March 8, 1978

Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Miyahira:

Based upon the recommendation of the Office of Environmental Quality Control, I am pleased to accept the Environmental Impact Statement (EIS) for the Haleiwa Road Drainage Improvement Project, Waialua, Oahu, as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes, and the Executive Order of August 23, 1971. This environmental impact statement will be a useful tool in the process of deciding whether or not the action described therein should or should not be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws, and does not constitute an endorsement of the proposed action.

When you make your decision regarding the proposed action itself, I hope you will weigh carefully whether the societal benefits justify the environmental impacts which will likely occur. These impacts are adequately described in the statement, and, together with the comments made by reviewers, will provide you with a useful analysis of alternatives to the proposed action.

With warm personal regards, I remain,

Yours very truly,

George R. Ariyoshi

bcc: Mr. Richard O'Connell

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DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

REVISED
ENVIRONMENTAL IMPACT STATEMENT
FOR
HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT

WAIALUA, OAHU, HAWAII

TAX MAP KEY: 6-6-15:1 & 3
6-6-12:2

This Environmental Document is Submitted Pursuant to Chapter 343, HRS

PROPOSING AGENCY: Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

RESPONSIBLE OFFICIAL: Wallace Miyahira 12/30/77
WALLACE MIYAHIRA DATE
DIRECTOR AND CHIEF ENGINEER

PREPARED BY: Park Engineering, Inc.
190 South King Street
Suite 2085
Honolulu, Hawaii 96813

ACCEPTING AUTHORITY: GOVERNOR, STATE OF HAWAII

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LIST OF PLATES

SUMMARY

The Haleiwa Road Drainage Improvement Project involves the study, design and construction of a storm drainage system for Haleiwa Town. The objective of this proposed action is to provide improved protection against flooding for the lowlying residences of Haleiwa Town during the more frequent localized storm events. However, this project does not provide for the alleviation of flood damage caused by a major regional storm event since this would require improvements to Paukauila Stream. In a study completed in June 1976, the U. S. Army Corps of Engineers concluded that Federal participation in flood control improvements for Paukauila Stream was not economically justified.

The proposed project consists primarily of 1) widening and dredging 3,400 feet of an existing 15 foot wide drainage ditch, 2) upgrading the Paalaa Road box culvert, 3) constructing a new box culvert at the Cane Haul Road, and 4) installing a drainline from Haleiwa Road to the improved drainage ditch. The estimated cost of these improvements is $375,000 and will be financed by City funds with State assistance through legislative appropriations.

The adverse impacts resulting from the proposed project involve temporary construction-related impacts and the permanent loss of approximately 4 acres of cane land along with about 27 tons of annual sugar production, based on a two-year crop cycle. However, the benefits derived from the project by the community is felt to outweigh these impacts and in addition appropriate mitigative measures will be employed to minimize these impacts.

Among the four alternatives that were considered to the proposed project was not to proceed with the improvements; however, this was considered to be unacceptable from a public welfare standpoint. The other three alternatives that were considered dealt with design options; however, two alternatives were rejected on the basis of their higher costs and increased adverse impact on the environment.

I. DESCRIPTION OF THE PROJECT

A. PROJECT LOCATION

The proposed Haleiwa Road Drainage Improvement project is located in Haleiwa Town in the Waialua District of Oahu Island, approximately 30 miles northwest of downtown Honolulu, as shown in Plate 1. The affected limits of the proposed drainage project are defined by the Haleiwa Road Basin depicted in Plate 2, and encompasses some 494 acres.

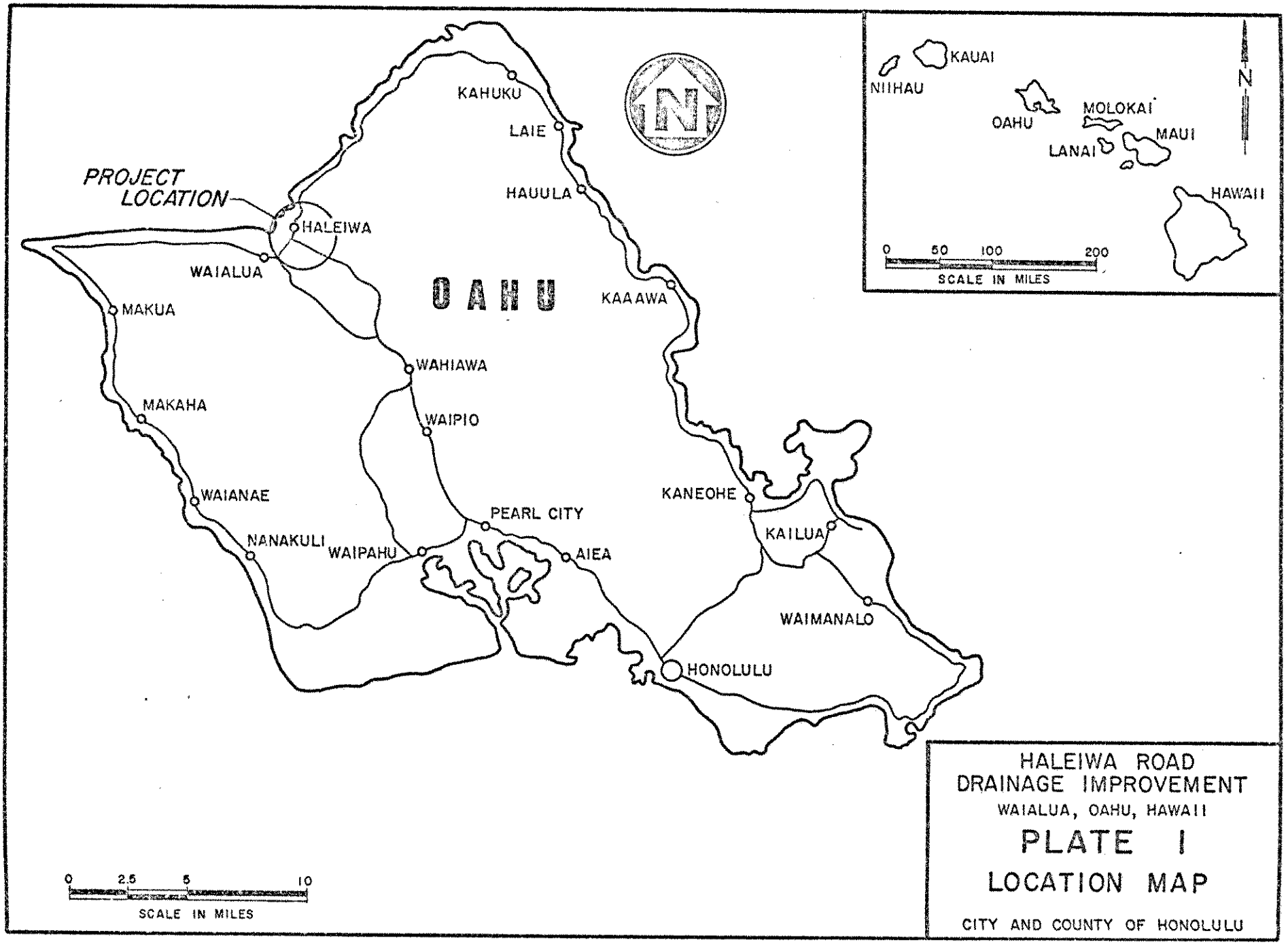
B. STATEMENT OF OBJECTIVE

The objective of the proposed action is to reduce or alleviate local flooding resulting from the inadequate capacity of the existing drainage facilities to handle runoff created during major rainstorms that occur over the Haleiwa Road Basin itself.

C. GENERAL DESCRIPTION OF THE PROJECT

The proposed Haleiwa Road Drainage Improvement project consists mainly of 1) widening and dredging the existing 15 foot wide ditch that drains the basin, 2) upgrading the Paalaa Road box culvert, 3) constructing a new box culvert at the Cane Haul Road, and 4) constructing a drainline from Haleiwa Road to the ditch. The location of these improvements are shown in Plate 3, and a typical section of the improved drainage ditch is shown in Plate 4. The required trapezoidal ditch section varies from a bottom width of 30 feet at Paukauila Stream to 20 feet at the Cane Haul Road. The 2:1 side slope is grass-lined. The invert slope begins at (-)3.0 elevation at the ditch outlet and is carried upstream at 0.10 percent.

In addition to the improvements described above, adjustments must be made to irrigation pipes crossing the ditch, and the existing sluice gate at Paalaa Road will have to be removed from the ditch. A new sluice gate will be installed in another ditch to provide for the storage of irrigation water.



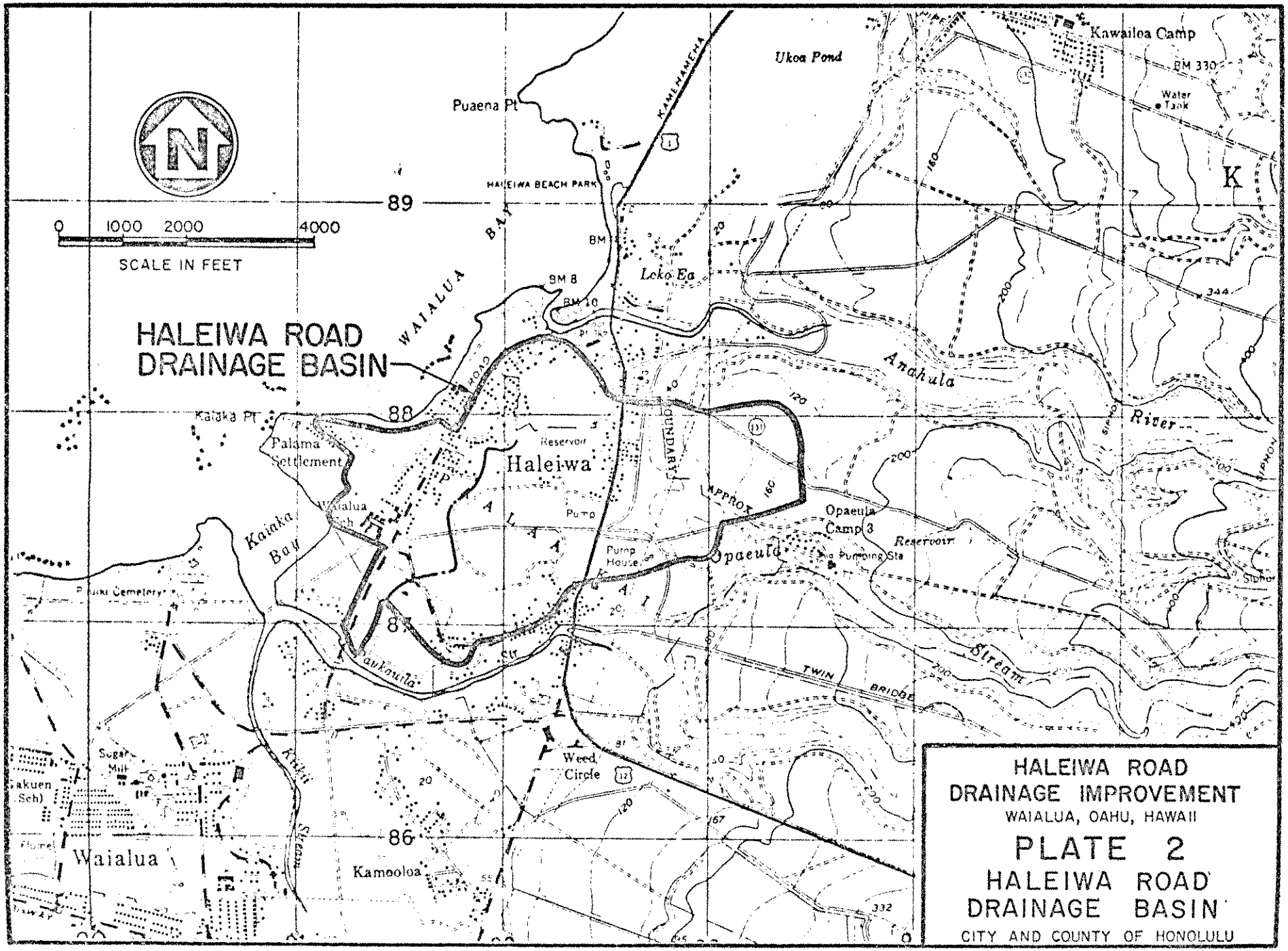
HALEIWA ROAD DRAINAGE IMPROVEMENT

WAIALUA, OAHU, HAWAII

PLATE I

LOCATION MAP

CITY AND COUNTY OF HONOLULU

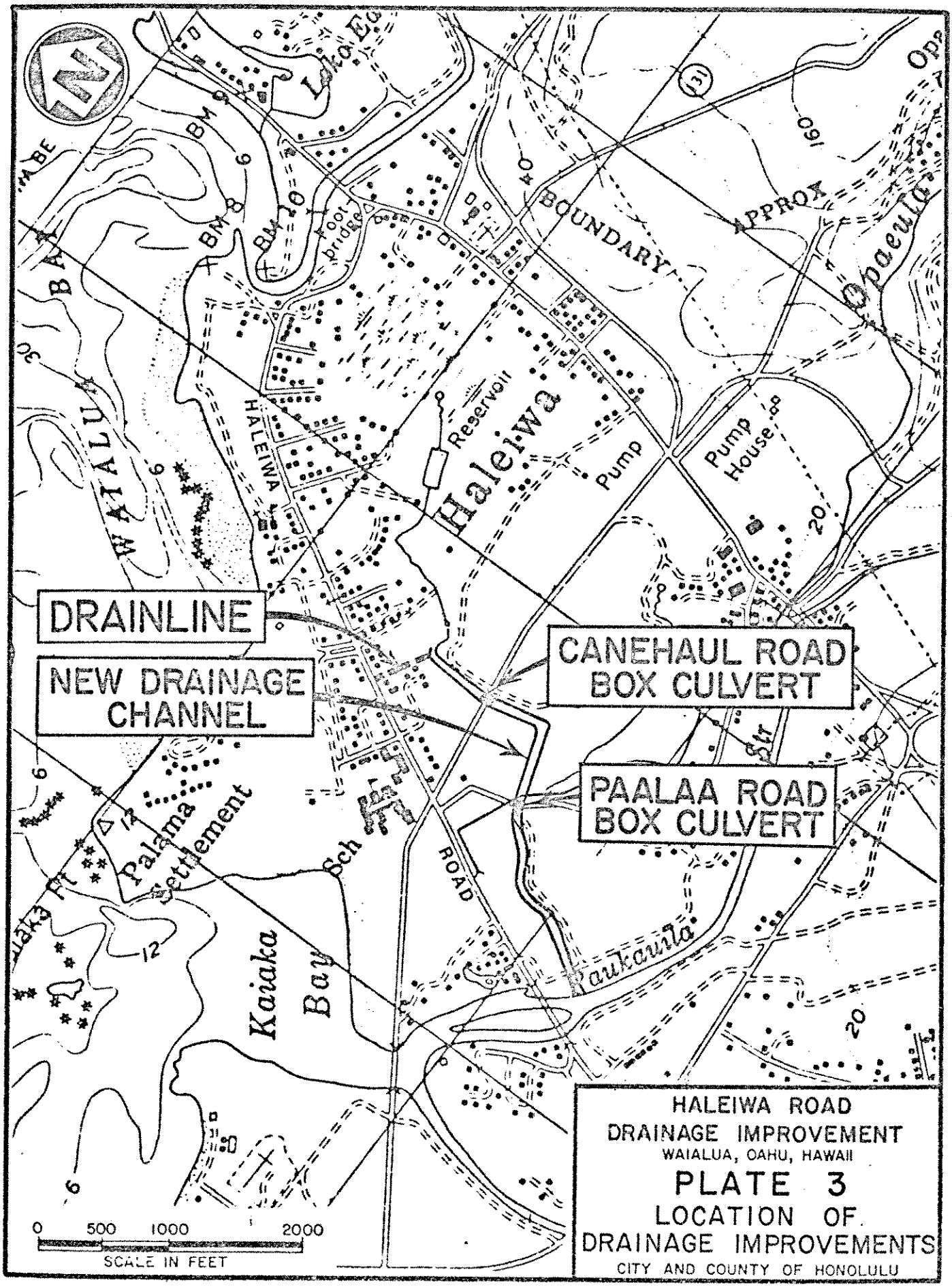


HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII

PLATE 2

HALEIWA ROAD
DRAINAGE BASIN

CITY AND COUNTY OF HONOLULU

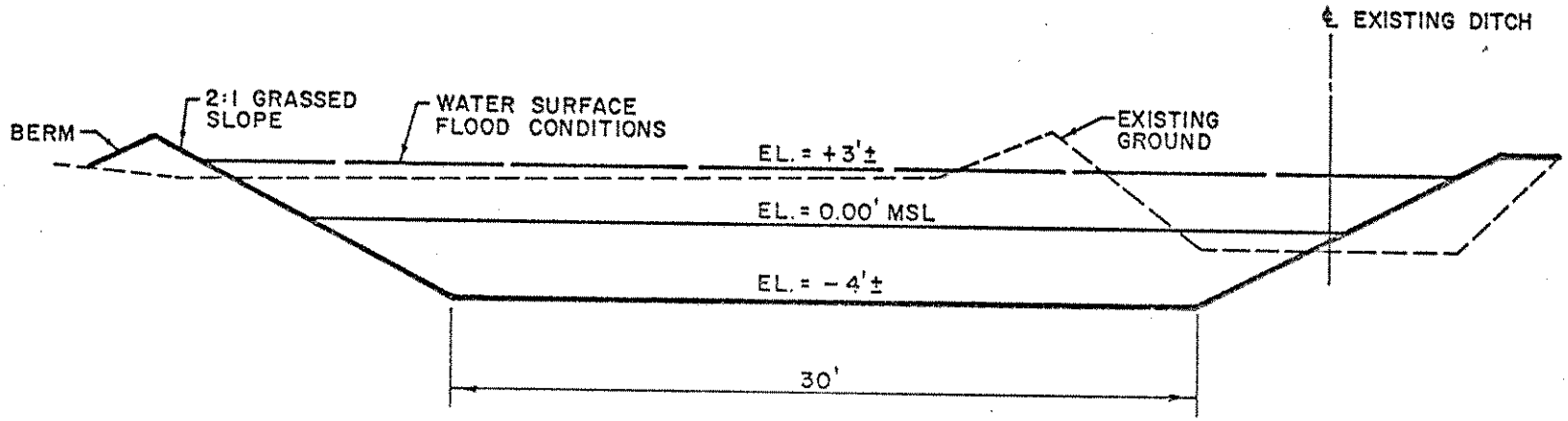


HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII

PLATE 3

LOCATION OF
DRAINAGE IMPROVEMENTS

CITY AND COUNTY OF HONOLULU



TYPICAL SECTION NEAR OUTLET

NOT TO SCALE

HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII

PLATE 4

TYPICAL SECTION OF
IMPROVED DRAINAGE DITCH

CITY AND COUNTY OF HONOLULU

The City and County will become the owner of the improved drainage channel which is currently owned by Bishop Estate and leased to Waialua Sugar Company. The City will also become responsible for the maintenance of the drainage channel along with the proposed drainline from Haleiwa Road. The City will require maintenance easements along the channel and for the drainline, and these easements will be acquired from Bishop Estates and the owners of Tax Map Key: 6-6-13:06.

