EXECUTIVE CHAMBERS

HONOLULU

GEORGE R. ARIYOSHI
GOVERNOR

April 10, 1985

Ms. Letitia N. Uyehara
Director
Office of Environmental Quality Control
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Ms. Uyehara:

Based on the recommendation of the Office of Environmental Quality Control, I am pleased to accept the environmental impact statement for the Huleia Bridge Replacement and Approaches as a satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes.

This environmental impact statement will be a useful tool in deciding whether this project should be allowed to proceed. My acceptance of the statement is an affirmation of its adequacy under applicable laws and does not constitute an endorsement of the proposal.

When the decision is made regarding this action, I expect the proposing agency to carefully weigh the societal benefits against the environmental impact which will likely occur. This impact is adequately described in the statement, and together with the comments made by reviewers, provides a useful analysis of alternatives to the proposed action.

With warm personal regards, I remain,

Yours very truly,

George R. Ariyoshi

cc: Honorable Wayne J. Yamasaki

REPORT NUMBER: FHWA-HI-EIS-82-02-F

HULEIA BRIDGE REPLACEMENT AND APPROACHES

FINAL

ENVIRONMENTAL IMPACT STATEMENT

KAUMUALII HIGHWAY

FAP ROUTE 50

LIHUE DISTRICT

ISLAND OF KAUAI

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

FHWA-HI-EIS-82-02-F

KAUMUALII HIGHWAY, FAP 50
HULEIA BRIDGE REPLACEMENT AND APPROACHES
LIHUE DISTRICT, ISLAND OF KAUAI
STATE OF HAWAII

FINAL
ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to 42 USC 4332 (2) (C)

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
and
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION
Highways Division

Date

Federal Highway Administration
Region IX

The following persons may be contacted for additional information concerning this document:

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P.O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850
(Telephone Number 546-5150)

Mr. Wayne J. Yamasaki
Director,
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

(Telephone Number 548-3205)

The proposed action is to replace the existing two-lane timber trestle bridge at Huleia Stream with a new three-lane (2 basic lanes plus 1 truck lane) reinforced concrete bridge at a new location downstream of the present bridge crossing. New approach roadways are also included in the proposed action.

SUMMARY

A. Description of the Proposed Action

The proposed project involves the replacement of existing Huleia Stream Bridge and approaches on Kaumualii Highway (FAP Route 50) on the Island of Kauai (see Figure I, page I-2). The existing Huleia Stream Bridge, also known as "Halfway Bridge" is a severely deteriorated timber structure which is both structurally and geometrically deficient. The existing alignments of the highway approaches are relatively steep at 6.0% and 6.8%.

B. Major Alternatives Considered

1. General

Three alternatives were considered. Two alternatives (I and II) propose the construction of a new replacement bridge and approach roadways south of the present bridge crossing (see Figure 6, page II-3), and call for a grade-separated crossing of eastbound (Lihue) traffic from the Quarry Access Road. Variations of Alternatives I and II, called Alternatives IA and IIA(Recommended), provide, in lieu of the grade-separated crossing of eastbound traffic from the Quarry Access Road, either an at-grade jug-handle intersection or a left-turn bay intersection for the Quarry Access Road. These alternatives call for the demolition of the existing bridge and the closure of the approach roadways to traffic.

The third alternative, Alternative III, proposes to demolish the existing bridge and construct a new bridge structure on the existing highway alignment.

2. Recommended Alternative

Alternative IIA is recommended because of its superior geometrics, potential for future expansion, and lowest cost of the alternatives that considered realignment of the approach roadways.

3. Do-Nothing Alternative

This alternative is not considered a viable alternative because of the severe structural deficiency of the existing bridge structure, having a sufficiency rating of 3 in the National Bridge Replacement Program, and an estimated life of 5 to 7 years.

C. Significant Environmental Impacts

1. Approximately 6.4 acres of agricultural lands planted in sugar cane will be lost due to highway construction.
2. There will be short-term adverse effects on air, noise and water quality resulting from construction activities.

D. Areas of Controversy

There are no areas of controversy relative to this project at this time.

E. Significant Unresolved Issues

At this time, there are no unresolved issues from the standpoint of potential environmental impacts.

F. List of Other Federal Actions Required

A Section 404, Department of the Army permit may be required should fill be placed within the normal high water mark of the stream during construction.

G. Circulation of the Draft Environmental Impact Statement

The draft environmental impact statement was circulated on August 22, 1983.

TABLE OF CONTENTS

INDEX TO THE EIS TEXT

LIST OF FIGURES

LIST OF TABLES

SECTION I.

PURPOSE AND NEED FOR ACTION

SECTION I. PURPOSE AND NEED FOR ACTION

A. Location and Background

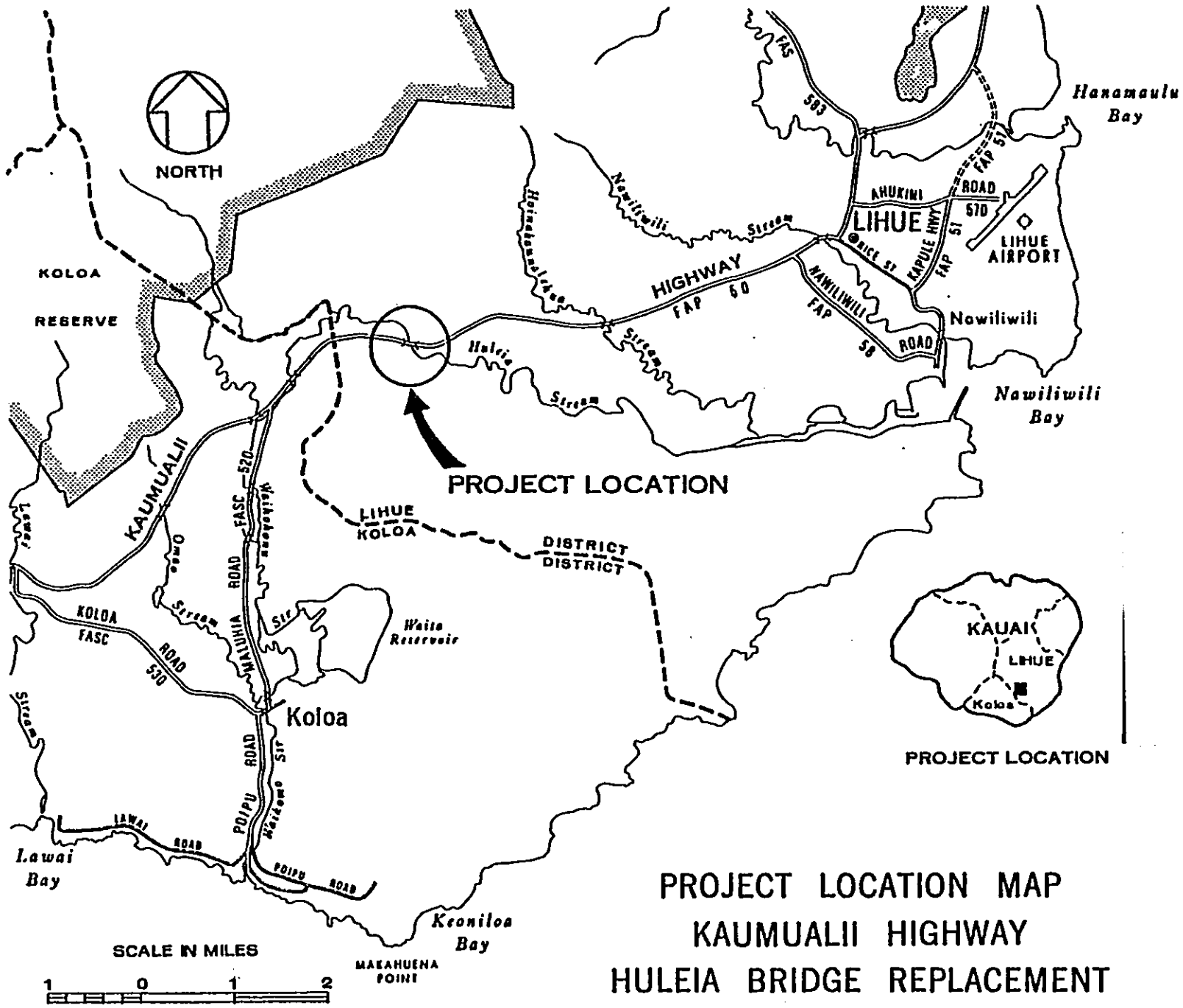
The project site is located on Kaumualii Highway (FAP Route 50), just east of the Koloa-Lihue District Boundary on the island of Kauai (see Figure 1). The bridge site is approximately 1.77 miles northeast of Maluhia Road, at Mile Post 4.8, and approximately 5 miles west of Lihue.

Kaumualii Highway, via the project location, provides the primary transportation link between Lihue (the County seat) and the southwest and westerly areas of Kauai.

The existing Huleia Bridge, also known as "Halfway Bridge", was built in the 1930s when the old government main road to Koloa was realigned to the present alignment of Kaumualii Highway. The two-lane timber bridge is built upon the earlier constructed reinforced concrete bridge deck of the old government main road. The road profile of the new road was raised, resulting in the use of the deck of the old concrete bridge and portion of the old roadbed as foundation for the 13 wood bents supporting the existing bridge. Figure 2 shows a longitudinal section of the existing bridge crossing. The total length of the bridge is 248 feet. The traveled way width (curb to curb) is 24'-4"; a 3'-10" wide wood-plank sidewalk is provided on the south side. Figure 3 shows the existing bridge cross section. The total bridge deck width is 30'-3½". An asphalt concrete wearing surface is provided for the traveled way.

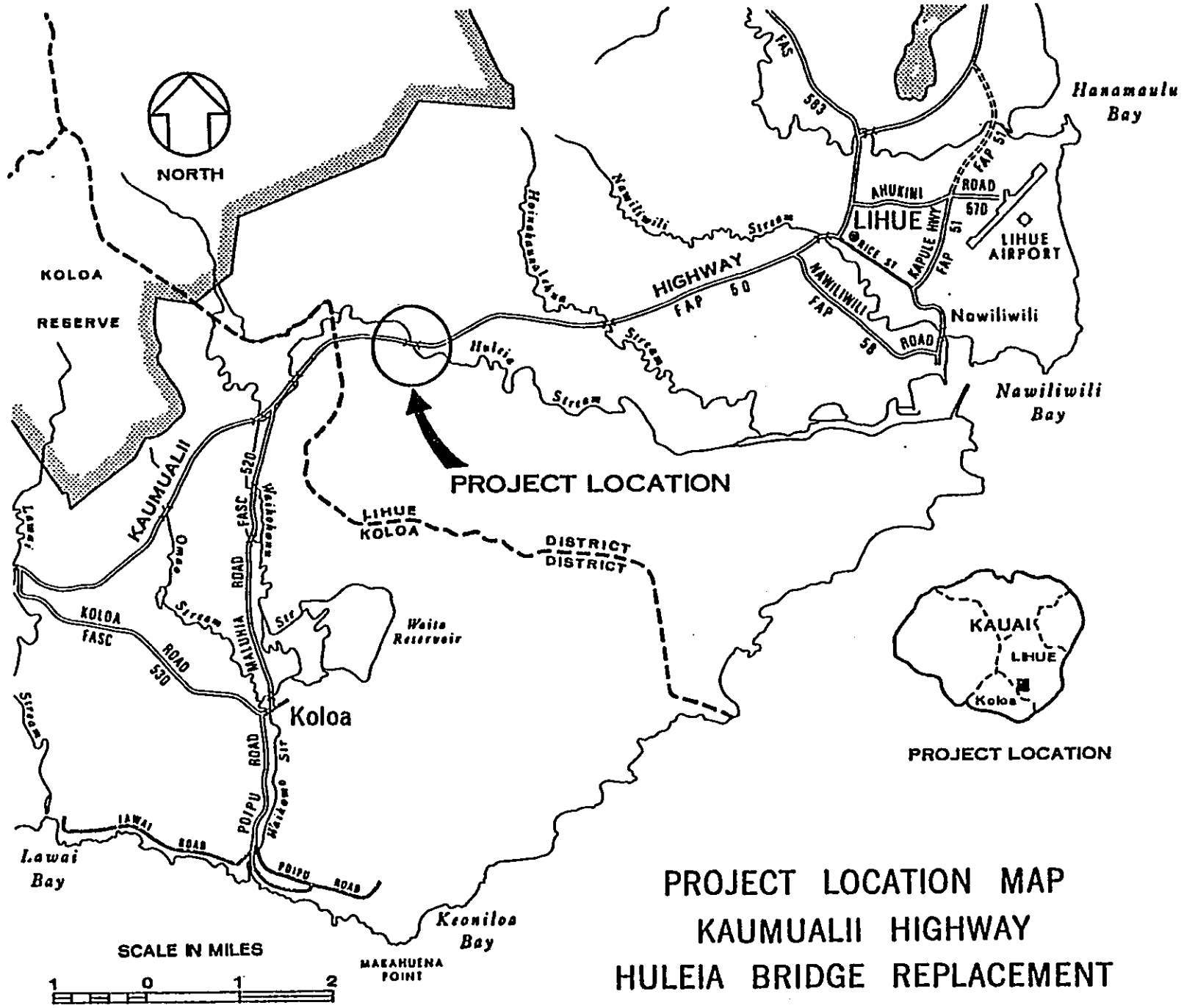
B. Need for Proposed Action

The existing bridge crossing is structurally deficient and functionally obsolete. It does not meet current geometric criteria for bridges.



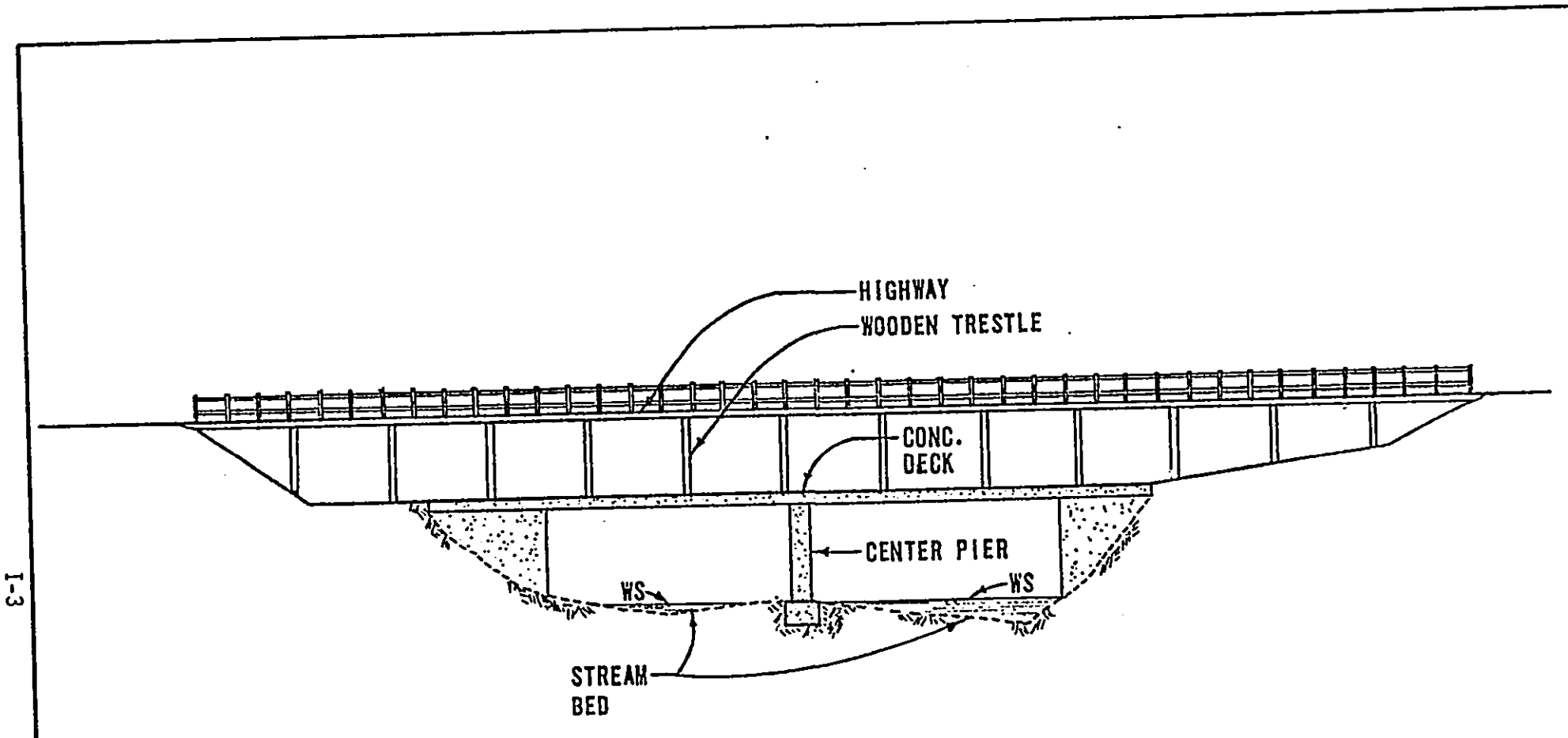
PROJECT LOCATION MAP
KAUMUALII HIGHWAY
HULEIA BRIDGE REPLACEMENT
AND APPROACHES

FIGURE 1



PROJECT LOCATION MAP
KAUMUALII HIGHWAY
HULEIA BRIDGE REPLACEMENT
AND APPROACHES

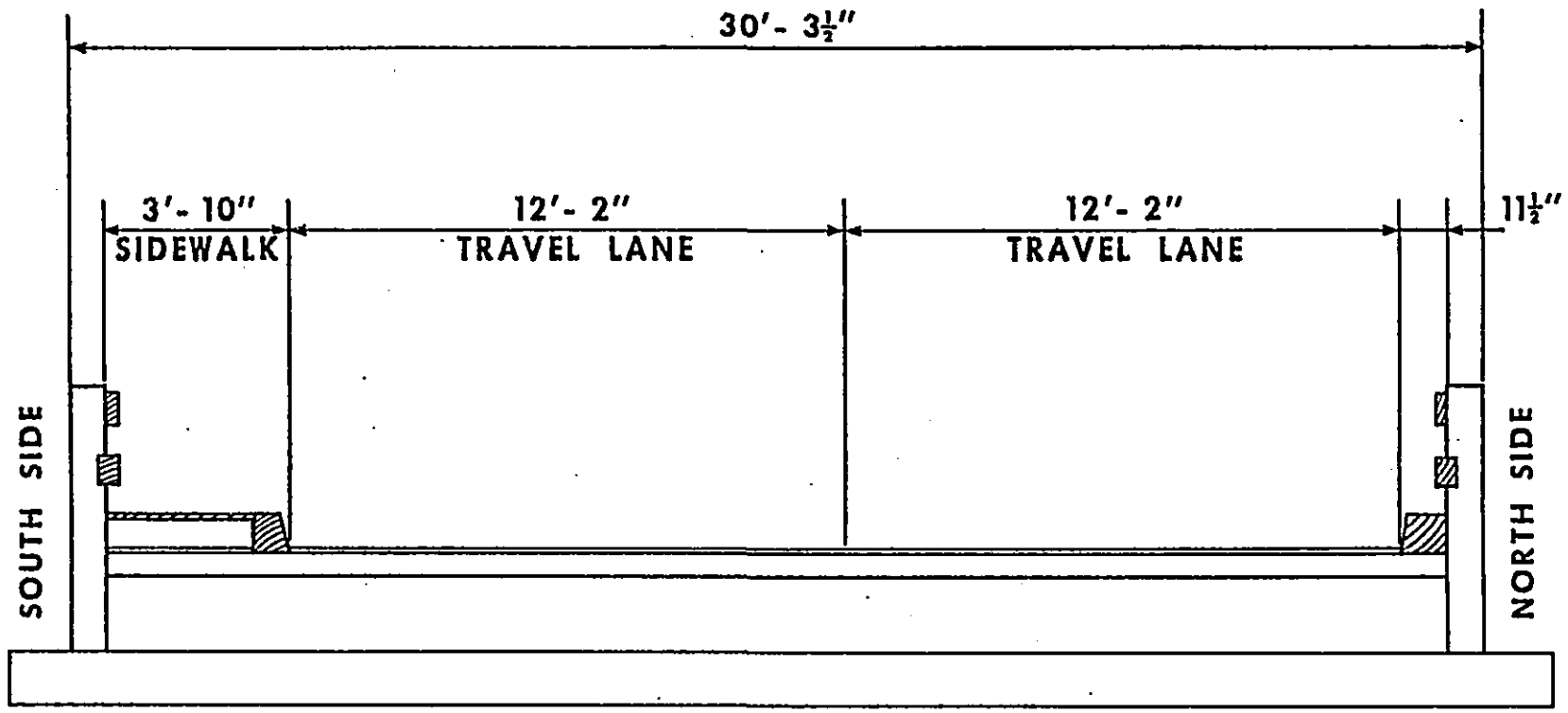
FIGURE 1



DOWNSTREAM VIEW
SCALE: 1" = 30'

LONGITUDINAL SECTION OF EXISTING BRIDGE

FIGURE 2



TYPICAL SECTION
EXISTING HULEIA BRIDGE
KAUMUALII HIGHWAY (FAP 50)

FIGURE 3

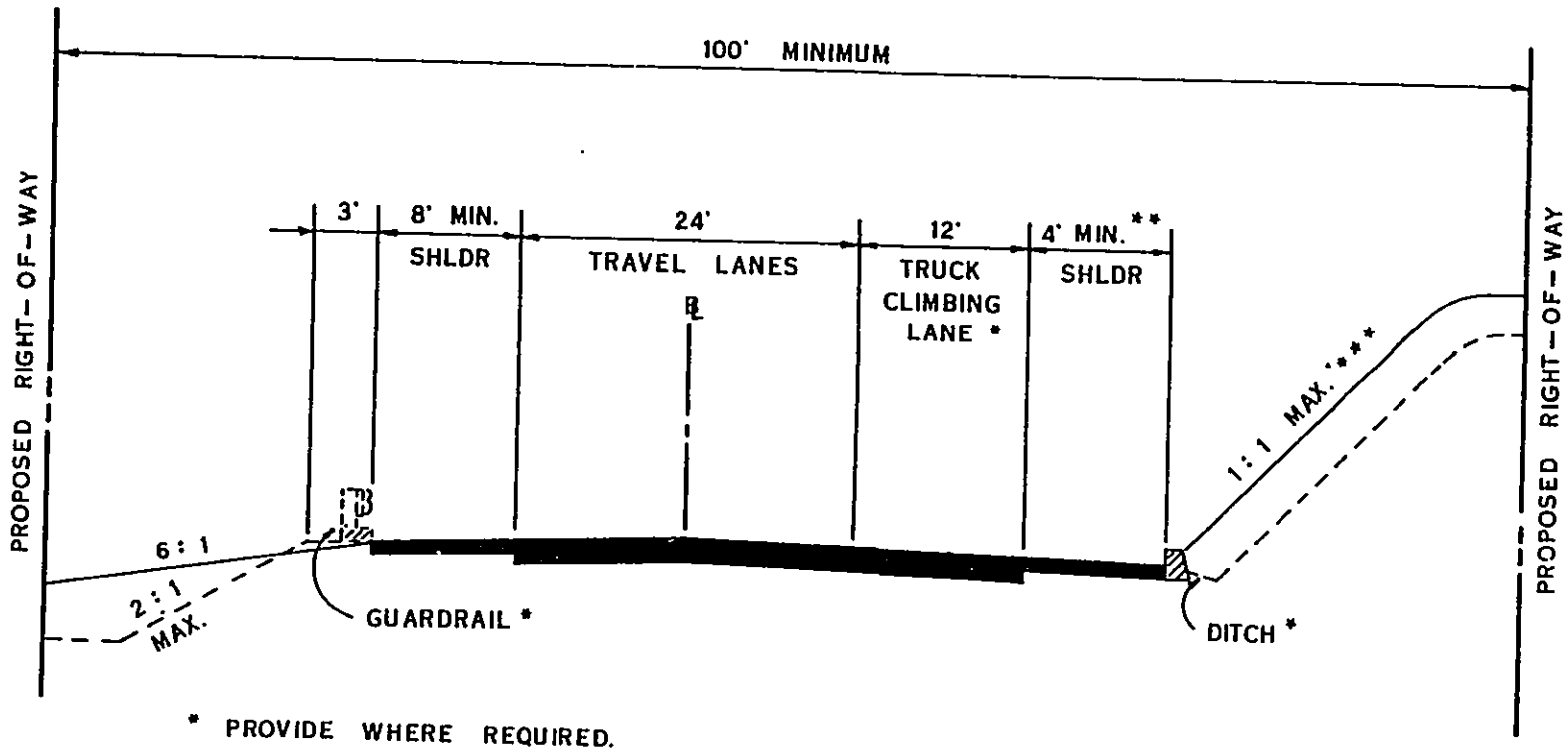
The timber structure is severely deteriorated, and termite infestations have been found. The cost to maintain the structure has been increasing in recent years. In 1982, the Department of Transportation expended $75,300 to replace the sidewalk planking and replace the wooden bridge railing. The estimated remaining life of the structure is 5 to 7 years. The bridge is listed as structurally deficient in the National Bridge Replacement Program with a sufficiency rating of 3. (The sufficiency rating is based on a scale from 0 to 100. A rating of 0 designates a structure at failure, while a rating of 100 designates a structurally sound bridge.)

Current bridge geometrics call for the bridge cross-section to carry the shoulder width of the approach roadway across the entire length of the bridge. The existing bridge does not meet this criteria.

In addition, the vertical alignments of the approach roadways are steep and undesirable at 6.0 and 6.80 percent. Accident records show a total of 14 accidents have occurred in the years 1979, 1980 and 1981, on the approach roadways to the bridge.

Another undesirable condition exists on the east approach roadway at its intersection with the Grove Farm quarry access road. Here, slow moving trucks enter Kaumualii Highway, creating the potential for rear-end collisions.

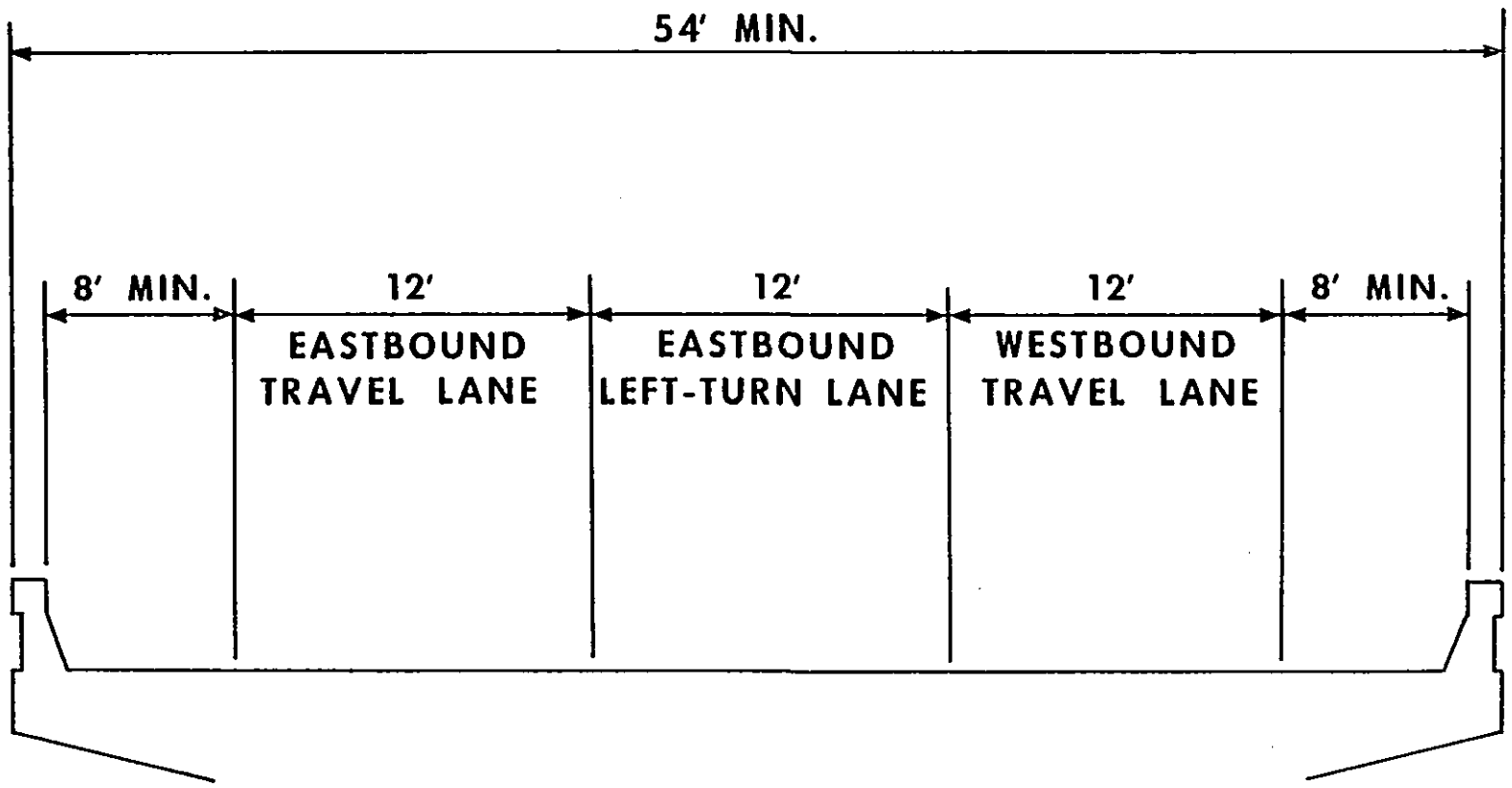
The proposed action is to construct a new bridge to replace the existing structure, at a new location south of the existing crossing. Figure 4 shows the proposed roadway typical section. A minimum right-of-way



* PROVIDE WHERE REQUIRED.
**. USE 8' MINIMUM WHERE NO TRUCK CLIMBING LANE IS PROVIDED.
*** USE 1:1 1/2 SLOPE WHERE LANDSCAPING IS PROVIDED.

TYPICAL SECTION
KAUMUALII HIGHWAY (FAP 50)
PROPOSED APPROACHES TO HULEIA BRIDGE
FIGURE 4

width of 100 feet is proposed for the approach roadway. Figure 5 shows the bridge typical section. Provisions for new bridge geometrics, new approach roadway geometrics, a possible grade separation for eastbound traffic from the quarry access road, and truck climbing lanes were considered under the alternatives discussed in Section II.



TYPICAL SECTION
PROPOSED HULEIA BRIDGE
KAUMUALII HIGHWAY (FAP 50)

FIGURE 5

SECTION II.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

SECTION II. ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. General

In determining the viable alternatives, consideration was given to the following criteria:

1. Construction cost
2. Ease of construction
3. Rights-of-way requirement and type of lands affected
4. Detour considerations and its impact on traffic
5. Potential to improve the approach roadway geometrics
6. Effect on the environment of the area
7. Only two lanes of an ultimate 4-lane (20-year design period) section is proposed at this time due to tight fiscal constraints
8. The Quarry Road access requirements will remain constant in the future

Alignments on the north side (excepting temporary detours) of the existing bridge were eliminated because of the high embankment required for the east bridge approach and the necessity to cut through existing open areas along the unimproved natural west stream bank. Huleia Stream makes a sharp turn westward (going upstream) just north of the existing bridge crossing, which would result in cutting through a larger area of the natural stream bank than alternatives proposed on the south side of the existing bridge.

The roadway design criteria are as follows:

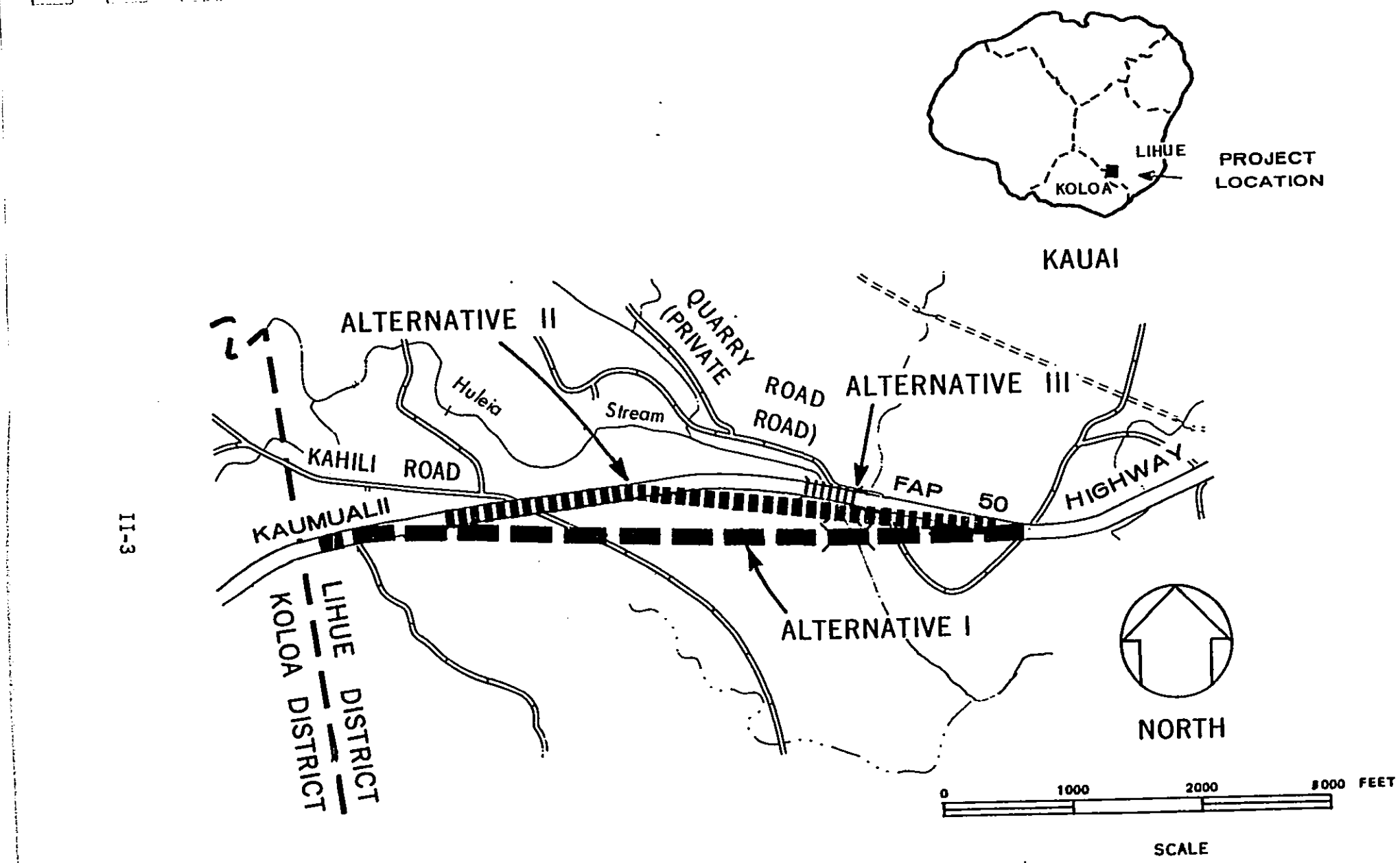
Design Speed	60 mph
Minimum Radius	1500 feet

Maximum Superelevation Rate	8.0%
Minimum Cross Slope	2.0%
Maximum Grade	4.0%
Minimum Grade	0.5%
Highway Classification	Rural
Right-of-Way Width (Minimum)	100 feet

Three alternatives, including the recommended alternative (Alternative IIA), for replacing the Huleia Bridge are discussed in this section. Two of the alternatives propose new bridge structures and approach roadways just south of the present highway alignment. The third alternative replaces the existing bridge on the present highway alignment. Figure 6 shows the alternative alignments that were considered.

