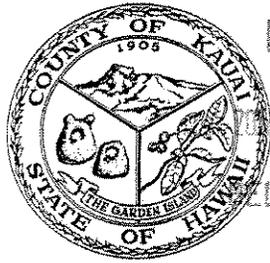


BRYAN J. BAPTISTE
MAYOR



RECEIVED DONALD M. FUJIMOTO
COUNTY ENGINEER
TELEPHONE 241-6600

GARY K. HEU
ADMINISTRATIVE ASSISTANT

APR 10 PM 1:59

LADYE H. MARTIN
DEPUTY COUNTY ENGINEER
TELEPHONE 241-6600

AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUA'I
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MO'IKEHA BUILDING, SUITE 275
LIHU'E, KAUA'I, HAWAII 96766-1340

April 4, 2006

RECEIVED
06 APR 11 AM 1:04
OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Ms. Salmonson:

Finding of No Significant Impact (FONSI)
Proposed Kapaa Fire Station
County of Kauai
Kawaihau, Kauai, Hawaii, TMK 4-6-14: Portion of 26

The Public Works Department, County of Kauai, has reviewed the comments received during the 30-day public comment period which began on December 23, 2005. This agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the April 23, 2006 issue of The Environmental Notice.

We have enclosed a completed OEQC Publication Form and four (4) copies of the final EA. Please call Glen Koyama of Belt Collins Hawaii Ltd. at ph. 521-5361 if you have any questions.

Sincerely,

Donald Fujimoto
County Engineer

cc: ~~Glen~~ Koyama, Belt Collins Hawaii

Enclosure: 1) Completed OEQC Publication Form
2) Final EA (four copies)

2006-04-23 KA FEA KAPAA FIRE STATION

APR 23 2006
FILE COPY

**FINAL
ENVIRONMENTAL ASSESSMENT**

**PROPOSED FIRE STATION
KAWAIHAU, KAUA'I, HAWAII**



AFCD, DEPARTMENT OF
QUALITY CONTROL

06 APR 11 AM 11:04

RECEIVED

**PUBLIC WORKS DEPARTMENT
COUNTY OF KAUA'I**

**FINAL
ENVIRONMENTAL ASSESSMENT**

**PROPOSED FIRE STATION
KAWAIHAU, KAUA'I, HAWAI'I**

April 2006

Prepared by:

**BELT COLLINS HAWAII LTD.
HONOLULU, HAWAII**

Prepared for:

**PUBLIC WORKS DEPARTMENT
COUNTY OF KAUA'I**

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APPENDICES

- Appendix A Preliminary Investigation of Abandoned Lagoons
- Appendix B Archaeological Assessment and Cultural Impact Evaluation
- Appendix C 24-Hour Traffic Count

ACRONYMS AND ABBREVIATIONS

BLNR	Board of Land and Natural Resources, State of Hawaii
BMP	Best Management Practices
CZM	Coastal Zone Management
CZO	Comprehensive Zoning Ordinance
DLNR	Department of Land and Natural Resources, State of Hawaii
DOE	Department of Education, State of Hawaii
DOH	Department of Health, State of Hawaii
DOT	Department of Transportation, State of Hawaii
DOW	Department of Water, County of Kauai
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
HAR	Hawaii Administrative Rules
HRS	Hawaii Revised Statutes
KIUC	Kauai Island Utility Cooperative
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
PWD	Public Works Department
SHPD	State Historic Preservation Division
SHPO	State Historic Preservation Officer
SMA	Special Management Area
ST-P	Special Treatment District - Public
TMK	Tax Map Key
WWTF	Wastewater Treatment Facility

1 SUMMARY

PROPOSING AGENCY: Public Works Department (PWD), County of Kaua'i

APPROVING AGENCY: PWD, County of Kaua'i

GENERAL PROJECT DESCRIPTION: The Kaua'i PWD proposes to construct for the Fire Department a new fire station in Kapa'a to accommodate the increasing number of calls in the district. An engine and rescue company capable of handling structure fires, wild land fires, emergency medical calls, and rescue calls will operate the new station.

PROJECT LOCATION: The new station will be built on State of Hawai'i land, identified as Tax Map Key 4-6-14: 26, located on Kūhiō Highway approximately one mile north of Kapa'a town center (see Figures 1 and 2). The site is designated in the State Urban District and County Special Treatment District – Public (ST-P) zone.

DETERMINATION: Finding of No Significant Impact (FONSI)

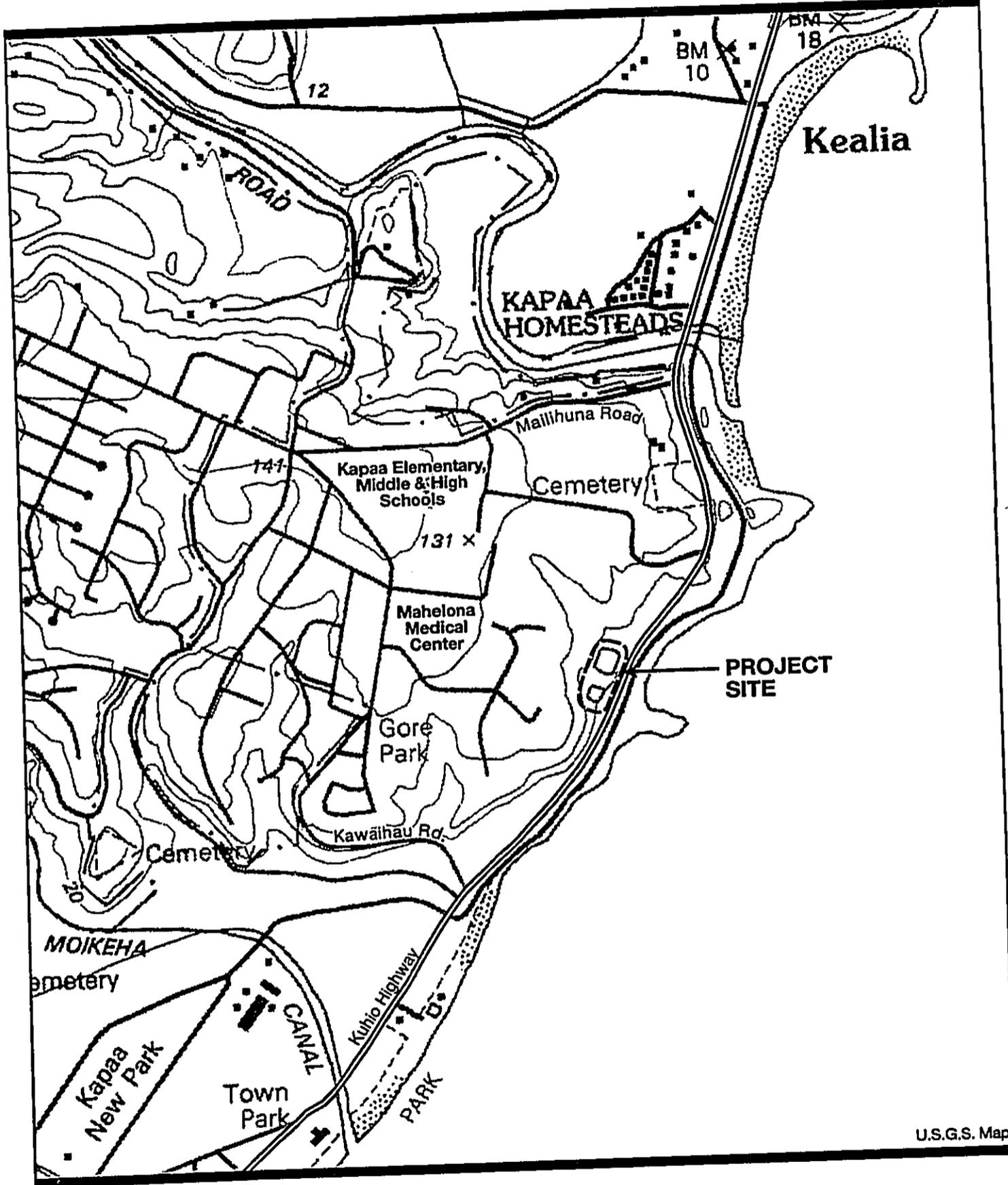
CONSULTED AGENCIES:

State Agencies

Department of Land and Natural Resources (DLNR),
Land Division
DLNR, State Historic Preservation Division (SHPD)
Department of Transportation (DOT),
Highway Division
Kapa'a Educational Complex, Department of
Education (DOE)
Mahelona Memorial Hospital

County Agencies

Department of Water
Planning Department
Public Works Department, Division of Solid Waste
Public Works Department, Division of Wastewater

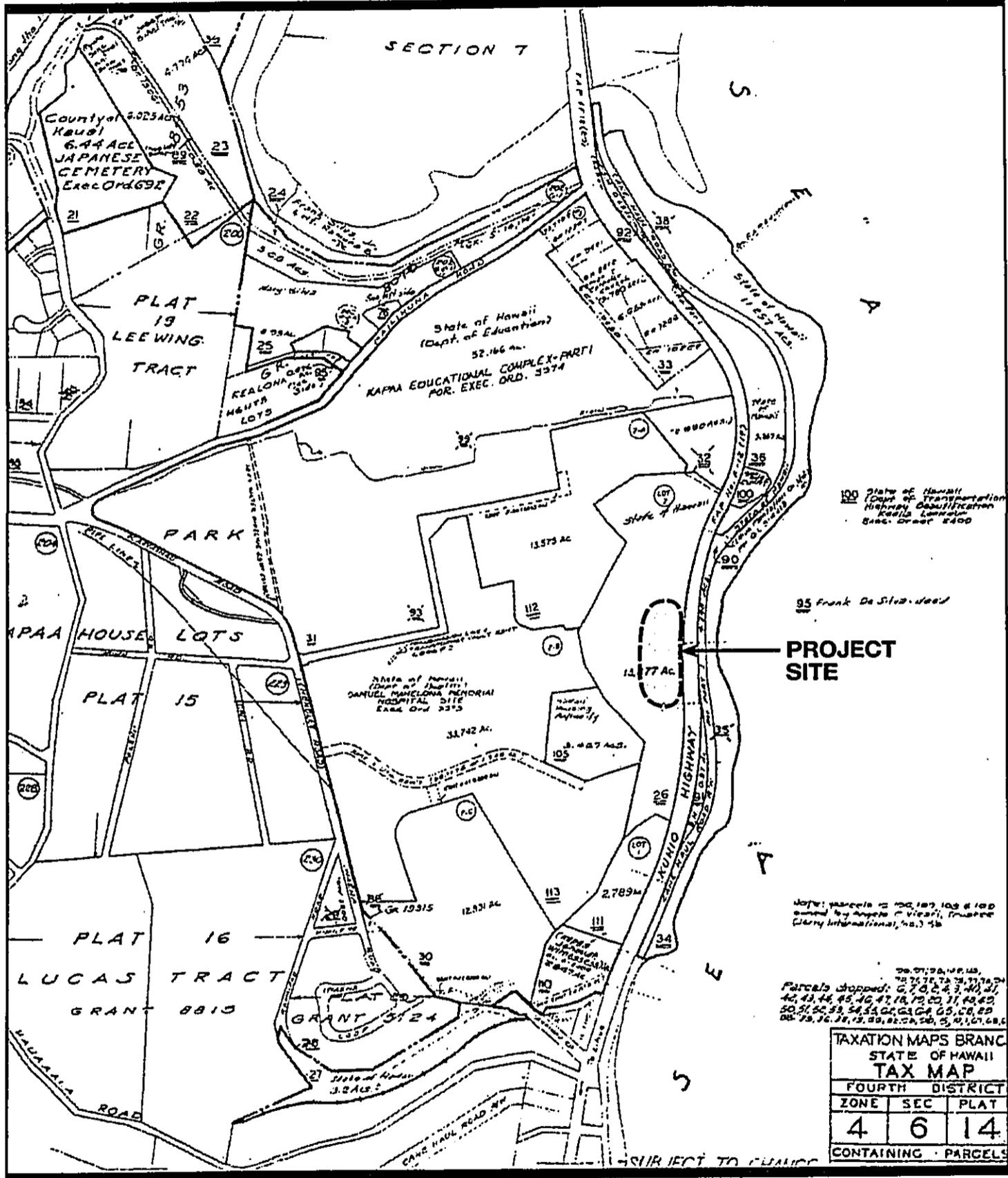


U.S.G.S. Map



Figure 1
LOCATION MAP
Kapaa, Kauai





TAXATION MAPS BRANCH		
STATE OF HAWAII		
TAX MAP		
FOURTH DISTRICT		
ZONE	SEC	PLAT
4	6	14
CONTAINING PARCELS		

0 200 400 800
SCALE IN FEET

Figure 2
TAX MAP (Portion)
Kapaa, Kauai

2 DESCRIPTION OF THE PROPOSED ACTION

2.1 Project Objective

The County of Kaua'i Public Works Department proposes to construct for the Fire Department a new fire station (Kapa'a Station) in northern Kapa'a to supplement and improve existing services for the Fire Department's Kapa'a service district (see Figures 3 and 4). The proposed Kapa'a Station would add to services currently provided by the Waipouli Station. The additional services are required to support the higher volume of calls arising from the overall growth in population and residents locating to outlying areas of the service district.

The Public Works Department first step in the Fire Department's long-range plan for Kapa'a would be to build the new Kapa'a Station along Kūhiō Highway just below the Mahelona Medical Center. Once that station becomes operational, the existing Waipouli Station would be relocated to Wailua Homesteads to more effectively serve the district and reduce response time. The original Waipouli Station would be removed once the Wailua Homesteads station becomes operational.

This Environmental Assessment (EA) has been prepared for the construction and operation of the Kapa'a Station. A separate EA will be prepared for the replacement of the Waipouli Station once that project is ready to proceed.

2.2 Description of the Proposed Action

The Kapa'a Station will be a full-service facility consisting of an engine and rescue company capable of handling structure fires, wild land fires, emergency medical calls, and rescue calls (see Figures 5, 6, and 7). The station will also provide specialty rescue services consisting of helicopter and/or off-shore diving assistance. Landing facilities will be available at the Kapa'a Station for the helicopter, which would be operated under a private contract out of Hanapēpē. The Kapa'a Station will also contain a permanent office for the Fire Department's mechanic, who is expected to be on-call to service other stations on the island. The Fire Department's Hazmat technician, who operates out of the Līhu'e Station, will provide assistance for the new Kapa'a Station.

The Kapa'a Station will have two pumper trucks, two wildland tank trucks, and an emergency medical/rescue truck. A staff of 15 firefighters would operate the station on a rotational shift with 3 to 5 firefighters manning the station at any one time.

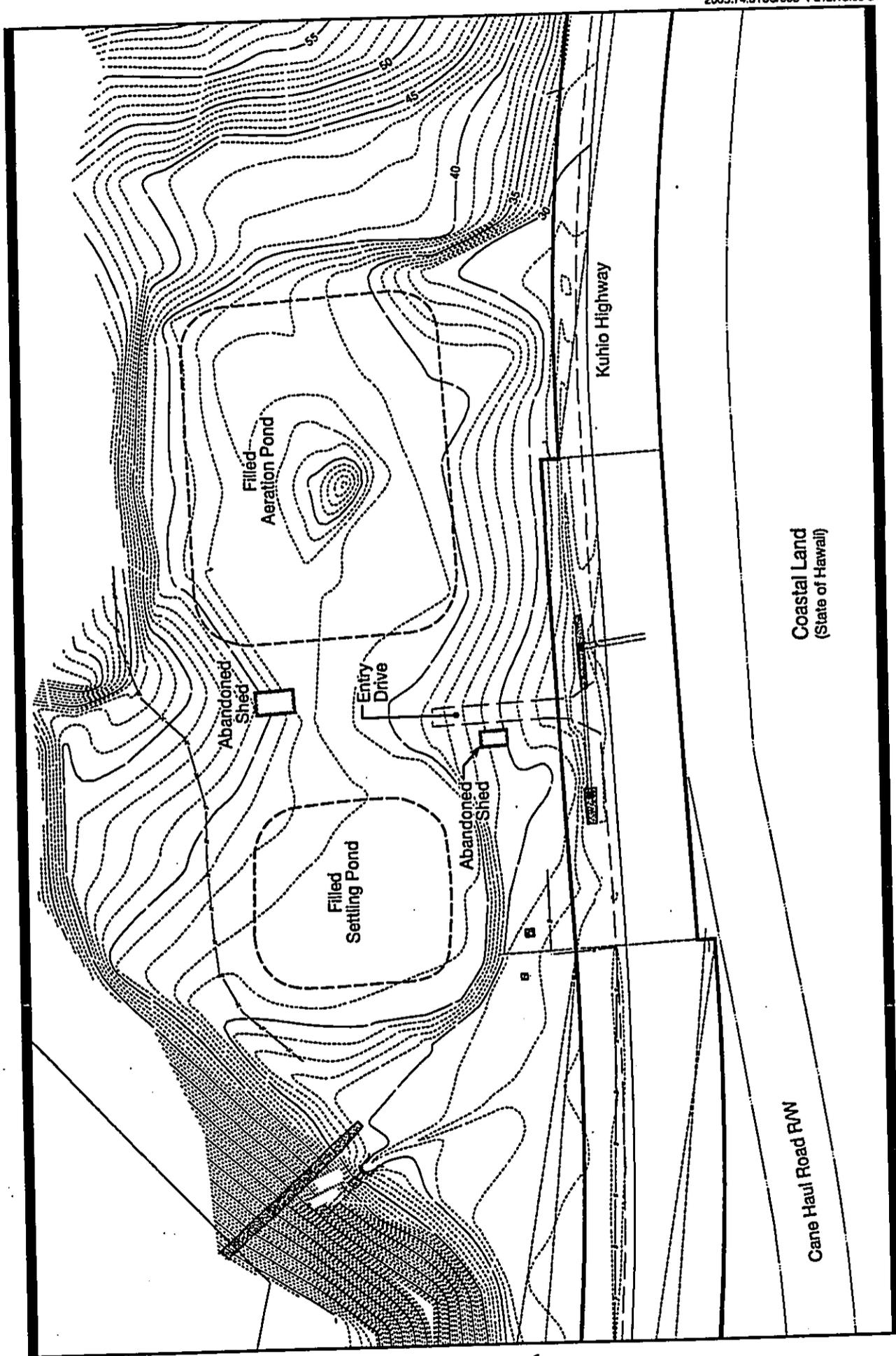
The building will include a garage with three bays for the fire trucks, kitchen/lounge, sleeping quarters, office, locker room, exercise room, generator compartment, laundry/storage room, and other accessory spaces. The building's total floor area will be approximately 6,600 square feet.



