be included in the Final Environmental Assessment.

2. Electrical Distribution System

A detailed distribution engineering analysis will be provided by the electrical design consultant pending the completion of the detailed drawings.

We understand distribution line extensions are required along Hawi-Niulii Road and we will anticipate HELCO's off-site electrical improvement costs that support our project in our budget.

3. Conservation Measures

The Department of Accounting and General Services, State of Hawaii is also concerned about energy conservation for this project. As indicated in the Draft EA, DAGS is seeking a LEED silver certification for the library and is incorporating sustainability design, water conservation, and energy conservation measures into the building.
And since we are also considering energy generating systems such as photovoltaic panels and windmill, our design consultants will be contacting your Energy Sales Manager on the available programs for these situations.

The electrical design consultant will be making a service request with HELCO's Engineering Department as soon as practical to schedule and coordinate the electrical work.

We appreciate the participation of Hawaii Electric Light Company in the environmental review process.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: R. Sasaki, DAGS-PMB
G. Miura, CDSI

Harry Kim
Mayor

Christopher J. Yuen
Director
Brad Kurokawa, ASLA
LEED® AP
Deputy Director

County of Hawaii
PLANNING DEPARTMENT
101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-4224
(808) 961-8288 • FAX (808) 961-8742

August 22, 2007

Mr. Gerald Park
Gerald Park Urban Planner
1221 Kapiolani Blvd., Suite 211
Honolulu HI 96814

Dear Mr. Park:

Subject: Draft Environmental Assessment
Project: Kohala Public Library
Applicant: State of Hawaii, Department of Accounting and General Services
Land Owner: Surety Kohala Corporation
Tax Map Key: 5-4-8:2, Puehuehu, North Kohala, Hawaii

In response to the above referenced document submitted for our review, we have the following to offer:

1. The information on land use classifications is confirmed.

2. Permits/Approvals Required:
   a. A State Land Use Boundary Amendment Application (for 15 acres or less) and a Change of Zone Application can be submitted to the Planning Commission concurrently. Both applications must then be adopted by the County Council as an ordinance.
   b. The Change of Zone must be consistent with the goals, policies and standards of the General Plan. According to the General Plan's Land Use Pattern Allocation Guide Map, Low Density Urban is categorized as *"Residential, with ancillary community and public uses, and neighborhood and convenience-type commercial uses; overall residential density may be up to six units per acre".*

Please provide us with a copy of the Environmental Assessment for our review and file.

If you have questions, please contact Esther Imamura of this office at 961-8288, extension 257.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

ETI:cd
P:\wpwin60\ETI\EAdraftPre-consul\Park Kohala Library 5-4-8-2 07.rtf

GERALD PARK
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@hawaiiantel.net

October 2, 2007

Christopher J. Yuen, Planning Director
County of Hawaii
Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720

Dear Mr. Yuen:

Subject: Kohala Public Library
Tax Map Key 5-4-008: 002
Puehuehu, North Kohala, Hawaii

Thank you for reviewing the draft environmental assessment prepared for the subject project. We offer the following responses to your comments in the order they were presented.

1. Land Use Classification.

Thank you for confirming the land use information.

2. Permits/Approvals Required

a. Applications for a State Land Use Boundary Amendment and Change of Zone will be submitted for concurrent processing.
b. A Change of Zone to the RS-15 zoning district is proposed for consistency with the Low Density Urban designation on the General Plan Land Use Pattern Allocation Guide Map and the zoning of adjoining residential lots.

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

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: R. Sasaki, DAGS-PMB
G. Miura, CDSI

PHONE (808) 594-1888

FAX (808) 594-1865

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

received
8.28.07

HRD07/3118

August 23, 2007

Gerald Park
Urban Planner
1221 Kapi'olani Blvd.
Suite 211
Honolulu, HI 96814

RE: Request for comments on a Draft Environmental Assessment for the proposed Kohala Public Library, Puehuehu, North Kohala, Hawai'i Island, TMK: 5-4-008: 002

Dear Gerald Park,

The Office of Hawaiian Affairs (OHA) is in receipt of your July 23, 2007, request for comments on the above proposed project, which would include the construction of a new public library that would replace the existing Bond Memorial Library. OHA offers the following comments and the hopes that this proposed new library, built on the land that was generously donated by Surety Kohala Corporation, will appropriately fulfill the expanding needs of the North Kohala community.

We appreciate the applicant's efforts to design and build the Kohala Public Library as a "sustainable" building, and to gain Leadership in Energy and Environmental Design (LEED) silver certification. OHA also notes the written intention to clear the site of exotic species and to incorporate native plants as much as possible into the landscape design, which will both serve water-saving purposes and further the traditional Hawaiian concept of mālama 'āina and create a more Hawaiian sense of place.

The Draft EA states that no archaeological sites or features were identified within the project location (p. 12). Regardless of these findings, we will rely on your assurances that should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during ground disturbance or excavation, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions, please contact Heidi Guth at (808) 594-1962 or e-mail her at heidig@oha.org.