B. Alternative I

Alternative I consists of a two-lane replacement bridge approximately 530 feet long at a location about 320 feet downstream (south) of the existing two-lane Huleia Bridge. This alternative requires a new highway approach of about 3,750 feet on the west side and 1,120 feet on the east side of the new bridge structure. Approach roadway slopes are at 6.2%. The total length of the new alignment is approximately 5,400 feet. The existing quarry access road intersection would be improved by providing a grade separated crossing for eastbound (Lihue) traffic to cross under Kaumualii Highway and enter Kaumualii Highway via an on-ramp. Westbound traffic from the quarry access road would enter Kaumualii Highway at an at-grade intersection.



PROPOSED ALTERNATIVES

KAUMUALII HIGHWAY HULEIA BRIDGE REPLACEMENT AND APPROACHES

FIGURE 6

A variation of Alternative I, here called Alternative I-A, eliminates the grade separation for eastbound traffic from the quarry access road. There is no difference in the horizontal alignment of Alternative I-A from Alternative I. However, by eliminating the grade separation, the vertical profile of the alignment is lowered, resulting in a shorter two-lane bridge structure, about 445 feet long versus 530 feet for Alternative I. The approach roadway grades remain at 6.2%. There is no change in the total length of the alignment.

Alternative I-A proposes an at-grade jug-handle intersection for the eastbound traffic from the quarry access road to enter Kaumualii Highway via an on-ramp. The westbound traffic would enter Kaumualii Highway on an auxiliary truck climbing lane. The auxiliary lane is proposed because the roadway grade is steeper on the west approach in Alternative I-A than in Alternative I.

In both Alternatives I and I-A, the existing bridge structures will be demolished and the existing approach roadways closed to traffic.

The right-of-way required for Alternative I is approximately 17 acres; Alternative I-A requires approximately 14 acres.

No detouring of existing traffic is required for either Alternative I or Alternative I-A.

C. Alternative II

Alternative II consists of a two-lane replacement bridge approximately 525 feet long at a location about 90 feet downstream (south) from the existing bridge. This proposed alternative requires new highway approaches of approximately 1,540 feet on the west side of the new bridge, and

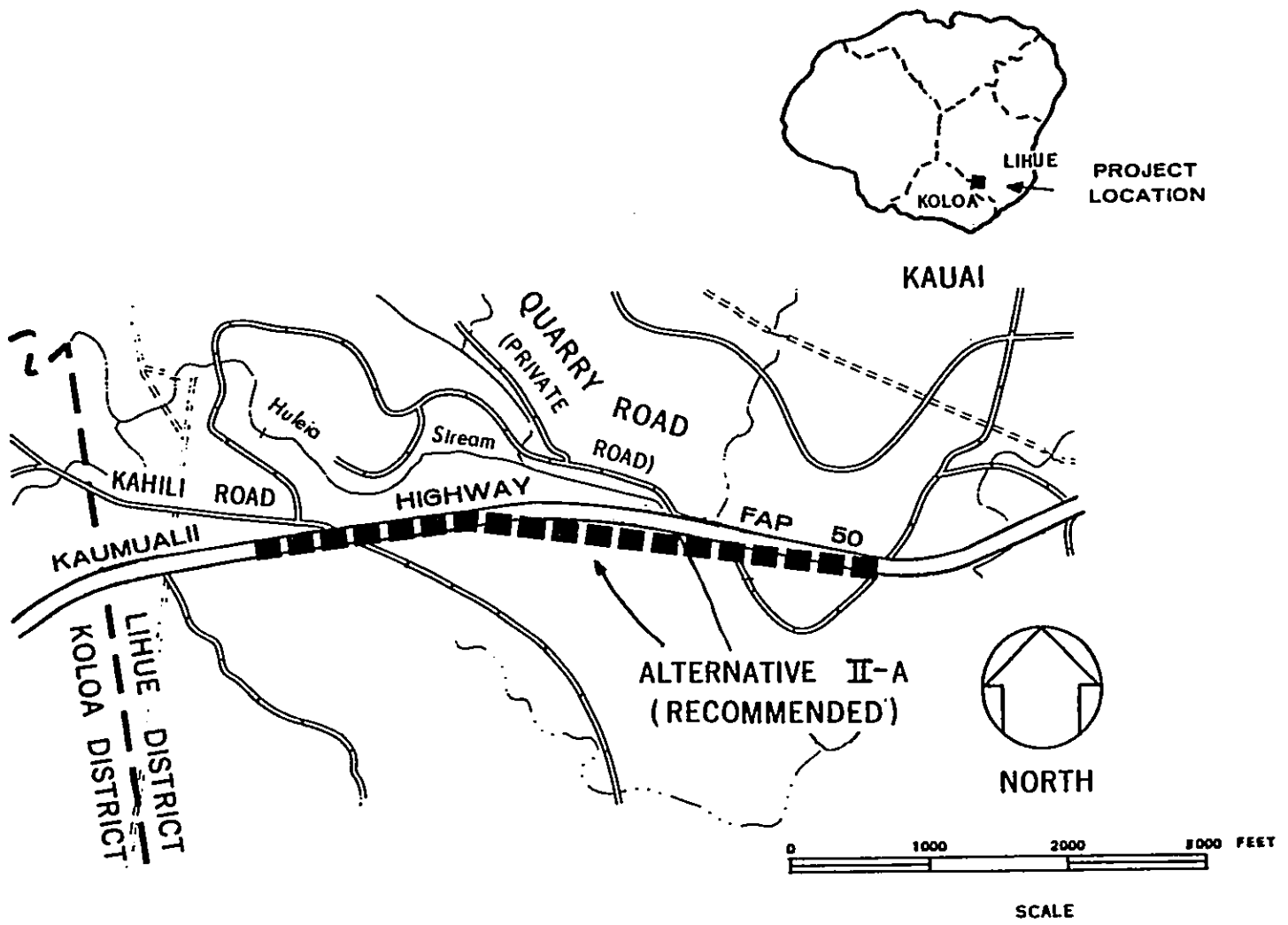
approximately 1,420 feet on the east side of the new bridge. The approach roadway grades are at 6.8%. The total length of this alignment is approximately 3,500 feet. Similar to Alternative I, a grade separated crossing for the eastbound traffic to Kaumualii Highway from the quarry access road will be provided. Eastbound traffic would merge onto Kaumualii Highway via an on-ramp. The westbound traffic from the quarry access road would enter Kaumualii Highway from an at-grade intersection.

Alternative II-A, the recommended alternative, varies from Alternative II by not providing the grade-separated crossing for eastbound traffic from the quarry access road. This results in a lower vertical profile than in Alternative II, with a shorter bridge length requirement and flatter roadway grades at 4%. The bridge length for Alternative II-A is 350 feet. The total length of the alignment is approximately 4,700 feet.

At the quarry access road intersection, which is a private road, a left-turn bay will be provided. For the eastbound traffic to enter Kaumualii Highway from this road, a left-turn acceleration lane will be provided. Westbound traffic would enter Kaumualii Highway from the at-grade intersection. An auxiliary truck climbing lane is proposed on the west side of the new bridge. Figure 7 shows the Recommended Alignment, and Figure 8 shows the proposed ramp/intersection detail of recommended Alternative IIA.

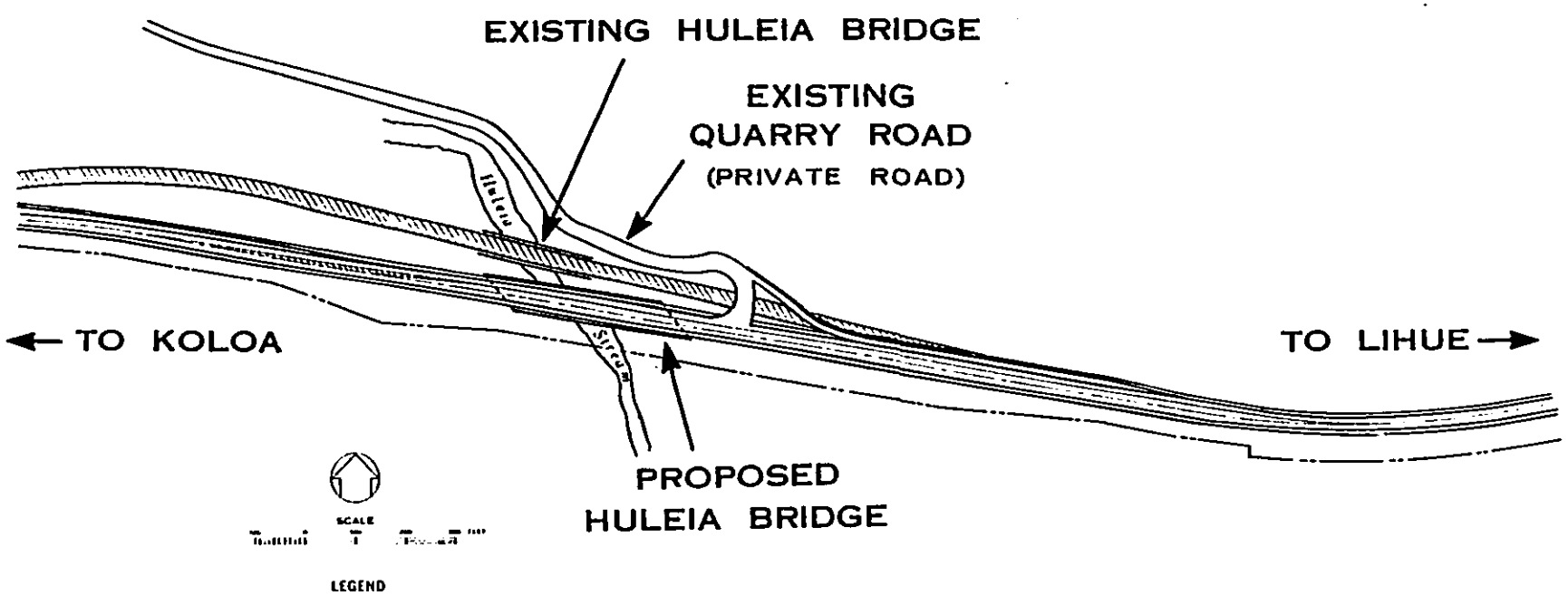
The existing bridge structure will be demolished and the existing approach roadways will be closed to traffic.

The right-of-way requirement for Alternative II is approximately 7 acres; and for the recommended Alternative II-A is approximately 6.4 acres.



REALIGNMENT ALTERNATIVE II-A (RECOMMENDED)
KAUMUALII HIGHWAY
HULEIA BRIDGE REPLACEMENT
AND APPROACHES

FIGURE 7



ALTERNATIVE II - A RECOMMENDED RAMP/INTERSECTION DETAIL

FIGURE 8

A short detour adjacent and north of the east approach roadway will be required during construction of Alternative II. No detour for existing traffic is required for the construction of Alternative II-A.

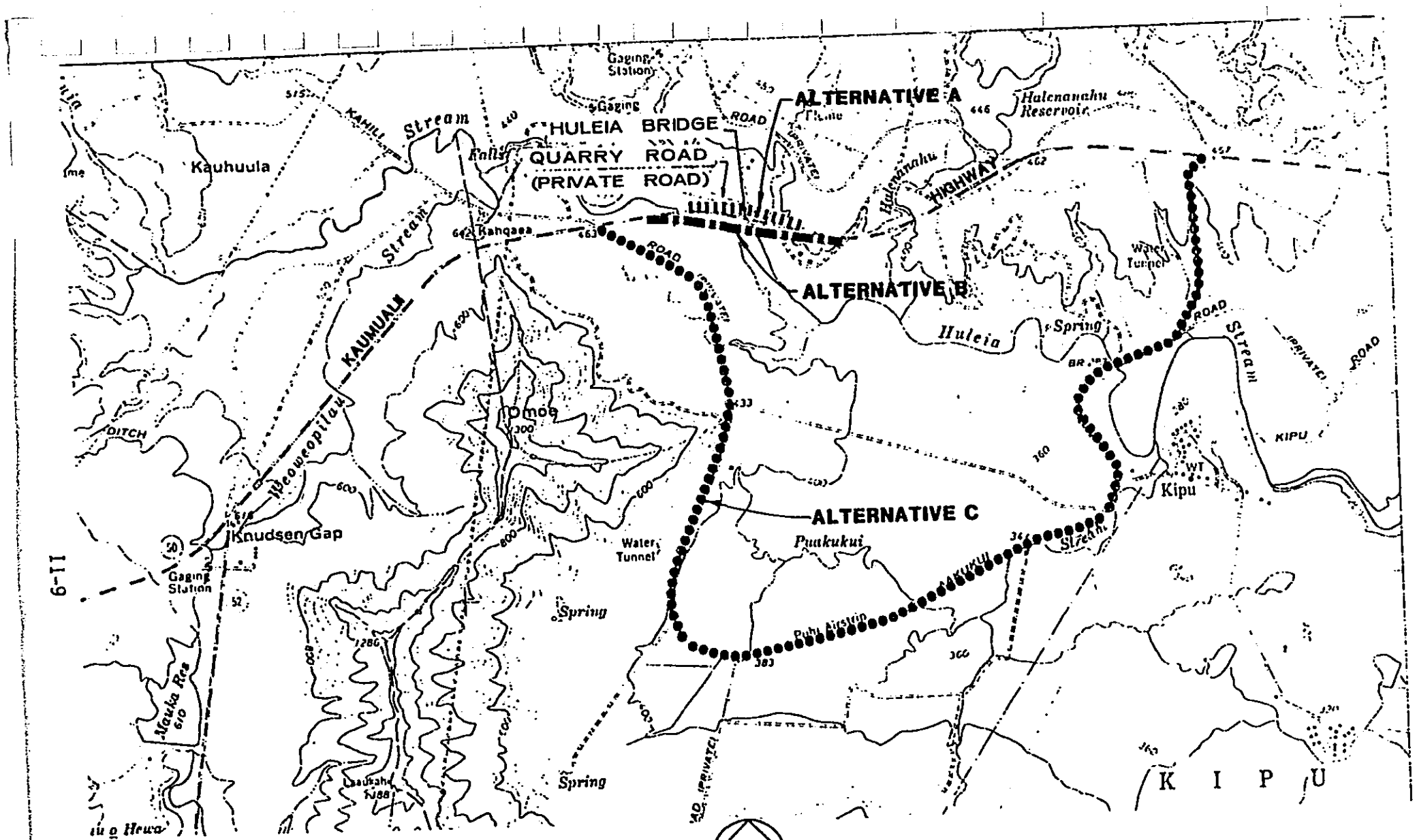
D. Alternative III

Alternative III consists of demolishing the existing timber structure and constructing a new two-lane bridge on the present alignment with minor changes to the approach roadway profile and minor improvement to the present quarry access road intersection. As mentioned in Section I, the existing approach roadways have profile grades of 6.0% and 6.8%, which are substandard for 60 mph design speeds. The new bridge would be approximately 260 feet in length.

Because the existing bridge structure would be demolished, detouring of the highway traffic during construction will be required. Three possible alternative detour routes (shown on Figure 9) were considered.

Alternative "A" proposes the construction of a temporary two-lane bridge and approach roadways on the north side of the existing bridge crossing. The total length of the detour is approximately 1,900 feet, including a 209 foot long temporary bridge structure. This detour alignment would require substantial embankment construction in order to build the east approach roadway and would require the construction of a detour roadway for the quarry access road.

Alternative "B" proposes the construction of a temporary two-lane detour along the south side of the existing bridge closely following the alignment of proposed Alternative II-A. This detour calls for a 3,260 foot, two-lane detour road, including a 209-foot detour bridge structure.



ALTERNATIVE DETOUR ROUTES FOR ALTERNATIVE III

FIGURE 9

Alternative "C" proposes the utilization of an existing private road, portions of which are used for hauling sugar cane, as the detour routing while the replacement bridge is under construction. The detour length is approximately four miles long, beginning at a point approximately 1.9 miles (9,000 feet) west of Puhi on Kaumualii Highway, heading south to join Aakukui Road near Kipu, then heading west past the Puhi Airstrip and then north to rejoin Kaumualii Highway at the Kahili Road intersection, about 1.4 miles east of the Maluhia Road intersection. The State would have to arrange to lease the detour right-of-way from Grove Farm and then upgrade the roadway to meet geometric standards for at least a 40 MPH design speed, which would include asphalt concrete pavement, shoulder grading, signing and striping.

E. Do-Nothing Alternative

The "do-nothing" alternative is not a viable alternative because it has been determined that the existing timber bridge is structurally deficient per its sufficiency rating of 3 in the National Bridge Replacement Program. In addition, the existing bridge geometrics are functionally obsolete and do not meet current bridge geometric standards.

The existing bridge structure has an estimated remaining life of from 5 to 7 years. To do nothing would only lead to the inevitable when emergency measures to structurally support the bridge would be required to keep the roadway open. Kaumualii Highway via Huleia Bridge is the only highway capable of handling the traffic demand between southwest and west Kauai and Lihue and points east and northeast. Therefore, it is vital to the motorists and to the people that this major highway link be opened to traffic at all times.

F. Summary of Costs for Alternatives

Table I shows the comparative construction costs for each of the viable alternatives discussed hereinabove.

TABLE 1. COMPARATIVE COSTS (x$1,000)

Items	New Location				Existing Location**		
	Alt-I	Alt-IA	Alt-II	(Recom) Alt-IIA	III/ Det. A	III/ Det. B*	III/ Det. C
Bridge	$3,562	$2,994	$3,528	$3,024	$1,837	$1,837	$1,837
Roadway	2,070	2,161	1,133	1,758	none	none	none
Ramp	550	342	214	182	none	none	none
Detour Bridge	none	none	none	none	677	858	none
Detour Road	none	none	571	none	243	764	364
Quarry Road	93	93	209	46	none	none	none
Subtotal	6,275	5,596	5,654	5,010	2,757	3,459	2,201
Contingency/10%	628	560	565	501	276	346	220
Subtotal	6,903	6,156	6,220	5,511	3,033	3,805	2,421
P.E. 8%	552	492	498	441	221	277	176
R.O.W.	479	457	129	121	16	40	27
Total	7,934	7,105	6,847	6,073	3,270	4,122	2,624

*South side detour uses Alt-II-A profile.
**Requires construction easement(s)/lease(s) of private lands.

G. Basis of Recommendation

Alternative IIA was selected over the other alternatives for the following reasons:

1. The do nothing alternative is not viable.
2. The existing alignment alternative, Alternative III, focused on the improvement of the bridge only, providing no improvements to the

highway approaches, or to the existing quarry road intersection. No rights-of-way are provided for future widening to a 4-lane facility, which will require a greater future expenditure compared to the realignment alternatives. A large expenditure is also required for non-recoverable detouring provisions. In addition, Alternative III does not have the public's acceptance due largely to inferior geometrics.

3. Therefore, when the realignment alternatives are compared to Alternative III, they provide superior geometrics, minimal detouring costs, and rights-of-way for future widening or addition of lanes.

4. Alternative IIA provides superior geometrics, potential for future expansion, and possesses the lowest cost of the realignment alternatives considered.

SECTION III.

AFFECTED ENVIRONMENT

SECTION III. AFFECTED ENVIRONMENT

A. Natural Environment

1. General

The project site is located about 5 miles west of Lihue on Kaumualii Highway (FAP 50). It is approximately half-way between Lihue and Koloa, hence the name "Halfway Bridge" for the Huleia Stream bridge crossing.

There are no residential or commercial developments in the immediate vicinity of the project site. The Grove Farm quarry is located about 1/4 mile north of the existing bridge site. The surrounding land area is used for sugar cane cultivation, open area, farming and cattle grazing.

2. Climate

The island of Kauai has a generally mild climate that is determined by its tropical oceanic environment and its location within the northeast tradewinds. As is common throughout the State, the windward side of Kauai receives more rainfall than the leeward side of the island.

The average annual rainfall near the project site ranges from 61 inches to 90 inches. The wetter months are November through March, and the drier months are May through September.

The winds are true trades and prevail from the northeast about 80 percent of the time. Wind velocity is between 13 and 24 miles per hour. Occasional cyclonic storms pass over the island from the southwest and disrupt the flow of tradewinds. Generally occurring during

dominates the geology of the eastern and southern sectors of the island. The project site is located on the Koloa Volcanic Series lava flows.

4. Soils

The roadway alignments for the new bridge alternatives traverse agricultural lands that, for the most part, are classified as "Prime" according to the "Agricultural Lands of Importance to the State of Hawaii (ALISH)" classification system. The "ALISH" system is based upon the U.S. Department of Agriculture, Soil Conservation Service classification system of prime and unique agricultural lands. Small sections of lands classified as "Other Important" are also within areas traversed by these alternatives.

In addition, the area covered by the project has Land Study Bureau Overall Productivity Ratings of "C", "D" and "E".

The soils in the project area are identified by the U.S. Department of Agriculture, Soil Conservation Service Soil Survey as follows:

(a) Kapaa Silty Clay (KkB, KkC and KkD) - with 3 to 25 percent slopes, runoff is slow to medium, and erosion hazard is slight to moderate. The soil is used for sugar cane, pineapple, pasture, orchards, wildlife habitat and woodland.

(b) Hanamaulu Silty Clay (HsB) - with 3 to 8 percent slopes, runoff is slow and erosion hazard is no more than slight. The soil is used for sugar cane, pasture, water supply and wildlife habitat.

(c) Rough Broken Land (rRR).

5. Flora

The approach roadways traverse primarily cultivated sugar cane lands. The open space area within Huleia Stream Gulch is the primary floral habitat of significance within the study area. The cane lands have been in cultivation for more than 50 years and have been stripped of any evidence of endemic flora. Some vines and scrub grass are found along the edges of the cultivated fields.

A field survey by Archaeological Research Center Hawaii, Inc. identified the following plant species within the Huleia Stream banks and other unimproved areas within the project area as follows:

Common Name	Scientific Name
Mango	Mangiferra indica
Java Plum	Eugenia cuminii
Banana	Musa sp.
Kukui	Aleurites moluccana
Hala	Pandanus odoratissimus
Haole Koa	Leucaeria leucocephala
Ohia Ai	Eugenia malaccensis L.
Common Guava	Psidium guajava
Malayan Ground Orchid	Spathoglottis plicata
White Ginger	Hedychium coronarium
Yellow Ginger	Hedychium flavesceus
Various Grass Species	

The U.S. Department of Interior has been contacted in compliance with Section 7(a) of the Endangered Species Act of 1973 (16 USC 1533), and they have advised that there are no endangered or threatened species listed, proposed, or candidate for listing in the proposed project area.

6. Fauna

No animal life was observed at the project site except for birds. Although no terrestrial mammals were encountered, the project site is likely inhabited by several species of rats, mice, feral dogs and possibly cats. The following is a list of species presumed to inhabit the project site.

Mammals	Scientific Name
Feral Dog	Canis familiaris
Feral Cat	Felis catus
Black Rat	Rattus rattus
Brown Rat	R. norvegicus
Polynesian Rat	R. exulans hawaiiensis
House Mouse	Mus musculus

Birds	Scientific Name
Barred Dove	Geopelia striata
Lace-Necked Dove	Streptopelia chinensis
Common Mynah	Aeridoheres tristis tristis
English Sparrow	Passer domesticus
Cardinal	Richmondena cardinelis

Other Vertebrates

Gecko

Common Toad

Huleia Stream is a major stream which supports a modest fresh-water sport fishery throughout its course from headwaters to its

mouth at Nawiliwili Bay. In the lower reaches of the stream, at Huleia Valley, the U.S. Fish and Wildlife Service has established the Huleia National Wildlife Refuge, a distance of approximately 4 miles from the project site. Just downstream of the wildlife refuge is Menehune Fishpond, which is listed on the National Register of Historic Places.

There are 12 species of aquatic macrofauna identified in Huleia Stream according to Survey of Aquatic Macrofauna in Huleia Stream by Amadeo S. Timbol, Ph.D. The report is appended to this EIS.

The twelve species of aquatic macrofauna are as follows:

Common Name	Scientific Name	Origin	Listing
Fish			
'O'opu-nakea	Awaous stamineus	Endemic	Special Concern*
Mosquito Fish	Gambusia affinis	Introduced	None
Wild Guppy	Lebistes reticulatus	Introduced	None
Smallmouth Black Bass	Micropterus dolomieui	Introduced	None
Largemouth Black Bass	Micropterus salmoides	Introduced	None
Tilapia	Sarotherodon mossambica	Introduced	None
Crustacea			
Tahitian Prawn	Macrobrachium lar	Introduced	None
Crayfish	Procambarus clarkii	Introduced	None
Mollusk			
Lymnaeid snail	Lymnaea sp.	Unknown	None
Pond snail	Melania sp.	Indigenous	None

*Deacon, et al 1979

Common Name	Scientific Name	Origin	Listing
Amphibia			
Toad	Bufo marimus tadpoles	Introduced	None
Bullfrog	Rana catesbeiana	Indigenous	None

According to Timbol, 4 sample stations, 2 downstream and 2 upstream of the existing Huleia Stream Bridge, were established. Only the toad and 'O'opu-nakea were found at all 4 sample stations. Eleven of the 12 species were found at the downstream stations, and only 8 species were found at the upstream sample stations. In general, there is a decrease in the number of species in an upstream direction.

According to the Department of Interior, who were contacted in accordance with Section 7(a) of the Endangered Species Act of 1973 (16 USC 1533), there are no known endangered or threatened species of aquatic macrofauna listed, proposed, or candidate for listing within the project limits.

7. Stream Hydrology

Stream hydrology indicates a 100-year flow of 23,000 cubic feet per second at the existing bridge crossing. Backwater effect caused by the existing bridge would cause localized flooding of the existing quarry access road. Appendix C contains the stream hydraulics report.

To date, there have been no known or recorded incidents of flooding in the vicinity of the existing Huleia Bridge crossing.

The U.S. Army Corps of Engineers has indicated that the project site is not in any designated flood plain or special flood hazard area. The Flood Insurance Study for Kauai County shows that the project site is in an area of "minimal flooding". (See page VI-7.)

8. Archaeological/Historical Sites

The State Historic Preservation Officer has concurred with the Department of Transportation's determination that this project will have no effect on any historically significant property (see memorandum from the Department of Land and Natural Resources (DLNR) to the Department of Transportation (DOT), December 29, 1983 in Appendix B). In addition, the existing Huleia Bridge ("Halfway Bridge") is not listed, nor is it being considered, for inclusion as a historical bridge structure by the State Historic Preservation Officer.

A field reconnaissance was conducted primarily along the stream banks of Huleia Stream and no archaeological sites were located within the project area. See Appendix B.

Menehune Fishpond, on the lower reaches of Huleia Stream, is listed on the National Register of Historical Sites. It is approximately 4.5 miles downstream from the project site.

9. Visual

The view plain from the highway is restricted by the cut slopes on the east approach roadway, and usually by the growth of the sugar cane on the west approach. The view at the stream crossing is obstructed by the height and thickness of the vegetation on the stream banks.

10. Noise and Air Quality

A noise study and an air quality study were conducted. No field measurements were necessary because of the lack of sensitive receptors in the project area, and the absence of human habitation/

activities both current and planned in or near the project area. See Appendix A for predicted noise level rationale and computation.

Due to the low traffic volumes projected for the highway, the predicted levels of air pollution are much lower than the State air quality standards. The nearest long-term monitoring station is located at Lihue, approximately 5 miles north of the project site. The annual summary of air monitoring stations in Hawaii is included in Appendix A.

B. Social Environment

1. Population

Between the years 1970 and 1980, the population of the Koloa and Lihue Districts increased 27.5% and 27.0%, respectively. These percentages are slightly below the 31.3% for the County, and slightly higher than the 25.3% for the State of Hawaii. Table 2 shows the County's population trend between 1960 and 1980.

TABLE 2. CENSUS POPULATION COUNTS FOR THE STATE OF HAWAII, COUNTY OF KAUAI, AND DISTRICTS OF KOLOA AND LIHUE: 1960 to 1980

Location	1960	1970	1980	Percent Change 1960 to 1970	Percent Change 1970 to 1980
State of Hawaii	623,772	769,913	965,000	21.7	25.3
County of Kauai	28,176	29,761	39,082	5.6	31.3
District of Koloa	7,012	6,851	8,734	- 2.3	27.5
District of Lihue	6,297	6,766	8,590	7.4	27.0

Source: The State of Hawaii Data Book, 1981, A Statistical Abstract, Department of Planning and Economic Development, November 1981

The State Department of Planning and Economic Development (DPED) forecasts the County of Kauai population will increase from its 1980 level of 39,082 to 60,400 by the year 2000 (see Table 3).

TABLE 3. POPULATION ESTIMATES AND PROJECTIONS, KAUAI COUNTY, 1985 TO 2000

Year	Kauai County
1985	40,600
1990	46,500
1995	53,100
2000	60,400

2. Transportation Facilities

Kaumualii Highway is the only public highway that provides access for residents of the west and southwest areas of Kauai to Lihue and areas north, and vice versa. The highway is functionally classified as a minor arterial highway.

Projected traffic data for Kaumualii Highway is shown in Table 4.

TABLE 4. TRAFFIC DATA

Traffic Data	Year		
	1984	1993	2003
Average Daily Traffic (ADT)	13,700	19,000	24,300
Design Hourly Volume (DHV)	---	---	2,290
Truck Percentages 24 Hours (T_{24})	6.0	6.0	6.0
Peak Hour Factor (K) - AM Peak	8.5	8.5	8.5
- PM Peak	9.5	9.5	9.5
Distribution Factor (D) - AM Peak	75/25	75/25	75/25
- PM Peak	60/40	60/40	60/40
Truck Percentage (T) - AM Peak	6.0	6.0	6.0
- PM Peak	4.0	4.0	4.0
Peak Hour Traffic	1,290	1,790	2,290
Peak 8-Hour Traffic	7,995	11,090	14,180

3. Business and Industry

The Lihue-Nawiliwili region serves as the political, transportation and service center of the County of Kauai. Most Federal, State and County government offices are headquartered in Lihue. At the time of the last business census (1977), Lihue had only 30% of all retail trade establishments on Kauai, but accounted for 50% of the total annual sales. In addition, Lihue had 33% of all service industries on Kauai and accounted for 51% of the annual receipts.

C. Economic Setting

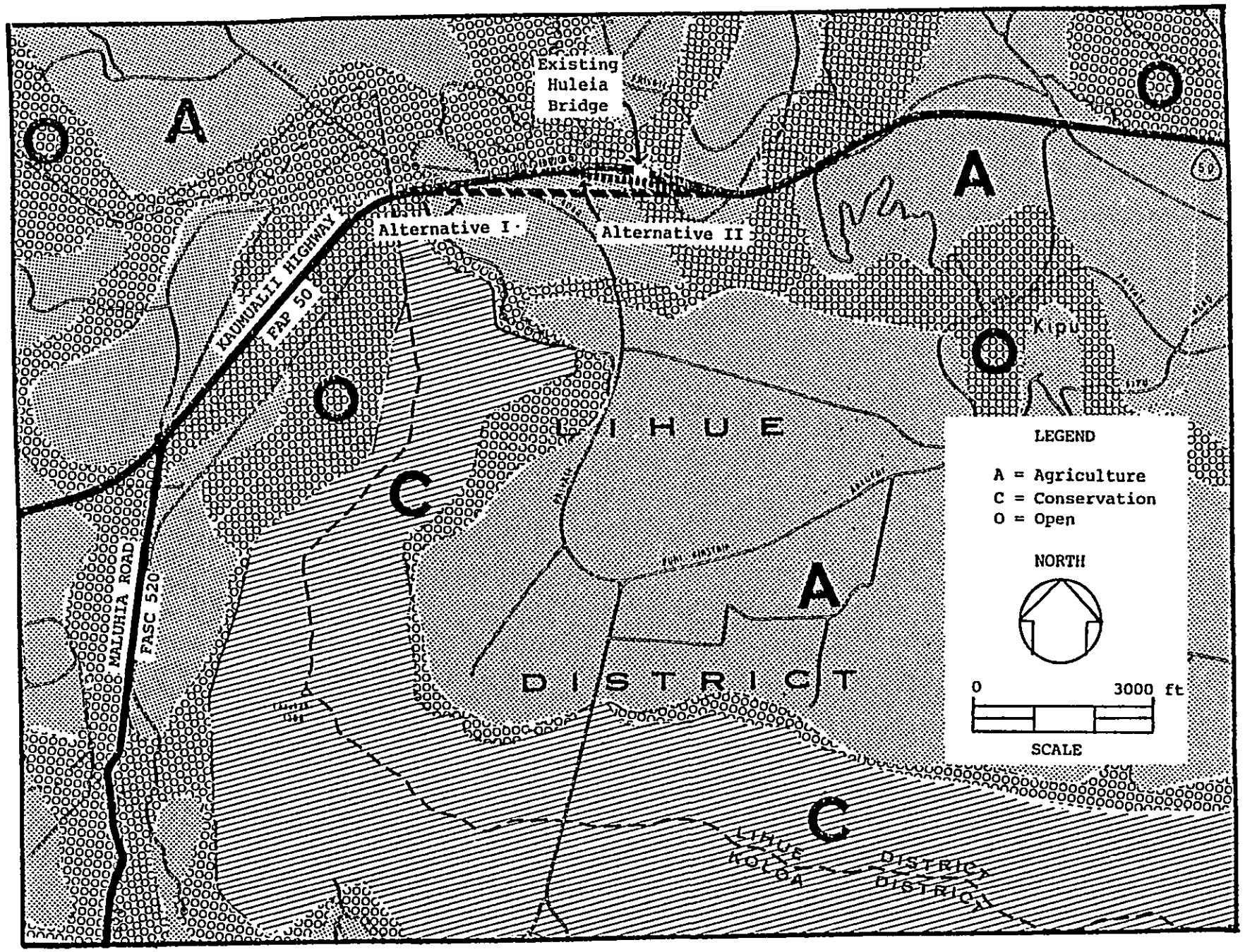
1. Land Use

The project traverses lands that are designated as Agricultural District by the State, are zoned Open (O) and Agricultural (A) District by the County of Kauai, and are zoned Open and Agricultural on the County of Kauai General Plan. Figure 8 shows the land use of the area in and near the project site.

The approach roadways for Alternatives I and II traverse agricultural lands that are planted in sugar cane at the present time. The land area within the Huleia Stream banks are designated as Open areas. The project does not encroach into any lands designated as Conservation.

Alternatives I and IA are contained within lands owned by Grove Farm Company, Inc. in Tax Map Key (TMK): 3-4-06:1, and leased to McBryde Sugar Company, Ltd. Alternative II and Recommended Alternative IIA also traverse lands that are primarily owned by Grove Farm Company, Inc. in TMK: 3-4-06:1. There are slivers of land adjacent to the existing State right-of-way in TMK: 3-4-01:2; TMK: 3-4-01:3; and TMK: 3-4-05:3 that are required for construction of Alternatives II and IIA, and are owned by Grove Farm Co., Inc. and leased to Lihue Plantation Co., Inc.

The closest commercial activity is the Grove Farm Company quarry operations just north of the existing bridge site, a distance of approximately 1,000 feet. There are no residences within a mile of the project site.



LAND USE MAP

FIGURE 10

SECTION IV.

ENVIRONMENTAL CONSEQUENCES

SECTION IV. ENVIRONMENTAL CONSEQUENCES

A. Urban and Community Impacts

1. Social and Economic Impacts

The proposed project is not anticipated to have any adverse social impacts, since this project is located on lands that are used for agricultural (sugar cane) purposes or open areas. There are no businesses or residences within the project area or adjacent to the existing highway. Further, it is not anticipated that the proposed project will, of and by itself, induce growth in a particular area. The project proposes to simply replace a structurally deficient bridge structure that is also geometrically obsolete. It does not increase the number of traffic lanes to the highway, nor does it significantly increase its traffic carrying capacity.

However, there will definitely be benefits to be derived by all users of this section of Kaumualii Highway by implementing recommended Alternative IIA. Replacement of the existing bridge will reduce the frequency of bridge maintenance work in the future, thereby reducing the inconvenience to motorists using the route, and also reducing the potential for accidents resulting from bridge maintenance activities. Flattening the approach roadway grades, or the addition of a truck climbing lane in the westbound direction, and the addition of the jug-handle on-ramp in the Lihue-bound direction, will also improve the safety of the roadway by reducing the potential for rear-end collisions. Finally, upgrading the bridge geometrics to current standards by carrying the approach roadway shoulders across the structure will also add to pedestrian and bicyclist safety.

