

JOHN WAIHEE  
GOVERNOR



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

RUSSEL S. NAGATA  
COMPTROLLER  
ROBERT P. TAKUSHI  
DEPUTY COMPTROLLER

LETTER NO. PM-1075.2  
RECEIVED

'92 MAR -2 A9:47

OFC. OF ENVIRONMENTAL  
QUALITY CONTROL

FEB 28 1992

Mr. Brian J. J. Choy  
Director  
Office of Environmental  
Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Mr. Choy:

Subject: Negative Declaration for  
Drainage and Erosion Control Culvert Project  
Waihee Elementary School  
Offsite Improvements  
Waihee, Maui, Hawaii  
TMK: 3-2-07: por. 21

Attached for your appropriate action are the following:

1. OEQC Form for Publication of EIS Documents in the OEQC Bulletin.
2. Four copies of the Negative Declaration.

If there are any questions, please have your staff call Mr. Allen Yamanoha at 586-0483.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Teuane Tominaga".

TEUANE TOMINAGA  
State Public Works Engineer

HL/si  
Attach.

.. 1992-03-08-MA-FA-Waihee Elem. School

**FILE COPY**

Drainage & Erosion Control Culvert Project 8 1992

ENVIRONMENTAL ASSESSMENT & NEGATIVE DECLARATION

DRAINAGE AND EROSION CONTROL CULVERT  
WAIHEE ELEMENTARY SCHOOL OFFSITE IMPROVEMENTS  
Waihee, Maui, State of Hawaii  
TMK: 3-2-07: por. 21

Prepared for:

Department of Education  
State of Hawaii

Prepared by:

Department of Accounting & General Services  
State of Hawaii

February, 1992

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
PROPOSING AGENCY.....	1
AGENCIES CONSULTED.....	1
APPROVING AGENCY.....	1
PROJECT CHARACTERISTICS.....	1
General Description.....	1
Technical Description.....	2
Economic Characteristics.....	11
Social Characteristics.....	11
Environmental Characteristics.....	11
Drainage Conditions.....	11
Erosion Control.....	12
Flooding.....	12
SUMMARY DESCRIPTION OF AFFECTED ENVIRONMENT.....	13
ENVIRONMENTAL IMPACTS ASSESSMENT.....	14
SUMMARY OF MAJOR IMPACTS.....	16
ALTERNATIVES CONSIDERED.....	17
PROPOSED MITIGATION MEASURES.....	17
DETERMINATION.....	17
FINDINGS AND REASONS SUPPORTING DETERMINATION.....	18
APPENDICES.	

ENVIRONMENTAL ASSESSMENT & NEGATIVE DECLARATION  
DRAINAGE AND EROSION CONTROL CULVERT  
WAIHEE ELEMENTARY SCHOOL OFFSITE IMPROVEMENTS  
Waihee, Maui, State of Hawaii  
February, 1992

This environmental assessment report and negative declaration determination has been prepared in accordance with Section 343-5, Hawaii Revised Statutes and Sections 11-200-9, 10 and 11, Environmental Impact Statement Rules of the State Department of Health.

I. PROPOSING AGENCY: Department of Accounting and General Services for the Department of Education, State of Hawaii.

II. AGENCIES CONSULTED: State:  
Department of Education.

County:  
Department of Public Works.

III. APPROVING AGENCY: Not applicable.

IV. PROJECT CHARACTERISTICS:

General Description.

The State Department of Accounting and General Services, for the State Department of Education, is proposing to construct a double box drainage culvert which will receive surface water runoff from an adjoining drainage tributary area and direct such runoff around the adjacent Waihee Elementary School, through the proposed culverts, and into a natural drainage basin and ultimately into the ocean. The project site is located within TMK 3-2-07: por. 21. Waihee, Maui, Hawaii.

The proposed culverts are part of a set of road widening and drainage/erosion control improvements planned for the immediate area surrounding Waihee Elementary School. The roadway improvements, which are already completed, include pavement widening, installation of curbs, gutters, and sidewalk; relocation of retaining walls, coconut trees and irrigation ditch facilities.

Future drainage/erosion control improvements include the construction of two concrete-lined drainage canals along the length of a natural drainage channel or gulch which passes next to Waihee Elementary School and which will connect to the proposed culverts. All these drainage improvements will direct surface water runoff and other natural water flows within a 374-acre drainage tributary area which includes the School through the proposed culverts.

Because the availability of planning, engineering and construction funding for these other drainage improvements are uncertain at this time and because flooding near the School site is an immediate concern, governmental approvals of the proposed culverts are being sought separately to facilitate immediate flooding relief and erosion control near the School and over Kahekili Highway. The proposed culverts will enhance safe vehicular traffic flow along Kahekili Highway and protect surrounding property from erosion and damage due to flooding and sheetflow runoff across the Highway.

The culverts will be pass under Kahekili Highway as it passes through the Waihee community located in the northwesterly portion of Maui County. Exhibit "A" shows the project's general location in relation to the Island of Maui. Exhibit "B" shows the general location of Waihee Elementary School property which adjoins the project site. The project site is located near the makai corner of the School property as shown in Exhibit "C".

Detailed descriptions of the culverts are contained in this report. The project is located within State property and a drainage easement favoring Maui County. Each of the culverts will contain approximately 56 square feet of drainage canal area.

#### Technical Description.

Exhibits "D-1" through "D-5" present several detailed drawings of the proposed double box culvert. The detailed, scaled drawings the include:

<u>Exhibit</u>	<u>Description:</u>
D-1	Project Plan.
D-2	Typical Section Plan.
D-3	Elevation Plan.
D-4	Profile Drawing.
D-5	Roadway Drainage Improvements Plan.

The two concrete box culverts will measure approximately 45 feet in length as it passes under Kahekili Highway. The culverts will cross underneath Kahekili Highway encased within CRM retaining walls. As shown in Exhibit "D-4", Culvert Elevation drawing, Kahekili Highway will be trenched to permit the culverts' construction and then reconstructed over the underlying culverts. After roadway reconstruction, the affected portion of Kahekili Highway will retain its existing grade.

Upon completion, the culverts will continue to drain surface water runoff from the 347-acre drainage tributary area located immediately mauka of, and above the project site and Kahekili Highway. Exhibit "E" shows the location and configuration of this drainage tributary area. Waihee School is located within this drainage tributary area.

