

Appendix A

Traditional Cultural Practices Assessment
for the Kaipapa‘u Bridge Replacement,
Kaipapa‘u Ahupua‘a, Ko‘olaupia District, O‘ahu

Cultural Surveys Hawai‘i

**TRADITIONAL CULTURAL PRACTICES ASSESSMENT
FOR THE
KAIPAPA‘U BRIDGE REPLACEMENT,
KAIPAPA‘U *AHUPUA*’A, KO‘OLAULOA DISTRICT, O‘AHU
(TMK: 5-4-14 and Adjacent Parcels 1, 2, 3, 4 & 21)**

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Prepared for

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I. INTRODUCTION

A. Project Background

Cultural Surveys Hawaii Inc., has conducted a cultural practices assessment for the proposed Kaipapa'u Bridge replacement project in Kaipapa'u *Ahupua'a*, Ko'olaupua, Island of O'ahu (TMK 5-4-14 and adjoining parcels 1, 2, 3, 4 & 21) (Figures 1-2). The Kaipapa'u Bridge is 0.014 of a mile southeast of the intersection of Pipilani Place and Kamehameha Highway (State Route 83) (Thompson 1983).

The bridge improvements will include repairs and reconstruction to the *mauka* side of the bridge, while traffic still utilizes the *makai* side of the bridge. Upon completion of the *mauka* side, the *makai* side will be repaired and reconstructed, while traffic utilizes the *mauka* side.

State Site #'s 50-80-06-4795 (Buried Cultural Deposit with associated Human Burial), and -4796 (Human Burial) exist in close proximity to the current bridge replacement, with Site -4795 approximately 350 ft. south of the bridge, along Kamehameha Highway and extending *mauka*, and with Site -4796 approximately 120 ft. north of the bridge, immediately under the highway.

B. Project Area Description

The project area is the Kaipapau Bridge and its existing banks along the Kaipapau Stream, in Kaipapa'u *Ahupua'a*, Ko'olaupua, Island of O'ahu (TMK) (Figures 1- 2). The area surrounding the bridge and stream is fully urbanized. Residences exist along both sides of the stream, at all four corners of the bridge. The bridge foundations extend into natural soils on each side of the stream, underneath Kamehameha Highway. The stream in this area is completely channelized with concrete and stone walls, as a flood control measure. The stream bed is completely overgrown with tall grasses. The land owner is the State of Hawai'i.

The project area lies at the mouth of the Kaipapa'u Valley gulch. The geology of Kaipapa'u *Ahupua'a* consists of coastline with back shore sand deposits, and Kaipapa'u Stream. The soils of the project area are about evenly divided between Waialua stony silty clay, 3 to 8% slopes (WIB) soils on the west (*mauka* side) and Kawaihapai stony clay loam, 0-2% slopes (KlaA) soils on the east (*makai*) side (Foote et al. 1973). The Waialua series consists of moderately well-drained soils of alluvial fans with the Waialua stony silty clay having slightly difficult workability. The Kawaihapai soils are well-drained but workability is also slightly difficult because of stoniness (Foote et al. 1973). Rainfall within the project area is approximately 1500mm (60 in.) per year (Giambelluca 1986:73).

C. Scope of Work

The scope of work is modest and was designed to be appropriate to the perceived likelihood of cultural impact issues in the project area *per se*. The study does not fulfill OEQC guidelines for Cultural Impact Assessments, and will ask that if someone knows of some traditional Hawaiian cultural practices in the project area *per se* to please come

forward. Additionally, the following Scope of Work was proposed for satisfying requirements as outlined by OEQC:

1. A brief field inspection by a recognized expert in cultural impact assessment to assess the likelihood of traditional Hawaiian cultural practices in the area of impact.
2. A brief review of the implications of any botanical study (or the botanists verbal synopsis if either is available) for the likelihood of traditional Hawaiian cultural practices in the area of impact.
3. Examination of historical documents, Land Commission Awards, historic maps, with the specific purpose of identifying traditional Hawaiian activities including gathering of plant, animal, and other resources or agricultural pursuits as may be indicated in the historic record.
4. A reviews of the existing archaeological information pertaining to the property as this may allow us to reconstruct traditional land use activities and identify and describe the cultural resources, practices, and beliefs associated with the parcel and identify present uses, if appropriate.
5. A modest attempt through letters and/or telephone calls (approximately 12), and face-to-face conversations with parties easily reachable in the area during the field check to assess the likelihood of traditional Hawaiian cultural practices in the area of impact.
6. A written report, not anticipated to exceed ten pages of text summarizing the methodology and results of Points 1 - 5 above and presenting our finding and conclusions based on work carried out.

D. Methods

Background research included a review of previous archaeological studies on file at the State Historic Preservation Division of the Department of Land and Natural Resources; a review of geology and cultural history documents at Hamilton Library of the University of Hawai'i, the Hawai'i State Archives, the Hawai'i Public Library, and the Archives of the Bishop Museum; study of historic photographs at the Hawai'i State Archives and the Archives of the Bishop Museum; and a study of historic maps at the Survey Office/Department of Accounting and General Services; and research on mid-1800's Land Commission Award documents (Waihona Aina).

Those who did respond and conducted interviews with CSH are listed on Table 2. Interviews were planned to include a face to face interview so as to photograph the interviewee's and tape the interview. In the case of this Cultural Practices Assessment, three individuals were sought for interviews. Interviews were conducted with Mr. Cy Bridges, Mr. Ben Nihipali, and Mr. Roland Logan. Interviews conducted for the Cultural

Practices Assessment were informal in nature, with one interview taking place during work (Mr. Logan), and two interviews being conducted over the phone (Mr. Nihipali and Mr. Bridges). Interview notes were then placed in full in the Interviews Section of this report.

Following insertion of interviews, a copy of the Cultural Practices Assessment was given to each interviewee for perusal and verification. Upon verification with interviewees, the report is complete and will be sent to SHPD for their review.

Additionally, pictures of Kaipapa`u Bridge in its present state were taken and are presented in Appendix A of this report.

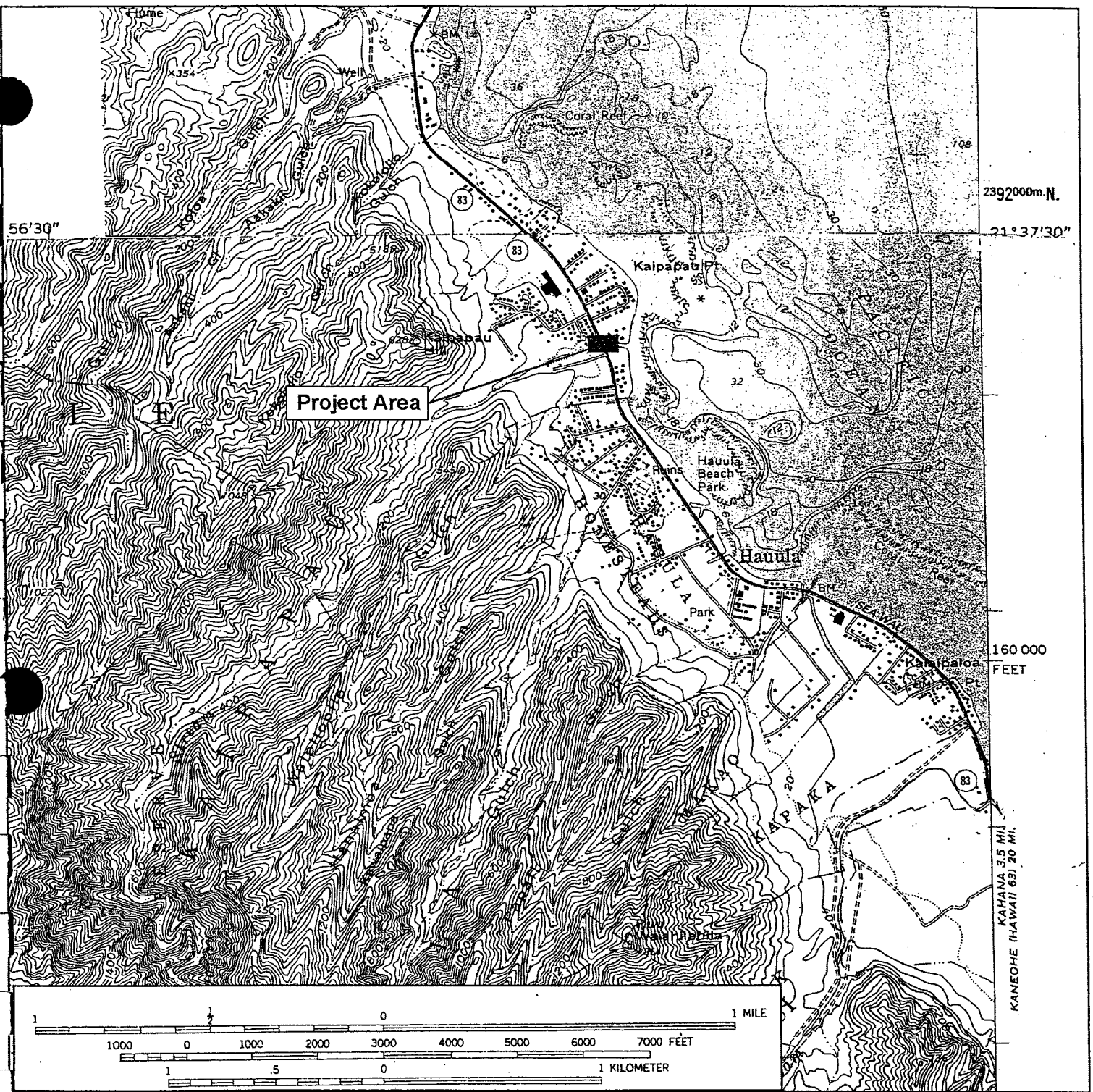


Figure 1 Portion of USGS Hau'ula Quadrangle Showing Project Location.

