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**COUNTY OF MAUI**  
**DEPARTMENT OF PUBLIC WORKS**  
**AND WASTE MANAGEMENT**  
200 SOUTH HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

June 18, 1996

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Solid Waste Division

BRIAN HASHIRO, P.E.  
Highways Division

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

96 JUN 25 10:25

RECEIVED

Mr. Gary Gill, Director  
Office of Environmental Quality Control  
220 South King Street  
Central Pacific Plaza, Suite 400  
Honolulu, Hawaii 96813

**SUBJECT: FINDINGS OF NO SIGNIFICANT IMPACT AND FINAL ENVIRONMENTAL ASSESSMENT FOR SOUTH KIHEI ROAD IMPROVEMENTS, PHASE III KIHEI, MAUI, HAWAII JOB NO. 94-81**

Dear Mr. Gill:

The County of Maui, Department of Public Works and Waste Management, has determined that the proposed South Kihei Road Improvements, Phase III will not have significant environmental effects and has issued a "Finding of No Significant Impact" (FONSI).

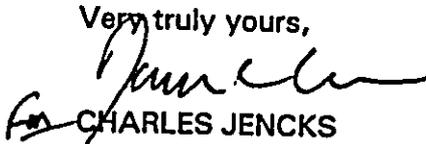
One comment letter was received during the 30-day public comment period, which began on January 23, 1996 and ended on February 22, 1996. The Final Environmental Assessment (EA) was amended to address the comments contained within the letter. The comment letter and our response are included as Appendix B in the Final EA.

Transmittal herewith are four (4) copies of the Final EA prepared for the proposed South Kihei Road Improvements, Phase III project, and a completed Office of Environmental Quality Control (OEQC) Bulletin Publication form for publication in the July 8, 1996 OEQC Bulletin.

Mr. Gary Gill  
June 18, 1996  
Page 2

We thank you for your assistance in handling this matter. If you have any questions or comments, please contact me.

Very truly yours,

  
CHARLES JENCKS  
Director of Public Works  
and Waste Management

LL:ch(ED96-645)  
SKR3EAO.EOC

xc: Mr. Richard Takase, Interstate Maui Realty  
Mr. Stacy Otomo, Otomo Engineering, Inc.  
Mr. John Min

1996-07-08-MA-~~FEA~~ - South Kihei Road Improvements, Phase III <sup>JUL</sup> 8 1996

FILE COPY

FINAL  
ENVIRONMENTAL ASSESSMENT

SOUTH KIHAI ROAD IMPROVEMENTS,  
PHASE III

KIHEI, MAUI, HAWAII  
COUNTY JOB NO. 95001



Prepared for:

County of Maui  
Department Public Works,  
Engineering Division  
200 South High Street  
Wailuku, Maui, Hawaii 96793

Agent/Contact Person:

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Maui Interstate Realty, Inc.  
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Planning/Environmental Consultant:

Chris Hart and Partners  
Landscape Architecture and Planning  
1955 Main Street, Suite 200  
Wailuku, Maui, Hawaii 96793  
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JUNE 1996

FINAL  
ENVIRONMENTAL ASSESSMENT

SOUTH KIHEI ROAD IMPROVEMENTS,  
PHASE III

KIHEI, MAUI, HAWAII  
COUNTY JOB NO. 95001



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JUNE 1996

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**I. PROJECT OVERVIEW**

Proposing Agency: County of Maui  
Department of Public Works,  
Engineering Division  
200 South High Street  
Wailuku, Maui, Hawaii 96793

Agent/Contact Person: Mr. Richard Takase  
Maui Interstate Realty  
270 Waiehu Beach Road, Suite 214  
Wailuku, Maui, Hawaii 96793

Planning/Environmental Consultant: Chris Hart & Partners  
Landscape Architecture & Planning  
1955 Main Street, Suite 200  
Wailuku, Maui, Hawaii 96793

Land Owner: County of Maui

County of Maui Job No.: Job No. 94-81

**A. PROJECT LOCATION AND EXISTING ROADWAY IMPROVEMENTS**

The applicant, the County of Maui Department of Department of Public Works and Wastewater Management, Engineering Division, proposes the reconstruction of a portion of South Kihei Road between Lipoa Street and Welakahao Road in Kihei, Maui, Hawaii (Maui County Job No. 94-81). *See Figure 1 and Figure 2.*

The average right-of-way width along South Kihei Road, between Lipoa Street and Welakahao Road, is 56 feet, with pavement width varying from 20 feet to 25 feet. Except for a recently improved section fronting the Franks Commercial Subdivision at the intersection of Halekuai Street and South Kihei Road, there are no curbs and gutters within the section proposed for improvements. A paved bike lane/sidewalk, having an approximate width of 4 feet, is located along the makai side of the road. The mauka side of the road consists of a dirt/gravel shoulder.

## **B. PROJECT NEED**

The resident population of the Kihei region has increased dramatically in the last two decades. Population gains were especially pronounced in the 1970's as the rapidly developing visitor industry attracted many new residents. Infrastructure needs have lagged behind this growth in population. At the same time, traffic congestion in Kihei has become increasingly evident and circulation is worsening. The proposed roadway improvements to South Kihei Road will improve traffic circulation, enhance accessibility, and reduce congestion. Further, the proposed project is consistent with the County of Maui's Kihei Traffic Master Plan (October 1989) which proposes that South Kihei Road become a four-lane secondary arterial with restricted driveway access.

In order to improve the existing drainage conditions of the area, the project will include drainage improvements which have been designed in accordance with the Kihei Drainage Master Plans and drainage systems within the immediate area.

## **C. PROPOSED ACTION**

The applicant is proposing approximately 2,600 lineal feet of roadway improvements to South Kihei Road, from Lipoa Street to Welakahao Road, in accordance with the Baseline plans prepared by Austin Tsutsumi & Associates, Inc. (See Figures 3a-3e and Figure 4). The proposed improvements to South Kihei Road include:

- Increasing the existing road right-of-way from 56 feet to 60-70 feet;
- Construction of a 40-50 feet A.C. pavement section with curbs, gutters, and sidewalks on both sides of the street. This improved road section will be limited to two (2) 12 foot lanes but will allow four (4) lanes in the future;
- Construction of left and right turn lanes at the intersection of South Kihei Road and Lipoa Street; and
- Construction of left turn lanes at the intersections of South Kihei Road with Waiohuli Street and Kapu Place.

The pavement section along South Kihei Road will be striped to allow parking along the mauka (east) side of South Kihei Road and bike paths on both sides of the street.

The proposed South Kihei Road drainage system, to be installed as part of this project, will be designed to address the drainage of this project and include some drainage improvements for future use. In addition, this system will be designed to intercept runoff makai of the proposed Keokea Gulch Diversion. The new system will collect and properly regulate flows into the State Reservoir area by directing it through the new underground drainage system. The plans also call for:

- A new box culvert with flap gates on the makai side of the culvert outlet that will connect to the existing reservoir and comply with future drainage master plans (Keokea Gulch improvements);
- A new drain outlet on the makai side next to Kapu Place. this will also insure the integrity of the current dirt outlet, dirt banks, and avoid sediment blockage; and
- An underground drainage system along south Kihei Road to handle roadway and adjacent property runoff.

Cost of construction is estimated to be \$2.5 million.

## II. DESCRIPTION OF THE EXISTING ENVIRONMENT

### A. PHYSICAL ENVIRONMENT

#### 1. Surrounding Land Uses

The Kihei region is characterized by its dry and mild climate and proximity to recreation-oriented shoreline resources and numerous visitor oriented facilities. The town of Kihei serves as the commercial and residential center of the region with the master-planned communities of Wailea and Makena serving as the focal point for visitor activities.

Surrounding land uses along South Kihei Road between Lipoa Street and Welakahao Road include a mix of land uses. Surrounding land uses include:

- South, *makai*: Single-family residential homes.
- South, *mauka*: Vacant lots proposed for a residential subdivision (Welakahao Villages).
- North, *makai*: The Maui Garden Condominium, the State Regulation Reservoir, and St. Theresa's Church.
- North, *mauka*: Single-family residential homes, Kihei Franks Commercial Subdivision, as well as vacant lots.

#### 2. Climate

Like most areas of Hawaii, Maui's climate is relatively uniform year-round. Characteristic of Hawaii's climate, the project site exhibits mild and uniform temperatures year round, moderate humidity and a consistent northeasterly tradewinds.

Average temperatures along the project corridor range from lows in the 60's to highs in the upper 80's. August is historically the warmest month, while January and February are the coolest. Rainfall at the project site averages approximately 10 inches per year. Winds in the Kihei region are predominantly from the north-northeast and northeast.

### 3. Topography and Soil Characteristics

The project corridor is located in an area characterized by low-lying coastline. The surrounding land gently slopes in an east to west direction with an approximate slope of 1% - 2 %.

Underlying the proposed project corridor and surrounding lands are soils in the Pulehu-Ewa-Jaucas Association. This soil association is characteristically deep and well-drained and located on alluvial fans and basins. The Soil Investigation Report (Soils International, May 1995) prepared for the project notes that the soil type specific to the project site is Jaucas sand, 0-15% slopes (JaC) and Jaucas sand, saline, 0-12% slopes (JcC). These soils consist of excessively drained, calcareous soils that occur as narrow strips on coastal plains, adjacent to the ocean. Permeability is rapid, runoff is very slow to slow, water erosion hazard is slight, but wind erosion is a severe hazard where vegetation has been removed. (Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, August 1972, prepared by the United States Department of Agriculture, Soil Conservation Service).

### 4. Flood Hazard

The project corridor is located at approximately 4 to 5 feet in elevation and is in an area that has been designated Zone "AH" by the Flood Insurance Rate Map. (Panel Number 150003 0265C, September 6, 1989). Zone "AH" is an area "inundated by the 100-year flood with a base flood elevation of 6 to 7 feet above mean sea level."

### 5. Wetlands

The U.S. Army Corp. of Engineers Aerial Photograph of Kihei, "Wetland Locations, Kihei, Maui 1991" shows that there are wetland areas located adjacent to the proposed road right-of-way (See Figure 5 and See Photograph Nos. 1-10 and Photographic Reference Map). Areas within the existing road right-of-way are currently being used as a shoulder and walkways and are void of any substantial vegetation or wildlife habitat. The proposed roadway improvements will be

located within the proposed road "right of way" and not within the adjacent wetland areas.

#### **6. Flora and Fauna**

The project corridor is situated within an urbanized area of Kihei. Natural environment features, such as plant and animal life, therefore, are reflective of this urban setting. Existing vegetation within the project corridor include kiawe trees, mango trees, shower trees, and pine trees as well as various weeds and grasses.

Animal life within the project vicinity similarly reflects the urban character of the region. Avifauna typically found along the project area of South Kihei Road include the common myna, several species of dove, cardinal, house finch, and house sparrow. Mammals common to this area include cats, dogs, rodents, mongoose. The wetland areas adjacent to the project corridor may occasionally be utilized by federally endangered Hawaiian stilts (*Himantopus mexicanus knudseni*) and Hawaiian coots (*Fulica americana alai*).

#### **7. Air Quality**

The Kihei region is characterized by constant exposure to tradewinds. There are no identified point sources of airborne emissions in the Kihei region. The air quality of the Kihei region is considered good with air pollutants being primarily attributed to vehicular sources and wind-blown dust.

#### **8. Noise Characteristics**

Surrounding ambient noise levels in the Kihei region are characteristic of its urban setting. Background noise levels in the vicinity of the project site are attributed to natural conditions (e.g. wind and ocean surf) and traffic along South Kihei Road.