Inasmuch as the design of the proposed ditch improvements considers flood routing, the storage capacity of the flood plain had to be first established. This was accomplished using available aerial contour plans, field investigations, topographic surveys and flood reconnaisance by the Army Corps of Engineers (Corps, February 1976). The maximum water surface storage limits used for design is outlined by the 6-foot elevation contour. To further determine the adequacy of the storage basin, an analysis relating rainfall frequency and duration to storage volume showed that a storm frequency of 100 years over the Haleiwa Road Basin would require a storage volume of 657,000 cubic feet, as compared to the 1,922,000 cubic feet available.

Other hydraulic considerations included backwater water surface calculations from Paukauila Stream. The ditch outlet into Paukauila Stream is influenced by tidal action due to the close proximity to the ocean, and for backwater analysis the mean higher high tide elevation of 0.9 feet Mean Sea Level (MSL) is used. Calculations are carried upstream, varying the ditch section with the addition of runoff from tributaries and attaining a maximum elevation of 6.0 feet MSL at the end of the ditch.

As proposed, the Haleiwa Road Drainage Improvement project will provide improved protection against localized flooding for the lowlying residences of Haleiwa Town during the more frequent local storms, i.e., during storms occurring over the Haleiwa Road Basin. The project does not provide for alleviation of less frequent major regional flood damage caused by streamflow flooding during large regional storm events.

The "major rainstorm" over the Haleiwa Road Basin is defined as a storm that will produce a peak discharge rate of 2,250 cubic feet per second and the "more frequent local storm" is defined as a storm with a recurrence interval of 10 years. The "large regional storm event" is defined as a storm with a recurrence interval of 100 years.

It should be noted that in determining the approximate storage capacity of the flood plain for the flood routing design, the accuracy of the aerial contour maps and existing topographic surveys was adequate. However, to determine the number of individual homes that would be affected, a much more accurate and recent topographic survey would be required. Such a survey has not been done and is beyond the scope of this project.

D. USE OF PUBLIC FUNDS

The estimated project cost is $375,000.00 and will be financed by City funds with State assistance through legislative appropriations. To date, $208,000.00 has been appropriated under Act 226, SLH 1976, Item N. for this project.

E. PHASING AND TIMING

A tentative schedule shows that the land acquisition phase is planned for Fiscal Year 1979 and construction is planned for FY 1980. The project construction will require approximately eight months to complete.

II. DESCRIPTION OF ENVIRONMENTAL SETTING

A. REGIONAL DESCRIPTION

The environment affected by the proposed project includes a major portion of Haleiwa Town, a small rural community located in the Waialua District on the Island of Oahu, approximately 30 miles northwest of downtown Honolulu, as shown in Plate 1. This quiet, Hawaiian Community evolved from a small, predominantly agricultural settlement at the turn of the century, to a more modern, but still rural-oriented community encompassing residential, commercial and agricultural land use practices. The several well-maintained beach parks and one small boat harbor located at the edge of town not only serve the needs of the local community but also attract many visitors from other Oahu districts, as well as from out-of-state, throughout the year.

B. DEMOGRAPHY

In 1970, the population of Haleiwa Town was 2,626 which represented an increase of 4.9 percent over the 1960 census. This increase, however, was substantially lower than the previous two censal periods (1950-60 and 1940-50) during which population increases of 16.9 and 15.8 percent were experienced, respectively (DPED, 1973). At the time of the 1970 census, the medial family income was $8,988.00, total housing units numbered 720 (of which most were moderate to substandard), and employment was centered primarily in the civilian labor force (DPED, 1977).

C. LAND USE

Despite the increased urbanization that has occurred over the years, agriculture, principally sugarcane, still persists in the areas surrounding the town itself, and the community has retained its rural flavor. In addition to the increased number of dwelling units constructed over the years, commercial establishments to serve the local citizenry, as well as to support the extensive recreational and visitor

activities, exist along Kamehameha Highway within the older sections of the town. These land uses are designated in the Detailed Land Use Map of the Oahu General Plan (DGP, 1964) shown in Plate 5 while Plate 6 shows the land use designations of the State Land Use Commission (SLUC, 1974).

The "Flood Plain", as shown in Plate 5, is one of the few areas on Oahu where taro is still commercially grown. The lowlying topography of the "Flood Plain" makes the area ideal for taro operations, and it also serves as a natural silting basin for stormwater runoff.

D. CLIMATE

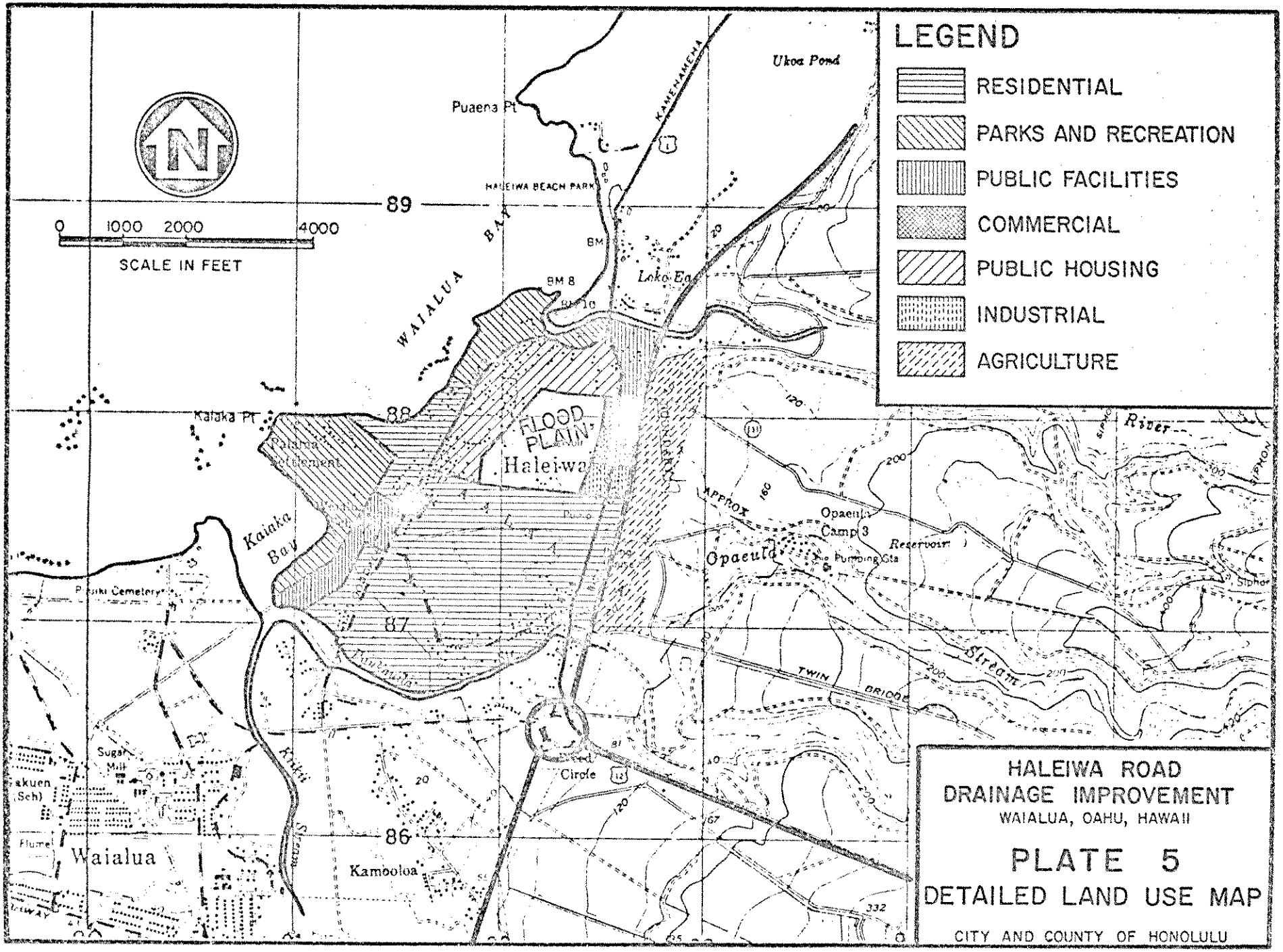
Average annual rainfall in the area, as shown in Plate 7, is less than 30 inches, and about 75 percent of this rainfall occurs between October and April (BWS, 1963). Average annual temperature is a pleasant 73° F., with humidities ranging from 60 to 80 percent. The cooling northeast trade winds are present 60 percent of the time, thus creating a comfortable and sometimes invigorating climate in which to work and play.

E. SOIL

The major soil types found within the Haleiwa Town area include Haleiwa silty clay (HeA) and Waialua silty clay (WkA), with minor occurrences of Ewa silty clay loam (EmA), Kawaihapai clay loam (KIA), and Mamala Series (MnC), as shown in Plate 8 (USDA, 1972). All five soils are similar with respect to runoff (slow), erosion hazard (slight), permeability (moderate), corrosivity (neutral to low), mean annual soil temperature (73°-74° F.), and usage (sugarcane, truck crops and pasture).

F. GEOLOGY

The geologic formations underlying the Haleiwa Town area, as shown in Plate 9, are characterized by caprock made up of marine and/or alluvial sediments (Stearns, et al., 1940; BWS, 1963). Although the caprock is

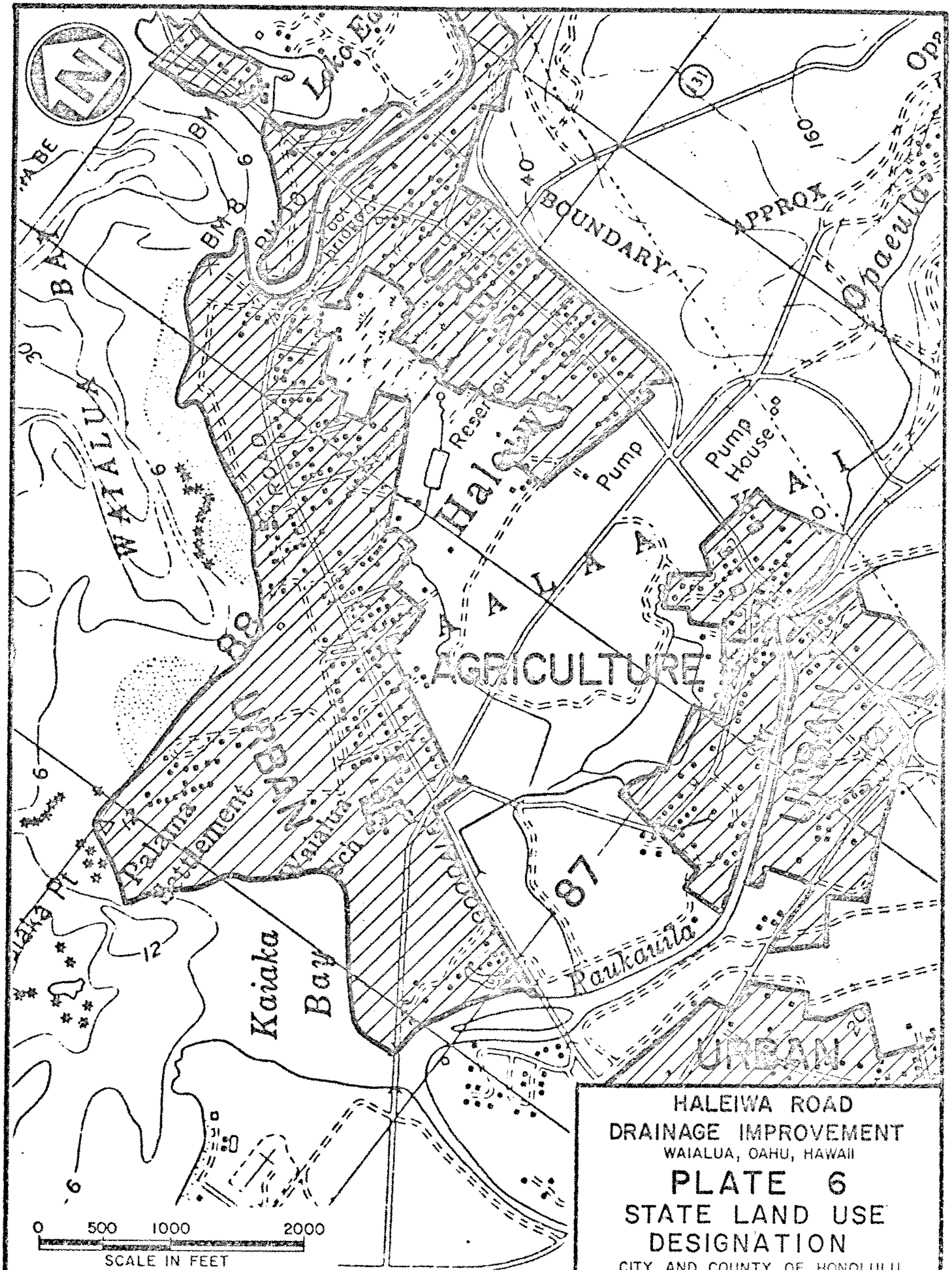


HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII

PLATE 5

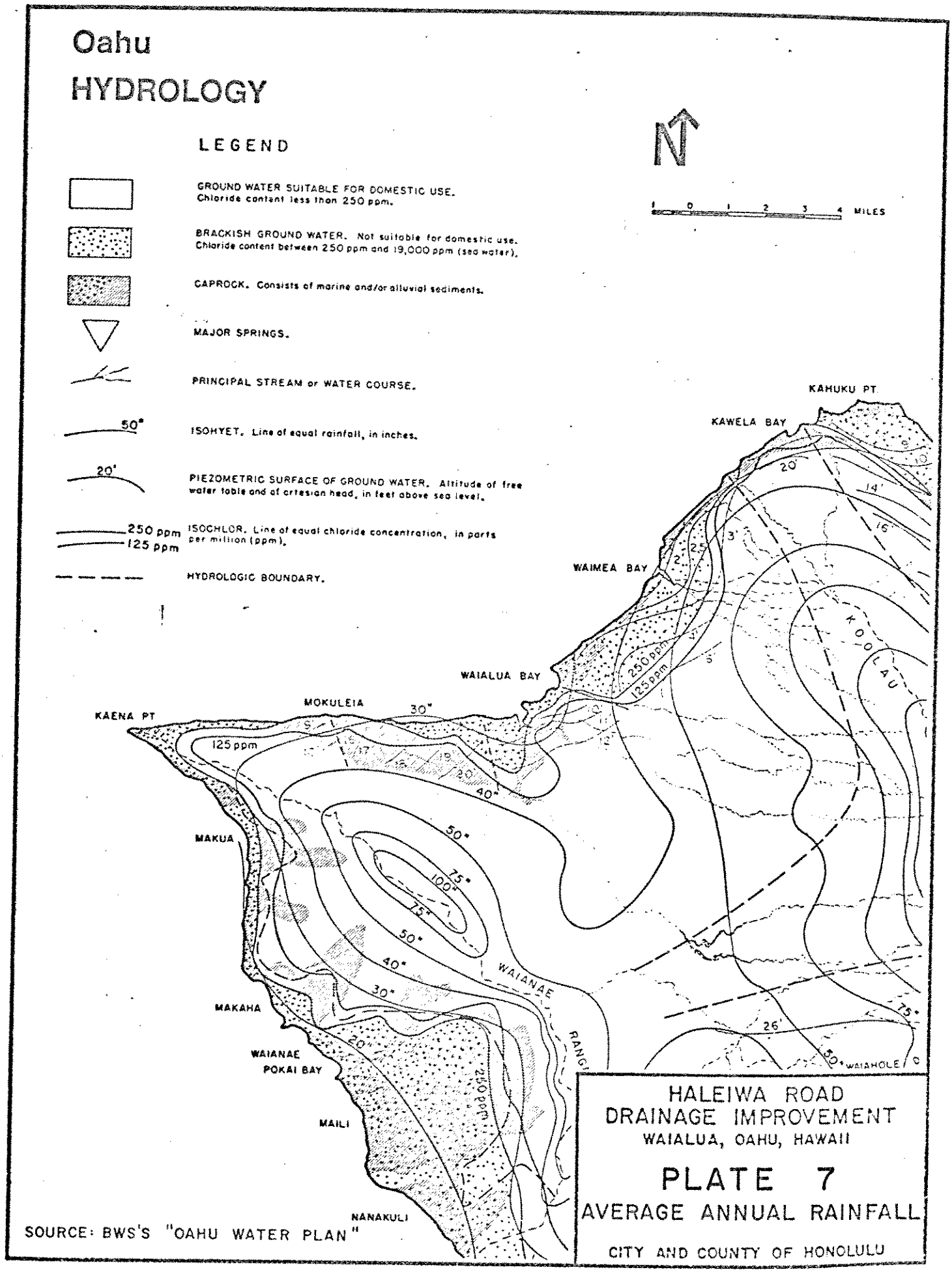
DETAILED LAND USE MAP

CITY AND COUNTY OF HONOLULU

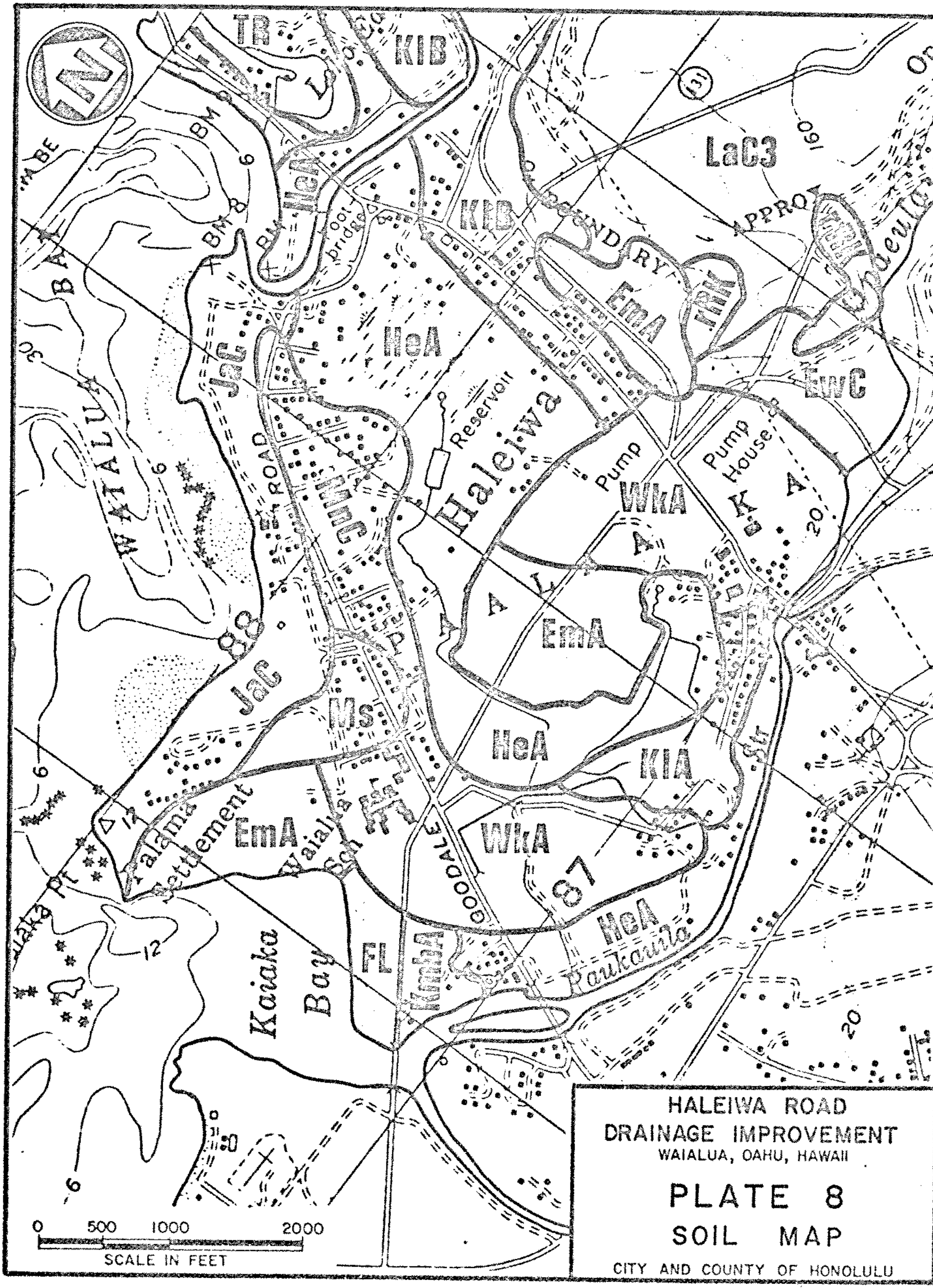


HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII
PLATE 6
STATE LAND USE
DESIGNATION
CITY AND COUNTY OF HONOLULU
AGRICULTURE
URBAN
BOUNDARY
APPROX
Pump
Pump House
Kaiaka Bay
Paukauila
Palama Settlement
Waialua
Opaeula
SCALE IN FEET
0
500
1000
2000