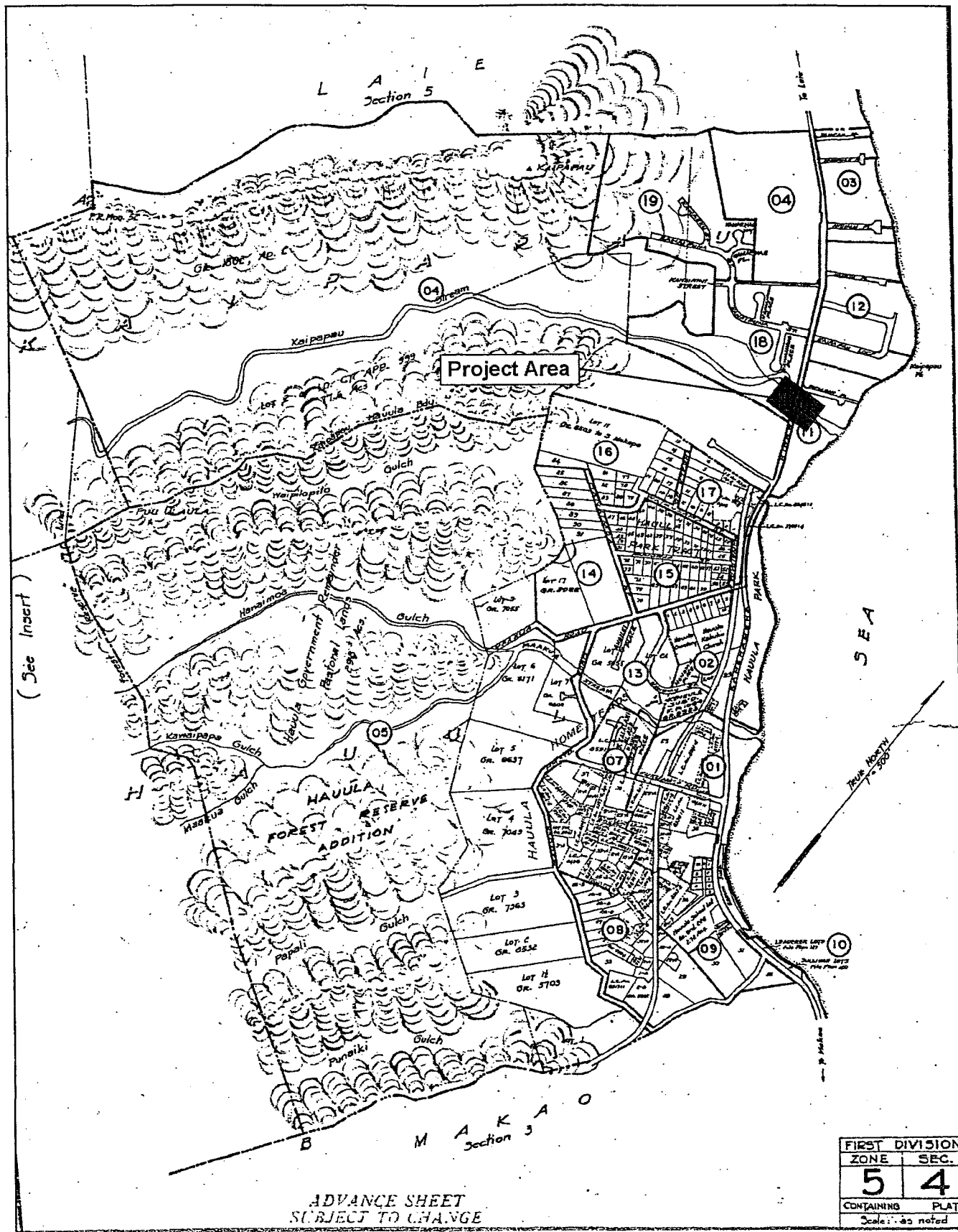


Figure 2 Tax Map Key 5-4, Showing Project Area.

II. KAIPAPA`U: CULTURAL AND HISTORICAL DOCUMENTATION

Cultural and historical documentation is provided here to provide a general background for Kaipapa`u, so that the specific project area parcel can be put in to a settlement pattern context for the reader. As Kaipapa`u *Ahupua`a* had a limited population (e.g. 6 total *kuleana* awards), additional information is listed here regarding cultural and historical documentation of Hau`ula *Ahupua`a*, neighboring Kaipapa`u to the south.

A. Mythological and Traditional Accounts

There are many legends associated with the *ahupua`a* of Kaipapa`u in the district of Ko`olauloa. Two specifically have to do with Kaipapa`u or Kaipapa`u Stream and are included here.

Several legends concerning this region of Ko`olauloa center on the theme of fishing lore. There is a legend about the *ulua* fish which takes place in Kaipapa`u (Westervelt version in Sterling and Summers 1978:160). The gods Kāne and Kanaloa threw dried fish into the sea where it came to life as the *ulua*. The fish then swam up the Kaipapa`u river (northwest of the present project area) to a place where the two gods were worshiped by a *kahuna* (Makuakaumana, see the story of *Makuakaumana*), a journey the *ulua* would continue to make whenever the river was accessible.

A legend concerning the *hilu* fish takes place in Hau`ula (Titcomb 1972:75-76). Two brothers, Kaululena and Ma`i`o, traveled to O`ahu in the form of the *hilu*, one going along the *kona* (leeward) side of the island and the other along the *ko`olau* (windward). Ma`i`o was caught and divided by fishermen in Hau`ula. Kaululena then assumed his human form, collected the pieces of his brother's body, and threw them into the ocean. He then went upland, dammed a stream with his body (Kaipapa`u Stream according to Titcomb, Ma`akua Stream according to Clark 1977:147), and then moved away, allowing the water to flood the land and flow into the sea where his brother Ma`i`o's body rejoined as the striped *hilu* fish. The only people of the valley to survive the flooding was an old man (the keeper of the two brother demi-gods, according to Titcomb) and his family who resided on a hill thereafter called Lanakila, meaning "to rise to a high place" or "victory" (Clark 1977:147).

These particular myths and traditional accounts were included for their representation of natural formations and phenomena as well as religious and historical occurrences specific to the *ahupua`a* of Hau`ula. The myths regarding landmarks account for place names and describe particular formations in the area. The legends regarding fishing lore tell of the origin, migration routes, and a method of catching certain fish in these areas and indicate the richness and importance of the local marine resources.

B. Mid-1800's (*Māhele*)

The *ahupua`a* of Kaipapa`u was seemingly not as densely populated during the time of the *Māhele* (mid-1800's) as neighboring Hau`ula. This is evidenced by the relatively few claims (6 total) within the *ahupua`a*, while numerous claims were made in the *ahupua`a* of Hau`ula (Waihona `Aina 2002).

Two LCA's existed along the banks of Kaipapa`u Stream, in the vicinity of the Kaipapa`u Bridge (LCA #s 8171 & 8167). LCA 8171 (R.P. 1319) awarded to Hoopalahe, was a large award of c. 22 acres. The parcel was located on the south side of the stream, with sections bordering the upper bank of the stream:

Koekoe, sworn, says he knows the kalo land claimed by Hoopalahe in Hau`ula. There are two patches forming one piece, Bounded on the North by the stream...Witness knows the house lot claimed by Hoopalahe in Kaipapa`u, the stones are prepared for building a wall around it. It is bounded on the North by a stream...

LCA 8167 (R.P. 4768) awarded to Hikiau, encompasses the stream for approximately 700 ft from Kamehameha Highway extending *mauka* (west). It was a large award (8.75 ac.) and bounds against LCA 8171 on its' south side:

Maiiahi, sworn, says he knows the kula land claimed by Hikiau in Kaipapa`u (a Government Land). There is but one piece which is cultivated in potatoes, melons, and it is bounded...South by the land of Hoopalahe...Witness knows the House Lot of Claimant. It is not enclosed. It is bounded on the Waialua side by a stream...

Additionally, other LCAs exist just south of LCA 8171, including LCA 8340 (R.P. 2050):ap. 1 & 2 (awarded to Kaiwinui and heir Makaiopulani), LCA 8416 (R.P. 8159) (awarded to Koaniani), and LCA 3700 (R.P. 1312):ap. 3 & 4 (awarded to Mokulama). Land use for these *kuleana* awards was similar (*i.e.* habitation and agricultural use within the same parcel) to that of LCA 8167 and 8171, discussed above.

Settlement Pattern as shown by LCAs

Kaipapa`u *Ahupua`a*, directly north of Hau`ula *Ahupua`a*, did have a small clustering of native Hawaiians living along the shore. More *mauka*, there were no individual *kuleana* parcels. In Hau`ula *Ahupua`a* there were three times as many LCA *kuleana* awards. Possibly, acreage of useable land, or resources on the land prevented the population from getting larger within Kaipapa`u. Two LCAs (8167 and 8171) bordered Kaipapa`u Stream on both sides from the shore to inland of the present day Kaipapa`u Bridge. Land use associated with the two LCA included habitation (*i.e.* houselot) and agriculture within relatively large parcels.

C. 1850-1900

The second half of the nineteenth century in Ko`olauloa was characterized by the influx of immigrant workers and the establishment of the Mormon presence in Lā`ie,

northwest of Hau'ula. Both communities were intensively involved in the agricultural activities of Ko'olauloa which would continue to be important elements of society in the years to come.

Immigrant Labor

Hawaiians made up the majority of the labor force on sugar plantations through the 1870s, but the combination of an expansion of this labor-intensive industry and a decrease in the Hawaiian population resulted in the need for a larger labor resource (Glick 1980:4-6). The importation of foreign labor from China and Japan, initiated by the Caucasian-owned plantations, fulfilled this need.

