

ENVIRONMENTAL ASSESSMENT  
AND NEGATIVE DECLARATION  
FOR THE  
12" WATERLINE ALONG KAWAIHAU ROAD,  
KAPAA, KAUAI, HAWAII

**M & E Pacific, Inc.**  
Consulting Engineers

1992-03-08-KA-FBA-12" Waterline Along Kawaihau Road, Kapaa

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MAR - 8 1992

COUNTY OF KAUAI  
DEPARTMENT OF WATER

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FOR THE  
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KAPAA, KAUAI, HAWAII

This Environmental Document was prepared pursuant to Chapter 343, Hawaii Revised Statutes.

PROPOSING AGENCY: Department of Water  
County of Kauai  
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RESPONSIBLE OFFICIAL

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FEBRUARY 1992

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ENVIRONMENTAL ASSESSMENT FOR  
12" WATERLINE ALONG KAWAIHAU ROAD, KAPAA, KAUAI

**CHAPTER 1.0 INTRODUCTION**

1.1 Project Location

The project is located in the Kawaihau District on the island of Kauai, Tax Map Key (TMK): 4-6. The project borders plats 14, 15, 16 and 29. In addition, the project falls within TMK: 4-5-13 at the intersection of Kawaihau Road and Kuhio Highway (Figure 1).

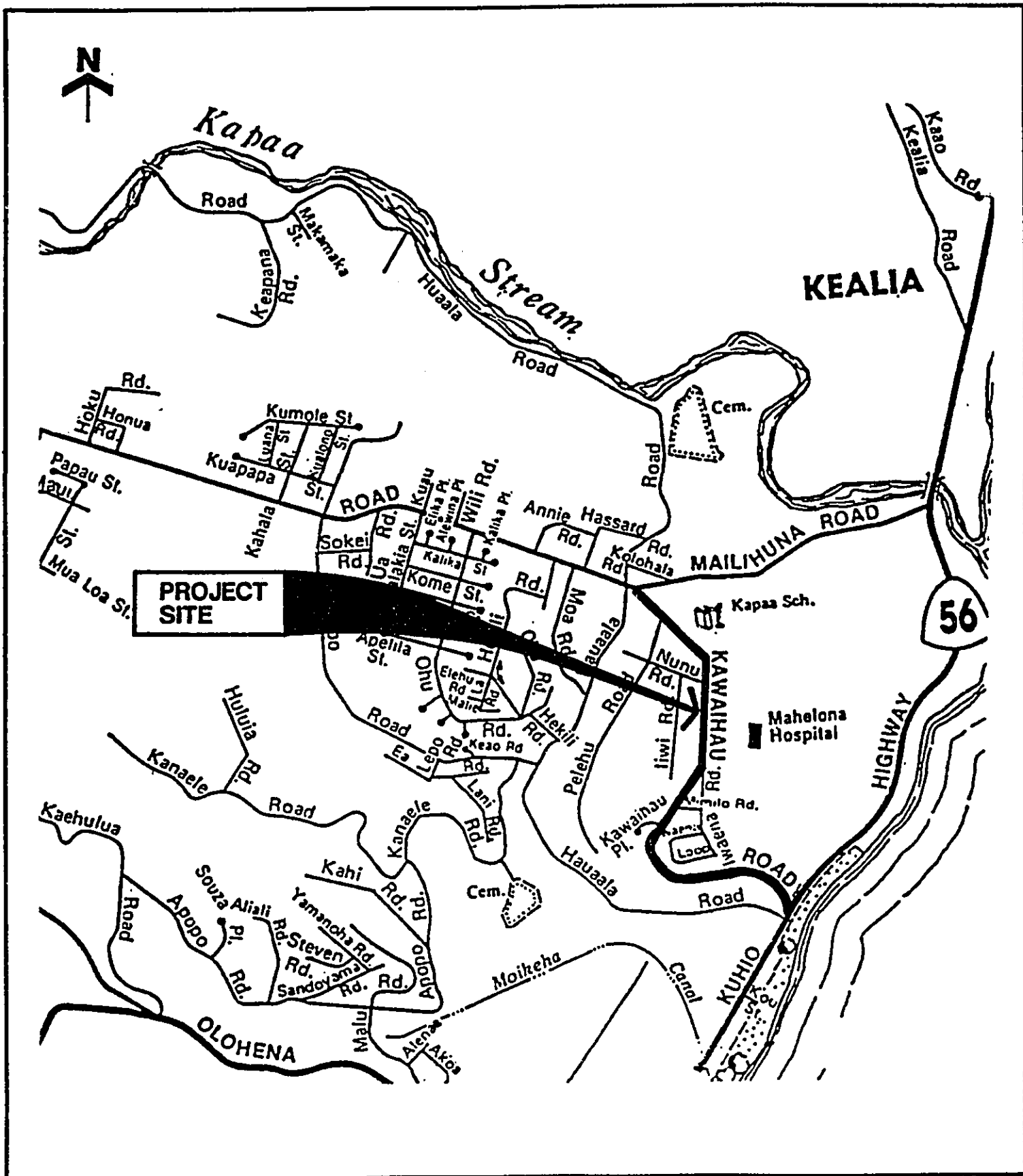
1.2 Purpose of Environmental Assessment (EA)