Figure 3
SITE PHOTO
Kapaa, Kauai



NOT TO SCALE



NORTH



Figure 4
EXISTING SITE
Kapaea, Kauai

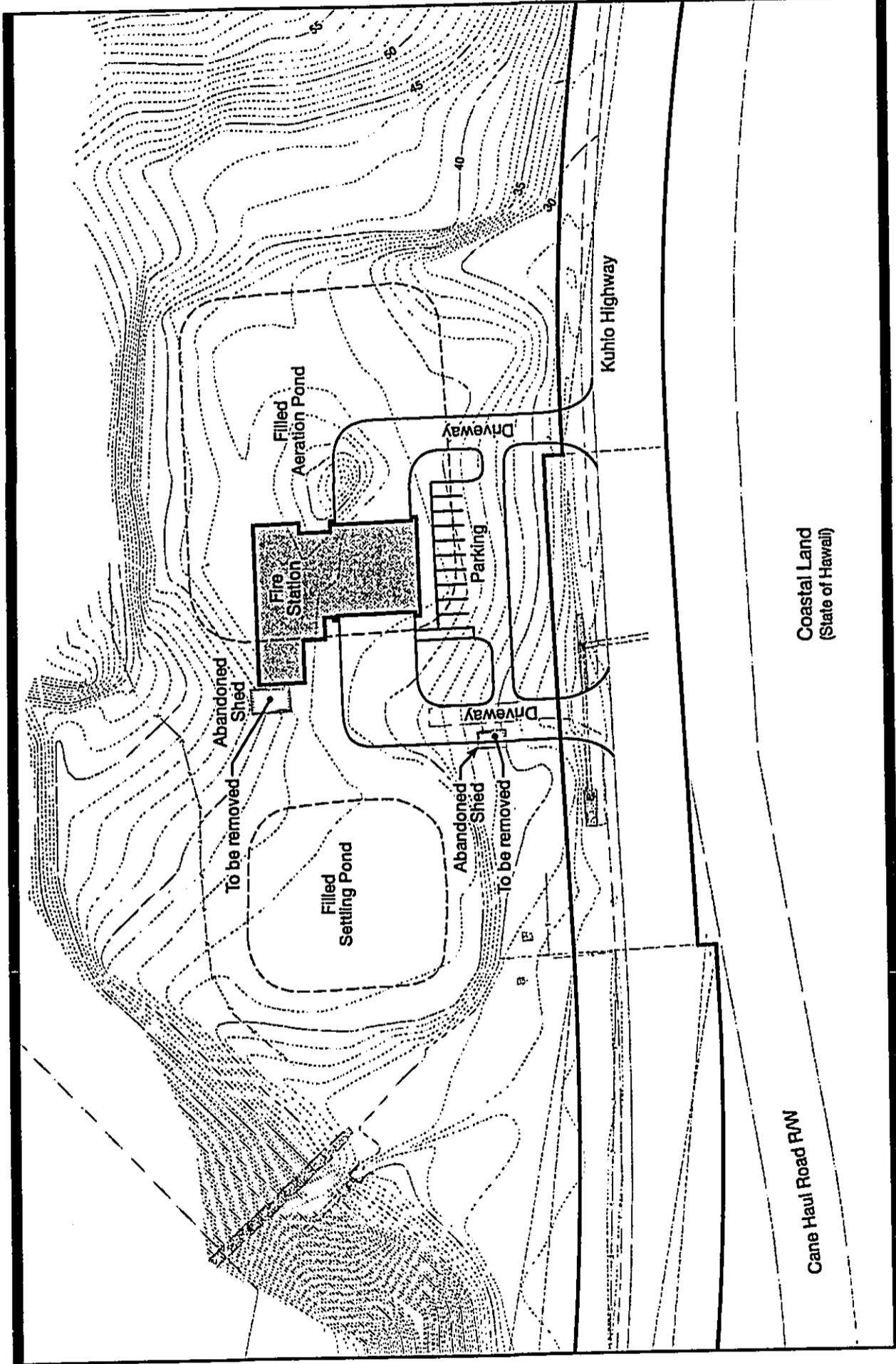


Figure 5
FIRE STATION SITE PLAN
Kapaa, Kauai



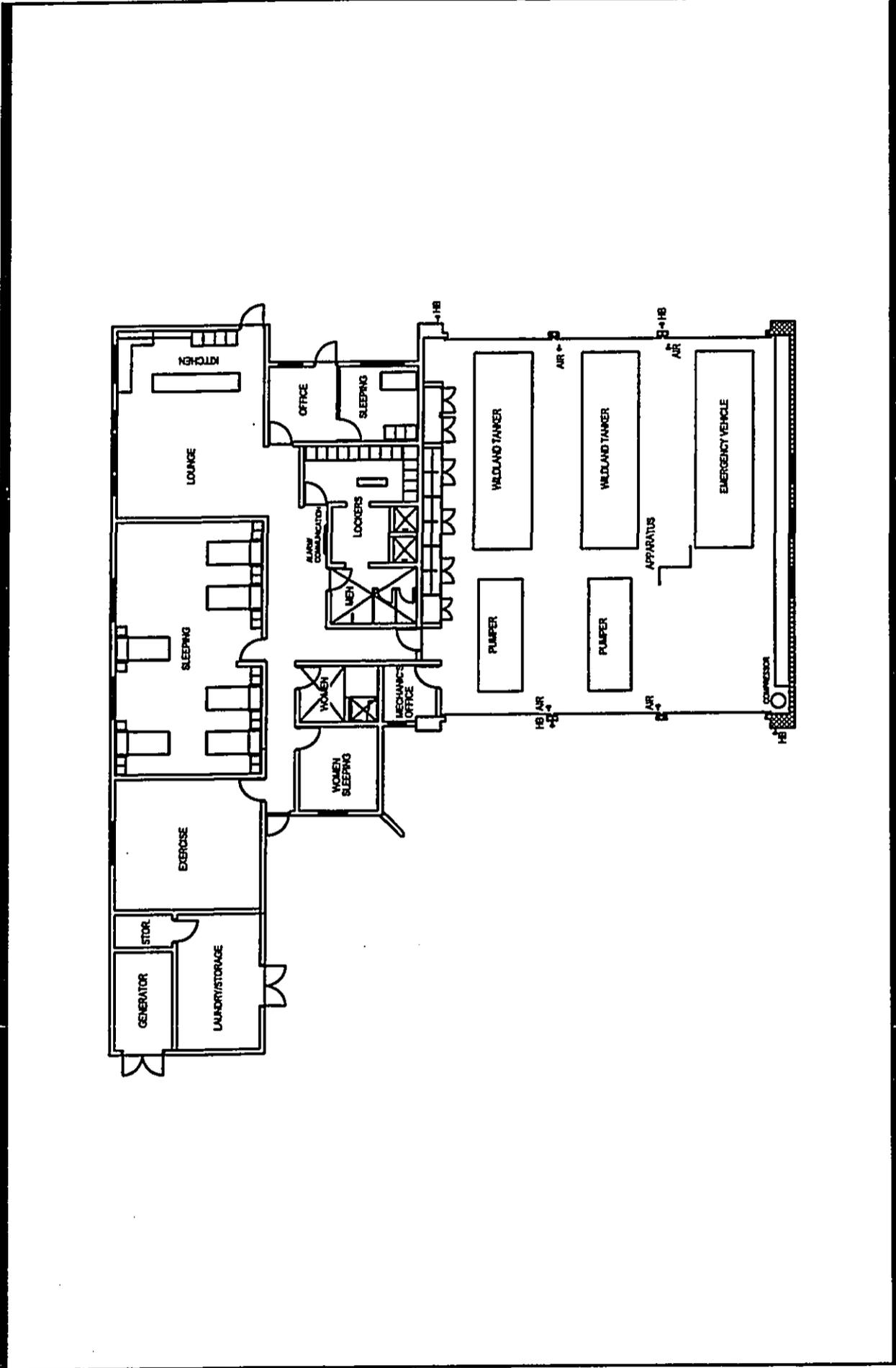
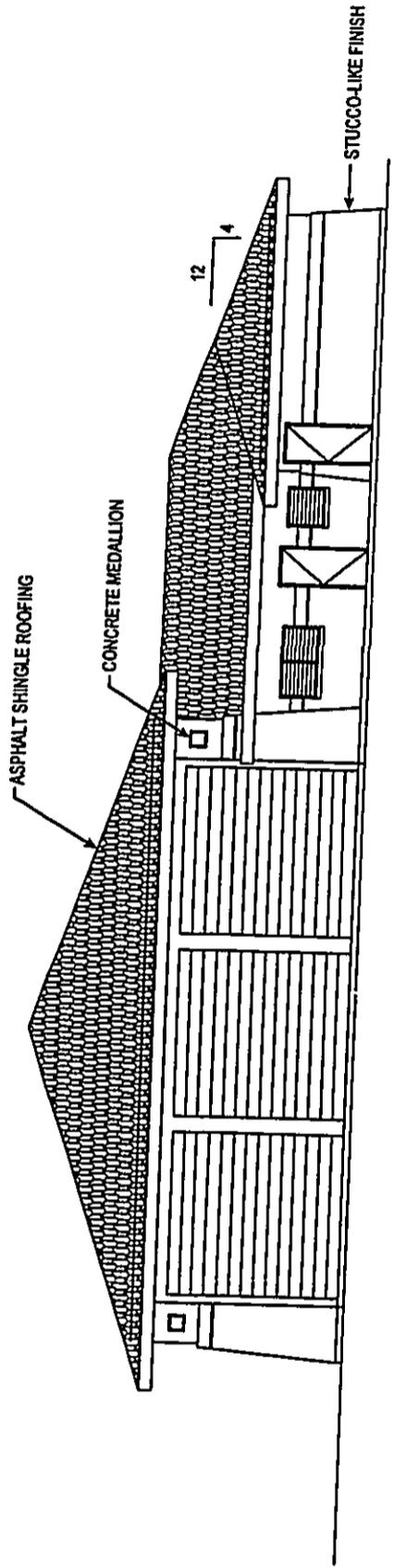


Figure 6
FIRE STATION FLOOR PLAN
Kapaa, Kauai

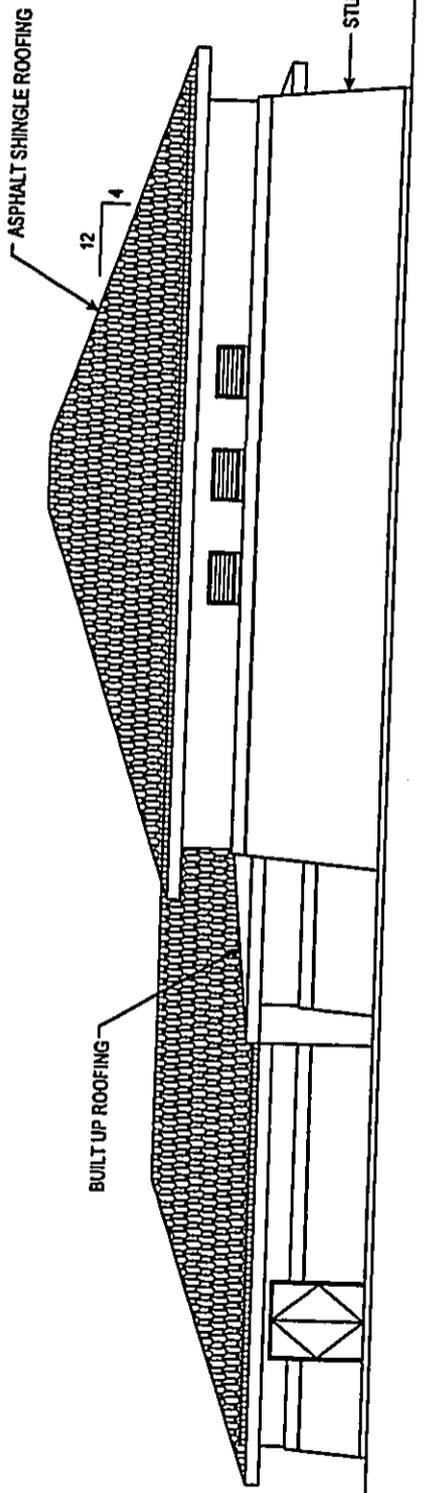
Belt Collins

NORTH

0 5 10 20
Scale in Feet



NORTH ELEVATION



EAST ELEVATION



Figure 7
FIRE STATION ELEVATION PLANS

Kapaa, Kauai

The fire station will be constructed with concrete masonry units with a stucco-like exterior finish and asphalt shingle roofing. The architectural style of the building will be similar to the fire station in Kōloa. The landscape would consist primarily of a grass lawn in the yard areas and hedges around the building.

Ingress and egress to the station will occur at two locations along the site's highway frontage. One of the accesses is an existing driveway for the former wastewater treatment facility (WWTF). The other access will be located approximately 160 feet to the north.

2.3 Estimated Cost

The estimated cost to construct the new fire station is expected to be approximately \$5.0 million, exclusive of planning, permitting, and design work. County funds will be used to finance the project.

2.4 Construction Schedule

Construction of the facility could begin in 2006 once all government permits and approvals are secured. Construction could be completed approximately 12 months thereafter.

3 DESCRIPTION OF AFFECTED ENVIRONMENT

3.1 Regional Setting

The proposed site, situated in Kawaihau, Kaua'i, is in a region that extends from the ocean to the mountains. The town of Kapa'a (population 9,500)¹, beach resorts of Wailua and Waipouli, residential homes, agricultural farms, grazing lands, and large open spaces comprise the region. Most of the uplands in the district are homestead lands that are in rural and agricultural uses.

A mix of long-term residents, newcomers, and visitors populate the region. Kūhiō Highway, a State right-of-way, serves as the main access through Kapa'a, and extends approximately 30 miles from Līhu'e to Hanalei with numerous local side roads that provide access to the inland and coastal areas. The project site lies on Kūhiō Highway between Kawaihau and Mailihuna Roads, approximately one mile north of Kapa'a town center.

¹ U.S. Census, 2000.

3.2 Existing Land Use

A WWTF previously occupied the project site to service the Mahelona Medical Center, Kapa'a Elementary, Middle and High Schools (Kapa'a Educational Complex), and a nearby low-income elderly housing development. The WWTF ceased operations about 10 years ago² and two ponds (aeration and settling) were filled. The site remains idle.

According to a Mahelona Medical Center official, wastewater discharged to the WWTF contained no hazardous material or other contaminants of concern.³ The medical center would discharge medical waste into a separate disposal system, which a private contractor hauled away. Discharges to the WWTF consisted of normal domestic effluent from toilets, washrooms, etc. Operations at the medical center include long-term care and outpatient services for radiology, laboratory, physical therapy, occupational therapy, and also psychiatric services with a limited number of beds. The medical center does not engage in emergency operations and medical research.

Underground pipelines and electrical lines still remain on the site. A control building and accessory shed also remain, but are vacant. All equipment and furnishings have been removed from the structures.

In a small area (approximately 700 square feet) in the back of the property, there has been some light dumping of domestic trash, debris, and landscape cuttings.

3.3 Land Tenure

The approximately 50,000-square foot project site would be located on a portion of the 13.877-acre State parcel identified as Tax Map Key: 4-6-14: 26. The County of Kaua'i has initiated discussions with the State Department of Land and Natural Resources for the acquisition and use of the site. Ultimately, the County anticipates that Parcel 26 would be subdivided to accommodate the proposed facility.

3.4 Topography

The topography of the project area generally slopes from its western boundary at approximately 45-foot elevation to Kūhiō Highway at its eastern boundary at approximately 27-foot elevation (see Figure 8). Surrounding the site on three sides are steep banks of over 20 percent grade. The fourth

² County Department of Public Works.

³ Herman Chong, Director of Facilities, Mahelona Medical Center, from Belt Collins Memorandum, October 5, 2005.

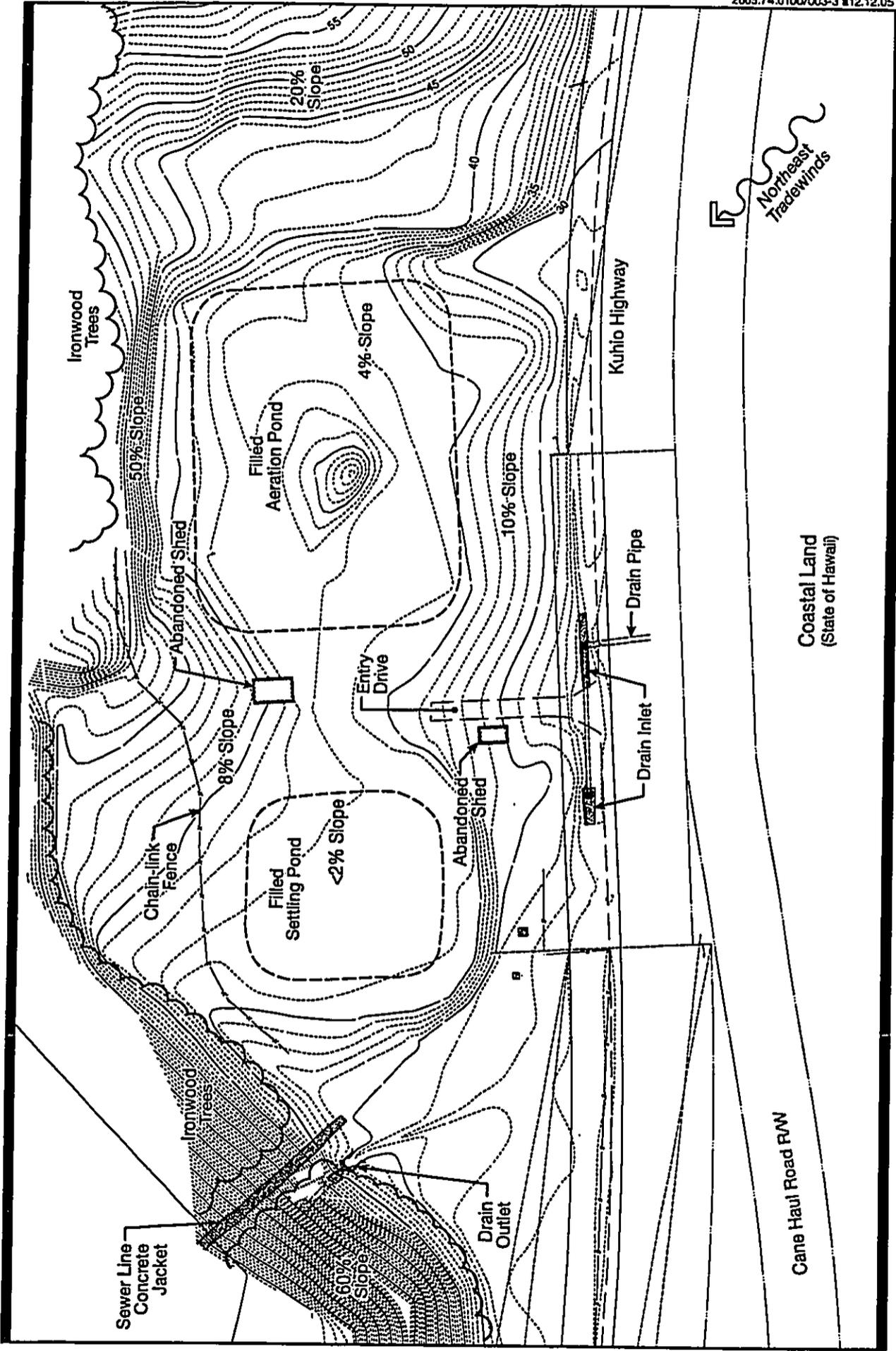


Figure 8
EXISTING SITE CONDITIONS
Kapaa, Kauai

side, which is opened to Kūhiō Highway, is the longest side of the property. The level area of the site, which consists of approximately 58,000 sq. ft. or 1.4 acres, includes the filled ponds of the former WWTF. The proposed fire station site will occupy approximately 50,000 sq. ft. of the level area.

3.5 Geology

Kaua'i, the oldest of the major Hawaiian Islands and the most weathered or eroded geologically, consists of at least one extinct volcano. Lavas from the shield, post shield, and rejuvenated stages formed the island. Kaua'i, which notably lacks rift zones, contains an enormous caldera complex with a graben, or down-dropped block on the caldera's south side. Rejuvenated-stage lavas have covered much of the eastern half of the island. Over time, numerous landslides and long-term erosion have modified Kaua'i's northern, northeastern, eastern, and southern flanks.

The project site is situated on the eastern side of Kaua'i along Kūhiō Highway across coastal land comprised of a rocky shoreline. The frequent high surf and predominant tradewinds contribute to the long-term modification of this coastal area.

3.6 Soils

According to the *Soil Survey of the Islands - Kaua'i, O'ahu, Maui, Molokai, and Lanai, State of Hawai'i* (1972)⁴, soil on the property consists of "Lihue silty clay, 25 to 40 percent slopes, eroded." This well-drained soil type developed in material weathered from basic igneous rock. Runoff on this soil is rapid and its potential erosion hazard severe. Its Capability Classification is VIe, nonirrigated, which indicates that the soil has severe limitations (hazard of erosion) that makes it generally unsuited for cultivation.

Approximately 10 years ago, the WWTF ceased operations on the site and its aeration and settling ponds were filled. According to the contractor, the berm around each pond was pushed in to fill the basin. It is not known, however, whether off-site or on-site material was used to complete the fill. The County PWD is planning to test the soil and any residual matters in the filled ponds prior to construction.

⁴ Prepared by U.S. Department of Agriculture, Soil Conservation Service in cooperation with the University of Hawaii, Agricultural Experiment Station, Issued August 1972.

In a preliminary investigation of the ponds by Belt Collins Hawaii⁵ (see Appendix A), an official at the Mahelona Medical Center indicated that the hospital, adjacent schools, and nearby low-income elderly housing project used the WWTF for domestic wastewater treatment. Wastewater from the hospital consisted only of domestic waste and did not include industrial waste or hazardous materials. It is not known whether the ponds were lined or not.

In the mid to late 1990s, the WWTF ceased operations after the hospital, schools, and housing project were able to connect to the County's expanded sewer system. The closure included pumping of the liquid out of the ponds, allowing the accumulated wastewater sludge to dry, excavating the soil berms from the pond perimeters, and backfilling the ponds with soil from the berms.

An official from the State Department of Health (DOH) indicated that the Hawai'i Administrative Rules (HAR), specifically Title 11, Chapter 62, Part 23, on *Wastewater Systems*, provides general guidance and could be interpreted to mean that filling of the ponds would indicate sufficient closing of the facility. While potential contaminants in sludge from domestic wastewater will attenuate, the structural issues are of greater concern. If the sludge had not been removed from the ponds prior to filling, settling and other structural concerns may arise. Also, a structural issue may exist concerning the soil, which may not have been compacted when the ponds were backfilled.

The nutrients and organisms in the accumulated bio-solids have undergone several years of anaerobic decomposition and are expected to be a stabilized, insoluble material. Although wastewater sources into these former ponds were non-industrial, the possibility exists that the domestic wastewater contained metals and organic contaminants from household products such as pesticides and personal hygiene products.

According to HRS Chapter 128D, *Environmental Response Law*, releases from sewerage systems collecting and treating primarily domestic wastewater are not considered to be releases of hazardous substances or pollutants into the environment.

3.7 Flora

The project site was previously cleared of vegetation and used by the WWTF. Since closure of the WWTF, the area has been overtaken by stray salt-tolerant vegetation from adjoining coastal areas. The vegetation includes primarily California grass, wedelia, indigo, swamp morning glory, and asystasia. There are some light scatterings of Guinea grass, koa haole, and Christmas berry. On the

⁵ Memorandum by Belt Collins Hawaii to Yamasato Fujiwara Higa & Associates, regarding Kapaa Fire Station, Preliminary Investigation, October 5, 2005.

steep slopes surrounding the site are stands of ironwood trees. No rare, threatened, or endangered species are known to occur on the site.

3.8 Fauna

Located along Kūhiō Highway and being covered with low weedy groundcover, the attributes of the site deter species that favor quiet, remote areas with tall, dense vegetation. Avifaunal species that have been observed or are expected to occur in the area, are typically low-land urban species, which include the common myna, zebra dove, house finch, Japanese white eye, house sparrow, red-crested cardinal, chestnut munia, and spotted dove.

The Pacific golden plover, a migratory shorebird that spends winters in the islands from August to late April, typically frequent inter-tidal reef flats at low tide in the coastal areas and open lawns in the adjacent mauka lands. Also known to occur in the general area are wedge-tailed shearwater and white-tailed tropicbird. Both are indigenous and were observed during a faunal survey of the Kapa'a-Keālia coast.⁶ The survey also noted that there were observations of the endangered dark-rumped petrel and the threatened Newell's shearwater along the coast.

Although no feral mammals were observed on the project site during a site inspection in September 2005, feral cats, dogs, and rodents are expected to occur in the area. The existing landscape and vegetation do not suggest the presence of feral pigs. Rare, threatened, or endangered avifauna or feral mammals are not known to occur specifically on the project site, but the endangered Hawaiian hoary bat has been observed along the Kapa'a coast.

3.9 Climate

The project site faces the predominant northeast tradewinds of the Kapa'a coastline. These winds are typically breezy and at times relatively strong with speeds of 13 to 24 mph.

The air is generally warm and mild with temperatures averaging 70°F throughout the year. The average annual rainfall is between 40 and 50 inches with the heaviest occurring during the wet winter months and the least during the dry summer months.

⁶ Kapaa-Kealia Bike & Pedestrian Path – Final Environmental Assessment, U.S. Department of Transportation, Federal Highway Administration; State of Hawai'i, Department of Transportation; and County of Kaua'i, Department of Public Works, August 2003.

3.10 Hydrology

There are no natural surface water features, such as lakes, ponds, streams, or springs on the site. Groundwater occurs near mean sea level.

Surface runoff occurs by sheetflow across the property toward the highway. No distinct drainage patterns exist in the area. Drainage along the highway usually follows the roadside shoulder swales and includes small pipe culverts to channel flow to the makai side of the roadway.

3.11 Natural Hazards

Flood Insurance Rate Map (FIRM) - Map No. 1500020210E (September 16, 2005) indicates that the project site is located in Zone X. Areas included within this zone are determined by the Federal Emergency Management Agency (FEMA) to be outside the 0.2 percent annual chance flood.

Although situated near the coastline, the site does not fall within the Special Flood Hazard Area, which is subject to coastal inundation by the 1 percent (100-year flood) annual chance flood. The Special Flood Hazard Area has a 1 percent chance of being equaled or exceeded in any given year, and includes Zones A, AE, AH, AO, AR, A99, V, and VE. The base flood elevation as shown on the FIRM for each zone is the water-surface elevation of the 1 percent annual chance flood.

Additionally, the site is not located within any tsunami evacuation area as identified on Kaua'i's Civil Defense Tsunami Evacuation Map No. 3.⁷

As aforementioned, vegetation on the site consists primarily of low groundcover. However, a moderately dense growth of ironwood trees occurs on the steep slopes surrounding the site. On the plateau above the slopes, open lawns landscape the hospital and school grounds. Brush fires may pose a potential threat. However, its impact may be limited to the location of the trees. The site is susceptible to high winds which could stir up or accelerate any brush fire that might occur there.

3.12 Air Quality

There are no air pollutant generators, including incinerators, quarries, manufacturing plants, or mass drying beds in the project area. Upwind of the predominant tradewinds are the Pacific Ocean and coastal lands of East Kaua'i. The hospital and associated facilities abut the site on the downwind side. None of these uses are air pollution generators of concern.

⁷ Verizon Telephone Book, Kaua'i Edition, February 2005.

3.13 Soundscape

The predominant sounds in the project area are the surf action on the rocky Kapa'a coast, winds as they brush past nearby foliage, and traffic on the State highway. At night, the traffic and wind sounds occur at lower levels, but the surf activity becomes more noticeable.

3.14 Scenic Resources

The primary scenic resource of the area is the open ocean and coastal lands that parallel the State highway. It provides motorists with a continuous point of interest along the highway route.

Far inland of the coastline, Kaua'i's Makaleha Mountains provide a spectacular backdrop for the region's uplands. This towering landmark rises to an elevation of approximately 3,000 feet. Views of the mountains from the site are shielded by the steep slopes that surround the site on the north and west boundaries. Within the project site, there are no physical features that are of scenic value.

3.15 Archaeological Resources

An archaeological reconnaissance was conducted on the project site by Cultural Surveys Hawaii (see Appendix C). The survey found the site to have been extensively altered. Two modern abandoned structures (WWTF sheds) were found, but no historic properties, i.e., traditional Hawaiian or historic sites, were observed. Due to the site's extensive land modification, the archaeology consultant indicated that the likelihood of encountering intact subsurface cultural deposits is low.

As a precautionary measure, Cultural Surveys Hawaii indicated that there should still be procedures for such events when a subsurface feature is unexpectedly encountered during construction and that appropriate notification measures are to be followed.

3.16 Cultural Impact Assessment

Cultural Surveys Hawaii also conducted a cultural impact evaluation for the project site (see Appendix B). The consultant carried out historic research of the area to identify historic properties, cultural resources, and traditional cultural practices associated with the area. It also contacted local informants knowledgeable of the vicinity regarding cultural resources and practices and the potential effect of the proposed development on those possible resources.

Although the region of Kapa'a has had a long history of native Hawaiian activity, the proposed fire station site has not been specifically identified by local informants as having any notable presence in

the past or present day (other than the WWTF). The study concludes that the proposed station will have minimal or no impact on Hawaiian culture, its practices, or traditions.