**EXHIBIT A: PROJECT SITE GENERAL LOCATION**

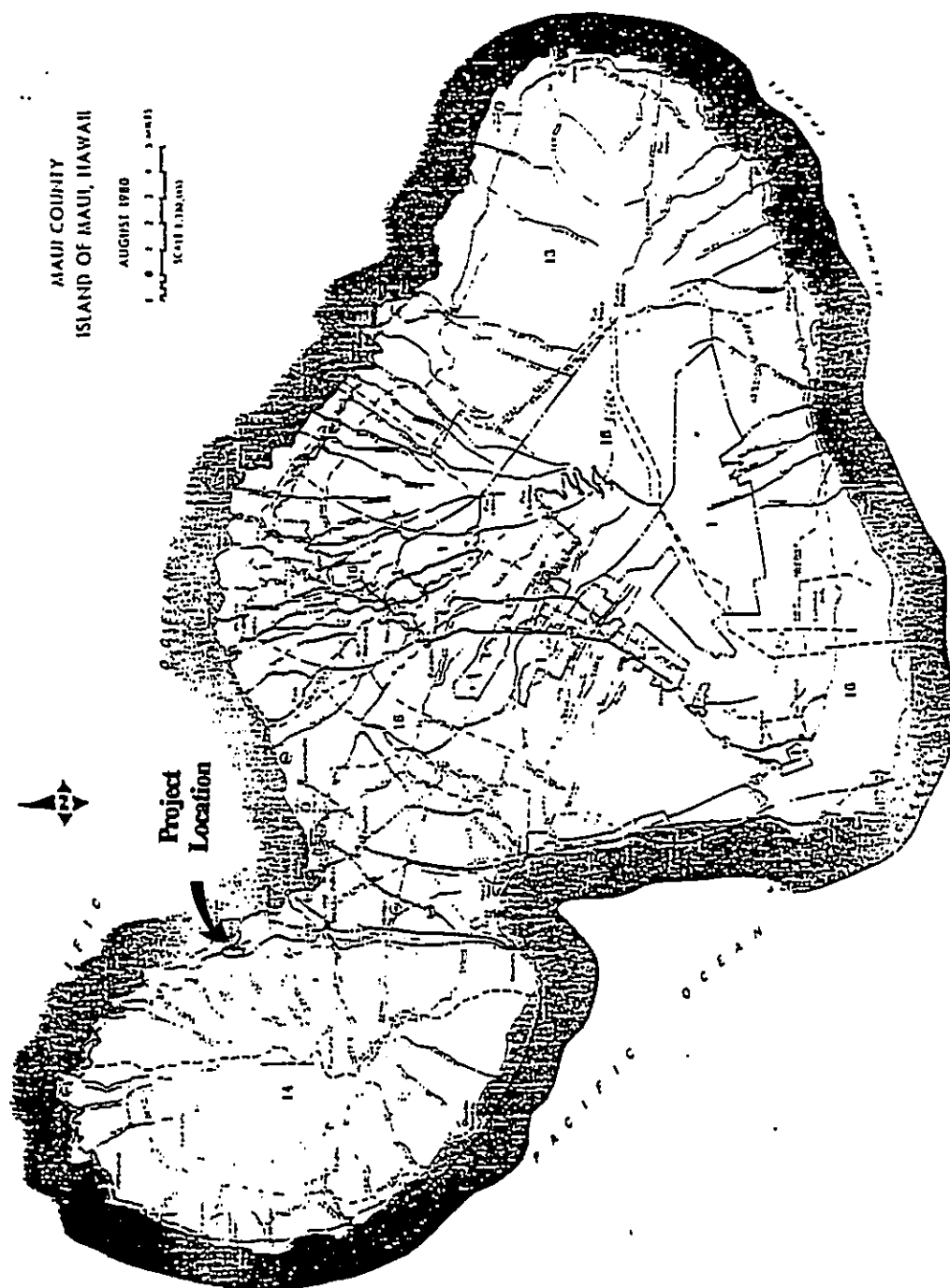