A short-term economic gain is the creation of construction jobs and related services. Although this will be of short duration, approximately 9 to 12 months, the project will create work for the construction industry, as well as for the service industries, such as the rock quarries, concrete and asphalt plants, and suppliers of construction materials, such as pipes and reinforcing bars.

2. Relocation Impacts

There are no residents or businesses to be relocated by the proposed project. Relocation assistance is available should relocatable agricultural equipment/facilities be affected.

3. Land Use Impacts

The proposed project will not significantly alter the overall present land use designations or zoning within the project area.

4. Considerations Relating to Pedestrians and Bicyclists

The proposed project, by conforming to current bridge geometrics, will carry the approach roadway shoulders across the bridge, thereby providing an area for pedestrians and/or bicyclists away from the traveled way. The existing bridge structure has no shoulders and provides a 3'-10" sidewalk area on one side of the bridge only.

5. Visual

a. Impacts

The alternatives, including the recommended alternative, which propose new bridge crossings (Alternatives I and II), will require new cuts into the hillside on the east approach roadway, and require clearing of the thick tree growth within the stream

bank area. The west approach roadway will be through sugar cane fields. The exposed cut face will project a bare scar until landscape takes hold and covers the slope face. Clearing of the area between the stream banks will not be as noticeable because there will continue to be stands of tall trees on both the upstream and downstream sides of the bridge crossing.

Landscaping on the completed portion of the west approach roadway will enhance the aesthetics of the roadway through the sugar cane fields.

b. Mitigation Measures

Mitigative measures through the cut area include proper benching to reduce the adverse effects of loose materials falling from great heights, adequate drainage systems both at top of cut and on the benches, erosion protection plantings, and long-term landscaping with appropriate plantings to cover the exposed slope surfaces.

Tree removal in and along the stream banks will remove only those trees that are in the way of the bridge construction. The bridge design will consider architectural treatment to blend the bridge structure into its surrounding environment.

B. Physical Impacts

1. Air Quality and Noise

a. Impact

The proposed improvements are in conformance with the State Implementation Plan for Air Quality.

During construction of the proposed project, dust and exhaust emission from construction activities and equipment would be emitted. Noise generated by construction equipment and activities will be noticeable in the immediate area of the project. However, as indicated earlier, there are no sensitive receptors identified at or near the project area.

b. Mitigation Measures

The adverse effects of construction activities are all of short duration, probably no more than a period of 9 to 12 months. Dust will be controlled by watering or other appropriate methods.

2. Energy

Generally, the alternatives considered were such that there would be no significant differences in the energy consumption from the standpoint of fuel consumed. However, there are differences for the energy consumption (in the form of construction material costs) for the alternatives under consideration. These are roughly estimated as indicated below.

Alternative	Construction BTU
I	8.93×10^{10}
IA	9.12×10^{10}
II	6.54×10^{10}
IIA(Recommended)	7.36×10^{10}
IIIA	3.31×10^{10}
IIIB	4.18×10^{10}
IIIC	6.63×10^{10}

Alternative III with detour alternative A appears to have the lowest estimated BTU requirements for the construction materials.

3. Stream Hydraulics (Flood Plain)

The 100-year flood for Huleia Stream has a discharge of 23,000 cubic feet per second (cfs) at the existing bridge crossing. Hydraulic analysis of the existing bridge crossing indicates that the backwater effect will cause some flooding along the low point of the Quarry Access Road. The existing bridge structure will be demolished and removed, which should eliminate the potential for flooding along the low point of the Quarry Access Road. The new bridge crossing then will be designed to create minimal backwater effects.

Should any fill be placed in the stream's ordinary high water mark for the new bridge structure or for a temporary bridge structure, a Section 404 Department of the Army permit will be obtained. However, this would not be considered a significant flood plain encroachment.

4. Soil Erosion

a. Impacts

During construction, there will be some erosion of the cleared and graded areas by storm runoff, which could result in temporary siltation of the Huleia Stream waters.

After the project is completed, it is anticipated that storm runoff from the roadway will not adversely impact the quality of the stream waters. The bridge replacement facility will be nearly similar to the existing facility and should, therefore, not significantly increase road surface pollutants washed into the stream waters.

b. Mitigation Measures

Appropriate erosion control measures, planned and contracted as a part of the total job and applied immediately following grading, would significantly reduce erosion and siltation of Huleia Stream waters during construction. The State Department of Transportation will initiate and implement erosion control measures as specified in Section 639 - "Temporary Project Water Pollution Control (Soil Erosion)" of the State of Hawaii Standard Specifications for Road and Bridge Construction, dated 1976.

During grading and other construction activities, the temporary measures that could be applied include: mulching with bagasse, hay, netting, or use of other suitable material to protect exposed surfaces from erosion; construction of temporary berms and slope drains; construction of sediment traps and siltation basins; hydro-mulching or seeding with quick-growing species of grasses; and other measures appropriate to the situation. Temporary measures to control runoff should be taken by the Contractor at the end of each working day.

Permanent erosion control measures include landscaping and planting of ground cover on all exposed slopes. New areas exposed to stream flows will be protected by rock revetments, netting, or plantings of fast-growing species appropriate to stream bank growth.

Outlet of drainage structures, where warranted, will be protected from erosion by rock or other dissipators to reduce the discharge velocity from the outlet structures.

Consideration will also be given to construction scheduling so most of the grading work can be completed and stabilized before the wet months of the year.

Road pollutants entering the stream can be significantly reduced by installing grease traps, as part of the on-site drainage system, just prior to discharge into the stream. The grease traps will require regular maintenance to keep them effective.

5. Flora and Fauna

a. Impacts

Construction of a new bridge will cause the destruction of trees and shrubs, especially in the unimproved (open) area of Huleia Stream, within the limits of the alternative to be constructed. Some of the trees in the area are in excess of 50 feet in height. However, there are no known species of endangered or rare plant life in the project area.

The fauna will be affected by the new construction, and the habitat for birds and wildlife will be destroyed. However, it is anticipated that the wildlife will evacuate the area as the construction work progresses and establish new habitats in nearby areas.

The aquatic community may be disturbed during construction as a result of increased turbidity in the stream from construction activities. However, the stream flow characteristics will not be altered, as there are no plans to realign the existing streambed, or to construct within the streambed area.

b. Mitigation Measures

Bridge site for Alternative IIA is located downstream of the existing Huleia Bridge crossing. The existing bridge structure will be demolished and removed.

As part of the design of the replacement bridge, careful selection of trees to be destroyed and, conversely, trees to be retained and protected, will be indicated on the construction plans to minimize the unnecessary destruction of the larger trees within the project area.

See page IV-6 for discussion on erosion control for mitigation measures to minimize the effect of soil erosion due to construction activities on the water quality of the stream.

After completion of the bridge and roadway construction, it is probable that the wildlife that evacuated their habitats during construction would return to the general area, since much of the shrub and ground cover will quickly grow back.

6. Prime and Unique Agricultural Lands

The State Department of Agriculture has identified the sugar cane lands over which Alternatives I and II traverse as "prime" according to the "Agricultural Lands of Importance to the State of Hawaii (ALISH)" classification system. These lands have Land Study Bureau Overall Productivity Ratings of "C" and "D", which mean the land is of average productivity for selected crops such as sugar cane.

Alternative I would remove approximately 16.8 acres of prime sugar cane land from production, while Alternative IA would remove

about 14.0 acres from sugar cane production. Alternative II would remove about 5.2 acres from cane production, and Recommended Alternative IIA would remove about 6.4 acres from cane production. Therefore, implementation of the project could result in a reduction of about 64 tons of raw sugar, based upon 10 tons of raw sugar per acre. Based upon the price of sugar at $360/ton, the displaced cane lands would gross about $23,000 per growing cycle.

In addition, the project would remove about 6.4 acres from the tax rolls, and could result in a revenue loss in property tax of about $10 per year to the County.

The loss of agricultural land in essence is unmitigable since it represents a permanent loss of land resources. The maximum 16.8 acres of prime land represents approximately 0.04% of all agricultural lands in sugar cane on the Island of Kauai (State of Hawaii Data Book, 1981, claims Kauai has 46,000 acres of sugar cane under cultivation on Kauai). The approximately 6.4 acres of sugar lands required by Recommended Alternative IIA represents 0.01% of Kauai's sugar cane lands under cultivation.

C. Historic and Archaeological Preservation

The proposed project is not anticipated to have any effect upon known historic or archaeological sites listed in, or likely to be eligible for inclusion in, the Hawaii Register and/or National Register of Historic Places. In the event any unanticipated historical or archaeological sites or remains are uncovered during construction, construction will be halted and the State Historic Preservation Officer will be contacted immediately.

D. Unavoidable Adverse Environmental Impacts

The primary unavoidable adverse environmental impact resulting from the proposed project is the loss of 6.4 acres of prime agricultural lands.

Construction activity will create noise, fugitive dust, silt and exhaust emissions. Excessive siltation from unprotected areas may result if intensive rainfall occurs prior to stabilization.

E. The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

The use of agricultural land for the Huleia Bridge Replacement will provide transportation benefits, but will also remove from sugar cane cultivation prime agricultural lands for generations to come.

F. Irreversible and Irretrievable Commitments of Resources

The construction of the Huleia Bridge Replacement will require the commitment of materials, manpower, energy resources and public funds. None of the construction materials used for the bridge replacement project will be recoverable, with the exception of salvageable materials from the detour construction. Public funds and labor, once expended, are irretrievable.

The agricultural land is another resource which will be committed to the construction of the project. Though the removal of land from agricultural use is theoretically not an irretrievable commitment, it is in practice.

G. Governmental Policies Which Offset Adverse Environmental Effects

Federal legislation and policies designed to protect the environment have been followed throughout the planning of this project. These include

the National Environmental Policy Act (NEPA), the Endangered Species Act, the Federal Water Pollution Control Act, Executive Order 11988 (Flood Plain Management), and the Historic Preservation Act.

The major State of Hawaii environmental policies include Chapter 343, Hawaii Revised Statutes (EIS), and Public Health Regulations Chapter 37-A (Water Pollution), 37-B (Erosion Control), 42 and 43 (Air Quality), and 44-B (Community Noise).

SECTION V.

PROJECT APPROVALS AND CLEARANCES REQUIRED

SECTION V. PROJECT APPROVALS AND CLEARANCES REQUIRED

As of the date of this EIS document, the proposed highway improvements require the following clearances and/or permits prior to construction:

1. Grading permit from County of Kauai, Department of Public Works. (Pending completion of construction plans.)

2. Applicable provisions of Ordinance No. 175, the Subdivision Ordinance of the County of Kauai.

3. Section 404, Department of Army Permit for construction with the ordinary high water mark of Huleia Stream (depending upon the final construction plan.)

It should be recognized that, in addition, an accepted EIS document is a pre-requisite for several of the above clearances/permits. This EIS document is prepared to meet both Federal and State requirements for an EIS.

SECTION VI.

COMMENTS AND COORDINATION

SECTION VI. COMMENTS AND COORDINATION

A. COMMENTS TO THE EIS PREPARATION NOTICE

U.S. Government	Response Date
Advisory Council on Historic Preservation	No Response
Department of Agriculture	
Soil Conservation Service	7-02-82*
Forest Service	7-15-82*
Department of Commerce	
Economic Development Administration	No Response
Environmental Affairs	No Response
National Marine Fisheries Service	6-17-82
Department of Defense	
U.S. Army Corps of Engineers	7-01-82
Department of Health, Education and Welfare	No Response
Department of Housing and Urban Development	No Response
Department of the Interior	
Assistant Secretary - Program Policy Director	No Response
Pacific Division - Fish and Wildlife Service	7-01-82
Department of Transportation	
Federal Aviation Administration	6-30-82
U.S. Coast Guard	No Response
Environmental Protection Agency	No Response
Federal Energy Administration	No Response

*No Comments

	Response Date
State Agencies	
Department of Agriculture	7-08-82
Department of Accounting and General Services	No Response
Department of Defense	6-21-82*
Department of Education	6-22-82
Department of Health	7-01-82
Department of Hawaiian Home Lands	No Response
Department of Land and Natural Resources	7-06-82
Department of Planning and Economic Development	7-06-82*
Department of Social Services and Housing	No Response
Office of Environmental Quality Control	No Response
University of Hawaii	
Environmental Center	No Response
Water Resources Research Center	No Response
County Government (Kauai)	
Jeremy Harris, Kauai County Council Chairman	No Response
Department of Planning	7-07-82
Department of Public Works	No Response
Department of Water Supply	No Response
Fire Department	No Response
Police Department	No Response
Elected Officials	
U.S. Senator Spark M. Matsunaga	7-14-82
U.S. Senator Daniel K. Inouye	No Response

*No Comments

	Response Date
U.S. Representative Daniel K. Akaka	No Response
State Representative Richard A. Kawakami	No Response
State Representative Tony T. Kunimura	No Response
State Representative Dennis R. Yamada	No Response
State Senator George H. Toyofuku	No Response
Mayor Eduardo Malapit	No Response
Public Utilities	
Kauai Electric Company	6-22-82
Hawaiian Telephone Company	6-25-82
Honolulu Gas Company	No Response
Organizations	
Bishop Museum	7-12-82
Conservation Council	No Response
Life of the Land	No Response
Kauai Outdoor Circle	No Response
Hawaii Audubon Society	No Response
Kauai Chamber of Commerce	8-24-82
Lihue Businessmen's Association	No Response
The Garden Island	No Response
American Lung Association	No Response
Kauai Historical Society	No Response
Kauai Community Research Group	No Response
Kauai Times	No Response
Sierra Club	No Response

	Response Date
Lihue Development Plan Advisory Committee	No Response
Hawaii Transportation Association	7-02-82
Lihue Plantation Co., Ltd.	No Response
McBryde Sugar Company	No Response
Grove Farm Company, Inc.	No Response
Kauai School Bus Association	8-12-82
Byron Cleeland	6-23-82

Hwy 3271

United States Department of Agriculture

Soil Conservation Service

P.O. Box 50004
Honolulu, Hawaii
96850

July 2, 1982

Mr. Ryokichi Higashionna
Director of Transportation
Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813

Dear Mr. Higashionna:

Subject: EIS Preparation Notice for the Kaumualii Highway, Huleia Bridge Replacement, Project No. DP-050-1(4)

We have reviewed the subject preparation notice and have no comments to make.

Thank you for the opportunity to review this document.

Sincerely,

FRANCIS C. H. LUI
State Conservationist

VI-5

RECEIVED
JUL 6 10 49 AM '82
HIGHWAYS DIVISION
DEPT. OF TRANSPORTATION
STATE OF HAWAII

The Soil Conservation Service is an agency of the Department of Agriculture

SCS-AS-1
10-79

Hwy 3271

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
630 Sansome Street
San Francisco, California 94111

DIRECTOR'S OFFICE

Jun 19 1 18 PM 1950
July 15, 1982

DEPT. OF TRANSPORTATION

Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Gentlemen:

The U.S. Forest Service has received and reviewed your preparation notice for an EIS relative to the Huleia Bridge Replacement and Approaches, Project Number DP-050-1(4). We have no comments, and it will not be necessary for you to send us any further information on this project.

JON D. KENNEDY, Director
Land Management Planning

RECEIVED
JUL 19 2 33 PM '82
HIGHWAYS DIVISION
DEPT. OF TRANSPORTATION
STATE OF HAWAII

1970

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
Western Pacific Program Office
P. O. Box 3830
Honolulu, Hawaii 96812

June 17, 1982 F/SWR1:ETN

Mr. Ryokichi Higashionna
Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

Subject: Kaumualii Highway, Huleia Bridge Replacement, Project No. DP-050-1(4), Environmental Impact Statement Preparation Notice.

We have reviewed the subject Preparation Notice and offer the following comments for your consideration in development of the Draft Environmental Impact Statement (DEIS).

1. The potential impacts to marine recreational and commercial fisheries resources dependent upon Huleia Stream including those found in or near Nawiliwili Bay should be considered in the DEIS.

2. Mitigation measures for stream siltation and pollution during construction should be discussed in detail.

Thank you for the opportunity to provide comments. We look forward to receiving the DEIS when it is completed.

Sincerely yours,

Eugene T. Nitta
for Doyle E. Gates
Administrator

cc: FWS-Ecological Services

VI-6

RECEIVED
JUN 21 1982
STATE DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH
Jun 21 10 35 AM '82

RECEIVED
JUN 22 1982
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
Honolulu, Hawaii 96813

JUL 20 1982

0-12-1(4)

DIRECTOR'S OFFICE
Jul 19 1 25 PM '82
DEPT. OF TRANSPORTATION

1970
HWY-PA
2.71017

Mr. Doyle E. Gates, Administrator
U. S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P. O. Box 3830
Honolulu, Hawaii 96812

Dear Mr. Gates:

Kaumualii Highway, Huleia Bridge Replacement,
Project No. DP-050-1(4), Environmental Impact
Statement Preparation Notice

Thank you for your letter of June 17, 1982, commenting on the EIS Preparation Notice.

Your concerns on the potential impacts to marine fisheries resources, including those found in or near Nawiliwili Bay will be discussed in the Draft EIS.

The mitigation measures for stream siltation and pollution during construction will also be addressed in the Draft EIS.

As requested, we will send you a copy of the Draft EIS when it is completed.

Very truly yours,

Ryokichi Higashionna
Ryokichi Higashionna
Director of Transportation

AN:gm

cc: HWY-K
FHWA
Austin, Tsutsumi & Associates

2077

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858

PODED-PV

1 July 1982

RECEIVED
JUL 7 8 46 AM '82
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

Dr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Thank you for the opportunity to review the Environmental Impact Statement Preparation Notice for the Kaumualii Highway, Huleia Bridge Replacement, Project No. DP-050-1(4), sent to us on 10 June 1982. Based on our review we provide the following comments.

a. A Department of the Army permit is not required for this project.

b. The proposed Huleia Bridge Replacement Structure and highway realignment is not in any designated flood plain or special flood hazard area. According to the Flood Insurance Study for Kauai County, prepared by the Federal Insurance Administration (FIA) of the U.S. Federal Emergency Management Agency, the project site is designated Zone C, or area of minimal flooding. Inclosure 1 is the Flood hazard map for the project area prepared as part of the FIA Flood Study.

Sincerely,

KISUK CHEUNG
Chief, Engineering Division

1 Incl
As stated

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
JUN 8 8 00 AM '82
HIGHWAYS DIVISION
PLANNING BRANCH

VI-7

established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638 6620.

APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

KAUAI COUNTY, HAWAII

PANEL 185 OF 225
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
150002 0185 B

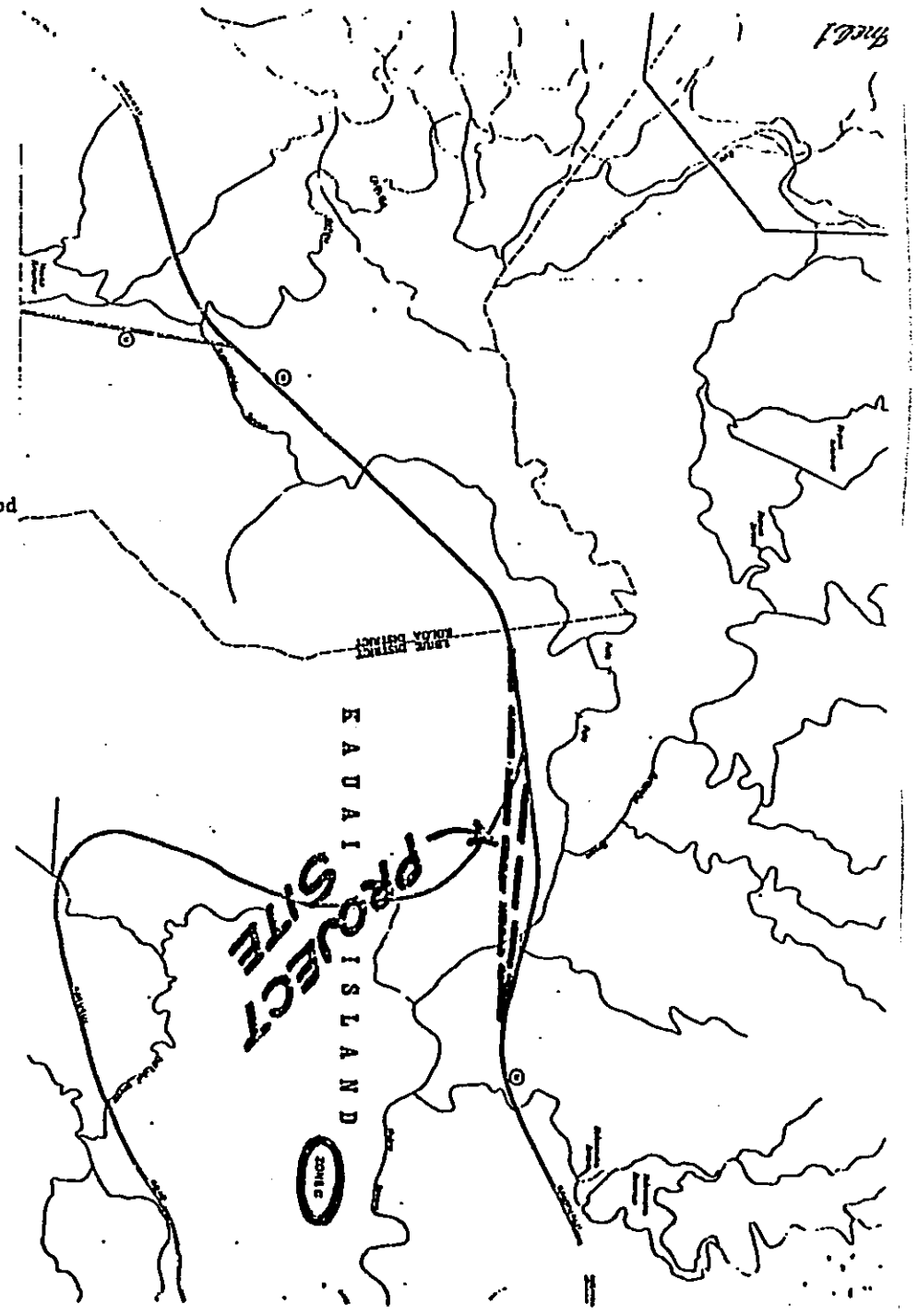
EFFECTIVE DATE:
NOVEMBER 4, 1981

federal emergency management agency
federal insurance administration

Incl 1

EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30*	Areas of 100-year flood, base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30*	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.
*	The numerals indicate the magnitude of difference between the 100-year and 10-year flood elevations. For numerals between 1-20, the difference is one half of the value; for values greater than 20, the difference is 10 less than the numerals shown. This information is used in establishing insurance rates.
18	100-year tsunami or riverine elevation line, with elevation in feet above mean sea level.
	Zone boundary line

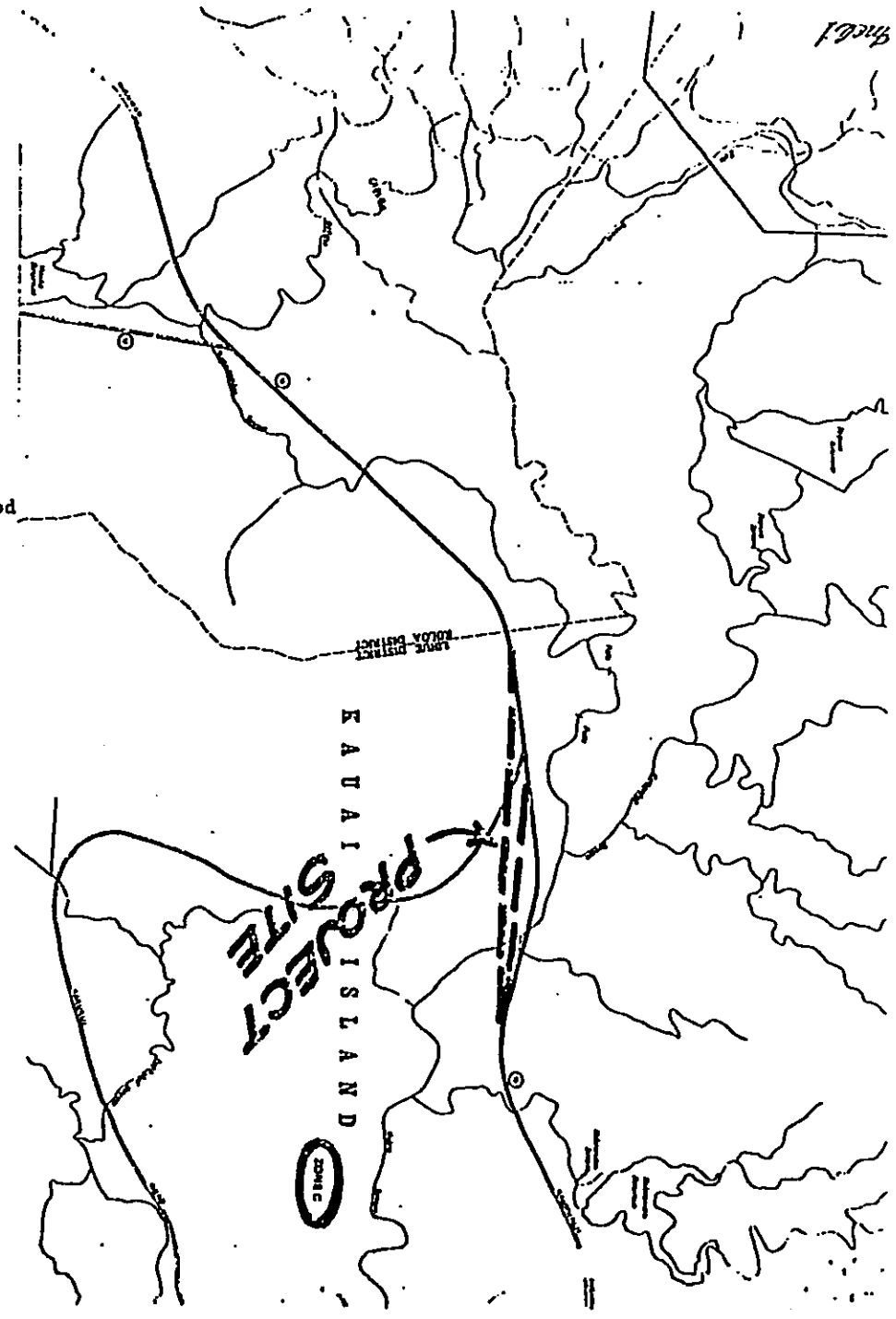


CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30*	Areas of 100-year flood, base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30*	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.
*	The numerals indicate the magnitude of difference between the 100-year and 10-year flood elevations. For numerals between 1-20, the difference is one half of the value; for values greater than 20, the difference is 10 less than the numerals shown. This information is used in establishing insurance rates.
~~18~~	100-year tsunami or riverine elevation line, with elevation in feet above mean sea level.
	Zone boundary line



2079

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858

POED-PV

1 July 1982

Dr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

RECEIVED
Jul 7 8 46 AM '82
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Dear Dr. Higashionna:

Thank you for the opportunity to review the Environmental Impact Statement Preparation Notice for the Kaumualii Highway, Huleia Bridge Replacement, Project No. DP-050-1(4), sent to us on 10 June 1982. Based on our review we provide the following comments.

a. A Department of the Army permit is not required for this project.

b. The proposed Huleia Bridge Replacement Structure and highway realignment is not in any designated flood plain or special flood hazard area. According to the Flood Insurance Study for Kauai County, prepared by the Federal Insurance Administration (FIA) of the U.S. Federal Emergency Management Agency, the project site is designated Zone C, or area of minimal flooding. Inclosure 1 is the Flood hazard map for the project area prepared as part of the FIA Flood Study.

Sincerely,

KISUK CHEUNG
Chief, Engineering Division

1 Incl
As stated

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Jul 8 8 00 AM '82
HIGHWAYS DIVISION
PLANNING BRANCH

VI-7

established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638 6620.

APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

KAUAI COUNTY, HAWAII

PANEL 185 OF 225
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
150002 0185 B

EFFECTIVE DATE:
NOVEMBER 4, 1981

federal emergency management agency
federal insurance administration

Incl 1

2085-

GEORGE R ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PhD
DIRECTOR

DEPUTY DIRECTORS
WAYNE J YAMASAKI
JAMES R CARTAS
JAMES B McCORMICK
JONATHAN K SHIMADA, PhD

IN REPLY REFER TO
HWY-PA
2.71058

July 27, 1982

Mr. Kisuk Cheung, Chief
Engineering Division
Department of the Army
U. S. Army Engineer District, Honolulu
Fort Shafter, Hawaii 96858

Dear Mr. Cheung:

VI-9

Kaumualii Highway, Huleia Bridge
Replacement, Project No. DP-050-1(4),
Environmental Impact Statement
Preparation Notice

Thank you for your letter of July 1, 1982, relative to the EIS Preparation Notice.

We appreciate the information that a Department of Army permit is not required for this project, and that the project site is not in any designated flood plain or special flood hazard area.

Very truly yours,

Ryokichi Higashionna
Director of Transportation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P O BOX 50167
HONOLULU, HAWAII 96850

STATE DEPARTMENT OF TRANSPORTATION
Jul 8 8 00 AM '82
HIGHWAYS DIVISION
PLANNING BRANCH

ES
Room 6307

JUL 1 1982

Dr. Ryokichi Higashionna
Director, Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: EIS Preparation Notice for
Kaumualii Highway, Huleia
Bridge Replacement, Kauai,
Hawaii

Dear Dr. Higashionna:

We have reviewed the Environmental Impact Statement (EIS) preparation notice for Kaumualii Highway, Huleia Bridge Replacement, dated June 10, 1982 and offer the following comments.

We suggest that the EIS note the location of the Huleia National Wildlife Refuge along the lower reaches of the Huleia River, and include the results of a biological reconnaissance survey of aquatic resources in the river. The document might also address precautions to avoid undue siltation in Huleia River.

To the best of our knowledge, there are no endangered or threatened species, listed, proposed, or candidate for listing, in the proposed project area.

We appreciate this opportunity to comment.

Sincerely yours,

Ernest Kosaka
Project Leader
Office of Environmental Services

cc: NMFS - WPFO
HDF&G
EPA, San Francisco

JUL 7 8 45 AM '82
HIGHWAYS DIVISION
PLANNING BRANCH

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

RECEIVED
JUL 29 1982
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
Honolulu, Hawaii 96813

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

RYOKICHI HIGASHIONNA, PhD
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES D. CARRAS
JAMES D. McCORMICK
JONATHAN K. SHIMADA, PhD

IN REPLY REFER TO
HWY-PA
2.71059

July 27, 1982

Mr. Ernest Kosaka, Project Leader
Office of Environmental Services
U. S. Department of the Interior
Fish and Wildlife Service
P. O. Box 50167
Honolulu, Hawaii 96850

Dear Mr. Kosaka:

Kaumualii Highway, Huleia Bridge
Replacement, Project No. DP-050-1(4),
Environmental Impact Statement
Preparation Notice

Thank you for your letter of July 1, 1982, commenting on the EIS Preparation Notice.

The location of the Huleia National Wildlife Refuge along the lower reaches of Huleia Stream will be included in the EIS. Although a field reconnaissance of aquatic resources in the stream is not contemplated at this time, research with the State Department of Land and Natural Resources Fish and Game Division will be conducted to get a listing of the possible major faunal species that may occupy the reach along the bridge construction site.

The EIS will discuss mitigating measures to reduce the effect of stream siltation and pollution during construction.

Very truly yours,

Ryokichi Higashionna
Director of Transportation

VI-10

US Department
of Transportation
Federal Aviation
Administration

P.O. Box 50244
Honolulu, HI 96850

JUN 30 1982

Dr. Ryokichi Higashionna
Director
DOT, State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

In response to your letter HWY-PA 2.69967 dated June 10, 1982, concerning the EIS Preparation Notice for the proposed Kaumualii Highway, Huleia Bridge Replacement near Koloa, Kauai, this is to advise that the proposal would have no adverse effect on any aeronautical interests in the area.

Thank you for the opportunity to review and comment on this proposed project.

Sincerely,

James M. Cox

JAMES M. COX
Chief, Airports District Office

JUL 28 4 47 PM '82
DEPT OF TRANSPORTATION
HONOLULU, HAWAII

GEORGE R. ARIYOSHI
GOVERNOR

JACK K. SUWA
CHAIRMAN, BOARD OF AGRICULTURE

SUZANNE D. PETERSON
DEPUTY TO THE CHAIRMAN

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814

Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822

July 8, 1982

MEMORANDUM

To: Mr. Ryokichi Higashionna, Director
Department of Transportation

Subject: Environmental Impact Statement Preparation Notice
Kaumualii Highway, Huleia Bridge Replacement,
Project No. DP-050-1(4)
TMK: 3-4-6 Lihue, Kauai

The Department of Agriculture has reviewed the subject notice and offers the following comments.

The approximate area of both bridge alternatives is classified mostly as "Prime" according to the Agricultural Lands of Importance to the State of Hawaii (ALISH) classification system. Small sections of "Other Important" classified lands and lands not classified according to the ALISH system also are traversed by both alternatives. The Soil Conservation Service Soil Survey identifies the soils as: (1) Kapaa silty clays (KkB, KkC and KkD) with 3-25 percent slopes which are used for sugarcane, pasture, pineapple, orchards and truck crops, (2) Hanamaulu silty clay (HsD) with 15-25 percent slopes which is used for sugarcane and pasture, and (3) Rough broken lands (rRR). The crop Capability Classes for these soils are IIIs, IIIe, IVe, IVe and VIIe, respectively. Soils with Capability Classes of III and IV require careful management to permit maximum cultivable use of the soils.

The subject area has Land Study Bureau Overall Productivity Ratings of "C", "D" and "E". Except for the strip of "E" rated lands on the banks of streams, the subject area has fair to excellent crop productivity potential for sugarcane, grazing and orchard.

Since sugar cultivation is extensively practiced in the subject area, either of the two proposed actions will have some impact on the agricultural resources of the area. The implementation of either alternative will result in the loss of productive agricultural land. Furthermore, affected irrigation facilities and cane haul roads may have to be relocated in order to accommodate construction and operation of a new bridge.

The impacts to the region and to adjacent agricultural activities as a result of the net loss of cultivable agricultural land and the possible relocation of agricultural support facilities should be thoroughly studied and appropriate mitigative measures proposed. Also, to reduce the net loss of agricultural lands as a result of bridge realignment, the possibility of converting the lands under the current bridge into agricultural use should be investigated.

Thank you for the opportunity to comment.

Suzanne D. Peterson
for JACK K. SUWA
Chairman, Board of Agriculture

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

July 27, 1982

MEMORANDUM

TO: The Honorable Jack K. Suwa, Chairman
Department of Agriculture

FROM: Director of Transportation

SUBJECT: KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT, PROJECT NO. DP-050-1(4), ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

VI-12

We thank you for your letter of July 8, 1982, commenting on the EIS Preparation Notice.

The soil classifications within the project area will be included in the Draft EIS.

The impacts to the region as a result of less net cultivatable agricultural lands will be thoroughly discussed, along with mitigating measures in the Draft EIS. Relocation assistance is available should relocatable agricultural support facilities be affected by the proposed action. The possibility of converting the lands under the present bridge into agricultural lands will be investigated.

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Gentlemen:

Kaumualii Highway, Huleia Bridge Replacement,
Project No. DP-050-1(4), Environmental Impact
Statement Preparation Notice

Thank you for providing us the opportunity to review the proposed project, "Kaumualii Highway, Huleia Bridge Replacement" Environmental Impact Statement Preparation Notice.

We have completed our review and have no comments to offer at this time.

Yours truly,

Jerry M. Matsuda

JERRY M. MATSUDA
Captain, HANG
Contr & Engr Officer

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL

21 JUN 1982

GEORGE R. ARIYOSHI
GOVERNOR

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

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

JOHN F. CHALMERS, M.D.
DEPUTY DIRECTOR OF HEALTH

HENRY M. THOMPSON, M.A.
DEPUTY DIRECTOR OF HEALTH

MELVIN H. GOKUMI
DEPUTY DIRECTOR OF HEALTH

AMELIA MADRID SHAW, M.A., J.D.
DEPUTY DIRECTOR OF HEALTH

In reply, please refer to:
File: EPHSD-SS

July 1, 1982

Ryokichi Higashionna
Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

Subject: Request for Comments on Proposed Environmental Impact Statement (EIS) for Kaumualii Highway, Huleia Bridge Replacement, Project No. DP-050-1(4), Environmental Impact Statement Preparation Notice

Thank you for allowing us to review and comment on the subject proposed EIS.