#### **9. Scenic Resources**

The proposed project corridor is located approximately 800 feet from the shoreline. The shoreline is not visible from the roadway. The roadway is not considered part of a scenic view corridor.

## **10. Archaeological/Historical Resources**

The proposed project site has been previously cleared and graded for use as South Kihei Road. There are no historic or cultural features within or in close proximity to the project site.

## **B. SOCIO-ECONOMIC ENVIRONMENT**

### **1. Population**

The population of the County of Maui has exhibited relatively strong growth over the past decade with the 1990 population estimated to be 100,504, a 41.9% increase over the 1980 population of 70,847. Growth in the County is expected to continue, with resident population projections to the years 2000 and 2010, estimated to be 124,561 and 138,378, respectively.

Just as the County's population has grown, the resident population of the region surrounding the project site has increased dramatically in the last two decades. Population gains were especially pronounced in the 1970's as the rapidly developing visitor industry attracted many new residents. The current resident population of the Kihei-Makena region is estimated at 15,365 (Community Resources, Inc., 1992). A projection of the resident population for the Years 2000 and 2010 are 19,885 and 24,514, respectively.

### **2. Economy**

The economy of Maui is heavily dependent upon the visitor industry. In 1989, for example, total visitor expenditures equaled \$2.3 billion. The dependency on the visitor industry is especially evident in the Kihei-Makena region, which is one of the State's major resort destination areas. The openings of the Four Seasons Hotel, the Grand Hyatt and Kea Lani Hotel has boosted the region's significance as a resort destination, including numerous retail commercial centers catering to both residents and visitors.

## **C. PUBLIC SERVICES**

### **1. Recreational Facilities**

Diverse recreational opportunities are available in the Kihei-Makena region. Recreational facilities in close proximity to the project site include Kalama Park, the Kamaole Beach Parks, and numerous other beach parks along the Kihei coastline for swimming, fishing, picnicking and snorkeling. The Silversword Golf Course is located mauka of Piilani Highway and Lipoa Street. The Wailea-Makena resort areas to the south of the project site offers additional opportunities for golf, tennis and ocean-related activities.

### **2. Police and Fire Protection**

The County of Maui's Police Department is headquartered at its Wailuku Station. The Department consists of several patrol, investigative and administrative divisions. The Department's Kihei Patrol covers the Kihei-Makena region.

Fire prevention, suppression and protection services are offered by the County's Department of Fire Control. The Kihei Station, which services the Kihei-Makena region is located on South Kihei Road, approximately 0.5 mile south of the project site.

### **3. Solid Waste**

Single-family residential solid waste collection service is provided by the County of Maui on a once-a-week basis. Residential solid waste collected by County crews are disposed at the County's 55-acre Central Maui Landfill, located four miles southeast of the Kahului Airport. In addition to County-collected refuse, the Central Maui Landfill accepts commercial waste from private collection companies.

### **4. Health Care**

Maui Memorial Hospital in Wailuku is the only major medical facility on the island. Acute, general and emergency care services are provided by the 145-bed facility. In addition, numerous privately-

operated medical/dental clinics and offices are located in the Wailuku-Kahului and Kihei area to serve the region's residents.

#### **5. Schools**

The State Department of Education operates two schools in the Kihei area. Kihei Elementary School covers grades K to 6, while Lokelani Intermediate School includes grades 7 and 8. Public school students in grades 9 through 12 attend H.P. Baldwin High School in Wailuku.

In addition, a second elementary school is under construction off Kananui Road, approximately 1 mile north of the project site. Site work began in July, 1995 and completion is expected in December of 1996.

### **D. INFRASTRUCTURE**

#### **1. Roadways**

Piilani Highway and South Kihei Road are the two major routes serving the Kihei region. Access to South Kihei Road, between Welakahao Road and Lipoa Street, is provided via Waiohuli Street, West Kapu Place and Halekuai Street.

#### **2. Wastewater**

The service area for the County's Kihei Wastewater Reclamation System extends from North Kihei to Makena. The system consists of a number of pump stations and force mains which convey waste water through the County's transmission lines.

A 24-inch sewer line runs along the mauka side of South Kihei Road between Lipoa Street and Welakahao Road.

#### **3. Water**

The Kihei-Makena region is served by the Central Maui Water System. Source wells located in upper Waiehu provide water for the region. A 12-inch line is located on South Kihei Road between Lipoa Street and Welakahao Road.

#### **4. Drainage**

Presently, there are three (3) independent drainage systems within the limits of the project site. (See Appendix A - Drainage Report, September 1995)

The first system consists of an open concrete-lined ditch which runs on the mauka side and parallel to South Kihei Road from Welakahao Road to Halekuai Street and under South Kihei Road to the State Regulation Reservoir.

The second system was installed by the Maui Gardens development and consists of catch basins along South Kihei Road between Waiohuli Street and West Kapu Place. This system also outlets into the State Regulation Reservoir.

The third system, which was installed by the County of Maui, consists of catch basins and box culverts along South Kihei Road from Azeka Shopping Center to the outlet at the State Regulation Reservoir.

Runoff diverted to the State Regulation Reservoir eventually discharges into the ocean.

Runoff water currently sheetflows across the project area.

The proposed roadway improvement plans will include a new drainage system designed to address the drainage of the proposed project and will include some drainage improvements for future use.

#### **5. Electrical**

Maui Electric Co.,Ltd. overhead power lines run parallel on the mauka side of South Kihei Road.

### **III. PROJECT IMPACT ASSESSMENT**

#### **A. PHYSICAL ENVIRONMENT**

##### **1. Surrounding Uses**

In the short term during the construction phase, there is a potential for disruption to existing single-family residences fronting the project site. To minimize construction related impacts to surrounding property owners, the applicant proposes to establish a construction management plan. The plan will include measures such as limiting construction activities to normal daylight working hours as well as coordinating construction work to avoid peak traffic hours.

In the long-term, the proposed roadway improvements will improve traffic circulation and accessibility and reduce congestion. The proposed project is not anticipated to have any adverse long-term impacts upon surrounding land uses.

##### **2. Flood Zone**

The project corridor is in an area that has been designated Zone "AH" by the Flood Insurance Rate Map. Development within a flood zone area requires a County of Maui, Department of Public Works Special Flood Hazard Area Development Permit.

##### **3. Wetlands**

No roadway improvements will be built in the adjacent wetland areas. As such, there will be no permanent loss of wetland habitat. During the construction phase of the proposed project, the contractor may need to enter some of the adjacent wetland areas. This could involve minor damage to some of the wetland vegetation. Also, there is a potential for dust and other construction debris to enter the wetlands which could diminish water quality. In order to minimize potential impacts from the adjacent construction activities the following mitigation measures shall apply:

- a. Dust control in all areas. Water and screening to be used to mitigate construction dust.
- b. Fence protection of sensitive areas during construction.
- c. Clean up and removal of any waste.
- d. Follow-up with landscaping in necessary areas.

With the incorporation of these mitigation measures during construction the proposed project is not anticipated to have a significant adverse impact upon the adjacent wetland areas.

#### **4. Flora and Fauna**

There does not appear to be any known significant habitats of rare, endangered or threatened species of flora and fauna located within the proposed construction limits. Given the physical features and characteristics of the encroachment area (*See Photographs Nos. 1-10*) and its limited area in relation to the total area of the wetlands, it appears unlikely that the proposed project will significantly degrade the wetland habitat of the federally endangered Hawaiian stilts (*Himantopus mexicanus knudseni*) and Hawaiian coots (*Fulica americana alai*).

#### **5. Air Quality**

Air quality impacts attributed to the project will include dust generated by short-term, construction-related activities. Site work such as grading and utilities and construction of the roadway, for example, will generate airborne particulates. Dust control measures such as regular watering and sprinkling will be implemented, as needed, to minimize wind-blown emissions. In the long-term, the proposed project is not anticipated to be detrimental to local air quality.

#### **6. Noise**

As with air quality, construction activities will result in increased ambient noise. Heavy construction equipment, such as bulldozers, front end loaders, and materials-carrying trucks and trailers, would be the dominant source of noise during the roadway construction period. However once completed, it is anticipated that the project will not

substantially increase or adversely change existing noise characteristics.

**7. Visual Resources**

The proposed project site is not considered part of a scenic view corridor. The proposed improvements will maintain the existing grade, and therefore will not impact scenic resources.

**8. Archaeological and Historical Resources**

The proposed project site has been previously cleared and graded for use as South Kihei Road. There are no historic or cultural features within or in close proximity to the project site. Given the nature of existing improvements, prior ground disturbance, and the established development of the surrounding area (i.e. single family residential uses), it would appear unlikely that the subject parcel would contain any significant archaeological sites. As such, it is anticipated that the proposed project will not have an adverse impact upon any significant archaeological or historical resources.

**B. SOCIO-ECONOMIC ENVIRONMENT**

**1. Local Economy and Population**

On a short-term basis, the project will support construction and construction-related employment.

On a long-term basis, the construction of the proposed roadway improvements will not have an impact on employment opportunities, nor will it have an impact upon local population levels.

**C. PUBLIC SERVICES**

**1. Fire**

In the short term during the construction phase of the proposed project, measures will be taken to maintain accessibility by Fire Department apparatus to the surrounding neighborhoods and to avoid obstruction of fire hydrants with heavy construction equipment

such as front loaders, backhoes, and graders. In addition, one lane of traffic, at least 20 feet in width, will be provided for fire department apparatus access at all times during construction.

## **2. Other Public Services**

The proposed project is not anticipated to adversely affect public services such as police or medical services in terms of service area. Recreational resources will not be adversely impacted as a result of the proposed roadway improvements.

## **D. INFRASTRUCTURE**

### **1. Traffic**

In the short term, construction activities will result in local traffic delays and increased congestion. Property owners fronting the subject corridor may experience some difficulty in accessing their property.

However, in the long-term, the proposed roadway improvements will improve traffic circulation and accessibility and reduce congestion. Further, the proposed project is consistent with the County of Maui's Kihei Traffic Master Plan (October 1989) which proposes that South Kihei Road become a four-lane secondary arterial with restricted driveway accesses.

### **2. Wastewater and Water Systems**

The proposed roadway improvements will not have an impact upon the County's wastewater treatment system or the Department of Water Supply's municipal water system.

### **4. Drainage**

The proposed South Kihei Road drainage system, to be installed as part of this project, will be designed to address the drainage of this project and include some drainage improvements for future use. The improvements will be designed in accordance with the Kihei Drainage Master Plan and drainage systems within the immediate area. The new system will collect and properly regulate flows into the

State Reservoir area by directing it through the new underground drainage system. Other beneficial impacts include improving the integrity of the current dirt outlet, dirt banks, and avoiding sediment blockage for the new drain outlet on the makai side next to Kapu Place.

The proposed improvements will enhance the current environmental and safety conditions in the immediate area, and will not have any negative impact to existing conditions or downstream properties.

#### **IV. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS**

##### **A. GENERAL PLAN OF THE COUNTY OF MAUI**

The General Plan of the County of Maui (1980) update provides long term goals, objectives, and policies directed toward the betterment of living conditions in the County. Addressed are social, environmental, and economic issues which influence future growth in Maui County. The following General Plan objective and policy is addressed by the proposed project:

**Objective:** To develop a program for anticipating and enlarging the local street and highway systems in a timely response to planned growth.

**Policies:**

- Ensure that transportation facilities are anticipated and programmed for construction in order to support planned growth.