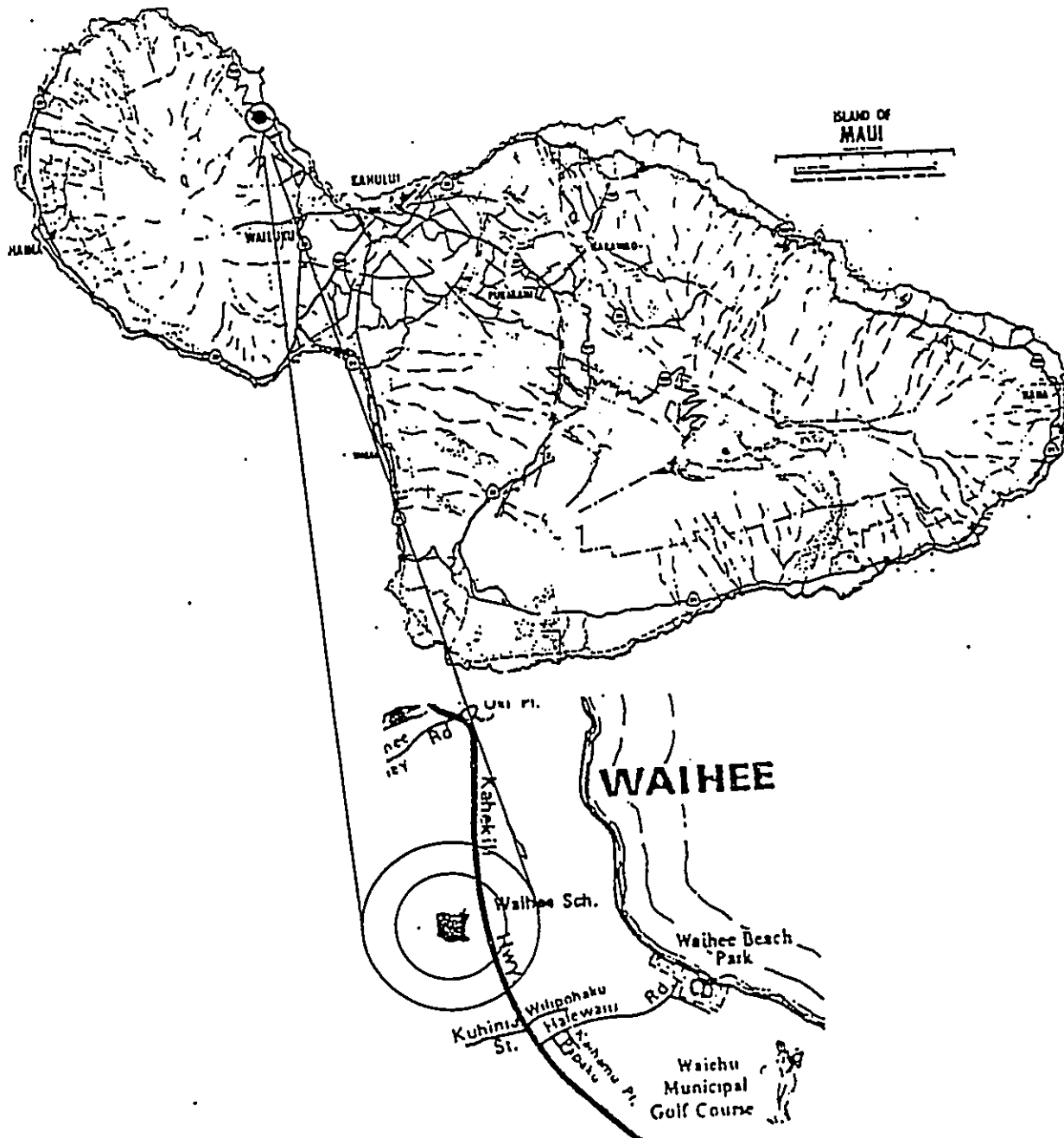
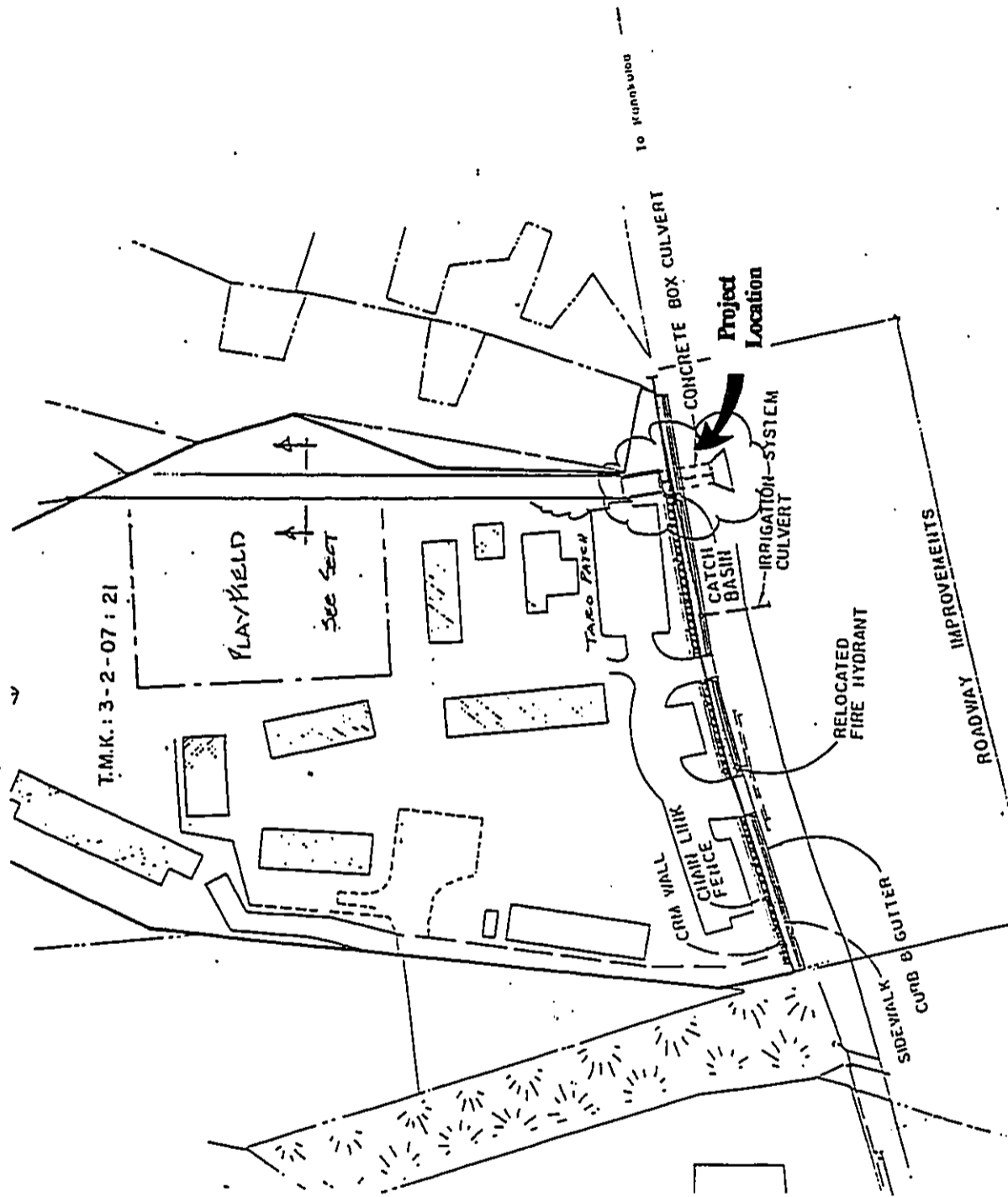