Oahu
HYDROLOGY



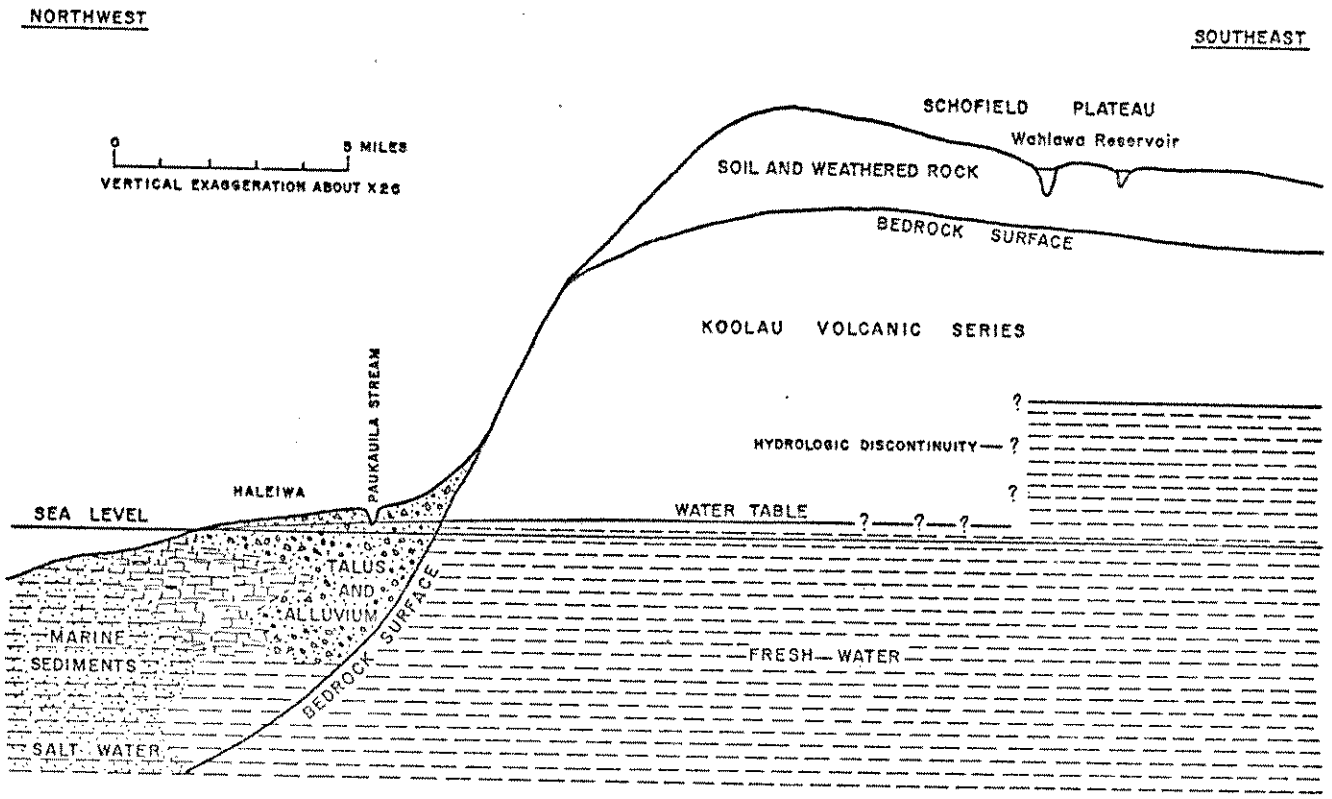
SOURCE: BWS'S "OAHU WATER PLAN"



HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII

PLATE 8
SOIL MAP

CITY AND COUNTY OF HONOLULU



GENERALIZED GEOLOGIC SECTION FROM HALEIWA TO SCHOFIELD PLATEAU

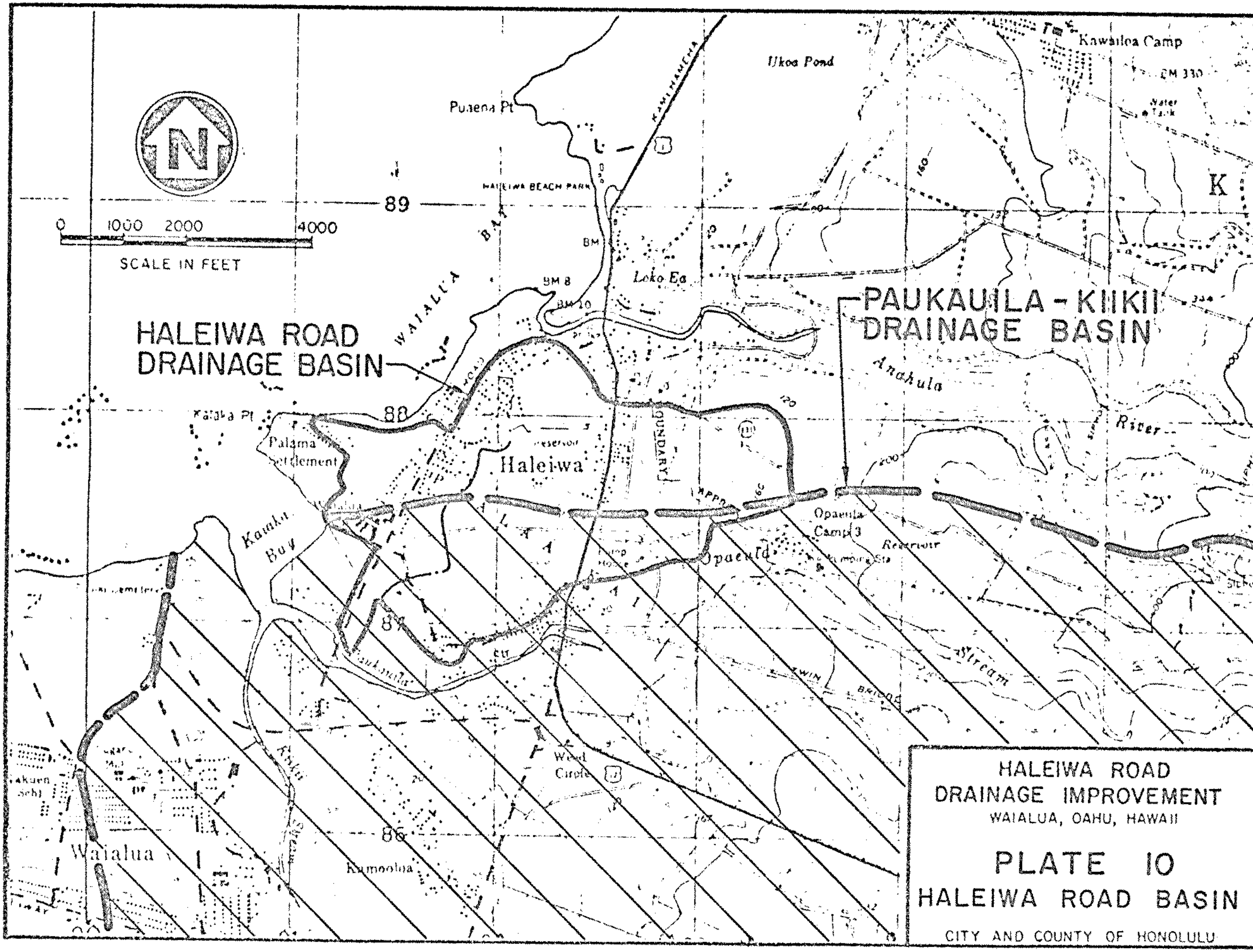
SOURCE: WATER RESOURCES OF NORTH-CENTRAL OAHU, HAWAII

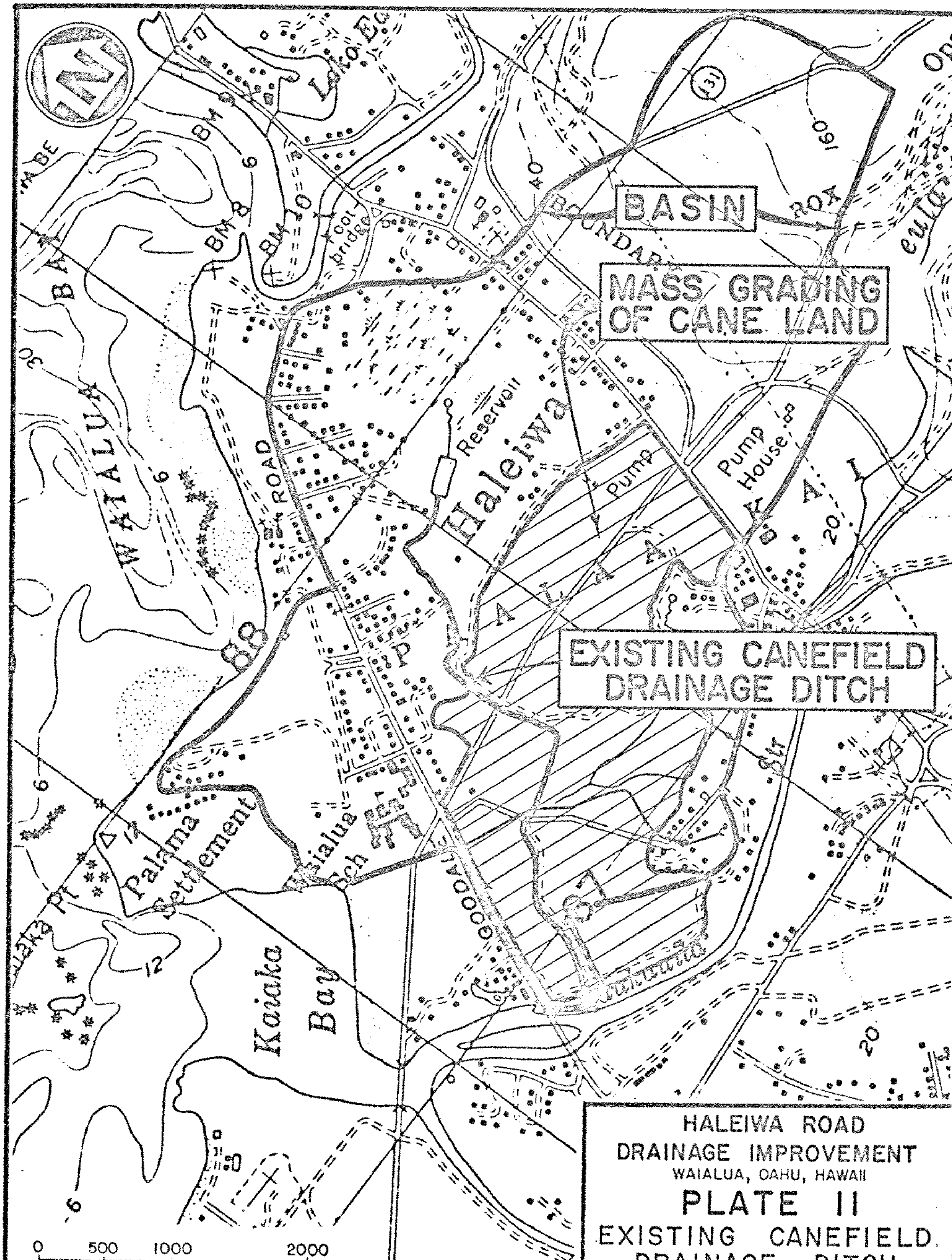
HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII

PLATE 9

GEOLOGIC SECTION

CITY AND COUNTY OF HONOLULU


HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII
PLATE 10
HALEIWA ROAD BASIN
CITY AND COUNTY OF HONOLULU
HALEIWA ROAD DRAINAGE BASIN
PAUKAUILA - KIIKII DRAINAGE BASIN
SCALE IN FEET
0
1000
2000
4000
89
88
87
86
Puaena Pt
Ukoa Pond
Kawailoa Camp
KAMEHAMEHA
HALEIWA BEACH PARK
WAIALUA BAY
Loko Ea
Anahula River
Kaiaka Pt
Palama Settlement
Haleiwa
BOUNDARY
Kaiaka Bay
Opaeula Camp 3
Reservoir
Opaeula
Stream
Weed Circle
Waialua
Kamooloa
K



HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII
PLATE II
EXISTING CANEFIELD
DRAINAGE DITCH
CITY AND COUNTY OF HONOLULU

somewhat permeable, it does tend to inhibit the seaward flow of freshwater into the ocean. Accordingly, freshwater in this area generally passes into the caprock or emerges as springs along or within the area streams.

G. FLORA AND FAUNA

The affected environment does not contain any known threatened or endangered flora or fauna. The vegetation is comprised of sugarcane, weeds and grasses, and the existing fauna consists of insects, rodents, lizards and transient birds. The transient birds consist of the Barred Dove and House Sparrow, and it is not known if the area is used for feeding or nesting. The marine fauna is comprised of mullets, Aholehole, goby and opae shrimps.

H. PHYSICAL CHARACTERISTICS

Perhaps the physical characteristics of most importance to the proposed project are those describing watershed conditions, particularly as related to their impact on flooding. The drainage basin constituting the limits of the proposed project is herein referred to as the Haleiwa Road Basin and is shown in Plate 10. This project drainage basin is a sub-basin of the largest stream drainage basin on Oahu, the 79.8 square mile Paukauila-Kiikii drainage basin (Corps, September, 1976). These two streams form a confluence before discharging into Kaiaka Bay. Both are estuarine for about one mile inland from their confluence, and have relatively gradual slopes and low velocity flows during normal conditions.

The Haleiwa Road Basin covers an area of approximately 494 acres, of which about 57 percent lies below elevation 20 feet mean sea level (MSL). In the lowlying flood plain area of this basin, the elevations vary from 3 to 20 feet MSL, and at the highest reach of the basin, the elevation is about 175 feet MSL. The basin is drained by an existing cane field drainage ditch, approximately 3,500 feet in length that leads from the basin's flood plain to Paukauila Stream as shown in Plate 11.

In considering the existing drainage characteristics of the Haleiwa Road basin, two significant man-made alterations to the basin's topography should be noted. First, the area along Haleiwa Road has been built up to protect buildings and property from flooding and wave action, thereby eliminating the previous natural drainage course to Anahulu Stream on the north (Gross, 1976). The result of this action was to force the total Haleiwa Road basin to drain to Paukauila Stream on the south, whereas previously, drainage was to both Anahulu and Paukauila Streams.

The second significant land-form alteration that has taken place over the years is the mass grading of that cane land located to the south of the lowlying area of the basin, as indicated in Plate 11, in an attempt to avoid inundation of crops during storm events. The result of this action was to confine the runoff from the Haleiwa Road basin to a single ditch channel leading from the flood plain indicated on Plate 11 to Paukauila Stream.

I. FLOOD HISTORY

A flood history has been compiled for the Waialua-Haleiwa area, see the Appendix, and the records include significant floods resulting from rainstorms, high waves and tsunamis since 1932 (Corps, November, 1970). Of the three, the rainstorm-generated floods have been the most common, most widespread and most damaging. The most recent example was the storm of February 5-8, 1976, which has brought renewed appeal from the Waialua Community Association to the City and County of Honolulu for emergency improvement action. It was reported that 57 homes and 5 stores were damaged by the flood and Haleiwa Road was impassable (Ong, 1976).

J. FLOOD PROBLEM

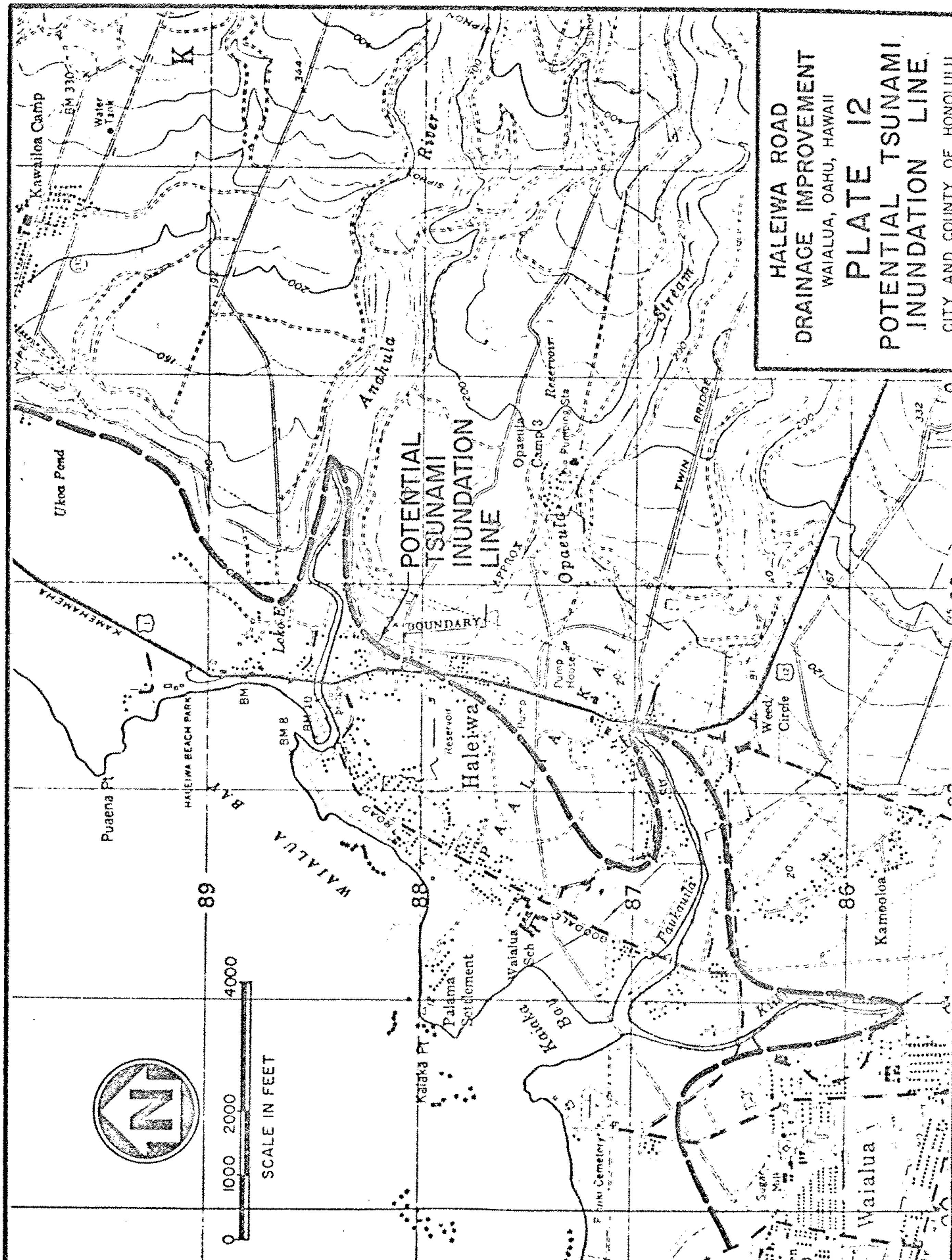
Directly contributing to the flood problem are three general topographic features found in the Haleiwa area. They are 1) shoreline areas subject to tsunamis and high waves, 2) lowlying inland areas with local drainage problems and subject to localized storms and 3) lowlying inland areas which are subject to streamflow flooding brought about by regional storms.