In 1852, the Chinese became the first group of imported contract laborers (Schmitt 1977:327). In rural windward Oahu, most Chinese worked on the sugar and rice plantations or had their own farms or stores. Chinese immigration reached its heaviest during the late 1800's, particularly the 1880's (Glick 1980:127). This increase in immigration occurred at the same time (mainly the 1880's, 1890's, and the early 1900's) that agricultural workers, dissatisfied with living conditions and the lack of job mobility, left the sugar plantations for other occupations (*ibid.*:39-41).

The Mormons

The Church of Jesus Christ of Latter Day Saints (Mormon Church) acquired its first holdings in Lā'ie in 1865, fifteen years after the initial ten missionaries arrived in the area (Sterling and Summers 1978:157). This acquisition, consisting of 6000 acres of plantation land in Lā'ie, served as the foundation for what would become a religious, agricultural, and financial stronghold. The first Hawaiian convert to the Mormon faith, baptized in 1869, was a man of royal lineage named J.H. Napela (Na-pela-kapu-o-Namahanaikaleleonalani), who was formerly active in the Congregational Church. The mission strengthened and in 1920 the Mormon temple was dedicated.

D. Early 1900's To Present

Major developments in Ko'olauloa during the 20th century include the growth of railroads in conjunction with the sugar industry, the construction of Kamehameha Highway, the construction of several hiking trails and a ranger cabin in the Ko'olau mountains, and the expansion of Mormon enterprises.

Railroad Companies

The three railroad companies in operation in Ko'olauloa during the early 1900's were the Kahuku Plantation Company, the Ko'olau Railway Company, and the Waiāhole Water Company. The operations of these companies improved the logistics of the sugar industry and provided a cultural and social connection for the various peoples inhabiting windward Oahu.

The creation of the Ko'olau Railway Company in 1905 by the Hawaiian Development Company, Ltd. (a conglomeration of businesses), under the impetus of James B. Castle, resulted not only in the improvement of agricultural transport but the

unification of the windward community (Condè and Best 1974:308). The railway functioned in cooperation with the Ko'olau Agricultural Company, both of which were owned by the Zion Securities Corporation. This railway was envisioned as the connecting link between Kahuku (the Oahu Railway), Kāne'ohe, and Honolulu. However, its construction culminated with the initial section from Kahuku to Kahana, running past Kaipapa'u along the Kamehameha Highway alignment, which was completed by the end of 1907. In 1931, the Ko'olau Railway Company was purchased by the Kahuku Plantation Company which operated portions of the line until its dissolution in 1955 (Condè and Best 1974:298,300).

Although the Ko'olau Railway Company's line did not reach its ultimate destination of Honolulu, its presence on the windward side proved to be, if only for a limited time, a beneficial stimulus to the agricultural and ethnic community. As noted in a January 1908 issue of the *Pacific Commercial Advertiser* (Condè and Best 1974:308):

From here [Kahuku] two trains run daily, connecting with the noon train from Honolulu and one reaching Kahuku in the late afternoon. Passengers and freight are carried as far as Kahuna and the traffic so far developed has been such as to encourage the promoters. The trip over the line is interesting and the fare is five cents a mile. Running rights over the line between Kahuku Mill and Lā'ie Plantation are given the Kahuku Plantation for the transportation of the Lā'ie cane crop...This, during the grinding season, makes the end of the line a busy one. The crop at Lā'ie this season is a good one too and the Mormon Settlement is a prosperous and busy one.

The main train station for the area was in Hau'ula, just south of the Kaipapa'u Bridge. The use of the railway by passengers is further related in an article in Thrum's 1911 *Hawaiian Annual* (128-133) which describes a leisurely train ride from Hale'iwa to Kahana, including a brief stop in Hau'ula, "a station of growing importance." Passengers on this excursion represented several nationalities including Chinese, "haole", and Hawaiian (who were the most numerous). In their study of rural Chinese of O'ahu, Char and Char (1988:114) indicate that the completion of the Kahana to Kahuku route, through improved transportation and produce exchange, strengthened ties between these district communities. The tracks ran *mauka* of the present project area (Figures 4 & 5).

Kamehameha Highway

The construction of Kamehameha Highway in 1932 (Figure 6) by the Department of Public Works, City and County of Honolulu reflected a major shift in transportation and resulted in the restructuring of the local community. By providing easier access to all parts of the island, the highway increased mobility and fostered urbanization. In the early to mid-1900's, the agricultural industry's switch from railway to truck transport rendered train hauling obsolete and the introduction of automobiles to Hawai'i marked an increase in individualized mobility, all of which furthered the development of an upgraded roadway.

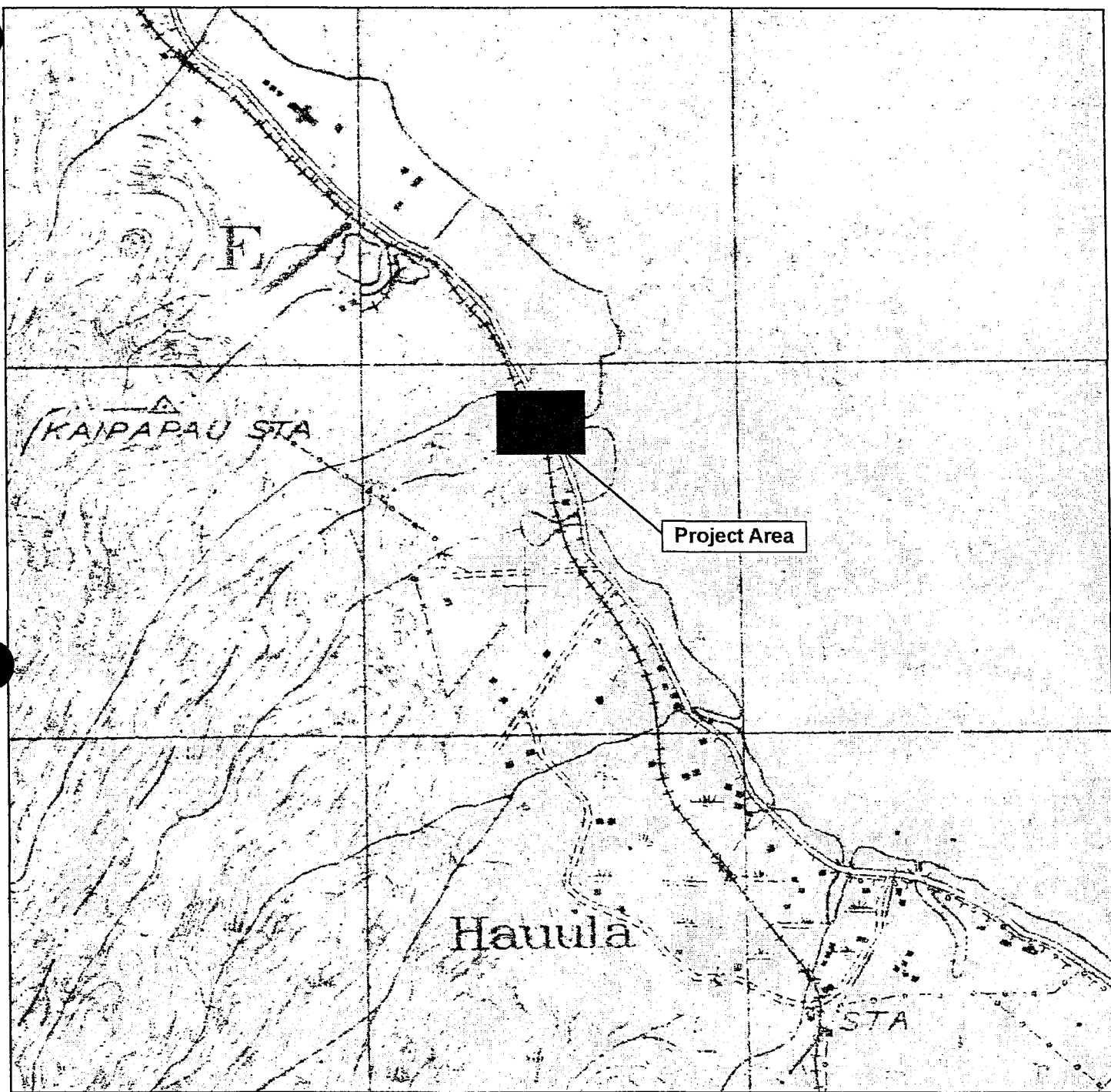


Figure 4 War Department Fire Control Map (1918) Showing Roads, Houses, and Fences in the Vicinity of the Project Area.