The coastal land makai of the project site is a recognized recreational resource to the island community. It is also located across the highway from the project site and already accessible from the State right-of-way. The project site will not interfere with any traditional or cultural gathering rights to the ocean and shoreline resources.

4 SOCIOECONOMIC SETTING

4.1 Socioeconomic Background of the Region

Approximately 16,000 people populate the Wailua-Kapa'a region, which makes it the largest populated area on Kaua'i. Three geographic sub areas define the Wailua-Kapa'a region: (1) the coastal urban area of Wailua-Waipouli Resort and Kapa'a town, (2) the inland homestead lands of Wailua, and (3) the mauka homestead lands of Kapa'a.

The Wailua-Waipouli Resort and Kapa'a town area have become a destination area with hotels and shopping complexes attracting many visitors as well as local island residents. A bevy of economic activity has spurred the development of support businesses and services, while concurrently creating traffic needs that justify major roadway improvements.⁸

The lands mauka of the coastal urban area, prior to statehood, were subdivided for agricultural homesteads. Agriculture was the primary activity for these lands. However, in the ensuing years, with the shift away from agriculture, the upland region is now transitioning to residential use.⁹ Home building continues to increase as small land holdings are subdivided, which in turn contributes to the increase in the area's population and demand for more roads and public services.

4.2 Economic Impacts Assessment

Construction of a new fire station in the district would help fulfill the emerging need to supplement fire and rescue services in the area. During the construction phase of the project, short-term economic benefits would be generated through the employment of construction labor and equipment mobilization. The impact would have multiplier effect on the island economy.

⁸ U.S. Census, 2000.

⁹ County of Kaua'i, Planning Department. November 2000. *Kauai General Plan*.

During the fire station's operational stage, new jobs would be created for additional fire station personnel. Additional spending would occur on equipment and supplies, and income and general excise taxes would be generated for the local economy. Over the long-term, these activities will all contribute to the region's continued economic stability.

4.3 Social Considerations

The proposed action calls for a public facility that provides emergency and rescue services that benefit the local community, as well as visitors. More housing, roads, utilities, and public services will not be required. The facility will operate with staff living on a rotational basis in on-site boarding facilities.

The new station will be located within the community, but not among the homes and businesses of the area. As such, construction impacts on the environment, if any, particularly from any fugitive dust, sedimentation from stormwater runoff, or construction noise would be minimal, and project operations, such as siren sounds when emergency calls are dispatched, periodic fire alarm drills and practices, and regular maintenance and repair activities, would have minimal or minor effects.

5 PUBLIC FACILITIES AND SERVICES

5.1 Circulation and Traffic

The fire station's location on Kūhiō Highway provides immediate access to Kaua'i's major roadway system. Kūhiō Highway, a primary collector road, connects all of the communities along the east and north coasts of the island between Līhu'e and Hā'ena. As a consequence, a high volume of traffic occurs on this right-of-way throughout the day. The heaviest traffic occurs south of the project area in Kapa'a town and between Kapa'a and Līhu'e during peak commuter hours. At the project site, Kūhiō Highway is a two-lane State right-of-way with limited access.

The 24-hour traffic count on Kūhiō Highway in the project vicinity is approximately 14,300 vehicles (see Appendix C).¹⁰ The morning peak-hour traffic, which occurs between 7:00 a.m. and 8:00 a.m., is 1,013 vehicles. The afternoon peak hour traffic, which occurs between 3:45 p.m. and 4:45 p.m., is 1,225 vehicles.

¹⁰ Department of Transportation, State of Hawaii, 24-Hour Count, Station No. 26-X, Aug. 27-28, 2003.

The proposed fire station is expected to have minimal impact on traffic. Staff personnel, who will be living on-site in boarding facilities on a rotational basis, will not be contributing to the daily commuter traffic.

During construction of the fire station, construction equipment and supplies would be scheduled for site delivery during off-peak hours to avoid traffic congestion, and construction workers are likely to arrive at the project site from the Lihue/South Kauai sections of the island traveling in the opposite direction of the peak commuter traffic.

Two access points on Kuhio Highway may be required for the fire station. An ingress would be needed at the existing driveway that served the former WWTF. A second access would be needed a short distance to the north for the facility's egress. Approval for the second access may be required from the State Department of Transportation, which has jurisdiction over the highway. If required, the County will seek the necessary approval.

5.2 Water, Sewer, Electricity, and Telephone

An 8-inch water line, owned by the County Department of Water, extends from Kapaa town along Kuhio Highway up to approximately 1,100 feet from the project site. A 12-inch line is located along Kawaihau Road approximately 1,900 feet from the project site. Preliminarily, water service for the fire station site will require a line extension along Kuhio Highway from the 12- or 8-inch line to the subject property.

The sewer lines that were installed to bypass the now abandoned WWTF continue to operate over the project site. The sewer lines traverse the central and southern sections of the property to link with a manhole located within the adjacent Kuhio Highway right-of-way. Wastewater is then conveyed through the Kapaa system and collected at the Wailua WWTF where it is treated and disposed. Specific connections to the County system will be determined by the project engineer and approved by the County Division of Wastewater. A County Wastewater official indicated that the existing Wailua WWTF is at approximately 60 percent capacity with several planned projects to be on line in the near future.¹¹ Still, it is anticipated that the County's existing WWTF will be adequate to accommodate the new fire station.

Kauai Island Utility Cooperative (KIUC) operates electrical power on Kauai and has facilities in Kapa'a. Overhead 57 Kv lines are currently located along the Kūhiō Highway corridor and are available for use at the project site with appropriate transformer banks.

¹¹ Telephone conversation with staff engineer at Division of Wastewater, Department of Public Works.

Hawaiian Telcom also has telephone lines along Kūhiō Highway and a request will be made for connection to overhead lines.

5.3 Solid Waste

Solid waste generated by the new station will be taken to the Kapa'a Transfer Station then taken to the County landfill in Kekaha. The landfill has adequate capacity at the landfill to accommodate the new station.¹²

All construction debris generated during site preparation and project construction will be hauled by a private contractor directly to the landfill.

Six recycling stations around the island operated by private contractors receive newspaper, glass, aluminum, and paper products. The recycling stations helps relieve the increasing volume of solid waste taken to the County landfill.

5.4 Emergency Medical Services

Mahelona Medical Center, located in Kapa'a adjacent to the Kapa'a Educational Complex, provides long-term care services with 70 beds and a small 9-bed psychiatric ward. There are no emergency services at the center. Such services are provided at the Wilcox Hospital in Līhu'e. Hence, any emergency care victims that are picked up by any one of several ambulance operators in the Wailua-Kapa'a area are transported to the hospital in Līhu'e.

6 RELATIONSHIP TO PUBLIC LAND USE POLICIES

6.1 Hawai'i State Plan

The Hawaii State Plan was enacted by State law to serve as a guide for the future long-range development of the State. It is intended to identify the goals, objectives, policies, and priorities for the state government to: (1) provide a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; (2) improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities; and (3) establish a system for plan formulation and program coordination to provide for an integration of all major state and county activities.

¹² Telephone conversation with staff engineer at Division of Solid Waste, Department of Public Works.

State Plan objectives and policies that are relevant to the provision of appropriate public facilities in the Kapa'a community are:

- to ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user,
- to encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities,
- to assure public safety and adequate protection of life and property for all people, and
- to ensure that public safety programs are effective and responsive to community needs.

6.2 State Land Use Law

The State Land Use District Maps, as administered by the State Land Use Commission, defines the site as part of the Urban District. The proposed action is a permitted use in the Urban District.

6.3 State Environmental Policy

The proposed action is generally consistent with the State Environmental Policy, Hawai'i Revised Statutes (HRS), Chapter 344. The proposed action will provide a necessary public facility to support the community and provide safety measures for residents of the County.

6.4 Kaua'i County General Plan

The County of Kaua'i updated and adopted the General Plan in November 2000. The plan sets forth policies that govern the future development of the County. It is intended to improve the physical environment of the island and the health, safety, and general welfare of the people.

The General Plan recognizes the need of the County Fire Department to continually improve fire protection and rescue services for the island. The General Plan's policies for the Fire Department are to:

- (a) Provide adequate staffing and facilities to ensure effective and efficient delivery of basic fire protection.
- (b) Improve fire protection, develop additional facilities according to a long-range system plan.

- (c) Evaluate fire protection service islandwide, with particular attention to the east side, from Wailua to Anahola.

The General Plan's implementing actions for the above stated policies are:

- (a) Evaluate existing levels-of-service and response time for all communities; work with the Water Department to determine needed fire flow levels.
- (b) Develop standards for urban and rural levels-of-service, including response time and fire flow requirements.
- (c) Develop a long-range, phased facilities plan to attain an adequate level-of-service islandwide.

The General Plan recognizes that the Fire Department, in reviewing its resources and capabilities, plans to add two new stations to existing island-wide operations and replace an existing station at Waipouli. In its implementation program, the Fire Department indicates that the replacement station for the Waipouli Station would be located in the vicinity of the Mahelona Medical Center. As described above in Section 2.1 of this EA, the Fire Department now plans to build the replacement station in Wailua Homesteads and construction the Kapa'a Station in the vicinity of the Mahelona Medical Center.

The Land Use Map of the General Plan designates the project area as "Open." The intent of the Open designation is to preserve, maintain, or improve the natural characteristics of non-urban lands and water areas that:

- (a) are of significant value to the public as scenic or recreational resources;
- (b) perform essential physical and ecologic functions important to the welfare of surrounding lands, waters, and biological resources;
- (c) have the potential to create or exacerbate soil erosion or flooding on adjacent lands;
- (d) are potentially susceptible to natural hazards such as flood, hurricane, tsunami, coastal erosion, landslide or subsidence; or
- (e) form a cultural, historic or archaeological resource of significant public value.

The project site is located at the base of steep sloping lands which have been identified by the General Plan as susceptible to soil erosion and other possible coastal climatic and ocean/shoreline

processes. The new station, however, will be located on a small portion of this area on relatively level, stable land mauka of the State highway from coastal lands.

It is also the intent of the Open designation that such lands remain predominantly free of buildings, paving, and other construction. Notably, the project site was formerly used for a WWTF and remnants of its control building and shed still exist. The proposed fire station will occupy the same area, not affect any rare, endangered, or threatened wildlife or botanical habitat, not impact any archaeological sites, and still maintain the overall open space character of the area. In its design and construction, the new station will take into consideration the area's susceptibility to soil erosion and possible sedimentation.

Overall, the proposed project is a public facility designed to serve the public and provide fire protection and emergency needs.

One of the elements of the *General Plan* is the identification and designation of scenic roadway corridors on the island. Major portions of Kūhiō Highway have been designated as a scenic roadway corridor. However, the portion that fronts the project site is not designated as a scenic corridor.

6.5 Kapa'a-Wailua Development Plan

Adopted in 1975, the Kapa'a-Wailua Development Plan sets forth the County's development guidelines for the Kapa'a-Wailua region. It establishes specific provisions that are more detailed than the County's island-wide General Plan. The Development Plan does not designate any specific long-range land use for the property, which is located in the Kapa'a-Wailua planning area. The plan primarily focuses on built up areas of the coastal and makai lands of the Kapa'a-Wailua region between Lydgate Park and Kawaihau Road.

6.6 Kauai County Zoning Ordinance

The Comprehensive Zoning Ordinance (CZO) of the County of Kaua'i regulates land use on the island of Kaua'i. Land use regulations consist of development standards, application procedures, and criteria for granting permits and other approvals. The project site is currently zoned Special Treatment District - Public (ST-P) and has an underlying zoning designation of Residential R-1. Development of the site for a fire station would require a Class IV Zoning Permit and Use Permit.

6.7 Special Management Area

A portion of the project site is located in a County-administered Special Management Area (SMA). The SMA extends from the shoreline to approximately 40 to 70 feet into the project site from the highway boundary. Any development within the SMA is subject to SMA Rules and Regulations of the County of Kaua'i.

6.8 Required Permits and Approvals

In summary, the proposed project would require a Class IV Zoning Permit, Use Permit, and SMA Use Permit from the County of Kaua'i before construction can proceed. In the final design, if the construction site is one-acre or larger, a National Pollutant Discharge Elimination System general permit coverage will be required from the State DOH.

7 SUMMARY OF MAJOR IMPACTS

7.1 Construction Methodology and Impacts

Construction of the new fire station will require site preparation, grading, building construction, utility installation, finish grading, and landscaping. Prior to the site preparation work, existing debris will be removed. The preliminary site work will include clearing, grubbing, and preliminary grading. Heavy equipment including dozers, backhoes, dump trucks, and rollers will be used. After rough grading the site to the desired configuration, building construction and utility installation will be initiated. Construction equipment will include cranes, platform and hauling trucks, concrete mixers, backhoes, and generators. Finally, the pavers and rollers will arrive at the site to lay and set the driveway. Painters and furnishers will paint and fill the building and ground workers will plant and lay the plantings and groundcovers. Construction will be completed after the site is cleaned up and all construction debris removed from the property.

During construction, there will be no impact to native plants and fauna. No rare, threatened or endangered vegetation or wildlife species will be affected. Since no surface water features traverse the project area, no impacts are anticipated to U.S. waters. Groundwater is located more than 20 feet beneath the surface of the site. Therefore, structural foundations and utility installations are not expected to penetrate this natural resource.

The new building will be constructed of sturdy concrete masonry units and the landscaping will have salt tolerant, wind resistant plants since the site is susceptible to salt spray and occasional high winds.

The site's elevated location along the coast provides a margin of safety from potential tsunami inundation. FIRM maps show a base flood elevation of 18 feet along the coastline and the project site has a minimum elevation of 27 feet, well over the potential flood level.

Brush fire is a potential threat to the site, but the fire station will be prepared to control that threat.

Earthwork during construction will generate construction dust. Areas where vegetation are to be removed for grading work will be the most susceptible to strong winds. Down-wind of the predominant northeast tradewinds is the Mahelona Medical Center. Implementation of dust control measures (see Section 8) and the hospital's location on a high bluff will help buffer or reduce the impacts.

The use of heavy equipment during construction will generate noise levels that could be audible at surrounding properties. Although noise would be generated during the entire construction phase, the level of noise would vary depending on the specific phase of construction. The most audible noise would occur during the grading phase with the use of earth-moving equipment. Mitigation measures as described in Section 8 of this EA will be employed to reduce the generated noise impacts on surrounding properties.

Although no archaeological features or historic structures have been identified on the property, the County will be on guard if any unexpected features are uncovered during the site preparation stage. Standard State Historic Preservation Division procedures will be used to assure that any uncovered features of importance are properly treated or preserved as required.

Cultural and traditional practices occur in the region but none has been specifically identified on the project site. As a result, no cultural preservation measures are being proposed for the site.

Construction vehicles, which are slow moving and bulky, will be using Kūhiō Highway to obtain access to the property. They would slow traffic movement and could cause normal traffic flow to also slow. Mitigation measures, such as timing movements of these vehicles to off-peak hours, are discussed in Section 8 of this EA.

Construction of the new station will not impact utility services to the area. Water will be provided by water tanks, sewage disposal by portable toilets, electrical power by portable power generators, and telephone by cellular phones. The construction contractor will furnish these items at no additional cost to taxpayers. Also, solid-waste and construction debris will be removed from the site by the contractor and hauled to the landfill in Kekaha.

7.2 Project Operations and Impacts

The new Kapa'a Station will respond to building and brush fire, emergency medical, and rescue calls. Response to these calls, which could occur at any time during the day or night, will require temporarily stopping traffic on Kūhiō Highway to allow fire trucks to access the State highway.

The fire station crew would be on 24-hour duty and board at the station (e.g., on duty Monday, Wednesday, Friday and then have the next four days off before starting a new cycle again). Through this schedule, the crew rotates with two other crews throughout the year. Daily commuting by station personnel would not regularly impact the local traffic.

With any site improvements, hard surfaces will be created, which would generate more site runoff from heavy rainfall. The building roof, walkways, and driveway will add more than 22,000 square feet of hard surface to the site. The abundant open space around the site, however, provides adequate field drainage for normal rainfall. With favorable gradients, the site will not be susceptible to potential flooding. Also, with the highway and coastal land downslope of the property, no adjacent occupied properties will be impacted by project-generated runoff. Kūhiō Highway at the project site currently has a drainage system that includes a roadside swale, inlet basin, and culvert.

The fire station will be one-story in height, and its exterior walls will be off-white or tan in color. The visual impact of the project will be minimal as the new structure will not disrupt views toward any significant scenic resources. Its color is neutral and unobtrusive.

The long-term operations of the station are not expected to adversely impact the area's air quality or acoustical environment. When the station is not in an emergency response mode, the staff would be engaged in routine general equipment maintenance, repair work, and periodic practice response drills.

Utility services such as sewer, electrical, and telephone are available at the site for the operation of the station. The County Public Works Department may be required to install an off-site water line along Kūhiō Highway to connect with existing water lines near Kawaihau Road. KIUC indicated that electrical power is available to service the new facility and Hawaiian Telcom has telephone lines along the highway corridor.

The proposed station will not displace any homes or existing businesses, and its location will not disrupt the lifestyle of the community.

8 PROPOSED MITIGATION MEASURES

During construction, the contractor could employ various mitigation measures to control fugitive dust. Possible measures include water sprinkling of exposed dirt areas, installation of dust screens, planting of groundcover immediately after completion of grading, covering of dirt stock piles, and refraining from earthwork activities during periods of strong winds. These measures could be specifically stated in the construction drawings and made a part of the construction contract.

Construction noise should be an insignificant impact in the isolated Kapa'a's coastal area. The nearest occupied lands are located high above the fire station site more than 300 feet away. A moderately dense stand of ironwood trees would serve as a buffer on any sounds to adjacent areas. Construction activities will comply with the Hawaii Administrative Rules (HAR) Chapter 11-46, *Community Noise Control*. Compliance with the DOH regulations will be part of the project's construction contract and the responsibility of the selected contractor.

Mitigation measures will be employed by the construction contractor to address potential runoff and sedimentation that might occur to adjacent properties during construction. The contractor will develop, if necessary, a best management practices (BMP) plan for County review. The plan will describe how on-site generated runoff and sediment movement will be controlled and prevented from entering other properties, and how the applicant would implement the plan. The grading plan will demonstrate how the project will meet all grading standards designed to safeguard life and limb, protect property, promote public welfare, and preserve and enhance the natural environment, including but not limited to, water quality.

Potential mitigation measures for controlling runoffs and sediment movement include the development of sedimentation basins, cut-off swales and ditches, rock filter berms, hydro-mulching, and wattles. These may be included in the project's BMP.

Removal and disposal of construction debris generated by project construction will follow a debris management plan prepared by the contractor and reviewed by the County.

A Nationwide Pollutant Discharge Elimination System Permit (NPDES) Application will be submitted to the State DOH for construction activity on sites which are one acre or greater. In the application, the potential impact from runoff and sedimentation will be addressed.

9 ALTERNATIVES CONSIDERED

9.1 No Action

One of the alternatives to the proposed action would be no action. The existing fire station at Waipouli would continue to operate under increasing demand for services and may expose the rest of the Kapa'a service district to slower response times.

The Kapa'a site would remain vacant and underutilized. There would be no change to the physical characteristics, botanical and fauna resources, and socioeconomic condition of the area.

9.2 Alternative Location

Two alternative sites were explored and determined to be unfeasible. The County Fire Department examined a site at the corner of Kawaihau Road and Iwaena Road and another site adjacent to the Kapa'a Educational Complex. The two inland sites would have required a lengthy land acquisition process and the responsibility for financing the land cost. The current project site is available at no cost and deemed highly accessible to Kūhiō Highway, a primary right-of-way through the region. It also promotes the State's Environmental Council guidelines for sustainable building design. The County PWD is proposing to reuse a former public facility site and reduce potential impacts on natural resources.

9.3 Alternative Designs

Alternative building designs were considered during preliminary siting of the fire station on the property. Geotechnical tests have been conducted to determine soil structure and stability in the filled ponds and abutting areas. The findings from the tests will provide information to determine the final building location and foundation requirements for the proposed facility within the property. The preliminary alternative designs included placing the proposed station:

- A) between the two filled ponds with the driveways traversing the fill area;
- B) on the flat area mauka of the ponds with long driveways around the filled ponds; and
- C) on the filled pond with one of the two driveways using the existing access from Kuhio Highway.

The preferred plan (see Figures 5 and 6) is Alternative C and is presented in this EA as the proposed action. It shows a building location that maximizes its position and operation on the site and has immediate access to the highway.

10 DETERMINATION

This EA demonstrates that the proposed action will have no significant adverse impacts on the environment and that an Environmental Impact Statement (EIS) is not warranted. A Finding of No Significant Impact (FONSI) is, therefore, determined for this project.

11 FINDINGS AND REASONS SUPPORTING THE ANTICIPATED DETERMINATION

The following findings and reasons demonstrate that the proposed action will have no significant adverse impact on the environment and, consequently, support the above determination.

- Alternative designs were considered in determining the best solution for the new fire station in terms of its location to the abandoned ponds without resorting to significant losses or destruction on the area's natural resources.
- The proposed action calls for the construction of a new fire station to serve the community. No other land use is planned. The proposed facility does not require changes that would curtail the range of beneficial uses of the environment.
- As demonstrated in this document, the proposed action is consistent with the State's long-term environmental policies and guidelines as expressed in HRS Chapter 344.
- The proposed action is expected to sustain and improve the positive economic effects that a public facility provides to a community. Moreover, the construction activity associated with the proposed action will generate jobs and infuse business and personal income into the local economy. No negative effects on the social welfare of the local community are anticipated.
- The proposed action will not result in the use of hazardous materials or employ a construction methodology that would be detrimental to the public health and safety of the area residents.
- There will be no significant adverse social impacts generated by the proposed action. The new fire station will be located on land that was formerly used as a utility and will not impact

existing land uses. The proposed action will not generate an undue increase in resident population, negatively impact traffic, nor overburden existing public facilities and services.

- The proposed action will not alter the overall drainage condition of the land. No long-term degradation of the natural environment or negative impact from a larger project is anticipated.
- The proposed action is a one-time development and not part of a multi-phased or larger development on the site. There are no commitments or future plans for expansion of the proposed fire station.
- No federally nor state-listed rare, threatened, or endangered wildlife or flora species will be affected by the proposed action.
- The anticipated impacts associated with project construction, such as dust and noise, are short-term and temporary. These impacts would be minimized by implementation of mitigation measures in accordance with applicable laws, statutes, ordinances, rules and regulations of the federal, state, and county governments. Erosion and sedimentation control measures and BMPs will be employed to prevent construction-related runoff from impacting adjacent properties. No State waters are located within or adjacent to the property, hence no project impacts are expected to occur on such waters.
- Flooding from severe storm runoff will not be a hazard for the new facility. The project site is not located in a identified tsunami inundation zone or a geologically hazardous area.
- The selected location (extended setback from highway) for the single-story structure will result in minimal visual impact on the general public.
- The proposed action will not require substantial energy consumption during its operations. It does not involve manufacturing or other activities typical of substantial energy use.

12 COMMENTS FROM AND RESPONSES TO PUBLIC AGENCIES AND INTERESTED PARTIES

The Draft Environmental Assessment for this project was transmitted to the following agencies and interested parties for review and comment. The parties that responded are indicated below and a copy of their correspondence with a response from the proposing agency is attached to this section. Comments from these agencies and interested parties that are applicable have been incorporated into this Final EA.