The intent of this environmental assessment is to evaluate the potential impacts of laying approximately 5,000 lineal feet of 12-inch waterline along Kawaihau Road from Hauaala Road to Kuhio Highway (Figure 2) and to determine whether the proposed project will generate significant social and/or environmental effects in the context of Chapter 343, Hawaii Revised Statutes.

1.3 Scope of the Environmental Assessment

This EA is written pursuant to Department of Health, Administrative Rules, Title 11, Chapter 200, Environmental Impact Statement Rules and specifically under the guidance of Section 11-200-10, "Contents of Environmental Assessment."





<p>12" Waterline Along Kawaihau Road Kapaa, Kauai</p>	<p>PROJECT SITE</p>	<p>Figure 2</p>
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1.4 Proposed Action

This proposed project consists of laying approximately 5,000 lineal feet of 12-inch waterline along Kawaihau Road from Hauaala Road to Kuhio Highway. Fire hydrants, valves and fittings will also be installed as part of the project.

1.5 Agencies Consulted

The following agencies were consulted in the process of preparing this assessment:

County of Kauai

Department of Water  
Planning Department

State of Hawaii

Department of Health  
Department of Education  
Department of Business and Economic Development  
Department of Land and Natural Resources  
Office of Historic Preservation  
State Land Use Commission

Others

Mahelona Hospital

**CHAPTER 2.0. DESCRIPTION OF PROPOSED PROJECT**

2.1 Existing Conditions

The Department of Water operates 13 separate water service districts throughout the island. Geographically, Wailua-Kapaa is the largest of the County of Kauai's domestic water systems. The service area includes Wailua Houselots, Wailua Homesteads, Kapaa Homesteads and Kapaa town. The extensiveness of the

service area is reflected in the wide difference in elevations. For operational purposes, the system is divided into three separate service levels. Water for this tri-level service area, except for Wailua Houselots and Wailua town area, comes from Akulikuli, Makaleha and Moelepe Tunnels (Tunnels 5, 6 and 7, respectively). The proposed 12-inch improvement line, which will receive water from Akulikuli and Makaleha Tunnels, will deliver water to the Kapaa area. The Kapaa area is serviced by a network of distribution lines.

## 2.2 Proposed Improvements

1. The proposed 12-inch waterline will upgrade the existing 8-inch waterline which is too small to adequately transmit maximum day and fire flow demands. The purpose of the improvement is to provide adequate water supply and fire protection to Kapaa High and Intermediate Schools, Kapaa Elementary School, and the Mahelona State Hospital.
2. The 12-inch waterline will be placed within the right-of-way of Kawaihau Road beginning at Hauaala Road and ending where Kawaihau Road intersects Kuhio Highway. The waterline will be placed underground at depths approximately 2 feet below the existing grade, which conforms to Department of Water Standards. The trenches will be backfilled and the road restored to its original condition, or better.
3. The preliminary construction cost estimate for this project is \$600,000. This project will be funded by Department of Water, County of Kauai. The title of the project is "12-Inch Waterline Along Kawaihau Road, Kapaa, Kauai, Hawaii."