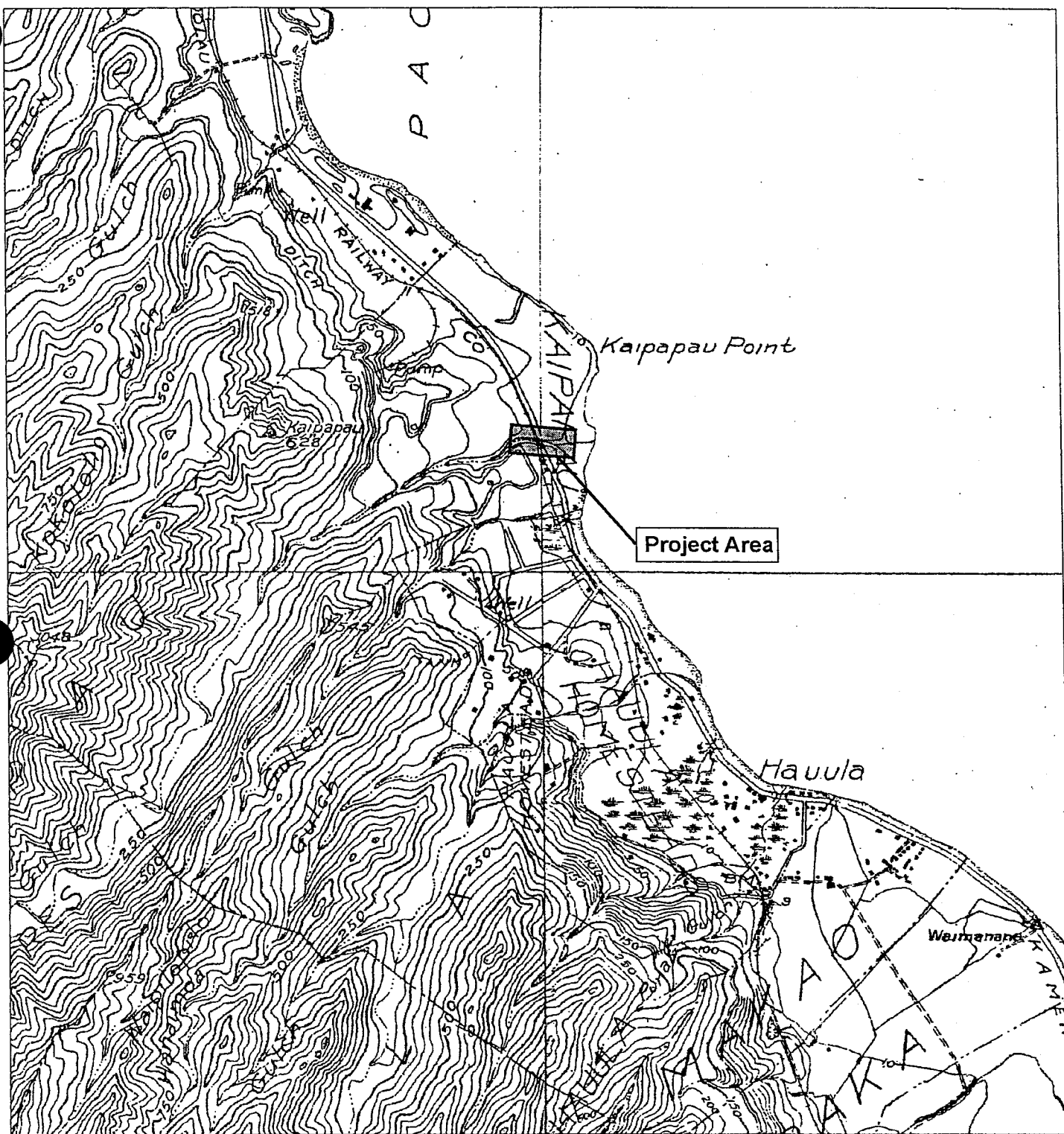


Figure 5 1924-1930 USGS Topographic 7.5 Minute Series Map, Kaipapau and Kahana Quads, Showing Infrastructure in the Vicinity of the Project Area.

Kaipapa`u Bridge

The Kaipapa`u Bridge was originally built in 1932 as part of the Kamehameha Highway project (Thompson 1983)(Figure 6). The bridge and the section of roadway immediately associated with it were constructed by contractor L. L. McCandless:

The bridge is a two span reinforced concrete deck girder structure, 82' in total length, 28.4' wide, and 12' in height. It has a design load capacity of H-15. The abutments and parapets are constructed of reinforced concrete. There is a wooden railing and walkway on the right. The design integrity is not intact.

The bridge is an important transportation link for Windward communities and it is associated with one of Honolulu's prominent builders (*Ibid.*).

At present, there appears to be some structural damage to the bridge (Figures 11 & 12). But sections of the bridge have been recently repainted, including the wooden pedestrian walk along the *mauka* side.

Modern Land Usage

The Kaipapa`u Bridge now exists within a fully urbanized setting, with residential units at all four corners of the bridge, and houses extending further up and down the stream on all sides (Figures 9-16). The former railroad bridge and tracks have long been dismantled. During an interview with Mr. Roland 'Ahi' Logan, he revealed that the railroad bridge and tracks were removed at the same time the shopping center to the north of the Kaipapa`u Stream was built; year not known.

E. Summary

Hau`ula has been an important place for traditional Hawaiians since early times. Several legends exist mentioning the locale of Kaipapa`u. By the Māhele, and most likely before it, while Hau`ula, directly to the south was densely populated (as evidenced by LCA data), the *ahupua`a* of Kaipapa`u only contained a few LCAs. Two of these (LCA 8167 & 8171) were located at the mouth of the stream. Both of these larger than average sized *kuleana* awards also had combined agricultural and habitational useages.

The coastline area of Kaipapa`u has long been a major transportation route. The sugar cane era (*ca.* early 1900's) brought the advent of the railroad to the area (Figures 4, 5, & 6). The railroad tracks and bridge were just *mauka* of the present-day Kaipapa`u Bridge. These tracks and the associated bridge over Kaipapa`u Stream were later dismantled; 'when the shopping center came in', according to Mr. Roland 'Ahi' Logan (Interviews section of this report). As automobiles became the main transportation choice in Hawai'i, the Kamehameha Highway was constructed (*ca.* 1932), much along the route of its' predecessor. Along with the Kamehameha Highway, Kaipapa`u Bridge was constructed (also 1932).

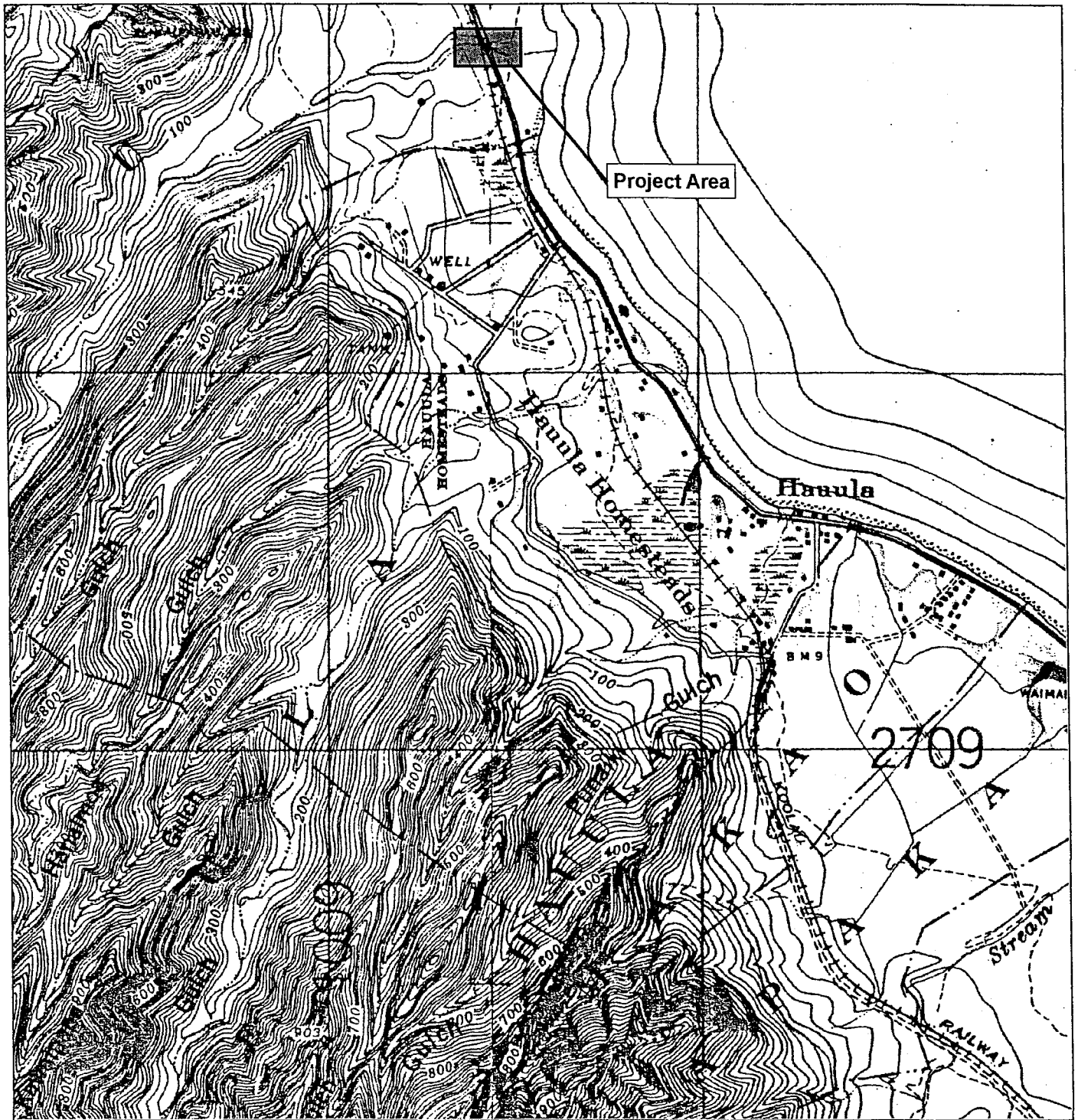


Figure 6 War Department 1943 Kahana Quad Map, Showing Infrastructure in the Vicinity of the Project Area.

III. PREVIOUS ARCHAEOLOGICAL RESEARCH

Archaeological research in Kaipapa`u *Ahupua`a* is very limited. Adjoining Kaipapa`u *Ahupua`a* to the south is Hau`ula *Ahupua`a*. As a multitude of archaeological research has been completed within Hau`ula, thought to be fairly similar to Kaipapa`u. Previous archaeological studies in Hau`ula *Ahupua`a* and vicinity are summarized in Table 1 and Figure 7 and are briefly summarized below. Sites previously designated in Hau`ula *Ahupua`a* and vicinity are located in Figure 8. As a generalization, previous archaeological studies have basically identified two types of sites: A) Cultural layers and burials near the coast, and B) Structural sites at the toe of the foot hills and in the valleys.