During construction effective water pollution control measures shall be employed including soil erosion control. Effective air pollution control measures shall be provided particularly for fugitive dust emissions during construction. Grub material shall be disposed of in a manner approved by the Department of Health. Open burning is prohibited.

Sincerely,

CHARLES C. CLARK
Director of Health

RC:jh

RECEIVED
STATE DEPARTMENT
OF TRANSPORTATION
Jul 8 8 00 AM '82
HIGHWAYS DIVISION
PLANNING BRANCH

VI-13

GEORGE R. ARIYOSHI
GOVERNOR

DR DONNIS H. THOMPSON
SUPERINTENDENT

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

OFFICE OF THE SUPERINTENDENT

June 22, 1982

MEMO TO: Dr. Ryokichi Higashionna, Director
Department of Transportation

FROM: Dr. Donnis H. Thompson, Superintendent
Department of Education

SUBJECT: EIS Preparation Notice
Kaumualii Highway, Huleia Bridge Replacement

The Department of Education concurs with the proposed plan to replace the existing Huleia Stream Bridge. The new bridge will insure that bus transportation of students over Huleia Stream will be routed over a safe bridge structure.

Thank you for the opportunity to comment on the EIS preparation.

DHT:HL:jl

cc: Kauai District

RECEIVED
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION
Jun 28 8 40 AM '82

AN EQUAL OPPORTUNITY EMPLOYER

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES
EDGAR A. HAWASU
DEPUTY TO THE CHAIRMAN
DIVISIONS:
AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

JUL 6 1982

Your: HHA-PA
2.69967

Dr. Ryokichi Higashionna
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Thank you for the opportunity to review the EIS Preparation Notice for the new Huleia Bridge (Project No. DP-050-1(4)). We do have a number of comments to offer.

Recreation

No known recreation interests are involved. No Land and Water Conservation Fund projects will be affected by this proposal.

Historic Sites

Our records indicate that this project does not occur on historic properties listed on the Hawaii Register or the National Register of Historic Places, or eligible for the National Register of Historic Places. There are probably, however, previously unidentified resources in the proposed project area. Existing archaeological research data recognizes this probability. A reconnaissance conducted in 1973 located a number of previously unknown sites within the ahupua'a boundaries of Haiku, Hiumalu, and Kipu and recommended that further field work be done.

Therefore, we recommend that a reconnaissance survey be conducted by a qualified archaeologist within the proposed area, and that the survey results be forwarded to our historic sites office for evaluation (ext. 6408). Should the existence of significant resources be substantiated, we may recommend steps to avoid, mitigate, or negate any adverse effects.

If the undertaking has any federal involvement, the provisions of 36 CFR 800 (Advisory Council on Historic Preservation's Procedures for the Protection of Historic and Cultural Properties) need to be complied with.

Aquatic Resources

The description of the aquatic macrofauna on page 12, second paragraph of the notice appears to be a reasonably accurate qualitative assessment of the major faunal species that may occupy the reach along the proposed bridge construction site. A few errors were noted, however:

1. The opening sentence should be changed to read "Hualeia Stream is a large stream which supports a modest freshwater sport fishery throughout its course from headwaters to its mouth at Nawiliwili Bay."

2. In the second sentence, tucunary is misspelled; change to tucunare.

3. The third sentence should be changed to "The stream may have native species of fish such as akupa (an eleotrid) and nakea (a goby)."

4. The fourth (last) sentence of the paragraph shows a lack of understanding of the relationship between stream biota and the physical stream habitat. As such, it should be eliminated entirely.

From a fisheries standpoint, the value of the Huleia Stream lies in recreational fishing opportunities offered to the freshwater angler. We urge that the forthcoming EIS address the potential impacts of proposed bridge construction activities on this concern, including mitigative measures to be proposed.

Sincerely,

SUSUMU ONO, Chairman
Board of Land and Natural Resources
and
State Historic Preservation Officer

GEORGE R ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES D. McCORMICK
JONATHAN K. SHIMADA, Ph.D

IN REPLY REFER TO
HWY-PA
2.71061

July 27, 1982

MEMORANDUM

TO: The Honorable Susumu Ono, Chairman
& State Historic Preservation Officer
Board of Land and Natural Resources

FROM: Director of Transportation

SUBJECT: KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT, PROJECT NO. DP-050-1(4), ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

Thank you for your letter of July 6, 1982, commenting on the EIS Preparation Notice. Our response to your comments are as follows:

Historic Sites

1. We agree with your recommendation that a reconnaissance survey of the project area be conducted by a qualified archaeologist. A copy of the reconnaissance survey report will be forwarded to your historic sites office for evaluation.

2. Since the project does have federal involvement, the provision of 36CFR800 (Advisory Council on Historic and Cultural Properties) will be complied with, should the reconnaissance survey identify any previously unknown historical resources.

Aquatic Resources

1. The opening sentence will be revised to read as suggested.

2. The spelling of tucunare in the second sentence will be corrected.

3. The third sentence will be revised as suggested.

4. The suggestion to delete the fourth sentence will be considered during the preparation of the EIS.

The potential impacts from the bridge construction, e.g. erosion and siltation, will be discussed in the EIS along with mitigative measures.

Ryokichi Higashionna

Ryokichi Higashionna

VI-15

EDUARDO E. MALAPIT
MAYOR

BRIAN K. NISHIMOTO
PLANNING DIRECTOR
AVERY H. YOUN
DEPUTY PLANNING DIRECTOR

COUNTY OF KAUAI
PLANNING DEPARTMENT
4280 RICE STREET
LIHUE, KAUAI, HAWAII 96766

July 7, 1982

Mr. Ryokichi Higashionna, Director
State Dept. of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Subject: Kaumualii Highway, Huleia Bridge Replacement
Project No. P.D.-050-1(4)
Environmental Impact Statement

We have no objections to the proposed realignment and bridge replacement alternatives. In reviewing the Environmental Impact Statement, we offer the following comments:

1. The subject area is designated as Agricultural District by the State, is zoned Open and Aricultural District by the County, and is designated as Open and Agriculture on our general plan.

2. The proposal is exempt from the Special Management Area (SMA) Rules and Regulations of the County of Kauai as the project does not fall within the SMA of the County of Kauai.

We appreciate the opportunity to comment on the project and wish to express our support for the proposals which should result in a safer highway for residents and visitors of Kauai.

Sincerely,

/s/ BRIAN NISHIMOTO
Planning Director

RECEIVED
JUL 8 4 07 PM '82
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

VI-16

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

GEORGE R. ARIYOSHI
GOVERNOR
HIDETO KONO
DIRECTOR
FRANK SUENAGA
DEPUTY DIRECTOR

Ref. No. 6204

July 6, 1982

The Honorable Ryokichi Higashionna
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Subject: Kaumualii Highway, Huleia Bridge Replacement, Kauai,
Environmental Impact Statement Preparation Notice

We have reviewed the EIS Preparation Notice for the replacement of the Huleia Bridge on Kauai and have no comments to make at this time.

We would, however, welcome the opportunity to review the draft EIS at a later date.

Sincerely,

Hideto Kono

SPARK M. MATSUNAGA
HAWAII

Washington Office:
5121 Dirksen Building
Washington, D.C. 20510

Honolulu Office:
5104 Prince Kuhio Building
Honolulu, Hawaii 96850

United States Senate

WASHINGTON, D.C. 20510

CHIEF DEPUTY DEMOCRATIC WHIP

COMMITTEE ON ENERGY AND NATURAL RESOURCES
COMMITTEE ON FINANCE
COMMITTEE ON VETERANS' AFFAIRS

July 14, 1982

Jul 29 1 15 PM '82
DEPT. OF TRANSPORTATION

Honorable Ryokichi Higashionna
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Rick:

Thank you for your recent letter in which you enclosed a copy of the environmental impact statement for the Kaumualii Highway, Hulein Bridge Replacement Project.

This impact statement will be extremely helpful to me and my staff in answering many of the questions about the project which may be raised by residents of the area.

I appreciated your keeping me informed of the status of the project.

Aloha and best wishes.

Sincerely,

Spark Matsunaga
U. S. Senator

VI-17

RECEIVED
JUL 30 1 57 PM '82
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Hwy 3213

RECEIVED
JUN 24 10 23 AM '82
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PLANNING BRANCH

CITIZENS UTILITIES COMPANY

P.O. BOX 278 · ELEELE, KAUAI, HAWAII 96705

June 22, 1982

RECEIVED
JUN 23 11 21 AM '82
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Mr. Ryokichi Higashionna
Director of Transportation
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813

SUBJECT: KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT, PROJECT NO. DP-050-1(4), ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

Dear Mr. Higashionna:

We have have reveiwed your Project No. DP-050-1(4) EIS Preparation Notice and offer the following comment:

1. Kauai Electric has an electrical distribution circuit within the area of the project. Please consider that the State may have to bear the cost of relocating Kauai Electric's equipment in order to accommodate the project.

If you have any questions, please feel free to call Mr. Kelvin Kai, Manager, Transmission & Distribution, at 335-6225.

Very truly yours,

Dennis K. Polosky
Administrative Assistant

DKP:ey

KAUAI ELECTRIC
A DIVISION OF CITIZENS UTILITIES COMPANY
ELECTRIC, TELEPHONE, WATER AND GAS SERVICE TO CUSTOMERS IN OVER 500 COMMUNITIES IN MANY STATES ACROSS THE NATION

2036

HAWAIIAN TELEPHONE
GTE

June 25, 1982

Mr. Ryokichi Higashionna
Director of Transportation
State Highway Dept. of Transportation
869 Punchbowl Street
Honolulu, HI 96813

In Reply To: HWY-PA 2.69967, Kaumualii Highway -
Hulcia Bridge Replacement, Proj. HDP-050-1(4)

Dear Mr. Higashionna:

Thank you for the Environmental Impact Statement and the opportunity to comment on this proposal.

Both alternatives I and II will require relocation of our telephone pole line. The extent and cost, which dictates the necessity to enter into a Utility Agreement with you, is dependent upon the alternative selected.

In either case, we assume that the present Hulcia bridge will no longer exist thereby invoking a constraint on our ability to access and maintain important interoffice trunk circuits. If for some reason these circuits go out, all of West Kauai will be isolated from the rest of the world. Therefore, in your plan design, please consider the provision of an adequate right-of-way to accommodate relocation of our pole line into the new alignment.

We look forward to this improvement as a means of alleviating an increasingly serious traffic problem on Kauai and shall provide any assistance expediting this project to completion.

Sincerely,

James Tehada
Supervising Engineer

JT:rn

VI-18

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

August 11,1982

HWY-PA
2.71374

Mr. James Tehada
Supervising Engineer
Hawaiian Telephone
P. O. Box 591
Lihue, Hawaii 96766

Dear Mr. Tehada:

Kaumualii Highway, Hulcia Bridge Replacement,
Project No. DP-0501(4),
Environmental Impact Statement Preparation Notice

Thank you for your letter of June 25, 1982 commenting on the EIS Preparation Notice.

We will consider the accommodation of the pole lines during the design stage of the project.

Your offer of assistance in expediting this project is appreciated.

Very truly yours,

Ryokichi Higashionna
Director of Transportation

RECEIVED
AUG 1 2 1982
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
Honolulu, Hawaii 96813

2147

B I S H O P M U S E U M
1355 KALIHI STREET • BOX 19000-A • HONOLULU, HAWAII 96819 • (808) 847-3511

Jul 16 9 10 AM '82
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

July 12, 1982

Jul 19 11 42 AM '82
DEPT. OF TRANSPORTATION

Mr. Ryokichi Higashionna
Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813

Jul 19 10 51 AM '82
HIGHWAYS DIVISION
PLANNING BRANCH

RECEIVED
STATE DEPARTMENT OF TRANSPORTATION

Dear Mr. Higashionna:

This letter is in response to your letter of June 10 (HWY-PA 2.69967) on Kaumualii Highway, Huleia Bridge Replacement, EIS Preparation notice.

We have gone over our archaeological records for Haiku and Kipu *ahupua'a*, as well as Bennett's *Archaeology of Kauai* (BPBM Bulletin 80:1931). No previously recorded sites are known from the immediate vicinity of the subject project. However, Bennett cites two site areas in Kipu, Sites 93 and 94 (pp. 122-23), a complex of house sites and a possible *heiau*.

Agricultural activities have probably destroyed much of the surface indications of cultural remains in the area, however, in view of the previously recorded sites in both Kipu and Haiku *ahupua'a*, a reconnaissance survey is recommended prior to any development procedures, especially in those areas adjacent to the stream. In addition, although conclusive determination will be contingent upon the results of the reconnaissance survey, archaeological monitoring may be necessary during the construction phase of the project to mitigate the potential adverse effects on remains that may be encountered.

If you have any questions, please feel free to contact me at the Department of Anthropology, 847-3511 ext. 126.

Sincerely yours,

Paul L. Cleghorn
Contract Archaeology Manager

PLC:mlh

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, Ph.D.
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES D. McCORMACK
JONATHAN K. SHIKADA, Ph.D.

IN REPLY REFER TO
HWY-PA
2.71100

July 26, 1982

RECEIVED
AUG 2 '82
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
Honolulu, Hawaii 96813

Mr. Paul L. Cleghorn
Contract Archaeology Manager
Bishop Museum
P. O. Box 19000-A
Honolulu, Hawaii 96819

Dear Mr. Cleghorn:

Kaumualii Highway, Huleia Bridge
Replacement, Project No. DP-050-1(4),
Environmental Impact Statement
Preparation Notice

Thank you for your letter of July 12, 1982, commenting on the EIS Preparation Notice.

An archaeological reconnaissance of the project site, primarily along the stream banks, was conducted by Archaeological Research Center Hawaii, Inc., and no archaeological sites were located. The project is located in the Haiku Ahupua'a.

The EIS will discuss mitigating measures to minimize any adverse effects on archaeological remains should they be encountered during construction.

Very truly yours,

Ryokichi Higashionna
Director of Transportation

2475

KAUAI CHAMBER OF COMMERCE, INC.

P. O. BOX 1969
LIHUE, KAUAI, HAWAII 96766

August 24, 1982

Dr. Ryokichi Higashionna
Director of Transportation
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Thank you for your letter HWY-PA 2.69967 of June 10, 1982 on the Hulaia Bridge Replacement, Project No. DP-050-1(4). The Kauai Chamber of Commerce appreciates the opportunity to comment on the alternatives being considered for the proposed project.

The Chamber feels that rehabilitation or replacement of the bridge is absolutely essential since the bridge is an integral part of the belt highway (Route 50) leading to the south and west sides of Kauai.

In examining the alternatives presented in the Environmental Impact Statement Preparation Notice, the following courses of action are recommended:

1. Rehabilitate the existing bridge structure, build a temporary bridge and supporting lead in roads for maintaining the flow of traffic; or,

2. Build a new bridge downstream of the existing bridge and allow the existing bridge to support the flow of traffic while the new bridge is being constructed.

The other option of detouring traffic by means of a private cane road of approximately four miles length is looked at with disfavor by our directors because of the congestion, safety hazards and inconvenience that would be caused by routing approximately 13,000 cars a day over this route. Grading and paving a four mile length of cane road as a temporary detour would be an unnecessary expense. Asphalt is very expensive on Kauai as you know.

Rehabilitating the existing bridge while detouring the flow of traffic over a temporary bridge in the near vicinity appears to be the most economical alternative. However, this would mean that motorists would be forever subjected to the hazardous curve on the west end of the structure.

It is our recommendation that a new bridge be constructed downstream of the existing bridge as outlined in the EIS notice so that the dangerous curve may be eliminated. Although this may not be the least expensive alternative, the need to engineer safety into our highways to prevent accidents and save lives is an over-riding consideration.

We appreciate the opportunity to provide our input during the planning stages of this project.

Sincerely,

Paul Douglass

Paul Douglass, Chairman
Transportation Committee

Ezra R. Kanoho

Ezra R. Kanoho
President

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

RYOKICHI HIGASHIONNA, Ph.D
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES B. McCORMACK
JONATHAN K. SHIMADA, Ph.D.

IN REPLY REFER TO
HWY-PA
2.71690

September 7, 1982

Messrs. Ezra R. Kanoho and
Paul Douglass
Kauai Chamber of Commerce, Inc.
P. O. Box 1969
Lihue, Hawaii 96766

Dear Messrs. Kanoho & Douglass:

Kaumualii Highway, Huleia Bridge Replacement,
Project No. DP-050-1(4), Environmental
Impact Statement Preparation Notice

Thank you for your letter of August 24, 1982, commenting on the EIS Preparation Notice.

Your concerns for safety and your recommendations on alternatives will be given consideration as our project plans are developed and when the proposed alternatives are selected.

We appreciate your input to the project.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

VI-21

RECEIVED
SEP
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
Honolulu, Hawaii 96813

Hwy 3270

HAWAII TRANSPORTATION ASSOCIATION

The Voice of Hawaii's Transportation Industry

HTA

P.O. Box 30166
Honolulu, Hawaii 96820
Telephone: 833-6628

July 2, 1982

Mr. Ryokichi Higashionna, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

SUBJECT: See Attached

Gentlemen:

Hawaii Transportation Association concurs with planning improvements to Huleia Bridge and approves alternate plans one or two. We appreciate the opportunity to attend the public hearing.

Sincerely,

Gerald Dela Cruz
Director, Kauai Conference

GDC:lys

Encl.

RECEIVED
HIGHWAYS DIVISION
DEPT OF TRANSPORTATION
JUL 6 10 49 AM '82

Productive • Prompt • Polite • Progressive

ABA

2048

June 23, 1982
P. O. Box 348
Kalāheo, HI 96741

JUL 1 11 13 AM '82
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Ryokichi Higashionna
Director of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Higashionna:

I'm not accustomed to writing letters of this sort or attending public hearings, but I have been driving to work between Kalāheo and Līhu'e here on Kaua'i for fourteen years, and I feel that there are two important factors that need to be considered if the Halfway (Hulē'ia) Bridge is going to be replaced.

Twice each year--once in the spring and once in the fall--there is up to a week when visibility in the early morning is almost nonexistent when heading up the hill towards Līhu'e just after crossing the bridge. The sun shines directly into your eyes, and it seems that practically every year there is at least one early-morning traffic accident, even though all cars slow to almost stand-still speed.

When the bridge is replaced, please take the rising sun into consideration. During that week in the fall and in the spring, I actually dread driving to work because of this situation.

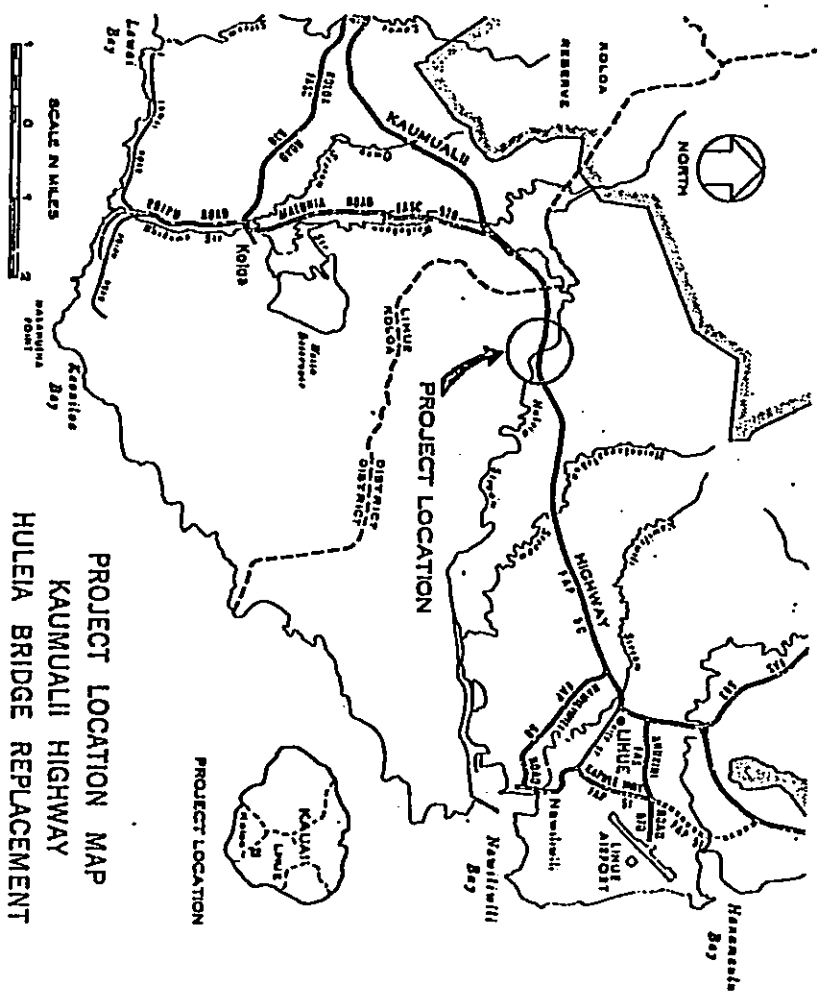
The second factor to consider is also a problem especially in the early morning. Just as everyone else seems to do, when I near Halfway Bridge going to work, I speed up so that there won't be enough space between me and the car in front of me for one of the Hale Kaua'i cement trucks to pull out in front of me so that I'll have to slow down to 10-15 miles per hour until they pick up enough speed after leaving the quarry. There seem to be the most trucks pulling out just when the early-morning traffic is at its peak.

You are probably more than aware of these two factors, but since I drive the road every working morning, I wanted to make sure somebody mentioned them.

Sincerely,

Byron Cleeland

Byron Cleeland



PROJECT LOCATION MAP
KAUMUALII HIGHWAY
HULEIA BRIDGE REPLACEMENT

RECEIVED
JUN 22 1982
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
Honolulu, Hawaii 96813

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

RYOKICHI HIGASHIONNA, Ph.D.
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES R. CARRAS
JAMES B. McCORMICK
JONATHAN K. SIMMADA, Ph.D.

IN REPLY REFER TO:
HWY-PA
2.71038

July 21, 1982

Mr. Byron Cleeland
P. O. Box 348
Kalaheo, Hawaii 96741

Dear Mr. Cleeland:

Kaumualii Highway, Huleia Bridge
Replacement, Project No. DP-050-1(4)

Thank you for your letter of June 23, 1982 regarding your concerns on the poor visibility because of the sun shining directly into the drivers' eyes, and the "slow-down" of highway traffic during the morning peak due to trucks in the uphill lanes.

We will be considering these factors as we develop our project plans.

Your interest in this project is appreciated.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

cc: Austin, Tsutsumi
and Associates

VI-23

Kauai School Bus Association

AKITA ENTERPRISES, LTD.
Lindy Akita — 822-3858

CHANG'S BUS SERVICE, INC.
Walter Chang — 742-6759

GOMES BUS SERVICE
Joseph D. C. Gomes — 245-3526

ALEXANDER BUS SERVICE
Leland Sanders — 822-5107

YAMAGUCHI BUS SERVICE, INC.
Howard Yamaguchi — 828-[illegible]

RECEIVED
'82 JUN 16 9 26 AM
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

RECEIVED
'82 JUN 49 PM
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

August 12, 1982

Dr. Ryokichi Higashionna
Director of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Re: Kaumualii Highway, Huleia Bridge Replacement,
Project No. DP-050-1 (4), Island of Kauai

As an Association, we have reviewed the Huleia Bridge Replacement Project plans and want to express our support towards its completion at the earliest date possible.

As school bus contractors, our buses use the bridge nearly everyday of the year, transporting students to school or groups on charter excursions.

Because of our regular use of the bridge, we are interested in knowing when hearings are planned for the project as well as in helping to achieve its completion.

Sincerely,

Joseph D. C. Gomes, Jr.
President

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

RYOKICHI HIGASHIONNA, PhD
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES B. McCORMACK
JONATHAN K. SHIMADA, PhD.

IN REPLY REFER TO
HWY-PA
2.71595

August 30, 1982

Mr. Joseph D. C. Gomes
President
Kauai School Bus Association
P. O. Box 2202
Puhi, Kauai, Hawaii 96766

Dear Mr. Gomes:

Kaumualii Highway, Huleia Bridge
Replacement, Project No. DP-050-1(4),
Island of Kauai

Thank you for your letter of August 12, 1982 expressing your support for the proposed project.

We will send you a copy of the Draft EIS when it is completed and inform you of the date of any meetings/hearings on the project.

Your interest and support of the project is appreciated.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

VI-24

B. DEIS MAILING LIST AND RESPONSES	Response Date
U.S. Government	
Advisory Council on Historic Preservation	
Council on Environmental Quality	
Department of Agriculture	
Agricultural Stabilization & Conservation	
Forest Service	August 29, 1983
Land Management Planning	August 31, 1983
Office of the Secretary	
Soil Conservation Service	October 6, 1983
USDA Food & Agriculture Council	August 26, 1983
Department of Commerce	
Economic Development Administration	
National Bureau of Standards	
National Marine Fisheries Service	October 13, 1983
NOAA - Office of Ecology and Conservation	October 27, 28, 1983
NOAA - National Ocean Survey	
Office of Environmental Affairs	
Department of Defense	
Corps of Engineers (POD)	September 19, 1983
C.G., U.S. Army Hawaii	August 31, 1983
U.S. Army Field Engineers (DAFE)	
C.O. 15th Air Force Wing	August 30, 1983
C.O. Naval Base, Pearl Harbor	August 26, 1983
Department of Energy	October 21, 1983
Division of NEPA Affairs	
Environmental Protection Agency	
Office of Federal Activities (A104)	
Region IX EIS Coordinator	October 21, 1983
Federal Emergency Management Agency	
Office of Natural and Technological Hazards Program	
Department of Health, Education and Welfare	
Office of Environmental Affairs	

Department of Housing and Urban Development	
Economic Development Administration	October 3, 1983
Department of Interior	
Assistant Secretary	August 26, 1983
Fish & Wildlife Service	September 22, 1983
Geological Survey	
Office of Environmental Project Review	
Office of the Secretary, Pacific Southwest Region	October 28, 1983
Department of Transportation	
Coast Guard	September 2, 1983
Federal Aviation Administration	
State Agencies	
Commission of Transportation	
Department of Accounting and General Services	September 8, 1983
Department of Agriculture	September 19, 1983
Department of Defense	September 2, 1983
Department of Education	September 9, 1983
Department of Hawaiian Homes Lands	September 13, 1983
Department of Health	September 7, 1983
Department of Land and Natural Resources	September 19, 1983
Department of Planning & Economic Development	October 24, 1983
Department of Social Services & Housing	
Environmental Quality Commission	
Office of Environmental Quality Control	September 14, 1983
Oahu Metropolitan Planning Commission	October 5, 1983
University of Hawaii	
Environmental Center	September 2, 1983
Marine Program	
Water Resources Research Center	October 24, 1983

Kauai County Agencies

County Council	September 6, 1983
Department of Planning	August 29, 1983
Department of Public Works	August 29, 1983
Department of Water	September 6, 1983
Fire Department	
Office of Economic Development	
Office of the Mayor	September 1, 1983
Police Department	

Congressional Representatives

Representative Daniel Akaka	August 24, 1983
Senator Daniel K. Inouye	August 29, 1983
Senator Spark M. Matsunaga	

State Legislators

Representative Richard A. Kawakami
Representative Alfred C. Lardizabal
Senator Lehua Fernandes Salling

Public Utilities

Hawaiian Telephone Company	August 30, 1983
Honolulu Gas Company	
Kauai Electric Co., Ltd.	

Kauai Organizations

McBryde Sugar Company	September 9, 1983
Grove Farm Company, Inc.	
The Garden Island	
Kauai Chamber of Commerce	
Kauai Community Research Group	
Kauai Historical Society	
Kauai School Bus Association	
Kauai Times	
Lihue Businessmen's Association	
The Kauai Outdoor Circle	
The Lihue Plantation Company	

Other Organizations

American Lung Association of Hawaii
Bishop Museum
Citizens for Hawaii
Colorado State University, Documents Librarian
Commission on the Handicapped
Conservation Council of Hawaii
Hawaii Audubon Society

Hawaii Transportation Society
Hawaiian Historic Society
Historic Hawaii Foundation
League of Women Voters
Life of the Land
Sierra Club, Hawaii Chapter

LETTERS NOT REQUIRING RESPONSE

1. U.S. Senator Daniel K. Inouye
2. U.S. Navy, Facilities Engineer, Naval Base, Pearl Harbor
3. U.S. Department of Interior, Fish and Wildlife Services
4. U.S. Department of Agriculture, Soil Conservation Service
5. U.S. Senator Spark M. Matsunaga
6. U.S. Department of Agriculture, Forest Service
7. County of Kauai, Department of Water
8. Kauai Chamber of Commerce, Inc.
9. U.S. Department of Agriculture, Forest Service
10. Department of the Army, HQ U.S. Army Support Command, Hawaii
11. U.S. Department of Transportation, U.S. Coast Guard
12. University of Hawaii at Manoa, Environmental Center
13. State of Hawaii, Department of Defense
14. State of Hawaii, Department of Accounting and General Services
15. Department of the Air Force, HQ 15th Air Base Wing (PACAF)
16. State of Hawaii, Department of Hawaiian Home Lands
17. U.S. Department of Interior, Geological Survey
18. U.S. Department of Interior, Office of the Secretary
19. Oahu Metropolitan Planning Organization
20. U.S. Department of Interior, National Marine Fisheries Service
21. U.S. Department of Energy
22. State of Hawaii, Department of Planning and Economic Development
23. University of Hawaii at Manoa, Water Resources Research Center
24. U.S. Department of Commerce, NOAA
25. U.S. Department of Commerce, NOAA
26. Chang's Bus, Inc.
27. State Department of Education
28. U.S. Department of Interior, Pacific Southwest Region

LETTERS REQUIRING A RESPONSE

1. County of Kauai, Department of Public Works
2. Hawaiian Telephone Company
3. County of Kauai, Planning Department
4. County of Kauai, Police Department
5. County of Kauai, Fire Department
6. State of Hawaii, Department of Health
7. McBryde Sugar Co.
8. State of Hawaii, Office of Environmental Quality Control
9. State of Hawaii, Department of Agriculture
10. State of Hawaii, Department of Land and Natural Resources
11. Department of the Army, POD, Corps of Engineers
12. U.S. Department of Agriculture, Soil Conservation Service
13. U.S. Environmental Protection Agency
14. U.S. Department of Commerce, NOAA
15. The Kauai Outdoor Circle
16. County of Kauai, Planning Department

-31

DANIEL K. INOUYE
HAWAII

United States Senate

August 24, 1983

Mr. H. Kusumoto
Division Administrator, Region Nine
Federal Highway Administration
U.S. Department of Transportation
300 Ala Moana Boulevard, Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Re: HDA-HI

Thank you for sharing with Senator Inouye by your letter of 22 August 1983 the Draft Environmental Impact Statement for the proposed replacement of Huleia Bridge and approaches on Kaumualii Highway, FAP-50.

Senator Inouye who is presently in Washington, D.C., has no comment to offer on the Draft EIS but will appreciate continuing to be kept informed.

Aloha,

DAVID M. PETERS
Executive Assistant
Honolulu Office

DMP:cko

DAVID M. PETERS
EXECUTIVE ASSISTANT

AUG 30 83

FHWA HAWAII	
DA	
SEC	
ADA	
ER	
RW	
1	
2	
3	
4	
AM	
TC	
MES	
R	
CI	

NO RESPONSE REQUIRED

PLEASE REPLY: Prince Kuhio Federal Building, Room 5104, 300 Ala Moana Boulevard, Honolulu, Hawaii 96850

HEADQUARTERS
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860

IN REPLY REFER TO:
002B:WKL:jam
Ser 1899
26 AUG 1983

Mr. H. Kusumoto, Division Administrator
U. S. Department of Transportation
Federal Highway Administration
Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Draft Environmental Impact Statement
Kaumualii Highway, FAP-50, Huleia Bridge Replacement and
Approaches, Island of Kauai, (FHWA-HI-EIS-82-02-D)

The Draft EIS, forwarded by your letter of August 22, 1983 has been reviewed and the Navy has no comments to offer.

Thank you for the opportunity to review the Draft EIS.

Sincerely,

M. M. DALLAM
CAPTAIN, CEC, U. S. NAVY
FACILITIES ENGINEER
BY DIRECTION OF THE COMMANDER

NO RESPONSE REQUIRED

VI-32

United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P.O. BOX 50167
HONOLULU, HAWAII 96850

IN REPLY REFER TO:

ES
Room 6307
AUG 26 1983

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
U. S. Department of Transportation
P. O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Re: FHWA-HI-EIS-82-02-D

The Service has reviewed the Draft Environmental Impact Statement (EIS) concerning Kaumualii Highway, FAP 50, Huleia Bridge Replacement and Approaches, which was forwarded to us with your letter of August 22, 1983. Our concerns have been properly addressed in the EIS. We have no additional comments at this time.

Sincerely,

William R. Kramer
Acting Project Leader
Office of Environmental Services

cc: NMFS
HDAR
HDF&W
DOT, Hawaii

NO RESPONSE REQUIRED

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

United States Department of Agriculture

Soil Conservation Service

P.O. Box 50004
Honolulu, Hawaii
96850

AUG 26 1983

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P.O. Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

Subject: Draft Environmental Impact Statement, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai (FHWA-HI-EIS-82-02-D)

The USDA Food and Agriculture Council will rely on the Soil Conservation Service for review and comments on the subject draft EIS.

Sincerely,

FRANCIS C.H. LUM
Chairman
Food and Agriculture Council

PS: Draft EIS returned.

NO RESPONSE REQUIRED

The Soil Conservation Service is an agency of the Department of Agriculture

SPARK M. MATSUNAGA
HAWAII

WASHINGTON OFFICE
[illegible]
WASHINGTON, D.C. 20510

HONOLULU OFFICE
[illegible]
HONOLULU, HAWAII 96850

United States Senate

WASHINGTON, D.C. 20510

August 29, 1983

CHIEF DEPUTY
DEMOCRATIC WHIP

HAWAII

COMMITTEE ON FINANCE

COMMITTEE ON ENERGY AND
NATURAL RESOURCES

COMMITTEE ON LABOR AND
HUMAN RESOURCES

COMMITTEE ON
VETERANS' AFFAIRS

Mr. Heloshi Kusumoto
Division Administrator
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Dear Heloshi:

This is just to acknowledge receipt of your recent communication addressed to Senator Spark Matsunaga.

Please be assured that the Senator will be responding to you at the earliest possible moment.

Yours truly,

Cherry Matano

Cherry Matano (Ms.)
Administrative Assistant
to Senator Matsunaga

VI-33

NO RESPONSE REQUIRED

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC SOUTHWEST FOREST AND RANGE EXPERIMENT STATION
INSTITUTE OF PACIFIC ISLANDS FORESTRY
1151 PUNCHBOWL STREET, ROOM 323, HONOLULU, HAWAII 96813

2100
August 29, 1983

Mr. H. Kusumoto
Division Administrator
U.S. Department of Transportation
Region Nine, Hawaii Division
Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

The USDA--Forest Service has reviewed the Draft Environmental Impact Statement, Kaumualii Highway, FAP-50, Hulsia Bridge Replacement and Approaches, Island of Kauai, (FHWA-HI-EIS-82-02-D).

We have no comments to make. Thank you for the opportunity to review this document.

Sincerely,

C. EUGENE CONRAD
Project Leader

NO RESPONSE REQUIRED

VI-34

DEPARTMENT OF WATER
COUNTY OF KAUAI
P. O. BOX 1706
LIHUE, HAWAII 96766

August 29, 1983

Mr. H. Kusumoto
Division Administrator
U. S. Dept. of Transportation
Hawaii Division
Honolulu, HI 96850

Re: Draft Environmental Impact Statement, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai, (FHWA-HI-EIS-82-02-D)

We have reviewed the subject EIS and have no comments to offer. We appreciate the opportunity to have reviewed the subject Environmental Impact Statement.