##### **B. KIHEI-MAKENA COMMUNITY PLAN**

Nine (9) community plan regions have been established in Maui County. Each region's growth and development is guided by a Community Plan which contain objectives and policies in accordance with the County General Plan. The purpose of the Community Plan is to outline a relatively detailed agenda for carrying out these objectives.

The proposed project is located within the Kihei-Makena Community Plan region. The proposed project would facilitate implementation of the existing Kihei-Makena Community Plan (Ordinance No. 1490/1985) by addressing the following objectives:

- Establish a functional street hierarchy within Kihei:
  - South Kihei Road should serve as the major through service route for the region.

- Provide left storage lanes and traffic signals at important intersections along South Kihei Road.
- Establish pedestrian and bikeway paths along South Kihei and Kenolio Roads, proposed street right-of-way makai of Kihei School, Waipuilani, Lipoa, and Welakahao Streets, Keonekai Road, Kilohana Drive, Wailea Alanui Drive, southwards towards Makena-La Perouse Park, and along other streets as indicated on the Transportation and Public Facilities Map. This will provide alternative regional transportation routes.

The proposed revisions to the Kihei-Makena Community Plan to be reviewed by the Maui County Council do not indicate substantial changes to prior adopted planning policies.

### **C. SPECIAL MANAGEMENT AREA OBJECTIVES AND POLICIES**

Pursuant to Chapter 205A, Hawaii Revised Statutes, and the Rules and Regulations of the Planning Commission of the County of Maui, projects located within the SMA are evaluated with respect to SMA objectives, policies and guidelines. This section addresses the project's relationship to applicable coastal zone management considerations, as set forth in Chapter 205A and the Rules and Regulations of the Planning Commission.

#### **RECREATIONAL RESOURCES**

**Objective:** Provide coastal recreational resources accessible to the public.

**Policies:**

1. Improve coordination and funding of coastal recreation planning and management; and
2. Provide adequate, accessible and diverse recreational opportunities in the coastal zone management area by:

- a. Protecting coastal resources uniquely suited for recreation activities that cannot be provided in other areas;
- b. Requiring replacement of coastal resources having significant recreational value, including, but not limited to, surfing sites and sandy beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;
- c. Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
- d. Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
- e. Encouraging expanding public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value;
- f. Adopting water quality standards and regulating point and non-point sources of pollution to protect and, where feasible, restore the recreational value of coastal waters; and
- g. Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits, and crediting such dedication against the requirements of Section 46-6 of the Hawaii Revised Statutes.

**Response:**

The project site is located approximately 900-1500 feet from the shoreline and is separated from the shoreline by single-family residences. The project site is not considered to have coastal resource value. The proposed project represents a continuation of an existing use and will not have an adverse affect upon coastal resources. In addition, erosion control measures will be implemented in accordance with Maui County Code, Chapter 20.08 "Soil Erosion and Sedimentation Control".

## HISTORICAL/CULTURAL RESOURCES

**Objective:** Protect, preserve and, where desirable, restore those natural and man-made historic and prehistoric resources in the coastal zone management areas that are significant in Hawaiian and American history and culture.

**Policies:**

1. Identify and analyze significant archaeological resources;
2. Maximize information retention through preservation of remains and artifacts or salvage operations; and
3. Support state goals for protection, restoration, interpretation and display of historic resources.

**Response:**

The proposed project corridor has been previously cleared and graded for use as South Kihei Road. There are no known historic or cultural features within or in close proximity to the project corridor. Given the nature of existing improvements, prior ground disturbance, and the established development of the surrounding area (i.e. single family residential uses), it would appear unlikely that the project corridor would contain any significant archaeological sites. As such, it is anticipated that the proposed project will not have an adverse impact upon any significant archaeological or historical resources.

## SCENIC AND OPEN SPACE RESOURCES

**Objective:** Protect, preserve and, where desirable, restore or improve the quality of coastal scenic and open space resources.

**Policies:**

1. Identify valued scenic resources in the coastal zone management area;
2. Insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural land forms and existing public views to and along the shoreline;
3. Preserve, maintain and, where desirable, improve and restore shoreline open space and scenic resources; and
4. Encourage those developments which are not coastal dependent to locate in inland areas.

**Response:**

Once completed, the improvements, which will maintain the existing grade, will not impact scenic resources. The proposed project site is not considered part of a scenic view corridor.

**COASTAL ECOSYSTEMS**

**Objective:** Protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems.

**Policies:**

1. Improve the technical basis for natural resource management;
2. Preserve valuable coastal ecosystems of significant biological or economic importance;
3. Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and
4. Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

**Response:**

No roadway improvements will be built in the adjacent wetland areas. As such, there will be no permanent loss of wetland habitat. In order to minimize potential impacts to adjacent wetland areas from construction activities the following mitigation measures shall apply:

- a. Dust control in all areas. Water and screening to be used to mitigate construction dust.
- b. Fence protection of sensitive areas during construction.
- c. Clean up and removal of any waste.
- d. Follow-up with landscaping in necessary areas.

With the incorporation of these mitigation measures during construction the proposed project is not anticipated to have a significant adverse impact upon the adjacent wetland areas.

The proposed South Kihei Road drainage system, to be installed as part of this project, will be designed to address the drainage of this project and include some drainage improvements for future use.

As previously discussed, the proposed improvements will enhance the current environmental and safety conditions, and will not have any negative impact to existing conditions or downstream properties.

**ECONOMIC USES**

**Objective:** Provide public or private facilities and improvements important to the State's economy in suitable locations.

**Policies:**

- 1. Concentrate in appropriate areas the location of coastal dependent development necessary to the state's economy;

2. Insure that coastal dependent development such as harbors and ports, visitor facilities, and energy-generating facilities are located, designed, and constructed to minimize adverse social, visual and environmental impacts in the coastal zone management area; and
3. Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
  - a. Utilization of presently designated locations is not feasible,
  - b. Adverse environmental effects are minimized, and
  - c. Important to the state's economy.

**Response:**

The proposed roadway improvements will improve traffic circulation and accessibility and reduce congestion in the Kihei area. The proposed project is not anticipated to have any long-term adverse impacts upon surrounding land uses. Further, the proposed project will not have an adverse impact upon public or private facilities that are important to the State's economy.

**COASTAL HAZARDS**

**Objectives:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion and subsidence.

**Policies:**

1. Develop and communicate adequate information on storm wave, tsunami, flood, erosion and subsidence hazard;
2. Control development in areas subject to storm wave, tsunami, flood, erosion and subsidence hazard;
3. Ensure that developments comply with requirements of the Federal Flood Insurance Program; and
4. Prevent coastal flooding from inland projects.

**Response:**

The project corridor is in an area that has been designated Zone "AH" by the Flood Insurance Rate Map. Development within a flood zone area requires a County of Maui, Department of Public Works Special Flood Hazard Area Development Permit.

**MANAGING DEVELOPMENT**

**Objective:** Improve the development review process, communication, and public participation in the management of coastal resources and hazard.

**Policies:**

1. Effectively utilize and implement existing law to the maximum extent possible in managing present and future coastal zone development;
2. Facilitate timely processing of application for development permits and resolve overlapping of conflicting permit requirements; and
3. Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the general public to facilitate public participation in the planning and review process.

**Response:**

Development of the proposed project will be conducted in accordance with applicable State and County requirements. Opportunity for review of the proposed action is provided through the environmental impact review process established in Chapter 343, Hawaii Revised Statutes and the County's Special Management Area permitting process.

## V. FINDINGS AND CONCLUSIONS

The proposed roadway improvements to South Kihei Road will improve traffic circulation and enhance accessibility and reduce congestion. In addition, the project will enhance the function of South Kihei Road as a major through service route for the region.

The proposed project will involve earthwork and roadway construction activities. In the short-term, these activities may generate nuisances normally associated with construction. Such short term impacts to surrounding property owners will be minimized by the establishment of the construction management plan.

From a long-term perspective, the proposed roadway improvements are not anticipated to result in adverse environmental impacts. The proposed project is not anticipated to have a significant adverse impact upon the adjacent wetland areas nor upon any known significant habitats of rare, endangered or threatened species of flora and fauna. The project is not anticipated to have an effect on significant archaeological or historical sites.

The project will not have an impact on employment opportunities, nor will it have an impact upon local population levels. Public service needs such as police, medical facilities and schools will not be adversely impacted by the project. Impacts upon water, wastewater, and other infrastructure systems are not considered significant. The proposed drainage improvements to be installed as part of the project, will improve existing drainage conditions of the surrounding area.

In light of the foregoing findings, it is concluded that the proposed action will not result in any significant impacts.

**VI. AGENCIES CONSULTED IN THE PREPARATION OF THE FINAL ENVIRONMENTAL ASSESSMENT**

The following agencies were consulted in preparing this draft environmental assessment:

County of Maui:

Department of Fire Control  
Department of Housing and Human Concerns  
Department of Public Works and Wastewater Management, Engineering  
Division  
Department of Water Supply  
Maui Police Department

State of Hawaii:

Department of Health  
Department of Transportation, Highways Division  
Office of Environmental Quality Control (OEQC)

Federal Government

Department of the Army, U.S. Army Corp. of Engineers  
Department of the Interior, Fish and Wildlife Service

## REFERENCES

Austin, Tsutsumi & Associates, Inc., Kihei Traffic Master Plan, October 1989.

Community Resources, Inc., Maui County Community Plan Update Program Socio-Economic Forecast Report, March 1992.

County of Maui, Planning Department. Community Plan Update: Kihei-Makena Community Plan. 1993.

County of Maui, Planning Department, Kihei-Makena Community Plan (Ordinance No. 1490/1985).

County of Maui, Maui Planning Department. The General Plan of the County of Maui. 1990 Update.