Table 1: Previous Archaeological Studies Hau`ula *Ahupua`a*

Source	Location	Study Type	Findings
McAllister 1933	Island-wide	Archaeological Reconnaissance	Identified 4 sites in vicinity: - 286 Kaunihokahi Heiau, -287 Maunawila Heiau, -288 Inclosures & -289 Luaali`i Heiau
Hawaii Register of Historic Places Nomination Form for Site - 1056	Kaipapau Valley	Historic Places Nomination Form	One platform in "Upper Kaipapau Stream" site
Steer & Morin 1978	Ma`akua Gulch	Site Survey	Identify 2 features, animal pens?
Connolly III 1980	Hau`ula Playground just W. of school	Archaeological Reconnaissance	No surface remains
Barrera 1981	<i>Makai</i> of Kam. Hwy. N. Kaipapau	Archaeological Reconnaissance	Extensive subsurface site, no site # given
Barrera 1984	Kaipapau Valley	Archaeological Reconnaissance	Viewed project area from ridge to south
Riford 1984	The 7-11 property in Hau`ula, situated <i>mauka</i> of Hau`ula Beach Park	Archaeological Reconnaissance	No significant finds

Smith 1987	Kaipapau Loop, Kaipapau Point	Archaeological Testing	No significant finds
McMahon 1988	Back of central Hau'ula Town	Field check	Identified Kaunihokahi Heiau
Walker & Rosendahl 1988a	Back of central Hau'ula Town	Archaeological Test Excavation	Report historic glass and branch coral in double enclosure Site -3394
Walker & Rosendahl 1988b	Kaipapau Exploratory Well, Kaipapau Valley	Archaeological Reconnaissance	Identified a wall and a ditch associated with Site -1056
Shun and Dies 1991	Mouth of Ma'akua Gulch	Archaeological Monitoring	Monitoring was to avoid impact to Site -3394. They identified Site-4227 further <i>mauka</i>
Landrum 1992	Mouth of Ma'akua Gulch	Archaeological Site Evaluation	Evaluates and recommends preservation measures for Sites -3394 and -4227
Bordner 1994	N. side Kaipapau Stream	Archaeological Assessment	Historic boundary walls and clearings noted. No sites designated.
Masterson <i>et</i> <i>al.</i> 1997	Kamehameha Hwy. Kapaka to Lā'ie Waterline	Archaeological Monitoring Report	Identifies cultural layer & burial Sites -4792 to -4798 in Hau'ula area
Wolforth 1997	Kukuna Road Central Hau'ula Town	Description of Sites	Briefly describes 5 sites: -5449, 5450, -5451, -5452 & -5453
Masterson <i>et</i> <i>al.</i> 1998	Hau'ula Beach Park	Archaeological Inventory Survey	Minimal findings
Elmore & Kennedy 1999	Hau'ula Elementary School	Burial Recovery	Burial (1) Site -5765 and probable cultural layer
Perzinski <i>et al.</i> 2000	Hau'ula Community Park	Archaeological Monitoring Plan	Plan for park
Bush & Hammatt 2001b	Hau'ula Baseyard, Kamehameha Hwy. & Hau'ula Homestead Road	Archaeological Monitoring Report	No significant Findings

Elmore & Kennedy 2001	Hau`ula Elementary School	Archaeological Monitoring Report	Burial (1) Site -5917
Bush & Hammatt 2001a	Hau`ula Beach Park Improvements	Archaeological Monitoring Report	Burial (1) Site -5801
Bush <i>et al</i> 2002	Dept. of Transportation Hau`ula Baseyard	Archaeological Monitoring Report	No evidence of any cultural material.

A. Cultural Layers and Burials Near the Coast

Coastal pre-contact sub-surface deposits have been shown to be common but spotty in distribution. Barrera (1981) encountered cultural deposits north of Kaipapau Point at a property immediately *makai* of the Hau`ula Kai Shopping Center. Although no surface sites were present, a coral concentration, historic and indigenous artifacts were recovered during testing which revealed an extensive cultural deposit. Eroding from the storm berm along the *makai* perimeter of the property a human burial was present. The subsurface feature and a human burial were assigned State Site #50-80-05-1430. At the point itself, Smith (1987) however, identified nothing of significance. An inventory survey at Hau`ula Beach Park (Masterson *et al.* 1998) found no cultural deposits but monitoring at the Beach Park (Bush & Hammatt 2002) encountered a single burial. The continuous transect of the archaeologically monitored Hau`ula Waterline project (Masterson *et al.* 1997) identified numerous sites (-4792 to -4798) but there were also long gaps. Work at Hau`ula Elementary School (Elmore and Kennedy, 1999 & 2001) encountered two burials. Other coastal studies may have encountered nothing either because of previous land disturbance (Riford 1984, Bush and Hammatt 2001) or because of an absence of subsurface testing. (Connolly III 1980). The report of numerous burials, *`imu*, pre- and post-contact cultural layers at a small project area on Kukuna Road in central Hau`ula Town (Wolforth 1997) underscores the possibility of significant finds in seaward areas.

B. Sites Near the Project Area

State Site #'s 50-80-06-4795 (Buried Cultural Deposit with associated Human Burial), and -4796 (Human Burial) exist in close proximity to the current bridge replacement. Site -4795 is approximately 350 ft. south of the bridge, immediately underneath the highway and extending *mauka*. Site -4796 is approximately 120 ft. north of the bridge, immediately under the highway.

These two state sites may be associated with nearby LCAs. These same LCAs border the proposed bridge improvements project area on both sides.

C. Background Summary and Predictive Model

The historic background and previous archaeological research sections indicate that the current project area located within the coastal zone of Kaipapa`u *ahupua`a*, has a high potential of containing extensive or significant sub-surface archaeological sites. Literary research in the form of legendary and traditional accounts, as well as LCA records indicated that the coastal zone of Kaipapa`u *ahupua`a*, especially near the Kaipapa`u Bridge, contained a density of habitation sites in the pre-historic period. Previous construction activities in the immediate vicinity of the current Kaipapa`u Bridge improvements have encountered human burials and cultural layers.

IV. INTERVIEWS

Interviews were conducted with knowledgeable individuals from the Hau`ula community to address issues such as specific knowledge of cultural practices and beliefs associated with the project area. Potential interviewee's were queried on duration and frequency of personal familiarity with the project area, referrals of other knowledgeable individuals, and public reaction to the project.

Interviewees included Mr. Cy Bridges, Mr. Benjamin Nihipali, and Mr. Ahi Logan. Table 2 lists all contacts, and includes the name and affiliation of the interviewee, whether or not contact was made, specific knowledge of the interviewees of the project area parcel, and additional comments regarding specific knowledge of the project area.

Table 2 Community Interviews

NAME	AFFILIATION	CONTACTED	KNOWLEDGE OF PROJECT AREA	COMMENTS
Cy Bridges	Polynesian Cultural Center- Hawaiian Cultural Advisor	Y	Y	Contact original owners (Izeki/Iseke)
Benjamin Nihipali	Hau`ula Resident	Y	Y	Tsunami details.
Roland 'Ahi' Logan	Cultural Monitor, Hau`ula Resident	Y	Y	Previous land usage; Tsunami, Railroad Bridge; Fishing practices.

Key: Y=Yes

N=No

A=Attempted

S=Some knowledge of Project Area

D=Declined to comment

U=Unable to comment (*i.e.*, no phone or forwarding address, phone number unknown)

Mr. Cy Bridges

Cultural Surveys Hawai'i has interviewed Mr. Cy Bridges several times regarding a variety of different projects within the Lā'ie to Punalu'u area. As a long-time resident, a *kumu hula*, and the Cultural Advisor for the Polynesian Cultural Center, he is very familiar with the area, traditional customs that may be associated with certain areas, and knows many of the areas resident families.

When questioned about the Kaipapa'u Bridge, Mr. Bridges revealed what he knows about the bridge and Kaipapa'u *ahupua'a* in general. He remembers the former land owners, the 'Iseke (Izeki?)' family. They owned a large portion of land, including the land that holds the Kaipapa'u Bridge and much of the stream itself. The family was so prominent for the area that Mr. Iseke was informally called 'Mr. Kaipapa'u'.

Up *mauka* from the Kaipapa'u Bridge was the Iseke's piggery. The piggery was wiped out during the Tsunami of 1946. But people who now live in that area can still notice a remnant smell of the piggery. Mr. Bridges recommended contacting the granddaughter of the Iseke family, Laura Stoke?, but does not know how to contact her. Mr. Bridges does not recall the date that the Kaipapa'u Bridge was completed. Mr. Bridges did not mention any specific cultural concerns regarding proposed improvements to Kaipapa'u Bridge.

Mr. Benjamin Nihipali

Mr. Nihipali is a longtime resident of the area. After the interview, the only relevant information regarding the Kaipapa'u Bridge was about the *tsunami* (of 1946?). He remembers the water coming up the stream adjacent to his house, as well as Kaipapa'u Stream, surging up the valley, coming up on their lawn fronting their house, but not enough to inundate the house. Mr. Nihipali did not mention any specific cultural concerns regarding the proposed improvements to Kaipapa'u Bridge.

Mr. Roland 'Ahi' Logan

Mr. Logan is a longtime resident of the Hau'ula-to-Lā'ie area. He is 73 years old. He has shared a wealth of knowledge about the area with CSH regarding other projects in the area. Although unable to conduct an interview that could be recorded, Mr. Logan went over some important details he remembers over the years, regarding Kaipapa'u Bridge.

Firstly, Mr. Logan translated the name Kaipapa'u for me. Kai literally means 'water'. Papa means reef, and Papa'u translates to 'exposed reef'. Together, Mr. Logan translated the name Kaipapa'u as 'when the waters recede, the reef is exposed.'

Mr. Logan recalls that old-timers utilized the stream for fresh water fishing, for both *o'opu* and *'opae*. Of all the streams in the area, Mr. Logan recalls that the Kaipapa'u Stream has always had the strongest and most steady flow.