Enclosed is the EIS booklet for your use.

Raymond H. Sato
Manager and Chief Engineer

RHS:rm
Enclosure

NO RESPONSE REQUIRED

KAUAI CHAMBER OF COMMERCE, INC.
P. O. BOX 1969
LIHUE, KAUAI, HAWAII 96766

August 30, 1983

Mr. H. Kusumoto
Division Administrator
U. S. Dept. of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hi. 96850

Dear Mr. Kusumoto:

Re: Draft EIS, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai. (FHWA-HI-EIS-82-02-D)

We have reviewed the subject EIS and have no comments to make. Thank you for the opportunity to review this document.

Sincerely,

Paul Douglass, Chairman
Transportation Committee

David R. Hughson
President

NO RESPONSE REQUIRED

VI-35

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
630 SANSOME STREET
SAN FRANCISCO, CALIFORNIA 94111

August 31, 1983
1950

Mr. H. Kusumoto, Division Director
U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

We have received and reviewed the EIS for Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai, (FHWA-HI-EIS-82-02-D) and have no further comments. It will not be necessary for you to send us further information on this project.

Sincerely,

JON D. KENNEDY, Director
Land Management Planning

NO RESPONSE REQUIRED

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY SUPPORT COMMAND, HAWAII
FORT SHAFTER, HAWAII 96858

August 31, 1983

REPLY TO ATTENTION OF:
Directorate of Facilities Engineering

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
US Department of Transportation
P.O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

The Draft Environmental Impact Statement (DEIS) for the proposed replacement of Huleia Bridge and Approaches on Kaumualii Highway, FAP-50, Island of Kauai has been reviewed and we have no comments to offer. There are no Army installations or activities in the vicinity of the proposed project.

Thank you for the opportunity to comment on the DEIS.

Sincerely,

for Ronald A. Borrello
Colonel, Corps of Engineers
Director of Facilities Engineering

NO RESPONSE REQUIRED

VI-36

U.S. Department of Transportation
United States Coast Guard

Commander dpl
Fourteenth Coast Guard District

Prince Kalanianaole Federal Building
300 Ala Moana Blvd.
Honolulu, Hawaii 96850
Phone:
(808) 546-2861

11000
Serial 584
2 September 1983

H. Kusumoto,
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

The Fourteenth Coast Guard District has reviewed the Draft Environmental Impact Statement, Kaumaulii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai and has no objection or constructive comments at the present time.

Sincerely,

J. E. SCHWARTZ
Commander, U. S. Coast Guard
District Planning Officer
By Direction of
Commander, Fourteenth Coast Guard District

NO RESPONSE REQUIRED

University of Hawaii at Manoa

Environmental Center
Crawford 317 • 2550 Campus Road
Honolulu, Hawaii 96822
Telephone (808) 948-7361

September 2, 1983

RE:0385

Mr. H. Kusumoto
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Draft Environmental Impact Statement
Kaumualii Highway, FAP-50
Huleia Bridge Replacement and Approaches
Lihue, Kauai

The Environmental Center has received the above mentioned document. We have briefly reviewed the DEIS and have no substantive comments to offer. We would, however, appreciate receiving two copies of the Final Environmental Impact Statement for our records.

We appreciate the opportunity to comment on the Draft Environmental Impact Statement.

Sincerely,

Doak C. Cox
Director

cc: OEQC
Jacquelin Miller
Pamela Bahnsen

NO RESPONSE REQUIRED

AN EQUAL OPPORTUNITY EMPLOYER

VI-37

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816

ALEXIS T. LUM
MAJOR GENERAL
ADJUTANT GENERAL

DANIEL K. C. AU
COLONEL
DEPUTY ADJUTANT GENERAL

HIENG

2 SEP 1983

U. S. Department of Transportation
Federal Highway Administration
P. O. Box 50206
Honolulu, Hawaii 96850

Gentlemen:

Thank you for providing us the opportunity to review the proposed project Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai (Draft Environmental Impact Statement).

We have completed our review and have no comments to offer at this time. A final EIS will not be needed for this project.

Yours truly,

JERRY H. MATSUDA
Major, HANG
Contr & Engr Officer

NO RESPONSE REQUIRED

GEORGE R. ARIYOSHI
GOVERNOR

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

HIDEO MURAKAMI
COMPTROLLER

MIKE M. TOKUNAGA
DEPUTY COMPTROLLER

LETTER NO. (P)1724.3

SEP 8 ...

U.S. Department of Transportation
Federal Highway Administration
Region Nine
Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Gentlemen:

Subject: Draft Environmental Impact Statement
Kaumualii Highway, FAP-50, Huleia Bridge
Replacement and Approaches, Island of
Kauai, (FHWA-HI-EIS-82-02-D)

We have reviewed the subject environmental impact statement and have no comments to offer.

Thank you for the opportunity to review the subject environmental impact statement.

Very truly yours,

HIDEO MURAKAMI
State Comptroller

NO RESPONSE REQUIRED

VI-38

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15TH AIR BASE WING (PACAF)
HICKAM AIR FORCE BASE, HAWAII 96853

30 Aug 1983

U.S. Department of Transportation
Hawaii Division
ATTN: Mr. H. Kusumoto
Box 50206
Honolulu, HI 96850

Dear Sir

Reference your letter HDA-HI, 22 Aug 83, Subject: Draft Environmental Impact Statement, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai, (FHWA-HI-EIS-82-02-D), to Base Commander, Hickam Air Force Base.

We do not have any comments to offer on subject draft EIS.

Sincerely

RONALD W. WAGGONER, Major, USAF
Staff Transportation Officer
Deputy Commander for Logistics

NO RESPONSE REQUIRED

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

PROJECT OFFICES
WAIMEA OFFICE
P. O. BOX 125
KAMUELA, HAWAII 96743
KEAUKAHA OFFICE
P. O. BOX 633
HILO, HAWAII 96720

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAII 96805

September 13, 1983

PROJECT OFFICES
MAUI OFFICE
P. O. BOX 33
KAHULUI, MAUI 96732
MOLOKAI OFFICE
P. O. BOX 198
HOOLEHUA, MOLOKAI 96729
KAUAI OFFICE
P. O. BOX 332
LIHUE, KAUAI 96766

Mr. H. Kusumoto, Division Administrator
U. S. Department of Transportation
Federal Highway Administration
Region Nine, Hawaii Division
P. O. Box 50203
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

SUBJECT: Huleia Bridge Replacement and Approaches

This is in response to your letter of August 22, 1983 requesting comments on the subject project.

The Department of Hawaiian Home Lands has reviewed the draft Environmental Impact Statement and has no comments to make at this time as the project does not directly affect DHHL lands.

Sincerely yours,

Georgiana K. Padeken
Chairman

GKP:RF:GW:jm

NO RESPONSE REQUIRED

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
P.O. Box 50166
Honolulu, Hawaii 96850

September 22, 1983

U.S. Department of Transportation
Federal Highway Administration
P.O. Box 50206
Honolulu, Hawaii 96850

Subject: Draft Environmental Impact Statement, Kaumalii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai, (FHWA-HI-EIS-82-02-D)

Gentlemen:

The U.S. Geological Survey, Hawaii District, has no comments to offer in regards to the above subject draft.

We appreciate this opportunity in having been able to review this draft.

Sincerely,

Stanley Valenciano
for Stanley T. Kapustka
District Chief

VI-39

NO RESPONSE REQUIRED

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

OCT 3 1983

ER 83/1219

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
Region Nine, Highway Division
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

This is in regard to the request for the Department of the Interior's comments on the draft environmental statement concerning Kaumualii Highway (FAP 50), Huleia Bridge, Kauai County, Hawaii.

This is to inform you that the Department will have comments but will be unable to reply within the allotted time as we have just received your submittal of duplicate copies to satisfy our intradepartmental needs. Please consider this letter as a request for an extension of time in which to comment on the statement.

Our comments should be available about early November.

Sincerely,

Bruce Blanchard

Bruce Blanchard, Director
Environmental Project Review

NO RESPONSE REQUIRED

OMPO

Oahu
Metropolitan
Planning
Organization

Suite 1509
1164 Bishop Street
Honolulu, Hawaii 96813
(808) 523-4178
(808) 548-2638

October 5, 1983

Mr. Heloshi Kusumoto
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
P.O. Box 50206
Honolulu, Hawaii 96850

Subject: Draft EIS - Kaumualii Highway, FAP-50, Huleia Bridge
Replacement and Approaches, Island of Kauai
(FHWA-HI-EIS-82-02-D)

Dear Mr. Kusumoto:

Your letter of August 22, 1983 requested a review of the above mentioned document related to OMPO's own field of knowledge and responsibility. OMPO's responsibility is limited to the island of Oahu and as such, we have no comments to offer on the Draft EIS.

Sincerely,

Gordon Lum
Acting Executive Director

GL:pjc

VI-40

NO RESPONSE REQUIRED

October 13, 1983 F/SWR1:JJN

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P. O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

The National Marine Fisheries Service (NMFS) has received and reviewed the Draft Environmental Impact Statement (DEIS), Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai (FHWA-HI-EIS-82-02-D). The following comments are offered for your consideration.

General Comments

The concerns outlined in our letter of June 17, 1982 (Section VI, p. VI-6) on the DEIS Preparation Notice have been addressed to our satisfaction in the DEIS. We have no additional comments at this time.

Sincerely yours,

John J. Naughton
Acting Administrator

cc: F/SWR, Terminal Island, CA
F/HA, Washington, D.C.

bc: FHA, DOT, Hawaii

NO RESPONSE REQUIRED

UNITED STATES
DEPARTMENT OF ENERGY

P.O. BOX 50168
HONOLULU, HAWAII 96850

October 21, 1983

Mr. H. Kusumoto
U. S. Department of Transportation
P. O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Subject: Draft Environmental Impact Statement, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai, (FHWA-HI-EIS-82-02-D)

I have reviewed those portions of the above Draft EIS relating to energy and have no substantive comments to submit. Energy considerations do not appear to be a dominant factor for this project.

Sincerely yours,

John Shupe

John W. Shupe, Director
Pacific Site Office

NO RESPONSE REQUIRED

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

GEORGE R. ARIYOSHI, GOVERNOR
KENT M. KEITH, DIRECTOR
John Pingree, DEPUTY DIRECTOR

KAMAMANU BUILDING, 250 SOUTH KING ST, HONOLULU HAWAII MAILING ADDRESS P.O. BOX 2359 HONOLULU HAWAII 96804

October 24, 1983

Ref. No. 8262

Mr. H. Kusumoto
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Subject: Draft EIS, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai

We have reviewed the subject draft environmental impact statement and have no comments.

Very truly yours,

Kent M. Keith

Kent M. Keith

cc: Office of Environmental Quality Control

NO RESPONSE REQUIRED

VI-42

University of Hawaii at Manoa

Water Resources Research Center
Holmes Hall 283 • 2540 Dole Street
Honolulu, Hawaii 96822

24 October 1983

Mr. H. Kusumoto
Division Administrators
Federal Highway Administration
U.S. Department of Transportation
Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

SUBJECT: Draft Environmental Impact Statement for Huleia Bridge Replacement and Approaches, Kaumualii Highway, FAP Route 50, Island of Kauai, July 1983

We have reviewed the subject DEIS and offer the following comment. A section on some of the engineering aspects of the alternative alignments, including bridge dimensions, flow capacity burrow sources, cuts and fills, etc. would be very helpful.

Thank you for the opportunity to comment. This material was reviewed by WRRC personnel.

Sincerely,

Edwin T. Murabayashi
EIS Coordinator

ETM:jm

NO RESPONSE REQUIRED

AN EQUAL OPPORTUNITY EMPLOYER

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Washington, D.C. 20230

OFFICE OF THE ADMINISTRATOR

October 27, 1983

U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96580

Dear Sir:

This is in reference to your draft environmental impact statement of the Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai State of Hawaii (Department of Transportation - Federal Highway Administration). Enclosed are comments from the National Oceanic and Atmospheric Administration.

Thank you for giving us an opportunity to provide comments which we hope will be of assistance to you. We would appreciate receiving four copies of the final environmental impact statement.

Sincerely,

Joyce M. Wood
Chief
Ecology and Conservation Division

Enclosure

NO RESPONSE REQUIRED

VI-43

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
300 South Ferry Street
Terminal Island, California 90731

October 13, 1983 F/SWR1:JJN

TO: Joyce M. Wood, Director
Ecology and Conservation Division, PP2

FROM: Floyd S. Anders, Acting Regional Director
Southwest Region, F/SWR

SUBJECT: DEIS 8308.10 - Kaumualii Highway, FAP 50, Huleia Bridge Replacement and Approaches, Island of Kauai, State of Hawaii. (DOT - FHA)

Attached are the original comments on the subject DEIS for inclusion in the Departmental response. A copy has been sent to the local Federal Highway Administration office per the NEPA commenting procedures implemented on March 24, 1982.

Attachment.

NO RESPONSE REQUIRED

5310

CHANG'S BUS INC.
P. O. Box 726
Koloa, Kauai Hawaii 96756

September 15, 1983

RECEIVED
Sep 26 8 30 AM '83
DESIGN SECTION
HIGHWAYS DIVISION
DEPT. OF TRANSPORTATION

State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hi 96813

Dear Sir:

RE: KAUMUALII HIGHWAY
HULEIA BRIDGE
REPLACEMENT & APPROACHES
PROJECT NO. DP-050-(4)

As a School Bus Contractor who utilizes the Huleia Bridge daily, may I suggest that Alternative 1 be used on the proposed project.

1). From the stand point of long term utilization, Alternative 1 will best serve the public;

2). Truck traffic that comes out from Grove Farm Quarry will have a SAFE approach to enter Kaumualii Highway;

3). The new alignment of Kaumualii Highway will be SAFER.

I hope that my suggestion will help your department in making the right bridge decision which will provide the driving public with a SAFE and PERMANENT BRIDGE.

Sincerely yours,

David C.H. Chang
Vice-President
CHANG'S BUS INC.

DCHC:mcw

NO RESPONSE REQUIRED

GEORGE R. ARIYOSHI
GOVERNOR

DR. DONNIS H. THOMPSON
SUPERINTENDENT

RECEIVED
SEP 14 4 19 PM '83
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

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

OFFICE OF THE SUPERINTENDENT

September 9, 1983

MEMO TO: Honorable Ryokichi Higashionna, Director
Department of Transportation

F R O M: Dr. Donnis H. Thompson, Superintendent
Department of Education

SUBJECT: Draft EIS, Kaumualii Highway

The Department of Education has no further comments to add to our earlier response of June 22, 1983. Thank you for the opportunity to review the subject matter.

DHT:HL:jl

cc: Mr. James Edington
Kauai District

RECEIVED
SEP 15 11 05 AM '83
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

NO RESPONSE REQUIRED

RECEIVED
SEP 16 7 51 AM '83
STATE DEPARTMENT
OF TRANSPORTATION
PLANNING BRANCH

AN EQUAL OPPORTUNITY EMPLOYER

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
PACIFIC SOUTHWEST REGION
BOX 36098 • 450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102
(415) 556-8200

In Reply Refer To:
ER 83/1219

October 28, 1983

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
Region Nine, Highway Division
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

This is in regard to the request for the Department of the Interior's comments on the Draft Environmental Impact Statement concerning Kaumualii Highway (FAP-50), Huleia Bridge, Kauai County, Hawaii.

We find this document well written and all of the concerns of the Department have been addressed. We have no comments to offer at this time.

Thank you for giving us this opportunity to comment.

Sincerely,

Patricia A. Port

Patricia Sanderson Port
Regional Environmental Officer

cc:
Dr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Director, OEPR (w/incoming)
Director, Fish and Wildlife Service
Director, Geological Survey

NO RESPONSE REQUIRED

TONY T. KUNIMURA
MAYOR

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4396 RICE STREET
LIHUE, KAUAI, HAWAII 96766

LAWRENCE KITAMURA
COUNTY ENGINEER
TELEPHONE 245-3318

CLAY KAGAWA
DEP. COUNTY ENGINEER
TELEPHONE 245-3502

August 29, 1983

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
Hawaii Division
Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT
KAUMUALII HIGHWAY, FAP 50, HULEIA BRIDGE
REPLACEMENT AND APPROACHES (FHWA-HI-EIS-82-02-D)

Reference is made to your letter dated August 22, 1983 requesting comments on the captioned project. Our comment is as follows.

1A Alternative I and II will create a remnant section of the Kaumualii Highway that we feel is no longer necessary as a government roadway. As such, we are requesting that the remnant be disposed to the abutting landowner rather than to the County. The County does not have the resources to maintain the roadway and especially the timber bridge which is alleged to be severely deteriorated and infested with termites.

We thank you for the opportunity to comment on the Draft Environmental Impact Statement.

Very truly yours,

LAWRENCE KITAMURA
County Engineer

/sb

VI-45

LETTER NO. 1

EVALUATION - COUNTY OF KAUAI, DEPARTMENT OF PUBLIC WORKS (August 29, 1983)

1A In the realignment alternatives, after construction of the proposed improvements, the existing bridge will be demolished, and its highway approaches will be closed to traffic. The highway right-of-way will be retained for the ultimate 4 lanes.

HAWAIIAN TELEPHONE
GTE

August 30, 1983

Mr. H. Kusumoto
Division Administrator
U. S. Department of Transportation
Federal Highway Administration
P. O. Box 50206
Honolulu, HI 96850

Subject: Draft Environmental Impact Statement, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai, (FHWA-HI-EIS-82-02-D)

Dear Mr. Kusumoto:

Thank you for the draft E.I.S. and the opportunity to comment on this proposal.

As previously stated, both alternatives I and II will require relocation of our telephone pole line. The extent and cost which dictates the necessity to enter into a Utility Agreement with the State Highway Department of Transportation is dependent upon the alternative selected.

In either case, we assume that the present Huleia Bridge will no longer exist thereby invoking a serious constraint on our ability to access and maintain important inter-office telephone trunk circuits. These circuits 2A are the only link that West Kauai residents have to communicate with the rest of the world. Therefore, in your plan design, please consider the provision of an adequate right-of-way to accommodate relocation of our pole line into the new alignment.

We appreciate the opportunity to comment on the project and wish to express our support for the proposal which will result in a safer highway for residents and visitors on Kauai.

Sincerely,

James Tehada
Supervising Engineer

JT:ea

PO BOX 591 • LIHUE, HAWAII 96766 • TELEPHONE (808) 245 6795 • CABLE: TELHAWAII

VI-46

LETTER NO. 2

EVALUATION - HAWAIIAN TELEPHONE (August 30, 1983)

2A The existing right-of-way will be retained for future expansion of the highway. We will consider the utility relocation requirements during the design stage.

TONY T. KUNIMURA
MAYOR

AVERY H. YOUN
PLANNING DIRECTOR

TOM H. SHIGEMOTO
DEPUTY PLANNING DIRECTOR

TELEPHONE (808) 246-3815

COUNTY OF KAUAI
PLANNING DEPARTMENT
4280 RICE STREET
LIHUE, KAUAI, HAWAII 96766

September 6, 1983

Mr. H. Kasumoto
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Region Nine, Hawaii Division
Box 50206
Honolulu, Hawaii 96850

VI-47

Subject: Draft Environmental Impact Statement, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai (FHWA-HI-EIS-82-02-D)

We wholeheartedly support the project and concur that there is a need for the proposed improvements in consideration of the high amounts of accidents in that vicinity, the condition of the bridge, and the present conflicts with trucks exiting from the quarry site.

3A Any of the three alternatives being proposed are acceptable and will contribute towards a safer and more convenient travel way. However, we do prefer Alternatives I and II since these proposals will provide the optimum amount of improvements to the highway with the best amount of inconvenience to motorists during construction. These alternatives would further have the least removal of prime agricultural land for the highway improvements. Although we are concerned, we feel that the amount being removed for a new alignment is insignificant compared to the long-range safety benefits to be derived for residents on Kauai. Please note that compliance to County Subdivision Ordinance No. 175 will be required for the realignment of the right-of-way for Alternatives I and II.

Relative to detouring, Alternative A or B is acceptable.

Thank you for allowing us to comment, and we hope that our inputs will help you.

AVERY H. YOUN
Planning Director

LETTER NO. 3

EVALUATION - COUNTY OF KAUAI, PLANNING DEPARTMENT (September 6, 1983)

3A The proposed improvements will improve overall safety, improve the access at the quarry road intersection, and reduce conflicts with trucks exiting from the quarry site. Alternative IIA was selected because it is the most feasible alternative based on superior geometrics, potential for future expansion, and the lowest cost of realignment alternatives. County Subdivision Ordinance No. 175 will be complied with for the realignment of the right-of-way.

OUR REFERENCE

YOUR REFERENCE

POLICE DEPARTMENT

COUNTY OF KAUAI

3060 LIHI STREET
LIHUE, HAWAII 96766
TELEPHONE 245-9711

ADDRESS ALL COMMUNICATIONS TO
ROY K. HIRAM
CHIEF OF POLICE

September 1, 1983

Reference: HDA-HI

H. Kusumoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P.O. Box 50206
300 Ala Moana Blvd.
Honolulu,HI 96850

Dear Mr. Kusumoto,

This is in reply to your letter regarding the Huleia Bridge replacement and approaches.

4A After reviewing the proposal, we feel that the best solution to the problem is the construction of a bridge in accordance with Alternative I-A.

4B We also recommend that the bridge be constructed 52 feet wide, with the shoulder on the side of the bridge 10 feet wide (as desired). This would allow for future expansion of the bridge if necessary without any further construction.

Sincerely,

Roy K. Hiram
Chief of Police

Submitted by:

Vincent J. Wisneski
Lieutenant Traffic Safety

LETTER NO. 4

EVALUATION - COUNTY OF KAUAI, POLICE DEPARTMENT (September 1, 1983)

4A Alternative IIA was selected over Alternative IA because of lower costs and because Alternative IA has greater right-of-way impact.

4B The proposed Huleia Bridge has a 50-foot width (24-foot travel lanes, 12-foot truck climbing lane, 8-foot shoulder on the south side and 4-foot shoulder on the north side next to the truck-climbing lane). Future expansion cannot be accommodated by building 10-foot wide shoulders now.

TONY KUNIMURA
MAYOR

ALBERT C. BRAUN, JR.
FIRE CHIEF

COUNTY OF KAUAI
FIRE DEPARTMENT
4396 RICE STREET
LIHUE, KAUAI, HAWAII 96766

September 6, 1983

U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hi. 96850

Gentlemen:

Subject: Kaumualii Highway, Huleia Bridge
Replacement and Approaches,
Project No. DP-050-1(4), Island of Kauai

We have reviewed the above subject Environmental Impact Statement Draft dated July 20, 1983 and have the following comments:

5A 1. We support alternatives I or II which will improve the existing conditions and minimize rerouting of traffic during the construction of the project. (See 3)

5B 2. Alternative III will alter the traffic and road conditions which will have a definite effect on the fire department's response time to emergency incidents to the east and west of the project site.

5C 3. Realigning the highway as in alternative I will be much more effective for the safety of emergency vehicles and also minimize response times.

5D Please send us the Final EIS.

If you have any questions, please write or call William Enoka at 245-4721.

Very truly yours,

Albert C. Braun, Jr.
Fire Chief

I-49

LETTER NO. 5

EVALUATION - COUNTY OF KAUAI, FIRE DEPARTMENT (September 6, 1983)

5A Alternative IIA is recommended because it is the most feasible alternative based on superior geometrics, potential for future expansion, and low cost.

5B We agree that Alternative III will change road conditions and may increase the Fire Department's response time to emergencies during the construction period.

5C The realignment alternatives will be superior to the existing alignment alternative during construction in terms of safety and minimizing response time for emergency vehicles.

5D We will send you a copy of the Final EIS.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

CHARLES G. CLARK
DIRECTOR OF HEALTH

In reply, please refer to:
EPHSO- 88

September 7, 1983

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P. O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Subject: Request for Comments on Proposed Environmental Impact Statement (EIS) for Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai (FHWA-HI-EIS-82-02-D)

VI-50

Thank you for allowing us to review and comment on the subject proposed EIS.

6A The Department of Transportation should include the mitigative measures given in the EIS for the control of soil erosion and stream siltation and effective dust control measures in the specifications for the project. The DOT inspectors should ensure that the contractors perform the mitigative measures in a timely and effective manner.

We realize that the statements are general in nature due to preliminary plans being the sole source of discussion. We, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to this office for review.

Sincerely,

MELVIN K. KOIZUMI
Deputy Director for
Environmental Health

cc: DHO, Kauai

LETTER NO. 6

EVALUATION - STATE DEPARTMENT OF HEALTH (September 7, 1983)

6A The DOT will include as appropriate and where required in the specifications for the project, the mitigative measures given in the EIS for the control of stream siltation, soil erosion, and dust control. The DOT will ensure that the contractors perform the mitigative measures in a timely and effective manner.

McBryde
SUGAR COMPANY, LIMITED

September 9, 1983

Mr. H. Kusumoto, Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Region Nine, Hawaii Division
P. O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

DRAFT ENVIRONMENTAL IMPACT STATEMENT, KAUMUALII HIGHWAY
FAP -50, HULEIA BRIDGE REPLACEMENT AND APPROACHES, ISLAND
OF KAUAI, (FHWA-HI-EIS-82-02-D)

We offer the following comments concerning the draft:

ENVIRONMENTAL IMPACT STATEMENT

Alternative I

7A
1. What will happen to the existing McBryde and Grove Farm warehouses located east of the present bridge?

7A
2. This alternative will remove the most cane area. Will there be any way to farm the cane north of the new road?

3. Will the project have any effect on the Waita inlet tunnel?

Alternative II

7B
1. We are in favor of this alternative because less cane land is lost and no major detour is required.

Alternative III

7C
1. We are not in favor of this alternative due to the major detour of traffic on our cane haul roads.

We would desire a copy of the final EIS.

Sincerely,

Phil Scott
Vice President and General Manager

PS:bh

#0518A/Diskette #0023A

P O BOX 8 • ELELE, KAUAI, HAWAII 96705 • TELEPHONE (808) 335-5111

LETTER NO. 7

EVALUATION - McBRYDE SUGAR COMPANY (September 9, 1983)

Alternative I

1. The McBryde and Grove Farm Warehouses located east of the present bridge are just outside of the proposed right-of-way and should not be impacted based on our preliminary plans and field inspections.

2. This alternative will impact more cane land than the other alternatives.

   It appears that farming of the cane lands between the new and old alignments may be possible.

3. The Waita Inlet tunnel may be impacted. Appropriate relocation and adjustment will be made as required.

Alternative II

1. Alternative IIA, which is similar in alignment to Alternative II is recommended because of its lower estimated cost. The impacts to cane lane are minimized and no major detour is required as in Alternative III.

Alternative III

1. This alternative, due to its detouring requirements and inferior geometrics, is not recommended.

A copy of the final EIS will be sent.

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
550 HALEKAUWILA STREET
ROOM 301
HONOLULU, HAWAII 96813

Letitia N. Uyehara
Interim Director
TELEPHONE NO.
548-6915

September 14, 1983

Mr. H. Kusumoto
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

VI-52

Dear Mr. Kusumoto:

Subject: Draft EIS, Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai

8A We have reviewed this EIS and have no objections. If this project involves condemnation of land we suggest that the affected people be notified early in the project's review process.

Sincerely,

Letitia N. Uyehara

Letitia N. Uyehara
Interim Director

LETTER NO. 8

EVALUATION - STATE OFFICE OF ENVIRONMENTAL QUALITY CONTROL (September 14, 1983)

8A The project involves land condemnation. The landowners affected have been involved early in the project development.

GEORGE R. ARIYOSHI
GOVERNOR

JACK K. SUWA
CHAIRMAN, BOARD OF AGRICULTURE

SUZANNE D. PETERSON
DEPUTY TO THE CHAIRMAN

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814

Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822

September 19, 1983

MEMORANDUM

To: U.S. Department of Transportation
Federal Highway Administration

Through: Office of Environmental Quality Control

Subject: Draft Environmental Impact Statement (EIS) for
Kaumualii Highway, FAP-50, Huleia Bridge Replacement
and Approaches, Island of Kauai
FHWA-HI-EIS-82-02-D
TMK: 3, 4, 6 Lihue, Kauai

9A The Department of Agriculture has reviewed the subject document and has no further comments to offer. However, the reference to the availability of relocation assistance -- should relocatable agricultural support facilities be affected by the proposed action (Memorandum from Department of Transportation to Department of Agriculture dated July 27, 1982) -- should be included in the appropriate section of the EIS.

Thank you for the opportunity to comment.

Jack K. Suwa
JACK K. SUWA
Chairman, Board of Agriculture

"Support Hawaiian Agricultural Products"

VI-53

LETTER NO. 9

EVALUATION - STATE DEPARTMENT OF AGRICULTURE (September 19, 1983)

9A The availability of relocation assistance is noted in Section IV of the Final EIS.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

SEP 19 1983

Your: HDA-HI

Mr. H. Kusumoto
Hawaii Divsion Administrator
U. S. Department of Transportation
Box 50106
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Thank you for the opportunity to review the draft environmental impact statement for Huleia Bridge and its approaches.

We note that various erosion and sediment control measures are proposed.

10A However, it is anticipated that excessive siltation may become an unavoidable adverse impact should unprotected areas receive intensive rainfall prior to stabilization. For this reaon, we recommend that every effort be made to minimize erosion and sedimentation during and after project construction.

Sincerely,

SUSUMU OHO
Chairperson
Board of Land and Natural Resources

VI-54

LETTER NO. 10

EVALUATION - STATE DEPARTMENT OF LAND AND NATURAL RESOURCES (September 19, 1983)

10A Every effort will be made to minimize erosion and sedimentation during and after construction.

DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS
FT. SHAFTER, HAWAII 96858

September 19, 1983

Mr. Heloshi Kusumoto, Division Administrator
Federal Highway Administration
Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Thank you for the opportunity to review and comment on the draft environmental impact statement for Kaumualii Highway, Hulelia Bridge Replacement on Kauai. The following comments are offered:

11A a. If any fill placement within the stream's ordinary high water mark is needed for the permanent or temporary detour bridge, a Section 404 Department of the Army permit will be required. We would also need drawings of the bypass detour, culverts, or bridges if fill in the stream is planned.

b. Pages VI-7 and III-7. Comments by the Corps on the subject project, as furnished to the State Department of Transportation by letter dated July 1, 1982, have been included in the draft EIS under Section III.A.7. The project site is designated Zone C and is not located within a regulatory floodplain under the National Flood Insurance Program.

Sincerely,

Kisuk Cheung
Chief, Engineering Division

VI-55

LETTER NO. 11

EVALUATION - DEPARTMENT OF THE ARMY, PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS (September 19, 1983)

11A A Section 404 Department of the Army Permit will be obtained should final design plans call for construction within the ordinary high water mark of Hulelia Stream.

United States Department of Agriculture | Soil Conservation Service | P.O. Box 50004 Honolulu, Hawaii 96850

October 6, 1983

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
Region Nine
U.S. Department of Transportation
P.O. Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

Subject: Draft EIS for the Proposed Replacement of Huleia Bridge and Approaches, Kaumualii Highway, FAP-50, Kauai, HI

We have reviewed the subject environmental impact statement and offer the following comments:

12A Alternative III, in our opinion, is the most desirable plan of action. It would result in the least amount of erosion during construction and would not result in any prime agricultural land being converted to other uses. There would be some temporary impact on the farming operation adjacent to the selected detour route, but the land would remain in agricultural use.

Thank you for the opportunity to review the document.

Sincerely,

FRANCIS C.H. LUM
State Conservationist

The Soil Conservation Service is an agency of the Department of Agriculture

VI-56

LETTER NO. 12

EVALUATION - UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE (October 6, 1983)

Alternative IIA has been selected for the following reasons:

12A

1. Alternative III focuses on replacement of the existing bridge with no improvement to the highway approaches or to the Quarry Road Intersection. It does not provide for rights-of-way for future widening to a 4-lane facility and it requires large expenditure of non-recoverable costs for detouring of traffic. In addition, Alternative III did not have the public's acceptance due to inferior geometrics.

2. Alternative IIA provides superior geometrics, rights-of-way for future widening, and possesses the lowest cost of all the realignment alternatives.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

21 OCT 1993

Mr. H. Kusumoto, Division Administrator
Federal Highway Administration
U.S. Department of Transportation
300 Ala Moana Boulevard, P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) titled HULEIA BRIDGE REPLACEMENT AND APPROACHES. We have the enclosed comments regarding this DEIS.

We have classified this DEIS as Category LO-2 (lack of objections - more information needed). The classification and date of EPA's comments will be published in the Federal Register in accordance with our public disclosure responsibilities under Section 309 of the Clean Air Act.

We appreciate the opportunity to review this DEIS. Please send two copies of the Final Environmental Impact Statement (FEIS) to this office at the same time it is officially filed with our Washington, D.C. office. If you have any questions, please contact Loretta Kahn Barsamian, Chief, EIS Review Section, at (415) 974-8188 or FTS 454-8188.

Sincerely yours,

Charles W. Murray, Jr.
Assistant Regional Administrator
for Policy, Technical, and
Resources Management

Enclosure (1)

VI-57

Water Quality Comments

13A The EIS should identify specific mitigation measures to minimize the impacts of soil erosion during and after construction. These measures should include the use of stilling basins and revegetation if appropriate.

13B Although the bridge replacement facility will be similar and is not anticipated to significantly increase the level of surface road pollutants washed into stream waters, the EIS should discuss measures to reduce the amount of pollutants entering the stream.

Air Quality Comments

It should be noted that we did not provide comments on the EIS Preparation Notice (as stated on p. VI-1) because we had already responded to the Notice of Intent (see Appendix E). In that response, we recommended that the DEIS:

13C
a. Include the results of recent monitoring for TSP at Lihue.

b. Compare those data with applicable air quality standards.

c. Describe the effects upon air quality resulting from project construction and operation.

The DEIS does not provide this information. Although we agree that the project is not likely to have a significant adverse impact upon air quality, the EIS should include the most relevant data available to ascertain project impacts. We therefore reiterate the recommendation above, for the FEIS.

LETTER NO. 13

EVALUATION - UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (October 21, 1983)

13A Water Quality - To minimize the impacts of soil erosion during and after construction, the mitigative measures will include, the implementation of Section 639 - "Temporary Project Water Pollution Control (Soil Erosion)" of the State Standard Specifications for Road and Bridge Construction and other measures as appropriate, as described in Section IV, page IV-6.

13B Surface road pollutants entering the stream can be significantly reduced by installing grease traps on the on-site drainage system just prior to the outlet into the stream.

13C The State Annual Summary of Hawaii Air Monitoring Stations is included in Appendix A, which includes the TSP for lihue, along with the State and Federal Air Quality Standard.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Washington, D.C. 20230

OFFICE OF THE ADMINISTRATOR

October 28, 1983

U.S. Department of Transportation
Federal Highway Administration
P.O. Box 50206
Honolulu, Hawaii 96580

Dear Sir:

This is in reference to your draft environmental impact statement of the Kaumualii Highway, FAP-50, Huleia Bridge Replacement and Approaches, Island of Kauai State of Hawaii (Department of Transportation - Federal Highway Administration). Enclosed are comments from the National Oceanic and Atmospheric Administration.

Thank you for giving us an opportunity to provide comments which we hope will be of assistance to you. We would appreciate receiving four copies of the draft environmental impact statement.

Sincerely,

Joyce H. Wood
Chief
Ecology and Conservation Division

Enclosure

3/c

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Washington, DC 20030

N/MB2x5:VLS

October 20, 1993

TO: PP2 - Joyce Wood

FROM: N - K. E. Tagga[illegible]

SUBJECT: DEIS 8308.10 - Kaumualii Highway, FAP 50, Hulela Bridge Replacement and Approaches, Lihue District, Island of Kaual State of Hawaii (Department of Transportation - Federal Highway Administration)

The subject DEIS has been reviewed within the areas of the National Ocean Service's (NOS) responsibility and expertise, and in terms of the impact of the proposed action on NOS activities and projects.