EXHIBIT B: WAIHEE ELEMENTARY SCHOOL LOCATION



**EXHIBIT C: PROJECT SITE LOCATION**





During heavy rains, surface water runoff from this tributary sometimes crosses Kahekili Highway as sheetflow runoff because an existing 12-inch irrigation ditch also located within the project site and next to the roadway cannot handle heavy rain flows. The portion of Kahekili Highway involved in this project is a low point in the Highway's alignment which naturally collects surface water runoff from other parts of the Highway and runoff water from the drainage tributary area located immediately mauka of the Highway as shown in Exhibit "E". This exacerbates the flooding and sheetflow problems which the proposed drainage culverts are designed to correct.

Exhibit D-1 shows the planned crossing of the culverts under Kahekili Highway. The culverts will receive runoff from the drainage tributary area immediately mauka of the Highway and channel such runoff through the culvert and under the Highway into an existing drainage basin immediately makai of the Highway. From this basin, runoff water will eventually flow to the nearby ocean. As shown in Exhibit D-1, the culverts will also receive surface water runoff from higher parts of Kahekili Highway through a catch basin located within the Highway's right-of-way and above the proposed culverts.

**EXHIBIT D-1: PROJECT PLAN.**

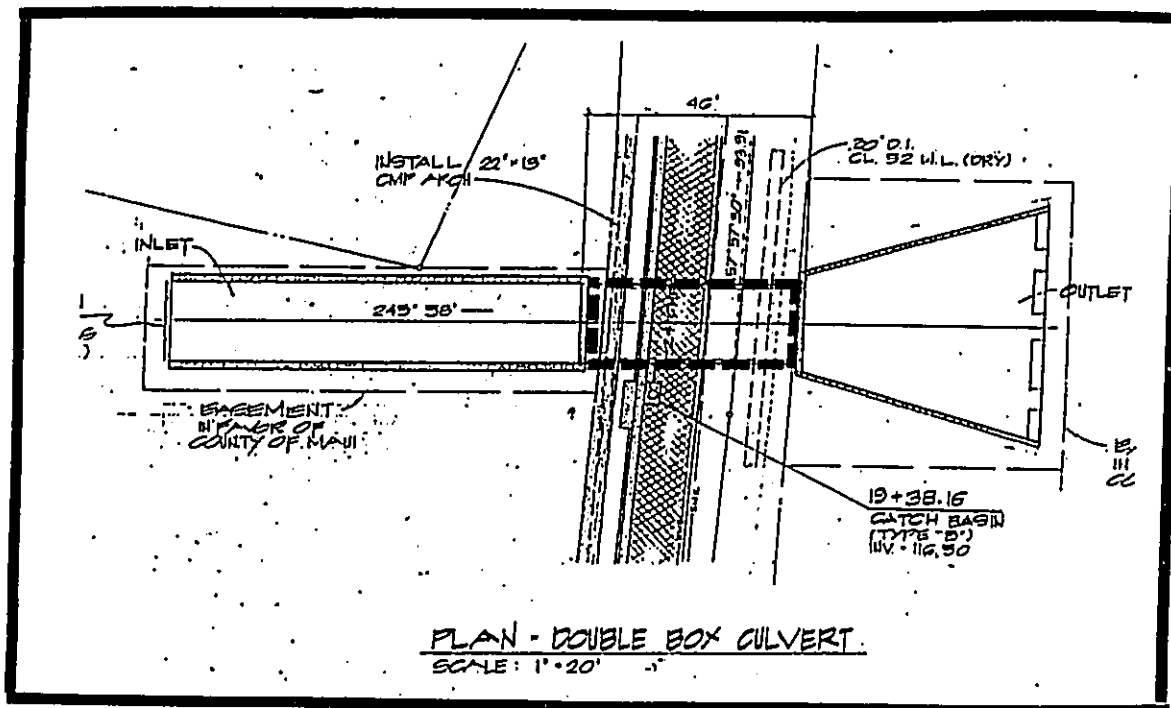


EXHIBIT E: MAUKA DRAINAGE TRIBUTARY AREA

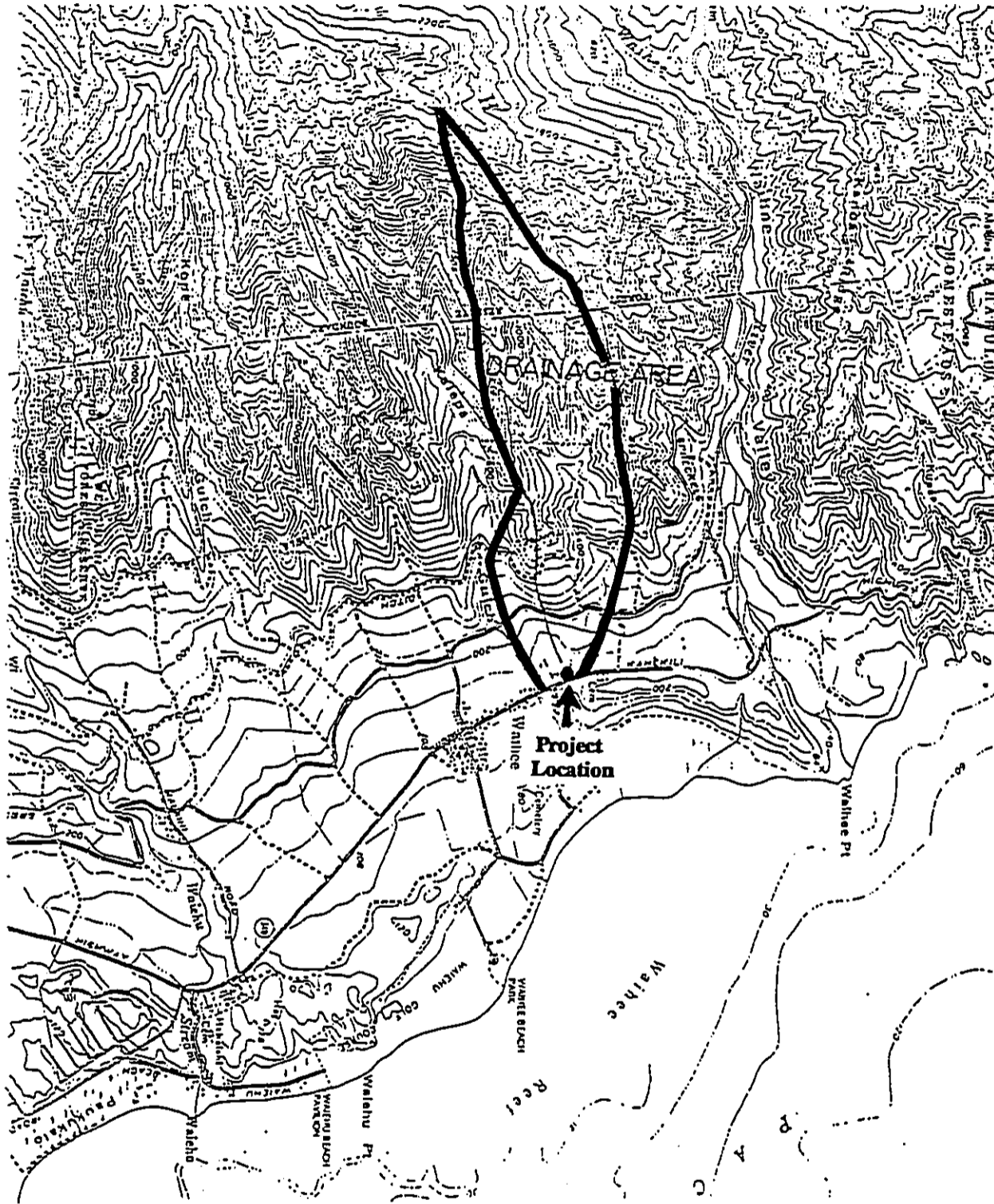


Exhibit D-2 provides a typical section drawing of the culverts. The walls of each culvert will be reinforced concrete (5000 psi concrete w/ grade 60 reinforcing steel). Each culvert will contain approximately 56 square feet of drainage canal area. The culverts will be installed approximately four (4) feet below the finished roadway grade. The culverts will have ample flow capacity to handle the estimated 72 cfs of runoff generated within the adjoining tributary shown in Exhibit "E" and from Kahekili Highway during most heavy rainfalls.