The area near the shoreline that is vulnerable to inundation by tsunami has been delineated by the Tsunami Research Institute at the University of Hawaii and is shown in Plate 12. Although flooding by tsunami can be formidable, their frequency of occurrence is low relative to flooding by rainstorms.

The Haleiwa Road drainage basin is an example of the second type of topographic feature subject to flooding, that of a lowlying area with a local drainage problem. Characteristically, heavy localized rainfall results in sheetflow across the land followed by ponding in the lowlying area.

Streamflow flooding of inland areas is attributed to the inadequate capacity of the existing streams (Corps, November, 1970). During high-peak discharges, flood waters overtop the stream banks, inundating the lowlying residential and agricultural land. Also, flow restrictions from erosion, sedimentation, and waterborne debris compound the problem. This streamflow flooding generally occurs during regional storm events.

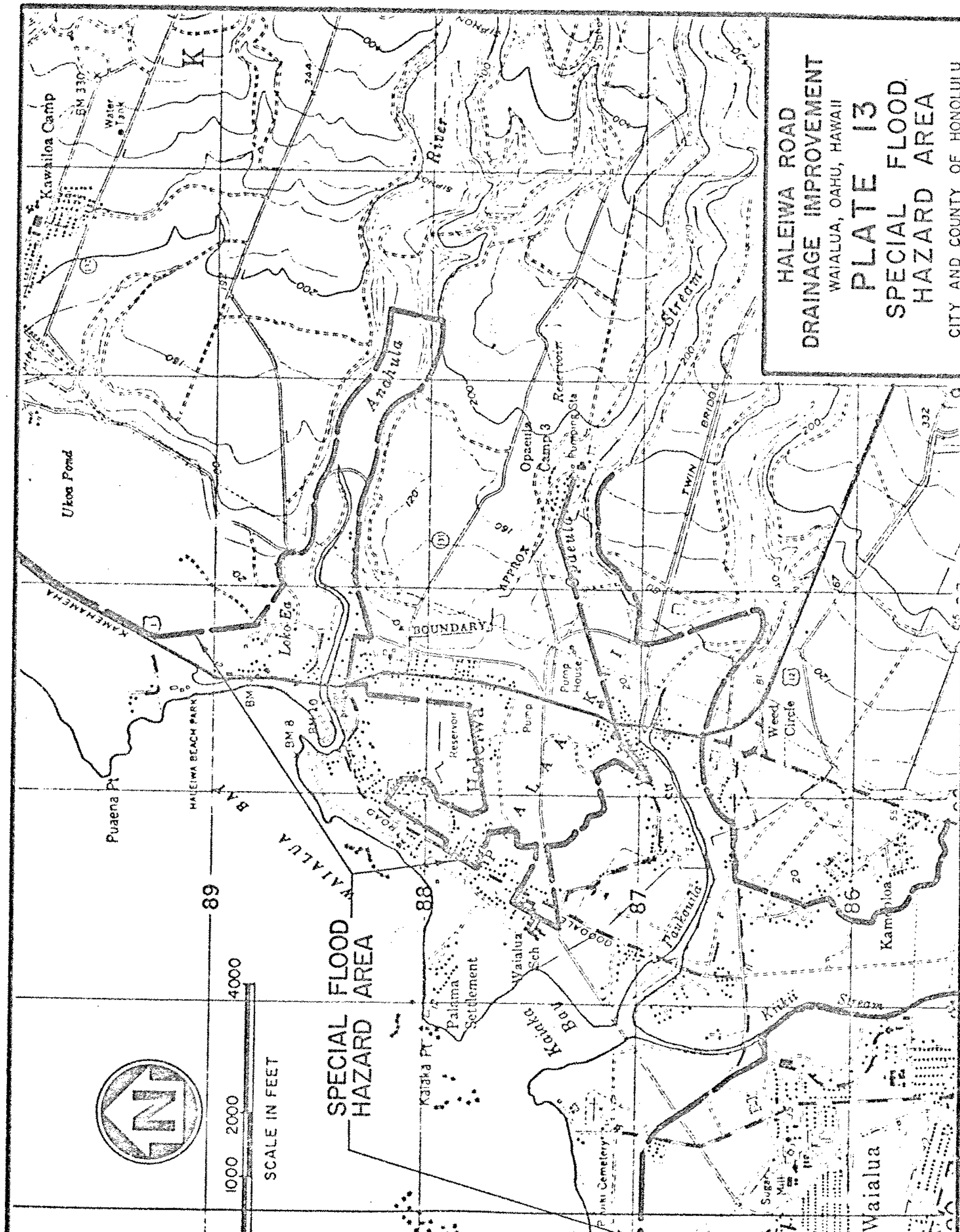
As previously mentioned, the major cause of flooding in the Haleiwa area has been storm-generated. In terms of localized flooding within the Haleiwa Road basin the sump areas existing along Haleiwa Road near Haleiwa Elementary School, and the large lowlying inland flood plain both suffer recurring flooding and ponding due to 1) the high water table that retards rapid infiltration and dissipation of flood waters, and 2) severe hydraulic capacity limitations of the existing drainage channel. The most apparent channel limitation was observed during a February 5-8, 1976, storm. The water level above the Cane Haul Road culvert was about 2-3 feet higher than the downstream side with very little flow velocity in the approach channel. This condition is caused by the inadequate capacity of the existing double 24-inch culverts. Other possible constrictions are at the existing sluice gate and 72-inch culvert downstream of Paalaa Road. Compounding the problem are a very flat slope of less than 0.1 percent and a bottom width varying between 10 and 20 feet.


HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII
PLATE 12
POTENTIAL TSUNAMI
INUNDATION LINE
CITY AND COUNTY OF HONOLULU
POTENTIAL TSUNAMI INUNDATION LINE
SCALE IN FEET
0 1000 2000 4000
Ukoa Pond
Kawailoa Camp
Anahulu River
Opaeula Stream
Haleiwa
Waialua
Puaena Pt
HALEIWA BEACH PARK
WAIALUA BAY
Kaiaka Pt
Kaiaka Bay
Palama Settlement
Kamooloa
Paukauila
Loko Ea
BOUNDARY
TWIN BRIDGE
Sugar Mill
Weed Circle
KAMEHAMEHA

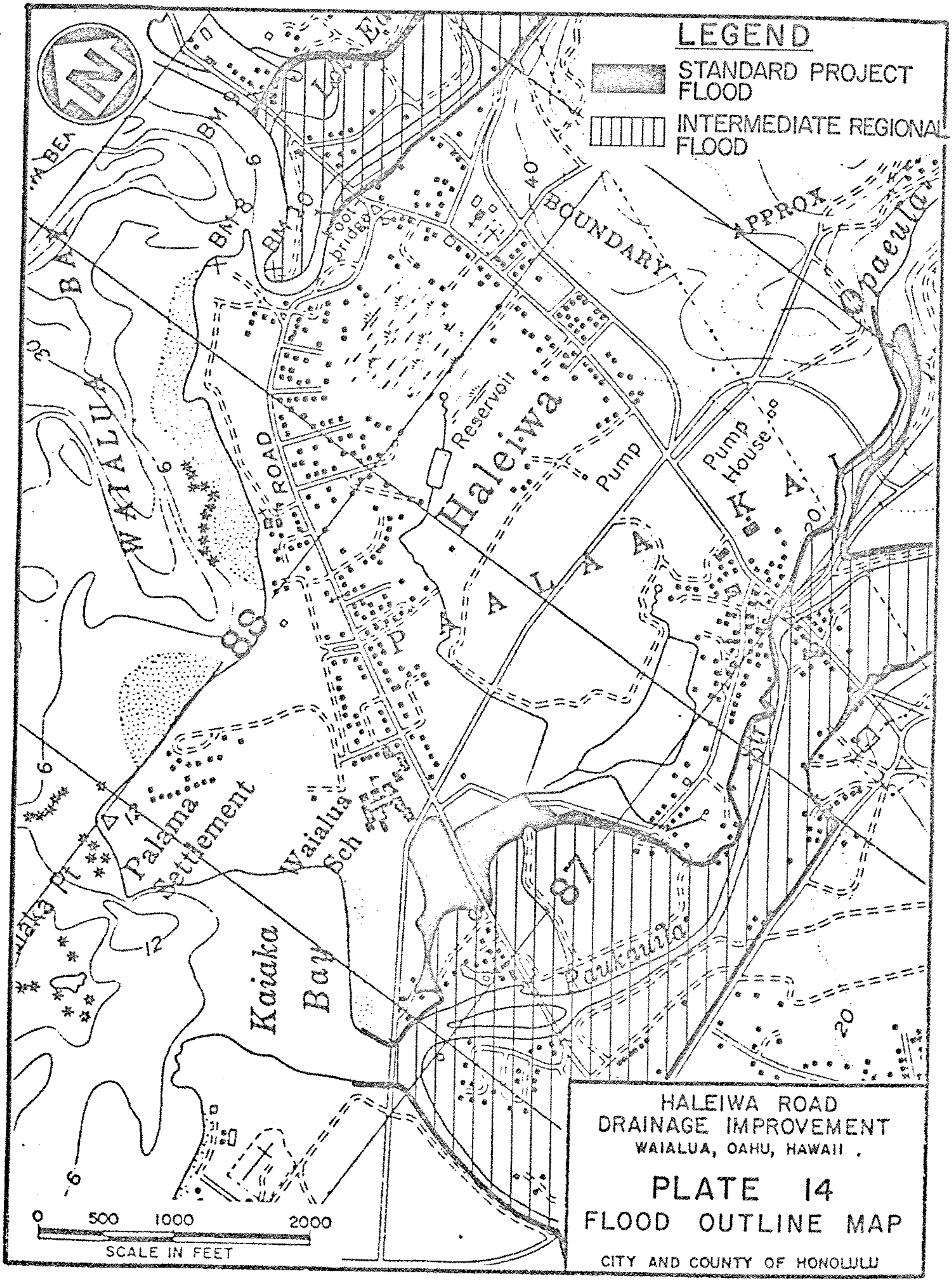
Contributing to the localized flooding problems of the Haleiwa Road basin is the streamflow flooding that occurs in the flood plains of the lower Paukauila Stream. The Army Corps of Engineers (1970) and Chung Dho Ahn and Associates (1976) conclude that the primary cause of streamflow flooding in the lower Paukauila Stream area is due to inadequate stream capacity. [The capacity of Paukauila Stream at the outlet of the existing ditch is 3,000 cfs (Ahn, 1976) as compared to an Intermediate Regional Flood runoff of 19,000 cfs at the same location (Corps, November, 1970). The Intermediate Regional Flood is defined by the Corps of Engineers as a flood having a one percent chance of occurring during any given year.] The overbanking and inundation that would occur under these flood conditions then results in Paukauila Stream itself acting as another constriction to the existing Haleiwa Road basin drainage ditch, causing backwater conditions.

A final contributive factor to the flooding problem of the Haleiwa Road Basin is the tidal action that occurs in Paukauila Stream at the ditch outlet. This tidal action coinciding with a high-surf condition probably compounds the flood problem. The mean higher high tide of 0.9 feet (USDC, 1973) experienced in Paukauila Stream itself causes backwater conditions to occur in the ditch.

As a result of the streamflow flooding that has occurred in the past, the Department of Housing and Urban Development (1976), the Army Corps of Engineers (1970) and the City and County of Honolulu (Ahn, 1976) have studied the Paukauila Stream, Kiikii Stream and Anahulu River flood plains. These stream flood plains have been designated as special flood hazard areas by the Department of Housing and Urban Development, as demonstrated in Plate 13. It is noted that the lowlying areas of the proposed project are within these special flood hazard areas. Also, the Flood Outline Map shown in Plate 14 and prepared by the Army Corps of Engineers includes the lowlying area of the proposed project adjacent to Paukauila Stream within the limits of the Intermediate Regional and Standard Project Flood. (The Intermediate Regional Flood has been



HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII
PLATE 13
SPECIAL FLOOD
HAZARD AREA
CITY AND COUNTY OF HONOLULU
SPECIAL FLOOD
HAZARD AREA
0 1000 2000 4000
SCALE IN FEET
WAIALUA BAY
Kaiaka Bay
HALEIWA BEACH PARK
Puaena Pt
Kaiaka Pt
Ukoa Pond
Kawailoa Camp
Anahulu River
Stream
TWIN BRIDGE
Waialua
Sugar Mill
Kamooloa
Weed Circle
Pump House
Reservoir
Loko Ea
KAMEHAMEHA
APPROX BOUNDARY
89
88
87
86


LEGEND
STANDARD PROJECT FLOOD
INTERMEDIATE REGIONAL FLOOD
Haleiwa
Reservoir
Pump
Pump House
BOUNDARY
APPROX
Opaeula
Foot bridge
ROAD
WAIALUA
BAY
Palama Settlement
Waialua Sch
Kaiaka Bay
Paukauila
P A L A A K A I
83
87
0 500 1000 2000
SCALE IN FEET
HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII .
PLATE 14
FLOOD OUTLINE MAP
CITY AND COUNTY OF HONOLULU

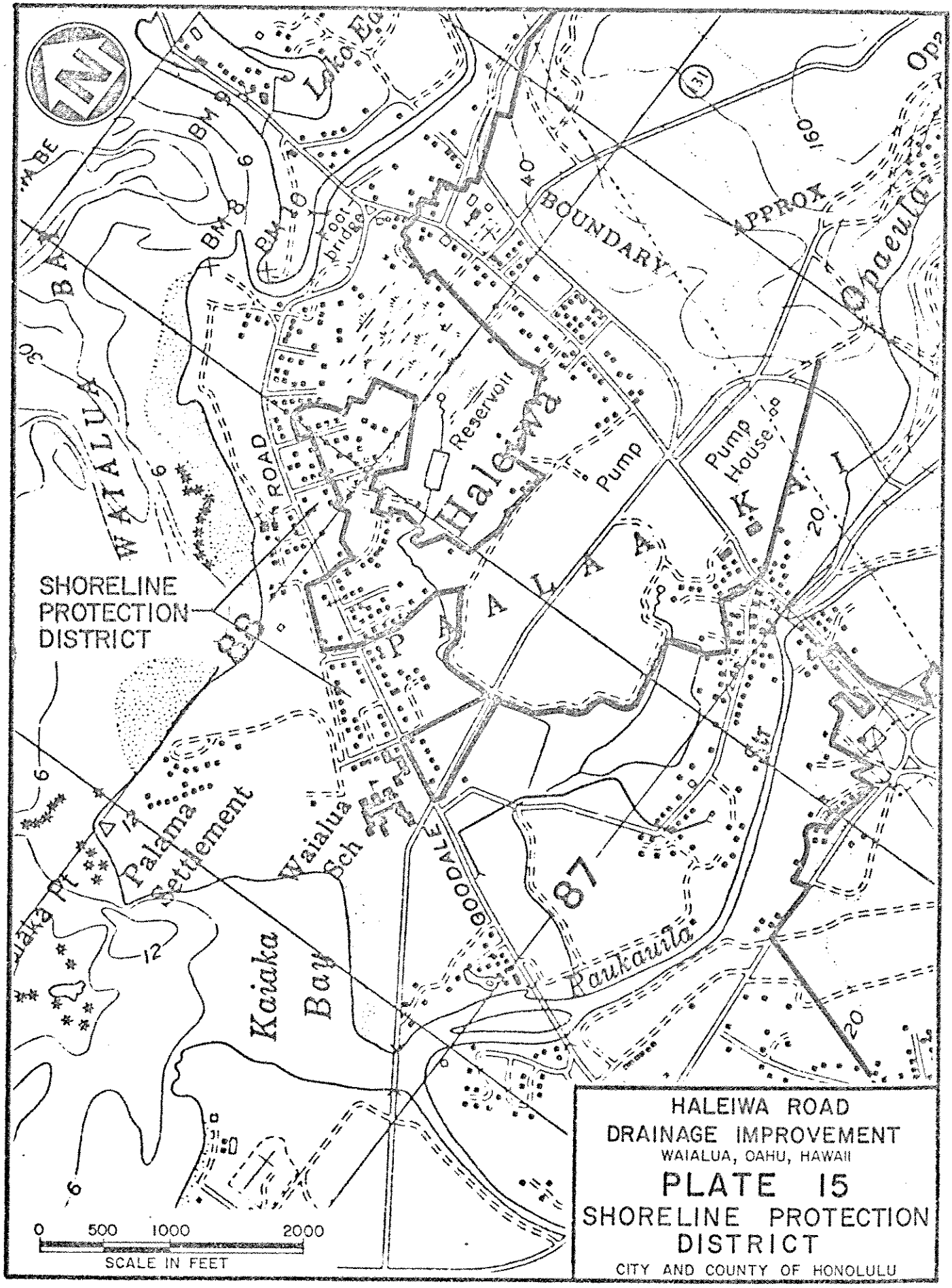
defined previously, while the Standard Project Flood is the flood that can be expected from the most severe combination of meteorological and hydrological conditions that is considered reasonably characteristic of the geographical region involved.)

A major conclusion reached by the Corps of Engineers and the consultant firm of Chung Dho Ahn and Associates in their respective and independent studies, is that improvements to Paukauila Stream in the vicinity of Haleiwa Road is not economically justified, inasmuch as improvement costs would exceed the estimated value of the properties protected. Their recommendations were to provide flood proofing as a plan of action.

It should be stressed that regardless of the action taken, with respect to Paukauila Stream, localized flooding within the Haleiwa Road Basin will continue to occur for the reasons cited previously. This is to say that localized flooding can and does occur in the absence of streamflow flooding, due to localized storm events that occur only within the Haleiwa Road Basin (for Paukauila Stream to overflow, larger regional storms are necessary). The presence of streamflow flooding only compounds and magnifies the flooding within Haleiwa Road Basin, but does not in itself cause the flooding.

K. SHORELINE PROTECTION DISTRICT

A sizeable portion of Haleiwa Town, including the project, lies within the Shoreline Protection District as shown in Plate 15. Therefore, a special management permit will be required prior to construction of the drainage improvements.



HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII

PLATE 15

SHORELINE PROTECTION DISTRICT

CITY AND COUNTY OF HONOLULU

III. RELATIONSHIP OF PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA

The proposed Haleiwa Road Drainage Improvement project does not conflict with any approved or proposed, State or County land use plans, policies and controls. To the extent that the project will provide improved protection against flooding for the existing residences, the project can be said to conform with the approved land use plans for the area.

IV. PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

Inasmuch as the proposed Haleiwa Road Drainage Improvement project is intended only to alleviate or reduce the existing localized flooding problems in a portion of Haleiwa Town that is already fully developed and constructed, the project's environmental impacts are, therefore, limited primarily to direct impacts, as opposed to secondary impacts such as stimulating increased urbanization and growth. Furthermore, in addressing the direct environmental impacts of the proposed project, consideration must be given to the long-term effects, as well as to the short-term effects.

In the long-term, the major impacts can be summarized as follows:

a. Improved protection against local flooding caused by localized rainstorms occurring within the Haleiwa Road Basin.

b. Loss of 4.0 acres of cane land currently valued at $4,860.00.

c. Discharge rates from the drainage ditch into Paukauila Stream greater than that which presently occurs during local storm events.

d. Potential increased sediment discharge into Paukauila Stream.

In terms of improved protection against flooding, this is obviously a beneficial impact of the project. However, it should be emphasized that this protection is limited to the local flooding that presently occurs during localized rainstorms occurring within the project drainage basin. Should regional storm events that cause streamflow flooding by Paukauila Stream occur, the proposed improvements will become non-functional. However, the fact that these improvements become non-functional during these storms does not detract from their need, because the localized storms and subsequent localized flooding occurs much more frequently than the larger regional storms that cause streamflow flooding.

The value of the agricultural land to be taken out of cane cultivation is based on typical yields and current market prices. Obviously, from the standpoint of Waialua Sugar Company, the impact is adverse, and purchase negotiations should consider future earnings and how this loss will affect the company as well as the industry.

The increased discharge rates into Paukauila Stream will result from improving the existing inadequate drainage ditch and culverts. This increased discharge rate is not considered adverse in that it would not create streamflow flooding in Paukauila Stream downstream of the ditch outlet during normal streamflow, nor would it contribute to streamflow flooding that is already occurring, inasmuch as it becomes nonfunctional during those periods. It should be understood that the total runoff volume would remain unaffected; only the rate of which it would be discharged would be affected.

The streamflow velocity will remain about the same since the new channel will also be grass lined. Furthermore, the normal streamflow rate which is less than 1.5 cubic feet per second should not create any increase in sediment load with the new channel. The aforementioned conditions indicate that no significant adverse impact to the biology of the stream should occur.

While it is possible that sediment discharge into Paukauila Stream may increase when storm runoff occurs, it is quite difficult to predict what the magnitude of such an increase might be, should in fact it occur. An increase in sediment discharge is only suggested by 1) the increased ditch flow rate that would occur after project completion and 2) a moderate decrease in siltation within the flood plain (that previously occurred during flooding). However, since the flood routing design concept will be employed and no change in land use of the storage basin is anticipated, the natural siltation characteristics of the storage basin should minimize sediment discharge. In essence, the flood plane storage basin will serve as a very large sediment basin. Therefore, no significant adverse impacts are anticipated.

In the short-term, the potential impacts are construction-related, and include increased turbidity in Paukauila Stream and then Kaiaka Bay, noise from equipment operation and airborne particulates (dust). As with all impacts of this nature, they are adverse for the period of time they are occurring. However, upon completion of construction, the daily noise and dust problems will cease, as will any turbidity caused by dredging activity near the ditch outlet and none will have lasting effects on the surrounding environment.

V. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The adverse impacts resulting from the proposed Haleiwa Road Drainage Improvement project include:

a. The permanent loss of 4.0 acres of cane land along with about 27 tons of annual sugar production or 54 tons biennially based on the two-year crop cycle.

b. Temporary construction-related impacts including noise, dust emissions and turbidity. The adverse effect of construction and maintenance involves the disruption of the stream and marine ecosystem. This disruption will be temporary and the ecosystem should return to normal shortly thereafter.

It is felt that the benefits derived in the form of improved flood protection for those existing areas now subjected to localized flooding outweighs the aforementioned adverse affects. The Haleiwa Town community has endured numerous damage-sustaining flood events over the years and the proposed project will bring much needed relief from these events.

VI. ALTERNATIVES TO THE PROPOSED ACTION

Among the alternatives considered to the proposed Haleiwa Road Drainage Improvement project was a no project alternative. However, this alternative would allow the present flooding problem to continue and it was felt that this was not acceptable from a public welfare standpoint. Therefore, the alternatives that were analyzed dealt with design options.

The first alternative did not consider flood routing, i.e., inflow into the flood plain is equal to outflow without storage. Since this alternative is designed to accommodate the total peak runoff from the project drainage basin, a wider and deeper ditch cross-section is needed. The required trapezoidal ditch bottom width varies from 40 feet at Paukauila Stream to 30 feet at the Cane Haul Road. The side slope is 2:1 and is grass lined. The invert (bottom of ditch) begins at (-)5.0 elevation at the ditch outlet and is carried upstream at a 0.1 percent slope. Reconstruction of the existing Paalaa Road box culvert is necessary and would add another 20' by 11' box culvert cell. The other major structural improvement is a double cell 30' by 10' box culvert crossing at the Cane Haul Road. The estimated cost of this alternative is $680,000.00.

Hydraulic considerations also include backwater water surface calculations from Paukauila Stream. The water surface elevations of 0.9 feet at the ditch and outlet at Paukauila Stream and 6.0 feet at the end of the ditch are the same as for the proposed design. The ditch section is designed to accommodate total runoff without retention.

This alternative was not selected for a number of reasons. First, 20 percent more cane land would have to be taken out of production. Secondly, the siltation effects provided by the selected design would be lost. Third, the cost would be almost twice as high as that for the selected design. Lastly, no additional flood protection would be provided over and beyond that provided by the selected design.

The second alternative that was considered involved filling the flood plain, the area and volume of which is approximately equal to the storage limits described for the selected design. Without this storage capability, then, the ditch must be designed to accommodate the total runoff from the tributary areas of the basin, and this results in an identical ditch design as that described above for the first alternative. Thus, this alternative is the same as the first, with the addition of filling the flood plain area. In addition to the disadvantages of the first alternative, an added cost for filling and grading would have to be included, and casual farm operations presently existing in the flood plain may have to be displaced. The additional cost of $360,000.00 for filling and grading (along with the ditch cost of $680,000.00) makes this alternative not cost effective.

In summary, the alternatives were dismissed on the basis of their higher costs and additional impact on the environment. Costs for Alternatives 1 and 2 are $680,000 and $1,040,000, respectively, as compared with $375,000 for the selected design. Alternatives 1 and 2 require widening the ditch an additional ten feet and a new box culvert at Paalaa Road. These improvements represent more lost agricultural land and the loss of the siltation characteristics of the flood plain storage capacity.

VII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

The proposed Haleiwa Road Drainage Improvement project will result in the long-term loss of 4.0 acres of cane land, in favor of improved, and also long-term, protection against flooding for a portion of Haleiwa Town. From a practical standpoint, the proposed action will foreclose future options for use of the land being taken out of cane production, however, only at the expense of reducing the long-term risks to public health and safety.

VIII. MITIGATIVE MEASURES

The construction phase will probably constitute all of the short-term adverse effects. The surrounding area will be subject to dust, motor exhaust, noise, traffic congestion and erosion.

Dust and motor exhaust will be generated during mass excavation and dredging. Dust and motor exhaust concentration levels will be in conformance with the air pollution control standards and regulations of the Department of Health, State of Hawaii.

Noise from construction equipment will be audible during construction. Noise levels shall be in conformance with Chapter 44B of the Public Health Regulations along with a community noise permit from the Department of Health. The usual noise control procedures of construction, such as limiting operations to normal working hours will be utilized.

Paalaa Road and the Cane Haul Road will experience some temporary traffic congestion during construction. Both roads will remain open to traffic and the construction timetable of the Cane Haul Road box culverts will be reconciled with Waialua Sugar Company's schedule to minimize inconveniences to agricultural operations.

Traffic control devices to safeguard public traffic will be provided and used in conformity with the "Rules and Regulations Governing the Use of Traffic Control Devices on or Adjacent to Public Streets and Highways", adopted by the State Highway Safety Coordinator and Part VI, "Traffic Control for Highway Contractors and Maintenance Operators" of the Federal Highway Administration's "Manual on Uniform Traffic Control Devices for Streets and Highways".

The Soil Erosion Standards and Guidelines of the Department of Public Works, City and County of Honolulu will be used to ensure minimum soil loss during mass excavation operations. In addition, the contract specifications will provide that surface drainage from exposed areas will be held in suitable ponds to allow siltation to occur, and exposed surface embankments will be planted immediately after construction to minimize construction-related turbidity.

IX. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed Haleiwa Road Drainage Improvement project will irreversibly commit land, labor, material and energy resources required for its design, construction and maintenance. Approximately 4 acres of agricultural land will be lost to permanent easements for the drainage channel and appurtenances.

Labor will be involved in the construction and maintenance of this system, as is the case with any storm drainage network; all labor expenditure will be essentially irreversible and irretrievable. Materials such as concrete, cast iron, reinforcing steel, etc., will be required for construction, and when in-place, will be for all practical purposes irreversibly and irretrievably committed.

The maintenance of the drainage system will involve mechanically or manually removing debris from the channel that normally accumulates over a period of time. However, the amount of work involved cannot be quantified since it is dependent upon the severity of the storm conditions over the drainage basin. This maintenance work will be an irreversible commitment of energy and labor in the future.

X. ORGANIZATIONS AND PERSONS CONTACTED

The following agencies and persons were contacted during the preparation of the EIS. An asterisk denotes those who commented in writing, and both comments and responses are included in the following pages:

XI. REPRODUCTION OF COMMENTS AND RESPONSES MADE DURING THE CONSULTATION PROCESS

The preparation notice indicates that the $350,000 for the proposed improvements will come from the "County General Funds" (sic). There is no indication that State lands are involved in this project. Under these conditions, the Accepting Authority is the Mayor of the City and County of Honolulu, rather than the Governor.

Furthermore, the proposed project is partially within the Shoreline Management Area under Ordinance 4529. The City Department of Land Utilization (DLU) administers Ordinance 4529. DLU's responsibilities include assessing whether an EIS is required and issuing a permit for the project.

The EIS preparation notice does not list DLU as one of the agencies contacted to date. (P. 1, Item III.) Coordination with DLU is required for project implementation.

3. Project Description. Additional information which should be included in the EIS are:

   a. Who owns the cane haul road? When was it built?

   b. Who owns the existing canefield drainage ditch (Plate 7), which is proposed to be improved (Plate 3) by the Department of Public Works?

   c. Who authorized the construction of the existing double 24-inch cane haul road culvert which your preparation notice indicates is largely responsible for the flooding of the area? (P. 7.)

   d. Where is the existing sluice gate which is described as a possible stream constriction? (P. 7.) What is the purpose of the sluice gate?

   e. If these are not City-owned, what is the City's legal liability with respect to flood damages? This is important since expenditure of City funds is proposed.

4. Major Impacts. Major impacts are identified in Section VII. (P. 10.) These should be quantified. For instance,

   a. How much agricultural land will be lost as a result of this project? What annual production or revenue will be lost?

770258

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 50004, Honolulu, HI 96850

RECEIVED
MAY 23 11 33 AM '77

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DEPT OF PUBLIC WORKS
MAY 23 8 36 AM '77

TO ENVM
Engg

Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Miyahira:

Subject: Haleiwa Road Drainage Improvement Project, Waialua, Oahu

We have reviewed the above-mentioned EIS preparation notice and have no comments to offer.

Thank you for the opportunity to review this document.

Sincerely,

Jack P. Kanalz
State Conservationist

7704457

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, CORPS OF ENGINEERS
DIV OF PUBLIC WORKS
BLDG. 230, FT. SHAFTER
APO SAN FRANCISCO 96558

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TO ENVEL
Engrg

PODED-PV

7 June 1977

Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Miyahira:

We have reviewed the Environmental Impact Statement Preparation Notice for the Haleiwa Road Drainage Improvement Project and offer the following comments for your consideration:

a. Change "post flood report" (page 2, paragraph 4, line 4) to "flood reconnaissance." The term "post flood report" is used for specifically published documents by the Corps; the document in question was a memorandum.

b. The basis of the control elevation for the ditch outlet design computations is unclear.

c. The proposed project will require a Department of the Army permit. The application should be submitted in a timely manner to avoid delays in implementing the project.

Thank you for the opportunity to review this document.

Sincerely yours,

F. M. PENDER
Colonel, Corps of Engineers
District Engineer

BICENTENNIAL REVOLUTION AMERICAN 1776-1976

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0323

July 7, 1977

Colonel F. M. Pender
Honolulu District Engineer
Corps of Engineers
Building 230, Fort Shafter
APO San Francisco 96558

Dear Colonel Pender:

SUBJECT: YOUR LETTER, DATED JUNE 7, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

We will change "post flood report" to "flood reconnaissance" in the EIS. Also, an application for a Department of the Army permit will be submitted prior to construction of the project.

The basis of the control elevation is the mean higher high water which was extracted from the U. S. Department of Commerce, "Tide Tables, 1973, West Coast of North and South America including the Hawaiian Islands." The control elevation is referenced to City and County Datum (Mean Sea Level = 0.00).

Very truly yours,

FOR WALLACE MIYAHIRA
Director and Chief Engineer

7704119

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Division of Ecological Services
300 Ala Moana Blvd., Rm. 5302
P. O. Box 50167
Honolulu, Hawaii 96850

May 26, 1977

Mr. Wallace Miyahira
Department of Public Works
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Re: Haleiwa Road Drainage
Improvement Project
EIS Preparation Notice

Dear Sir:

Due to a shortage of time and manpower, this Service has been unable to review your EIS preparation notice dated April 13, 1977 for the Haleiwa Road Drainage Improvement Project.

If time and manpower requirements will allow, we will attempt to review and comment in the near future.

Sincerely yours,

Maurice H. Taylor

Maurice H. Taylor
Field Supervisor

cc: HA
ARD (AE)

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

7703051

GEORGE R. ARIYOSHI
GOVERNOR

RECEIVED
DIV. OF ENGINEERING
MAY 13 2 09 PM '77

JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

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BOARD MEMBERS:

HIGASHI
MEMBER - AT - LARGE

ERNEST F. MORGADO
MEMBER - AT - LARGE

KALFRED K. YEE
MEMBER - AT - LARGE

SHIZUTO KADOTA
HAWAII MEMBER

STEPHEN Q. L. AU
KAUAI MEMBER

FRED M. OGASAWARA
MAUI MEMBER

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

TO Envir
Engrg

May 10, 1977

MEMORANDUM

To: Mr. Wallace Miyahira, Director and Chief Engineer
Department of Public Workds, C & C of Honolulu

Subject: Haleiwa Road Drainage Improvement Project
Waialua, Oahu, Hawaii - TMK: 6-6-15: 1 & 3
6-6-12: 2
Environmental Impact Statement Preparation Notice

The Department of Agriculture has reviewed the subject EIS Preparation Notice. A major concern would be the long-range impact of the project on the existing taro operations in the area.

In this regard, your attention is respectfully directed to Senate Concurrent Resolution No. 120, S.D. 1, Session Laws of Hawaii 1977, which urges the preservation of agricultural lands in the relatively few areas where taro can be commercially grown.

We appreciate the opportunity to comment, and would like to be apprised of developments relating to this drainage improvement project.

John Farias Jr.

JOHN FARIAS, JR.
Chairman, Board of Agriculture

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0318

July 7, 1977

Mr. John Farias, Jr.
Chairman
Board of Agriculture
1428 South King Street
Honolulu, Hawaii 96814

Dear Mr. Farias:

SUBJECT: YOUR LETTER, DATED MAY 10, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

We do not anticipate any adverse impacts on existing taro operations since the proposed drainage improvements are located downstream of the existing taro patches.

We will keep you apprised of developments relating to this drainage project.

Very truly yours,

For WALLACE MIYAHIRA
Director and Chief Engineer

7704330

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

ENV CL
Engrg

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

June 1, 1977

In reply, please refer to
File: EPHS-SS

MEMORANDUM

To: Mr. Wallace Miyahira, Director and Chief Engineer
Department of Public Works, City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: Preliminary Consultation on EIS for the Proposed Haleiwa Road Drainage Improvement Project, Waialua, Oahu, Hawaii

We appreciate the opportunity to review and comment on the subject EIS.

We have the following comments to offer for your consideration:

1. Construction activities must comply with Public Health Regulations, Chapter 44B, Community Noise Control for Oahu.

   a. An application for community noise permit must be filed and approved by the Department of Health

   b. Construction activities must comply with the provisions of the conditional use of permit as stated in Public Health Regulations, Chapter 44B and the conditions of the permit.

2. Traffic noise from heavy vehicles travelling to and from construction site must be minimized to not affect a residential area and must also comply with the provisions of Public Health Regulations, Chapter 44A, Vehicular Noise Control for Oahu.

It is our opinion that a silt basin is needed to replace the natural siltation effect of the area which will be lost by the project. A drywell or sump installation should be considered.

The present use of the area has not been clearly established in the report. It may be a vital area for the control of irrigation tailwater from the Waialua Sugar Company's canefields.

What is the possibility of raising the inverts at the outlet of the culvert to create a settling basin effect?

We will appreciate further coordination with your office regarding this project. Should you have any questions or comments concerning this letter please call Mr. Denis Lau at our Pollution Technical Review Branch. He can be reached at 548-6410.

JAMES S. KUMAGAI, PH.D.

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0321

July 7, 1977

Dr. James S. Kumagai, Ph.D.
Deputy Director
State Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801

Dear Dr. Kumagai:

SUBJECT: YOUR LETTER, DATED JUNE 1, 1977, FILE: EPHS-SS, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT, WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

Construction activities will comply with Public Health Regulations, Chapters 44A and 44B. Also, an application for a community noise permit will be filed.

Subsequent to the publication of the subject EIS Preparation Notice and after further evaluation, the flood routing design concept was determined to eliminate the need for a silt basin since flood routing would utilize the natural siltation effect of the existing ponding conditions.

The present use of the area within the storage basin is primarily taro farming and not for the control of irrigation tailwater from cane fields.

Very truly yours,

for WALLACE MIYAHIRA
Director and Chief Engineer

77 04091

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

CHRISTOPHER COBB, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

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

May 25, 1977

Your: 701-12-0195

Honorable Wallace Miyahira
Dept. of Public Works
650 So. King St.
Honolulu, Hawaii 96813

Dear Sir:

At this time, we have no comments to offer on the EIS preparation notice for the Haleiwa Road drainage works.

Very truly yours,

GORDON SOH
Program Planning Coordinator

cc: Fish & Game
Historic Sites Office

7704251

RECEIVED

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

GEORGE R. ARIYOSHI, Governor
HIDETO KONO, Director
FRANK SKRIVANEK, Deputy Director

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

May 31, 1977

Ref. No. 3678

Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Miyahira:

subject: Environmental Impact Statement Preparation Notice for Haleiwa Road Drainage Improvement Project

The Department of Planning and Economic Development has completed its review of the environmental impact statement preparation notice for the subject project.