He recalls when the entire land *mauka* of the bridge was still in sugar cane. The sugar cane companies maintained the Kaipapa'u Stream very well. The sugar cane railroad had a bridge over the Kaipapa'u Stream, just *mauka* of the Kamehameha

Highway bridge. When the City and County took over the land, the stream was never again maintained as well as when the sugar cane company maintained it. At present, the stream is completely clogged with tall grasses and weeds.

On April 1, 1946, Mr. Logan recalls witnessing the *tsunami*, perched up in a *kamani* tree right along the shore line, somewhere between Hau`ula and Lā`ie. He was 15 years old at the time and felt the tree would be a good vantage point to watch the wave come ashore. The first wave came up gradually, and seeped its way inland. The waters then receded to what Mr. Logan calls '1 mile out'. The entire reef was exposed. People who lived around ran out and grabbed as much fish as they could. The second wave came ashore, this time going 200 ft. or more up all streams, and coming up past the highway. Large boulders were pushed back and forth across the land. The receding waters took two houses back into the ocean with it. The third and final large wave took more houses out. Surprisingly, according to Mr. Logan, only one person died during the ordeal, in the immediate community.

Through the *tsunami* of 1946, both the highway and railroad bridges survived with minimal damage. When the nearby shopping center, immediately northwest of the Kaipapa`u Bridge, was constructed (year not known), the old railroad bridge, which had already been abandoned for quite some time, was torn down. In 1988, heavy rains that drenched the entire island of O`ahu, and caused further damage to the highway bridge, mainly from flood debris flowing underneath and striking it.

Additionally, Mr. Logan informed me that there is a *heiau* further up Kaipapa`u Stream. He is unclear of the location but claims that one of the social workers at the nearby Queen Lili`uokalani Children's Center knows the location of the *heiau*.

V. CULTURAL PRACTICES

Because the bridge exists in an urbanized zone of Hau`ula/Kaipapa`u, ongoing cultural practices were not expected to be prominent. Although the urban nature of the project argues against ongoing cultural practices, it still seems appropriate to briefly summarize potential cultural impacts, as they may be discerned from the historic records and the previous research in the vicinity.

A. Archaeological Sites

There are no historic properties (other than Kaipapa`u Bridge) within the project area. A survey of the parcel included a complete surface survey in, around, and under the bridge, and historic background research on the bridge.

Background data indicates six mid-1800's awarded *kuleana* parcels were awarded in Kaipapa`u, two of which formerly existed in the project area at the bridge location. Additionally, two historic sites exist in close proximity to the bridge, State Site # 50-80-06-4795 (approximately 350 ft. south) and State Site # 50-80-06-4796 (approximately 120 ft. north).

B. Burial Sites

Coastal Hau`ula is well-known for having been the site of many traditional and early historic Hawaiian burials. The vast majority of these burial finds have been within or seaward of Kamehameha Highway. Jaucas sand deposits likely to contain burials are likely to exist within or near the present project area. Burials have been encountered immediately to the north and south of the bridge (*i.e.* Sites -4795 & -4796).

C. Fishing

Fishing for freshwater resources (*e.g.* `opae, o`opu) occurred in the stream previous to its urbanization, based on informant information. Undoubtedly, fishing still occurs for similar species though on a much reduced basis. Fishing will not be stopped due to any proposed bridge improvements.

D. Gathering

The project area has been heavily modified and the only plants present are several palm trees, landscaping foliage near houses, and tall grasses within the stream. At the point of urbanization that the bridge and its surrounding land is at now, no gathering practices are apparent within the project area.

E. Hunting

Hunting, specifically pig hunting, does not take place within the project area, although hunting does occur further up many of the surrounding valleys.

F. Sacred Sites

The Hau'ula area was well-known for its many important *heiau* (including Kaunihokahi, Kaipapa'u, and Lua'ali'i). None of these is understood as having been in or near the present project area.

F. Trails and Access

No trails or accessways would be inhibited in any way by the re-construction and repairs to the Kaipapa'u Bridge. The 'modern trail' (the Kamehameha Highway) will be pushed into one-lane access during the construction to the bridge.

G. Wahi Pana (storied places)

No storied places (*wahi pana*) are known within the present project area other than the qualities adhering to Kaipapa'u in general.

H. Conclusions

This good-faith attempt to evaluate the potential cultural impacts of the proposed project area on the basis of historical data, archaeological data, and informant information, concludes that there may be a possibility of encountering cultural layers and/or human burials during excavation associated with repairs to the Kaipapa'u Bridge. The entire project area was extensively modified in the past during construction of the former railroad bridge, the Kaipapa'u Bridge, and Kamehameha Highway, and the urbanization of the surrounding land. No traditional cultural practices have been identified within the project area that would be stopped by proposed bridge improvements.

A total of 3 persons were contacted for their input on and knowledge about the project parcel. Contacts included Mr. Ben Nihipali, Mr. Roland 'Ahi' Logan, and Mr. Cy Bridges.

There were no major concerns regarding the repairs to the Kaipapa'u Bridge voiced by area residents. Interviewees were happy to share their experiences with and about the bridge, and seem to have no opposition to repairs being initiated on an important travelway of the immediate area.

In compliance with standard SHPD/DLNR requirements, CSH recommends archaeological monitoring of the planned bridge improvements due to known significant subsurface sites, both north and south of Kaipapa'u Bridge.

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APPENDIX A: PHOTOGRAPHS

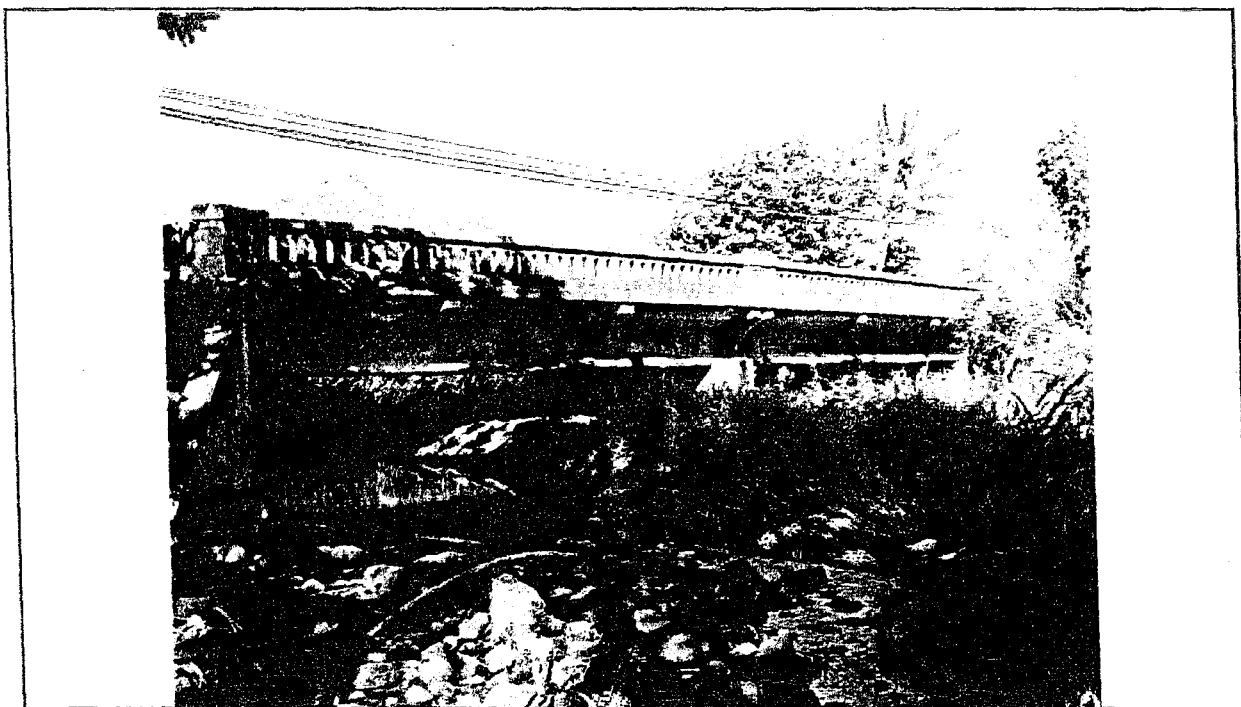


Figure 9 Photo of Kaipapa`u Bridge and Stream, taken to west.