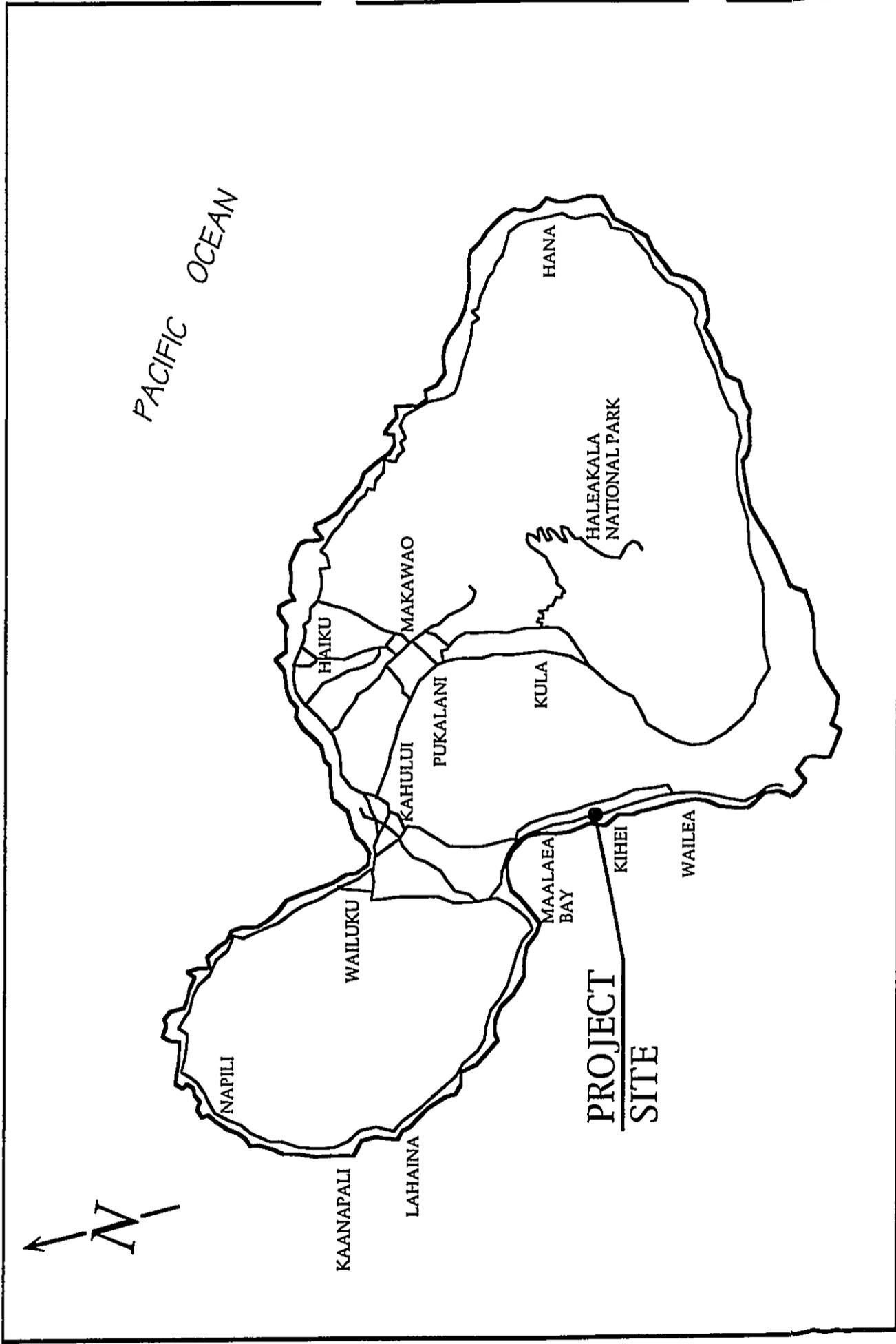
State of Hawaii, Department of Business and Economic Development, Data Book, 1990.

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

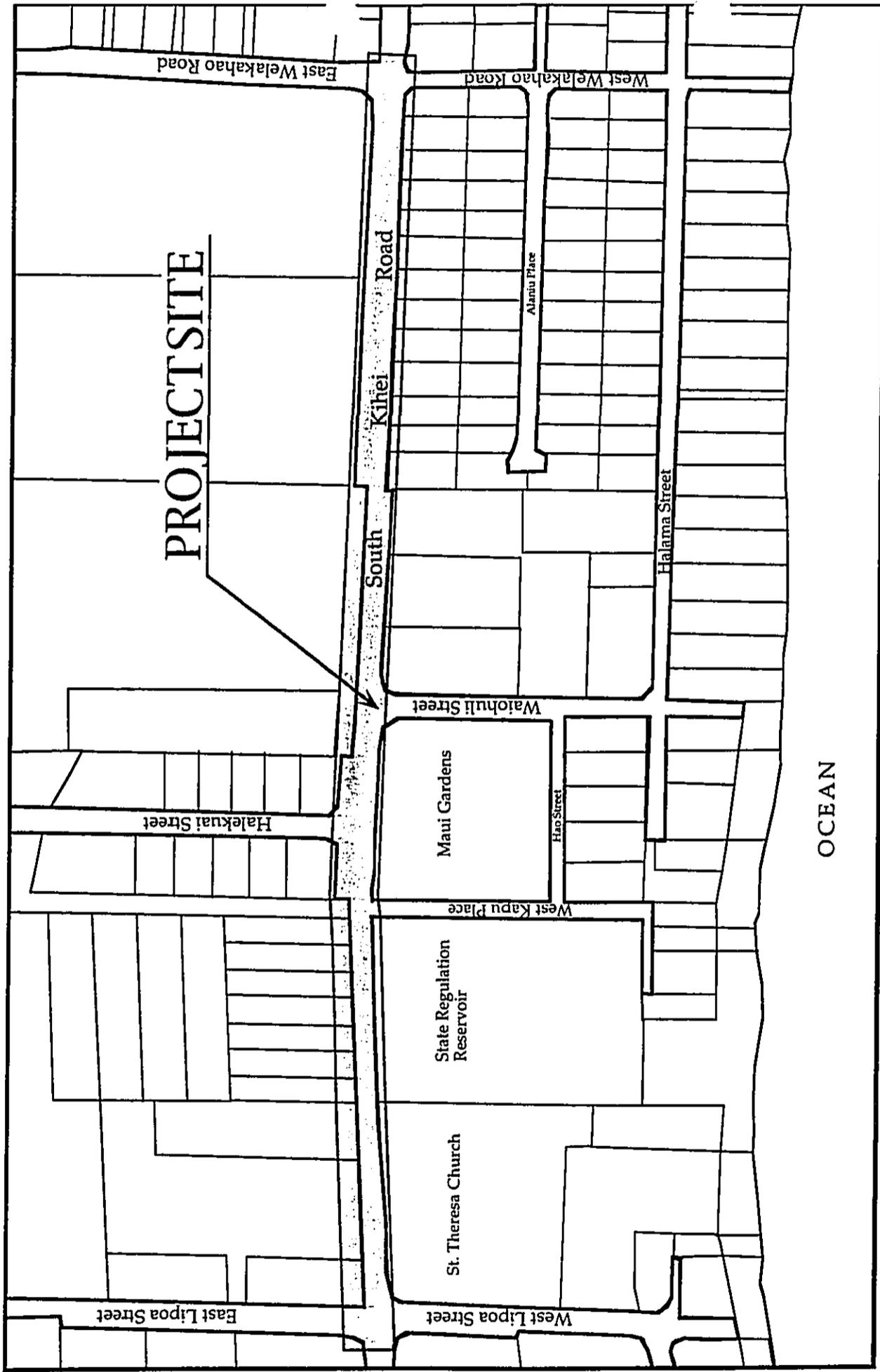
University of Hawaii, Land Study Bureau, Detailed Land Classification - Island of Maui, L.S.B. Bulletin No.7, May 1967.

University of Hawaii, Department of Geography, Atlas of Hawaii, Second Edition, 1983.