Reviewing Agencies & Parties	Agencies Responded	Agencies Responding w/No Comment	Agency Letter & Responses Attached in this Section
Federal Agencies			
U.S. Natural Resources & Conservation Service			
State Agencies			
Department of Health			
Department of Business, Economic Development and Tourism			
Department of Education			
Department of Hawaiian Home Lands		X	X
Department of Land and Natural Resources	X		X
Department of Land and Natural Resources, Forestry and Wildlife Division	X		X
Department of Transportation, Highways Division	X		X
State Historic Preservation Division	X		X
Mahelona Medical Center			
Office of Conservation and Coastal Lands	X		X
Office of Environmental Quality Control	X		X
Office of Hawaiian Affairs	X		X
County of Kauai Agencies			
Fire Department			
Department of Water	X		X
Planning Department			
Public Works Department, Solid Waste Division			
Public Works Department, Wastewater Division	X		X
Utility Companies			
Kauai Island Utility Cooperative			
Hawaiian Telcom			

LINDA LINGLE
GOVERNOR
STATE OF HAWAII



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MICAH A. KANE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

BEN HENDERSON
DEPUTY TO THE CHAIRMAN

KAULANA II. PARK
EXECUTIVE ASSISTANT

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879
HONOLULU, HAWAII 96805

December 27, 2005

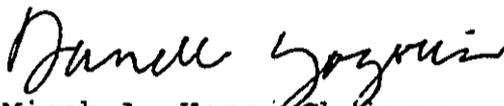
Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Thank you for the opportunity to review the draft environmental assessment report for the "Proposed Fire Station" in Kapaa, Kauai. The Department of Hawaiian Home Lands has no comments to offer.

Should you have any questions, please call the Planning Office at (808) 586-3836.

Aloha and mahalo,

for 
Micah A. Kane, Chairman
Hawaiian Homes Commission



March 3, 2006
341.1301 / 06P-083

Mr. Micah A. Kane, Chairman
Hawaiian Home Lands Commission
State of Hawaii
P.O. Box 1879
Honolulu, HI 96805

Dear Mr. Kane:

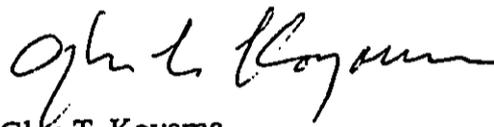
**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

Thank you for your letter of December 27, 2006 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. Although the Department of Hawaiian Home Lands had no comments on the proposed project at this time, we thank you for your time and effort in reviewing the Draft EA document.

Honolulu
Guam
Hong Kong
Philippines
Seattle
Singapore
Thailand

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

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BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

JAN 13 2006

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

Mr. Glen T. Koyama
Belt Collins Hawaii, Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

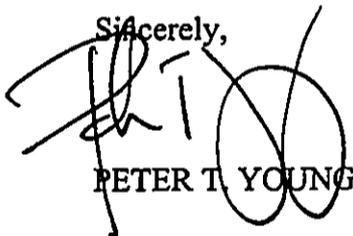
Dear Mr. Koyama:

**Draft Environmental Assessment, Kapaa Fire Station
Kawaihau, Kauai, Hawaii, TMK: 4-6-14: portion of 26**

We reviewed the subject application and we confirmed that the project site, according to Federal Emergency Management Agency, Panel Number 1500020210E (dated September 16, 2005), is located in Zone X. The Flood Insurance Program does not have any regulations for developments within Zone X.

Should you have any questions, please call Mr. Eric Hirano, Chief Engineer, at 587-0230.

Sincerely,


PETER T. YOUNG



March 3, 2006
341.1301 / 06P-079

Mr. Peter Young, Chair
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Young:

**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

Thank you for your letter of January 13, 2006 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. We acknowledge your confirmation that the project site is located in Flood Zone X as described in the Draft Environmental Assessment and as cited by the Flood Insurance Rate Map, Panel 1500020210E (dated September 16, 2005).

Honolulu
Guam
Hong Kong
Philippines
Seattle
Singapore
Thailand

We appreciate your comments on the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.

A handwritten signature in black ink, appearing to read 'Glen T. Koyama'.

Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

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GOVERNOR OF HAWAII



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2005 DEC 30 PM 1:54

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ROBERT K. MASUDA
DEPUTY DIRECTOR FOR LAND

DEAN NAKANO, Acting
DEPUTY DIRECTOR FOR
THE COMMISSION ON
WATER RESOURCE MANAGEMENT

STATE OF HAWAII BELT COLLINS HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF FORESTRY AND WILDLIFE

1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

December 28, 2005

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

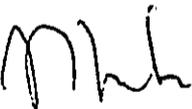
Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Subject: Draft EA, Kapaa Fire Station, County of Kauai, Kawaihau, Kauai,
Hawaii, TMK: 4-6-14: por. 26.

Your letter to Peter Young, Chairperson DLNR was referred to the Division of Forestry and Wildlife and we appreciate the opportunity to comment on your subject request. DLNR, Division of Forestry and Wildlife has no objections to the subject proposal and draft EA for the construction of Kapaa Fire Station, County of Kauai at Kawaihau, Kauai. It will not impact any of our management programs including endangered species. Thank you for allowing us to comment on your project.

Sincerely yours,


for Paul J. Conry
Administrator



March 3, 2006
341.1301 / 06P-081

Mr. Paul J. Conry, Administrator
Division of Forestry and Wildlife
Department of Land and Natural Resources
State of Hawaii
1151 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Conry:

Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii

Thank you for your letter of December 28, 2005 regarding the Draft Environmental Assessment (EA) for the proposed fire station at Kapaa in Kawaihau, Kauai. We acknowledge your comment that the Division of Forestry and Wildlife has no objections to the proposed project.

We appreciate your review and input on the Draft EA.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

Honolulu
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Hong Kong
Philippines
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Singapore
Thailand

LINDA LINGLE
GOVERNOR



206 MAR -1 PM 2:13

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

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

HWY-PS
2.0215

FEB 28 2006

Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
2153 North King Street, suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

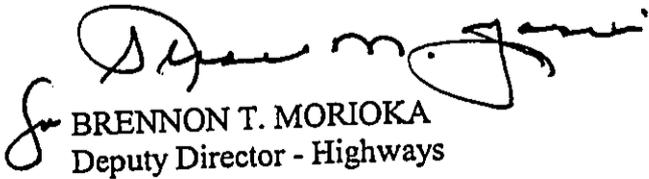
Subject: Draft Environmental Assessment (EA) for Proposed Kapaa Fire Station,
Kawaihau, TMK: 4-6-14: Por. 26

Thank you for consulting us on the subject document. We have the following comments.

1. The EA should evaluate the need for a left-turn deceleration lane.
2. Plans for proposed modification of highway access must be submitted to both Highways Division, Kauai District Office and Highways Division, Right-of-Way Branch for review and approval. A sight-distance study and revision of property documents (to restrict highway access to approved locations) will be required.
3. Plans for any work within the State highway right-of-way must be submitted to our Kauai District Office for review and approval.
4. We will not allow storm water runoff from the subject site onto the State highway right-of-way. Plans for proposed drainage improvements must be submitted to our Kauai District office for review and approval.

If you have any questions, please contact Ronald Tsuzuki, Head Planning Engineer, Highways Division, at 587-1830.

Very truly yours,


BRENNON T. MORIOKA
Deputy Director - Highways



March 31, 2006
2005.74.0100 / 06P-111

Mr. Brennon T. Morioka, Deputy
Highways Division
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Mr. Morioka:

**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

Thank you for your letter of February 28, 2006 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. The County Fire Department has reviewed the possible need for a left-turn lane on Kuhio Highway into the fire station site and has determined that such a lane is not warranted at this time. Consideration was given to the volume of traffic on the highway, the frequency of trips to the station from the south, and the time of day in which the left-turn movements into the site would occur.

Should any modification to the State highway or any work within its right-of-way be undertaken, plans will be submitted first to the State Department of Transportation (HDOT), Highways Division and Right-of-Way Branch for review and approval. No net increase in runoff from the fire station site will be directed onto the State highway right-of-way. If drainage improvements are proposed for the State highway, plans will be submitted to HDOT for review and approval.

We appreciate your comments on the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

Honolulu
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2006 JAN 17 PM 2: 29

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT

ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

January 11, 2006

Glenn T. Koyama
Belt Collins Hawaii, Ltd.
2153 North King Street Suite 200
Honolulu, Hawai'i 96819-4554

LOG NO: 2006.0070
DOC NO: 0601NM02
Archaeology

Dear Mr. Koyama:

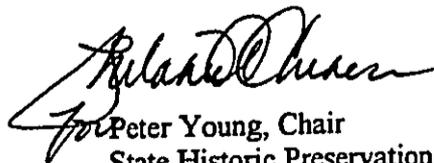
**SUBJECT: Chapter 6E-42 Historic Preservation Review –
Draft EA Kapa'a Fire Station
TMK: (4) 4-6-014:026**

1. We believe there will be no historic properties affected, because:
- a) intensive cultivation has altered the land
 - b) residential development/urbanization has altered the land
 - c) previous grubbing/grading has altered the land
 - d) an acceptable archaeological assessment or inventory survey found no historic properties
 - e) other:
2. This project has already gone through the historic preservation review process, and mitigation has been completed.

Thus, we believe that "no historic properties will be affected" by this undertaking.

In the unlikely event that historic sites, including human skeletal remains, are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division needs to be contacted immediately at (808) 742-7033.

Aloha,


Peter Young, Chair
State Historic Preservation Officer

NM:dlb



March 3, 2006
341.1301 / 06P-078

Mr. Peter Young, Chair
State Historic Preservation Officer
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Young:

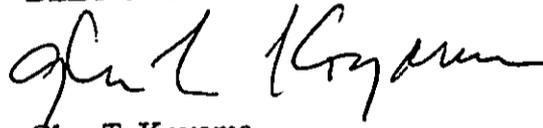
**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

Thank you for your letter of January 11, 2006 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. We acknowledge your assessment that it is your belief no historic properties will be affected by the proposed fire station. We also acknowledge that in the unlikely event that a historic site is uncovered during construction, all work in the immediate area of the find will cease and the State Historic Preservation Division will be contacted.

We appreciate your comments on the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

Honolulu
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Philippines
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2005 DEC 27 PM 3:03

BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR - LAND

DEAN NAKANO
ACTING DEPUTY DIRECTOR - WATER

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

REF:OCCL:DH

Correspondence: KA-06-135

Glen Koyama
Belt Collins
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

DEC 23 2005

Dear Mr. Koyama,

SUBJECT: Draft Environmental Assessment Kapaa Fire Station, Kapaa, Island of Kauai,
Subject Parcel TMK: (4) 4-6-014:026

The Department of Land and Natural Resources' (DLNR), Office of Conservation and Coastal Lands (OCCL) is in receipt of your letter and Draft Environmental Assessment for the Kapaa Fire Station, located in Kapaa, Island of Kauai, Subject Parcel TMK (4) 4-6-014:026.

According to departmental records the subject parcel is not located in the State Land Use (SLU) Conservation District. Therefore, a Conservation District Use Application (CDUA) permit is not required for the proposed project.

Please call me at the Office of Conservation and Coastal Lands at 587-0380, should you have any questions on this matter.

Aloha,

for

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

c: Chairperson
KDLO
County of Kauai Planning Department



March 3, 2006
341.1301 / 06P-082

Mr. Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Lemmo:

**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

Thank you for your letter of December 23, 2005 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. We acknowledge your determination that the proposed project is not located in the Conservation District and therefore not subject to review by the Office of Conservation and Coastal Lands.

Honolulu
Guam
Hong Kong
Philippines
Seattle
Singapore
Thailand

We appreciate your comments on the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

LINDA LINGLE
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

January 19, 2006

Mr. Donald Fujimoto
County of Kauai Engineer
4444 Rice Street, Suite 235
Lihue, HI 96766

Dear Mr. Fujimoto:

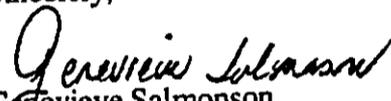
Subject: Draft Environmental Assessment for the Kapaa Fire Station

Thank you for the opportunity to review the subject document.

1. This project should comply with sections 103D-407 and 408 of Hawaii Revised Statutes concerning the use of indigenous plants and recycled glass.
2. Pursuant to HRS 342G-44 please print the final environmental assessment double-sided.

Should you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,


Genevieve Salmonson
Director

c: Belt Collins



March 3, 2006
341.1301 / 06P-080

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, HI 96813

Dear Ms. Salmonson:

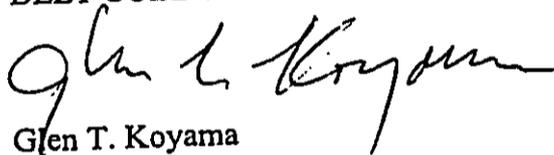
**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

Thank you for your letter of January 19, 2006 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. The design of the project will comply with Hawaii Revised Statutes (HRS), Sections 103D-407 and 408. Publication of the Final Environmental Assessment will be printed double-sided.

We appreciate your comments on the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

Honolulu
Guam
Hong Kong
Philippines
Seattle
Singapore
Thailand

PHONE (808) 594-1888



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

RECEIVED FAX (808) 594-1865

2006 JAN 13 PM 2:03

BELT COLLINS HAWAII

HRD05/2181

January 10, 2006

Glen T. Koyama
Belt Collins Hawaii Ltd.
2153 N. King Street, Suite 200
Honolulu, HI 96819-4554

**RE: Draft Environmental Assessment for the Proposed Kapa'a Fire Station, Kaua'i, TMK
(4) 4-6-14: Portion of 26.**

Dear Mr. Koyama,

The Office of Hawaiian Affairs (OHA) is in receipt of your December 21, 2005 request for comment on the above listed proposed project, TMK (4) 4-6-14: Portion of 26. OHA offers the following comments:

Our office recommends that an Archaeological Monitoring Plan be drafted in support of the proposed project. Ground altering activities outside of the 'Filled Aeration Pond' should be monitored by a professional archaeologist (i.e. the driveway and the south wing of the proposed Fire Station).

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, 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 or concerns, please contact Jesse Yorck at (808) 594-0239 or jessey@oha.org.

'O wau iho nō,

A handwritten signature in black ink, appearing to read "Clyde W. Nāmu'o".

Clyde W. Nāmu'o
Administrator

CC: La France Kapaka-Arboleda
OHA Community Affairs Coordinator (Kaua'i)
3-3100 Kuhio Hwy., Suite C4
Lihue, HI 96766-1153



March 3, 2006
341.1301 / 06P-085

Mr. Clyde W. Namuo, Administrator
Office of Hawaiian Affairs
State of Hawaii
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Dear Mr. Namuo:

**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

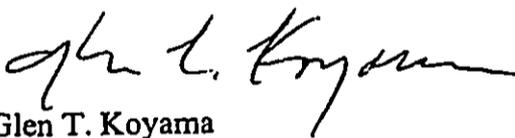
Thank you for your letter of January 10, 2006 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. The State Historic Preservation Division has reviewed the archaeological studies that were conducted on the project site and concurs that no historic properties will be affected. In a written acknowledgement to SHPD of its letter, we indicated that in the unlikely event that a historic site is uncovered during construction, all work in the immediate area of the find will cease and SHPD will be contacted.

Honolulu
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Hong Kong
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We appreciate your comments on the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works



Water has no substitute. ~~Conserve it~~
RECEIVED

2006 MAR 16 PM 2: 59

BELT COLLINS HAWAII

March 14, 2006

Mr. Glen Koyama
Belt Collins Hawaii, Ltd.
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

Dear Mr. Koyama:

Subject: Draft Environmental Assessment, Kapaa fire Station, County of Kauai,
TMK: 4-6-14:por. 26, Kuhio Highway, Kapaa, Kauai

This is in regard to your letter dated December 21, 2005. Any actual development of this area will be dependent on the adequacy of the source, storage, and transmission facilities existing at that time. We do not have a transmission main that fronts the proposed development. Our nearest waterline is an 8-inch water main located south of this project along Kuhio Highway, approximately 1,100 feet away.

If you have any questions, please contact Mr. Edward Doi at (808) 245-5417.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregg Fujikawa".

Gregg Fujikawa
Chief of Water Resources and Planning

ED:ed
23-131 Kapaa, Eryama



March 31, 2006
2005.74.0100 / 06P-112

Mr. Gregg Fujikawa, Chief
Water Resources and Planning
Department of Water
County of Kauai
4398 Pua Loke Street
Lihue, Kauai, HI 96766

Dear Mr. Fujikawa:

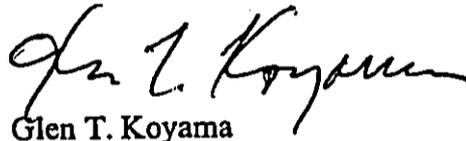
**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

Thank you for your letter of March 14, 2006 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. We acknowledge the information on the existing water lines in the project area and are planning to make provisions to adequately service the project site.

Thank you for your comments on the Draft EA.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

Honolulu
Guam
Hong Kong
Philippines
Seattle
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BRYAN J. BAPTISTE
MAYOR

GARY K. HEU
ADMINISTRATIVE ASSISTANT



RECEIVED DONALD M. FUJIMOTO
COUNTY ENGINEER
TELEPHONE 241-6600

36 JAN -9 PM 2:42

LADYE H. MARTIN
DEPUTY COUNTY ENGINEER
TELEPHONE 241-6600

AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUA'I
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MO'IKEHA BUILDING, SUITE 275
LIHU'E, KAUA'I, HAWAII 96766-1340

January 4, 2006

Mr. Glen T. Koyama
Belt Collins Hawai'i Ltd.
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
KAPA'A FIRE STATION
TMK 4-6-14:26 (Por.) WW 12.62

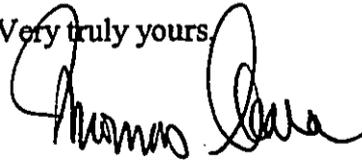
Dear Mr. Koyama:

We acknowledge receipt of a copy of your Draft Environmental Assessment dated December 21, 2005 for the subject project on the captioned property.

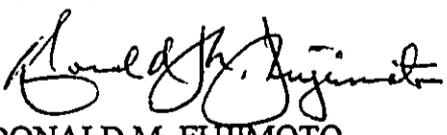
Based on our records, the existing Wailua Wastewater Treatment Plant (WWTP) has the capacity and is adequate to accommodate the proposed new Kapa'a Fire Station along Kūhi'ō Highway, approximately one (1) mile north of Kapa'a town center. Please note that although the Wailua WWTP is currently operating at approximately 60% of design capacity, completion of on-going constructions and future developments may cause the actual wastewater flows to reach or exceed 90% of the WWTP design capacity.

Should you have further questions, please contact Valentino Reyna at (808) 241-6612.

Very truly yours,


THOMAS IBARA
Division of Wastewater Management

CONCUR:


DONALD M. FUJIMOTO
County Engineer

VR

cc: Engineering Division
Doug Haigh, Building Division



March 3, 2006
341.1301 / 06P-084

Mr. Thomas Ibara
Division of Wastewater Management
Department of Public Works
County of Kauai
4444 Rice Street, Suite 275
Lihue, Kauai, HI 96766-1340

Dear Mr. Ibara:

**Draft Environmental Assessment
Proposed Kapaa Fire Station
Kawaihau, Kauai, Hawaii**

Thank you for your letter of January 4, 2006 regarding the Draft Environmental Assessment for the proposed fire station at Kapaa in Kawaihau, Kauai. We acknowledge your determination that the Wailua Wastewater Treatment Plant has the capacity to accommodate the proposed fire station, but should note that completion of ongoing construction projects and future development may cause the actual wastewater flows in the WWTP to reach or exceed 90 percent of its design capacity.

Honolulu
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Seattle
Singapore
Thailand

We appreciate your comments on the proposed project.

Sincerely yours,

BELT COLLINS HAWAII LTD.


Glen T. Koyama

GTK:lf

cc: Donald Fujimoto, Kauai Department of Public Works

13 REFERENCES

County of Kauai, Planning Commission. December 1973. *Kapaa-Wailua Development Plan (Adopted by Ordinance 254, June 16, 1975)*. Prepared by LMLI Architects/Planners, Inc. and Hawaii Real Estate Research, Inc.

County of Kauai, Planning Department. November 2000. *Kauai General Plan*.

County of Kauai, Department of Water. March 2001. *Water Plan 2020*. Prepared by R.W. Beck and CH2M Hill.

County of Kauai, Department of Water. February 1990. *Kauai Water Use and Development Plan*. Prepared by R.M. Towill Corporation.

Cultural Surveys Hawaii, Inc. *Archaeological Literature Review and Field Inspection, and Cultural Impact Evaluation of a 3.1-acre Area, Kapaa Ahupuaa, Kawaihau District, Kauai Island*. TMK: [4] 4-6-014: 026. December 2005.

Federal Emergency Management Agency. *Flood Insurance Rate Map - Map No. 1500020210E*. September 16, 2005.

Group 70 International. June 4, 2004. *Kauai Island Plan for the Department of Hawaiian Home Lands*.

State of Hawaii, Department of Transportation, Advance Planning Division, *24-Hour Traffic Count, Station No. 26-X. August 27-28, 2003*.

State of Hawaii, Office of Governor. *The Hawaii State Plan*.

State of Hawaii, State Land Use Commission. No date. *State Land Use District Maps*.

U.S. Department of Transportation, Federal Highway Administration; State Department of Transportation, Highway Division; and County of Kauai, Department of Public Works. Consultant SSFM International. *Final Environmental Assessment, Kapaa-Kealia Bike & Pedestrian Path, Basis of Design Project. August 2003*.

U.S. Department of Agriculture Soil Conservation Service. 1972. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.*

U.S. Census, 2000.

University of Hawaii, Department of Geography. *Atlas of Hawaii.* Second Edition, 1983 and Third Edition, 1998.

APPENDICES

APPENDIX A



MEMORANDUM

TO: Mr. Gary Fujiwara	FROM: Arlette Meader
COMPANY: Yamasato Fujiwara Higa & Associates	DATE: October 5, 2005
SUBJECT: Kapaa Fire Station, Preliminary Investigation	JOB NUMBER/REFERENCE NUMBER: 2005.74.0100/0SEP-276r

Introduction

This memo provides a summary of Belt Collins' research into potential contaminants associated with the former wastewater treatment plant (WWTP) ponds at the proposed Kapaa Fire Station site. This information has been compiled in lieu of preparing a Sampling and Testing Plan, as originally proposed, and as documented via correspondence with Mr. Glen Koyama on September 9, 2005.

Research Findings

Ms. Arlette Meader contacted Mr. Herman Chong, Regional Director of Facilities for the Samuel Mahelona Memorial Hospital, about the sources of wastewater influent for the WWTP. According to Mr. Chong, the hospital's WWTP was used to treat domestic wastewater from the hospital, the nearby school, and the nearby low-income elderly housing area. Wastewater from the hospital consisted of domestic waste only and did not include industrial waste or hazardous materials. Ms. Meader asked about laboratories or other hospital practices that may have been potential sources of materials that could have gone into the hospital's wastewater system. Mr. Chong replied that the hospital used to have laboratories but that any materials that went into the drains was not hazardous. Mr. Chong recalls that the treatment ponds were built in the 1970s, but he was not aware of information indicating whether the ponds were lined. Mr. Sam Thronas, the contractor who filled the ponds, does not recall a lining being visible during his work on the site.

Honolulu
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Philippines
Seattle
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Thailand

Mr. Chong stated that the hospital's WWTP was closed in the late 1990s, after the hospital, school and housing area were able to connect to the County of Kauai's expanded sewer system. Closure activities included pumping the liquids out of the ponds, allowing the accumulated wastewater sludge to dry, excavating the soil berms from the pond perimeters, and backfilling the ponds with soil from the berms. Mr. Thronas does not recall if the ponds were excavated prior to backfilling and did not observe soil sampling prior to filling activities.

Ms. Meader spoke with Mr. Tom See, of the DOH Wastewater Branch, for clarification of the WWTP pond closure requirements in Hawaii Administrative Rules Title 11, Chapter 62, Part 23, Wastewater Systems. Mr. See stated that the Rules provide general guidance and can be interpreted to mean that filling the ponds is sufficient. While potential contaminants in sludge from domestic wastewater will attenuate, the structural issues are of greater concern, according to Mr. See. If the sludge is not removed from ponds prior to filling, there may be settling and other structural concerns. The structural issue was also raised by Mr. Thronas who stated that the soil was not compacted when the ponds were backfilled.

Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200 • Honolulu, Hawaii 96819-4554 USA
T/808 521 5361 • F/808 538 7819 • honolulu@beltcollins.com • www.beltcollins.com
Belt Collins Hawaii is an Equal Opportunity Employer



MEMORANDUM

The nutrients and organisms in the accumulated biosolids have undergone several years of anaerobic decomposition and are expected to be a stabilized, insoluble material. By comparison, wastewater treatment facilities that use anaerobic sludge digestion typically utilize a design holding time of 20 days to stabilize the biosolids.

Although wastewater sources into these former ponds were non-industrial, there is a possibility that the domestic wastewater included metals and organic contaminants from household products and domestic activities (such as pesticides and personal hygiene products).

Review of the Hawaii Revised Statutes Chapter 128D, Environmental Response Law, indicates that releases from sewerage systems collecting and conducting primarily domestic wastewater are not considered to be releases of hazardous substances or pollutants into the environment.

While the scope of this research effort did not include a site reconnaissance to investigate environmental issues, Ms. Meader reviewed photographs taken during a site visit by Mr. Koyama. Photographs revealed that solid waste dumping has occurred on the site and the visible materials included an automotive battery and a vehicle.

Conclusions

Subsurface soil sampling and a risk assessment would be needed to make a determination of any potential risk to human health; however, it is unlikely that the risk from residual contaminants in these former non-industrial wastewater ponds would be significant. Based on the limited research findings described above, no information was discovered to suggest that such contaminants would be substantial and the residual concentrations in these domestic WWTP ponds do not pose a concern for the DOH.

The dumped battery and vehicle are potential sources of contamination to the surface soil, subsurface soil, and groundwater, and should be removed from the site. If there is evidence of an existing release from these objects (such as petroleum stains on the soil), the stained material should be removed and disposed of properly. A site reconnaissance would be useful to identify other potential sources of contamination associated with dumping.

Limitations

Belt Collins assumes that persons who provided information as part of this inquiry answered questions in good faith and to the extent of their knowledge. Belt Collins can not judge the accuracy of statements from third parties or make presumptions about the extent of other unknown activities that may have contributed to the contents of the wastewater stream.

Belt Collins did not conduct a site reconnaissance to identify potential sources of contaminants and limited information visible in a few photographs should not be considered the extent of potential contaminants at the site.

If additional information regarding past or current site conditions is revealed at a later time, the findings presented in this memorandum should be re-evaluated, as appropriate.

APPENDIX B

**Archaeological Literature Review, Field Inspection, and
Cultural Impact Evaluation of a 3.1-acre Area
Kapa'a Ahupua'a, Kawaihau District, Kaua'i Island
TMK: [4] 4-6-014: 026**

**Prepared for
Belt Collins Hawaii, Inc.**

**Prepared by
Aulii Mitchell, B.A.,
Todd Tulchin, B.S.,
and
Hallett H. Hammatt, Ph.D.**

**Cultural Surveys Hawai'i, Inc.
Kailua, Hawai'i
(Job Code: KAPA 28)**

December 2005

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Management Summary

Reference	Archaeological Literature Review , Field Inspection, and Cultural Impact Evaluation of a 3.1-acre Area Kapa`a Ahupua`a, Kawaihau District, Kaua`i Island (Mitchell, Tulchin, and Hammatt 2005)
Date	December 2005
Project Number (s)	Cultural Surveys Hawai'i Inc. (CSH) Job Code: KAPA 28
Investigation Permit Number	The field work for this investigation was carried out under archaeological permit number 0508, issued by the Hawai'i State Historic Preservation Division
Project Location	TMK (4) 4-6-014: 26, Kapa`a Ahupua`a, Kawaihau District, Kaua`i Island, 1996 Kapa`a USGS 7.5-minute topographic quadrangle
Land Jurisdiction	State of Hawai'i
Project Agency and Funding	County of Kaua`i
Project Acreage and Description	The County of Kaua`i proposes to construct a new fire station. The project will be constructed within a 3.1-acre area, which is a portion of a larger 13.8-acre State of Hawai'i-owned parcel. The exact location of the approximately one-acre fire station site has not yet been decided; however, the working concept, at present, is to build the fire station in the area of the former County wastewater treatment facility. The wastewater treatment facility has been closed and the abandoned ponds have been filled.
Area of Potential Effect (APE) and Survey Acreage	For this investigation, the project's APE is defined as the entire approximately 3.1-acre study area, approximately one acre of which will be the site of the proposed new fire station.
Project Environmental and Historic Preservation Regulatory Context	As a county funded project on state land, the proposed fire station construction project is subject to Hawai'i state environmental and historic preservation review legislation (Hawai'i Revised Statutes [HRS] Chapter 343 and HRS Chapter 6E-8 / Hawai'i Administrative Rules [HAR] Chapter 13-275, respectively).

Document Purpose	Through detailed historical, cultural, and archaeological background research and a field inspection of the project area, this investigation identifies any historic properties that may be affected by the proposed project. This document is intended to facilitate the project's planning and support the project's historic preservation review compliance. Based on findings, recommendations for additional historic preservation work are presented, if appropriate. Additionally, this document includes a cultural impact evaluation (CIE) of the proposed projects' potential affect to on-going cultural practices. This CIE investigation projects cultural impacts, per HRS Chapter 343 and the Office of Environmental Quality's <i>Guidelines for Assessing Cultural Impacts</i> .
Cultural Consultation Effort	As part of the CIE component of this investigation, Hawaiian organizations, government agencies, and community members were contacted to: (1) identify potentially knowledgeable individuals with cultural expertise and knowledge of the project area and the surrounding vicinity, and (2) identify cultural concerns and potential impacts within the project area. Results of the community contact process are presented in Section 6 below. Cultural Anthropologist Aulii Mitchell conducted the consultation effort under the general supervision of Hallett H. Hammatt, Ph.D.
Fieldwork Effort	Todd Tulchin, B.S. and Jon Tulchin, B.A., under the general direction of Hallett H. Hammatt, Ph.D., conducted the investigation's fieldwork on September 29 th , 2005,, requiring less than one person day.
Identified Historic Properties	No historic properties identified within the study area.
Result of Cultural Consultation	As a result of the CIE component of this investigation, no on-going traditional cultural practices or concerns were identified for the study area.

Recommendation	Based on the above findings future development of the specific project area within the State of Hawai'i property will have minimal or no impact upon native Hawaiian cultural resources, beliefs and practices. It should be noted, however, that subsurface properties associated with former traditional Hawaiian activities in the project area, such as artifacts and cultural layers, may be present despite the decades of sugar cultivation activities and shorter term public facility use. As a precautionary measure, personnel involved in future development activities in the project area should be informed of the possibility of inadvertent cultural finds, and should be made aware of the appropriate notification measures to follow (including consultation with the State Historic Preservation Division and, as may be appropriate, with Kaua'i community cultural organizations).
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This field inspection and literature review investigation is not intended to meet the requirements of an archaeological inventory survey, per HAR Chapter 13-276.

CSH's scope of work and methods for cultural impact evaluation studies includes consultation with knowledgeable individuals and groups regarding current cultural practices, but does not include formal ethnographic interviews and oral histories, as described in the OEQC's "*Guidelines for Assessing Cultural Impacts*" (OEQC 2004). Cultural impact evaluation studies are intended as a more time and cost effective means of addressing potential impacts to cultural practices within project areas that have been fully developed for a long time and where, accordingly, there is less likelihood of on-going cultural practices.

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Section 1 Introduction

1.1 Project Background

At the request of Belt Collins Hawaii, Inc., Cultural Surveys Hawai'i, Inc. has prepared an Archaeological Literature Review and Field Inspection, and Cultural Impact Evaluation Report on a 3.1-acre area in Kapa'a Ahupua'a, Kawaihau District, Island of Kaua'i (TMK (4) 3-5-001: 8 & 82) (Figures 1 & 2).

The County of Kaua'i proposes to construct a new fire station. The project will be constructed on approximately one acre of the 3.1-acre area, which is a portion of a larger 13.8-acre State of Hawai'i-owned parcel. The exact location of the one-acre fire station site has not yet been decided; however, the working concept, at present, is to build the fire station in the area of the former county wastewater treatment facility. The abandoned ponds of the wastewater treatment facility have been filled.

For this investigation, the project's APE is defined as the entire approximately 3.1-acre study area, approximately one acre of which will be the location of the proposed new fire station.

As a county funded project on state land, the proposed fire station construction project is subject to Hawai'i state environmental and historic preservation review legislation (Hawai'i Revised Statutes [HRS] Chapter 343 and HRS Chapter 6E-8 / Hawai'i Administrative Rules [HAR] Chapter 13-275, respectively).

Through detailed historical, cultural, and archaeological background research and a field inspection of the project area, this investigation identifies any historic properties that may be affected by the proposed project. This document is intended to facilitate the project's planning and support the project's historic preservation review compliance. Based on findings, recommendations for additional historic preservation work are presented, if appropriate¹. Additionally, this document includes a cultural impact evaluation (CIE) of the proposed project's potential affects to ongoing cultural practices. This CIE investigation provides information pertinent to the assessment of the proposed project's cultural impacts, per HRS Chapter 343 and the Office of Environmental Quality's *Guidelines for Assessing Cultural Impacts*.

1.2 Scope of Work

The scope of work for this report includes:

- Historical and previous archaeological background research to include study of archival sources, historic maps, Land Commission Awards and previous archaeological reports to construct a history of land use and to determine if archaeological sites have been recorded on or near this property.
- Field inspection of the project area to identify any surface archaeological features and to investigate and assess the potential for impact to such sites. This will also include a field evaluation of any other cultural resources or potential practices. This assessment

will identify any sensitive areas that may require further investigation or mitigation before the project proceeds.

- Written consultations will be carried out with potentially knowledgeable parties regarding cultural practices in the vicinity.
- Preparation of a report to include the results of the historical research and the fieldwork with an assessment of archaeological potential based on that research, with recommendations for further archaeological work, if appropriate and discussion on the community consultation effort with an evaluation of any potential cultural impacts. It will also provide mitigation recommendations if there are archaeologically or culturally sensitive areas that need to be taken into consideration.

1.3 Environmental Setting

The average rainfall in Kapa'a is between 40- to 50-inches per year (Juvik and Juvik 1998). The natural sediment of the project area is described as Mokulē'ia fine sandy loam which can be found on the northern and eastern coastal plains of Kaua'i and is used for pasture (Foote et al. 1972).

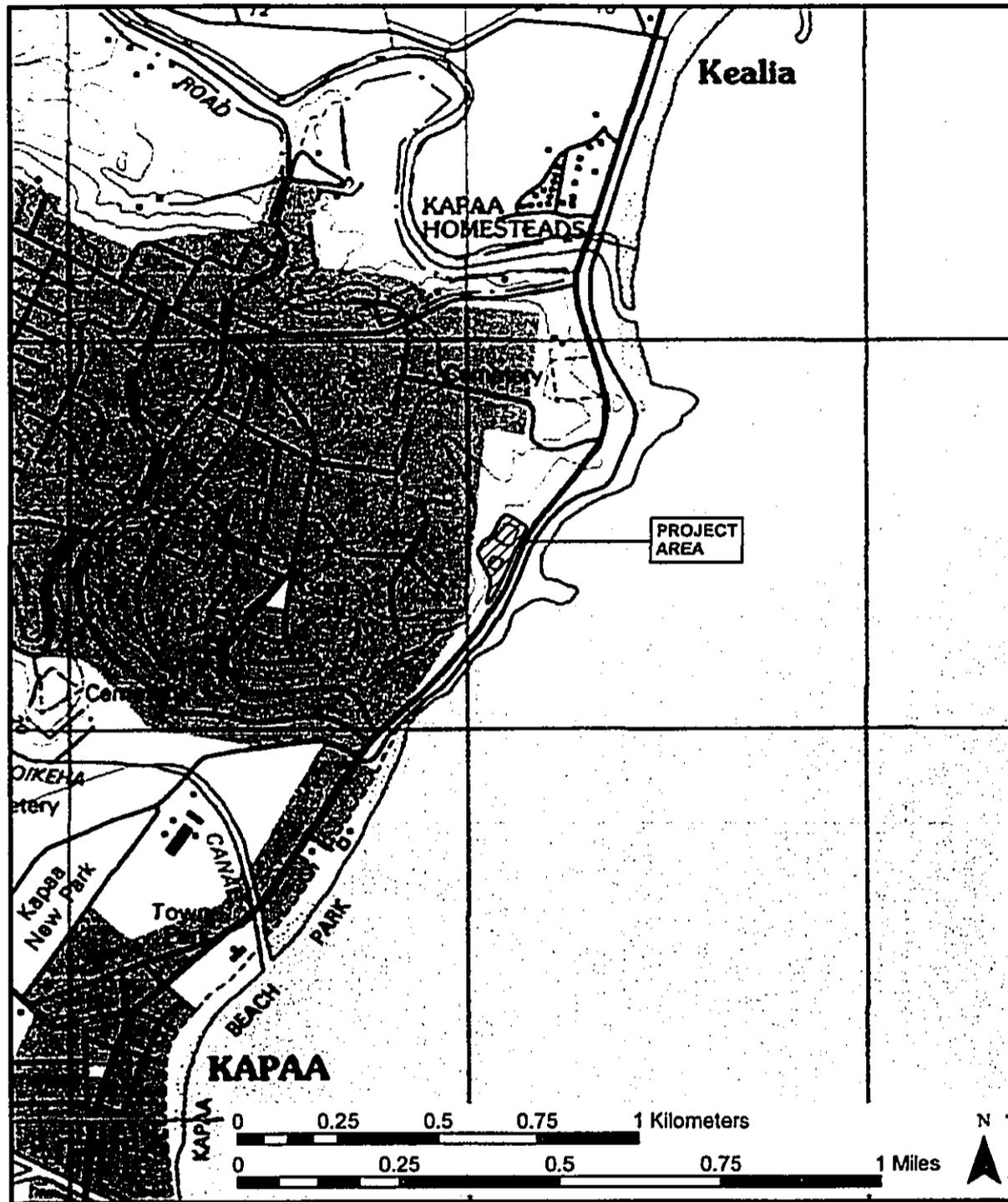


Figure 1. USGS Map showing location of project area

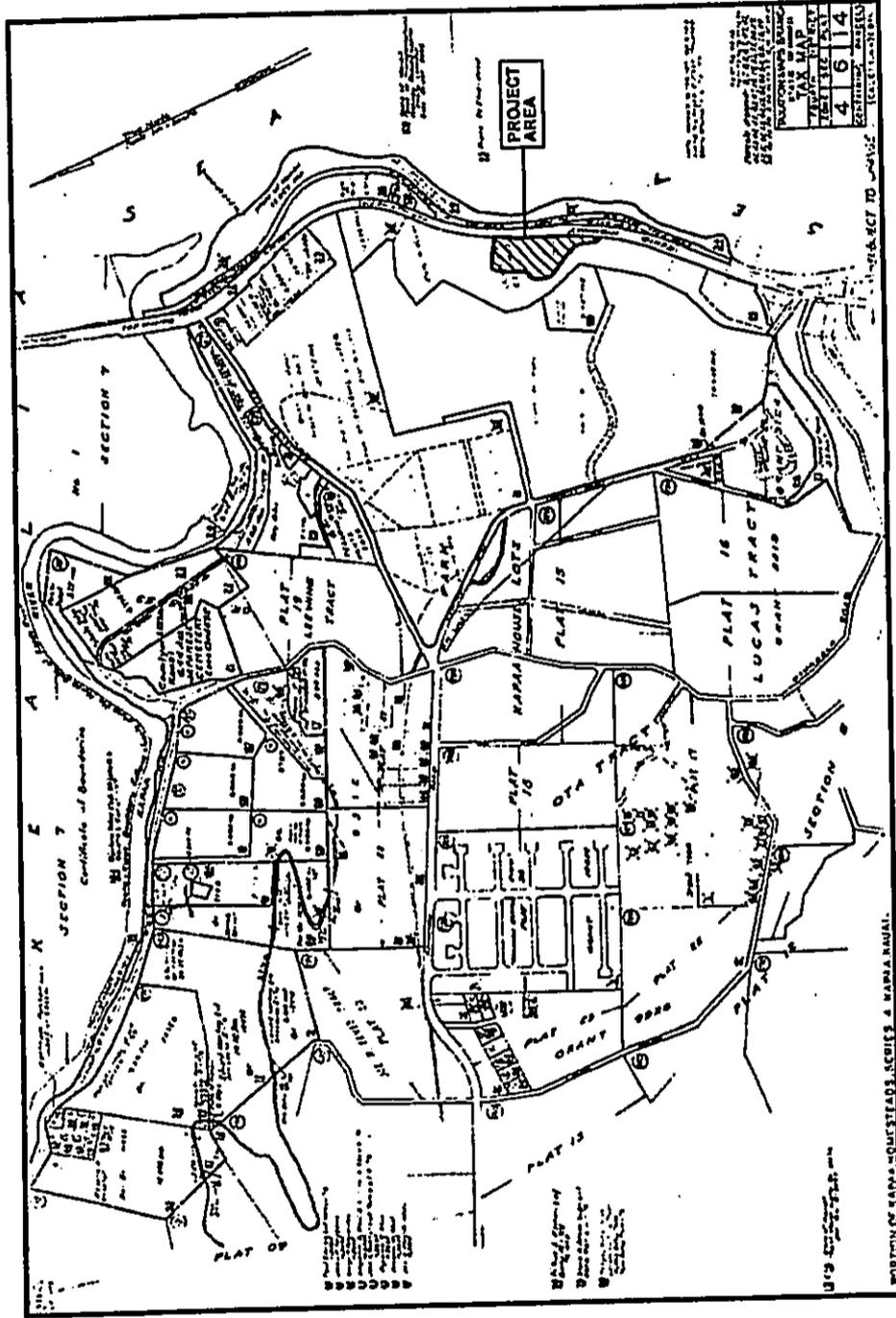


Figure 2 TMK: 4-6-14 showing location of project area

Literature Review, Field Inspection, and Cultural Impact Evaluation of 3.1-acre Area in Kapa'a

TMK [4] 4-6-014: 26

Section 2 Background Research

2.1 Traditional and Legendary Accounts of Kapa'a

2.1.1 Ka Lulu o Mō'ikeha

Kapa'a was the home of the legendary *ali'i*, Mō'ikeha. Born at Waipi'o on the island of Hawai'i, Mō'ikeha sailed to Kahiki (Tahiti), the home of his grandfather Maweke, after a disastrous flood. On his return to Hawai'i, he settled at Kapa'a, Kaua'i. Kila, Mō'ikeha's favorite of three sons by the Kaua'i chiefess Ho'oi'poikamalani, was born at Kapa'a and was said to be the most handsome man on the island. It was Kila who was sent by his father back to Kahiki to slay his old enemies and retrieve a foster son, the high chief La'amaikahiki (Handy and Handy 1972:424; Beckwith 1970:352-358; Kalākaua 1888:130-135; Fornander 1916, vol.4 pt.1:160). Mō'ikeha's love for Kapa'a is recalled in the *'ōlelo no'eau: Ka lulu o Mō'ikeha i ka laulā o Kapa'a*. "The calm of Mō'ikeha in the breadth of Kapa'a" (Pukui, 1983: 157).

"*Lulu-o-Mō'ikeha*" is described as being situated "near the landing and the school of Waimahanalua" (Akina, 1913: 5). The landing in Kapa'a was known as the Makee Landing and was probably constructed in the late 1870s, along with the Makee sugar mill. Today, in place of the old Makee Landing is part of a breakwater located on the north side of Mō'ikeha Canal near the present day Coral Reef Hotel, and approximately half-a-mile north of the current Waika'ea Bridge project.

Akina (1913) tells the story of how Mō'ikeha's son, Kila stocks the islands with the fish *akule*, *kawakawa* and *'ōpelu*. When Kila travels to Kahiki, he seeks out his grandfather Maweke and explains that he is the child of Mō'ikeha. When Maweke asks Kila if Mō'ikeha is enjoying himself, Kila answers with the following chant:

My father enjoys the billowing clouds over Pōhaku-pili,
 The sticky and delicious poi,
 With the fish brought from Puna,
 The broad-backed shrimp of Kapalua,
 The dark-backed shrimp of Pōhakuapai,
 The potent awa root of Maiaki'i,
 The breadfruit laid in the embers at Makialo,
 The large heavy taros of Keah 'āpana
 The crooked surf of Makāiwa too

The bending hither and thither of the reed and rush blossoms,
 The swaying of the *Kalukalu* grasses of Puna
 The large, plump, private parts of my mothers,
 Of Ho'oiipoikamalanai and Hinau-u,
 The sun that rises and sets,
 He enjoys himself on Kaua'i,
 All of Kaua'i is Mō'ikeha's. (Akina, 1913: 6)

Maweke was delighted and when the boy is questioned as to his purpose, Kila tells his grandfather he is seeking fish for his family. Maweke tells Kila to lead the fish back to his homeland. This is how Kila led the *akule*, *kawakawa* and *'ōpelu* to Hawai'i.

2.1.2 Pāka'a and the wind gourd of La'amaomao (Keahihi)

Kapa'a also figures prominently in the famous story of Pāka'a, and the wind gourd of La'amaomao. Pāka'a was the son of Kūanu'uanu, a high-ranking retainer of the Hawai'i Island ruling chief Keawenuia'umi (the son and heir to the legendary chief 'Umi), and La'amaomao, the most beautiful girl of Kapa'a and member of a family of high status kahuna. Kūanu'uanu left the island of Hawai'i, traveled throughout the other islands and finally settled on Kaua'i, at Kapa'a. It was there that he met and married La'amaomao, although he never revealed his background or high rank to her until the day a messenger arrived, calling Kūanu'uanu back to the court of Keawenuia'umi.

By that time, La'amaomao was with her child but Kūanu'uanu could not take her with him. He instructed her to name the child, if it turned out to be a boy, Pāka'a. Pāka'a was raised on the beach at Kapa'a by La'amaomao and her brother Ma'ilou, a bird snarer. He grew to be an intelligent young man and it is said he was the first to adapt the use of a sail to small fishing canoes. Although Pāka'a was told by his mother from a very young age that his father was Ma'ilou, he suspected otherwise and after constant questioning La'amaomao told her son the truth about Kūanu'uanu.

Intent on seeking out his real father and making himself known to him, Pāka'a prepared for the journey to the island of Hawai'i. His mother presented to him a tightly covered gourd containing the bones of her grandmother, also named La'amaomao, the goddess of the winds. With the gourd and chants taught to him by his mother, Pāka'a could command the forces of all the winds in Hawai'i. While this story continues on at length about Pāka'a and his exploits on the island of Hawai'i and later on Moloka'i, it will not be dwelt upon further here. It is important to note that several versions of this story do include the chants which give the traditional names of all of the winds at all the districts on all the islands, preserving them for this and future generations (Nakuina 1990; Rice 1923:69-89; Beckwith 1970:86-87; Thrum 1923:53-67; Fornander 1918-19 vol. 5 pt.1:78-128).

Frederick Wichman (1998:84) writes that Pāka'a grew up on a headland named Keahiahi. Here, Pāka'a learned to catch *mālolo*, his favorite fish. After studying the ocean and devising his plan to fabricate a sail, Pāka'a wove a sail in the shape of a crab claw and tried it out on his uncle's canoe. One day, after going out to catch *mālolo*, he challenged the other fishermen to race to shore. He convinced them to fill his canoe with fish suggesting it was the only way he could truly claim the prize if he won:

The fishermen began paddling toward shore. They watched as Pāka'a paddled farther out to sea and began to fumble with a pole that had a mat tied to it. It looked so funny that they began to laugh, and soon they lost the rhythm of their own paddling. Suddenly Pāka'a's mast was up and the sail filled with wind. Pāka'a turned toward shore and shot past the astonished fishermen, landing on the beach far ahead of them. That night, Pāka'a, his mother, and his uncle had all the *mālolo* they could eat (Wichman 1998:85).