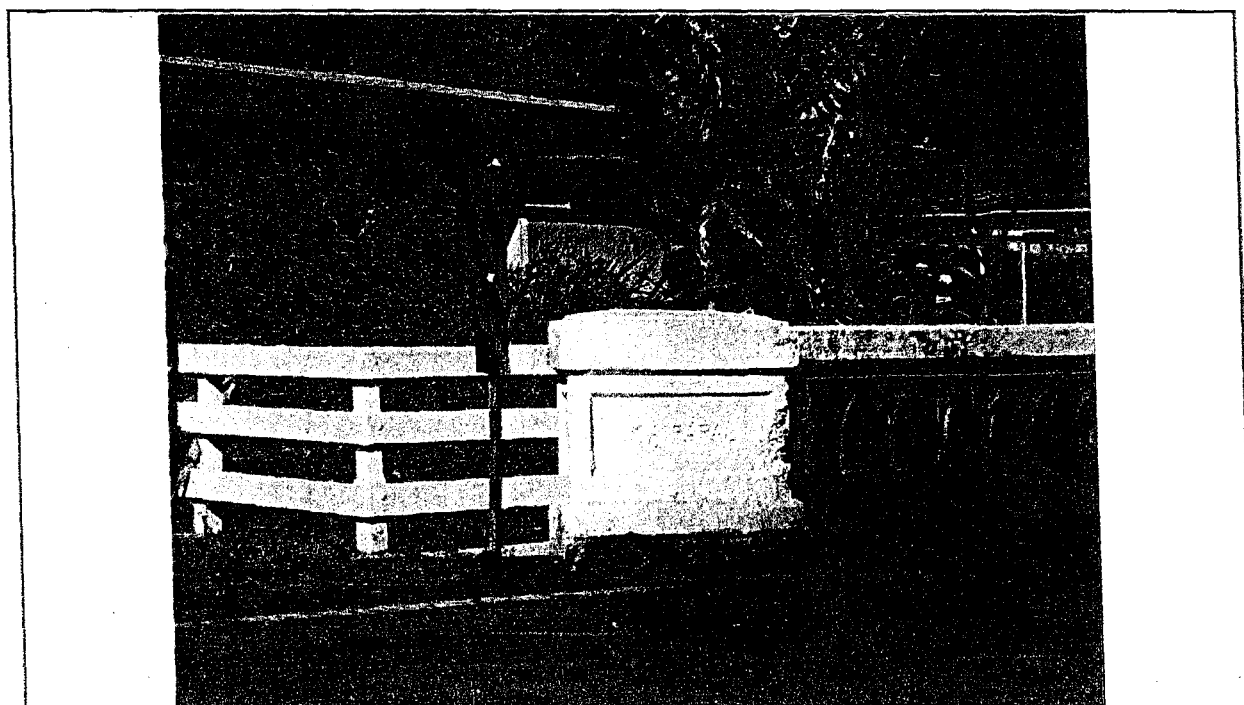


Figure 10 Photo of Kaipapa`u Bridge, showing 'KAIPAPAU' emblem on mauka south bridge corner, taken to west/northwest.

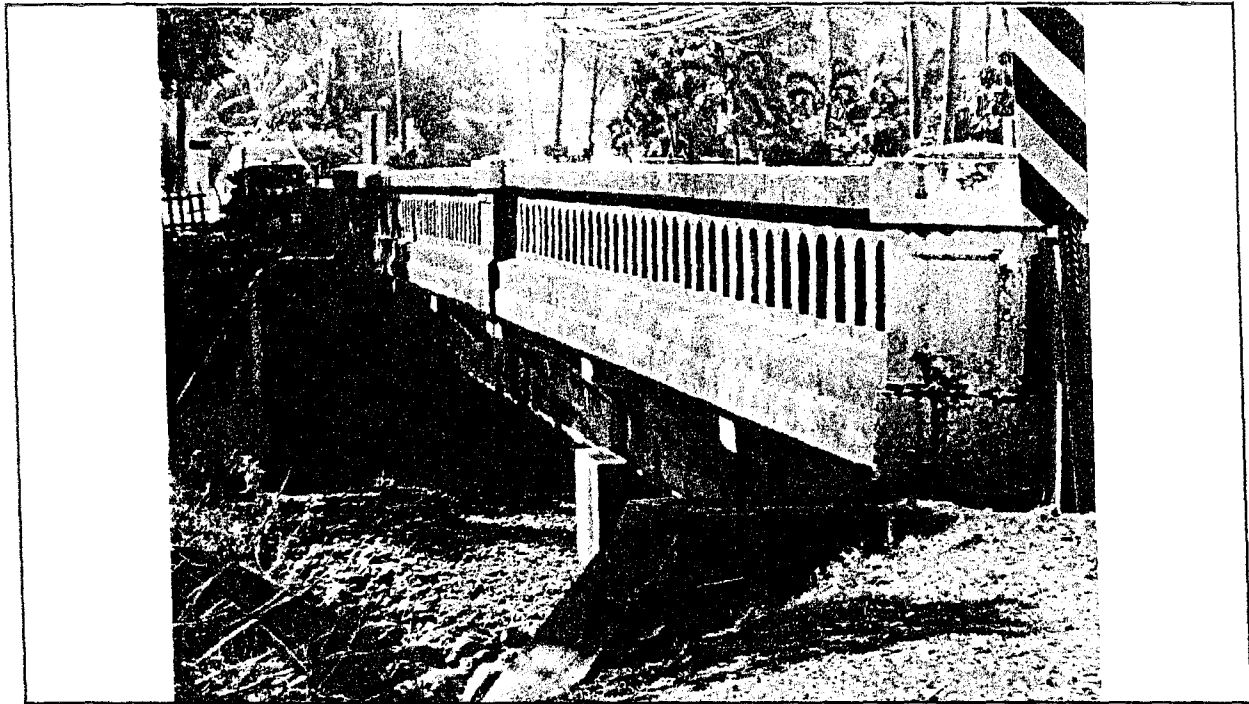


Figure 11 Photo of Kaipapa`u Bridge, Makai Side, Taken to South.

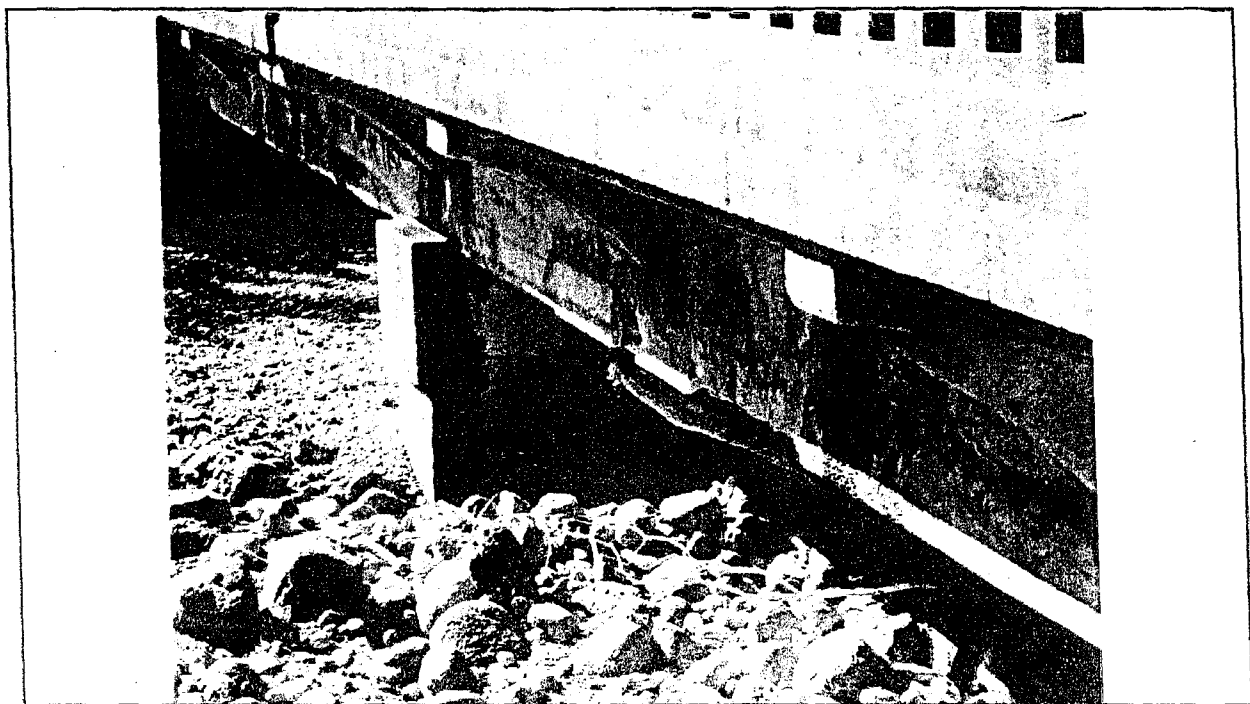


Figure 12 Photo of Kaipapa`u Bridge, Makai Side, Showing Structural Damage, Taken to South/Southwest.

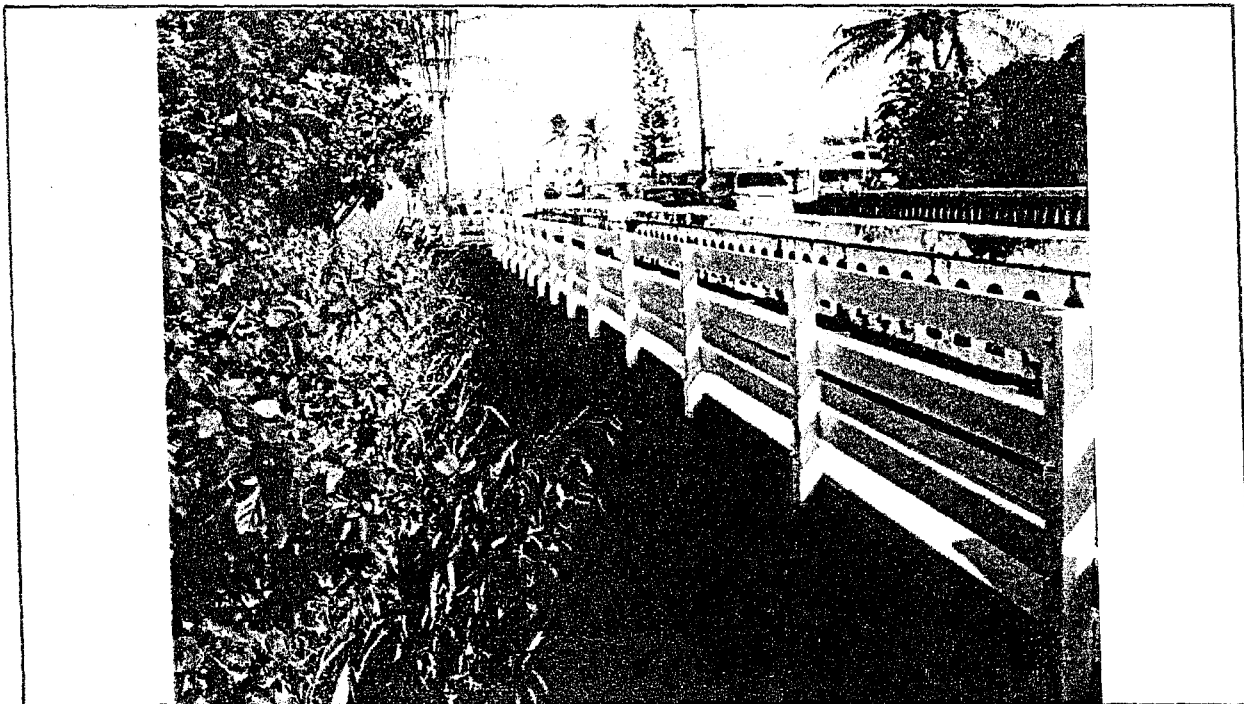


Figure 13 Photo of Kaipapa`u Bridge and Accompanying Pedestrian Walkway, Taken to North.