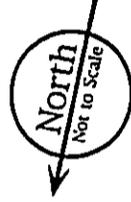
FIGURES



**FIGURE 1 - REGIONAL LOCATION MAP**  
 South Kihei Road Improvements - Phase III  
 Kihei, Maui, Hawaii

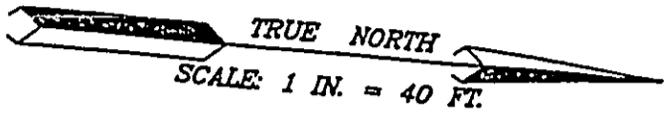


**Figure 2**  
**Project Location Map**  
 South Kihei Road Improvements - Phase III  
 Lipoa Street to Welakahao Road







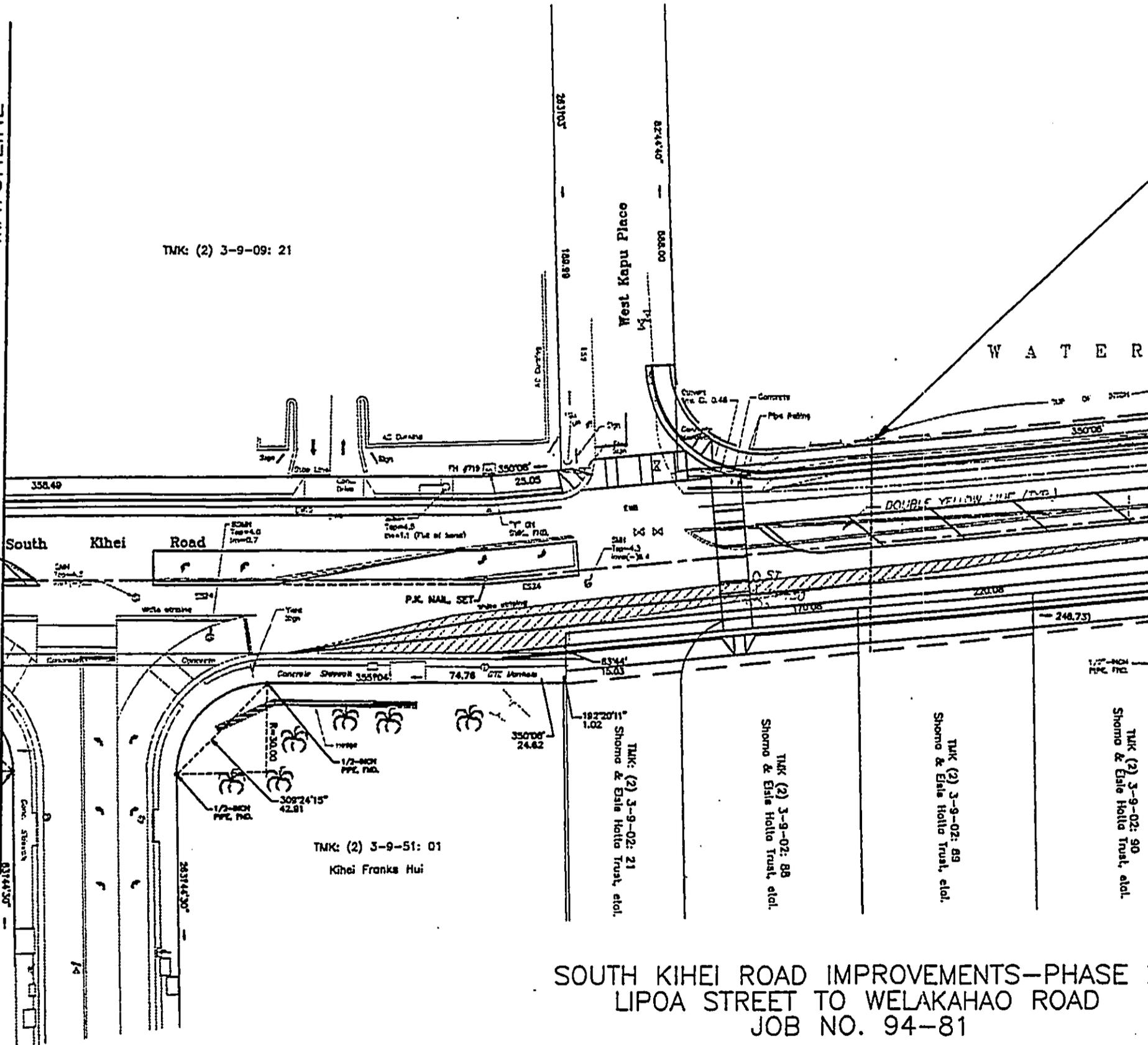


MATCHLINE

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West Kapu Place

WATER

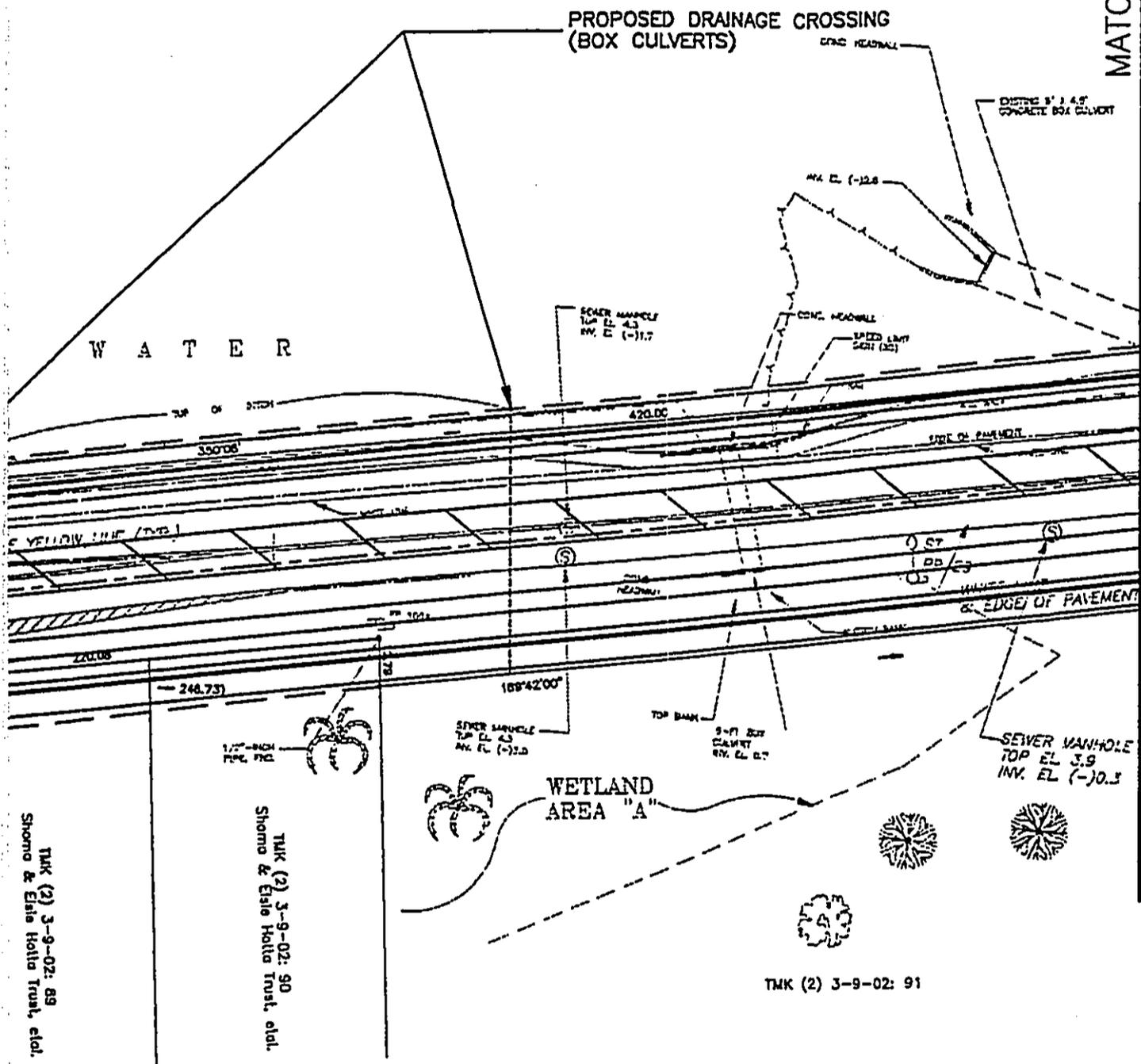


SOUTH KIHAI ROAD IMPROVEMENTS—PHASE  
LIPOA STREET TO WELAKAHAO ROAD  
JOB NO. 94-81

STATE OF HAWAII  
REGULATION RESERVOIR

TMK: (2) 3-9-09: 13  
State of Hawaii

MATCHLINE



EMENTS—PHASE III  
AKAHAO ROAD  
-81

Figure 3b

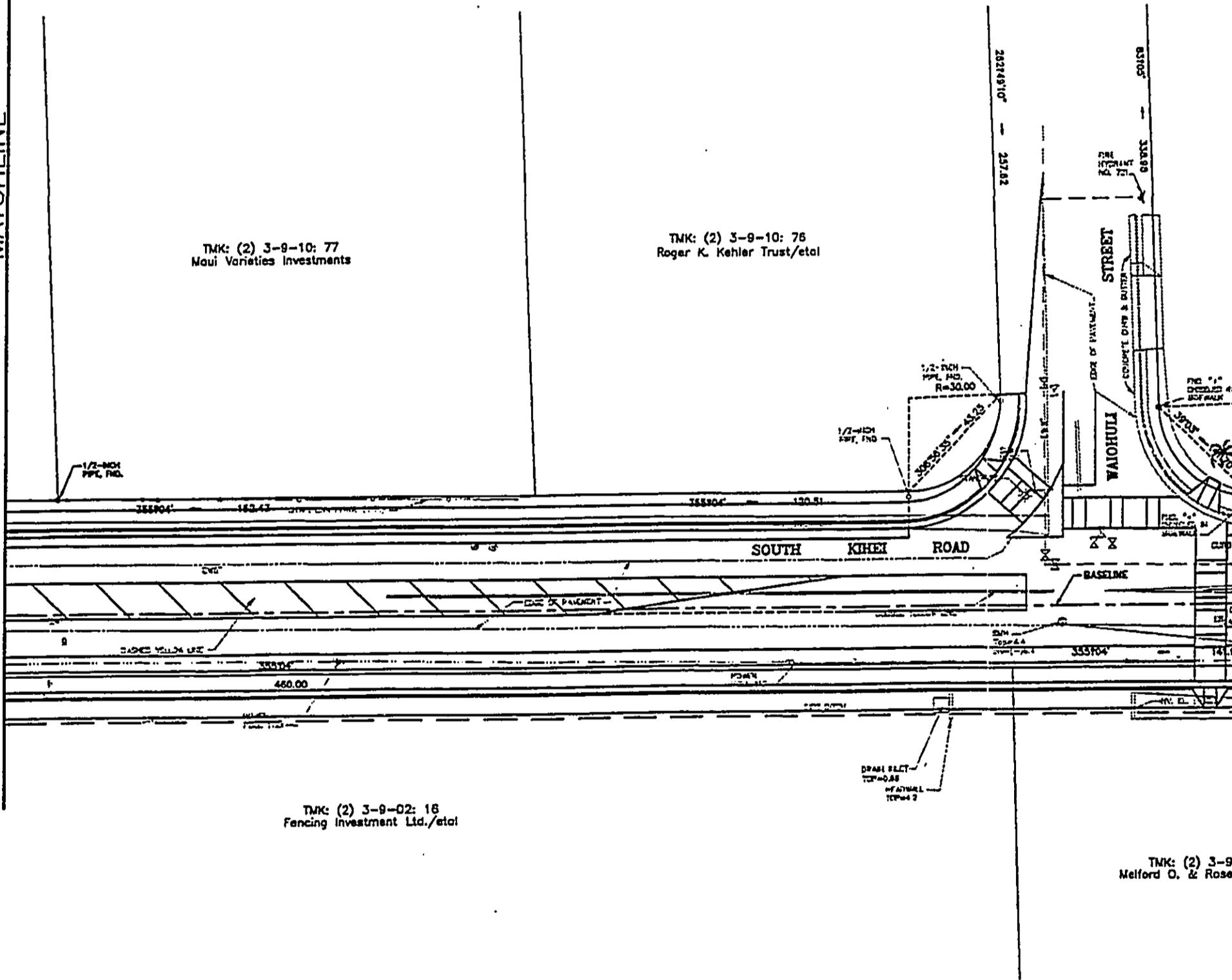
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MATCHLINE

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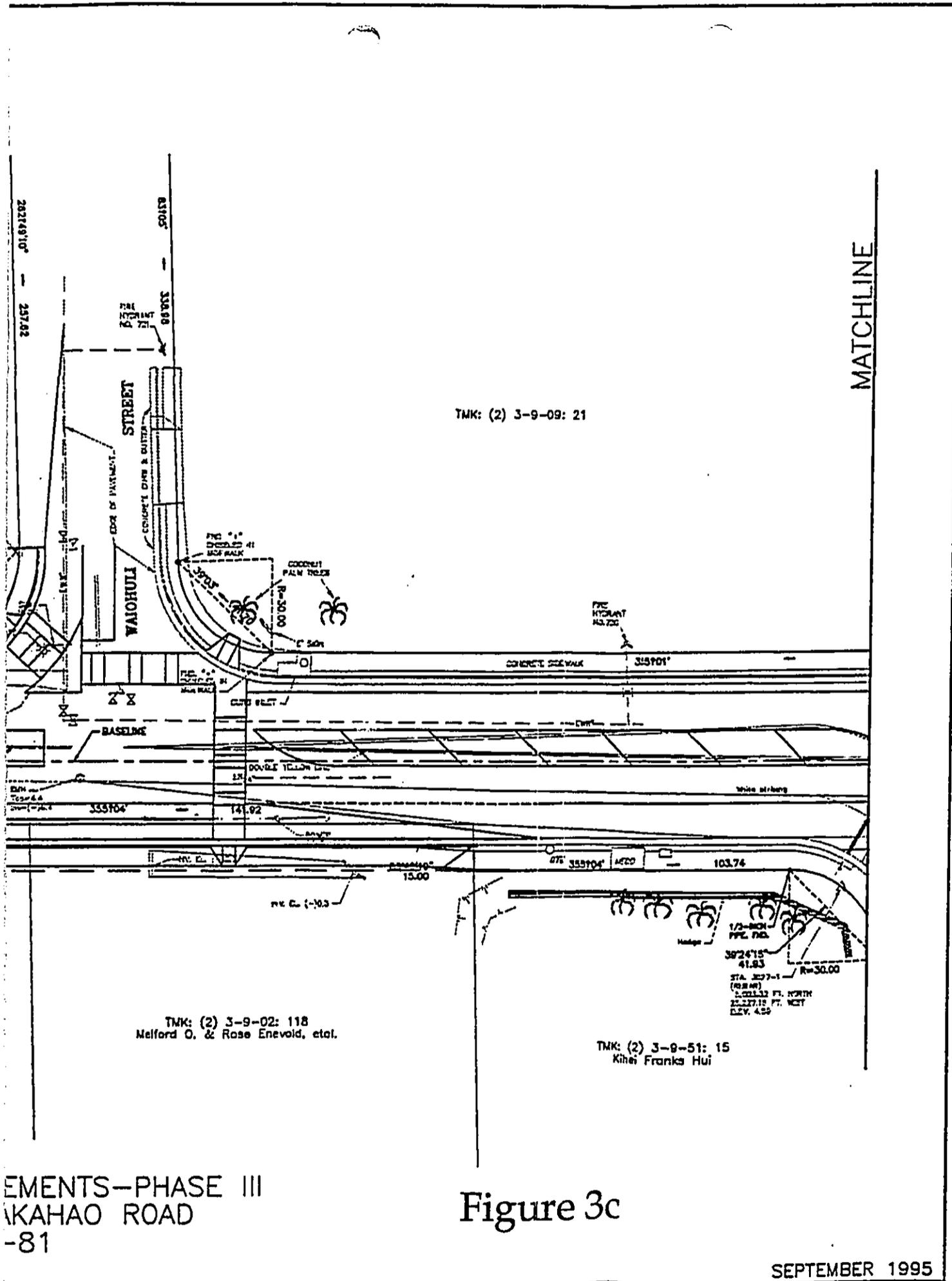
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Roger K. Kehler Trust/etol