EXHIBIT D-2: TYPICAL CULVERT SECTION PLAN

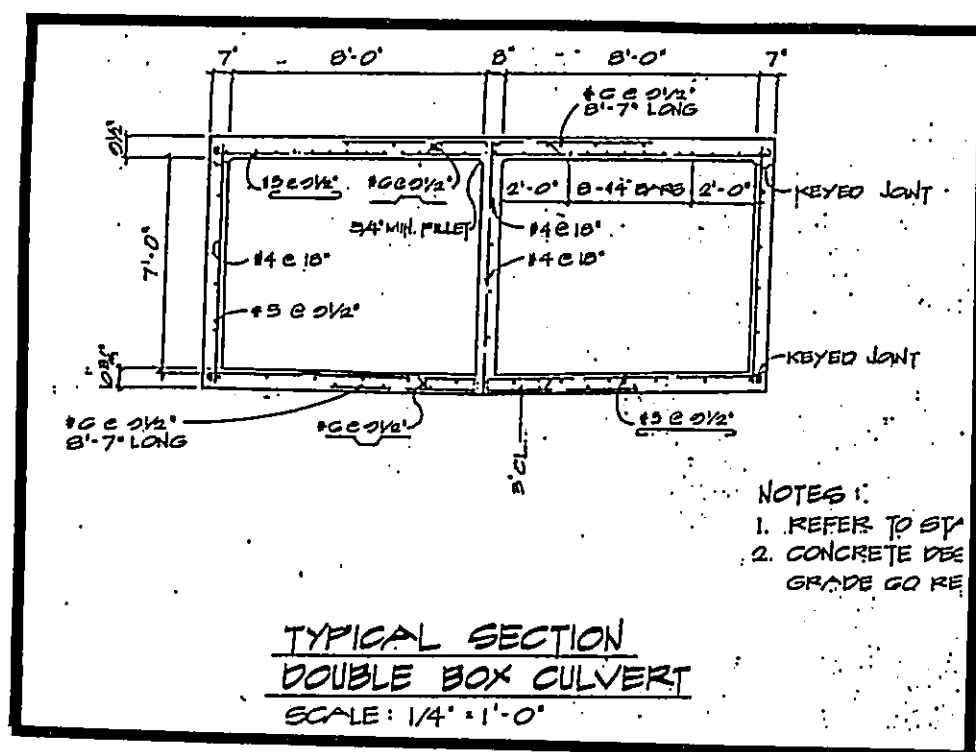


Exhibit D-3 shows the elevation of the proposed double box culverts as would be seen at their makai or easterly outlets. As shown in this exhibit, the culverts will be encased within CRM walls.

**EXHIBIT D-3: CULVERTS ELEVATION PLAN**

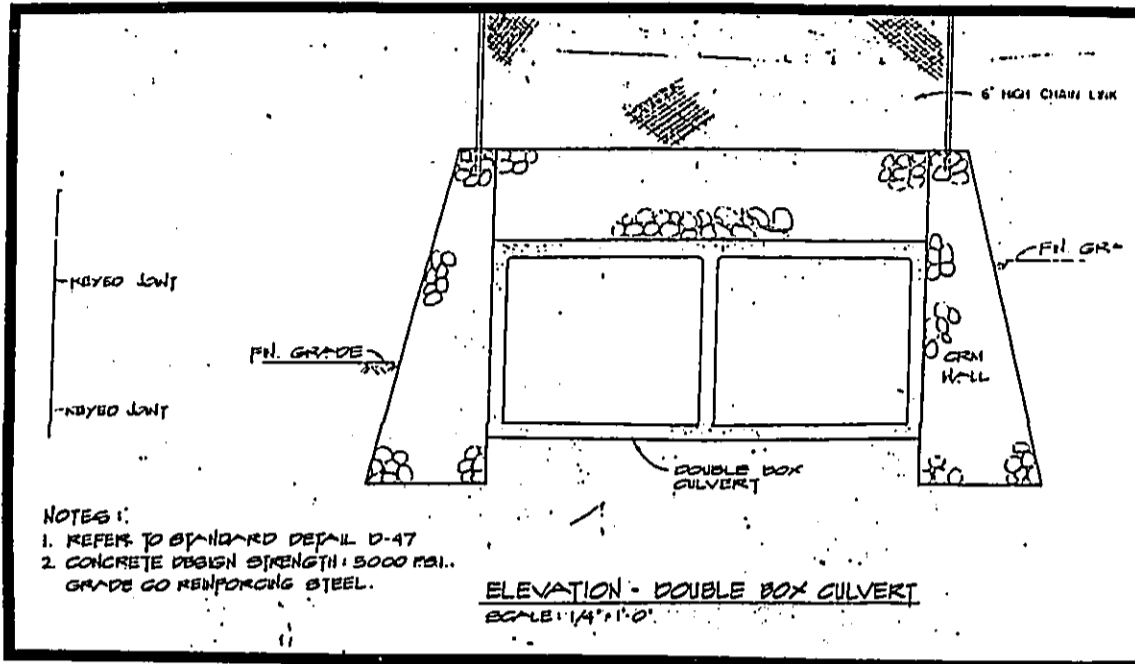
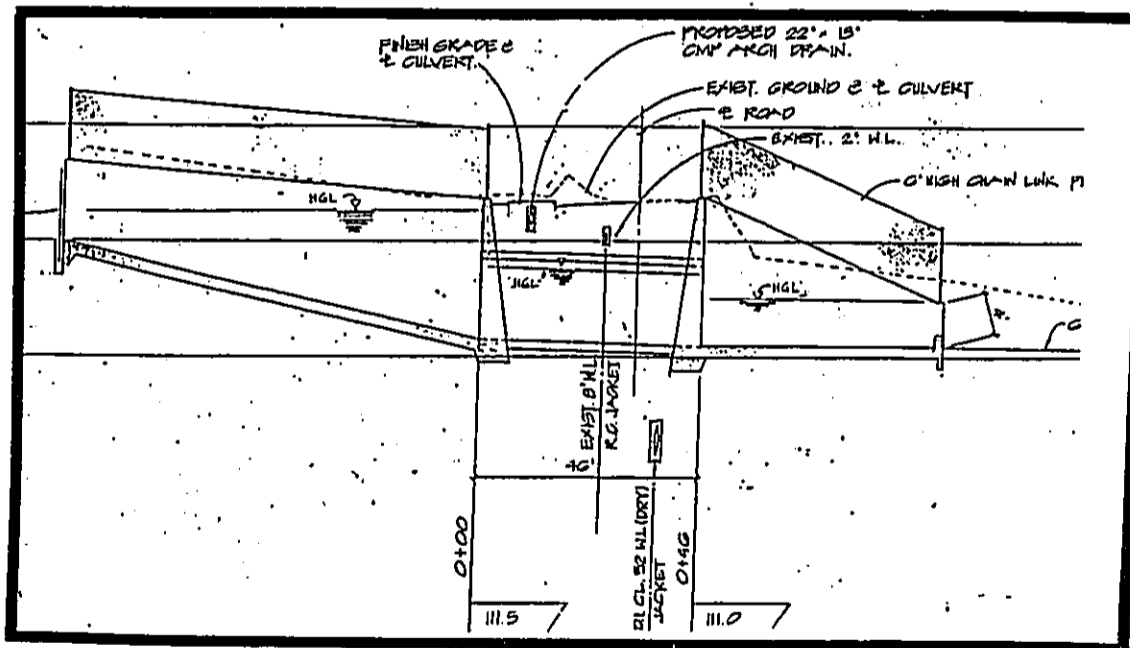