## CHAPTER 3.0      RELATIONSHIP TO EXISTING LAND USE

### 3.1            State Land Use Classifications

The State of Hawaii defines four land use classifications: Agriculture, Rural, Urban and Conservation. For each category there are specific regulations. The County of Kauai has full zoning powers in both the Rural and Urban areas. The project site lies entirely within the Urban land use classification. Under this classification, Kawaihau Road falls within Urban-Residential zoning. Near Kuhio Highway, Kawaihau Road is Urban-Mixed Use zoning. This zoning allows the area to be developed for light commercial activity. According to the Kauai County Planning Department, there are no future plans for projects or plans to rezone the area at the present time.

### 3.2            General Plan for Domestic Water/Island of Kauai

According to A General Plan for Domestic Water/Island of Kauai, which was adopted by the Board of Water Supply in 1971, the installation of the proposed waterline is one of the recommended Capital-Improvements Projects for the Wailua-Kapaa System. According to the Plan, pipelines in Kapaa are generally small and timeworn. The present capability of the waterlines is insufficient to meet the demands of the schools and hospital.

## CHAPTER 4.0      ENVIRONMENTAL SETTING

### 4.1            Topography

The project site lies in a gently sloping area. Elevations range from about 140 to 10 feet above mean sea level. Slopes vary from about 1% to 6%. Because the project is within an existing road right-of-way, the slopes are not steep or abrupt.

4.2 Geology/Soils

The project site is located on the eastern coast of Kauai, the oldest among the major islands in the Hawaiian Islands chain. The soil in the project area consists of Lihue silty clay. This soil is derived from weathered igneous rock and is characterized by being well-drained, and having very dark grayish-brown surface layer and a darker reddish-brown subsoil with moderately rapid permeability. The runoff is slow and erosion hazard is slight (USDA, Soil Conservation, August 1972).

4.3 Climate

The climate in the east Kauai area is generally cool. In the coastal lowlands, temperatures average about 75 degrees Fahrenheit. The prevailing winds are northeast trade winds that blow approximately 80% of the year. The annual rainfall in the area is 40-80 inches.

4.4 Hydrology

**High-level ground water**

High-level, dike-confined groundwater stands at 568-360 feet above mean sea level in the Moalepe-Keiwa Ridge. The flow of three large springs at the base of the mountains has been developed in horizontal tunnels - Akulikuli, Makaleha and Moalepe. The water is probably impounded partly by dikes, but older alluvium and lava flows of the Koloa volcanic series may also be effective in holding the water at a high level (MacDonald, Davis and Cox, 1960).

4.5 Fauna and Flora

The natural vegetation in the vicinity of the project site only occurs near the Kuhio Highway portion of Kawaihau Road. There is one undeveloped area adjacent to Kawaihau Road which have the following plants: Kikuyu grass, lantana, koa haole

and Bermuda grass. However, the project lies entirely within the right-of-way of Kawaihau Road, a paved county maintained roadway. There are no known habitats within the proposed alignment of the waterline.

#### 4.6 Air Quality

The air quality in the project area is considered to be good. The primary emissions come from vehicles along Kawaihau Road, but this is considered minimal. There are no other known sources of "poor quality" air emission near the project site. During the construction period, air quality impacts will come from two sources: fugitive dust and construction equipment exhausts. The State Department of Health, Administrative Rules 11-60, "Air Pollution Control" stipulates that these sources of emissions be controlled; all regulations will be observed.

#### 4.7 Noise

The level of noise in the project site area is caused primarily by vehicles using Kawaihau Road. There are no sources of excess noise near the site. There is background noise from the schools in the area, mostly during breaks, and before and after school.

The construction activity will cause some noise, which will be controlled by the contractor in order to minimize disturbance and noise generating activities, and will be restricted to working hours. The noise is not anticipated to have a significant adverse effect on the community.