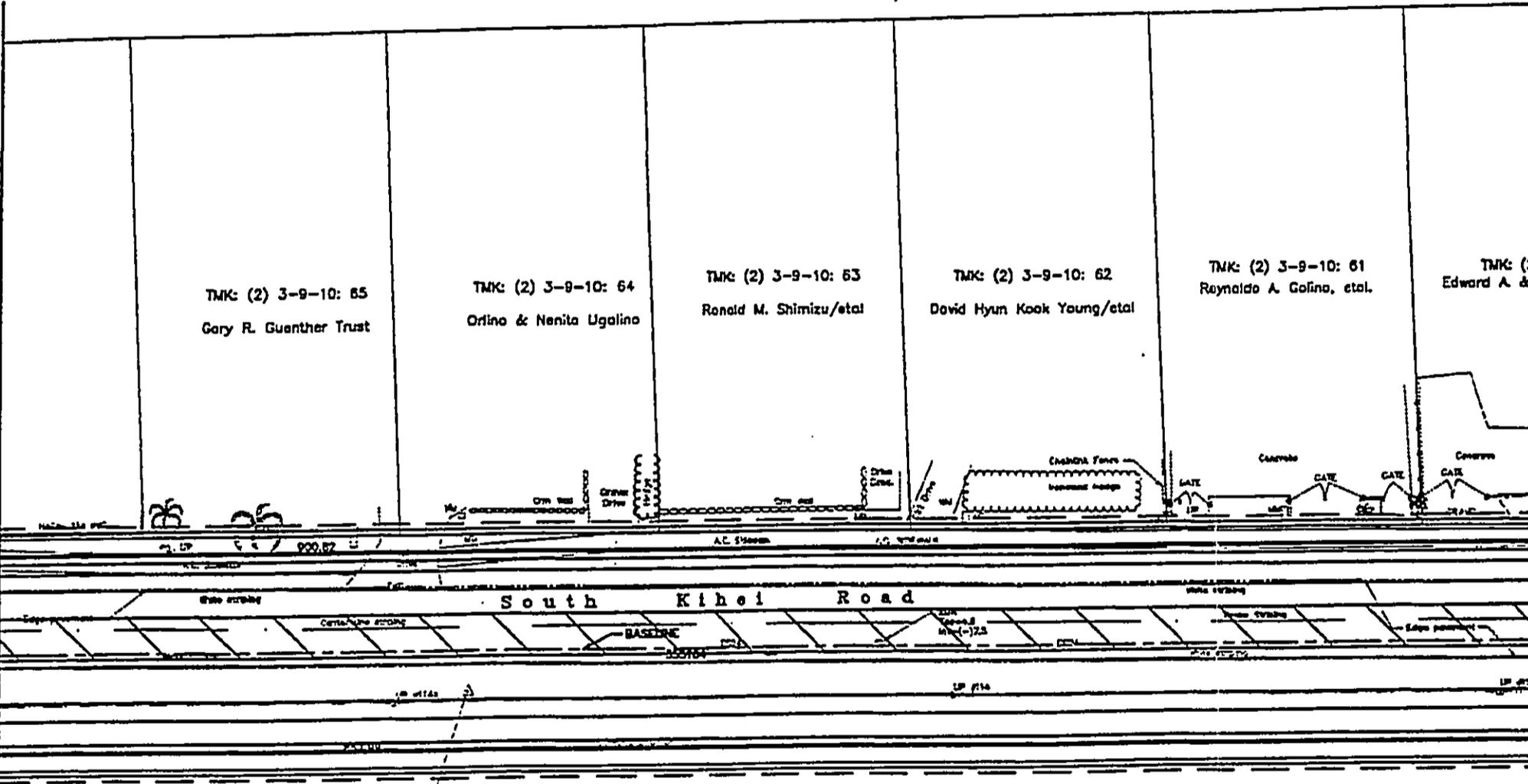
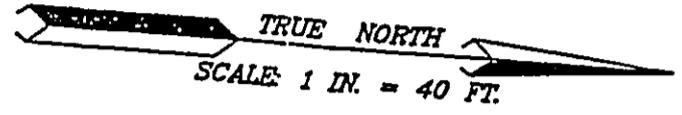


TMK: (2) 3-9-02: 16  
Fencing Investment Ltd./etol

TMK: (2) 3-9-9  
Melford O. & Rose

SOUTH KIHAI ROAD IMPROVEMENTS—PHASE I  
LIPOA STREET TO WELAKAHAO ROAD  
JOB NO. 94-81





TMK: (2) 3-9-10: 65  
Gary R. Guenther Trust

TMK: (2) 3-9-10: 64  
Orlino & Nenita Ugalino

TMK: (2) 3-9-10: 63  
Ronald M. Shimizu/etal

TMK: (2) 3-9-10: 62  
David Hyun Kook Young/etal

TMK: (2) 3-9-10: 61  
Reynaldo A. Golino, etal.

TMK: (2)  
Edward A. &

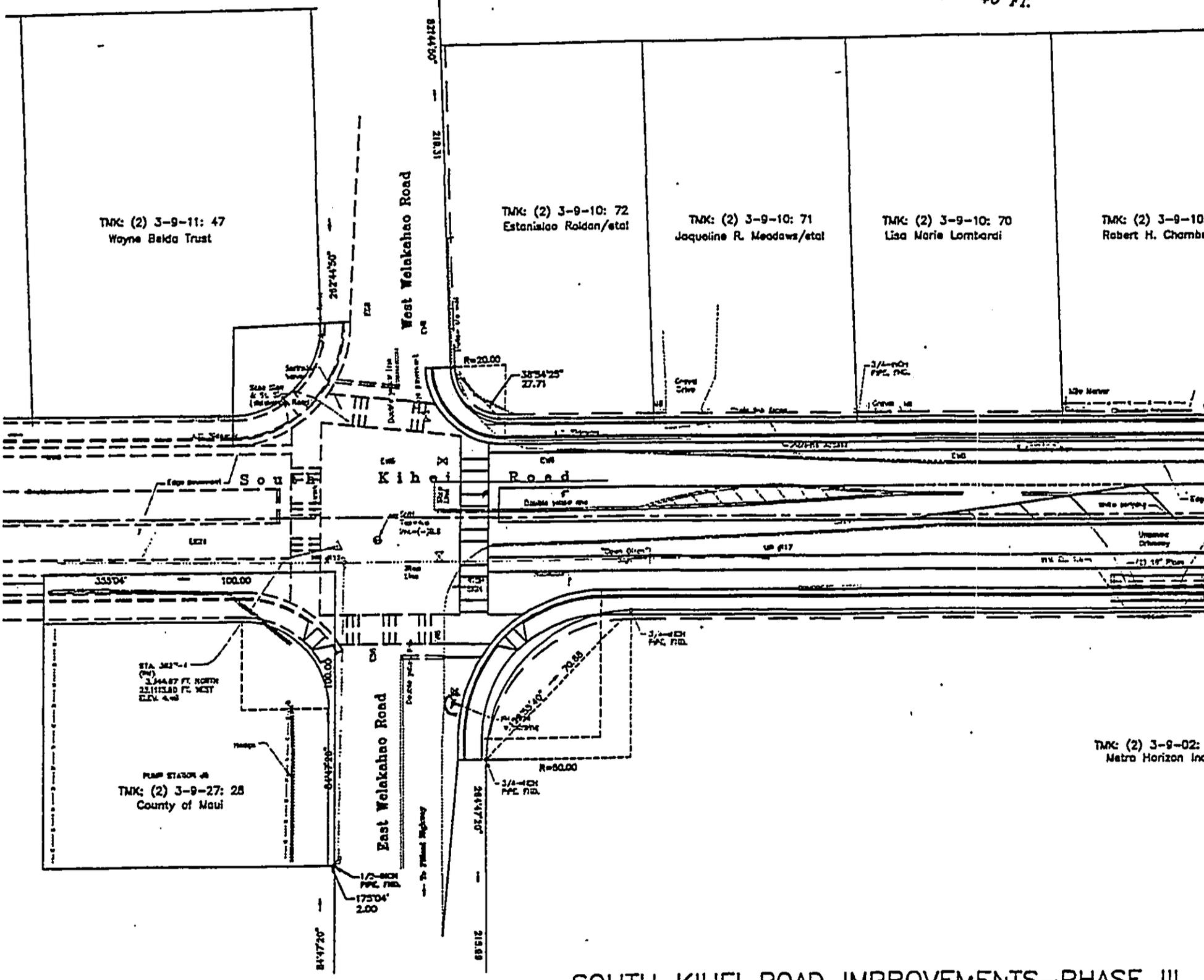
STA. 3077+3  
(PVI) 3.079 88 FT. NORTH  
22.186 21 FT. WEST  
ELEV. 434

TMK: (2) 3-9-02: 14  
Metro Horizon Inc.

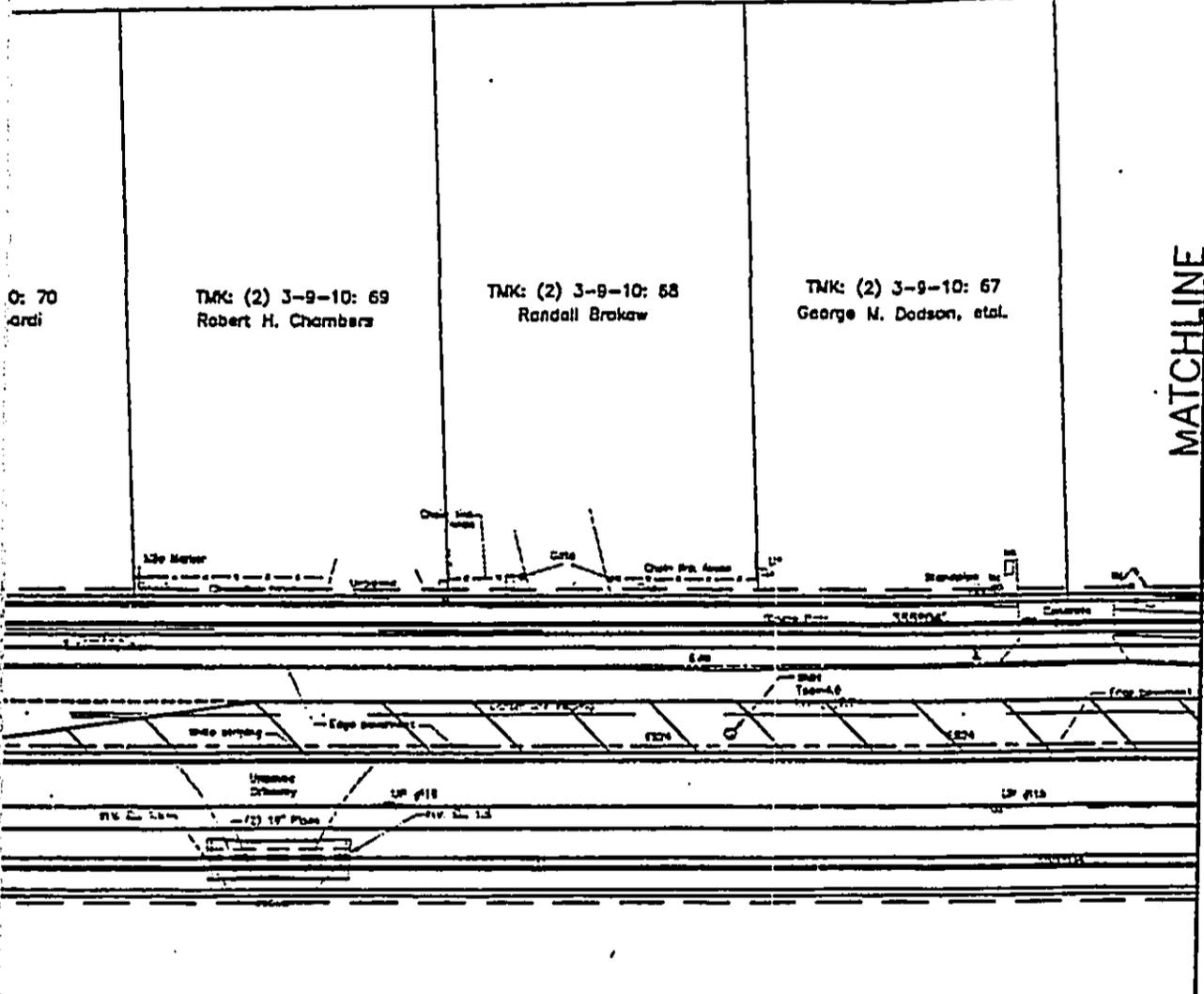
SOUTH KIHAI ROAD IMPROVEMENTS—PHASE III  
LIPOA STREET TO WELAKAHAO ROAD  
JOB NO. 94-81



TRUE NORTH  
SCALE: 1 IN. = 40 FT.