We have determined that the project report has adequately identified and evaluated the probable impacts that can be anticipated from the implementation of the proposed drainage system improvements. We concur with the observation that the Haleiwa Road Drainage Improvement Project will provide improved protection against localized flooding for the low-lying residences of Haleiwa town during the more frequent local storms.

We have no further comments to offer at this time but appreciate the opportunity to review this document.

Sincerely,

HIDETO KONO

cc: Park Engineering, Inc.

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0324

July 7, 1977

Mr. Hideto Kono, Director
Department of Planning and Economic Development
State of Hawaii
P. O. Box 2359
Honolulu, Hawaii 96804

Dear Mr. Kono:

SUBJECT: YOUR LETTER, DATED MAY 31, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

Very truly yours,

WALLACE MIYAHIRA
Director and Chief Engineer

7703164

GEORGE R. ARIYOSHI
GOVERNOR

RICHARD E. MARLAND, PH.D.
DIRECTOR

TELEPHONE NO.
548-6915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

Envcl
Engrg

May 16, 1977

Wallace Miyahira, Director
Department of Public Works
City and County of Honolulu
Honolulu, Hawaii 96813

SUBJECT: Environmental Impact Statement Preparation Notice for Haleiwa Road Drainage Improvement Project, Haleiwa, Oahu, Hawaii

Dear Mr. Miyahira:

Thank you for inviting us to comment on the subject document. Unfortunately, we are not able to accommodate every request for consultation which we receive. We will be happy to participate during the official review process and provide an evaluation and recommendation to the Governor.

If you have any questions regarding this matter, please contact us again.

Sincerely,

Richard E. Marland
Director

7704048

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA
ONOLULU, HAWAII 96843

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May 19, 1977

TO ENVEQ
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Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Miyahira:

Subject: Environmental Impact Statement Preparation Notice for Haleiwa Road Drainage Improvement Project, Waialua, Oahu
TMK: 6-6-15: 1 & 3,
TMK: 6-6-12: 2

We do not have any objections or anticipate any adverse effects to potable groundwater resources from the proposed project. However, we request that the construction plans be submitted to us for review.

Please call Lawrence Whang at 548-5221, if further information is needed.

Very truly yours,

For Edward Y. Hirata
Manager and Chief Engineer

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0320

July 7, 1977

TO : MR. EDWARD HIRATA, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER, DATED MAY 19, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

Construction plans will be submitted for your review.

for WALLACE MIYAHIRA
Director and Chief Engineer

7702982

DEPARTMENT OF GENERAL PLANNING

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

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FRANK F. FASI
MAYOR

TO ENVIL Engrg

ROBERT R. WAY
CHIEF PLANNING OFFICER

DGP4/77-1054(CT)

May 10, 1977

Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
Honolulu, Hawaii

Dear Mr. Miyahira:

Haleiwa Road Drainage Improvement Project
EIS Preparation Notice
Comments Requested April 29, 1977
DPW Reference No. 701-12-0195

We have the following comments on your EIS preparation notice.

1. Funding. The EIS preparation notice indicates: "The estimated project cost is $350,000.00, to be financed through the City and County of Honolulu General Funds." (P. 3, par. 3.)

   This should be clarified. We are aware of $208,000 appropriated under Act 226, SLH 1976, Item N, for drainage improvements in Waialua-Haleiwa to be implemented by the City and County of Honolulu. These include planning, as well as land acquisition and construction funds. In addition to this, the Executive Program and Budget proposed for Fiscal Years 1978-1983 shows a listing for "Haleiwa Road Drainage Improvement" which includes the $208,000 already appropriated and a future requirement of $210,000 from the State out of a total project cost of $1,050,000.

   These have a bearing on the "Accepting Authority" for the EIS which is to be prepared.

2. Accepting Authority. The EIS preparation notice indicates that the Governor will be the "Accepting Authority" for the EIS. Under Chapter 343, HRS, this is required only when State funds or State lands are involved.

b. How much undesirable silt will Paukauila Stream and Kaiaka Bay receive with the "loss of the natural silting basin effect of the flood plain."

c. Describe the adverse effects downstream of the outlet on Paukauila Stream which may occur as a result of the "increased peak discharge rate of the new drainage channel."

d. How much traffic is presently carried on Paalaa Road, and how much will be diverted to other roads during the construction of the box culverts?

Additionally, will the increased peak discharge rate of the new drainage channel have any impact on what appears to be a 90-degree bend in the stream slightly downstream of the cane haul road box culvert?

5. Flood Relief. The EIS preparation notice indicates that "57 homes and 5 stores were damaged by the flood, and Haleiwa Road was impassable" during the storm of February 5-8, 1976. The EIS should indicate the severity of this storm in relation to the design storm used in the Corps of Engineers' and the Chung Dho Ahn and Associates' drainage studies. The EIS should indicate how many of the 57 homes and 5 stores would be less liable to flooding after completion of the proposed project, i.e., how many would be protected and from what kind of storm? This is important since you indicate that "The project does not provide for alleviation of less frequent major regional flood damage caused by streamflow flooding during large regional storm events." (P. 3.)

Sincerely,

ROBERT R. WAY
Chief Planning Officer

RRW:fmt

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0316

July 7, 1977

TO : MR. ROBERT R. WAY, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER, DATED MAY 10, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

We offer the following responses to your comments:

1. Funding. The project will be financed by City funds with State assistance by legislative appropriations. $208,000 has been appropriated under Act 226, SLH 1976, Item N, for this project.

2. Accepting Authority. The Governor will be the "Accepting Authority" in anticipation of State funds for the project. Also, the Department of Land Utilization has been consulted and a Shoreline Management Area permit will be secured prior to construction of the project.

3. Project Description. The additional information as available will be included in the EIS.

4. Major Impacts. The major impacts as identified in Section VII (Page 10) shall be quantified as follows:

   a. Approximately 4.0 acres of agricultural land along with about 27 tons of annual sugar production will be lost as a result of the project.

   b. Subsequent to the publication of the subject EIS Preparation Notice and after further evaluation, the flood routing design concept was determined to utilize the natural siltation effect of the existing ponding conditions. Therefore, no significant increase of silt entering Paukauila Stream and Kaiaka Bay is anticipated.

c. Also, after subsequent evaluations, the flood routing design was determined to have negligible impact downstream of the ditch outlet.

d. Presently, there is no traffic count information on Paalaa Road, and the road will remain open to local traffic since the existing box culvert will be retained under the flood routing design.

e. There will be no impact on any bends in the new drainage channel from the increased peak discharge.

5. Flood Relief. Presently, no quantitative statement can be made as to the exact number of homes that would be less liable to flooding after the proposed project is completed. This is due to a lack of detailed flood information and topographic surveys of Haleiwa Town, which is beyond the scope of this project. However, qualitatively we can state that during a localized storm no severe flooding should occur and after a major regional storm the flood waters should recede more quickly.

for WALLACE MIYAHIRA
Director and Chief Engineer

7703209

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

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FRANK F. FASI
MAYOR

GEORGE S. MORIGUCHI
DIRECTOR

To ENV cl Engrg

LU4/77-1528(GN)

May 19, 1977

MEMORANDUM

TO : MR. WALLACE MIYAHIRA, DIRECTOR & CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

ATTN. : MR. RICHARD NISHIZAWA

FROM : GEORGE S. MORIGUCHI, DIRECTOR

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT
TAX MAP KEYS 6-6-15: 1 & 3 AND 6-6-12: 2

We have reviewed the above and find portions of the project within the Special Management Area established by Ordinance No. 4529. A Shoreline Management Permit will have to be issued by the City Council prior to the start of construction.

There are no further comments we wish to make at this time. However, we would appreciate the opportunity to review the completed Environmental Impact Statement.

GEORGE S. MORIGUCHI
Director of Land Utilization

GSM:ey

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0319

July 7, 1977

TO : MR. GEORGE MORIGUCHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER, DATED MAY 19, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

A Shoreline Management Permit will be secured prior to construction.

For WALLACE MIYAHIRA
Director and Chief Engineer

7704021

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

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FRANK F. FASI
MAYOR

KAZU HAYASHIDA
DIRECTOR

TE4/77-2127

May 24, 1977

MEMORANDUM

TO : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM : KAZU HAYASHIDA, DIRECTOR

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT
PREPARATION NOTICE FOR HALEIWA ROAD DRAINAGE
IMPROVEMENT PROJECT, WAIALUA, OAHU, HAWAII
TMK: 6-6-15: 1 & 3 and 6-6-12 : 2

We recommend that Section VIII, Proposed Mitigation Measures, Page 12, first paragraph, be revised to include the following:

... and Part VI, "Traffic Control for Highway Contractors and Maintenance Operators" of the Federal Highway Administration's "Manual on Uniform Traffic Control Devices for Streets and Highways".

/s/ Kazu Hayashida
KAZU HAYASHIDA
Director

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0317

July 7, 1977

TO : MR. KAZU HAYASHIDA, DIRECTOR
DEPARTMENT OF TRANSPORTATION SERVICES

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER, DATED MAY 24, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

We will incorporate your recommendation for Section VIII, Proposed Mitigation Measures, into the draft EIS.

for WALLACE MIYAHIRA
Director and Chief Engineer

.aialua Sugar Company, Inc.
P. O. Box 665
Waialua, Hawaii 96791

7704047

TO Envll
Engrg

May 23, 1977

Mr. Wallace Miyahara
Director and Chief Engineer
Department of Public Works
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT

Dear Sir:

We have reviewed the subject environmental document enclosed with your letter of April 29, 1977 (701-12-0195) and agree with the proposed action as outlined on page 2. On April 29 Mr. Richard Nishizawa presented this plan in drawing form to personnel of the Waialua Sugar Company. At that time we pointed out that it was necessary to have a crossing of the drainage facility on the west side of the present Paalaa Road so that cane being harvested on the south side of the ditch could be hauled to the north over the ditch and then to the main cane haul road as is done under the present circumstances.

The ditch appears to be more than ample in size and the box culvert at the canehauler road crossing appears a great deal too large but this has been the pinch point in past drainage problems and the new structure should be more than ample to prevent any problems in the future.

While recognized that the drainage facility now exists we believe this is considered private. In the event this improvement takes place it will probably be considered a public facility and since this land is leased by Waialua Sugar Co. from others it will be necessary to acquire a proper easement for the projected plan. We also wish to restate that a crossing structure for canehaulers on the west side of Paalaa Road will be required. Please keep us informed of your progress and this project.

Yours very truly,

WAIALUA SUGAR COMPANY, INC.

F. C. Cross, Director
Civil Engineering and
Environmental Standards

gmn

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0322

July 7, 1977

Mr. F. C. Gross, Director
Civil Engineering and Environmental Standards
Waialua Sugar Company, Inc.
P. O. Box 665
Waialua, Hawaii 96791

Dear Mr. Gross:

SUBJECT: YOUR LETTER, DATED MAY 23, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for reviewing and commenting on the subject EIS Preparation Notice.

Necessary easements will be acquired prior to construction of the project.

An alternate scheme to the crossing structure for cane haulers on the west side of Paalaa Road should be considered and will be discussed with you.

Very truly yours,

for WALLACE MIYAHIRA
Director and Chief Engineer

XII. LIST OF NECESSARY APPROVALS

Permits will be required from the following agencies:

1. A permit for grading, excavation and fills will be required pursuant to Ordinance No. 3968 (1972), Chapter 23, Revised Ordinance of Honolulu, 1969 as amended. The contractor will obtain said permit from the Department of Public Works.

2. A special management permit pursuant to Section 7, Ordinance No. 4529, and Chapter 205-A HRS as amended by Act 176, SLH 1975, "Interim Shoreline Protection District for Oahu", will be required from the Honolulu City Council through the Department of Land Utilization.

3. A Conditional Use Permit for Construction Activities under Chapter 44B, Community Noise Control for Oahu, of the Public Health Regulations will be required. The contractor will obtain said permit from the Department of Health.

4. A U. S. Department of the Army Permit under Section 10 of the River and Harbor Act of 1899 and under Section 404 of the Federal Water Pollution Control Act Amendment of 1972 will be required for construction within navigable waters.

XIII. SUMMARY OF UNRESOLVED ISSUES

The City and County of Honolulu and Waialua Sugar Company are negotiating the requirements of a cane haul truck crossing downstream of Paalaa Road. The truck crossing is necessary since the existing Paalaa Road box culvert cannot support the weight of a cane loaded truck. However, the truck crossing is needed only for a couple of weeks every other year during cane harvesting.

Presently, Waialua Sugar Company uses an existing 72-inch diameter pipe culvert with a dirt embankment as their truck crossing. The City is proposing a similar temporary setup for harvesting, with pipe culverts supplied by the City and with installation/removal of pipes and embankment material handled by Waialua Sugar Company.

BIBLIOGRAPHY

1. Chung Dho Ahn and Associates, Inc., "Engineering Report for Paukauila and Kiikii Stream and Tributaries Flood Control at Waialua-Haleiwa, Oahu, Hawaii", Prepared for the City and County of Honolulu, Department of Public Works, August 1976.

2. Department of General Planning, "Detailed Land Use Map of the Oahu General Plan", City and County of Honolulu, 1964.

3. Department of Planning and Economic Development, "Community Profiles for Hawaii", State of Hawaii, February 1973.

4. Department of Planning and Economic Development, "Land Use District Boundaries", Land Use Commission, State of Hawaii, December 20, 1974.

5. Gross, F. C., Director of Civil Engineering and Environmental Standards, Waialua Sugar Company, Inc., letter to Mr. Kazu Hayashida, Director and Chief Engineer, Department of Public Works, City and County of Honolulu, March 10, 1976.

6. Real Estate Data, Inc., "Real Estate Atlas of the State of Hawaii, Geographical Ownership", Volume 2, Tenth Edition, 1977.

7. Real Estate Data, Inc., "Real Estate Atlas of the State of Hawaii, Map Volume", Tenth Edition, 1976.

8. Honolulu Board of Water Supply, "Oahu Water Plan", City and County of Honolulu, March 1963.

9. Rosenau, J. C., E. R. Lubke and R. H. Nakahara, "Water Resources of North-Central Oahu, Hawaii", U.S.G.S. Water Supply Paper 1899-D, 1971.

10. Stearns, H. T., J. H. Swartz and G. A. MacDonald, Supplement to the "Geology and Groundwater Resources of the Island of Oahu, Hawaii", U.S.G.S. Bulletin No. 5, 1940.

11. U. S. Army Corps of Engineers, "Flood Reconnaissance - Waialua-Haleiwa Area, Storm of 6-7 February 1976", February 13, 1976.

12. U. S. Army Corps of Engineers, "Non-structural Summary Report for Flood Damage Reduction Waialua-Haleiwa Area, Oahu, Hawaii", Prepared for the City and County of Honolulu, September 1976.

13. U. S. Army Corps of Engineers, Pacific Ocean Division, Honolulu, "Flood Plain Information, Waialua-Haleiwa, Oahu, Hawaii", Prepared for the State of Hawaii and City and County of Honolulu, November 1970.

14. U. S. Army Corps of Engineers, Pacific Ocean Division, "Post Flood Report, Storm of April 19, 1974, Islands of Kauai, Oahu and Maui", Circular C68, Prepared for Department of Land and Natural Resources, Division of Water and Land Development, State of Hawaii, October 1974.

15. U. S. Department of Agriculture, "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii", Soil Conservation Service in conjunction with the University of Hawaii Agricultural Experiment Station, August 1972.

16. U. S. Department of Commerce, National Oceanic and Atmospheric Administration, "Tide Tables 1973, West Coast of North and South America (including the Hawaiian Islands)", National Ocean Survey, 1972.

17. U. S. Department of Housing and Urban Development, Federal Insurance Administration, "Flood Insurance Study, City and County of Honolulu, Hawaii", April 1976.

18. Vickie Ong, "More Rain, But Crisis Eases", Honolulu Advertiser, Monday, February 9, 1976.

APPENDIX A

FLOODING IN WAIALUA-HALEIWA SINCE 1932

Date	Cause of Flood	Affected Areas	Reported Damages
28 Feb 1932	Rain	Waialua-Haleiwa	1 dead, 3 irrigation dams breached, homes inundated in lowlying areas
27 Feb 1935	Rain	Waialua-Haleiwa	$700,000 damage on Oahu
2 Mar 1939	Rain	Waialua	1 dead, homes damaged in lowlying areas
1 Apr 1946	Tsunami	All North Shore especially Kawela Bay, Sunset Beach, Mokuleia	6 dead, 67 homes demolished, 335 homes damaged, railroad track destroyed on Oahu
4 Nov 1952	Tsunami	Waialua, Haleiwa, Mokuleia	School, homes damaged
4 Jan 1953	High waves	Waialua to Kahuku	24 homes flooded, Kamehameha Highway blocked, $10,000 damage
25 Feb 1956	Rain	Waialua to Sunset Beach	$132,000 damage in Waialua-Haleiwa
28 Nov 1956	High waves	Haleiwa, Kawailoa, Sunset Beach	11 homes damaged, Kamehameha Highway flooded
9 Mar 1957	Tsunami	Mokuleia to Waimea	Severe damages, 100 homes damaged, $140,000 in area
21 Jan 1962	Rain	Waialua	Slight damage
27 Mar 1964	Tsunami	Haleiwa	Slight damage
23 Dec 1964	Rain	Waialua	$115,000 damage in area
1 Feb 1969	Rain	Waialua, Haleiwa	Homes damaged, $50,000 damage in area
4 Dec 1969	High wave	Haleiwa, Sunset Beach, Mokuleia	2 dead, 11 injured, 90 homes damaged, $300,000 damage in North Shore

APPENDIX A

(Continued)

Date	Cause of Flood	Affected Areas	Reported Damages
24 Nov 1970	High wave	Mokuleia to Kaaawa	24 homes damaged, Farrington Highway flooded, $64,000 damage on Oahu from waves
8 Jan 1974	High waves	Haleiwa, Kawailoa, Sunset Beach	Several buildings damaged, roads flooded, $40,000 estimated damage
19 Apr 1974	Rain	Haleiwa to Kahuku	3 dead at Haleiwa, $1.0 million damage in Waialua-Haleiwa
7 Feb 1976	Rain	Waialua, Haleiwa, Mokuleia	Sugar fields damaged, 6 homes damaged, Haleiwa Road flooded, $130,000 estimated damage in area

Source: U.S. Army Engineer District, Non-structural Summary Report for Flood Damage Reduction, Waialua-Haleiwa Area, Oahu, Hawaii, September 1976.

APPENDIX B
COMMENTS AND REPLIES
TO
ENVIRONMENTAL IMPACT STATEMENT

APPENDIX B
(Continued)

*An asterisk denotes that a response was made to the comment.

770 7842

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, CORPS OF ENGINEERS
BLDG. 230, FT. SHAFTER
APO SAN FRANCISCO 96558

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TO ~~21 September 1977~~ Engr

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Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Miyahira:

We have reviewed the Environmental Impact Statement (EIS) for the Haleiwa Road Drainage Improvement Project, Waialua, Oahu, Hawaii, as requested in your letter dated September 6, 1977. We have the following comments to offer for your consideration:

a. The "Intermediate Regional Flood" (page II-14) is defined as a flood having a one-percent chance of occurring during any given year.

b. Suggest revision to last sentence, first paragraph of the "Summary" (page i): "...improvements to Paukauila Stream. In a study completed in June 1976, the U.S. Army Corps of Engineers concluded that Federal participation in flood control improvements for Paukauila Stream was not economically justified."

c. The proposed project will require a Department of the Army permit. In order to avoid delays in implementing the project, we suggest that the application be submitted in a timely manner.