VI-59

14A Geodetic control survey monuments may be located in the proposed project area. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activity in order to plan for their relocation. We recommend that funding for this project include the cost of any relocation required for NOS monuments. For further information about these monuments, please contact Mr. John Spencer, Chief, National Geodetic Information Branch (N/CG17), or Mr. Charles Novak, Chief, Network Maintenance Section (N/CG162), at 6001 Executive Boulevard, Rockville, Maryland 20852.

LETTER NO. 14

EVALUATION - U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (October 28, 1983)

14A Should there be any planned project activity which will disturb or destroy geodetic control survey monuments, the National Ocean Service will be notified not less than 90 days in advance of such activity in order to plan for their relocation. The proposed project finding will include, where required, the estimated costs of anticipated relocation for NOS monuments.

Hwy 3761

THE KAUAI OUTDOOR CIRCLE
September 19, 1983

Dr. Ryokichi Higashionna
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

The Kauai Outdoor Circle has no comment to make at this time concerning the Huleia Bridge Replacement and Approaches Draft Environmental Impact Statement.

We hope that you will keep us informed of any decisions made concerning the replacement of Huleia Bridge.

Mahalo,

Barbara Hubbard

Barbara Hubbard, President
The Kauai Outdoor Circle

VI-60

LETTER NO. 15

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

RYOKICHI HIGASHIONNA, Ph.D.
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JONATHAN K. SHIMADA, Ph.D.
CHERYL D. SOON

IN REPLY REFER TO
HWY-PA
2.77882

October 27, 1983

RECEIVED
OCT 31 1983
AUSTIN, TSUTSUMI & ASSOCIATES, INC.
Honolulu, Hawaii 96813

Ms. Barbara Hubbard
President
The Kauai Outdoor Circle
P. O. Box 921
Lihue, Hawaii 96766

Dear Ms. Hubbard:

Kaumualii Highway, Huleia Bridge
Replacement and Approaches,
Project No. DP-050-1(4),
Draft Environmental Impact Statement

Thank you for your letter of September 19, 1983.

As requested, we will keep you informed of any decisions concerning the replacement of Huleia Bridge.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

cc: FHWA
HWY-K
ATA
-PA

LETTER NO. 16

See response to Letter No. 3, page VI-47.

TONY T. KUNIMURA
MAYOR

AVERY H. YOUN
PLANNING DIRECTOR

TOM H. SHIGEMOTO
DEPUTY PLANNING DIRECTOR

TELEPHONE (808) 245-3919

COUNTY OF KAUAI
PLANNING DEPARTMENT
4280 RICE STREET
LIHUE, KAUAI, HAWAII 96766

January 25, 1985

Wayne J. Yamasaki, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

SUBJECT: Correction on County of Kauai Planning Department Comments on EIS for Huleia Bridge Replacement at Kauai, Hawaii - HWY-PA 2.83504

Thank you for your January 10, 1985 letter.

Our original comments are still applicable however we would like to note an error in our September 6, 1983 letter. Specifically, the second sentence of the second paragraph (4th paragraph) should state "the least amount of inconvenience" instead of "the best amount of inconvenience". As a result, please accept our correction to that letter.

Should you have any questions, please feel free to contact us at 245-3919.

for AVERY H. YOUN
Planning Director

cc: Highways Division - Kauai

C. LIST OF PREPARERS

Below is a list of persons who were primarily responsible for preparing this Draft Environmental Impact Statement (DEIS).

1. Amadeo S. Timbol

-Ph.D. Marine Biology
-Professor - Kauai Community College
-Prepared "Survey of Aquatic Macrofauna in Huleia Stream, Kauai"

2. Francis K.W. Ching

-Consultant Archaeologist
-Conducted archaeological reconnaissance and flora survey

3. Ted S. Kawahigashi

-P.E., B.S.C.E., M.S.C.E.
-25 Years in planning, design and environmental assessment of highways and other civil projects
-SEE Consultant and prepared DEIS document

4. Albert Ng

-P.E., B.S.C.E.
-State DOT Project Manager
-Engineering design and project manager for State DOT

5. Gary Choy

-P.E., B.S.C.E.
-State DOT
-Air and noise study

6. George Shigano

-P.E., B.S.C.E.
-State DOT Advance Planning Engineer
-Overall project manager for State DOT

SECTION VII.

SUMMARY AND EVALUATION OF TESTIMONIES

VII-1

EVALUATION SUMMARY

Public Informational Meeting
Held on 09-14-83

Kaumualii Highway,
Huleia Bridge Replacement and Approaches
Project No. DP-050-1(4)

D. PRATT, President of Grove Farm Co.

COMMENTS: Mr. Pratt stated that he is against Alternative III, that he favors the other alternatives and that Alternative III does not solve or improve the safety problems (due to the vertical and horizontal curves at the same location).

Alternative I and II do provide a better access under the highway and a chance to accelerate before merging with traffic. Raising the elevation of the bridge helps the heavy trucks once they do get moving along. If its a flatter highway they can better accelerate before merging.

Mr. Pratt said that in the past few years he has been a lot of near accidents in this area where a slow moving truck is pulling onto the highway and a speeding vehicle on the highway has to abruptly stop to miss hitting it.

Mr. Pratt summarized by saying Alternatives I and II, IA and IIA are good improvements and will make this highway location a much safer area.

EVALUATION: Alternatives I, IA, II and IIA provide better geometrics for the truck traffic from the quarry access road. The concept of Alternative III is just to replace the bridge on the existing alignment.

JAMES SHINNO, Representative for Lihue Plantation Co.

COMMENTS: Mr. Shinno stated that of the two alternatives, Alternative I and II (including their variations), he favors Alternative IIA with the on-ramp because the objective of improving the roadway is achievable at approximately $5 million. This is less than Alternative I which costs in the neighborhood of $6 million to $7 million. Mr. Shinno stated that Alternative IIA is also desirable because it will <u>not</u> utilize the cane haul road. If highway traffic is re-routed to the cane haul road, it will compete with sugar operations.

Mr. Shinno stated he has three questions:

a. If an on-ramp is desirable for traffic safety and efficient use by the traffic entering Kaumualii Highway, why then is there not such a design for cane haul (truck) units on the Ahukini-Hanamaulu Cut-off Road? (Mr. Shinno stated they have tried to get an overpass or underpass with no success, including even traffic lights.)

b. A hill-climbing lane is not provided to west-bound traffic. Should there not be such a lane provided for?

c. On Kuhio Highway you can get hill-climbing on both sides but its still a three-lane (highway section). If we are to make the bridge a three-lane (highway section), is there a plan to install a four-lane (highway section) to Kaumualii Highway like Kuhio Highway which is slated for four-lanes headed to Kapaa from Lihue?

EVALUATION: Alternative IIA has the lowest cost of the realignment alternatives. The use of the cane haul road for detouring is apparently not desirable due to conflicts with lane operations. A

truck climbing lane for west-bound traffic will be considered where necessary due to steep grades. Alternatives IA and IIA does incorporate this feature.

Ultimately, there will be traffic demand for a four-lane section. In the realignment alternative concept, the existing highway alignment location can be used in the future to build the additional two lanes.

The quarry access is a major problem in replacing the existing bridge and approaches. There are no alternative access points for quarry road traffic and it appears that due to the terrain and economics the access must be confined to the east side of Huleia Stream. The on-ramps and underpass features are the design concept considered to improve safety required by the quarry road traffic of which a large percentage is trucks.

HAROLD EICHELBURGER, Resident of Kekaha and commuter

COMMENTS: Mr. Eichelburger stated that Alternative I would be, by far, the best of the alternatives because it goes the farthest in addressing the existing problems and specifically (one of) the problems encountered is the excessive grade of the road approaches. Also, on the inbound lane to Lihue in the morning, there are times, (about a week) in the spring and again the fall, when the grade results in driving straight into the sun, and in a space of 500 to 800 feet you cannot see. From speeds of 45 to 50 mph, people will slow down and others won't.

The current structure does not have adequate shoulders. Mr. Eichelburger cited examples of accidents, including the Rego truck accident which occurred at the existing bridge.

He supports Alternative I with some additions. There should be longer acceleration lanes for the heavy traffic entering from the quarry in both directions. For traffic from the west side entering the quarry, there should be either a stacking lane/left-turn lane or other alternative way of entering the quarry. Right now, left turning traffic has to wait (on the highway).

He said the quarry traffic represents one of the greatest hazards. You have not only people picking up crushed road products from the quarry, you have the traffic of the ready-mix trucks (Hale Kauai), Hawaii Bitimuls and their employees. Recently its not too bad because construction is slow, but three years ago when construction was at a peak, the trucks would force their way into the traffic (on the highway).

Mr. Eichelburger summarized by stating he favors Alternative I with improved longer acceleration lanes for entering quarry traffic and improvements (left-turn/stacking lane) for traffic from the west turning into the quarry (access road).

EVALUATION: We will consider Mr. Eichelburgers suggestions for longer acceleration lanes.

A stacking/left-turn lane was not incorporated in the proposed designs due to the additional cost and low volume of quarry road traffic, but such a feature will be re-evaluated and possibly incorporated when the ultimate four-lane section is developed in the future.

VII-3

APPENDIX A

AIR QUALITY AND NOISE STUDY

AIR QUALITY STUDY
KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT
PROJECT NO. DP-050-1(4)

Due to the low traffic volumes for all years, the predicted pollution levels are much lower than the State air quality standards.

The pollution levels for all alternatives will remain the same since the traffic volume remains the same for all alternatives. The predicted levels at the shoulder and at various distances show low levels, even when assuming the worst case conditions.

The area is in the rural area of Kauai and it is not expected to affect any change in pollution levels between the build and no-build alternatives.

The Annual Summary of Hawaii Air Monitoring Stations - 24-Hour Sampling, and the air quality standard, follow.

STATE OF HAWAII

ANNUAL SUMMARY OF HAWAII AIR MONITORING STATIONS - 24-HOUR SAMPLING

December 31, 1983

PARTICULATE MATTER (ug/m^3)	Dept. of Health, Oahu	Barbers Point, Oahu	Pearl City, Oahu	Kalihi Kai;** Oahu	Waikiki,** (Ft DeRussy) Oahu	Waimanalo, Oahu	Kahului, Maui	Kihei, Maui	Hilo, Hawaii	Lihue, Kauai
Parameters										
a. Period of sampling (mos.)	12	12	12	12	12	12	11	12	12	12
b. Number of samples	56	40	55	46	53	44	46	52	47	48
c. Range of values	14-58	28-193	57	23-98	18-59	11-45	4-163	12-139	7-50	18-90
d. Arith. average of values	26	55	30	44	33	26	69	44	17	38
e. No. of Days State AQS* exceeded	0	2	0	0	0	0	5	3	0	0
SULFUR DIOXIDE (ug/m^3)										
Parameters										
a. Period of sampling (mos.)	12	11	12	-	-	-	10	-	12	12
b. Number of samples	56	44	50	-	-	-	39	-	43	52
c. Range of values	<5-16	<5-95	<5-5	-	-	-	<5-67	-	<5-23	<5-<5
d. Arith. average of values	<5	<7	<5	-	-	-	8	-	5	<5
e. No. of Days State AQS* exceeded	0	1	0	-	-	-	0	-	0	0

* Particulate matter = 100 ug/m^3; sulfur dioxide = 80 ug/m^3.

** Sampling for sulfur dioxide at these sites was discontinued on January 1, 1983.

Pollutant	STANDARDS			EPISODE LEVELS		
	Hawaii State Standard	Federal Primary Standard	Federal Secondary Standard	State and Federal		
		(Health)	(Welfare)	Alert Level	Warning Level	Emergency Level
Carbon Monoxide 1 hr. 8 hr.	10 mg/m3 (9 ppm) 5 mg/m3 (4.4 ppm)	40 mg/m3 (35 ppm) 10 mg/m3 (9 ppm)	40 mg/m3 (35 ppm) 10 mg/m3 (9 ppm)	17 mg/m3 (15 ppm)	34 mg/m3 (30 ppm)	46 mg/m3 (40 ppm)
Nitrogen dioxide 1 hr. 24 hr. Annnual	-- 70 ug/m3 (0.04 ppm)	-- 100 ug/m3 (0.05 ppm)	-- 100 ug/m3 (0.05 ppm)	1130 ug/m3 (0.6 ppm) 282 ug/m3 (0.15 ppm)	2260 ug/m3 (1.2 ppm) 565 ug/m3 (0.3 ppm)	3000 ug/m3 (1.6 ppm) 750 ug/m3 (0.4 ppm)
Particulate Matter 24 hr. Annual	100 ug/m3 55 ug/m3 (airth)	260 ug/m3 75 ug/m3 (Geom)	150 ug/m3 60 ug/m3 (Geom)	375 ug/m3	625 ug/m3	875 ug/m3
Ozone 1 hr.	100 ug/m3 (0.05 ppm)	235 ug/m3 (0.12 ppm)	235 ug/m3 (0.12 ppm)	200 ug/m3 (0.1 ppm)	800 ug/m3 (0.4 ppm)	1,200 ug/m3 (State) 1,000 ug/m3 (Federal) (0.6 ppm)
Sulfur dioxide 3 hr. 24 hr. Annual	400 ug/m3 (0.15 ppm) 80 ug/m3 (0.03 ppm) 20 ug/m3 (0.008 ppm)	365 ug/m3 (0.14 ppm) 80 ug/m3 (0.03 ppm)	1300 ug/m3 (0.5 ppm) --	800 ug/m3 (0.3 ppm)	1600 ug/m3 (0.6 ppm)	2100 ug/m3 (0.8 ppm)
Lead 3 mo.	1.5 ug/m3 (0.00017 ppm)	1.5 ug/m3 (0.00017 ppm)				

Conversions: @ 25°C

CO	1 ppm	=	1,145 ug/m3
NO_2	1 ppm	=	1,880 ug/m3
Ozone	1 ppm	=	1,962 ug/m3
SO_2	1 ppm	=	2,620 ug/m3
Pb	1 ppm	=	8,457 ug/m3

3/83 - EPB

NOISE STUDY
KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT
PROJECT NO. DP-050-1(4)

The predicted noise levels of the subject project were obtained using a simplified worst case analysis and hence are applicable to all three roadway alternatives. Tables 1, 2 and 3 show the predicted $L_{eq}(h)$ noise levels at 50', 100' and 150' from the roadway centerline. Although the noise levels closer to the roadway are relatively high, no traffic noise impact is expected for the following reasons:

1) No sensitive receptors have been identified in the project area.

2) The project is located in a rural area currently zoned Agricultural, Conservation, and Open Space.

3) Improvements or activities devoted to frequent human habitation neither exist nor are planned or programed in or near the project area.

4) The Design Noise Level criterion (Noise Abatement Criteria) that is applicable to this study is classified as Activity Category D, undeveloped lands, as set forth by FHPM 7-7-3 and 23 CFR Part 772 (FHWA Docket No. 78-33, Notice 3).

5) Neither FHPM 7-7-3 nor 23 CFR Part 772 identify any upper limit of acceptable traffic noise level conditions for Activity Category D.

TABLE 1

KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT
PROJECT NO. DP-050-1(4)

PREDICTED NOISE LEVELS
L_{eq} (h) (dBA)

50 feet from centerline of roadway

	1983	1993	2003
6AM - 7AM	66	68	73
7AM - 8AM	71	73	74
8AM - 9AM	71	73	74
9AM - 10AM	70	71	72
10AM - 11AM	71	72	73
11AM - 12N	70	71	72
12N - 1PM	70	71	72
1PM - 2PM	70	71	72
2PM - 3PM	69	71	72
3PM - 4PM	70	71	72
4PM - 5PM*	70	71	72
5PM - 6PM	69	70	71
6PM - 7PM	65	67	68

* Peak Hour Volume

TABLE 2

KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT
PROJECT NO. DP-050-1(4)

PREDICTED NOISE LEVELS
L_{eq} (h) (dBA)

100 feet from centerline of roadway

	1983	1993	2003
6AM - 7AM	62	63	68
7AM - 8AM	67	68	69
8AM - 9AM	67	68	69
9AM - 10AM	65	67	68
10AM - 11AM	66	68	69
11AM - 12N	65	67	68
12N - 1PM	65	67	68
1PM - 2PM	65	67	68
2PM - 3PM	65	66	67
3PM - 4PM	65	67	68
4PM - 5PM*	65	66	67
5PM - 6PM	64	66	67
6PM - 7PM	61	63	64

* Peak Hour Volume

TABLE 3

KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT
PROJECT NO. DP-050-1(4)

PREDICTED NOISE LEVELS
L_{eq} (h) (dBA)

150 feet from centerline of roadway

	1983	1993	2003
6AM - 7AM	59	61	65
7AM - 8AM	64	66	67
8AM - 9AM	64	65	66
9AM - 10AM	63	64	65
10AM - 11AM	63	65	66
11AM - 12N	63	64	65
12N - 1PM	63	64	65
1PM - 2PM	62	64	65
2PM - 3PM	62	64	65
3PM - 4PM	62	64	65
4PM - 5PM*	62	63	64
5PM - 6PM	62	63	64
6PM - 7PM	58	60	61

* Peak Hour Volume

NOISE STUDY
KAUMUALII HIGHWAY, HULEIA BRIDGE REPLACEMENT
PROJECT NO. DP-050-1(4)

METHODOLOGY USED IN ANALYSIS

FHWA-RD-77-108 FHWA Highway Traffic Noise Prediction Model

SNAP 1.1 FHWA Level 1 Highway Traffic Noise Prediction Computer Program

ANALYSIS YEAR

1983, 1993, 2003

TRAFFIC VOLUMES

From Traffic Assignment Project TA 81-7

VEHICLE SPEED USED IN ANALYSIS

Kaumualii Highway 50 mph (80.5 km/hr)

REPORTED NOISE LEVELS

L_{eq} (h) (dBA)

RECEPTOR LOCATIONS ANALYZED

50 feet from centerline of roadway

100 feet from centerline of roadway

150 feet from centerline of roadway

ASSUMPTIONS USED IN ANALYSIS

Straight, infinitely long, level roadway

No attenuation due to terrain (i.e. level ground from roadway to receptor)

Soft ground (site) conditions (Alpha = 0.5)

APPENDIX B

HISTORICAL AND ARCHAEOLOGICAL SURVEY

ARCHAEOLOGICAL RESEARCH CENTER HAWAII, INC.

P. O. Box 285; Lawai, Kauai, Hawaii 96765; Ph. 332-8521

27
April
1982

Austin, Tsutsumi & Associates, Inc.
745 Fort Street Mall; Suite 900
Honolulu, Hawaii 96813

Attention: Mr. Ted S. Kawahigashi

SUBJECT: Archaeological Reconnaissance - Kaumuali'i Highway, Huleia Bridge Replacement, Project No. DP-050-1(4), Kipu, Puna, Kaua'i Island. ARCH 14-239.

B-1

Gentlemen:

On April 27, 1982 personnel of Archaeological Research Center Hawaii, Inc. performed an archaeological reconnaissance of the above subject project area. The purpose of this reconnaessance was to determine the presence or absence of archaeological sites.

The study area is a proposed highway corridor approximately 600 feet wide and is located south of Kaumuali'i Highway and extends on both sides (east and west) of Huleia Bridge ("Halfway Bridge"). The main area of concentration was in the Huleia Gulch south of the bridge, however, the entire project area was inspected. Vegetation consists of Ohia 'ai, mango, java plum, banana, kukui, hala, koa haole, and an assortment of grasses and vines.

The entire area south of Huleia Bridge was inspected on foot as this was the only place in the project area which was likely to contain archaeological remains. No archaeological sites were located. The only thing of historical interest was the remains of the original bridge which once spaned Huleia Stream (The present wooden bridge is the third bridge to be built here). The rest of the study area is presently under cane cultivation and as earlier archaeological studies have demonstrated that such lands are void of intact archaeological sites (see ARCH's unpublished manuscript on the Russian Fort Elizabeth).

Our conclusion is that the study area contains no archaeological remains and we see no reason for further investigation since the property has no archaeological significance.

If you have any questions concerning the above or if we can be of further assistance to you, please do not hesitate to contact me.

Na Kau a Kau,

ARCHAEOLOGICAL RESEARCH CENTER HAWAII, INC.

Francis K.W. Ching
President

713
Hwy 6165

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS
P. O. BOX 621
HONOLULU, HAWAII 96809

DEC 29 1983

MEMORANDUM

TO: The Honorable Wayne J. Yamasaki, Director
Department of Transportation

FROM: Susumu Ono, Chairperson and
State Historic Preservation Officer

SUBJECT: Huleia Bridge Replacement.
Project No. DP-050-1(4)

Thank you for your memorandum of December 22, 1983, requesting our office's comments on the above project. The Huleia Bridge is not listed in the National Register of Historic Places. We concur with your Department's determination that this project will have no effect on any historically significant property.

Susumu Ono

RECEIVED
JAN 4 10 52 AM '84
DEPT OF TRANSPORTATION
HIGHWAYS DIVISION

APPENDIX C

DRAINAGE REPORT FOR HULEIA STREAM

DRAINAGE REPORT

FOR

KAUMUALII HIGHWAY

HULEIA BRIDGE REPLACEMENT

LIHUE DISTRICT, ISLAND OF KAUAI

PROJECT NUMBER DP-050-1(4)

C-1

PREPARED BY

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

ENGINEERS * SURVEYORS

HONOLULU, HAWAII

AUGUST 1982

TABLE OF CONTENTS

AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS • SURVEYORS
CONTINUING THE ENGINEERING PRACTICE FOUNDED BY H. A. R. AUSTIN IN 1934

EDWARD S. AUSTIN
CAESAR S. TSUTSUMI
LEO AMANO
HIDE S. KAMAMOTO
HARRY SEIKI AU

C-2

DRAINAGE REPORT

FOR

KAUMUALII HIGHWAY
HULEIA BRIDGE REPLACEMENT
LIHUE DISTRICT, ISLAND OF KAUAI
PROJECT NUMBER DP-050-1(4)

I. INTRODUCTION

A. Purpose, Scope, and Procedure

The purpose of this report is to evaluate the flood plain encroachments of the proposed project in accordance with Executive Order 11988, "Flood Plain Management" and Federal Highway Administration policies and procedures.

The scope of this study includes both hydrologic and hydraulic analyses of Huleia Stream with regard to the proposed project, and discussions relating to risks associated with the possible flood water encroachments.

Investigation and evaluation procedures included field investigation of the project area, research and study of published reports and literature pertinent to the proposed project and discussions with personnel of Federal, State and County agencies including U.S. Army Corps of Engineers, U.S. Geological Survey, Federal Highway Administration, Department of Agriculture - Soil Conversation Service, State Department of Transportation, County of Kauai - Department of Public Works.

REPLY TO
[illegible] • CABLE ADDRESS "ATAHI" • TELEX 723 8147
OFFICES
• HONOLULU, HAWAII • AGANA, GUAM
• KAHULUI, MAUI • HILO, HAWAII

B. Description of Proposed Project

The State Department of Transportation proposes to replace the existing Huleia Stream Bridge with a new 2-lane bridge structure which would meet the current design standards for bridge loading and geometrics.

The project site is located on Kaumualii Highway (FAP Route 50), just east of the Koloa-Lihue District Boundary on the island of Kauai (Exhibit 1). The alternative bridge sites being considered are all located downstream (southerly) of, and within 600 feet of the existing bridge crossing.

C. Description of Existing Characteristics

The existing Huleia Stream Bridge is a timber stringer on trestle which was constructed on a concrete bridge deck built some time earlier (Exhibit 2 shows the typical existing bridge section). At the bridge section, the stream bed is at elevation 310± feet; the concrete deck is at about elevation 335 feet; and the highway is at elevation 352± feet.

The lands within the proposed project are zoned primarily for agricultural use and are planted primarily with sugar cane. On the east bank, upstream of the existing bridge is the quarry access road. There are no homes in the nearby vicinity of the bridge.

II. HYDROLOGIC ANALYSIS

Huleia Stream stretches from the Koloa Forest Reserve to Nawiliwili Bay. Approximately 4.5 miles above the mouth of the stream is a U.S. Geological Survey gaging station (Number 550) with a drainage area of approximately 17.6 square miles. Exhibit 3 shows the gaging station location. The maximum peak discharge recorded was on November 28, 1970, which was estimated from flood marks to be approximately 26,800 cubic feet per second (cfs). The crest-stage gage was destroyed on November 26, 1970 by high water. (See Exhibit 4 for the recorded water year peak discharges from 1962 to 1981.)

The Huleia Stream bridge lies approximately 3,000 feet upstream of the gaging station (Number 550). At the bridge crossing, the contributing drainage area is approximately 12.8 square miles (or 8,200 acres). The County of Kauai, Department of Public Works, "Storm Drainage Standards", February 1972, design curves for estimating the peak discharge for 50-year and 100-year frequency storms (Plates 6 and 6A) are based upon the U.S. Geological Stream gaging station data. The design discharge used in this report is 16,000 cfs for a 50-year storm and 23,000 cfs for a 100-year storm. (See Exhibits 5 and 5A.)

III. HYDRAULIC ANALYSIS

The hydraulic analysis is based on the existing bridge remaining in place, and the new bridge, being constructed downstream, having little or no effect on the stream hydraulics. It is further assumed

that, since the bridge is so far inland from the mouth of the stream, there would be no tailwater effects due to tidal fluctuations, and the stream is assumed to be free flowing.

The existing bridge backwater analysis is based on the U.S. Department of Transportation, Federal Highway Administration, "Hydraulics of Bridge Waterways" (Revised March 1978). Accordingly, it should be noted that this method is reasonably valid if (a) the channel in the vicinity of the bridge is essentially straight, (b) the cross sectional area of the stream is fairly uniform, (c) the gradient of the bottom is approximately constant, (d) the flow is free to contract and expand, (e) there is no appreciable scour of the bed in the constriction, and (f) the flow is in the subcritical range (or of Type I flow).

Determination of Froude's Number revealed that the type of flow at the constriction of the existing bridge is supercritical (or of Type II flow). Bear in mind, that in the case of natural streams where the roughness of the flood plain and main channel differ materially and the channel cross sections are irregular, the Froude number becomes less of a meaningful parameter. The bridge backwater computation was thereby done by both the Type I flow approach and the Type II flow approach methods. The Type I flow approach method did not show unreasonably high backwater results. In fact, the Type I approach showed a backwater rise less than that calculated by the Type II flow approach. Thus, in spite of the Froude Number determination

of a Type II flow condition, the bridge backwater analysis revealed the flow condition to be of Type I (See Exhibit 6 - Bridge Backwater Analysis, 8 sheets).

Further backwater analysis was done from the point of maximum bridge backwater, based upon the standard Step Method for natural stream. Exhibits 7 and 7A show the computed water surface elevations for the 50 year and 100 year return storms. Exhibit 8 shows the locations of each of the stations for which the water surface elevations were computed. The point of the maximum bridge backwater is identified as Station 0+00.

The backwater computations show that the quarry access road would be inundated during both a 50 year and a 100 year return storm. Exhibit 9 shows a cross section of the flooding at the low point on the quarry road.

C-4

IV. RISK EVALUATION

The hydrologic and hydraulic analyses reveal the existing bridge backwater effects will cause inundation to the quarry road and the immediate area adjacent to the road. The area to the northeast (Lihue side) of the low point on the access road has been filled and graded, and the area of the quarry truck scale is higher than the computed water surface elevation of the backwater for a 100 year storm. Therefore, only local flooding in the adjacent area of the quarry road is anticipated. There are no structures or dwellings in the area of anticipated flooding.

The construction of a new bridge structure downstream of the existing bridge structure will most probably have no adverse effect on the upstream flow conditions. Preliminary considerations for the new bridge indicate a larger waterway opening than that provided by the existing bridge.

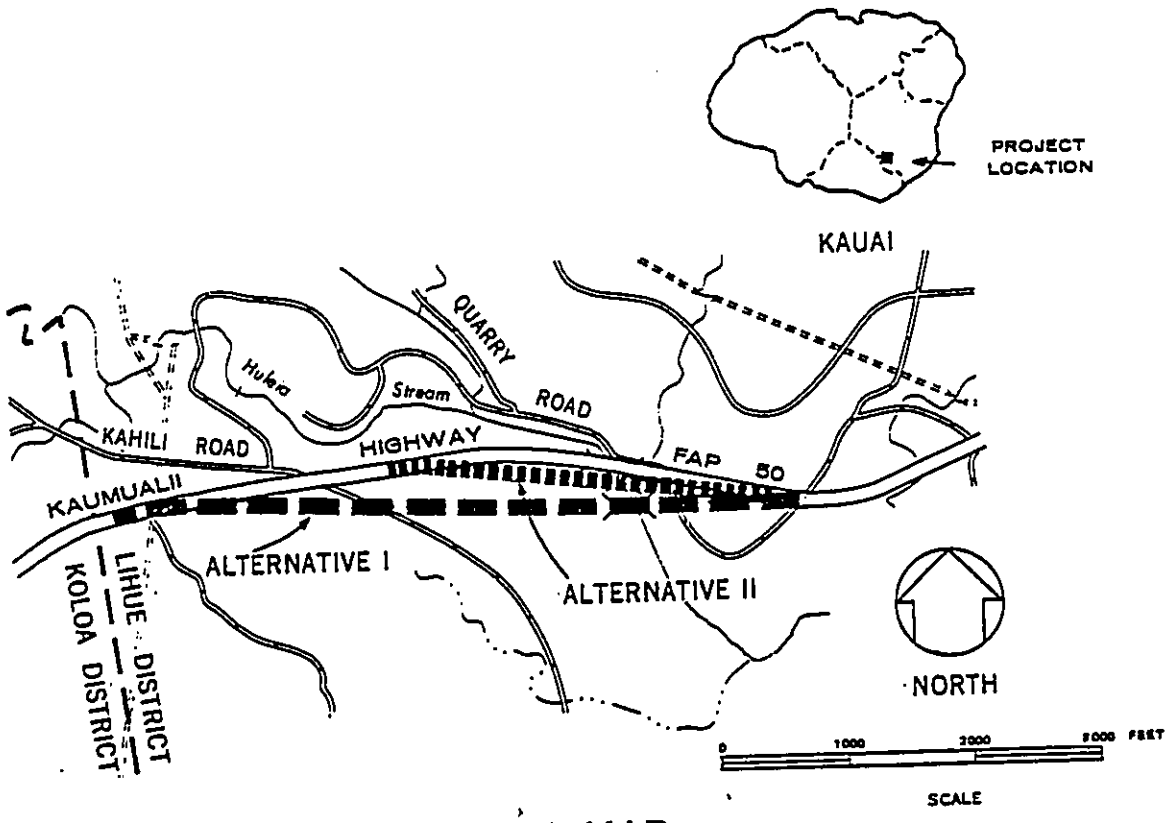
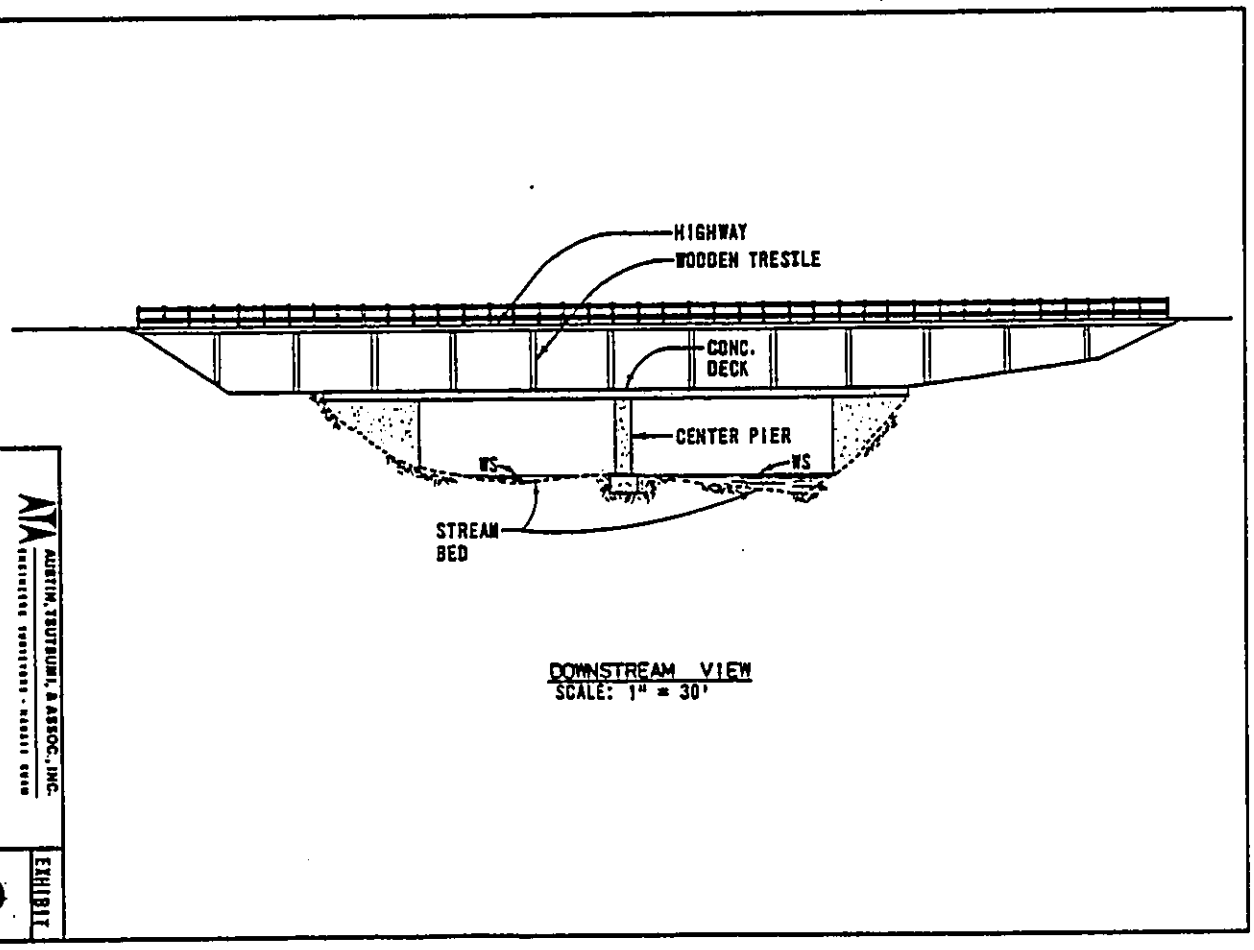


EXHIBIT 1

LOCATION MAP
KAUMUALII HIGHWAY
HULEIA BRIDGE REPLACEMENT



TYPICAL SECTION OF EXISTING BRIDGE

AUSTIN, TSUTSUMI & ASSOC., INC.
ENGINEERS SURVEYORS HONOLULU HAWAII

EXHIBIT 2

EXHIBIT 3

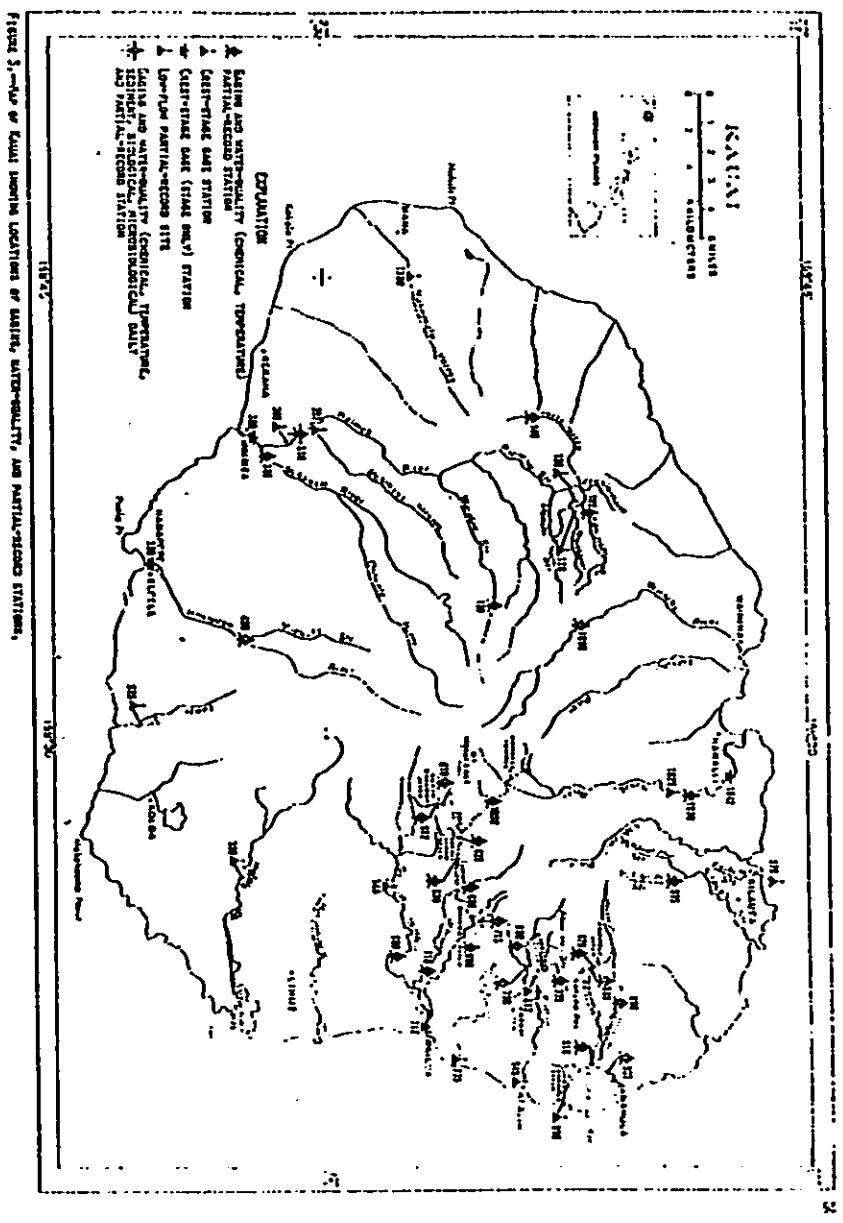


FIGURE 3.--MAP OF KAUAI SHOWING LOCATIONS OF BASIN, WATER-QUALITY, AND PARTIAL-RECORD STATIONS.