SOUTH KIHAI ROAD IMPROVEMENTS—PHASE III  
LIPOA STREET TO WELAKAHAO ROAD  
JOB NO. 94-81



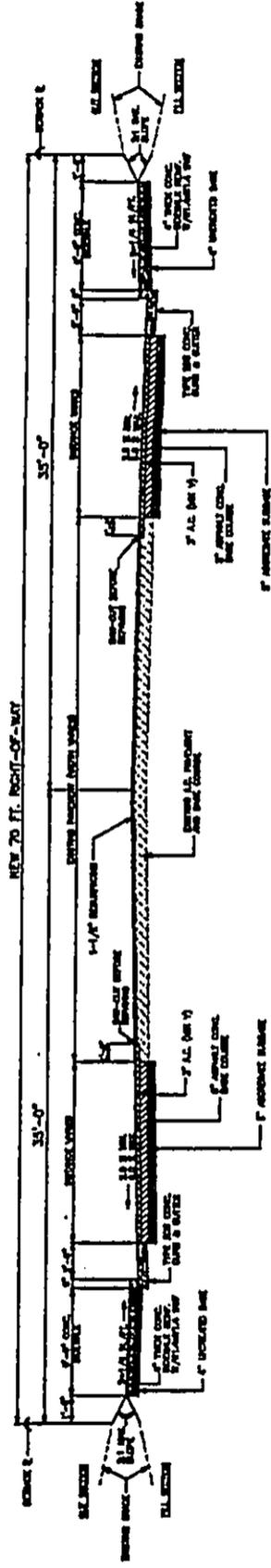
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Metro Horizon Inc.

ENTS-PHASE III  
HAO ROAD

Figure 3e

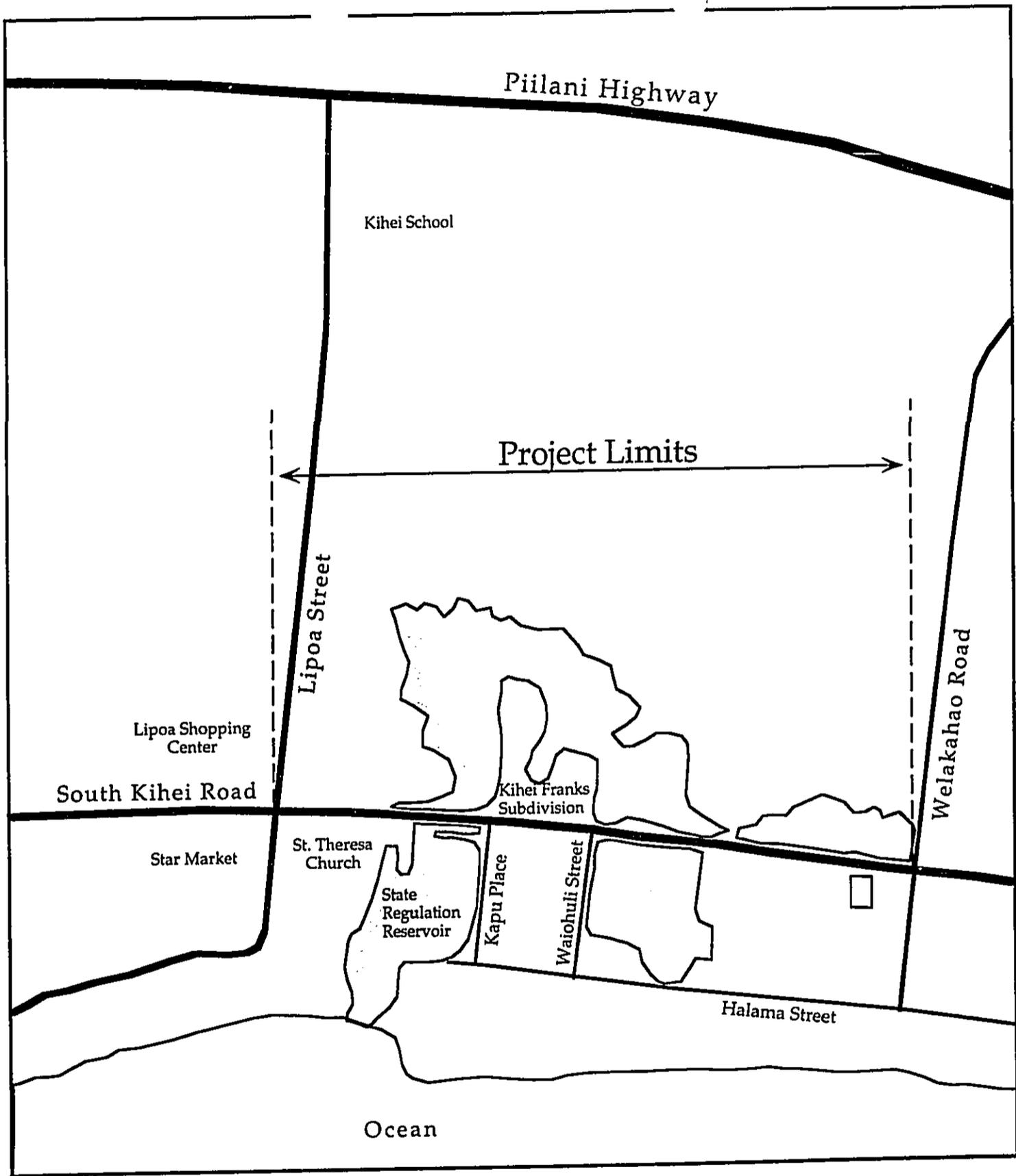
SEPTEMBER 1995

Figure 4



TYPICAL ROADWAY SECTION—S. KIHAI ROAD  
 SCALE: 1 INCH = 10 FEET

SOUTH KIHAI ROAD IMPROVEMENTS—PHASE III  
 JOB NO. 94-81

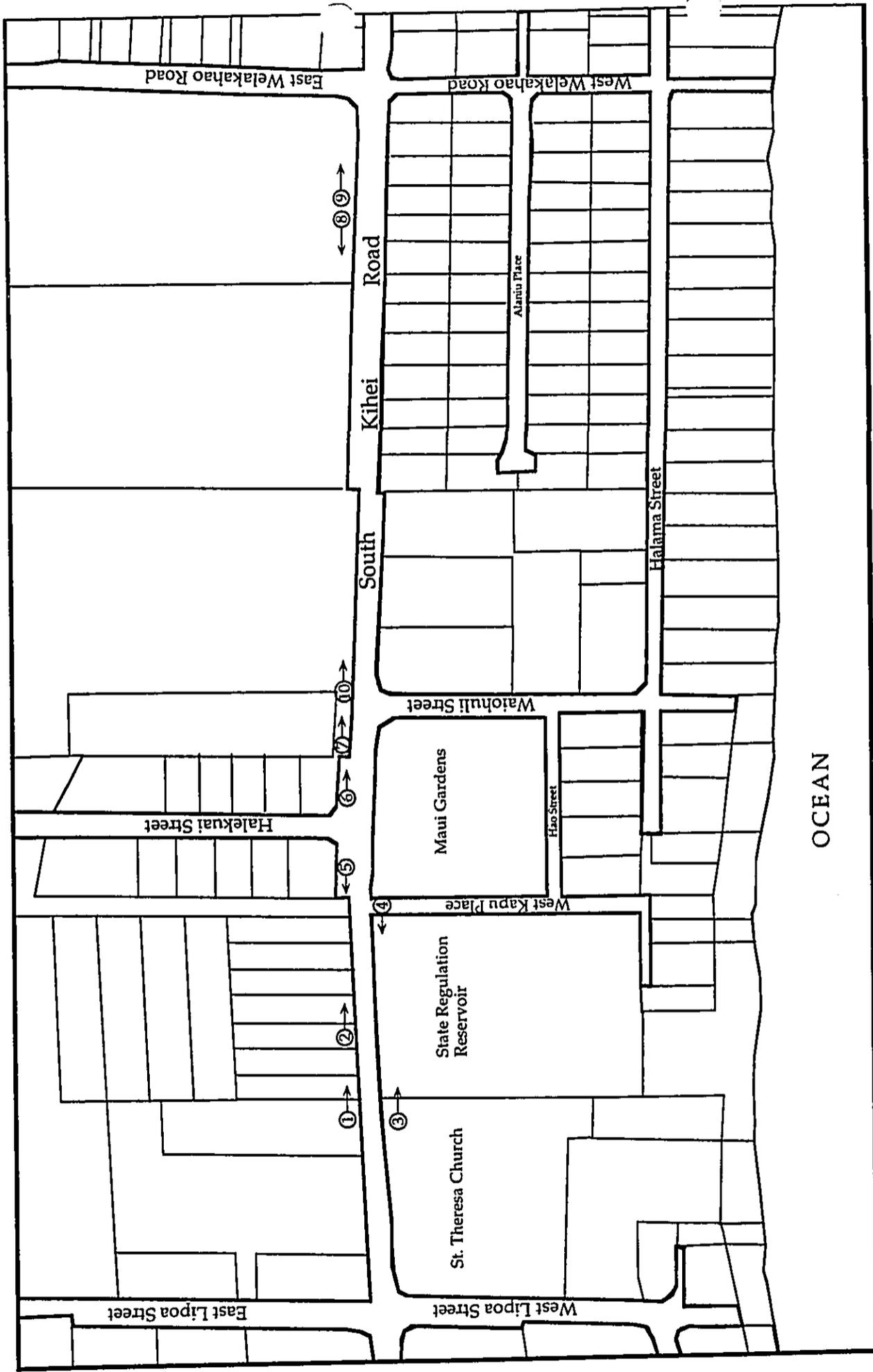


**Figure - 5**  
**Wetlands Location Map**  
 South Kihei Road Improvements - Phase III  
 Between Lipoa Street & Welakahao Road



□ - Approximate Area of Wetlands  
 Source: Wetlands Location  
 Kihei, Maui, Hawaii February 1991  
 U.S. Army Corp. of Engineers &  
 R.M. Towill Photograph 8/87

PHOTOGRAPHS



Legend  
 ↖ (#)  
 Refers to  
 Photograph Number  
 and Direction  
 of Photograph