2.1.3 Kaweloleimākua

Kapa'a is also mentioned in traditions concerning Kawelo (Kaweloleimākua), Ka'ililauokekoa (Mo'ikeha's daughter, or granddaughter, dependent on differing versions of the tale), the *mo'o* Kalamainu'u and the origins of the *hīna'i hīnālea* or the fish trap used to catch the *hīnālea* fish, and the story of Lonoikamakahiki (Fornander 1917, vol.4 pt.2:318, vol.4 pt.3:704-705; Rice 1923:106-108; Thrum 1923:123-135; Kamakau 1976:80).

2.1.4 Kalukalu grass of Kapa'a

"*Kūmoena Kalukalu Kapa'a*" or "Kapa'a is like the *Kalukalu* mats" is a line from a chant recited by Lonoikamakahiki. *Kalukalu* is a sedge grass, apparently used for weaving mats (Fornander 1917, Vol. IV, Pt. 2, pp. 318-19). Pukui (1983: 187) associates the *Kalukalu* with lovers in "*ke Kalukalu moe ipo o Kapa'a*; the *Kalukalu* of Kapa'a that sleeps with the lover". According to Wichman (1998:84), "a *Kalukalu* mat was laid on the ground under a tree, covered with a thick pile of grass, and a second mat was thrown over that for a comfortable bed", thus the association with lovers. Kaua'i was famous for this peculiar grass, and it probably grew around the marshlands of Kapa'a. It is thought to be extinct now, but an old-time resident of the area recalled that it had edible roots, "somewhat like peanuts." Perhaps it was a famine food source (Kapa'a Elementary School 1933:VI).

2.2 Heiau of Kapa'a

During their expeditions around Hawai'i in the 1880's, collecting stories from *ka pō'e kahiko*, Lahainaluna students stopped in Kapa'a and Keālia and gathered information regarding *heiau* of the region. All together, fourteen *heiau* were named in Kapa'a and Keālia, suggesting the two *ahupua'a* were probably more politically significant in ancient times. Table 1 lists the names of the ten *heiau* identified in the *ahupua'a* of Kapa'a, their location if known, their type, and associated chief and priest.

Table 1. *Heiau* of Kapa'a

Name	General Location	Type	Associated
Mailehuna	Kapa'a (Mailehuna is the area of the present day Kapa'a School)	unknown	Kiha, Kaumuali'i/ Lukahakona
Pueo	Kapa'a	unknown	Kiha, Kaumuali'i/ Lukahakona
Pahua	Kapa'a/Keālia	unknown	Kiha/ Lukahakona
Kumalae	Kapa'a/Keālia	unknown	Kiha/ Lukahakona
Waiehumalama	Kapa'a/Keālia	unknown	Kiha/ Lukahakona
Napuupaakai	Kapa'a/Keālia	unknown	Kiha/ Lukahakona
Noeamakalii	Kapa'a/Keālia	" <i>heiau</i> for birth of Kaua'i Chiefs, like Holoholokū"	Unknown
Puukoa	Kapa'a/Keālia	" <i>unu</i> type <i>heiau</i> "	Unknown
Piouka	Kapa'a/Keālia	" <i>unu</i> type <i>heiau</i> "	Unknown
Una	Kapa'a/Keālia	Unknown	Kiha/ Lukahakona
Mano	Kapa'a/Keālia	Unknown	Kiha/ Lukahakona
Kuahiahi	Kapa'a (government school stands on site now)	Unknown	Kaumuali'i/ Lukahakona
Makanalimu	Upland of Kawaihau	Unknown	Kaumuali'i
Kaluluomō'ikeha	Kapa'a	Unknown	Mō'ikeha

The exact locations of these *heiau* are unknown. The locations of two of the *heiau* correlate with the locations of *wahi pana* which are known to be near the coast, Kuahiahi and Kaluluomō'ikeha. Kuahiahi (also spelled Kaahiahi and Keahiahi) is the rocky headland at the north end of Kapa'a where the first Kapa'a School was once located. Kaluluomō'ikeha is thought to be the general area near the Mō'ikeha Canal and the present day Coral Reef Hotel.

2.3 The Māhele: Kapa'a Land Commission Awards

The Organic Acts of 1845 and 1846 initiated the process of the Māhele, the division of Hawaiian lands, which introduced private property into Hawaiian society. Though the issuance of Land Commission Awards (LCA), and subsequent Royal Patent the Crown and the *Ali'i* received their lands ca. 1848. *Kuleana* LCA claims in 1850 were made and subsequently awarded through Royal Patent. It is through records for Land Commission Awards (LCAs)

generated during the Māhele that specific documentation of traditional life in Kapa'a Ahupua'a comes to light.

During the Māhele, Kapa'a was kept as Crown Lands (Office of the Commissioner of Public Lands of the Territory of Hawaii, 1929). The 'Ili of Paikahawai and Ulakui in Kapa'a Ahupua'a were retained as Government Lands.

Table 2. *Kuleana* LCA Claims in Kapa'a Ahupua'a

LCA	CLAIMANT	'ILI	LAND USE	AWARD
08843	Kiau and son, Apahu	Apopo, Kalolo Village	6 <i>lo'i</i> , small <i>kula</i> and house lot	2 'āpana; 2,75 acres
10564	Oleloa, Daniela	Kapa'a, Puna;	with one fish pond; 10 <i>lo'i</i> and a fish pond	No award in Kapa'a, Puna; award in Waioli, Halelea
08247	Ehu	Moalepe	approx. 20 <i>lo'i</i> lying waste, some orange trees	1 'āpana, Kapa'a
08837	Kamapa'a	Awawaloa, Ulukiu Village	9 <i>lo'i</i> , and adjoining <i>kula</i> ; house lot	Awawaloa: 1 'āpana; Wakiu 3 'āpana
03638	Huluili, Kahoiu (Kadaio)	Maelele, Kaloko Village	15 <i>lo'i</i> in Maele'ele and adjoining <i>kula</i> ; house lot in village of Kaloko (Kalolo) Maelele: 2 'āpana, 5 acs.	Maelele: 2 'āpana, 5 acs.
03971 and 03243	Honolii, Ioane	Kahana, Kupanihi	6 uncultivated <i>lo'i</i> , house lot in Kupanihi Village	Kupanihi: 2 'āpana, 1 ac
03554 and 03599	Keo	Hahanui,	Entire 'ili of Kahanui, 15 <i>lo'i</i> , house lot in Puihi Village	No Award in Kapa'a, Puna; Award in Waila'au, Kona.

There was a total of seven (7) *kuleana* LCA claims during the *Māhele* with five having been awarded in the relatively large *ahupua'a* of Kapa'a (Table 2). The five awardees include Kiau (#08843), Kamapaa (#08837), Ioane Honolii (#03971) Hululi (#03638) and Ehu (#08247). Two unawarded land claims include (#10564 and #03554, 3559). Four of the five awardees received multiple parcels which show similarities. All four had *lo'i* or irrigated *kalo* fields on the *mauka* side of the lowland swampy area, sometimes extending a short distance up into small, shallow gulches and valleys. Many of these *lo'i* parcels name *pali* or hills/cliffs as boundaries. Each LCA also had a separate house lot located on the *makai* side of the swamp, near the beach. Three of the land claims name ponds on their lands, including Puhi Pond (LCA #03554), Fishponds in Kupanihi 'Ili (LCA #03971) and Hahanui 'Ili (LCA #10564). Loko Kihapai may be the same as the Fishpond in Hahanui as it was named in the same land claim. The other two *loko* are associated with house lots, situated on the *makai* edge of the Kapa'a swamplands suggesting modification of the natural swamplands. Other natural and cultural resources mentioned in the LCAs include freshwater springs, pig pens, *hau* bushes, *hala* clumps, streams, *'auwai*, and *kula* or pasturelands.

Interestingly, the residential "village" of Kapa'a did not exist as a single entity, but was a series of small settlements or compounds, perhaps even individual house lots which stretched along the shoreline of the *ahupua'a* and included (south to north) Kupanihi (Makahaikupanihi), Kalolo (Kaulolo), Puhi, and Ulukiu.

The fifth individual, Ehu (LCA #08247), was the only person to be awarded a single parcel in the upland area of Kapa'a, Moalepe Valley, approximately five miles from the coast. In 1848, when Ehu made his claim, he was the only one living there. A few years later, according to Honolii's testimony to support Ehu's claim, "There are no houses and no people now living on the land. Ehu found himself lonely there, all his neighbors having either died or left the land. Ehu now lives in Wailua." Evidently Ehu may have been the last person to live at and cultivate in the traditional way, the far *mauka* region of Kapa'a. Again based on LCA data no *kuleana* were claimed or awarded for the project area.

2.4 Early Historic Accounts of Kapa'a (1830's-1900's)

Although most of the historic record documents for Kaua'i in this period revolve around missionary activities and the missions themselves, there was indication that the Kapa'a area was being considered for new sugar cane experiments, similar to those occurring in Kōloa. In a historic move, Ladd and Company received a 50 year lease on land in Kōloa from Kamehameha III and Kaua'i Governor Kaikio'ewa of Kaua'i. The terms of the lease allowed the new sugar company "the right of someone other than a chief to control land" and had profound effects on "traditional notions of land tenure dominated by the chiefly hierarchy" (Donohugh, 2001: 88). In 1837, a very similar lease with similar terms was granted to Wilama Ferani, a merchant and U.S. citizen based in Honolulu (Hawai'i State Archives, Interior Dept., Letters, Aug. 1837). The lease was granted by Kauikeaouli for the lands of Kapa'a, Keālia and Waipouli for twenty years for the following purpose:

...for the cultivation of sugar cane and anything else that may grow on said land, with all of the right for some place to graze animals, and the forest land above to the top of the mountains and the people who are living on said lands, it is to them whether they stay or not, and if they stay, it shall be as follows: They may cultivate the land according to the instructions of Wilama Ferani and his heirs and those he may designate under him... (Hawai'i State Archives, Interior Dept., Letters, Aug. 1837).

Unlike Ladd & Company which eventually became the Kōloa Sugar Company, there is no further reference to Wilama Ferani and his lease for lands in Kapa'a, Keālia and Waipouli. In a brief search for information on Honolulu merchant, Wilama Ferani, nothing was found. It is thought that perhaps Wilama Ferani may be another name for William French, a well known Honolulu merchant who is documented as having experimented with grinding sugar cane in Waimea, Kaua'i at about the same time the 1837 lease for lands in Kapa'a, Keālia and Waipouli was signed (Joesting, 1984: 152).

In 1849, son of Wai'oli missionary, William P. Alexander, recorded a trip he took around Kaua'i. Although, he focuses on the larger mission settlements like Kōloa and Hanalei, he does mention Kapa'a.

A few miles from Wailua, near Kapa'a we passed the wreck of a schooner on the beach, which once belonged to Capt. Bernard. It was driven in a gale over the reef, and up on the beach, where it now lies. A few miles further we arrived at Keālia. We had some difficulty crossing the river at this place, owing to the restiveness of our horses. The country here near the shore was rather uninviting, except the valley which always contained streams of water (Alexander, 1991: 123).

In later years, the notorious Kapa'a reef was to become the location of many shipwrecks, particularly once a landing was built there in the 1880s.

The first large scale agricultural enterprise in Kapa'a began in 1877 by the Makee Sugar Plantation and the Hui Kawaihau (Dole, 1916: 8). The Hui Kawaihau was originally a choral society begun in Honolulu whose membership consisted of many prominent names, both Hawaiian and *haole*. It was Kalākaua's thought that the Hui members could join forces with Makee, who had previous sugar plantation experience on Maui, to establish a successful sugar corporation on the east side of Kaua'i. Captain Makee was given land in Kapa'a to build a mill and he agreed to grind cane grown by Hui members. Kalākaua declared the land between Wailua and Moloa'a, the Kawaihau District, a fifth district and for four years the Hui attempted to grow sugar cane at Kapahi, on the plateau lands above Kapa'a. After a fire destroyed almost one half of the Hui's second crop of cane and the untimely death of one of their principal advocates, Captain James Makee, the Hui began to disperse and property and leasehold rights passed on to Makee's son-in-law and new Makee Plantation owner, Colonel Z.S. Spalding (Dole, 1916: 14).

As part of the infrastructure of the new plantation, a sugar mill was erected and the Makee Landing was built in Kapa'a during the early years of the Makee Sugar Plantation. Following

Captain Makee's death, Colonel Spalding took control of the Plantation and in 1885 moved the mill to Keālia (Cook, 1999: 51). The deteriorating stone smokestack and landing were still there well into the 1900s (Damon, 1931). Condé and Best (1973:180) suggest that railroad construction for the Makee Plantation started just prior to the mid 1890's. There is one reference to a railroad line leading from the Kapa'a landing to Keālia in 1891. During Queen Liliuokalani's visit to Kaua'i in the summer of 1891, the royal party was treated to music by a band, probably shipped in from O'ahu. "The band came by ship to Kapa'a and then by train to Keālia" (Joesting, 1984:252). This line is depicted on a 1910 USGS map which shows the line heading south from Keālia Mill and splitting near the present Coral Reef Hotel, one finger going to the old Kapa'a Landing (Makee Landing) and another line heading *mauka*, crossing the present Mō'ikeha Canal, traveling southwest up Lehua Street and through what is now goat pasture, along a plateau and into the *mauka* area behind Kapa'a swamplands. This railroad line was part of a twenty mile network of plantation railroad with some portable track and included a portion of Keālia Valley and in the *mauka* regions of the plateau lands north of Keālia (Condé and Best, 1973:180).

By the late 1800's, Makee Plantation was a thriving business with more than one thousand workers employed (Cook, 1999:51). Hundreds of Portuguese and Japanese immigrants found work on Makee Plantation and the new influx of immigrants required more infrastructure. In 1883, a lease for a school lot was signed between Makee Sugar Company and the Board of Education (Kapa'a School, 1983: 9). Stipulations found in the Portuguese immigrant contracts with Makee Sugar Company stated that "children shall be properly instructed in the public schools" (*Garden Island*, April 1, 1883). The original Kapa'a School was constructed in 1883 on a rocky point adjacent to the Makee Sugar Company railroad. Traditionally, this point was known as Kaahiahi (Kapa'a School, 1983: 10). In 1908, Kapa'a School was moved to its present site directly *mauka* and up the hill at Mailehune.

As in much of the rest of Hawai'i, the Chinese rice farmers began cultivating the lowlands of Kapa'a with increasing success in the latter half of the 1800s. Several Hawaiian *kuleana* owners leased or sold their parcels *mauka* of the swamp land to Chinese rice cultivators. Other Chinese rice cultivators appeased to the government for swamp lands first leasing and later buying. As a result of the growing rice and sugar industries, the economic activity displaced the house lot *kuleana* on the *makai* side of the marsh for increasing commercial and residential development (Lai, 1985:148-161).

Narrow wagon roads gave way to macadamized roads in the early part of the 20th century. This new road was called the Kaua'i Belt Road and parts of it are thought to have followed the "Old Government Road" (Cook, 1999). In Kapa'a, the present day Kūhiō Highway probably follows the same route as the original Government Road and subsequent Kaua'i Belt Road. The location of the *kuleana* awards in Kapa'a indicates that the majority of the house lots were situated along the Government Road. LCA 3243 names a "road" as one of its boundaries.

2.5 20th Century History of Kapa'a (1900-Present)

In the early 1900's, government lands were auctioned off as town lots in Kapa'a to help with the burgeoning plantation population. One *kama'āina* mentioned that in the 1930's and 1940's,

the area north of Mō'ikeha Canal in Kapa'a was mostly settled by Portuguese families (Bushnell et al. 2002). The Japanese were also very prominent in the 1920s and 1930s largely replacing the Chinese merchants of the turn of the century in the Kapa'a business sector (Bushnell et al. 2002). The Board of Health, Territory of Hawaii ran a dispensary in Kapa'a at the *makai* edge of Niu Street near the Kapa'a Beach Park parking lot, starting in 1926. The lot is presently vacant. A fire station was once located in the area now occupied by the Coral Reef Hotel and a Courthouse and jail cell once stood at the location of the present Kapa'a Neighborhood Center. It is not known when these structures were removed or abandoned.

In 1913, Hawaiian Canneries opened in Kapa'a at the site now occupied by Pono Kai Resort (Cook, 1999: 56). Through the Hawaiian Organic Act, Hawaiian Canneries Company, Limited purchased the land they were leasing, approximately 8.75 acres, in 1923 (Bureau of Land Conveyances, Grant 8248). A 1923 sketch of the cannery shows only four structures, one very large structure assumed to be the actual cannery and three small structures *makai* of the cannery. By 1956, 1.5 million cases of pineapple were being packed. By 1960, 3400 acres were in pineapple and there were 250 full time employees and 1000 seasonal employees for the Kapa'a Cannery (*Honolulu Advertiser*, March 20, 1960). In 1962, Hawaiian Canneries went out of business due to competition from third world countries.

The Ahukini Terminal & Railway Company was formed in 1920 to establish a railroad to connect Anahola, Keālia, Kapa'a to Ahukini Landing and "provide relatively cheap freight rates for the carriage of plantation sugar to a terminal outlet" (Condé and Best, 1973: 185). This company was responsible for extending the railroad line from the Makee Landing, which was no longer in use, to Ahukini Landing, and for constructing the original Waika'ea Railroad Bridge and the Mō'ikeha Makai Railroad Bridge.

In 1934, the Līhue Plantation Company absorbed the Ahukini Terminal & Railway Company and Makee Sugar Company (Condé and Best, 1973: 167). The railway and rolling stock formerly owned by Makee Sugar Company became the Makee Division of the Līhue Plantation. At this time, besides hauling sugar cane, the railroad was also used to haul plantation freight including "fertilizer, etc...canned pineapple from Hawaiian Canneries to Ahukini and Nāwiliwili, pineapple refuse from Hawaiian Canneries to a dump near Anahola and fuel oil from Ahukini to Hawaiian Canneries Co., Ltd." (Hawaiian Territorial Planning Board, 1940: 11). Former plantation workers and *kama'āina* growing up in Kapa'a remember when the cannery would send their waste to the pineapple dump, a concrete pier just north of Kumukumu Stream by railroad. The structure is built over the water where the rail cars would dump the pineapple waste. The current would carry the waste to Kapa'a which would attract fish and sharks (Bushnell et al. 2002).

Līhue Plantation was the last plantation in Hawai'i to convert from railroad transport to trucking (Condé and Best, 1973: 167). "By 1957 the company was salvaging a part of their plantation railroad, which was being supplanted by roads laid out for the most part on or close to the old rail bed" (Ibid: 167). By 1959, the plantation had completely converted over to trucking.

Severe floods in Kapa'a in 1940 led to the dredging and construction of the Waika'ea and Mō'ikeha Canals sometime in the 1940s (Hawaii Territorial Planning Board, 1940: 7). Although the Waika'ea Canal bordering the Kapa'a Pineapple Cannery, had been proposed as early as

1923, nothing was constructed until after the floods (Bureau of Land Conveyances, Grant 8248). A Master Plan for Kapa'a, published in 1940, asks the Territorial Legislature for funds to be set aside for the completion of a drainage canal and for filling *makai* and *mauka* of the canal (Hawaii Territorial Planning Board, 1940:7). In 1955, reports came out on the dredging for coral proposed for the reef fronting Kapa'a Beach Park (*Garden Island Newspaper*, September 21, 1955). The coral was to be used for building plantation roads. This dredging was later blamed for accelerated erosion along Kapa'a Beach (*Garden Island Newspaper*, October 30, 1963).

Today, there are several sea walls along the Kapa'a Beach Park to check erosion. Old time residents claim the sandy beach in Kapa'a was once much more extensive than it is now (Bushnell et al. 2002).

Keālia Town slowly dispersed after the incorporation of Makee Sugar Company into Lihue Plantation in the 1930s. Many of the plantation workers bought property of their own and moved out of plantation camps. The plantation camps which bordered Kūhiō Highway were disbanded in the 1980s. The Lihue Plantation began to phase out in the last part of the 20th century. Kapa'a Town suffered after the closing of the Kapa'a Cannery, however the growing tourist industry helped to ease the economic effects of the cannery's closing.

2.6 The Project Area and Vicinity

Mauka of the present project area, the Samuel Mahelona Memorial Hospital was founded as a tuberculosis hospital in 1917. New hospital facilities were constructed in the 1950s. A 2000 aerial photograph of Kapa'a shows the project area as a portion of open pasture land with the hospital grounds shown on the flat hilltop just mauka (see Figure 5).

Sometime in the 1970s two ponds were constructed within the present project area to treat domestic wastewater from the hospital, a nearby school and elderly housing area. Subsequently, this wastewater treatment operation was closed in the 1990s and the two ponds were filled.

Section 3 Previous Archaeological Research

3.1 Archaeological Studies and Sites in Kapa'a Ahupua'a

The following tables present the archaeological research (Table 3) and historic properties (Table 4) identified in Kapa'a Ahupua'a. These tables are followed by discussion of the research and historic properties. Table 3 provides a list of archaeological research conducted within Kapa'a Ahupua'a, including columns for source, location, nature of study, and findings. The locations of these archaeological studies are shown in Figure 3. Table 4 is a list of known historic properties within the *ahupua'a* and includes columns for state site numbers, site type, location and reference. The locations of identified sites within Kapa'a Ahupua'a are shown in Figure 4.