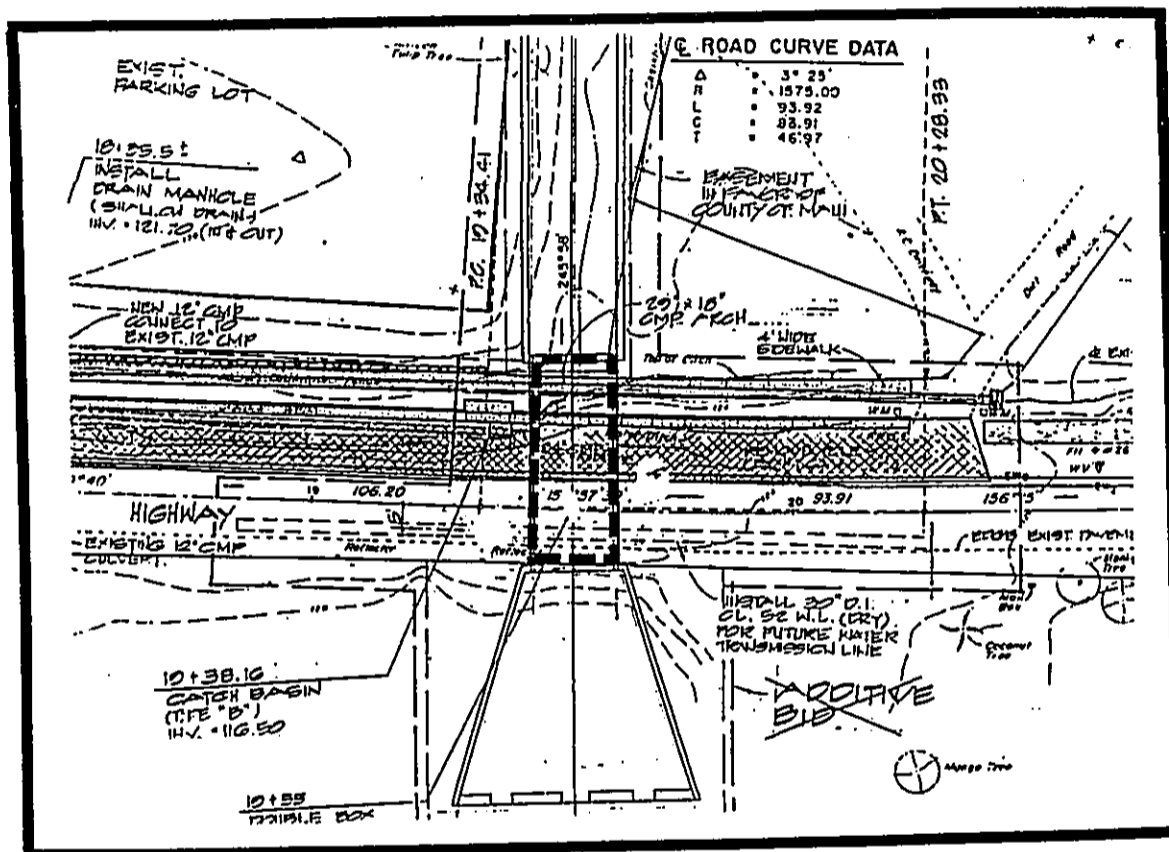
Exhibit D-4 shows the profile of the culverts. The culverts will lay under Kahekili Highway and there will be no significant change in the Highway's existing elevation after project completion.

**EXHIBIT D-4: PROFILE OF CULVERTS**



Finally, Exhibit D-5 shows the general location of the culverts under Kahekili Highway and in relation to other planned and existing and planned roadway and drainage improvements within this part of Kahekili Highway. Irrigation, drainage and roadway improvements which are shown on the left side of the culverts in Exhibit D-5 are mostly completed while such improvements to the right of the culverts have not been constructed.

**EXHIBIT D-5: ROADWAY DRAINAGE IMPROVEMENTS**



#### Economic Characteristics.

The estimate project construction cost will be under \$125,000. Since the project will be constructed within State land, no land acquisition costs will be incurred nor will any land be removed from the county tax base.

Upon completion, the project will help to avoid potential financial losses to the State and Maui County which could result if sheetflow runoffs across Kahekili Highway in the vicinity of the project site continue unabated. Such runoff can erode the integrity of the soils and asphalt materials within the Highway and wash away portions of Kahekili Highway, especially during prolonged heavy rains. As noted above, the project site comprises a low spot in the Highway which collects runoff from the adjoining drainage tributary and Kahekili Highway. Substantial Highway repairs and reconstruction costs resulting from flooding damages and roadway erosion within the project site will be avoided by project construction.

#### Social Characteristics.

The project will improve on-site drainage within the Waihee Elementary School site and permit uninterrupted use of greater portions of the school site for educational activities which may now be affected by periodic flooding and runoff.

#### Environmental Characteristics.

The project will not create or exacerbate any existing adverse environmental conditions within the surrounding vicinity. Instead, it will improve physical and environmental conditions within the area. The following information regarding environmental characteristics of the proposed project are based on Drainage And Erosion Control Report, Waihee Elementary School, (1991), prepared by Hida, Okamoto and Associates, Inc., for this project.

##### 1. Drainage Conditions:

The proposed drainage culverts will direct surface water runoff and sheetflow around Waihee Elementary School and through the culverts into an existing drainage basin. The culverts will handle the peak flow of storm and other surface water runoff (72 cfs) which currently passes through the project site. The culverts will facilitate a more rapid rate of drainage of such runoff and thereby prevent flooding and sheetflows across Kahekili Highway. The project site and adjoining tributary area are located in Zone A of the Flood Insurance Rate Map and, thus, are subject to 100-year floods.