Reference: U.S. Geological Survey
"Water Resources Data for Hawaii and Other Pacific Areas", Volume I (1980)

ISLAND OF KAUAI

550. Hulcia Stream near Lihue

Location.--Lat 21°57'13", long 159°25'25", at highway bridge, 3.7 miles southwest of Lihue, and 4.5 miles above mouth.

Drainage area.--17.6 sq mi.

Gage.--Crest-stage gage. Prior to Nov. 1, 1970, water-stage recorder at same site and datum. Prior to Mar. 1, 1967, crest-stage gage at datum 2.36 ft lower. Altitude of gage is 210 ft (from topographic map).

Water-year maxima.--

Water year	Date	Gage height (ft)	Discharge (cfs)	Water year	Date	Gage height (ft)	Discharge (cfs)
1962	4-25-62	15.20	5,880				
1963	4-15-63	19.82	13,200				
1964	1- 6-64	16.84	8,200				
1965	5- 3-65	17.55	9,280				
1966	11-19-65	16.77	7,920				
1967	2-10-67	18.08	10,100				
1968	12- 8-67	13.13	6,070				
1969	11-29-68	16.67	12,000				
1970	1-13-70	9.10	2,110				
1971	11-28-70	d22.40	26,800				
1972	12-18-71	13.05	5,960				
1973	2- 2-73	10.07	2,810				
1974	4-19-74	14.76	8,440				
1975	1-31-75	19.87	18,400				
1976	3-19-76	--	e 1,200				
1977	5-10-77	10.78	3,400				
1978	7- 2-78	9.88	2,660				
1979	10-31-78	13.40	6,440				
1980	5-28-80	15.66	10,000				
1981	8- 5-81	9.64	2,490				

d From floodmark.

Reference: "An Investigation of Floods in Hawaii - Through Sept. 30, 1973"
U.S. Department of Interior Geological Survey
Jan. 1974 (Progress Report Number Sixteen)

EXHIBIT 4

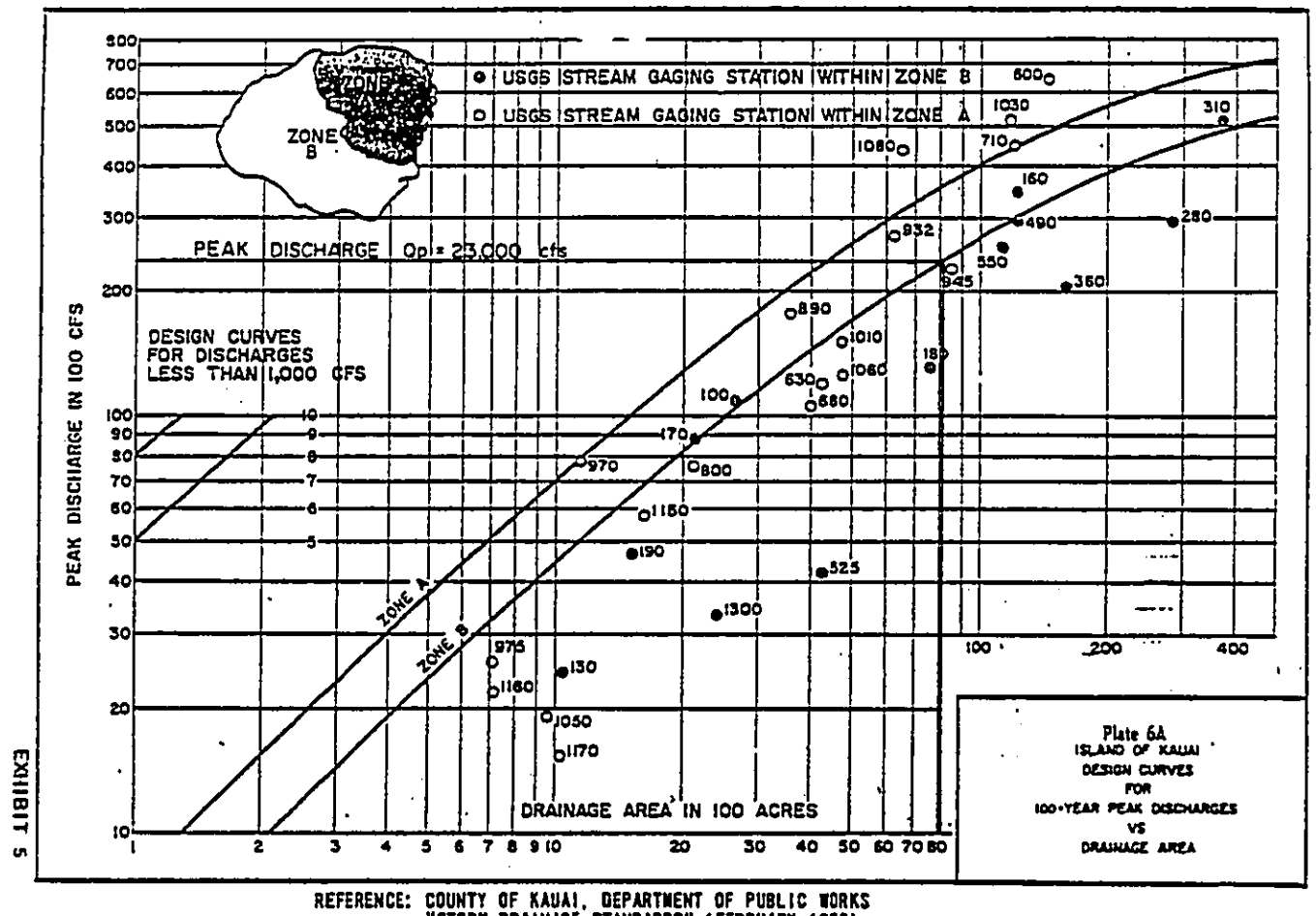


EXHIBIT 5

REFERENCE: COUNTY OF KAUAI, DEPARTMENT OF PUBLIC WORKS
"STORM DRAINAGE STANDARDS" (FEBRUARY 1972).

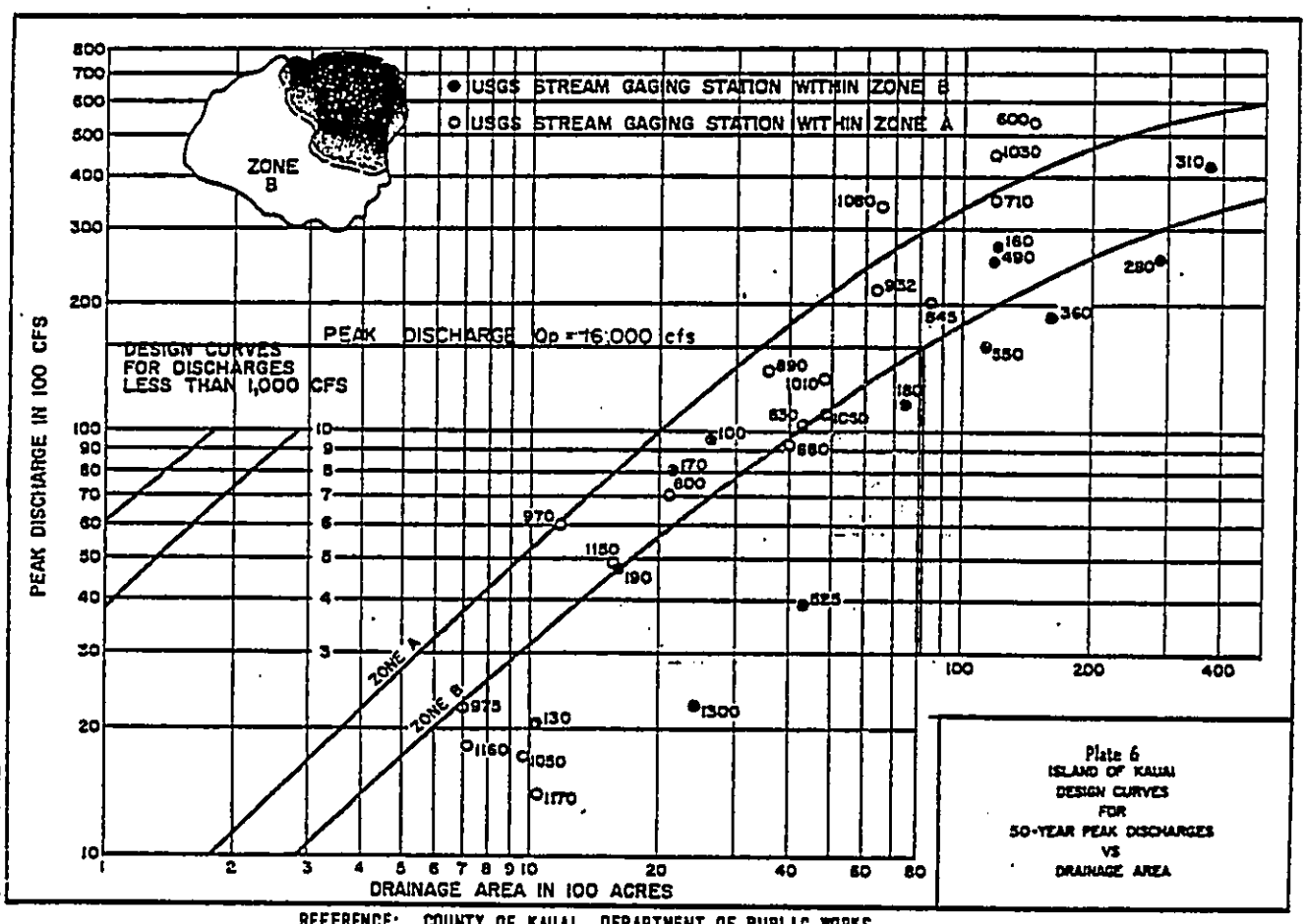
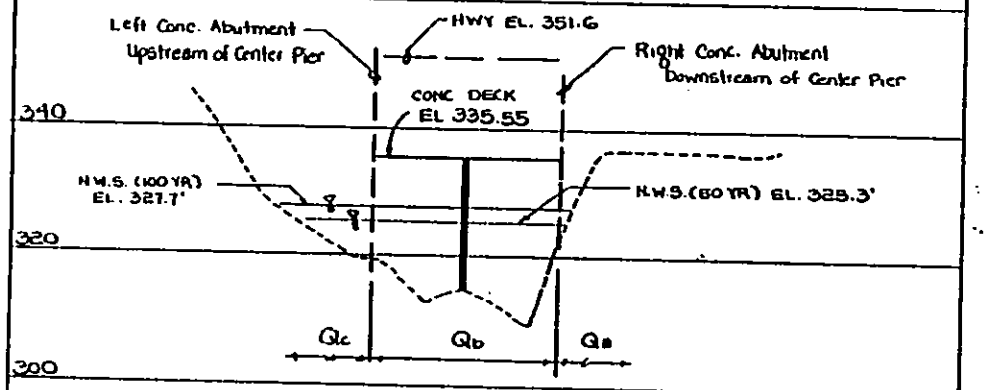


EXHIBIT 5A

REFERENCE: COUNTY OF KAUAI, DEPARTMENT OF PUBLIC WORKS
"STORM DRAINAGE STANDARDS" (FEBRUARY 1972)

SECTION @ BRIDGE :

SCALE: HORZ 1" = 50'
VERT 1" = 20'



W.S ELEV	SUB SECT	AREA (S.F.)	W.P. (FT)	$r^{2/3}$	n	$K = \frac{1.49 ar^{2/3}}{n}$	$q = KS_o^{1/2}$ (S_o=0.008)	TOTAL Q
320	a	—	—	—	—	—	—	
	b	420	78	3.072	0.035	54,782	4900	4900
	c	—	—	—	—	—	—	
327	a	20	5	2.520	0.040	1,872	167	
	b	960	80	5.241	0.035	213,637	19,108	
	c	190	37	2.976	0.045	18,675	1,670	20,945
337	a	110	20	3.116	0.050	10,186	911	
	b	1640	80	7.490	0.035	521,551	46,649	
	c	670	59	5.052	0.050	100,602	8,998	56,558

EXHIBIT 6

AUSTIN TSUTSUMI & ASSOCIATES, INC.

PROJECT: HULEIA STREAM
BRIDGE BACKWATER ANALYSIS
SECTION @ BRIDGE

JOB NO: 082-H6-1

BY: RME DATE: 4/27/82
CHKD: ___ DATE: ___
SHT NO 1 OF 8

SECTION @ BRIDGE: STAGE - DISCHARGE CURVE

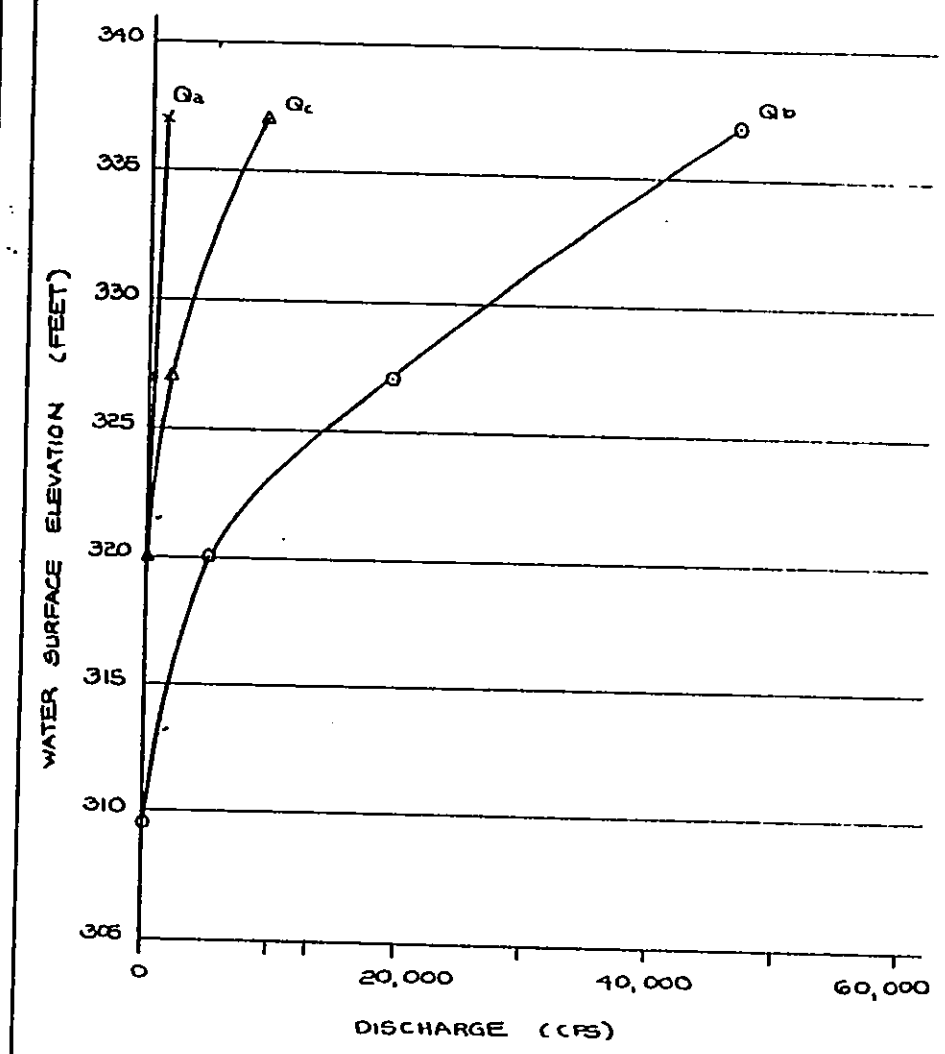


EXHIBIT 6

AUSTIN TSUTSUMI & ASSOCIATES, INC.

PROJECT: HULEIA STREAM
BRIDGE BACKWATER ANALYSIS
SECTION @ BRIDGE : STAGE-DISCHARGE CURVE

JOB NO: 082-H6-1

BY: RME DATE: 4/28/82
CHKD: ___ DATE: ___
SHT NO 2 OF 8

50 - YEAR FREQUENCY STORM

Q = 16,000 cfs

NORMAL WATER SURFACE (N.W.S) = 325.3'

SUB SECT	area (s.f.)	w.p. (ft)	$r^{2/3}$	n	$K=\frac{1.49ar^{2/3}}{n}$	$q=KS_{adj}^{1/2}$	$V=\frac{q}{a}$	qV^2
a	8	3	1.923	0.040	572	51	6.38	2,073
b	830	80	4.757	0.035	167,631	14,913	18.04	4,872,707
c	130	32	2.846	0.045	10,930	976	7.51	55,013
An = 968					K = 179,133			ΣqV^2 = 4,929,793
An_2 = 830						Q = 16,000		

$S_{adj} = \left(\frac{Q}{K}\right)^2 = \left(\frac{16,000}{179,133}\right)^2 = 0.00798$ ft/ft

EXHIBIT 6

ATA	PROJECT: HULEIA STREAM BRIDGE BACKWATER ANALYSIS 50 - YR FREQUENCY STORM	JOB NO 0 82 146	BY BME DATE 1/21/82 CHKD ___ DATE ___ SHT NO 3 OF 8

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

100 - YEAR FREQUENCY STORM

Q = 23,000 CFS

NORMAL WATER SURFACE (N.W.S.) = 327.7'

SUB SECT	area (s.f.)	w.p. (ft)	$r^{2/3}$	n	$K=\frac{1.49ar^{2/3}}{n}$	$q=KS_{adj}^{1/2}$	$V=\frac{q}{a}$	qV^2
a	25	6	2.589	0.040	2,406	215	8.60	15,901
b	1010	80	6.422	0.035	232,602	20,794	20.59	8,813,966
c	220	41	3.068	0.045	22,267	1,991	9.05	163,068
An = 1255					K = 257,174			ΣqV^2 = 8,992,935
An_2 = 1010						Q = 23,000		

$S_{adj} = \left(\frac{Q}{K}\right)^2 = \left(\frac{23,000}{257,174}\right)^2 = 0.007998$ ft/ft

EXHIBIT 6

ATA	PROJECT HULEIA STREAM BRIDGE BACKWATER ANALYSIS 100 YEAR FREQUENCY STORM	JOB NO 0 82 146	BY BME DATE 1/22/82 CHKD ___ DATE ___ SHT NO 4 OF 8

AUSTIN, TSUTSUMI & ASSOCIATES, INC.

C-9

BACKWATER ANALYSIS: TYPE I FLOW			
Q, cfs	50-YR Q = 16,000	100-YR Q = 23,000	
STAGE ELEVATION, FT	325.3	327.1	
A_n, SQ FT	968	1255	
A_{ne}, SQ. FT	830	1010	
$V_n = \frac{Q}{A_n}$, FPS	16.53	18.33	
$V_{ne} = \frac{Q}{A_{ne}}$, FPS	19.28	22.77	
$\frac{V_{ne}^2}{2g}$, FT	5.77	8.05	
Q_b, CFS	14,973	20,794	
$M = \frac{Q_b}{Q}$	0.94	0.90	
Σqv^2	4,929,793	8,992,935	
$\alpha_1 = \frac{\Sigma qv^2}{Q V_{ne}^2}$	1.13	1.16	
α_2, (FIG. 6)	1.12	1.15	
K_b, (FIG. 6)	0.02	0.06	
A_p, SQ. FT	66	81	
$J = \frac{A_p}{A_{ne}}$	0.080	0.080	
ΔK, (FIG 7A)	0.152	0.152	
σ, (FIG 7B)	0.99	0.98	
$\Delta K_p = \Delta K \sigma$	0.150	0.149	
$e = 1 - \frac{Q_b}{Q_c}$	0.948	0.892	
ΔK_c, (FIG 8)	0.023	0.020	
ϕ	45°	45°	
ΔK_s, (FIG. 10A)	-0.02	-0.04	
$K_b^* = K_b + \Delta K_p + \Delta K_c + \Delta K_s$	0.173	0.189	
$\frac{K_b^* \alpha_2 V_{ne}^2}{2g}$, FT	1.12	1.75	
A_1, SQ FT	1090	1470	
$\alpha_1 \left[\left(\frac{A_{ne}}{A_1}\right)^2 - \left(\frac{A_{ne}}{A_1}\right)^2\right] \frac{V_{ne}^2}{2g}$	1.01	1.64	
BACKWATER h_1^*, FT	2.13	3.39	

EXHIBIT 6

ATA	PROJECT HULEIA STREAM BRIDGE BACKWATER ANALYSIS TYPE I FLOW	JOB NO 0-82-1461	BY BME DATE 1/6/82 CHKD ___ DATE ___ SHT NO 5 OF 8

AUSTIN, ISUTSUMI ASSOCIATES, INC.

BACKWATER ANALYSIS TYPE I FLOW (CONTINUED)			
Q, CFS	50-YR Q = 16,000	100-YR Q = 23,000	
$b_3 \cos\phi$, FT	75	75	
$\frac{b_3 \cos\phi}{b}$, (FIG. 11)	0.983	0.990	
b, FT	76	76	
$\bar{y} = \frac{A_{ne}}{b}$, FT	10.92	13.29	
Δh, (ASSUMED), FT	4.29	5.89	
$\frac{\Delta h_{ASSUMED}}{\bar{y}}$	0.39	0.44	
$\frac{L^*}{b_3}$, (FIG 13A)	1.11	1.18	
ω, (FIG 13C)	1.84	1.68	
$\omega \frac{L^*}{b_3}$	2.04	1.98	
L^*, FT	153	149	
$L_{1-\ell} = L^* + 16$	169	165	
S_{adj}, FT/FT	0.00798	0.007998	
$S \cdot L_{1-\ell}$, FT	1.35	1.32	
W.S. UPSTREAM = STAGE EL + h_1^* + $S L_{1-\ell}$	328.78	332.41	
$K_b^* = K_b + \Delta K_c + \Delta K_s$	0.023	0.040	
$h_b = K_b^* \alpha_2 \frac{V_{ne}^2}{2g}$, FT	0.149	0.370	
D_b, (FIG 12)	0.18	0.26	
$h_3 = h_b \left(\frac{1}{D_b} - 1\right)$	0.68	1.05	
$S_o \ell_{-L_3} = 8 \cdot (16)$, FT	0.13	0.13	
W.S. DOWNSTREAM = STAGE EL $- h_3 - S_o \ell - L_3$	324.49	326.52	
$\Delta h = h_1^* + S_o L_{1-3} + h_3$	4.29	5.89	

EXHIBIT 6

ATA	PROJECT HULEIA STREAM BRIDGE BACKWATER ANALYSIS TYPE I FLOW	JOB NO 0-82-1461	BY BME DATE 1/6/82 CHKD ___ DATE ___ SHT NO 6 OF 8

AUSTIN, ISUTSUMI ASSOCIATES, INC.

BACKWATER ANALYSIS: TYPE II FLOW

Q, CFS	50-YR Q=16,000	100-YR Q=23,000	
STAGE ELEV, FT	325.3	321.7	
A_{n_1}, SQ FT.	968	1265	
A_{n_2}, SQ FT.	830	1010	
$V_{n_1} = \frac{Q}{A_{n_1}}$, FPS	16.53	18.33	
$V_{n_2} = \frac{Q}{A_{n_2}}$, FPS	19.28	22.77	
TOP WIDTH OF FLOW, T_1, FT	108	120	
$D_{m_1} = \frac{A_{n_1}}{T_1}$, FT	8.96	10.46	
$D_{m_2} = \frac{A_{n_2}}{T_2} = \bar{y}$ $(T = b + .75')$, FT	11.07	13.47	
FROUDE NO. $F = \frac{V}{\sqrt{g D_m}}$			
(a) UPSTREAM $F = \frac{V_{n_1}}{\sqrt{g D_{m_1}}}$	0.973	0.999	
	SUBCRITICAL	SUBCRITICAL	
(b) @ BRIDGE $F = \frac{V_{n_2}}{\sqrt{g D_{m_2}}}$	1.021	1.093	
	SUPERCRITICAL	SUPERCRITICAL	
A_P, SQ.FT	66	81	
$A_{n_{BR}} = A_{n_2} - A_P$, FT	764	929	
$q_t = \frac{Q}{b_n} = \frac{Q}{75' - 4.5' \times \text{PIER WIDTH}}$, CFS/FT	227.0	326.2	
$y_{ac} = \left[\frac{q_t^2}{g}\right]^{1/3}$, FT	11.70	14.89	
$V_{ac} = \frac{q_t}{y_{ac}}$, FPS	19.40	21.91	
$\frac{V_{ac}^2}{2g}$, FT	5.85	7.45	
$\frac{V_{n_2}^2}{2g}$, FT	4.24	5.22	
$V_{n_{BR}} = \frac{Q}{A_{n_{BR}}}$, FPS	20.94	24.76	
Q_b, CFS	14,973	20,794	
$M = \frac{Q_b}{Q}$	0.94	0.90	
$\Sigma\, qV^2$	4,929,793	8,992,935	
$\alpha_1 = \frac{2 g V_{n_2}^2}{Q\, V_{n_2}}$	1.13	1.16	
α_2 (FIGURE 5)	1.12	1.15	

EXHIBIT 6

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.	PROJECT: HULEIA STREAM BRIDGE BACKWATER ANALYSIS TYPE II FLOW	JOB NO 0-82-H61	BY RME DATE 4/29/82 CHKD ____ DATE ____ SHT NO 7 OF 8

BACKWATER ANALYSIS TYPE II FLOW (CONTINUED)

Q, CFS	50-YR Q=16,000	100-YR Q=23,000	
c_b, (FIGURE 34)	0.045	0.075	
$h_{1\,TRIAL\,1}^{\#} = \alpha_2 \frac{V_{ac}^2}{2g}(c_b+1) + y_{ac} - \bar{y} - \alpha_1 \frac{V_{n_2}^2}{2g}$	2.69	4.57	
$A_{1\,TRIAL\,1}$, SQ FT	1280	1835	
$V_{1\,TRIAL\,1} = \frac{Q}{A_{1\,TRIAL\,1}}$, FPS	12.50	12.53	
$\frac{V_{1\,TRIAL\,1}^2}{2g}$, FT.	2.43	2.44	
$h_{1\,TRIAL\,2}^{\#} = \alpha_2 \frac{V_{ac}^2}{2g}(c_b+1) + y_{ac} - \bar{y} - \alpha_1 \frac{V_{1\,TRIAL\,1}^2}{2g}$	4.73	7.81	
$A_{1\,TRIAL\,2}$, SQ. FT	1535	2285	
$V_{1\,TRIAL\,2} = \frac{Q}{A_{1\,TRIAL\,2}}$, FPS	10.42	10.07	
$\frac{V_{1\,TRIAL\,2}^2}{2g}$, FT	1.69	1.57	
$h_{1\,TRIAL\,3}^{\#} = \alpha_2 \frac{V_{ac}^2}{2g}(c_b+1) + y_{ac} - \bar{y} - \alpha_1 \frac{V_{1\,TRIAL\,2}^2}{2g}$	5.56	8.81	
$A_{1\,TRIAL\,3}$, SQ. FT	1640	2425	
$V_{1\,TRIAL\,3}$, FPS	9.76	9.48	
$\frac{V_{1\,TRIAL\,3}^2}{2g}$, FT	1.48	1.40	
$h_{1\,TRIAL\,4}^{\#}$	5.80	9.01	
$A_{1\,TRIAL\,4}$	1675	2460	
$V_{1\,TRIAL\,4}^2$	9.56	9.35	
$\frac{V_{1\,TRIAL\,4}^2}{2g}$	1.42	1.36	
$h_1^{\#}$, FT.	5.80	9.01	
DEPTH @ UPSTREAM $= \bar{y} + h_1^{\#}$	16.87	22.48	
	$y_{ac} < \bar{y} + h_1^{\#}$	$y_{ac} < \bar{y} + h_1^{\#}$	
NOTE: ACCORDING TO SECTION 10.3, SINCE $h_1^{\#}$ FOR TYPE II FLOW IS GREATER THAN $h_1^{\#}$ FOR TYPE I FLOW ASSUME TYPE I FLOW COMPUTATIONS.			15

EXHIBIT 6

ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC.	PROJECT: HULEIA STREAM BRIDGE BACKWATER ANALYSIS TYPE II FLOW	JOB NO 0-82-H61	BY RME DATE 4/29/82 CHKD ____ DATE ____ SHT NO 8 OF 8