4.8 Historic Sites

According to the State Office of Historic Preservation, there are no historic/archaeological sites listed on the Hawaii or National Register of Historic Places located on the project site. All work will be conducted within the existing County Road right-of-way; therefore, it is not anticipated that anything of historic or archaeological significance will be encountered. In the event that unanticipated sites or remains are encountered, the work will be halted and the State Historic Preservation Office notified in order to assess potential impact of the project and make further recommendations for mitigative action, if deemed necessary.

4.9 Socio-economic

The Kapaa area has been experiencing a growth in population within the past 10 years. This growth is evidenced by Census figures as shown below:

Census Tract 0403 - Kapaa

	<u>1980</u>	<u>1990</u>
Total persons:	4467	8149
Total housing units:	1824	2736

The primary reason for this new waterline is to assure adequate fire flows for the Kapaa Schools and Samuel Mahelona Memorial Hospital. The safety and well being of school children and teachers, as well as hospital patients and employees, will be dependent upon the adequacy of the water system. Within the past 10 years, enrollment has increased which makes the need for this project even greater.

ENROLLMENT TOTALS

	<u>1980</u>	<u>1985</u>	<u>1990</u>
Kapaa Elementary School	1003	1167	1435
Kapaa Inter/High School	1126	1179	1337
<b>TOTAL</b>	<b>2129</b>	<b>2346</b>	<b>2772</b>

(Department of Education - State of Hawaii, September 1991.)

According to the Department of Health, the Mahelona Hospital has 84 licensed beds and 154.5 employees.

**CHAPTER 5.0      POTENTIAL IMPACTS**

5.1            Short -Term Impacts and Mitigating Measures

It is anticipated that during the period when trenching and laying of the waterline takes place along Kawaihau Road, dust, noise and vehicular exhaust, and some additional traffic will be created. In order to minimize safety hazards and inconveniences, a traffic control plan will be incorporated with the construction plans. The area will be watered periodically, as required, for dust control. In addition, OSHA regulations will be observed to ensure that a safe working environment is maintained. A construction phasing and scheduling plan will be provided by the contractor to regulate and coordinate the project.

5.2            Long-Term Impacts

No long-term adverse impacts are anticipated.

**CHAPTER 6.0        ADVERSE IMPACTS WHICH CANNOT BE AVOIDED**

There are no adverse impacts which cannot be mitigated.

**CHAPTER 7.0        ALTERNATIVES TO THE PROPOSED ACTION**

An alternative to this project is the "No Action Alternative." This would consist of having a waterline that will become inadequate for fire protection at Kapaa Schools and Mahelona Hospital. Due to safety considerations, the "No Action Alternative" is not a viable alternative.

**CHAPTER 8.0        RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES  
AND MAINTENANCE, AND ENHANCEMENT OF LONG-TERM  
PRODUCTIVITY**

This waterline is needed for short-term uses as well as for the future. It will continue to provide fire protection and transport water to the Kapaa Schools and Mahelona Hospital area for domestic consumption.

**CHAPTER 9.0        IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS  
TO RESOURCES**

The resources committed to this project consist of the materials, manpower and land already within the road right-of-way.



**CHAPTER 10.0 SUMMARY OF FINDINGS AND REASONS SUPPORTING  
RECOMMENDED NEGATIVE DECLARATION**

The proposed project poses no known, significant, short- or long-term adverse impacts which can not be mitigated. No endangered or threatened species will be affected. There are no known historical resources on the project site. The 12-inch waterline along Kawaihau Road is essential to improve the present undersized water system. The current trend of school enrollment and hospital occupancy will cause an increase in water demand; as a result, Kapaa Schools and Mahelona Hospital will not have adequate fire flows in the future without this project.

While the proposed project is not without short-term adverse impacts, such as increased traffic, dust and noise, these can be mitigated by proper scheduling, timing, and watering for dust control and attention to the monitoring of construction activities. These impacts are not significant as defined by Chapter 343, Hawaii Revised Statutes (HRS) and 11-200-12, DOH Administrative Rules and are outweighed by the long-term benefits, an improved water system and adequate fire protection for Kapaa School children and Mahelona patients. Therefore, a determination of no significant impacts or "negative declaration" is appropriate for the 12-inch waterline project and an Environmental Impact Statement is not required.