Table 3. Previous Archaeological Studies in coastal Kapa'a (Figure 3)

Source	Location	Nature of Study	Findings
Bennett: 1931	Island wide	Archaeological Reconnaissance	Identifies 2 sites: Site 110 Taro terraces and bowl and Site 111 A large simple dirt Hawaiian ditch
Handy and Handy 1972	Archipelago-wide	Native Planter Study	Discusses "highly developed irrigation system"
Ching 1976	Just south of the Waika'ea Drainage Canal	Archaeological Reconnaissance	No significant findings
Hammatt 1981	Upland Kapa'a	Archaeological Reconnaissance	No significant findings
Hammatt 1986	Upper reaches of the Makaleha Stream Valley.	Archaeological Reconnaissance	No significant findings
Hammatt 1991	Along Kūhiō Highway	Subsurface Testing	Identifies two sub-surface cultural layer sites
Kikuchi and Remoaldo 1992	Around Kapa'a Town	Cemeteries of Kaua'i	Identifies six cemeteries

Source	Location	Nature of Study	Findings
Spear 1992	South side Waika'ea Canal, <i>mauka</i> of Kūhiō Highway. (TMK: 4-5-05:04, 09)	Monitoring Report	Designated sub-surface site 50-30-08-547
Chaffee, Burgett & Spear 1994a	A house lot near the corner of Kukui and Ulu Streets in <i>mauka</i> Kapa'a Town. (TMK: 4-5-09:10)	Archaeological Inventory Survey	No significant findings
Chaffee, Burgett & Spear 1994b	Māmane Street Kapa'a Town. (TMK: 4-5-09:51)	Archaeological Inventory Survey	No significant findings
Hammatt, Ida & Chiogioji 1994	Proposed bypass routes <i>mauka</i> of Kapa'a Town	Archaeological Assessment	No new field work, reviews literature
Hammatt, Ida & Folk 1994	South side Waika'ea Canal, <i>mauka</i> of Kūhiō Highway (TMK: 4-5-05:06)	Archaeological Inventory Survey	Weak cultural layer designated site 50-30-08-748
Kawachi 1994	Inia Street (Jasper) TMK 4-5-08:33	Burial Report	Designates Site 50-30-08-871
McMahon 1994	"behind the armory in Kapa'a near the godstones" The location is uncertain & "Buzz's near the Coconut Marketplace"	Documents second hand report of burials in two locations	Bones in 3 places reported from behind the armory, 16 bodies reported from the Buzz's restaurant. No site numbers assigned

Source	Location	Nature of Study	Findings
Creed, Hammatt, Ida, Masterson & Winieski 1995	Kapa'a Sewerline project, Kūhiō Highway, south and central Kapa'a Town	Archaeological Monitoring Report	Documents cultural layer of site -1848 and (an enlarged) site -1849 & recovery of thirty burials at sites -867, -868, -871, & -1894
Jourdane 1995	1382-A Inia Street, <i>makai</i> of Kūhiō Highway, central Kapa'a Town	Burial Report Site 626	Site 626
McMahon 1996	South side Waika'ea Canal, <i>mauka</i> of Kūhiō Highway (TMK: 4-5-05:08)	Archaeological Inventory Survey	No significant cultural material
Hammatt, Chiogioji, Ida & Creed 1997		Archaeological Inventory Survey	Four test trenches were excavated inland of Kapa'a Town
Borthwick and Hammatt 1999	Kapa'a Seventh-Day Adventist Church at 1132 Kūhiō Highway	Archaeological Monitoring and Burial Treatment Plan	Monitoring was indicated as this parcel lay within the designated Site 50-30-08-1848.
Bushnell and Hammatt 2000	Seventh-Day Adventist Church, <i>makai</i> of Kūhiō Highway, south of the Waika'ea Canal	Archaeological Monitoring Report Minimal findings (one piece of worked bone)	Minimal findings (one piece of worked bone)
Callis 2000	Kapa'a Beach Park	Human Burial Removal and Archaeological Monitoring Report	Human Remains
Perzinski and Hammatt 2001	Kūhiō Highway on the margins of the Waika'ea Canal	Archaeological Monitoring Report	No significant cultural material

Source	Location	Nature of Study	Findings
Dega, and Powell 2003	Kūhiō Highway from Moloa'a through Hanama'ulu	Archaeological Monitoring Report	Human Burials
Elmore and Kennedy 2003	Kūhiō Highway	Archaeological Monitoring Report	No significant cultural material

3.2 Pattern of Archaeological Sites in Kapa'a

The pattern of archaeological studies in Kapa'a Ahupua'a is somewhat skewed with a dozen projects in urban Kapa'a Town and very little work along the coast. Major archaeological sites have been found in the Kapa'a Town area including extensive cultural layers with burials and other cultural features underlying Kūhiō Highway near All Saints Gym and near the older part of Kapa'a Town between Waika'ea Canal and Kapa'a Beach Park, *makai* of Kūhiō Highway (Hammatt 1991; Kawachi 1994; Creed et al. 1995; Jourdane 1995; Callis 2000). The *mauka-makai* extent of these cultural layers has not been clearly defined. These extensive cultural deposits associated with pre-historic and early historic habitation are known to exist in a relatively narrow sand berm that makes up the physiogeography of Kapa'a. The areas *mauka* of Kapa'a Town are marshy although much of it has been filled in recent decades. The five *kuleana* awarded during the Māhele were located adjacent and *mauka* to the present highway. The more *mauka* studies (Spear 1992, Chaffee et al. 1994a & 1994b, Hammatt et al. 1994, 1997, McMahon 1996) were to be located towards the *mauka* fringe of the sand berm, approaching more marshy conditions and have generally reported no significant or minimal findings. Based on: (1) The location of the project area, *mauka* of the Highway; (2) on a ridge - vs. - sandy deposits; (3) background data which indicates an absence of *kuleana* parcels; (4) no known historic properties; (5) 1970 - 1990 wastewater lagoons, no significant archaeological finds are anticipated.

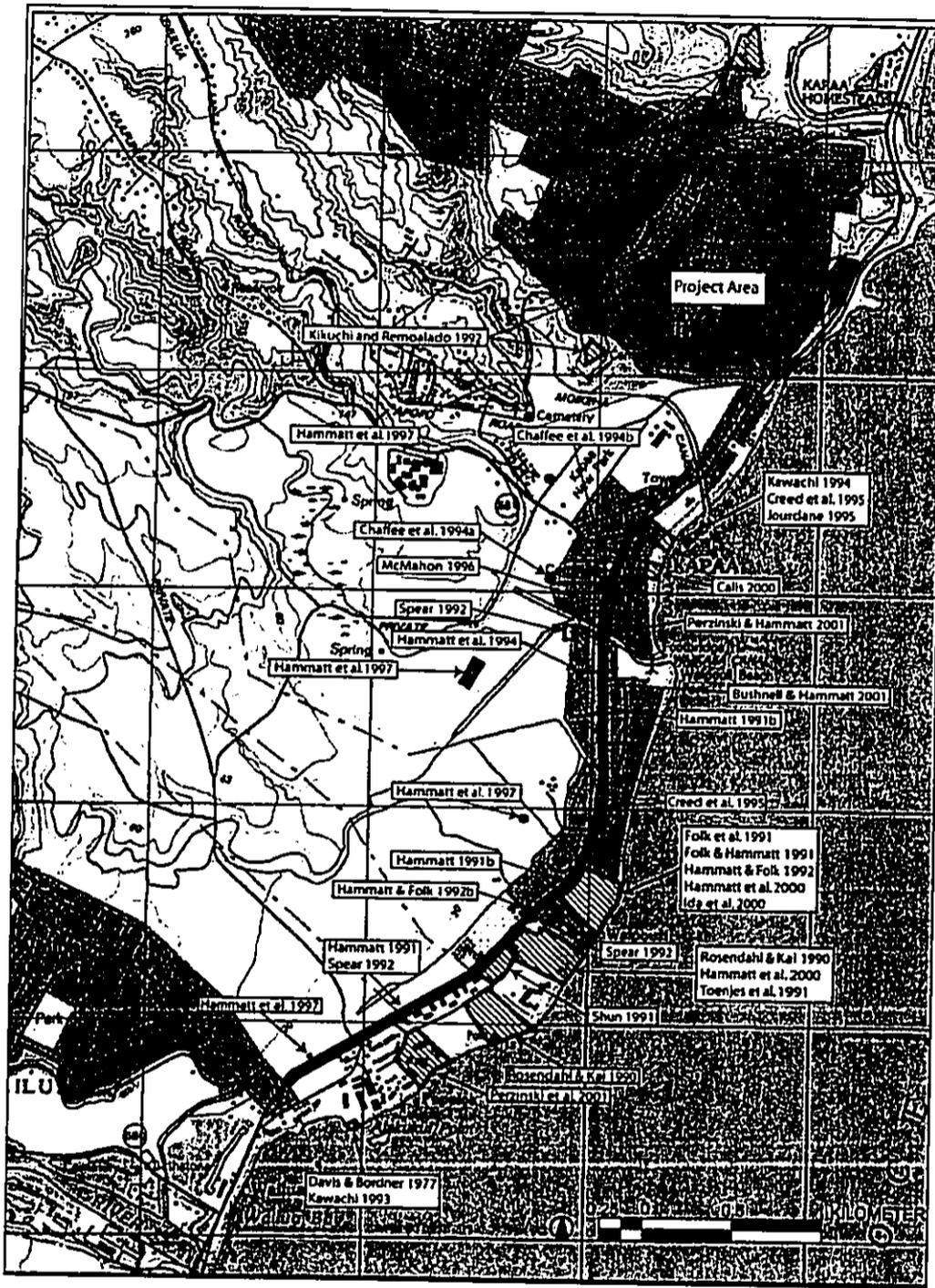


Figure 3. Previous archaeological studies in Kapa'a and neighboring ahupua'a (note: studies in Kapa'a are highlighted in red).

Table 4. Historic Properties in Coastal Kapa'a Ahupua'a

Site # 50-30-08-	Site Type/Name (if any)	Location	Comments	Reference
B001	Historic Cemetery	South of bend of Kapa'a Stream, one kilometer mauka from Kūhiō Highway	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B002	Historic Cemetery	Just mauka from Kūhiō Highway, south of Kapa'a Stream	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B003	Kapa'a Public Cemetery	South of Kanaele Road, approximately one kilometer inland of Kūhiō Highway	Appears to be a discrete historic cemetery	Kanaele Road; Kikuchi and Remoaldo 1992
B004	Historic Cemetery	North of Apopo Road, approximately one kilometer inland of Kūhiō Highway	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B013	Historic Cemetery	Just mauka from Kūhiō Highway, north of the Waika'ea Canal	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B014	All Saints Episcopal Church Cemetery	Just mauka from Kūhiō Highway, south of the Waika'ea Canal	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992:62-65

Site #	Site Type/Name (if any)	Location	Comments	Reference
-547	Sub-surface features including a firepit and a possible house foundation	South of bend of Waika'ea Canal, mauka of Kūhiō Highway	Archaeological monitoring in the vicinity is recommended	Spear 1992:3
-626	Burial	Inia Street, <i>makai</i> of Kūhiō Highway, central Kapa'a	Consultation and monitoring in vicinity indicated	Jourdane 1995
-748	Minimal findings, a weak cultural layer (buried A-horizon)	South of the bend of the Waika'ea Canal, mauka of Kūhiō Highway	Considered no longer significant within project area	Hammatt, Ida & Folk 1994
-867	1 set of human remains	Kukui Street, just mauka of Kūhiō Highway, Kapa'a Town	Consultation and monitoring in vicinity indicated	Creed et al. 1995:50
-868	1 set of human remains	Lehua Street mauka of Kūhiō Highway, Kapa'a Town	Consultation and monitoring in vicinity indicated	Creed et al. 1995:50
-871	13 sets of human remains (Creed et al. 1995:50)	Inia Street, <i>makai</i> of Kūhiō Highway	Consultation and monitoring in vicinity indicated	Kawachi 1994, Creed et al. 1995:50
-1848	Cultural layer & sub-surface	Along Kūhiō Highway between Wana Road and the Waika'ea Drainage Canal	Archaeological monitoring in the vicinity is recommended	Hammatt 1991; Creed et al. 1995

Site #	Site Type/Name (if any)	Location	Comments	Reference
-1849	Cultural layer & sub-surface features; (Creed et al. 1995:53) expands boundaries to incl. burial sites, -626, -867, -868 -871, and -1894	Along Kūhiō Highway between Inia Street and Kawwila Street extending to the coast	Consultation and monitoring in vicinity indicated	Hammatt 1991; Creed et al. 1995
-1894	11 sets of human remains	Ulu Street, just North of Kūhiō Highway, Kapa'a Town	Consultation and monitoring in vicinity indicated	Creed et al. 1995:50

Section 4 Results of Field Inspection

Pedestrian inspection of the project area was accomplished on September 29, 2005 by two Cultural Surveys Hawai'i archaeologists, Todd Tulchin, B.S. and Jon Tulchin, B.A., under the general direction of Hallett H. Hammatt, Ph.D. The pedestrian inspection was completed at 100% coverage. The project area generally consisted of a relatively level, low-lying area immediately *mauka* of Kūhiō Highway (Figures 4, 5 & 6). The project area extended to the base of the steep sloping hillside along the *mauka* (western) border of the project area. Two filled wastewater lagoons encompassed a large portion of the project area (see Section 2.6: Historical Background for information on the lagoons). These lagoons were created in the 1970's.

Lands within the project area were observed to be heavily disturbed by construction activities associated with the excavation and later infilling of the two lagoon areas. Bulldozing was evident up to the base of the steep sloping hillsides along the western border of the project area. The land surface consisted of loose soil, with many bulldozer push piles. The filled lagoon areas consisted of large rectangular mounds of soil, approximately 1-2 m in height above the ground surface. Two modern structures were located within the central portion of the project area. The larger of the structures was of hollow-tile construction, and the smaller structure was of wood construction. The structures were abandoned and in disrepair at the time of the pedestrian inspection.

No historic properties (i.e. traditional Hawaiian or historic sites) were observed within the project area during the pedestrian inspection. Due to the extensive land modification within the project area, the likelihood of encountering intact subsurface cultural deposits is low.

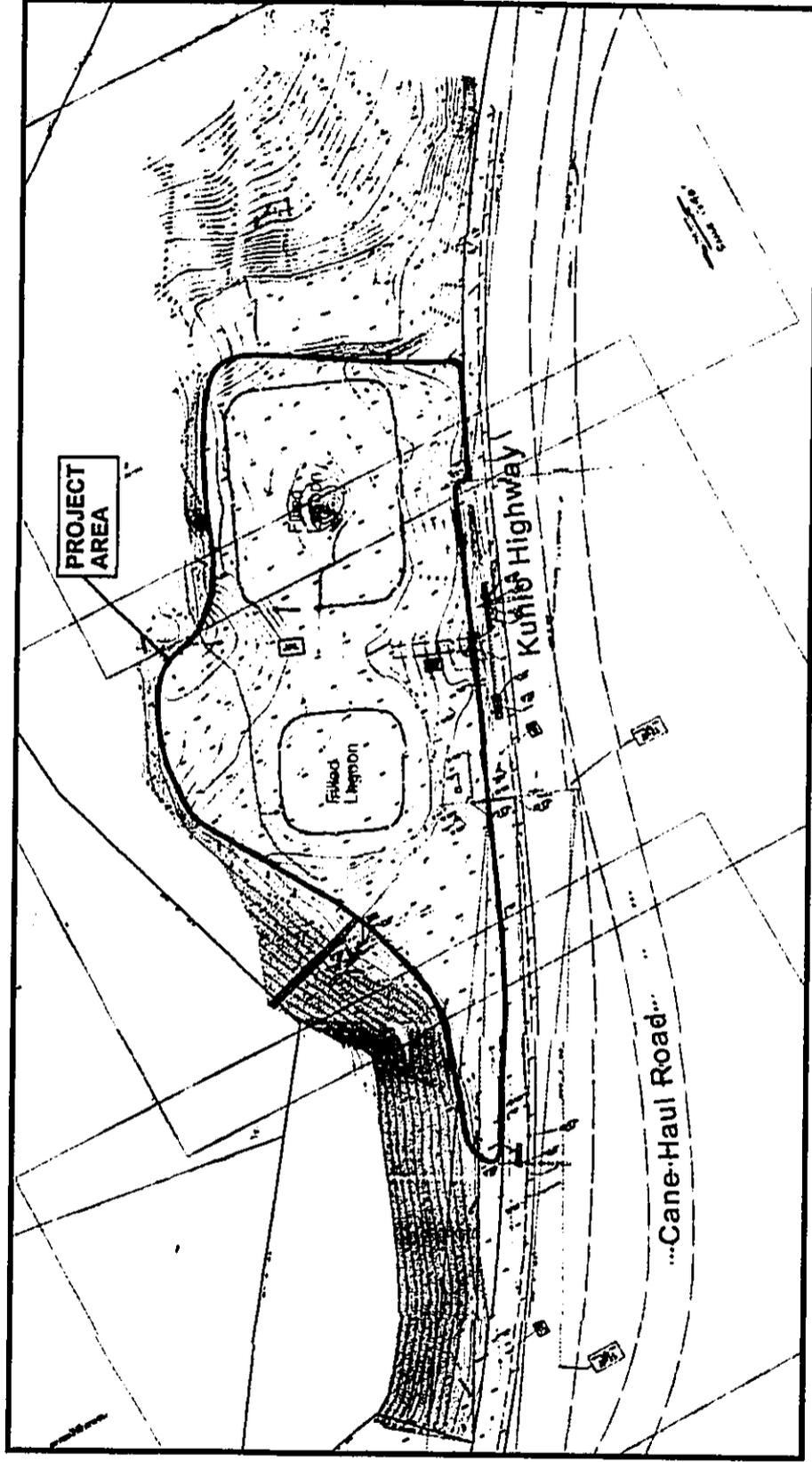


Figure 4. Topographic map showing the location of the project area and filled lagoon areas.



Figure 5. Aerial photograph (2000) showing the location of the project area.

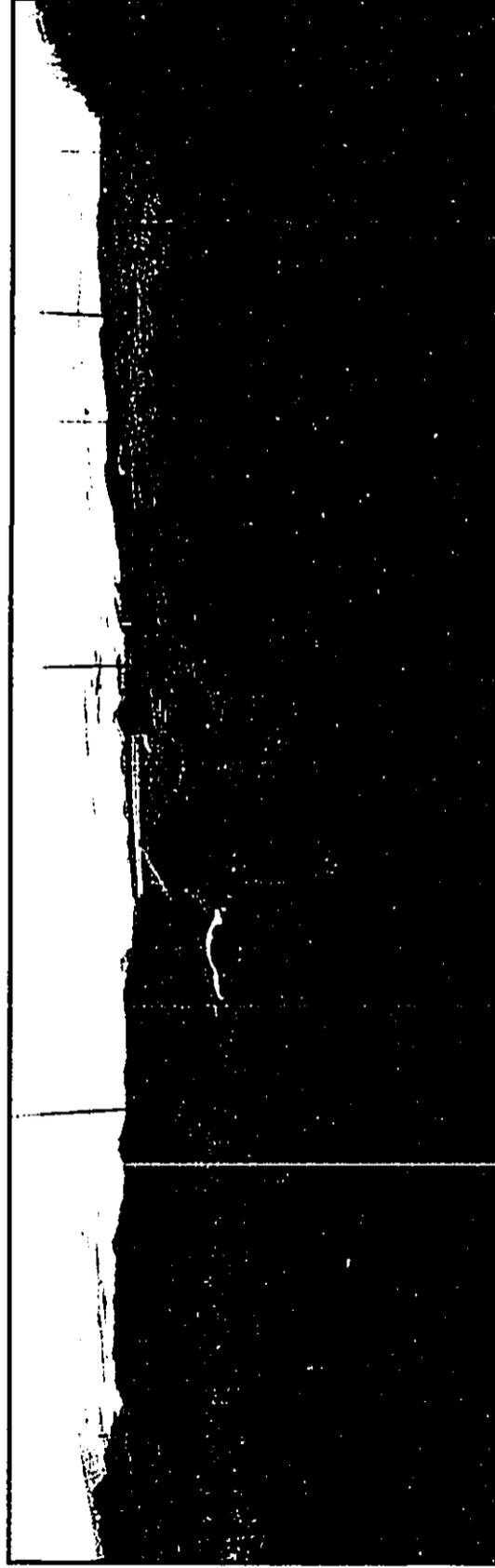


Figure 6. General view of current conditions within the project area.

Section 5 Cultural Impact Evaluation

5.1 Introduction

At the request of Belt Collins Hawai'i, Ltd. on behalf of the County of Kaua'i, Cultural Surveys Hawai'i Inc. has conducted a Cultural Impact Evaluation report on a 3.1-acre area in Kapa'a Ahupua'a, Kawaihau District, Island of Kaua'i (TMK (4) 4-6-014: 26). A portion of the 3.1-acre area is proposed to be utilized for a County Kaua'i Fire Station.

The actual fire station site will occupy approximately one acre of the 3.1-acre study area which is located on a 13.8 acre State of Hawai'i property. The exact location of the fire station site has not been determined. The present thinking is to build the fire station in the area of the former county wastewater treatment facility which was within the 3.1-acre area. The wastewater treatment facility has been closed and the abandoned ponds have been filled.

5.2 Scope of Work

CSH's scope of work and methods for Cultural Impact Evaluation studies includes consultation with knowledgeable individuals and groups regarding current cultural practices, but does not include formal ethnographic interviews and oral histories, as described in the OEQC's "Guidelines for Assessing Cultural Impacts" (OEQC 2004). Cultural Impact Evaluation studies are intended as a more time and cost effective means of addressing potential impacts to cultural practices within project areas that have been fully developed for a long time and where, accordingly, there is less likelihood of ongoing cultural practices.

The scope of work included:

1. Historical and previous archaeological background research, including study of archival sources, historic maps, Land Commission Awards, and previous archaeological reports, to construct a history of land use and to determine if archaeological sites or other cultural properties have been recorded on or near this property;
2. A field inspection of the project area to identify any cultural impact issues;
3. Limited consultation primarily by written and/or telephone requests for information with individuals and groups;
4. Preparation of a report that evaluates the likelihood that the proposed project will impact cultural practices. This evaluation is based on the background research, the review of land use within the vicinity of the project area, and the results of community consultation. As indicated above, no formal interviews were undertaken.

5.3 Methods

Historical documents, maps, and photographs were researched at: the Kaua'i Historical Society; the Hawai'i State Archives; the Survey Office of the Department of Accounting and General Services; the Hawai'i State Library; the Bernice Pauahi Bishop Museum archives and

library; Hamilton Library at the University of Hawai'i Mānoa; the Mission Houses Museum Library; the State Historic Preservation Division (SHPD) library; and the library of CSH.

Hawaiian organizations, government agencies, and community members were contacted to: (1) identify potentially knowledgeable individuals with cultural expertise and knowledge of the project area and the surrounding vicinity, and (2) identify cultural concerns and potential impacts within the project area. Results of the community contact process are presented in Section 4 below. Cultural Anthropologist Aulii Mitchell conducted the consultation effort under the general supervision of Hallett H. Hammatt, Ph.D. (principal investigator).

Section 6 Community Consultation Findings

As part of the Cultural Impact Evaluation component of this investigation, Hawaiian organizations, government agencies, and community members were contacted to: (1) identify potentially knowledgeable individuals with cultural expertise and knowledge of the project area and the surrounding vicinity, and (2) identify cultural concerns and potential impacts within the project area. Cultural Anthropologist Aulii Mitchell conducted the consultation effort under the general supervision of Hallett H. Hammatt, Ph.D. This effort was made by letter, e-mail, telephone, and person-to-person contact. In the majority of cases, letters along with maps of the project area were mailed with the following text:

At the request of Belt Collins Hawai'i, Ltd. on behalf of the County of Kaua'i, Cultural Surveys Hawai'i Inc. is conducting a Cultural Impact Evaluation report on a 3.1-acre parcel in Kapa'a Ahupua'a, Kawaihau District, Island of Kaua'i (TMK (4) 4-6-014: 26).

The actual fire station site will occupy approximately one acre of the 3.1-acre study area which is located on a 13.8 acre State property. The exact location of the fire station site has not been determined. The present thinking is to build the fire station on top of the former County sewage treatment plant [actually, the former county wastewater treatment facility] which was located on this parcel. The sewage treatment plant [wastewater treatment facility] has been closed and the site has been filled.

The study area for this cultural impact evaluation, is shown on the enclosed map and aerial photograph. We are seeking your input regarding the following issues:

Identification of traditional Hawaiian activities including gathering of native plants, animals and other resources within the proposed study area.

Identification of existing archaeological or cultural sites, trails, burials etc., which may be impacted by the proposed study.

Cultural associations with the study area through legends, traditional use or otherwise.

I invite you to contact me, Auli'i Mitchell at 1-800-599-9962 or e-mail me at amitchell@culturalsurveys.com if you have any information you would like to share.

As part of this investigation, CSH attempted to contact the following individuals, organizations, and agencies. The results of this consultation effort are presented in Table (5), below. More extensive responses were provided by the Ms. La France Kapaka-Arboleda, Chairperson of the Kaua'i/Ni'ihau Island Burial Council, *Kupuna* Valentine Ako, and the Community Resource Coordinator for the Office of Hawaiian Affairs and Ms. Kēhaulani Kekua, Director of the Kaua'i Heritage Center. These are presented following the table.

Table 5 Community Effort Responses

Name	Background, Affiliation	Comments
Ako, Valentine	<i>Kupuna/Kama'āina</i>	See below.
Ayau, Halealoha	Po'o of Hui Mālama O Nā Kūpuna O Hawai'i Nei	Referred to Kēhaulani Kekua.
Kapaka-Arboleda, LaFrance	Chairperson Kaua'i/Ni'ihau Island Burial Council, Community Resource Coordinator Office of Hawaiian Affairs	See below.
Kekua, Kēhaulani	Kaua'i Heritage Center	See below.
McMahon, Nancy	Kaua'i Archaeologist State Historic Preservation Division	No cultural concerns at this time.
Muraoka, Beverly	<i>Kupuna/Kama'āina</i>	Contacted.
Oi, Thomas	Department of Land and Natural Resources/Land Division	No response.
Rogers, Nani	Hui Ho'okipa o Kaua'i	Contacted and has no cultural concerns at this time.
Sugiyama, Richard	Resident of Kapa'a	No cultural concerns at this time. Grateful to be included on this study and others in Kapa'a's future.
Tsuchiya, Rick	Kaua'i Historic Preservation Review Commission Kaua'i County Planning	Contacted, KHPRC will discuss project at November 1, 2005 meeting.

Ms. La France Kapaka-Arboleda, the chairperson for the Kaua'i/Ni'ihau Island Burial Council and the Community Resource Coordinator for the Office of Hawaiian Affairs commented in an e-mail on October 19, 2005:

Yes, I got the communication. On the Kauai Fire Station site, I believe pre-lim work was done by Nancy McMahon when the YWCA was looking at the site for a center, I don't believe anything was found.