An irrigation ditch crosses the Highway in the vicinity of the project site. It receives runoff from the adjoining drainage tributary and from properties located directly north of Waihee Elementary School. The ditch is too small to handle storm water runoff from the tributary area; therefore, flooding and sheetflow runoff across the Highway occur during heavy rains. The culverts will correct such flooding and sheetflow conditions by directing runoff water from the tributary area under the Highway and existing drainage ditch as shown in Exhibit D-5.

## 2. Erosion Control.

The total estimated soil loss which would result from construction of the project and all other drainage improvements planned for construction within the drainage tributary area would be 15.00 tons/acre/year. This actual amount of erosion is expected to be substantially smaller since construction of the planned will occur incrementally and in segments over several years rather than as a single project.

Erosion generated by construction of the culverts will be minimal due to the small land area involved in project construction and the relatively brief construction duration. Further, excess soil excavated from the project site during construction will be transported to other areas.

## 3. Flooding.

As noted above, the project site is within Zone "A" of the Flood Insurance Rate Map and is subject to 100-year floods. The site is a low point along Kahekili Highway and within the adjoining drainage tributary located directly mauka of, and above the site. Therefore, it receives runoff and sheetflows from both sides of Kahekili Highway and all of the drainage tributary. Peak runoff discharge from the tributary area has been estimated at 72 cfs.

The proposed culverts will eliminate future flooding within the project site from tributary runoff and sheetflows from either side of Kahekili Highway.

V. SUMMARY DESCRIPTION OF AFFECTED ENVIRONMENT.

Appendix A contains photographs of existing natural conditions within the site project and the immediate surrounding area, including a natural drainage gulch which flows towards the project site. Appendix A-1 show the location of the project where the culverts will cross beneath Kahekili Highway as viewed from the mauka and makai sides of the Highway. Appendix A-1 photographs show cracks and past repairs within the Highway's surface evidencing a weakened integrity of the Highway's asphalt surface attributable to flooding and sheetflows across the project site.

Appendix A-2 photographs show the downward slopes on both side of Kahekili Highway into the project site which contribute to flooding and sheetflows across the site during heavy rains.

Appendix A-3 photographs show the natural drainage gulch directly mauka of the project site which channels runoff water from the 374-acre drainage tributary through the project site and into a drainage basin below (makai) the site. The photographs also show the ridge lines of hills located behind and above Waihee Elementary School which form the perimeter of the 374-acre drainage tributary.

The long-range plan for this natural drainage gulch calls for the construction of two cement-lined drain channels constructed along the length of the gulch which will direct water runoff from the drainage tributary around the School and through the proposed culverts. Currently, the gulch is covered with various thick vegetation including wild grasses, a taro patch, a banana patch, and an onion patch.

Appendix A-4 photographs show the drainage basin which currently receives runoff from the drainage tributary and Kahekili Highway and which will receive runoff flows passing through the proposed culverts. Project construction not affect this environment significantly since the volume of runoff received by the basin will not change after project completion. The thick wild grass matting within this drainage basin will reduce the rate of runoff flow after water passes through the culverts.

The Appendix A-5 photograph shows water flowing through the existing drainage gulch immediately above and mauka of the project site. A small taro patch within the gulch indicates steady water flow through the gulch although there are no reports which document such water flow. Currently, water flowing through the gulch merges with water flowing from a northerly direction along Kahekili Highway and empties into the existing irrigation ditch located within the project site.



Appendix A-6 photographs show the relatively close proximity between the project site and existing natural drainage channel/gulch and Waihee Elementary School. As mentioned above, the culverts will enable more rapid drainage of runoff water and direct such runoff around the School. Exhibit "C" shows the location of the proposed culverts in relation to the School.

There are no known endangered flora or fauna; critical habitats; or historical, archaeological or cultural sites at the project site or within the immediate surrounding area.

#### VI. ENVIRONMENTAL IMPACTS ASSESSMENT.

The proposed action will not involve an irrevocable commitment to loss or destruction of any natural or cultural resources.

The culverts will be constructed within and beneath the Kahekili Highway right-of-way. Therefore, project construction will not remove any existing natural or cultural resources. The project site is comprised of land which has already been excavated and filled land for roadway use.

The proposed action will not curtail the range of beneficial uses of the environment.

Since the project commits to use for drainage culvert purposes land which is currently used for roadway purposes and which will continue to be used for roadway purposes after project construction, the proposed action will not curtail the range of beneficial uses of the environment within and surrounding the project site.

The proposed action will not conflict with the State's long-term environmental policies.

The proposed action will enhance rather than conflict with State environmental policies by eliminating flooding and sheetflow problems within and near the project site and removing the risk of public safety and hazard problems from occurring within the area as a result.

The proposed action will not substantially affect the economic or social welfare of the community or State.

The proposed action will enhance rather than detract from the economic and social welfare of the community by enabling the community and State to avoid financial losses arising from flooding and sheetflow runoff within the project site and, particularly, within the adjoining Waihee Elementary School property.

The proposed action will not involve substantial secondary impacts, such as population changes or effects on public facilities.

The drainage culverts will not generate or attract additional population to the surrounding Waihee community nor will they impact public facilities and services provided to that community. The proposed action is a capital improvement project designed to correct existing drainage problems near the Waihee Elementary School and within Kahekili Highway. Therefore, it will have no demographic impacts whatsoever.

The proposed action will not involve a substantial degradation of environmental quality.

The proposed action will improve rather than degrade the physical environment by eliminating a continuing flooding and sheetflow runoff problem within the project site and immediate surrounding environs.

The proposed action will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat.

The proposed action will occur primarily within the existing roadway right-of-way of Kahekili Highway where no rare, threatened or endangered species of flora or fauna or habitat are known to exist. The project site is comprised only of an asphalt covered roadway. No such species or habitats exist within its right-of-way.

The proposed action will not detrimentally affect air or water quality or ambient noise levels.

The proposed action will have no effect on the volume of runoff water which normally drain from the Waihee drainage tributary area through the project site and into an existing drainage receiving basin located directly makai of the project site. This drainage basin, comprised of thick matted wild grasses will continue to receive and substantially filter runoff water from the tributary area before it reaches the nearby ocean area.

The project will have no effect on air quality or ambient noise levels within the site and immediate surrounding environs.

The proposed action will not be located in any environmentally sensitive area, such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

Maui County Shoreline Management Area Maps establish the County's shoreline management boundary at the center of Kahekili Highway. The Flood Insurance Rate Map places the project site within "Zone A", areas subject to 100-year floods.

Even though it is located within a flood-prone area, the proposed project is designed to eliminate flooding which occasionally occur within that area.