Sincerely,

Clyde W. Nāmu'o
Administrator

C: Ruby McDonald
Community Resources Coordinator
OHA – Kona Office
75-5706 Hanama Pl., Suite107
Kailua-Kona, HI 96740

Ricky Sasaki, Project Manager
Department of Accounting and General Services
State of Hawai'i
Project Management Branch
P.O. Box 119
Honolulu, HI 96810-0119

CDS International, Inc.
1000 Bishop Street
Pauahi Tower, Suite 400
Honolulu, HI 96813

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAI'I
345 KEKŪANAŌ'A STREET, SUITE 20 • HILO, HAWAI'I 96720
TELEPHONE (808) 961-8050 • FAX (808) 961-8657

August 23, 2007

received
8.27.07

Gerald Park Urban Planner
1221 Kapiolani Boulevard, Suite 211
Honolulu, HI 96814

DRAFT ENVIRONMENTAL IMPACT STATEMENT
KOHALA PUBLIC LIBRARY
TAX MAP KEY 5-4-008:002

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

Water can be made available from an existing 8-inch waterline within Akoni Pule Highway, approximately 650 feet from the subject parcel. The current water availability conditions in the area, which are subject to change without notice, allow for only one (1) unit of water, at a maximum of 600 gallons per day, per existing lot of record.

Prior to effecting a water commitment for the proposed project, the Department would request estimated maximum daily water usage calculations, prepared by a professional engineer licensed in the State of Hawai'i, for review and approval. The water usage calculations should include the estimated peak-flow in gallons per minute (GPM) and the total maximum daily water use in gallons per day.

Please be informed that the proposed library will require that a minimum flow of 2,000 GPM be available at the site for fire protection. The existing 8-inch waterline within Akoni Pule Highway is currently inadequate to provide 2,000 GPM; however, the installation of a pressure reducing/pressure sustaining valve station at the Department's Kynnersley #1 site (Tax Map Key 5-4-011:099) would allow the Department's water system to provide 2,000 GPM at the project site.

Should there be any questions, you may contact Mr. Finn McCall of our Water Resources and Planning Branch at 961-8070, extension 255.

Sincerely yours,

Milton D. Pavao, P.E.
Manager

FM:dfg

copy – State of Hawai'i - Department of Accounting and General Services
Mr. William Yamamoto - DWS, Waimea

... Water brings progress...

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October 2, 2007

Milton D. Pavao, P.E., Manager
Department of Water Supply
County of Hawaii
345 Kekuanaoa Street, Suite 20
Hilo, Hawaii 96720

Dear Mr. Pavao:

Subject: Kohala Public Library
Tax Map Key 5-4-008: 002
Puehuehu, North Kohala, Hawaii

Thank you for reviewing the draft environmental assessment prepared for the subject project. We offer the following responses to your comments in the order they were presented.

The consulting civil engineer will prepare estimated maximum daily water use calculations and appropriate design drawings for Department of Water Supply review and approval.

The civil engineer also will consult with your staff about the fire flow requirement and the facility improvements at the Department's Kynnersley #1 site that would allow the Department's water system along Akoni Pule Highway to deliver the minimum fire flow.

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

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: R. Sasaki, DAGS-PMB
G. Miura, CDSI

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
EPO-07-149

August 22, 2007

received
8.23.07

Mr. Gerald Park
Gerald Park Urban Planner
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawaii 96814

Mr. Park:

SUBJECT: Draft Environmental Assessment for Kohala Public Library
North Kohala, Island of Hawaii, Hawaii
TMK: (3) 5-4-008: 002

Thank you for allowing us to review and comment on the subject application. The document was routed to the various branches of the Department of Health (DOH) Environmental Health Administration. We have the following Clean Water Branch and General comments.

Clean Water Branch

The Department of Health, Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project. Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR,

Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

   a. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.

   b. Once through cooling water less than one (1) million gallons per day.

   c. Hydrotesting water.

   d. Construction dewatering effluent.

   You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

3. You must also submit a copy of the NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the CWB that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD's determination letter for the project along with your NOI or NPDES permit application, as applicable.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 Water Quality Certification are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at 586-4309.

Mr. Park
August 22, 2007
Page 3

General

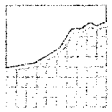
We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiacai Liu with the Environmental Planning Office at 586-4346.

Sincerely,

KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
CWB
EH-Maui



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October 2, 2007

Kelvin H. Sunada, Manager
Environmental Planning Office
919 Ala Moana Boulevard, Room 312
Honolulu, Hawaii 96814-3378

Dear Mr. Sunada:

Subject: Kohala Public Library
Tax Map Key 5-4-008: 002
Puehuehu, North Kohala, Hawaii

Thank you for reviewing the draft environmental assessment prepared for the subject project. We offer the following responses to your comments in the order they were presented.

Clean Water Branch

1. The proposed Kohala Library is located approximately 1.4 miles inland of the shoreline and not in the vicinity of identified State waters.

2. A NPDES Permit will be applied for construction activities that disturb one acre of total land area and for discharge of hydrotesting water. It should be noted that no discharge into Class A or Class 2 State waters is proposed.

3. A copy of the Notice of Intent or NPDES permit application will be submitted to the State Historic Preservation Division.

4. Discharges associated with project construction and operational activities will comply with applicable State Water Quality Standards.

General

The Standard Comments will be reviewed for applicability to this project.

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

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: R. Sasaki, DAGS-PMB
G. Miura, CDSI