Sincerely yours,

WM J. MATTHEWS
Acting Chief, Engineering Division

BICENTENNIAL AMERICAN REVOLUTION 1776-1976

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0546

November 23, 1977

Colonel F. M. Pender
Honolulu District Engineer
Corps of Engineers
Building 230
Fort Shafter, Hawaii 96858

Dear Colonel Pender:

SUBJECT: YOUR LETTER, DATED SEPTEMBER 21, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for your review and comments on the subject EIS.

Your suggested revisions will be incorporated into the subject EIS.

We are aware that a Department of the Army permit will be required for the proposed construction. The proper forms and support material will be submitted prior to construction of the project.

Very truly yours,

WALLACE MIYAHIRA
Director and Chief Engineer

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

AFZV-FE-EE

16 SEP 1977

Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Gentlemen:

Environmental Impact Statement for Haleiwa Road Drainage Improvement Project, Waialua, Oahu, Hawaii, has been reviewed and no comments are offered. There are no Army installations in the immediate vicinity of the project.

The document is returned as requested. The opportunity for review and comment is appreciated.

Sincerely,

CARL P. RODOLPH
Colonel, CE
Director of Facilities Engineering

1 Incl
As stated

Copy furnished: (wo incl)
Dept of Public Works
C&C of Honolulu
650 South King Street
Honolulu, Hawaii 96813

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

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TO Engrg
Env Aff

COMMANDER (mep)
Fourteenth Coast Guard District
Prince Kalanianaole Federal Bldg.
300 Ala Moana Blvd.
Honolulu, Hawaii 96850
Phone: 808-546-7510

16475
11 OCT 1977

Governor
(Office of Env. Quality Control)
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Sir:

Staff review of Haleiwa Road Drainage Improvement Project Environmental Impact Statement has been completed and the Coast Guard has no comments to offer regarding this project. Thank you for the opportunity to review and comment on this proposed action.

Sincerely,

J. W. MOREAU
Rear Admiral, U. S. Coast Guard
Commander, 14th Coast Guard District

Copy to:
Commandant (G-WEP-7)
Dept. of Public Works, C & C of Honolulu

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

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REPLY TO ATTN OF: DEEE (Mr. Nakashima, 4492158)

TO ENV Engrg

SUBJECT: Environmental Impact Statement (EIS) for Haleiwa Road Drainage Improvement Project, Waialua, Oahu, Hawaii

TO: Governor, Office of Environmental Control
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

1. This headquarters has reviewed the subject Environmental Impact Statement and has no comment to render relative to the proposed project.

2. We greatly appreciate your cooperative efforts in keeping the Air Force apprised of your project and thank you for the opportunity to review the EIS.

ROBERT Q. K. CHING
Chief, Engineering, Construction
and Environmental Planning Div
Directorate of Civil Engineering

Cy to: Dept of Public Works
City and County of Honolulu

RECEIVED
DIV. OF ENGINEERING
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United States Department of the Interior
FISH AND WILDLIFE SERVICE
Division of Ecological Services
300 Ala Moana Blvd. Rm. 5302
P. O. Box 50167
Honolulu, Hawaii 96850

Reference: ES

September 28, 1977

Office of Environmental Quality Control
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

Re: Haleiwa Road
Drainage Improvement
Project

Dear Sir:

As requested by your letter of September 6, 1977, we have reviewed the EIS on the Haleiwa Road Drainage Improvement Project.

General Comments

The document appears to stress project justification only. We suggest the statement be expanded to indicate the impacts of the project on the natural resources of the area.

Specific Comments

Page I-6, First Paragraph - Ditch maintenance by the city is noted, but maintenance methods are not described. Will vegetation be controlled by mechanical or chemical means? Will ditch banks be seeded to minimize ditch erosion?

Page II-10, Paragraph G - What are the "transient birds" found in the area? Certainly there are resident species present. Does nesting occur?

Page IV-1, Subparagrahs c&d, and Page IV-2 - Although the increase in flow discharge rates is acknowledged, the effects of such increases on instream fauna and ultimately to the receiving waters of Paukauila Stream and Kaiaka Bay are neither acknowledged nor discussed. Factors that should

be covered include changes in stream flow velocities and sedimentation impacts in receiving waters. These factors should be examined from the standpoints of hydrology and biology.

Page V-1 - This section should be expanded to indicate the adverse effects of project construction and maintenance on stream and marine ecosystems.

Page VI - The discussion of alternatives should be more explanatory to allow a decision-maker to select the most effective, ecologically compatible solution to the stated problem. It appears that most alternatives are dismissed on alleged economic considerations, without providing cost breakdowns.

Section VIII - This section should discuss project induced effects on stream and marine ecosystems.

Section VIII, Pg. 1&2 - Measures should be taken to reduce erosion in the agricultural areas tributary to the drainage ditch. Furthermore, the ditch should be constructed with settling basins to reduce the sediment load delivered to downstream areas.

Page IX-1, Third Paragraph - What does "...clean up of the channel..." mean? The process should be described.

We appreciate the opportunity to comment, and hope our views will prove useful.

Sincerely yours,

Maurice H. Taylor

Maurice H. Taylor
Field Supervisor

cc: HA
ARD(AE)
NMFS
HDF&G

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0544

November 23, 1977

Mr. Maurice H. Taylor
Field Supervisor
U. S. Fish and Wildlife Service
Division of Ecological Services
P. O. Box 50167
Honolulu, Hawaii 96850

Dear Mr. Taylor:

SUBJECT: YOUR LETTER, DATED SEPTEMBER 28, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for your review and comments on the subject EIS.

We offer the following responses to your comments:

1. Your suggestion that the statement be expanded to indicate the impacts of the project on the natural resources of the area is acknowledged.

2. The vegetation will be controlled by mechanical and/or manual means. The ditch banks and exposed areas will be grassed to minimize erosion as stated on Page VIII-2.

3. The observed "transient birds" consist of the "Barred Dove" and "House Sparrow." It is not known if the area is used for nesting.

4. The streamflow velocity will remain about the same since the new channel will also be grass lined. Furthermore, the normal streamflow rate which is less than 1.5 cubic feet per second should not create any increase in sediment load with the new channel. The aforementioned conditions indicate that no significant adverse impact to the biology of the stream should occur.

5. The adverse effect of construction and maintenance involves the disruption of the stream and marine ecosystem. This disruption will be temporary and the ecosystem should return to normal shortly thereafter.

6. The alternatives were dismissed on the basis of their higher costs and additional impact on the environment. Costs for Alternatives 1 and 2 are $680,000 and $1,040,000, respectively, as compared with $375,000 for the selected design. Alternatives 1 and 2 require widening the ditch an additional ten feet and a new box culvert at Paalaa Road. These improvements represent more lost agricultural land and the loss of the siltation characteristics of the flood plain storage capacity.

7. The project induced effects on the stream and marine ecosystem will be discussed in Section V rather than Section VIII.

8. We agree that measures should be taken to reduce erosion in the agricultural areas tributary to the drainage ditch; however, these measures are the responsibility of the individual land owners. During construction, settling basins will be used to reduce sediment loads delivered to downstream areas.

9. The "cleanup of the channel" involves mechanically and/or manually removing debris that normally accumulates over a period of time.

Very truly yours,

FOR WALLACE MIYAHIRA
Director and Chief Engineer

HEADQUARTERS
FOURTEENTH NAVAL DISTRICT
BOX 110
FPO SAN FRANCISCO 96610

IN REPLY REFER TO:
002A:FWD:amn
Ser 1823

13 SEP 1977

Environmental Quality Commission
State of Hawaii
Office of the Governor
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Gentlemen:

Environmental Impact Statement for
Haleiwa Road Drainage Improvement Project

The Environmental Impact Statement for the Haleiwa Road Drainage Improvement Project has been reviewed, and the Navy has no comments.

Per your letter of 6 September 1977, the subject EIS is returned.

Thank you for the opportunity to review the EIS.

Sincerely,

for R. P. NYSTEDT
Captain, CEC, USN
District Civil Engineer
By direction of the Commandant

Encl

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0551

November 23, 1977

Mr. Jack P. Kanalz
State Conservationist
Soil Conservation Service
U. S. Department of Agriculture
P. O. Box 50006
Honolulu, Hawaii 96850

Dear Mr. Kanalz:

SUBJECT: YOUR LETTER, DATED NOVEMBER 7, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT, WAIALUA, OAHU, HAWAII

Thank you for your review and comment on the subject EIS.

Very truly yours,

FOR WALLACE MIYAHIRA
Director and Chief Engineer

GEORGE R. ARIYOSHI
GOVERNOR

VALENTINE A. SIEFERMAN
MAJOR GENERAL
ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
FORT RUGER, HONOLULU, HAWAII 96816

09 SEP 1977

HIENG

Mr. Donald Bremner, Chairman
Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. Bremner:

Haleiwa Road Drainage Improvement Project

Thank you for sending us a copy of the "Haleiwa Road Drainage Improvement" project Environmental Impact Statement. We have received the publication and have no comments to offer.

Yours truly,

WAYNE R. TOMOYASU
Captain, CE, HARNG
Contr & Engr Officer

Enclosure

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

September 27, 1977

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

MEMORANDUM

To: Mr. Wallace Miyahira, Director and Chief Engineer
Department of Public Works, City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for Haleiwa Road Drainage Improvement Project, Waialua, Oahu

Thank you for allowing us to review and comment on the subject EIS. On the basis that the project will comply with all applicable Public Health Regulations, please be informed that we have no objections to this project.

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.

JAMES S. KUMAGAI, Ph.D.

cc: Environmental Quality Commission
Office of Environmental Quality Control

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

W. Y. THOMPSON, Chairman
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

September 12, 1977

Environmental Quality Commission
550 Halekauwila Street
Honolulu, Hawaii 96813

Gentlemen:

We have no comments to offer on the EIS for renovating the Haleiwa drainage ditch.

Very truly yours,

W. Y. THOMPSON
Chairman of the Board

cc: DOWALD
Fish and Game

770757

GEORGE R. ARIYOSHI
Governor

HIDETO KONO
Director

FRANK SKRIVANEK
Deputy Director

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

TO ENVIR Engrg

September 19, 1977

Ref. No. 4487

Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Miyahira:

Subject: Departmental Review of the Environmental Impact Statement for Haleiwa Road Drainage Improvement Project, Waialua, Oahu

We have reviewed the subject EIS and have no additional comments to offer.

Thank you for the opportunity to review this document.

Sincerely,

HIDETO KONO

cc: Office of Environmental Quality Control

GEORGE R. ARIYOSHI
GOVERNOR

ANDREW I. T. CHANG
DIRECTOR OF SOCIAL SERVICES & HOUSING

STATE OF HAWAII
DEPARTMENT OF SOCIAL SERVICES AND HOUSING
P. O. Box 339
Honolulu, Hawaii 96809

September 9, 1977

MEMORANDUM

TO: Environmental Quality Commission
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

FROM: Andrew I. T. Chang, Director
Department of Social Services and Housing

SUBJECT: Environmental Impact Statement - Haleiwa Road Drainage Improvement Project, Waialua, Oahu

Subject EIS has been reviewed for its impact on departmental programs.

We have no comment to make and we are returning the EIS for your usage.

Thank you for the opportunity to review and comment.

Andrew I. T. Chang
DIRECTOR

Attachment
cc: Governor, (EQC)
Dept. of Public Works, C&C of Honolulu

GEORGE R. ARIYOSHI
GOVERNOR

E. ALVEY WRIGHT
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
RYOKICHI HIGASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

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

October 3, 1977

IN REPLY REFER TO:
STP 8.4494

Office of Environmental
Quality Control
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813

Gentlemen:

Subject: Environmental Impact Statement
Haleiwa Road Drainage Improvement Program

Thank you very much for giving us the opportunity to review and comment on the above-captioned project. We have no comments to offer which could improve the statement.

Sincerely,

E. Alvey Wright

E. ALVEY WRIGHT
Director

770248

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

RICHARD E. MARLAND, PH.D.
DIRECTOR
TELEPHONE NO.
548-6915

TO Engrg
Env Ctl

October 7, 1977

Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu

SUBJECT: Environmental Impact Statement for Haleiwa Road Drainage Improvement Project, Waialua, Oahu

Dear Mr. Miyahira:

We have reviewed the subject environmental impact statement and have received fifteen (15) comments as of this date from other reviewers. Copies of other reviewer comments are attached. We wish to offer the following comments:

1) What quantity of rainfall constitutes a "major rainstorm" (p. I-1), "more frequent local storm" (p. I-6) and "large regional storm event" (p. I-6)? What is the estimated recurrance interval of the local storms and less frequent regional events, such as twenty-five years? We recommend inclusion of this information.

2) What is the phasing/timing of the proposed project? How long will construction related impacts last?

3) Flora and Fauna: (p. II-10) Since no listing is provided as to which species of "transient birds" are found in the project area, we cannot judge whether the statement that no threatened or endangered species exist in the area is valid. Is the area used for feeding and/or nesting? Where is the taro culture in relation to the drainage ditch? This could be shown on a map.

4) Several references are made to the "siltation effects of the selected design" without a description of what there effects are. This design feature should be described in the EIS, especially since there is no sediment basin proposed for the project.

5) This discussions on pages I-6 and XI-21 concerning topographic surveys appear to be contradictory. We suggest clarification of this topic in the revised EIS.

The EIS Regulations allow the accepting authority or his authorized representative to consider responses received after the fourteen day response period. This Office will exercise the option and will consider responses after the fourteen day period.

Thank you for allowing us to review the subject EIS

Sincerely,

Richard E. Marland
Director

Attachment

Lost of commentors for the Environmental Impact Statement for Haleiwa Road Drainage Improvement, Waialua, Oahu - DPW.

State Agencies	Comment date
*Dept. of Defense	9/9/77
Dept. of Health	9/27/77
*Dept. of Land and Natural Resources	9/12/77
*Dept. of Planning and Economic Development	9/19/77
*Dept. of Social Services and Housing	9/9/77
*Dept. of Transportation	10/3/77

Federal Agencies	
Fish and Wildlife Service	9/28/77
*U.S. ARMY - DAFE	9/16/77
*U.S. AIR FORCE - 15th ABW	9/28/77
*U.S. NAVY 14th Naval Dist.	9/13/77

City and County Agencies	
Board of Water Supply	9/20/77
*Dept. of General Planning	9/12/77
*Dept. of Housing and Community Development	9/13/77
Dept. of Land Utilization	9/23/77
Dept. of Transportation Services	9/29/77

* denotes no comments

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0543

November 23, 1977

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
Office of the Governor
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Dr. Marland:

SUBJECT: YOUR LETTER, DATED OCTOBER 7, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT WAIALUA, OAHU, HAWAII

Thank you for your review and comments on the subject EIS.

We offer the following responses to your comments:

1. The "major rainstorm" over the Haleiwa Road Basin is defined as a storm that will produce a peak discharge rate of 2,250 cubic feet per second and the "more frequent local storm" is defined as a storm with a recurrence interval of 10 years. The "large regional storm event" is defined as a storm with a recurrence interval of 100 years.

2. Our tentative schedule shows that the land acquisition phase is planned for FY 1979 and construction is planned for FY 1980. The project construction will require approximately eight months to complete.

3. The observed "transient birds" consist of the Barred Dove and House Sparrow. It is not known if the area is used for feeding and/or nesting. The taro culture begins at the upstream end of the ditch improvement. The attached map indicates the location of the taro culture and other truck crop farms.

4. The "siltation effects of the selected design" basically involves the natural silting properties of the flood plain storage basin. In essence, the flood plain storage basin will serve as a very large sediment basin.

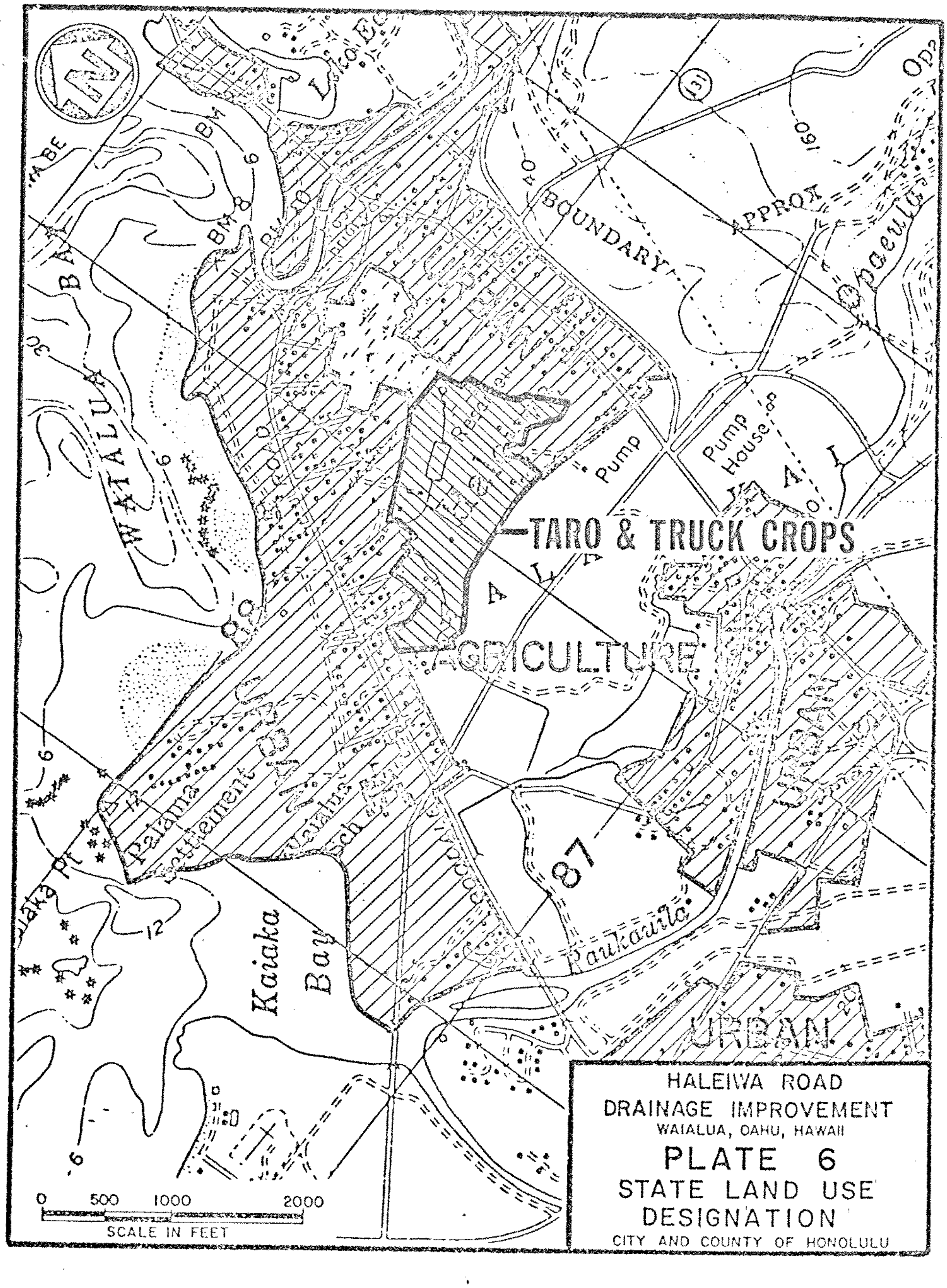
5. To clarify the discussion concerning topographic surveys, we offer the following explanation:

In determining the approximate storage capacity of the flood plain need for flood routing design, the accuracy of the aerial contour maps and existing topographic surveys was adequate. However, to determine the number of individual homes that would be affected, a much more accurate and recent topographic survey would be required. Such a survey has not been done and is beyond the scope of this project.