#### VII. SUMMARY OF MAJOR IMPACTS.

The proposed drainage culverts will be located under a segment of an existing, two-lane improved rural highway. Therefore, the extent of its physical impact on the environment is restricted within the physical confines of the project site. Accordingly, other possible long-term environmental impacts of the project are assessed as follows:

##### Air Quality:

No long-term impact on air quality will be generated by the project which will be buried underground.

##### Water Quality:

No adverse impact on groundwater quality will be generated by the project. Nor will the quality of surface runoff water be adversely effected by the concrete-lined culverts.

##### Noise:

No impact on noise levels will be generated by the project.

##### Traffic:

No traffic will be generated by the project.

##### Archaeological:

No significant archaeological impact from the project is expected.

Flora & Fauna:

No significant impact on local flora and fauna from the project is expected. No flora or fauna currently exist within the project site.

Visual:

Because the culverts will be underground, no visual impacts will be generated from the project.

Construction and operation of the proposed double box drainage culverts will result in the following minor, short-term impacts:

1. Depletion of labor and material resources for project construction.
2. Some dust, noise, silting and soil erosion during project construction.

VIII. ALTERNATIVES CONSIDERED.

A "No-action" alternative to the proposed culverts was considered but was deemed unacceptable the immediate environmental flood control and public safety benefits which would arise from project construction which far outweigh the minor, short-term adverse impacts of the project

IX. PROPOSED MITIGATION MEASURES.

Normal erosion control measures will be employed to mitigate the aforementioned minor adverse impacts of the project. These include:

1. Provide dust control by sprinkling the construction site as necessary with water trucks or sprinklers, including weekends and holidays.
2. Protect exposed slopes with diversion at the top of the slopes until grassing or CRM walls along or atop the slopes are established.

X. DETERMINATION.

Based on the foregoing, it is determined that an Environmental Impact Statement should not be required for the proposed double box drainage culverts project.

**XI. FINDINGS AND REASONS SUPPORTING DETERMINATION.**

In addition to the various reasons set forth hereinabove which are hereby incorporated by reference in this subsection as reasons supporting this determination, other reasons offered in support of this determination are as follows:

1. As a built-up portion of Kahekili Highway, the project site is generally free of tsunami, erosion and landslide hazards.
2. There are no recorded archaeological or historical sites within the existing project site.

For the reasons cited directly above and throughout this report, the proposed action will not have any significant impact or effect on the environment in the context of Chapter 343, Hawaii Revised Statutes and Section 11-200-12 of the State Administrative Rules.

**APPENDICES**

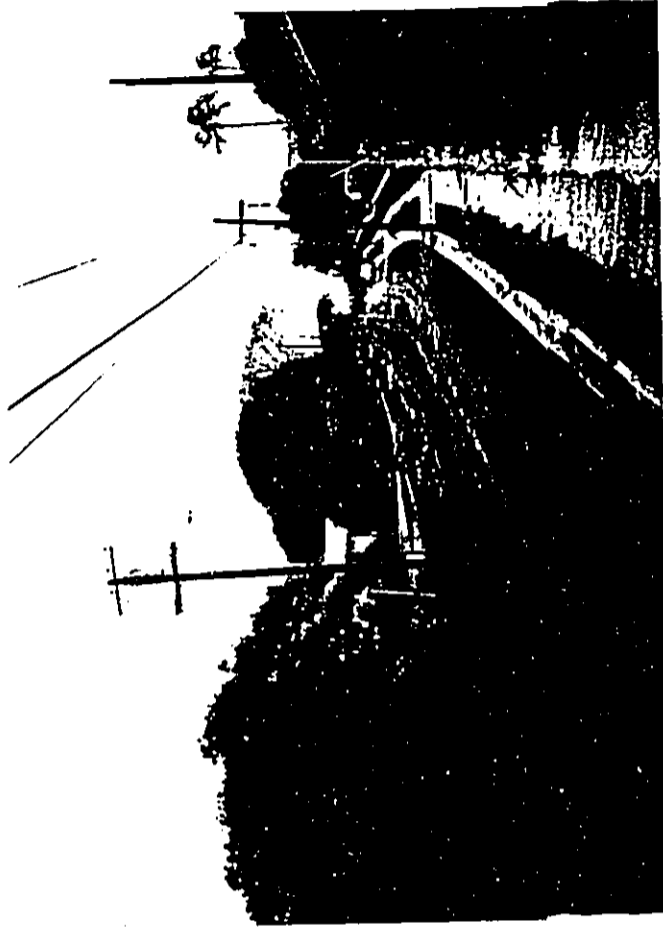
**PHOTOGRAPHS OF PROJECT SITE AND SURROUNDING AREA.**

APPENDIX A-1



Appendix A-1 shows cracks and past repairs within that part of Kahekili Highway at which the proposed drainage culverts will be located. The cracks and repairs evidence the weakened integrity of the Highway's asphalt composition which results from periodic flooding and sheetflow runoff across the Highway.

APPENDIX A-2



Appendix A-2 shows the downward slopes of Kahekili Highway from either direction towards the location within the Highway at which the proposed underground drainage culverts will be placed. That location is the "low spot" in the Highway and, thus, is subject to flooding and sheetflow runoff from areas directly mauka of this portion of the Highway which include the natural drainage channel/gulch shown in Appendix A-3.



APPENDIX A-3



Appendix A-3 shows the unnamed natural drainage channel/gulch situated directly mauka of the project site which funnels runoff water from a 374-acre drainage tributary area shown in Exhibit "E" and located above the project site and this drainage channel/gulch. The photographs also show the top of the ridges of this tributary area which encompasses Waihee Elementary School.

APPENDIX A-4



Appendix A-4 shows the drainage basin which receives surface water runoff from the drainage tributary area mauka and across Kahekili Highway and an existing irrigation ditch running alongside the Highway. This drainage basin will continue to receive runoff water from the drainage tributary through the culverts after their construction.

APPENDIX A-5



Appendix A-5 shows water flowing through the existing drainage channel/gulch immediately above and mauka of the site for the proposed drainage culverts. The presence of a small taro patch in the midst of the channel/gulch as shown in the photograph indicates a continuous water flow through the channel/gulch although there are no reports which document such continuous water flow. Currently, water flowing through the channel/gulch merges with water flowing within an irrigation ditch alongside Kahekili Highway. After construction of the drainage culverts, water flowing through the channel/gulch will pass under that ditch and through the culverts.

APPENDIX A-6



Appendix A-6 photographs show the relatively close proximity between the project site and exiting natural drainage channel/gulch and Waihee Elementary School. The drainage culverts will enable more rapid drainage flow of runoff water from the adjoining mauka drainage tributary area and, thereby direct such runoff around the School.