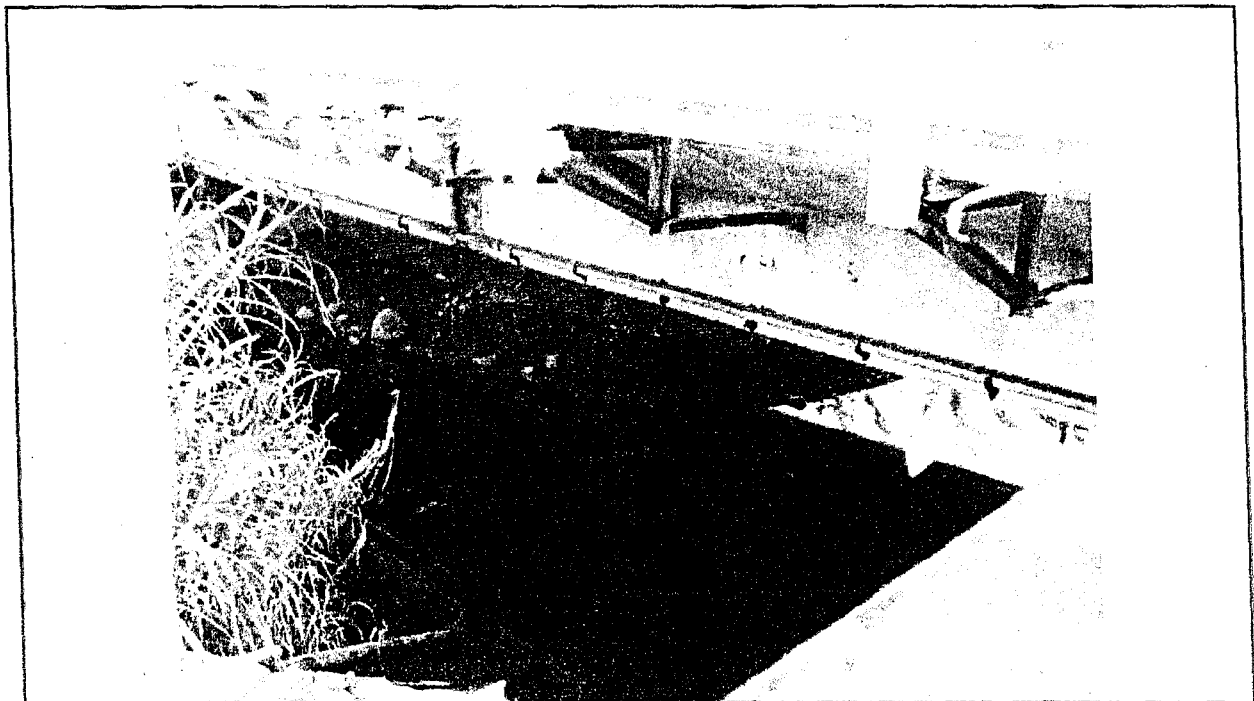


Figure 14 Photo of Kaipapa`u Bridge, Mauka Side, Showing Kaipapa`u Stream and Underneath the Pedestrian Walkway.

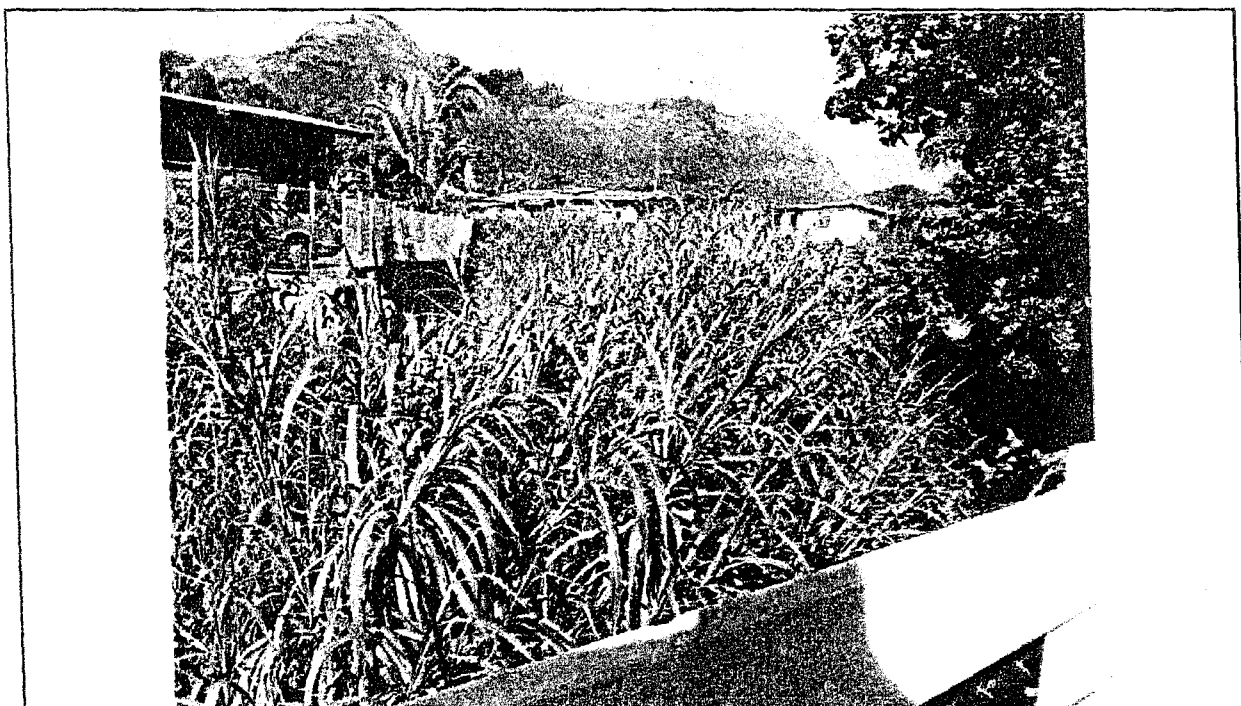


Figure 15 Photo of Kaipapa`u Stream Mauka of the Kaipapa`u Bridge, Currently Completely Overgrown With Tall Grasses.

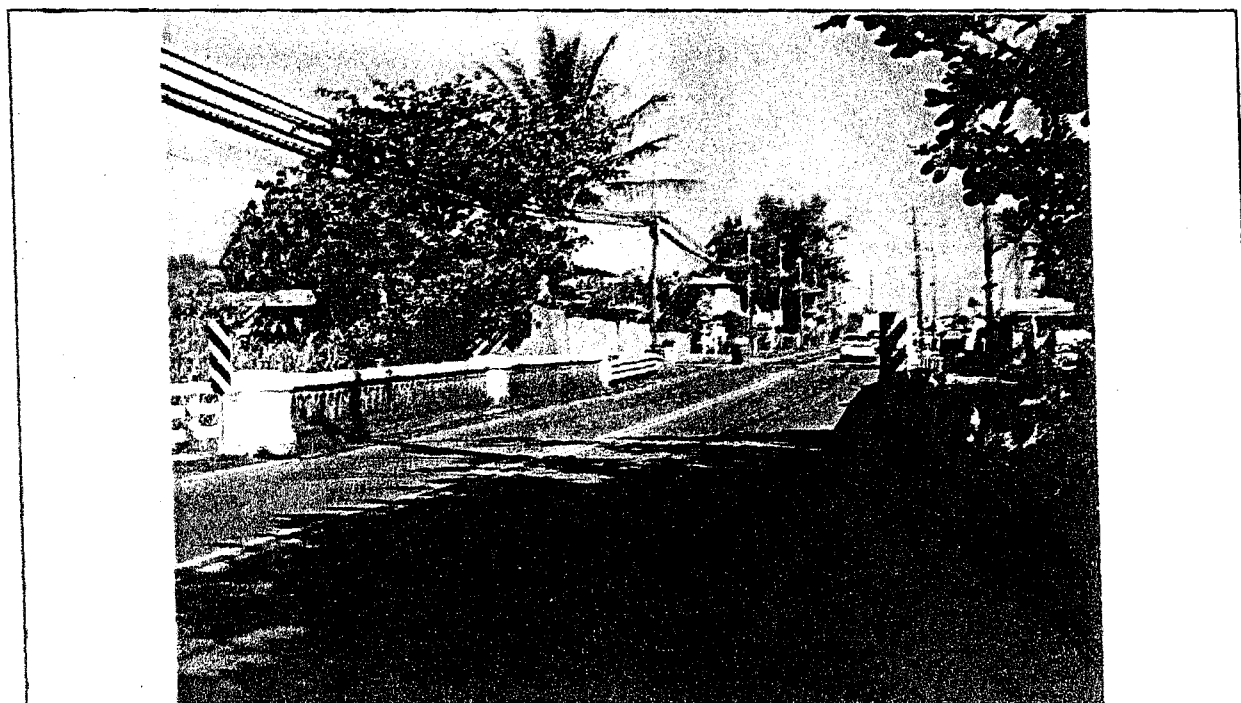


Figure 16 Photo of Kaipapa`u Bridge and Kamehameha Highway, Taken to North.