Ms. Kehaulani Kekua the Director of the Kaua'i Heritage Center in Kapa'a commented in an e-mail on October 26, 2005:

I am writing in response to your inquiry regarding a Cultural Impact Evaluation for the proposed Kapa'a Fire Station site just north of Kapa'a Town here on Kaua'i Island.

In review of the photos and maps of the proposed project site, I am offering the following for your review and consideration:

I. Identification of Traditional Hawaiian Activities

The actual project area and proposed building site (ma uka of the highway) is not used for cultural practices and activities. Personally, I have never gathered native plants or any other natural materials from this area. Native vegetation that can be found growing in this area may include pohuehue, pa'u-o-Hi'iaka, 'uhaloa and perhaps ko'oko'olau and other miscellaneous native plants used for medicinal healing. However, there are other areas on the island that would provide more suitable environments in which we would prefer to gather plants for these purposes. It is located too close to Kūhiō Highway which is strongly impacted by the exhaust and congestion of daily traffic activities.

The coastal area ma kai of the highway is a highly frequented area that is very important to contemporary practitioners and gatherers as a fishing and ocean resource. The expanse of reef known today as "Kapa'a Flats" continues to provide for gathering of i'a, limu, and he'e. Practices include spear fishing, torching, throw net, pole fishing, diving, lay net and shoreline gathering. Directly across of the proposed project area where the Scenic Overlook is located is properly known as "Kaiakea" which is the traditional name for the promontory and the immediate surrounding area. It is also a traditional surf site which is rarely active, unless a strong north wind and north swell is presented by specific climatic conditions. It is important that access to the entire coastal area is not restricted or limited to cultural practitioners and gatherers of the ocean resources.

II. Existing Archaeological & Cultural Sites

I am not familiar with any archaeological and cultural sites in the proposed project area. I would like to offer caution of the probable existence of multiple nesting and habitation sties for native sea birds including the 'a'o (shearwater) who often create burrows in hillsides, cliffs and overgrowths of vegetation such as naupaka, etc.

III. Cultural Associations through Legends, Traditional Use, etc.

At the present, I am unable to recall any specific oral traditions, legends or other traditional uses other than what has already been offered above.

Kupuna Valentine Ako contacted Cultural Surveys Hawai'i Inc. by telephone in response to the letter sent by Cultural Surveys Hawai'i. Mr. Ako shared the following information:

The proposed project will have no significance when applied to traditional Hawaiian practices, existing archaeological or cultural sites, trails, burials and traditional use.

Because of the previous Treatment Plant the area has already been desecrated.

To the south of the project area Mr. Ako witnessed the building of the Jehovah's Witnesses Kingdom Hall and there were no problems during construction. He recalled that the area near the proposed fire station site was once a grazing area for cattle.

Section 7 Traditional Hawaiian 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 evaluate traditional cultural practices as well as resources pertaining to the project area within Kapa'a Ahupua'a. This section will convey the different types of traditional practices, cultural resources associated with the vicinity. Excerpts from individuals contacted incorporated in sections where applicable.

7.1 Gathering for Plant Resources

Hawaiians utilized upland resources for a multitude of purposes. Forest resources were gathered, for not only 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. During this evaluation, Ms. Kehualani Kekua, Director of the Kaua'i Heritage Center mentioned that she has never gathered native plants or any other natural materials from this area. Native vegetation that can be found growing in this area may include *pohuehue*, *pa'u-o-Hi'iaka*, *'uhaloa* and perhaps *ko'oko'olau* and other miscellaneous native plants used for medicinal healing. However, there are other areas on the island that would provide more suitable environments in which cultural practitioners would prefer to gather plants for these purposes. The native plants are located too close to Kūhiō Highway which is strongly impacted by the exhaust and congestion of daily traffic activities. No other individuals contacted for this evaluation identified any other native plant gathering practices within the project area.

7.2 Marine Resources

The sea is a rich resource and the Hawaiian people were traditionally expert fishermen. Fish of all types supplied the Hawaiian diet with a rich source of protein. Hawaiian women practiced the gathering of seaweeds and salt. Ms. Kehaulani Kekua, Director of the Kaua'i Heritage Center stated in her letter to CSH that the coastal area ma kai of the highway is a highly frequented area that is very important to contemporary practitioners and gatherers as a fishing and ocean resource. The expanse of reef known today as "Kapa'a Flats" continues to provide for gathering of *i'a*, *limu*, and *he'e*. Practices include spear fishing, torching, throw net, pole fishing, diving, lay net and shoreline gathering. Directly across of the proposed project area where the Scenic Overlook is located is properly known as "Kaiakea" which is the traditional name for the promontory and the immediate surrounding area. It is also a traditional surf site which is rarely active, unless a strong north wind and north swell is presented by specific climatic conditions. It is important that access to the entire coastal area is not restricted or limited to cultural practitioners and gatherers of the ocean resources.

None of the other individuals contacted for this evaluation identified any other gathering practices *makai* of the project area.

7.3 Historic Properties

During this evaluation historic properties were identified near the coastal regions of the Kapa'a Ahupua'a. For a listing of the historic properties along the coast of Kapa'a, Kaua'i, see Table 4.

7.4 Burials

None of the individuals contacted for this evaluation identified any burials within the proposed project area.

7.5 Trails

Based on nineteenth and twentieth century maps the primary transportation routes *mauka/makai* correlated closely to the existing major roadways. During this evaluation there were no trail systems identified in the proposed project area.

7.6 Native Sea Birds

During this evaluation Ms. Kēhaulani Kekua, the Director of the Kaua'i Heritage Center in Kapa'a responded with caution for the probable existence of multiple nesting and habitation sties for native sea birds including the 'a'o (shearwater) who often create burrows in hillsides, cliffs and overgrowths of vegetation such as naupaka, etc.

Section 8 Summary and Recommendations

Historic background research, field inspection, and cultural impact evaluation were conducted by Cultural Surveys Hawai'i to identify any historic properties, cultural resources, or traditional cultural practices associated with the 3.1-acre area proposed for siting of a new Kapa'a fire station. The cultural impact evaluation process included a good faith effort to contact parties regarding cultural knowledge, land use history, cultural sites and traditional Hawaiian or other cultural practices in the vicinity of the 3.1 acre area.

Hawaiian traditions centered on Kapa'a suggest the area's significance and association with the *ali'i* in prehistoric times. A survey of traditional mythological literature shows Kapa'a prominently associated with some of the most famous legendary and historical figures including Maui, Kawelo, Mō'ikeha, Māweke, Palila, Paka'a Kanaka Nunui Moe, and the *heiau* of Kapa'a.

A famous O'ahu chief, Mō'ikeha (dates ca. A.D. 1340-1360 by the 20 years per generation count), according to tradition, sailed off to Kahiki and on his return settled in Wailua, Kaua'i, where the Puna family of chiefs welcome him. "On the death of Puna, Moikeha became the principal chief (Alii nui) of Kauai, and remained there the balance of his life" (Fornander 1969:54).

A review of previous archaeological research indicates that the majority of areas studied in the region were located within urban Kapa'a away from the shore and mountain areas. However, archaeological research has identified historic properties along the coastal regions of Kapa'a (see Table 4).

Field inspection and community consultation have indicated no historic properties and no on-going cultural practices.

Based on the above findings, the proposed project will have minimal or no impact on historic properties, and on Hawaiian culture, its practices and traditions.

It should be noted, however, that the presence of subsurface deposits associated with former traditional Hawaiian activities in the project area, such as artifacts and cultural layers, cannot be completely ruled out, based on this investigation. As a precautionary measure, personnel involved in future development activities in the project area should be informed of the possibility of inadvertent cultural finds, and should be made aware of the appropriate notification measures to follow (including consultation with the State Historic Preservation Division and, as may be appropriate, with Kaua'i community cultural organizations).

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APPENDIX C

VEHICLE TYPE CLASSIFICATION (TCOMP - 13 CATEGORIES)

HAWAII STATE DEPARTMENT OF TRANSPORTATION
HIGHWAY PLANNING BRANCH

Island : Kauai Station No : 26-X
 Hwy/St : Kuhio Highway Location : at Kawaihau Road
 Route System : _____ M.P. : _____ Route Direction (D-1) = MOV (5)
 Survey Date : 08/27-28/03 Survey Period : 10:00 AM - 10:00 AM
 File : Leg 1 Hwy/St : _____ Route No : _____ M.P. : _____

VEHICLE TYPE	A.M. PEAK (7:00 - 8:00)			P.M. PEAK (3:45 - 4:45)			24-HOUR VOLUME (10:00 AM - 10:00 AM)			
	DIRECTION	TOTAL		DIRECTION	TOTAL		DIRECTION	TOTAL	VERTICAL %	
	MOV 1	MOV 5		MOV 1	MOV 5		MOV 1	MOV 5		
PASSENGER CARS										
1 MTC				1	1		12	18		30
2 Car	437	382	819	512	512	1043	5885	6050		11935
3 PU/Man	76	80	156	67	67	134	1005	830		1835
15 Unclassified	1	3	4	1	1	2	31	52		83
Sub-Total	514	465	979	581	581	1162	6933	6950		13883
TRUCKS & BUSES										
4 Bus	3	2	5	2	2	4	23	17		40
5 2X, 6 Tires	8	15	23	14	14	28	126	96		222
6 3X, SUT	1		1	1		1	15	11		26
7 4X, SUT										
8 2S1,3S1,2S2		2	2	1		1	14	17		31
9 3S2,3-2,2-3	2	1	3	1		1	21	23		44
10 6/6+X S-Tlr							1	1		2
11 5X M-Tlr										
12 6X M-Tlr										
13 7X M-Tlr										
Sub - Total	14	20	34	20	6	26	200	167		367
TOTAL	528	485	1013	638	587	1225	7133	7117		14250
Distribution (D) %	52.1	47.9	100%	52.1	47.9	100%	50.1	49.9		100%
Trucks (T) %	2.7	4.1	3.4	3.1	1.0	2.1	2.8	2.3		2.6
K %			7.1			8.6				100%

HwySP_01E.MASRTRW13X STATION NO : 26-X

TC NO : 26-X
ID NO : 106, 158

State of Hawaii, Department of Transportation, Highways Division

9/9/2003

STATION DESCRIPTION : Kohio Highway
at Kawahau Road
Kauai

ISLAND : Kauai
STATION NO : 26-X
AUX NO :
FUND SYSTEM :
FILE : Lg1 (VTC)

COUNT GROUP ID :
ROUTE NO :
HWY ST NAME : Kohio Hwy
MOV (1) DIR : To Kaunualii Hwy
MOV (5) DIR : To Route Marker 56 & 560

MOV (1) TYPE :
MOV (5) TYPE :
D-02
D-01

BEG SURVEY DATE : 08/27/03
BEG SURVEY DATE : 08/27/03

M.P. :
M.O.V. (1) :
M.O.V. (5) :

START TIME : 10:00 AM
START TIME : 10:00 AM

TIME-AM	MOV 1	MOV 5	TOTAL	TIME-AM	MOV 1	MOV 5	TOTAL	TIME-PM	MOV 1	MOV 5	TOTAL	TIME-PM	MOV 1	MOV 5	TOTAL
12:00-12:15	11	21	32	6:00-6:15	44	32	76	12:00-12:15	115	103	218	6:00-6:15	129	80	209
12:15-12:30	8	9	17	6:15-6:30	66	57	123	12:15-12:30	102	115	217	6:15-6:30	117	97	214
12:30-12:45	7	9	16	6:30-6:45	100	79	179	12:30-12:45	113	116	229	6:30-6:45	104	117	221
12:45-1:00	7	8	15	6:45-7:00	120	65	185	12:45-1:00	121	111	232	6:45-7:00	83	92	175
1:00-1:15	7	8	15	7:00-7:15	150	81	231	1:00-1:15	120	118	238	7:00-7:15	72	82	154
1:15-1:30	7	8	15	7:15-7:30	152	81	233	1:15-1:30	99	124	223	7:15-7:30	70	72	142
1:30-1:45	5	3	8	7:30-7:45	139	156	295	1:30-1:45	132	117	249	7:30-7:45	78	74	152
1:45-2:00	5	3	8	7:45-8:00	87	117	204	1:45-2:00	151	121	272	7:45-8:00	83	73	156
2:00-2:15	3	3	6	8:00-8:15	102	80	182	2:00-2:15	110	126	236	8:00-8:15	55	55	110
2:15-2:30	2	3	5	8:15-8:30	123	97	220	2:15-2:30	119	116	235	8:15-8:30	45	45	90
2:30-2:45	2	3	5	8:30-8:45	118	103	221	2:30-2:45	128	124	252	8:30-8:45	36	36	72
2:45-3:00	4	3	7	8:45-9:00	114	109	223	2:45-3:00	127	124	251	8:45-9:00	20	20	40
3:00-3:15	5	4	9	9:00-9:15	112	83	195	3:00-3:15	134	128	262	9:00-9:15	32	32	64
3:15-3:30	5	4	9	9:15-9:30	86	92	178	3:15-3:30	138	131	269	9:15-9:30	46	46	92
3:30-3:45	8	2	10	9:30-9:45	116	111	227	3:30-3:45	141	139	280	9:30-9:45	28	28	56
3:45-4:00	8	2	10	9:45-10:00	103	102	205	3:45-4:00	154	146	284	9:45-10:00	21	21	42
4:00-4:15	6	5	11	10:00-10:15	105	105	210	4:00-4:15	153	161	316	10:00-10:15	17	17	34
4:15-4:30	6	5	11	10:15-10:30	114	109	223	4:15-4:30	166	150	316	10:15-10:30	30	30	60
4:30-4:45	11	5	16	10:30-10:45	90	115	205	4:30-4:45	127	125	252	10:30-10:45	12	12	24
4:45-5:00	8	4	12	10:45-11:00	116	130	246	4:45-5:00	135	136	271	10:45-11:00	11	11	22
5:00-5:15	18	9	27	11:00-11:15	109	101	210	5:00-5:15	124	144	268	11:00-11:15	8	8	16
5:15-5:30	23	7	30	11:15-11:30	106	122	228	5:15-5:30	115	145	260	11:15-11:30	10	10	20
5:30-5:45	28	9	37	11:30-11:45	139	138	277	5:30-5:45	125	88	213	11:30-11:45	7	7	14
5:45-6:00	44	23	67	11:45-12:00	110	138	248	5:45-6:00	125	88	213	11:45-12:00	10	10	20

AM COMMUTER PERIOD (05:00-09:00)	MOV 1	MOV 5	TOTAL	PM COMMUTER PERIOD (15:00-19:00)	MOV 1	MOV 5	TOTAL
TWO-DIRECTIONAL PEAK :	.....	.....	.....	TWO-DIRECTIONAL PEAK :	.....	.....	.....
AM - PEAK HR TIME	528	485	1013	PM - PEAK HR TIME	638	587	1225
AM - PEAK HR VOLUME	52.12	47.88	100.00	PM - PEAK HR VOLUME	52.06	47.92	100.00
AM - K FACTOR (%)	52.12	47.88	100.00	PM - K FACTOR (%)	52.06	47.92	100.00
AM - D %	52.12	47.88	100.00	PM - D %	52.06	47.92	100.00
DIRECTIONAL PEAK :				DIRECTIONAL PEAK :			
AM PEAK - HR TIME	6:45 AM - 7:45 AM	7:00 AM - 8:00 AM	7:00 AM - 8:00 AM	PM PEAK - HR TIME	3:45 PM - 4:45 PM	3:45 PM - 4:45 PM	3:45 PM - 4:45 PM
AM PEAK - HR VOLUME	561	485	1046	PM PEAK - HR VOLUME	638	587	1225
AM - D %	52.7	46.3	99.0	PM - D %	52.06	47.92	100.00
TWO-DIRECTIONAL PEAK :				TWO-DIRECTIONAL PEAK :			
AM - PEAK HR TIME	528	485	1013	PM - PEAK HR TIME	638	587	1225
AM - PEAK HR VOLUME	52.12	47.88	100.00	PM - PEAK HR VOLUME	52.06	47.92	100.00
AM - K FACTOR (%)	52.12	47.88	100.00	PM - K FACTOR (%)	52.06	47.92	100.00
AM - D %	52.12	47.88	100.00	PM - D %	52.06	47.92	100.00
NON-COMMUTER PERIOD (09:00-15:00)				NON-COMMUTER PERIOD (12:00-24:00)			
PEAK HR TIME	1:45 PM - 2:45 PM	1:45 PM - 2:45 PM	1:45 PM - 2:45 PM	AM 6 - HR PERIOD (06:00-12:00)	2:431	2:418	5:039
PEAK HR VOLUME	508	492	1000	AM 7 - HR PERIOD (07:00-13:00)	2:847	2:589	5:436
DIRECTIONAL PEAK :				AM 8 - HR PERIOD (08:00-14:00)	3:114	3:043	6:157
PEAK HR TIME	1:30 PM - 2:30 PM	2:00 PM - 3:00 PM	1:30 PM - 2:30 PM	AM 9 - HR PERIOD (09:00-15:00)	4:286	4:528	8:814
PEAK HR VOLUME	512	495	1007	PM 6 - HR PERIOD (12:00-18:00)	7:133	7:117	14:250
DIRECTIONAL PEAK :				PM 7 - HR PERIOD (13:00-19:00)	7:133	49:94	100.00
PEAK HR TIME				24 HOUR PERIOD	50.06		
PEAK HR VOLUME				D %			

State of Hawaii, Department of Transportation, Highways Division

9/9/2003

TC NO: 26-B
ID NO: 154, 182

STATION DESCRIPTION: Kuhio Highway
at Maunihuna Road
Kauai

ISLAND: Kauai
STATION NO: 26-B
AUX NO:
FUND SYSTEM:
FILE: Lfg 3

COUNT GROUP ID: M.P.:
ROUTE NO: M.P.:
HWY ST NAME: Kuhio Hwy
MOV (3): DIR: To Route Marker 56 & 560
MOV (7): DIR: To Kaunualii Hwy

MOV (3) TYPE:
MOV (7) TYPE:

BEG SURVEY DATE: 08/25/03
D-01
D-02

BEG SURVEY DATE: 08/25/03

START TIME: 11:00 AM
START TIME: 11:00 AM

TIME-AM	MOV 3	MOV 7	TOTAL	TIME-AM	MOV 3	MOV 7	TOTAL	TIME-PM	MOV 3	MOV 7	TOTAL	MOV 3	MOV 7	TOTAL
12:00-12:15	5	3	8	12:00-12:15	122	107	229	6:00-6:15	81	107	188	81	107	188
12:15-12:30	2	3	5	12:15-12:30	120	109	229	6:15-6:30	100	89	189	100	89	189
12:30-12:45	3	1	4	12:30-12:45	96	106	202	6:30-6:45	85	101	186	85	101	186
12:45-1:00	4	4	8	12:45-1:00	138	119	257	6:45-7:00	84	79	163	84	79	163
1:00-1:15	4	4	8	1:00-1:15	133	125	258	7:00-7:15	80	72	152	80	72	152
1:15-1:30	4	1	5	1:15-1:30	118	120	238	7:15-7:30	72	65	137	72	65	137
1:30-1:45	5	1	6	1:30-1:45	114	103	217	7:30-7:45	54	45	99	54	45	99
1:45-2:00	5	3	8	1:45-2:00	152	163	315	7:45-8:00	76	35	111	76	35	111
2:00-2:15	4	3	7	2:00-2:15	144	144	288	8:00-8:15	54	32	86	54	32	86
2:15-2:30	2	2	4	2:15-2:30	144	137	281	8:15-8:30	59	34	93	59	34	93
2:30-2:45	2	3	5	2:30-2:45	132	110	242	8:30-8:45	77	29	106	77	29	106
2:45-3:00	2	2	4	2:45-3:00	133	127	260	8:45-9:00	77	29	106	77	29	106
3:00-3:15	3	2	5	3:00-3:15	144	146	290	9:00-9:15	48	31	79	48	31	79
3:15-3:30	0	5	5	3:15-3:30	126	136	262	9:15-9:30	53	26	79	53	26	79
3:30-3:45	7	4	11	3:30-3:45	143	143	286	9:30-9:45	38	26	64	38	26	64
3:45-4:00	7	4	11	3:45-4:00	145	139	284	9:45-10:00	35	30	65	35	30	65
4:00-4:15	20	13	33	4:00-4:15	146	134	280	10:00-10:15	23	40	63	23	40	63
4:15-4:30	5	15	20	4:15-4:30	135	115	250	10:15-10:30	30	15	45	30	15	45
4:30-4:45	4	10	14	4:30-4:45	126	115	241	10:30-10:45	23	10	33	23	10	33
4:45-5:00	11	23	34	4:45-5:00	124	126	250	10:45-11:00	13	15	28	13	15	28
5:00-5:15	14	28	42	5:00-5:15	118	120	238	11:00-11:15	8	6	14	8	6	14
5:15-5:30	29	42	71	5:15-5:30	105	133	238	11:15-11:30	12	7	19	12	7	19
5:30-5:45	36	49	85	5:30-5:45	116	111	227	11:30-11:45	9	4	13	9	4	13
5:45-6:00	59	83	142	5:45-6:00	111	110	221	11:45-12:00	7	8	15	7	8	15

AM COMPUTER PERIOD (05:00-09:00)	MOV 3	MOV 7	TOTAL	PM COMPUTER PERIOD (13:00-19:00)	MOV 3	MOV 7	TOTAL
TWO-DIRECTIONAL PEAK:	6:15 AM - 7:15 AM	TWO-DIRECTIONAL PEAK:	.....	.....	3:00 PM - 4:00 PM
AM - PEAK HR TIME	1,014	AM - PEAK HR TIME	.....	.....	1,122
AM - PEAK HR VOLUME	714	AM - PEAK HR VOLUME	.....	.....	790
AM - K FACTOR (%)	100.00	AM - K FACTOR (%)	.....	.....	100.00
AM - D %	AM - D %	.....	.....	.....
DIRECTIONAL PEAK:	DIRECTIONAL PEAK:	.....	.....	.....
AM PEAK - HR TIME	6:15 AM - 7:15 AM	AM PEAK - HR TIME	.....	.....	3:00 PM - 4:00 PM
AM PEAK - HR VOLUME	54.83	AM PEAK - HR VOLUME	.....	.....	564
AM - D %	AM - D %	.....	.....	.....
AM PERIOD (09:00-12:00)	AM PERIOD (12:00-24:00)	.....	.....	.....
TWO-DIRECTIONAL PEAK:	6:15 AM - 7:15 AM	TWO-DIRECTIONAL PEAK:	.....	.....	3:00 PM - 4:00 PM
AM - PEAK HR TIME	1,014	AM - PEAK HR TIME	.....	.....	1,122
AM - PEAK HR VOLUME	714	AM - PEAK HR VOLUME	.....	.....	790
AM - K FACTOR (%)	100.00	AM - K FACTOR (%)	.....	.....	100.00
AM - D %	AM - D %	.....	.....	.....
NON-COMPUTER PERIOD (09:00-15:00)	NON-COMPUTER PERIOD (15:00-19:00)	.....	.....	.....
TWO-DIRECTIONAL PEAK:	1:45 PM - 2:45 PM	TWO-DIRECTIONAL PEAK:	.....	.....	3:00 PM - 4:00 PM
PEAK HR TIME	1,087	PEAK HR TIME	.....	.....	1,122
PEAK HR VOLUME	336	PEAK HR VOLUME	.....	.....	790
DIRECTIONAL PEAK:	DIRECTIONAL PEAK:	.....	.....	.....
PEAK HR TIME	1:45 PM - 2:45 PM	PEAK HR TIME	.....	.....	3:00 PM - 4:00 PM
PEAK HR VOLUME	551	PEAK HR VOLUME	.....	.....	5475
24 HOUR PERIOD	551	24 HOUR PERIOD	.....	.....	6,043
D %	D %	.....	.....	6,044
	8,156
	14,199
	100.00