Very truly yours,

FOR WALLACE MIYAHIRA
Director and Chief Engineer

Attach.


TARO & TRUCK CROPS
AGRICULTURE
URBAN
BOUNDARY
APPROX
Pump
Pump House
WAIALUA
Kaiaka Bay
Paukauila
Settlement
87
0 500 1000 2000
SCALE IN FEET
HALEIWA ROAD
DRAINAGE IMPROVEMENT
WAIALUA, OAHU, HAWAII
PLATE 6
STATE LAND USE
DESIGNATION
CITY AND COUNTY OF HONOLULU

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA
HONOLULU, HAWAII 96813

September 20, 1977

Dr. Richard E. Marland
Director
Environmental Quality Commission
Office of the Governor
State of Hawaii
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Dr. Marland:

Subject: Environmental Impact Statement for Haleiwa Road Drainage Improvement Project, Waialua, Oahu, Hawaii

We do not have any objections to the proposed project. Our letter of May 19, 1977 regarding the Environmental Impact Statement Preparation Notice incorporated in this report, requests that construction plans for the project be submitted to us for review.

If there are any questions, please call Lawrence Whang at 548-5221.

Very truly yours,

Edward Y. Hirata
Manager and Chief Engineer

cc: Mr. Wallace S. Miyahira
Dept. of Public Works

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

RAMON DURAN
Acting CHIEF PLANNING OFFICER

DGP9/77-2467(CT)

September 12, 1977

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Dr. Marland:

Environmental Impact Statement for
Haleiwa Road Drainage Improvement
Comments Requested September 6, 1977

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

Thank you.

Sincerely,

RAMON DURAN
Acting Chief Planning Officer

RD:fmt

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4161

FRANK F. FASI
MAYOR

RICHARD K. SHARPLESS
MANAGING DIRECTOR

TYRONE T. KUSAO
DIRECTOR

I. HARRY ENDO
DEPUTY DIRECTOR

September 13, 1977

Office of Environmental Quality Control
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

Gentlemen:

Subject: Environmental Impact Statement for Haleiwa Road Drainage Improvement Project

Thank you for the opportunity of reviewing the subject Environmental Impact Statement.

We have no objections to the project.

The copy of the Environmental Impact Statement which was forwarded is being retained by us.

Sincerely,

TYRONE T. KUSAO
Director

.PARTMENT OF LAND UTILIZATIOI
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

GEORGE S. MORIGUCHI
DIRECTOR

LU9/77-5967(JW)

77/EC-6

SEPTEMBER 23 1977

MEMORANDUM

TO : MR. WALLACE MIYAHIRA, DIRECTOR & CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM : GEORGE S. MORIGUCHI, DIRECTOR

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT
HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT

We are unclear about your assessment of the above project's possible impact on sediment discharge into Paukauila Stream and Kaiaka Bay. On page IV-2 it is stated that an increase in such discharge may occur during storm conditions, but that the magnitude of this increase is difficult to predict. However, this is not listed as a "probable adverse environmental effect" on page V-1. Also, your letter in response to the Department of Health (page XI-10) indicates that the flood routing design concept was determined to eliminate the need for a silt basin.

You may submit your application for a Shoreline Management Permit upon acceptance of the EIS by the appropriate authorities.

Should you have any questions, please contact Mr. John Whalen of our staff at 523-4256.

GEORGE S. MORIGUCHI
Director of Land Utilization

GSM:ey

cc: OEQC
DGP

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0552

November 23, 1977

TO : MR. GEORGE S. MORIGUCHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER, DATED SEPTEMBER 23, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT, WAIALUA, OAHU, HAWAII

Thank you for your review and comments on the subject EIS.

To clarify our assessment of the possible impact on sediment discharge into Paukauila Stream and Kaiaka Bay, we offer the following explanation:

An increase in sediment discharge could occur during storm conditions and the exact quantity of such an increase would be difficult to predict. However, since the flood routing design concept will be employed and no change in land use of the storage basin is anticipated, the natural siltation characteristics of the storage basin should minimize sediment discharge. Therefore, no significant adverse impacts are anticipated.

We will apply for a Shoreline Management Permit prior to construction of the project.

FOR WALLACE MIYAHIRA
Director and Chief Engineer

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

YOUNG SUK KO
DIRECTOR

October 25, 1977

Environmental Quality Commission
Office of the Governor
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Gentlemen:

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT
HALEIWA ROAD DRAINAGE IMPROVEMENT
PROJECT

We have reviewed the Environmental Impact Statement for the Haleiwa Road Drainage Improvement Project and have no comment to offer.

Sincerely,

For YOUNG SUK KO, DIRECTOR

'ARTMENT OF TRANSPORTATION SERV S
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

KAZU HAYASHIDA
DIRECTOR

TE9/77-3868

September 29, 1977

Environmental Quality Commission
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813

Gentlemen:

Environmental Impact Statement for Haleiwa Road Drainage Improvement Project, Waialua, Hawaii
TMK: 6-6-15: 1 and 3; 6-6-12: 2

We have reviewed the Environmental Impact Statement and are satisifed that the traffic impact of the project has been adequately addressed.

Very truly yours,

KAZU HAYASHIDA
Director

cc: Governor Ariyoshi
DPW

7705727

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DEPT OF PUBLIC WORKS
8 52 AM '77

TO Env M
Engrg

University of Hawaii at Manoa

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

Office of the Director

October 17, 1977

Office of Environmental
Quality Control
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

Gentlemen:

Haleiwa Road Drainage Improvement Project
Waialua, Oahu

The Environmental Center does not plan to review the above document. If, however, particular environmental questions arise in which you would like Center advice please let us know.

Yours very truly,

Doak C. Cox
Director

DCC/ck

cc: Dept. of Public Works, ✓
City & County of Honolulu

77 08295

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DIV. OF ENGINEERING
Oct 14 9 55 AM '77

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TO Engrg
Env Ctl

October 7, 1977

Environmental Quality Control
Office of the Governor
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

Dear Sirs:

Subject: Environmental Impact Statement: Haleiwa Road Drainage Improvement Project

We have reviewed the above EIS and have no critical comment. We appreciate the opportunity to participate in this EIS review.

Sincerely,

Reginald H. F. Young
Asst. Director, WRRC

RHFY:jmm

cc: Dept. of Public Works

7708235

TO Engrg
End

Waialua Community Association, Inc.
Allen H. Kurizaki
Flood Control Committee Chairman
98386 Puaalii St.
Aiea, Hawaii 96701

Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Re: Haleiwa Road Drainage
Improvement Project
EIS Review

Dear Mr. Miyahira:

The general EIS is acceptable to our standards, but there are a few areas that must be looked into.

1. Relocation of sluce gates in the drainage ditch down stream of the Paalaa Road box culvert to another location may cause adverse effects on water activity up stream of the culvert.

2. The truck and equipment crossing across the drainage ditch down stream of the Paalaa Road box culvert is an unnecessary added expense to the project due to the use factor. (See attached plate # 1)

   A. During harvesting season, cane field section "A" is harvested by crossing Paalaa Road in location "AA". All equipment and vehicles are transported to the field via this route. For convenience sake the Waialua Sugar Co. had been crossing the drainage ditch with equipment but not cane haulers to field "B" at location "CC".

3. In regard to harvesting field "B" the Waialua Sugar Co. does not need this crossing at location "CC" due to the fact that the cane haulers have been crossing Paalaa Road at location "BB" during harvesting season. If the cane haulers can utilize this route, why can't the rest of the equipment and vehicles use this same route?

   In response to the summary of unresolved issues, the Paalaa Road box culvert does not accommodate the cane haulers, as fore mentioned, a crossing across Paalaa Road has been utilized during harvesting season, so a crossing across the drainage ditch should not be supplied by the city project!

4. The photographs enclosed shows various states of neglect and neglegence on the drainage ditch by the owner of the ditch.

   A. Photograph # 1 This photo was taken looking down stream shows the pipe installed in the drainage ditch to accomodate the ditch crossing in photo # 2. The restriction caused by this pipe caused water to back up during the Feb. 1976 flood.
   Photograph # 2 This photograph also taken looking down stream shows irrigation pipe and sluce gates. Also in the background behind the sluce gates, can be seen the ditch crossing and the pipe to accomodate it. These pictures were taken in June 1977 and normally during this time of the year this ditch would have but 2 inches of water or be bone dry.
   Photograph # 3 This photograph shows sluce gates built by Waialua Sugar Company to create a reservoir effect to accomodate pumps installed up stream of Paalaa Road shown in photo # 4 at the upper right corner behind the white guard rail. This photo also shows about 1½ feet of water head created by the sluce gates.

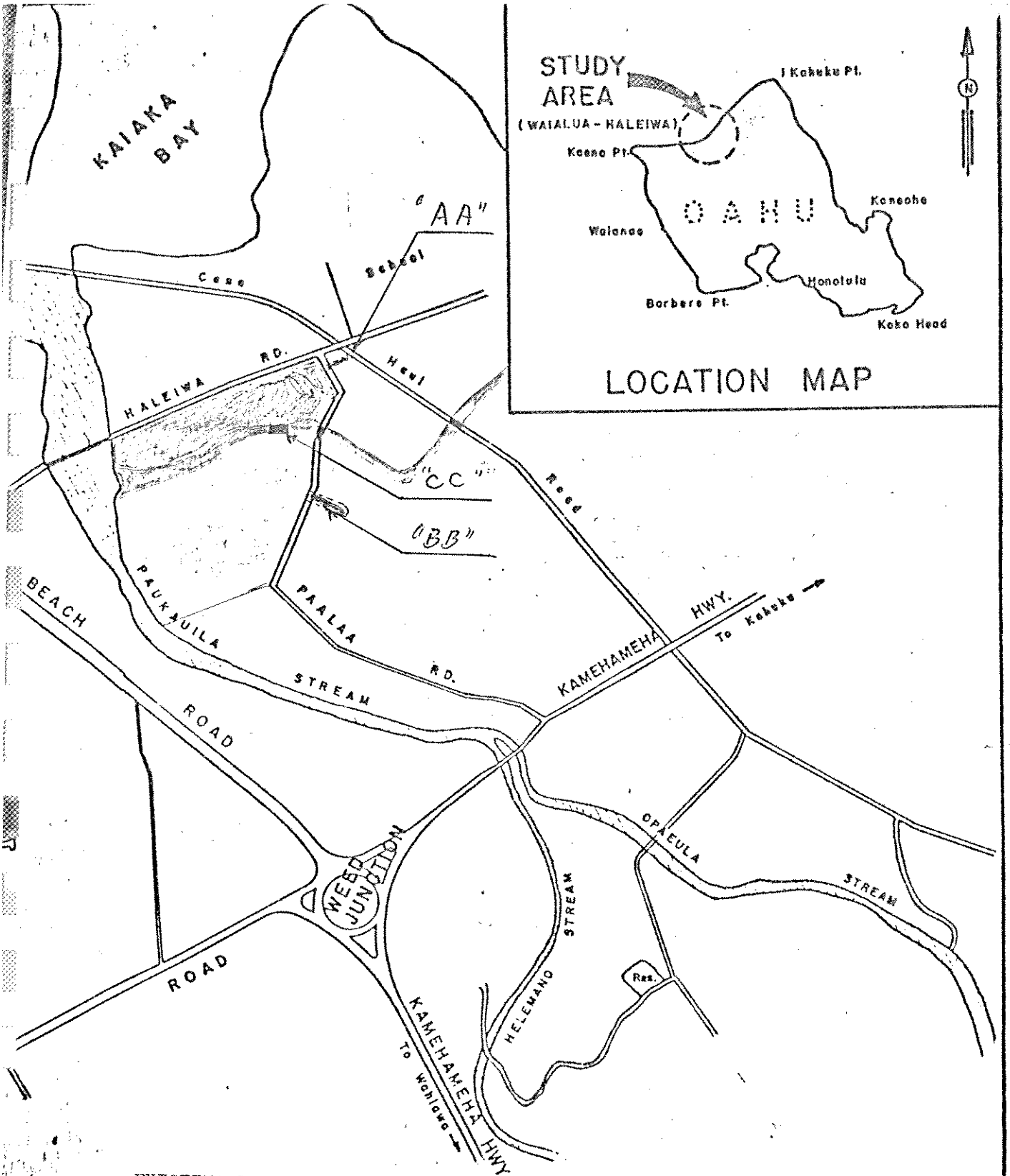
5. With the installation of this pump and truck crossing, the water height and flow in this drainage ditch became unusually high. This to me is the major problem area

As of now these are all the comments I have towards the EIS. If at any time you have any questions please feel free to call me at 841@136.

Respectfully Yours

Allen H. Kurizaki

Allen H. Kurizaki



PAUKAUILA & KIIKII STREAM & TRIBUTARIES FLOOD CONTROL

WAIALUA - HALEIWA, OAHU, HAWAII

PROJECT AREA

PLATE I

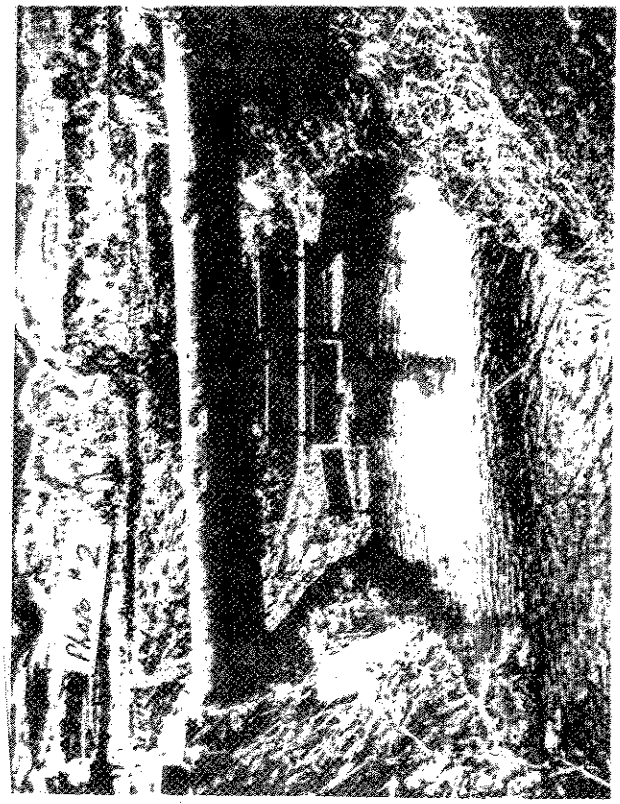


Photo #2

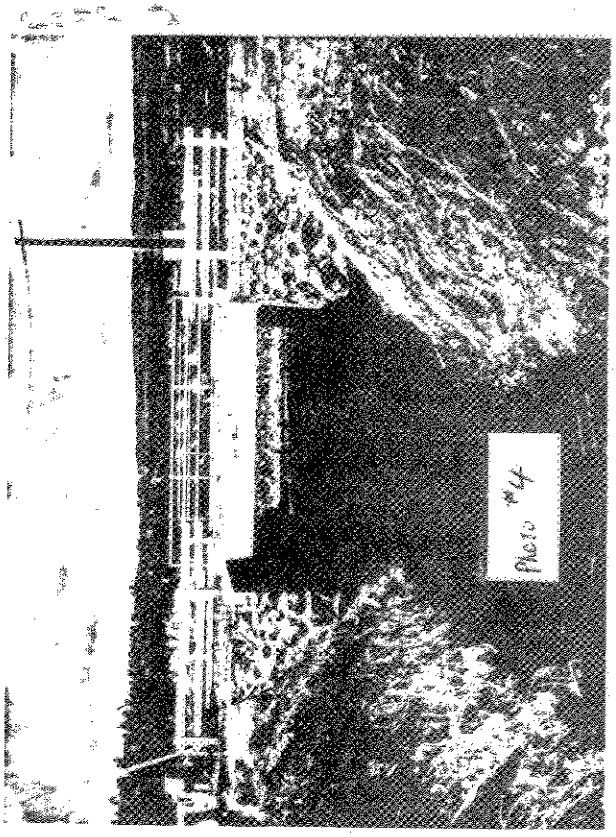


Photo #4


Photo #1

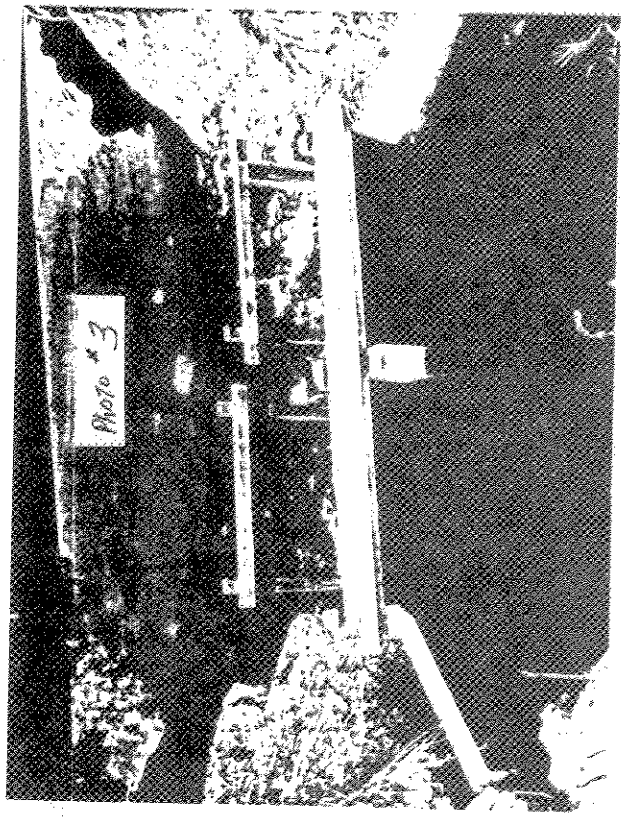


Photo #3

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0542

November 23, 1977

Mr. Jack Lutey
Box 326
Haleiwa, Hawaii 96712

Dear Mr. Lutey:

SUBJECT: YOUR LETTER RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE HALEIWA ROAD DRAINAGE IMPROVEMENT PROJECT, WAIALUA, OAHU, HAWAII

Thank you for your comments on the subject EIS.

We offer the following responses to your comments:

1. Dredging is required from the mouth of the existing ditch to the new drainline as shown in Plate 3, Page I-4 of the subject EIS.

2. The upgrading of the Paalaa Road box culvert involves the construction of new inlet and outlet transition wingwalls for the purpose of improving entrance and exit flow conditions.

3. The 72-inch pipe culvert downstream of the Paalaa culvert will be removed. The culvert allows crossing of the ditch for Waialua Sugar Company operations.

4. The construction of a new culvert at the cane haul road crossing is required on the basis of standard engineering practices. The capacity of the existing twin 24-inch pipe culverts is very inadequate as described on Page II-12 in the subject EIS.

Your suggestion is noted, however as stated above, the proposed improvements for this project are required on the basis of standard engineering practices for the purpose of safeguarding life, health and property.

Very truly yours,

for WALLACE MIYAHIRA
Director and Chief Engineer