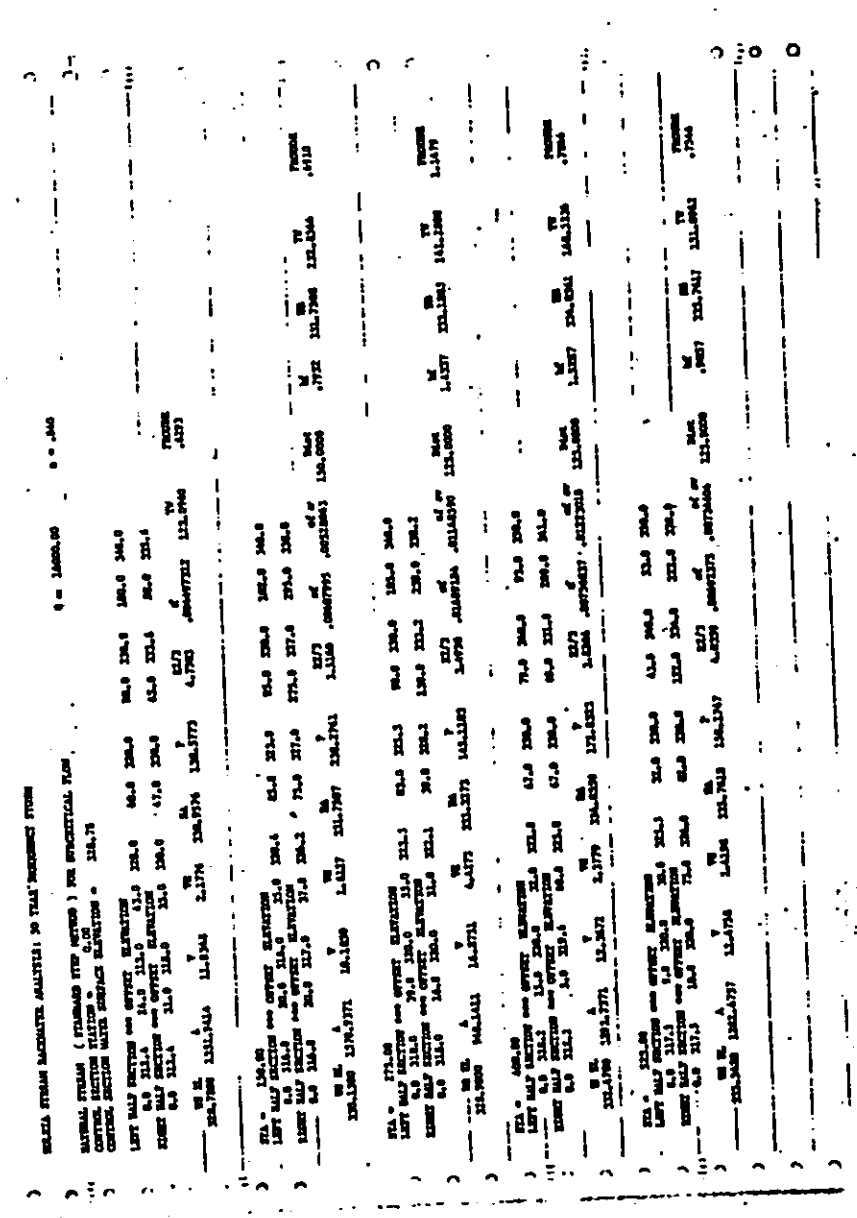


EXHIBIT 7

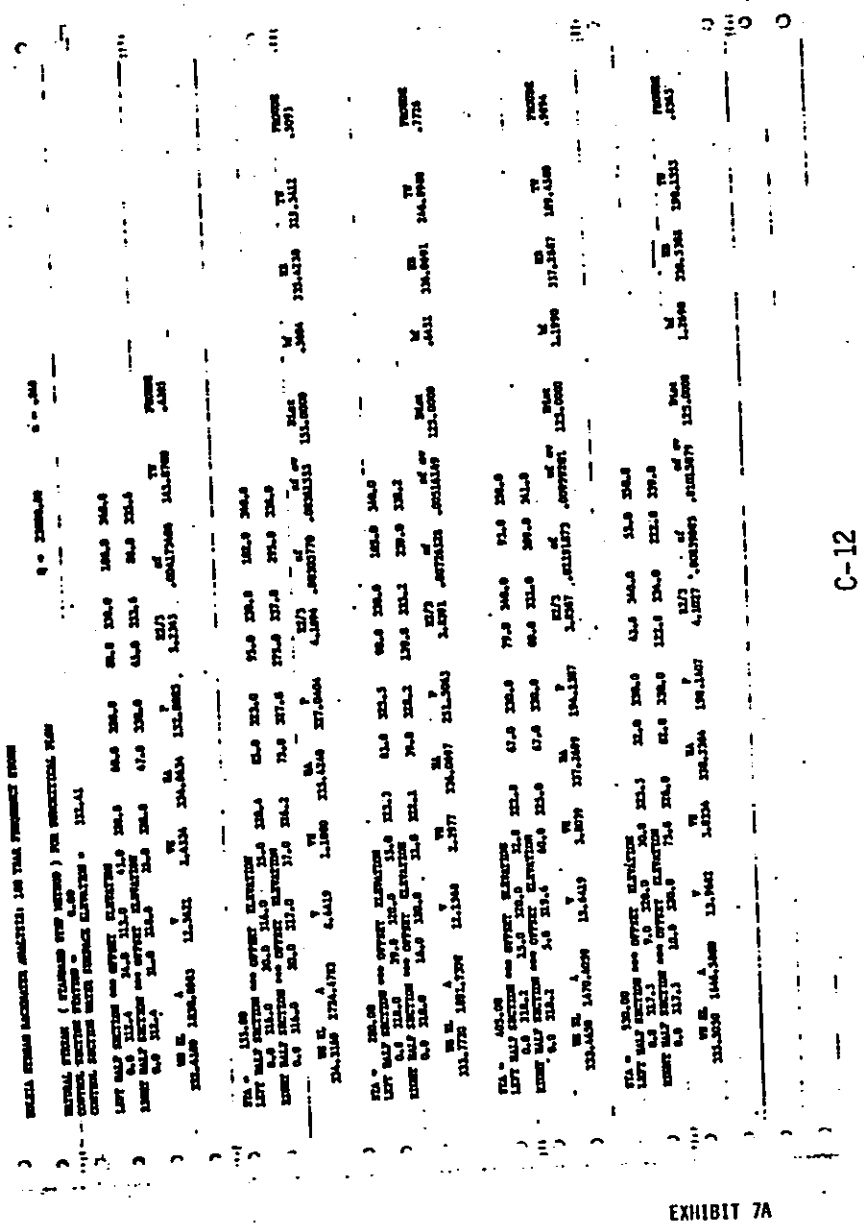
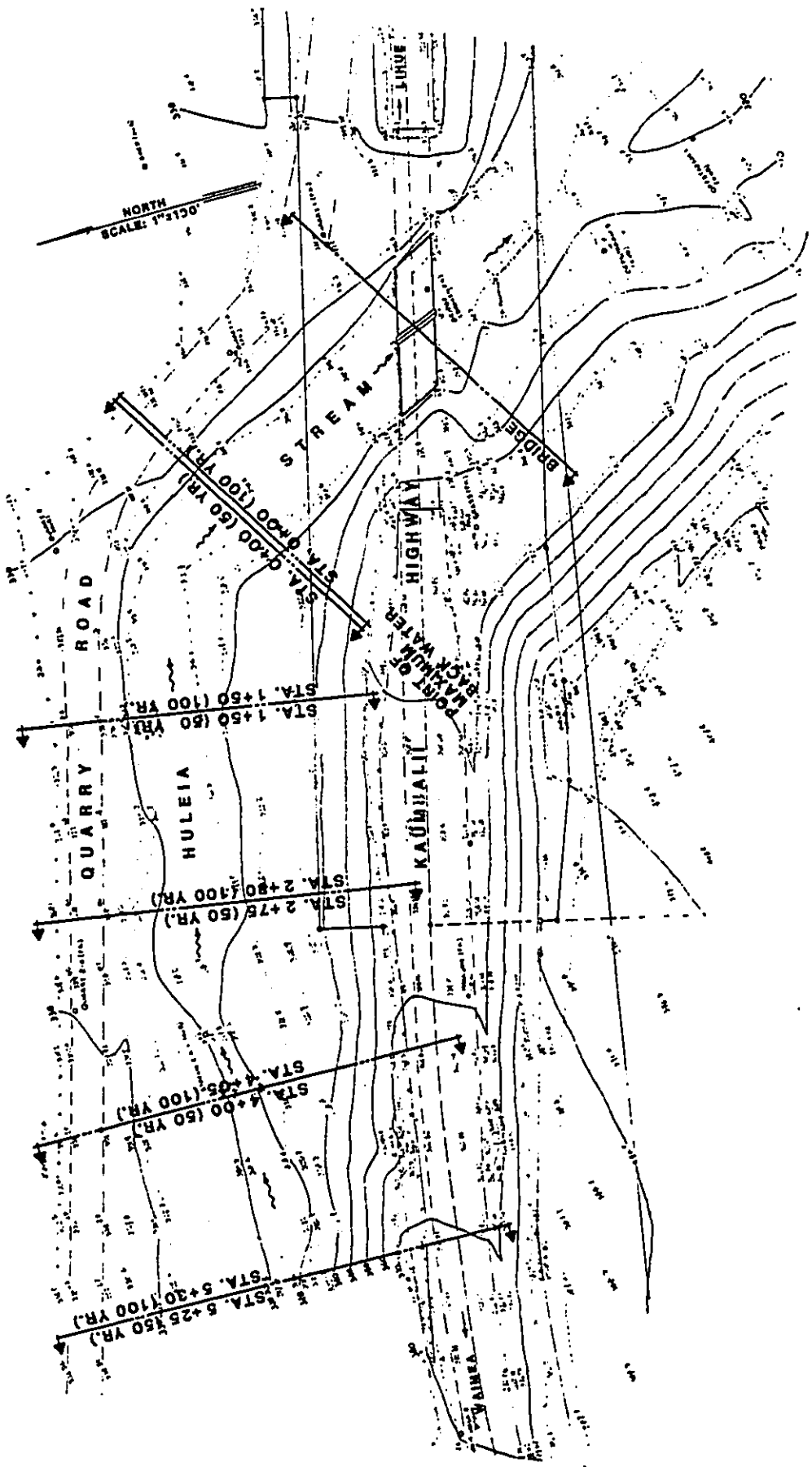
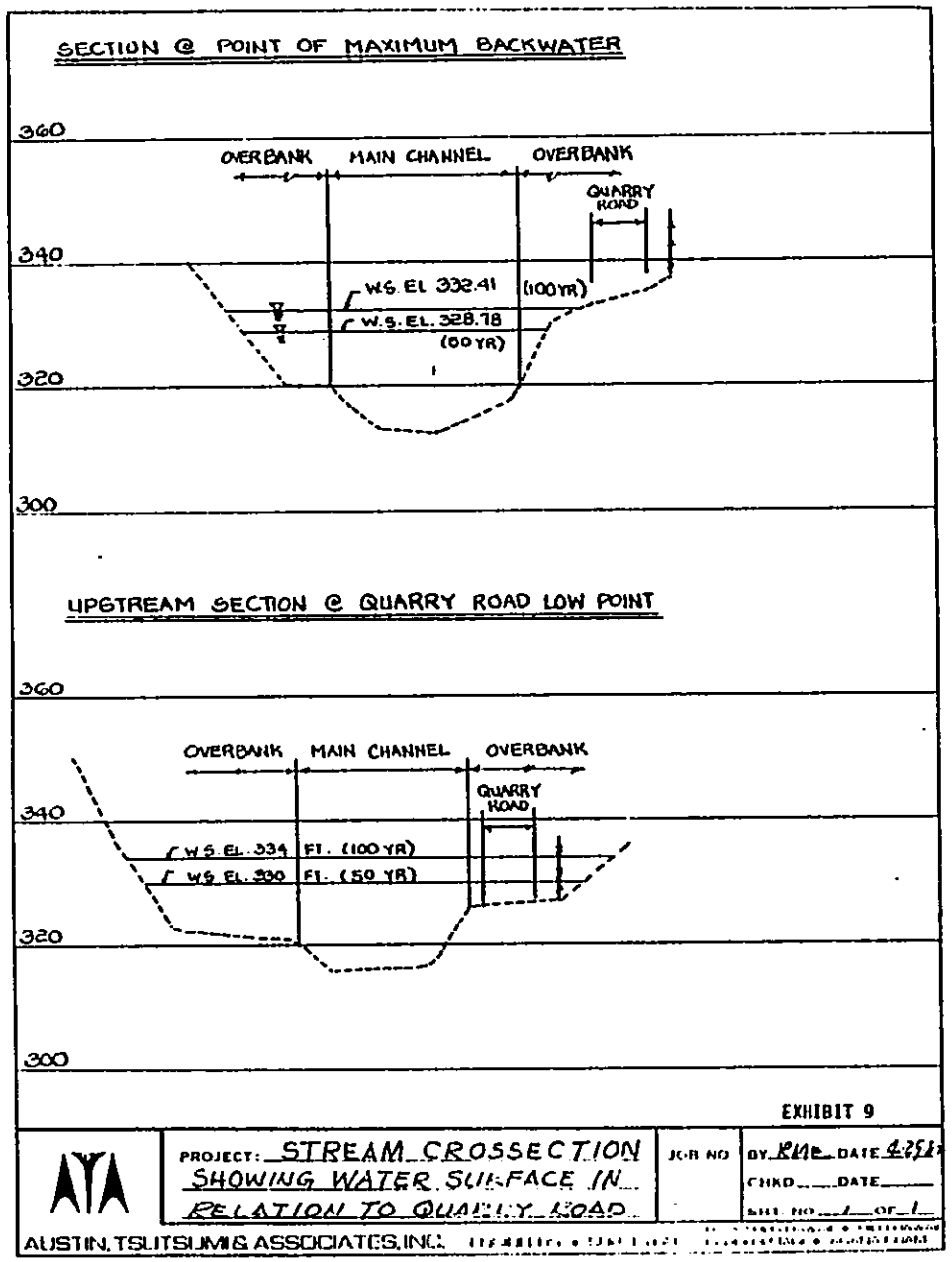


EXHIBIT 7A



AUSTIN, TSUTSUMI, & ASSOC., INC. ENGINEERS · SURVEYORS · HAWAII · GUAM	EXHIBIT
STREAM BACKWATER SECTIONS	**8**


SECTION @ POINT OF MAXIMUM BACKWATER
360
340
320
300
OVERBANK
MAIN CHANNEL
OVERBANK
QUARRY ROAD
W.S. EL 332.41 (100 YR)
W.S. EL. 328.78 (50 YR)
UPSTREAM SECTION @ QUARRY ROAD LOW POINT
360
340
320
300
OVERBANK
MAIN CHANNEL
OVERBANK
QUARRY ROAD
W.S. EL. 334 Ft. (100 YR)
W.S. EL. 330 Ft. (50 YR)
EXHIBIT 9
PROJECT: STREAM CROSSECTION SHOWING WATER SURFACE IN RELATION TO QUARRY ROAD
JOB NO
BY RME DATE 4-25-
CHKD DATE
SHT NO 1 OF 1
AUSTIN, TSUTSUMI & ASSOCIATES, INC.

APPENDIX D

SURVEY OF AQUATIC MACROFAUNA FOR HULEIA STREAM, KAUAI

SURVEY OF AQUATIC MACROFAUNA IN HULEIA STREAM, KAUAI

Submitted to: Austin, Tsutsumi & Associates, Inc.
by
Amadeo S. Timbol, Ph. D.

INTRODUCTION

Streams were an essential part in sustenance and growth of Hawaiian culture. Streams also provide habitat for a variety of aquatic animals which can be divided into two primary groups. To one group, microfauna, belong those too small to be seen and easily identified with the naked eye and to another, macrofauna, belong the larger animals. This brief survey deals only with macrofauna, particularly those species which are readily recognizable and/or can be collected or enumerated by established methods. A consideration, important to any work on a stream and its drainage basin, is the amphidromous character of most prominent aquatic macrofauna. Amphidromous animals reside in streams but undergo larval development in the ocean. Thus, certain fishes, crustaceans, and mollusks must have suitable environmental conditions throughout the stream channel for hatchlings to reach the ocean and postlarvae to return months later to migrate upstream to their places of permanent residences.

Objectives

The objectives of this survey are as follows: 1) to compile a species list of fishes, crustaceans, mollusks, and other large (1/2" minimum size) aquatic organisms living in that part of Huleia Stream as shown in the map (Fig.1, later); 2) to determine the distribution and relative abundances of the resident aquatic macrofauna; 3) to determine which of these residents have economic value such as sport or subsistence fishing; 4) to assess the possibility that "endangered," "threatened," and of "special concern" species would be present in Huleia; and 5) assess the potential impact the construction of a replacement for the Halfway (Huleia) Bridge in some general way.

Study Area

Timbol and Maciolek (1978) define a stream as surface water flowing in a discrete channel or channel system that discharges to the ocean at a single point. Huleia Stream is located mostly in the Lihue-Koloa area. It receives discharges from 11 named and several unnamed tributaries. The entire system has about 102 km of channel. Almost all of the tributaries have been tapped for storage in several reservoirs. The diverted water is used for agricultural use.

A tributary for Huleia regularly monitored by the USGS (Crest-stage gage and water-quality partial-record station 550) showed an instantaneous discharge between 15 and 45 cfs in 1975 (USGS 1975). Some physicochemical features of this particular tributary are; water temperature between 20° and 21° C, pH 7.4, and specific conductivity between 76 and 92 microhms (USGS 1975). A portion of Huleia's mainstream channel had been modified (Timbol and Maciolek 1978). The same study assigned Huleia Stream an ecological quality status of exploitive-consumptive, meaning that it has from moderate to low natural and/or water quality.

Review of Literature

Apart from the already mentioned studies done by the USGS and Timbol and Maciolek, no other published literature is available for Huleia Stream.

METHODS

Sampling Stations

Four sampling stations were surveyed, two upstream of the Halfway Bridge and two downstream. Their approximate locations are shown in Fig. 1. Stream channel length was obtained with the use of a KE map measure on photocopies of USGS topographic quad sheets. Elevations were estimated from the same quad sheets.

Station 1 (elev. 220 ft = 67 m)

This is located immediately upstream of Kipu Bridge, some 5.5 miles of stream channel measured from the stream mouth (Nawiliwili Harbor). Station 1 is first of two stations downstream of Halfway Bridge.

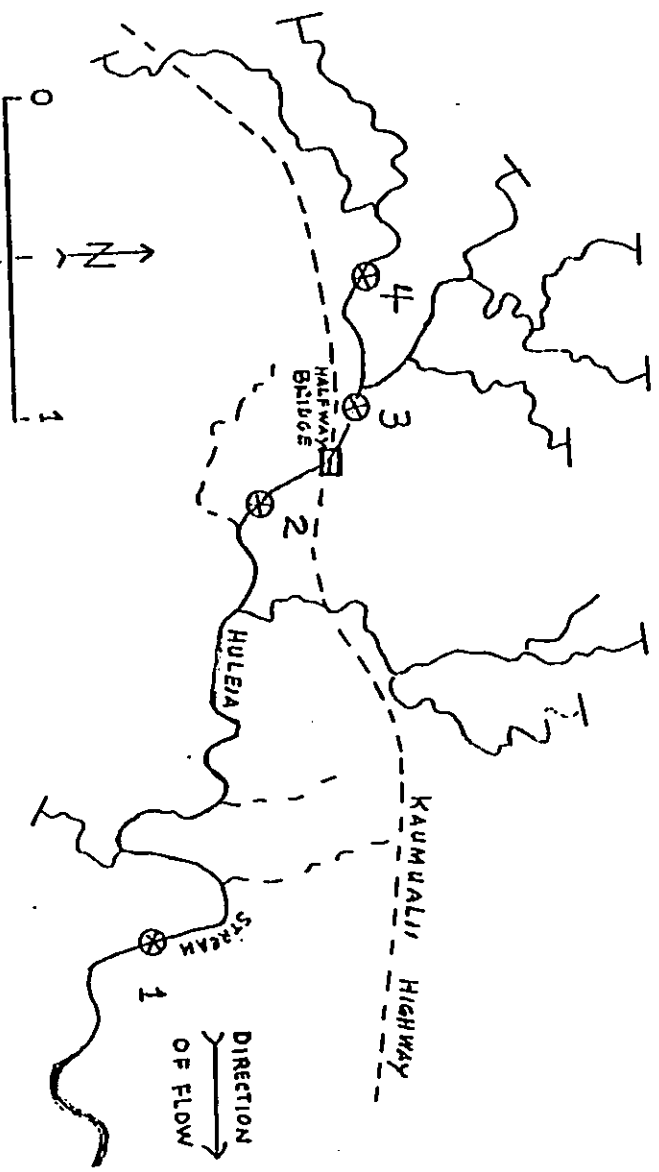


Fig. 1. Part of Huleia Stream showing locations of sampling stations and the Halfway Bridge (⊗ = sampling stations; ▭ = Halfway Bridge)

Station 2 (elev. 320 ft = 98 m)

Located more than two miles upstream of Stn 1 and about 0.4 mile downstream of the Halfway Bridge. This is the second of two stations downstream of the bridge.

Station 3 (elev. 360 ft = 110 m)

This station is between the Halfway Bridge and the cement plant. It is half-mile upstream of Stn 2. This is the first of two stations upstream of Halfway Bridge.

Station 4 (elev. 400 ft = 122 m)

About half-mile upstream of Stn 3, it is located between the unnamed waterfall (now dry) and the quarry. Both physical features are so marked in the topographic map. This is the second of two stations located upstream of the Halfway Bridge.

Biological

A stretch of about 90 x 1 m stretch of stream channel was examined and animals which could be seen were identified and counted. Boulders, rocks, and stones were examined for mollusks. Data are reported in a semi-quantitative basis. For purposes of this report, "catch" data were computed to represent animals found in a 20 m x 1 m quadrat of stream channel. Absent (0) means that the species was not seen at that site. Uncommon (+) indicates that only one was sighted, while common (++) means that between 2 and 5 were observed. Abundant (+++) means between 6 and 10 were seen, and very abundant (++++) means many individuals, from 11 to 100 or more.

Terms used in designating the origin of animals are: endemic, means occuring naturally in Hawaii only; indigenous, means occuring naturally in Hawaii and also elsewhere; introduced or exotic, means that the animal was brought to Hawaii either intentionally or accidentally; and native, includes both endemic and indigenous animals.

Additional terms include amphidromous, a designation for species which engage in completely free movement between fresh and marine water, not for purposes of breeding (Myers 1949). This behavior involves the passive downstream passage of eggs or larvae to the ocean during freshet flow with later

active upstream migration. A species has economic value if it has sport, recreational, subsistence or commercial value.

Endangered species means a species which is in danger of extinction throughout all or a significant portion of its range (Deacon, et al. 1979). A threatened species is one which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (Deacon, et al. 1979). Special concern species are those that could become threatened or endangered by relatively minor disturbances to their habitat or that require additional information to determine their status (Deacon, et al. 1979). These definitions do not have legal status under the Federal Rare and Endangered Species Law.

The list of biota was checked for endangered, threatened and of special concern species using these publications; USFWS List of Endangered and Threatened Species (1977) and Deacon, et al. (1979).

Physical Features and Streamside Vegetation

A visual examination was made at each sampling station to determine water clarity, flow velocity, bottom type and riparian vegetation. All of these were determined subjectively. The composition of substrate (bottom type) was approximated (e.g. bedrock > boulder > sand). Riparian vegetation was identified in the field. Trees and shrubs (e.g. guava) that form the vegetative canopy are listed first, the vegetative ground cover (e.g. California grass) second.

RESULTS AND DISCUSSION

Results are representative of about 9 miles (14 km) of the lower mainstream channel from the mouth (excluding the estuary) to the falls. Since there are additional 54 miles (88 km) of stream channel, faunal inventories here do not represent species complement or distribution of macrofauna in the entirety of the stream.

Species List

At least 12 species of aquatic macrofauna live in the lower channels of Huleia Stream. There are 6 fishes, 2 crustaceans, 2 mollusks, and 2 amphibians.

These animals are listed in Table 1. As for their origin, 8 are exotic, 2 are indigenous, 1 is endemic and another is undetermined. There are five (4 fishes, 1 crustacea) species which have some economic value. A brief description of each of these species follow.

1. Awaous stamineus ('o'opu-nakea)

The 'o'opu-nakea is the largest (up to 35 cm) of the freshwater gobies. The life history of this endemic goby had been studied by Ego (1956). It supports a seasonal, ethnic fishery on the island of Kauai. Big Save Supermarket in Kapaa had 'o'opu nakea for sale at $7.99/lb on November 12, 1982 (Don Heacock, State Aquatic Biologist, verbal communication). This goby is an obligately amphidromous animal and needs suitable environmental conditions throughout the stream channel for the nakea larvae to reach the ocean and the post-larvae (hinana) to migrate upstream to their place of permanent residence. It is widely distributed on all islands, but is found in such small numbers on Oahu that it is considered of "special concern" by Deacon et al. (1979).

2. Micropterus dolomieui (smallmouth black bass)

Brought to Hawaii in 1953, this fish grows from one-half to three pounds and is considered a very good sports fish that lives in streams and reservoirs. The smallmouth black bass is distinguished from the largemouth black bass by a less deeply notched dorsal fin. It is generally a smaller fish than the largemouth black bass. This fish is not amphidromous.

3. Micropterus salmoides (largemouth black bass)

Introduced from California in 1908, this fish grows from one pound to as much as seven pounds. It is a very desirable fresh water sports fish in Hawaii, lives in streams and reservoirs. The largemouth black bass is distinguished from the smallmouth black bass by a more deeply notched dorsal fin. It is often taken from the same waters as the smallmouth black bass. This fish is not amphidromous.

4. Sarotherodon mossambica (tilapia)

This cichlid fish has variable color, from dark brown grey to silver grey, sometimes with about six vertical dark bars. The dorsal fin with 27 -

Table 1. Aquatic Macrofauna in the Lower Channels of Huleia Stream, Kauai (March 1983)

Scientific Name	Common/Local Name	Origin	Listing
FISH			
1. Awaous stamineus	'o'opu-nakea	endemic	Special concern (Deacon, et al. 1979)
2. Gambusia affinis	mosquito fish	introduced	none
3. Lebistes reticulatus	wild guppy	introduced	none
4. Micropterus dolomieui	smallmouth black bass	introduced	none
5. Micropterus salmoides	largemouth black bass	introduced	none
6. Sarotherodon mossambica[1]	tilapia	introduced	none
CRUSTACEA			
1. Macrobrachium lar	Tahitian prawn	introduced	none
2. Procambarus clarkii	crayfish	introduced	none
MOLLUSK			
1. Lymnaea sp.	Lymnaeid snail	unknown	none
2. Melania sp.	pond snail	indigenous	none
AMPHIBIA			
1. Bufo marinus tadpoles	toad	introduced	none
2. Rana catesbeiana	bullfrog	indigenous	none

[1] There may be more than one tilapia species as T. melanopleura, is established in Kauai streams.

29 spiny and soft dorsal rays. It can attain a weight from three to five pounds. It was brought to Hawaii in 1951 from Singapore. While it seems to prefer brackish water found in the mouths of rivers, it can live and reproduce in pure fresh water, in salty water, or in muddy water. The tilapia has great adaptibility and dual utility as bait fish for tuna and food fish. Modest quantities are sold in local markets. It provides good fishing especially for youngsters. This fish is not amphidromous.

5. Macrobrachium lar (Tahitian prawn)

This introduced, amphidromous prawn is an Indo-Pacific stream-dwelling animal which was imported to Hawaii in 1956 (Brock 1956). Since introduction, the Tahitian prawn has established itself successfully in fresh and mixohaline waters on all the major islands. Males grow up to 14 cm SL (measured from base of orbit of eye to tip of uropod) while females attain 11 cm SL. Berried females are found throughout the year. It is harvested for food but is not sold commercially.

Other Animals

Aside from those listed in Table 1, other species seen are; caddisfly larvae (Cheumatopsyche analis), damselfy, leach (Hirudinea), black-crowned night heron (Nycticorax nycticorax hoactli). None of these are amphidromous and also none are in the endangered or threatened lists.

Distribution and Relative Abundances

The occurrence and relative abundances of the aquatic animals are shown in Table 2. Two species ('o'opu-nakea, toad) are found in all four stations. Eleven species were found downstream of the Halfway Bridge (Stn 1 and 2) while only 8 species were found upstream of the bridge. In general, there is a decrease in the number of species in an upstream direction.

It is interesting to note that the site which harbors the least number of species as well as the lowest abundances (except in tilapia) is that site between the bridge and the cement plant (Stn 3). Very fine silt was observed on the left bank, indicating that on occasions, the water may be subject to turbidities (see nature of bottom, Stn 3; Appendix A).

Table 2. Distribution and Relative Abundances of Aquatic Macrofauna in Lower Huleia Stream, Kauai (March 1983)

Scientific Name	1	2	3	4
FISH				
1. Awaous stamineus	++	+	+	++
2. Gambusia affinis	0	0	0	++
3. Lebistes reticulatus	0	++	+	+++
4. Micropterus dolomieui	++	+	0	++
5. Micropterus salmoides	+	+	0	0
6. Sarotherodon mossambica	++++	+	++++	0
CRUSTACEA				
1. Macrobrachium lar	+	+	0	+
2. Procambarus clarkii	+	0	0	0
MOLLUSK				
1. Lymnaea sp.	+	0	0	0
2. Melania sp.	++++	+	+	0
Amphibia				
1. Bufo marinus tadpoles	++++	++++	+++	++++
2. Rana catesbeiana	+	0	0	0
Number of species	10	8	5	6

The endemic and economically valuable 'o'opu-nakea has low abundances (uncommon) in the sites immediately upstream (Stn 3) and immediately downstream of the Halfway Bridge (Stn 2). Both of these stations are within a mile downstream of the cement plant.

Physical Features

Appendix A lists the physical features of all four sampling stations. The uppermost station (Stn 4) is mostly of bedrock and the rest are of the boulder-gravel-sand composition. A common feature of the four stations is the algae covering most substrate. The preponderance of algae on the substrate could be due to a combination of warmer water and mild organic pollution, both of which stimulate algal growth. Algae lower the dissolved content of the water through respiration at night and increase the biochemical oxygen demand upon decomposition after death (Tarzwell and Gaufin 1953).

Riparian Vegetation

The riparian plants are typical of streamside vegetation in well-developed areas. Most of the Huleia drainage area is under sugar cane cultivation. The flora consists mostly of exotic plants. The vegetative strip (=buffer strip) is between 10 and 30 meters wide. Appendix B enumerates the plants found on both banks of the sampling stations.

CONCLUSIONS

1. There are at least 12 species of aquatic macrofauna living in the sites surveyed.
2. Only two species were found in all four stations. More species live downstream of the Halfway Bridge than upstream.
3. There are five economically valuable species, four fishes and one crustacea. The endemic 'o'opu-nakea is sometimes sold commercially. In addition, the 'o'opu-nakea has biological value due to its endemicity. No dollar value can be assigned to such feature.
4. The 'o'opu-nakea is listed as of "special concern" although this listing has no legal status under the Federal Rare and Endangered Species Law.
5. We did not find Lentipes concolor ('o'opu-alamo'o) or Sicydium stimpsoni ('o'opu-nopili) in the sites surveyed. Since the sites surveyed represent

only 9 miles (14 km) of 63 miles (102 km), we cannot definitely say that these endemic, amphidromous species are also absent in the upper reaches of the stream.

6. Two of the five species with economic value are amphidromous. The 'o'opu-nakea and the Tahitian prawn need suitable passageway from the stream to the sea and back upstream again.

POTENTIAL IMPACTS AND RECOMMENDATIONS

Most streamside construction activity usually entails the construction of feeder roads, temporary office and storage buildings and space. These result in removal of streamside vegetation, scraping and grading of the ground. The potential impacts of such activities are discussed in this section. Some recommendations, in a very general way, are given to mitigate their deleterious effects.

Elevated Water Temperatures

The removal of riparian vegetation in the construction site and immediate vicinity will expose that part of the stream to insolation, resulting in elevated water temperatures and excessive evaporation. Excessive evaporation may result in reduced stream flow. Reduced stream flow means higher water temperatures. Work done by Timbol and Maciolek (1978) show that stream channels without riparian vegetation canopy have higher water temperatures than streams with such canopy.

High water temperatures can have undesirable effects on the quality of water for fish production. High temperatures will result in increased maintenance (energy) requirements of aquatic animals (Brown 1957, Burns 1972). Excessively high temperatures can be lethal to fish and other aquatic animals. Hathaway (1979) found that the lethal temperature for adult 'o'opu-nakea was between 37.2 and 38.8°C with 50% (TL_{50}) of the fish dying at 38.1°C. The post-larvae 'o'opu-nakea are slightly more tolerant with range for mortality intervals (first death to final death) between 39.0 and 39.3°C with TL_{50} at 39.3°C (Hathaway 1979, p. 38). However, little is known about the effect of elevated temperature on the vitality of the postlarvae. In addition, Hathaway's lethal temperature values were obtained under controlled laboratory conditions where only temperature was the variable parameter. The lethal

temperatures could be lower in the field if the stream is also turbid as well as polluted. The exotic tilapia has been found more hardy with the adults succumbing at between 42.7 and 43.1°C with TL_{50} at 42.9°C (Hathaway 1979, p. 38). Thus, if the elevated temperatures persist in the stream for long periods, the stream will only have tilapia and other exotic species. Warmer water allows unwanted or less valuable fish to become established. These "lesser" fish increase competition for the available food and habitat for the endemic, sport and commercial fishes. Such competition will cause the more desirable fish to decline in numbers.

High Turbidities and Excessive Sedimentation

If the streamside vegetative ground cover is also removed, increased turbidity and excessive sedimentation due to erosion may also result. Because the nearby land is under cultivation, it is possible that mild organic pollution may also result. Petroleum by-products drippings from construction vehicles is another potential source of pollution.

The impact of road (and bridge) construction on the stream and its fauna comes from the resulting erosion and siltation in the streambed. Water turbidity and excessive sedimentation will alter the character of the stream. Burns (1972) reported turbidities greater than 3,000 ppm resulting from such constructions. Excessive sedimentation may alter the biological character of the stream. Fine particulate matter will become suspended in the water increasing turbidity and decreasing light penetrating resulting in reduced primary productivity. Fine particles also have the effect of clogging the gills of fishes which could cause suffocation. The tilapia, largemouth black bass, smallmouth black bass, 'o'opu-nakea and the Tahitian prawn will be detrimentally affected. Settling of particles in rapids and riffles will reduce the natural habitats of the economically valuable endemic 'o'opu-nakea which love well oxygenated, strong flowing riffles. Bhutani, et al., (1975) list additional pollutants and discuss their effects.

Recommendations

The streamside vegetation on lower Huleia Stream is limited to vegetative strips on both banks. It is known that the presence of a well-designed buffer

strip will control stream temperatures and minimize changes in the stream macrofauna (Fisher and Likens 1973). What has not been known is which characteristics of buffer strips are important in this control. Because of the inverse relationship between temperature change and discharge, buffer strips are very effective for the control of water temperatures on these small streams such as Huleia. Brown and Brazier (1972) gives a value of between 100 and 200 feet (30 - 60 m) standard width for all buffer strips will assure adequate protection for most streams. As for Huleia, the stream-side vegetative stream is already narrower than 100 ft (30 m) in most places. Anymore vegetative clearing could subject the stream to excessively elevated water temperatures as well as increased turbidities due to soil erosion . It is recommended that further riparian clearing should be kept to the absolute minimum.

If at all possible, no new feeder roads should be built. There are already existing feeder (cane) roads which could fill such needs. This will minimize soil erosion and the resulting turbidity and sedimentation.

LITERATURE CITED

Blutani, J., R. Holberger, W. E. Jacobsen, P. Spewak, J. B. truett. 1975. Impact of Hydrologic Modifications on Water Quality. MITRE Technical Report 6887, 531 p.

Brock, V. E. 1960. The introduction of aquatic animals into Hawaiian waters. Int. Revue ges. Hydrobiol. 45: 463 - 80.

Brown, M. E. 1957. "Experimental Studies on Growth," p. 361 - 400. In M. E. Brown, ed. The Physiology of Fishes. Academic Press, Inc., Publishers, New York.

Brown, G. W. and J. R. Brazier. 1972. Controlling Thermal Pollution in Small Streams. EIA - R2 - 72 - 003. Office of Research and Monitoring. U. S. Environmental Protection Agency. Washington, D. C. 64 pp.

Burns, J. W. 1972. Some effects of logging and associated road construction on northern Colorado streams. Trans. Am. Fish. Soc. 101: 1-17.

Deacon, J. E., G. Kobetich, J. D. Williams, S. Contreras and Others. 1979. Fishes of North America: Endangered, threatened, or of special concern. Fisheries 4(2): 30 - 44.

Ego, K. 1956. Life history of fresh water gobies. Fresh water Game Fish Management Research. Project F-4-R. Honolulu, Terr. of Hawaii. 24 pp.

Fisher, S. G. and G. E. Likens. 1973. Energy flow in Bear Brook, New Hampshire: An integrative approach to stream ecosystem metabolism. Ecol. Monogr. 43: 421 - 439.

Hathaway, C. B., Jr. 1979. Tolerance of native Hawaiian stream macrofauna to environmental stress associated with stream channel modification, with particular reference to elevated temperature. Master's thesis, University of Hawaii, Honolulu. 91 pp.

Myers, G. S. 1949. 1949. Usage of anadromous, catadromous and allied terms for migrating fishes. Copeia No. 2: 89 - 96.

Tarzwell, C. M. and A. R. Gaufin. 1953. "Some biological effects of pollution often disregarded in stream surveys. In: Proceedings of the Eigth Industrial Waste Conference, Lafayette, Indiana. pp. 295 - 316.

Timbol, A. S. and J. A. Maciolek. 1978. Stream channel modification in Hawaii. Part A: Statewide inventory of streams; habitat factors and associated biota. FWS/OBS - 78/16. USFWS National Stream Alteration Team, Columbia, Missouri.

U. S. Fish and Wildlife Service. 1977. Endangered and Threatened Wildlife and Plants. Republication of List of Species. Federal Register vol. 42, no. 135. Part V. July 14, 1977. pp. 36420 - 36421.

U. S. Geological Survey. 1975. Water resources data for Hawaii and Other Pacific areas - Water Year 1980. Geol. Surv. Wat. Res. Div., Honolulu. 401 pp.

- 0 -

Appendix A

Some Physicochemical Characteristics of Sampling Stations in Lower Huleia Stream, Kauai (March 1983)

Sampling Station	Water Clarity and Stream Flow	Nature of Bottom	Width and Midstream Depth (m)
1	Water clear; slow flow	Boulder, gravel, sand; gravel and sand covered with algae	W = 9 D = 0.6 - 1.2
2.	Water clear; flow slightly faster than of Stn 1	Boulder, gravel; boulders covered with blue-green algae and some filamentous algae. Deeper pool covered with leaf litter.	W = 6 D = 0.15 - 0.20
3	Water clear; flow about equal to that of Stn 2	Gravel; gravel is covered with algae. Bottom of pools covered with leaf litter. Left bank covered with a thick layer of very fine silt.	W = 3 D = 0.15 - 0.20
4.	Water clear; flow slightly faster than that of Stn 3	Bedrock, few boulders. Small pockets of gravel and sand in riffle portion. Bedrock covered with algae.	W = 1.2 D = 0.10 - 0.40

Appendix B

Dominant Streamside Vegetation on Banks of Sampling Stations in Lower Huleia Stream, Kauai (March 1983)

Sampling Station	Riparian Vegetation right bank	Riparian Vegetation left bank
1	guava (Psidium guajava) Java plum (Eugenia cuminii) California grass (Brachiaria mutica)	California grass
2	mango (Mangifera indica) guava Java plum California grass	mango guava Java plum California grass
3	guava kukui nut tree (Aleurites moluccana) California grass	haole koa (Leucaena leucocephalia)
4	guava lantana (Lantana canara) California grass	Java plum California grass

Note: Species comprising the vegetative canopy are given first; the vegetative ground cover follow.

APPENDIX E

EPA REVIEW OF NOTICE OF INTENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

H. Kusumoto
Division Administrator
Federal Highway Administration
300 Ala Moana Boulevard
Box 50208
Honolulu, HI 96850

OCT 23 1981

Dear Mr. Kusumoto:

The Environmental Protection Agency (EPA) has received and reviewed the Notice of Intent for the project entitled REPLACEMENT OF HULEIA BRIDGE, LIHUE, KAUAI. Our review is based on the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508).

EPA's comments on this Notice of Intent are in response to Section 1501.7(a)(1) of the CEQ regulations. We offer the attached comments for your consideration at this early stage of the planning process.

E-1

We appreciate the opportunity to comment on the proposed project and request that five copies of the draft environmental impact statement be sent to this office when available. We also request notification of any meetings to be held with respect to this project in order that EPA may provide timely assistance as needed.

If you have any questions regarding our comments, please contact Susan Sakaki, EIS Review Coordinator, at (415)556-7858.

Sincerely yours,

Jake Mackenzie, Director
Surveillance and Analysis Division

Attachment

Air Quality Comments

The Draft Environmental Impact Statement (DEIS) should:

a. include the results of recent monitoring for TSP at Lihue,
b. compare those data with applicable air quality standards, and
c. describe the effects upon air quality resulting from project construction and operation.

404(b) Permit Comments

The Honolulu U.S. Army Corps of Engineers should be contacted to determine the need for a Section 404 fill permit for any portion of the proposed project. If a permit is required, the EPA will review the project in accordance with 40 CFR 230 promulgated pursuant to Section 404(b) of the Clean Water Act. Our evaluation would focus on the maintenance of water quality, and the protection of wetlands, fishery and wildlife resources. If applicable, the results of further study should indicate the amount of dredging required, potential disposal sites, types of fill material to be utilized, and quantities to be discharged into waters and wetlands that fall under Section 404 jurisdiction.

INDEX

INDEX TO EIS TEXT