# Exhibit - 3

## Photographic Reference Map

South Kihei Road Improvements - Phase III  
 Lipoa Street to Welakahao Road

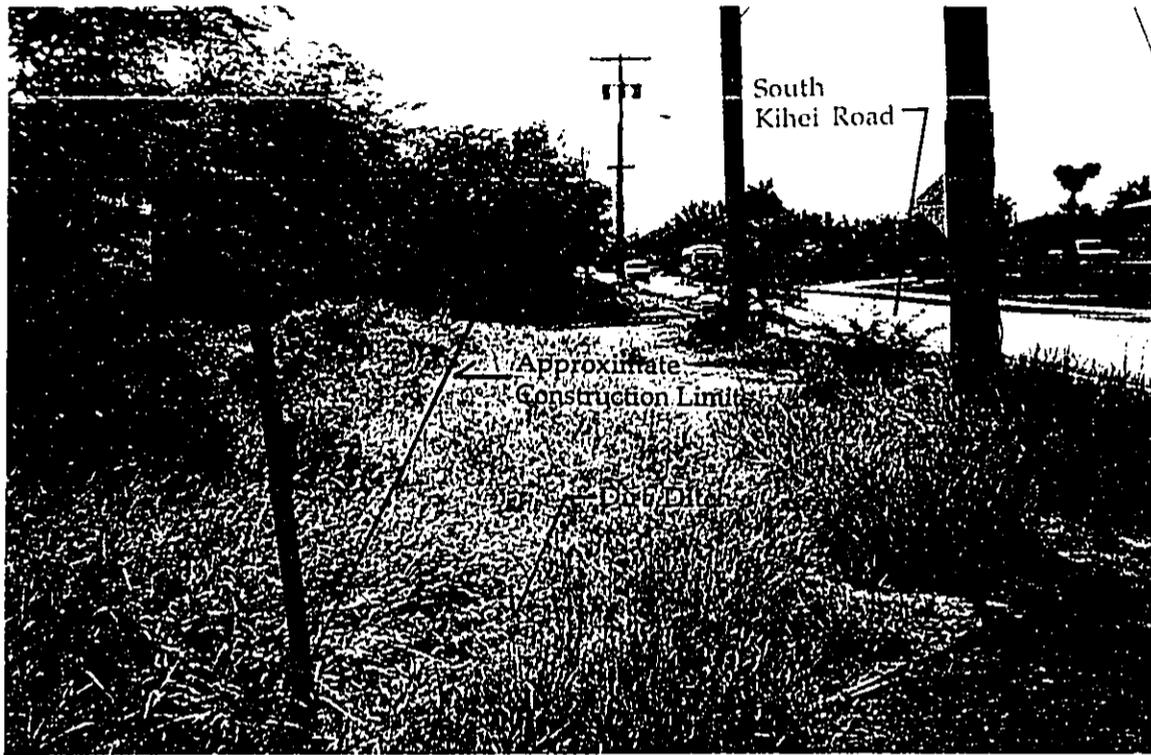
OCEAN



Photograph No.10 - View South of Dirt Ditch  
Between Halekuai St. & Welakahao Road



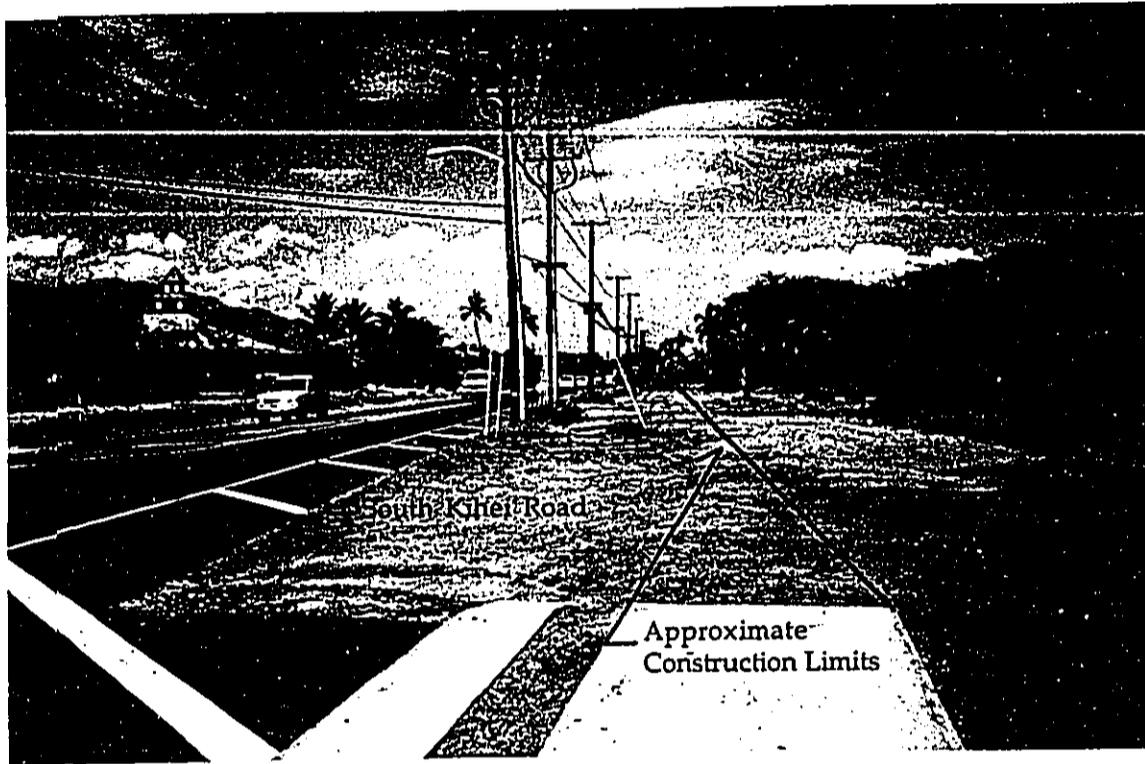
Photograph No.9 - View South of Concrete  
Ditch near Intersection of Welakahao Road  
& South Kihei Road



Photograph No.7 - View South of Dirt Ditch near Intersection of Halekuai St. & S. Kihei Road



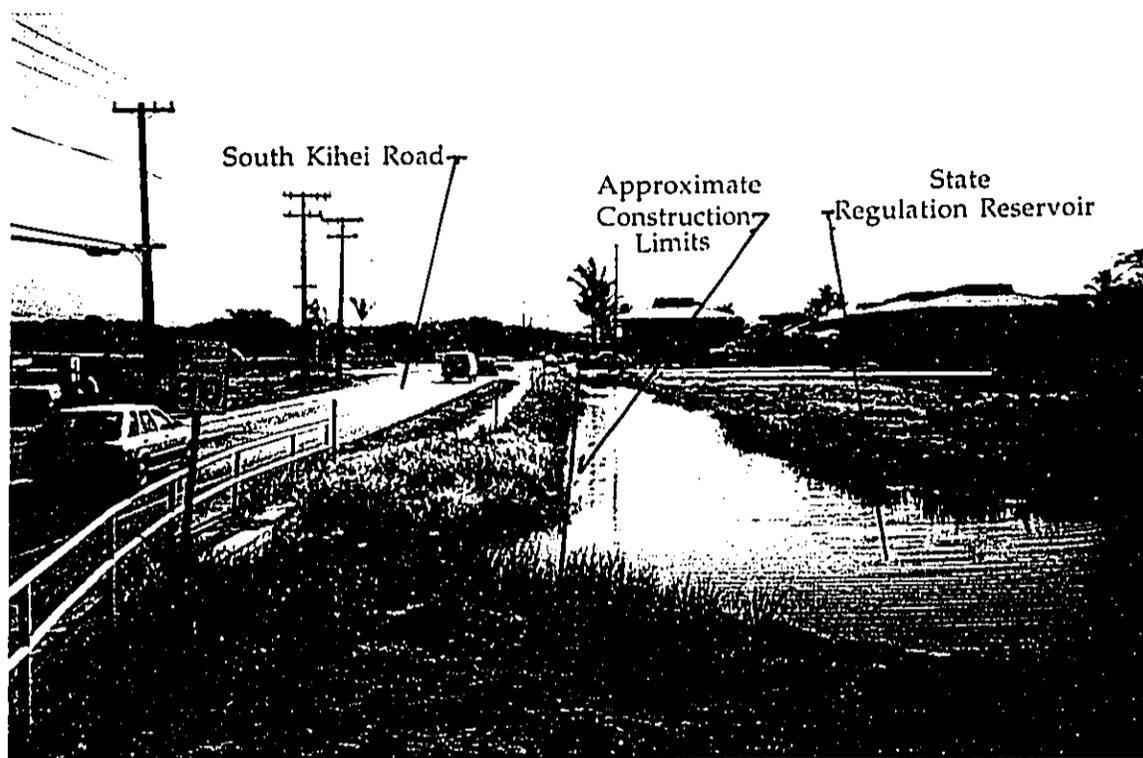
Photograph No.8 - View South of Concrete Ditch Between Halekuai St. & Welakahao Road



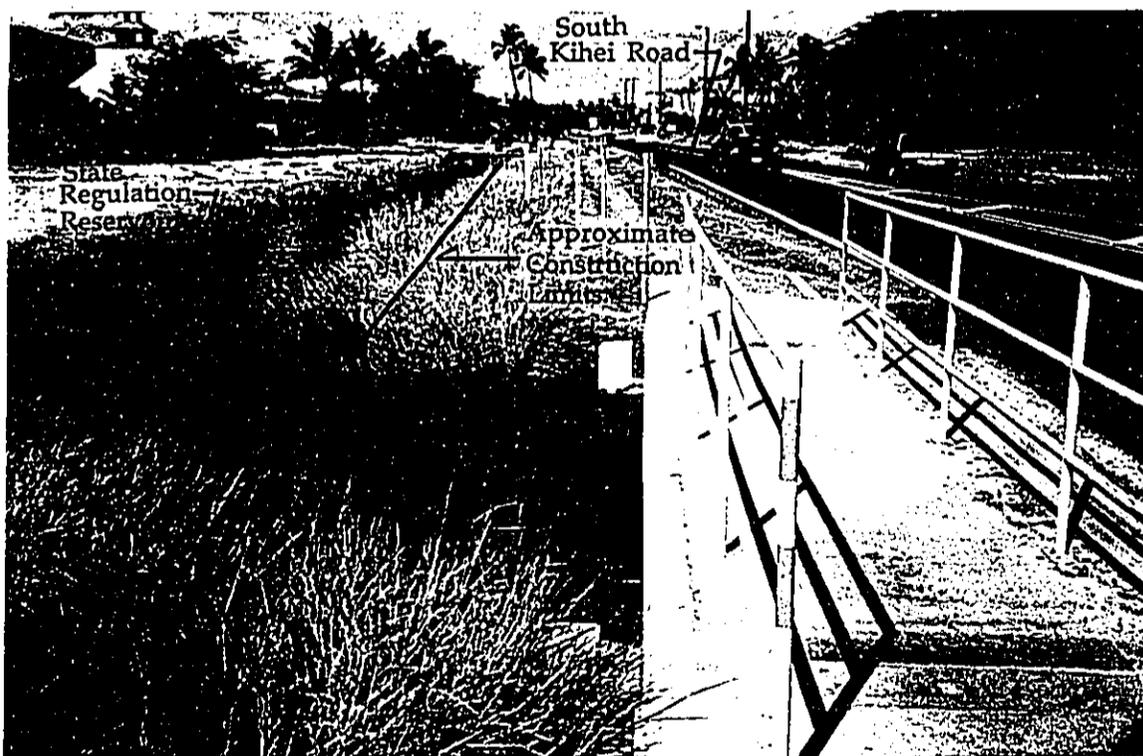
Photograph No.5 - View to the North from Intersection of Halekuai St. & S. Kihei Road



Photograph No.6 - View to the South from Intersection of Halekuai St. & S. Kihei Road



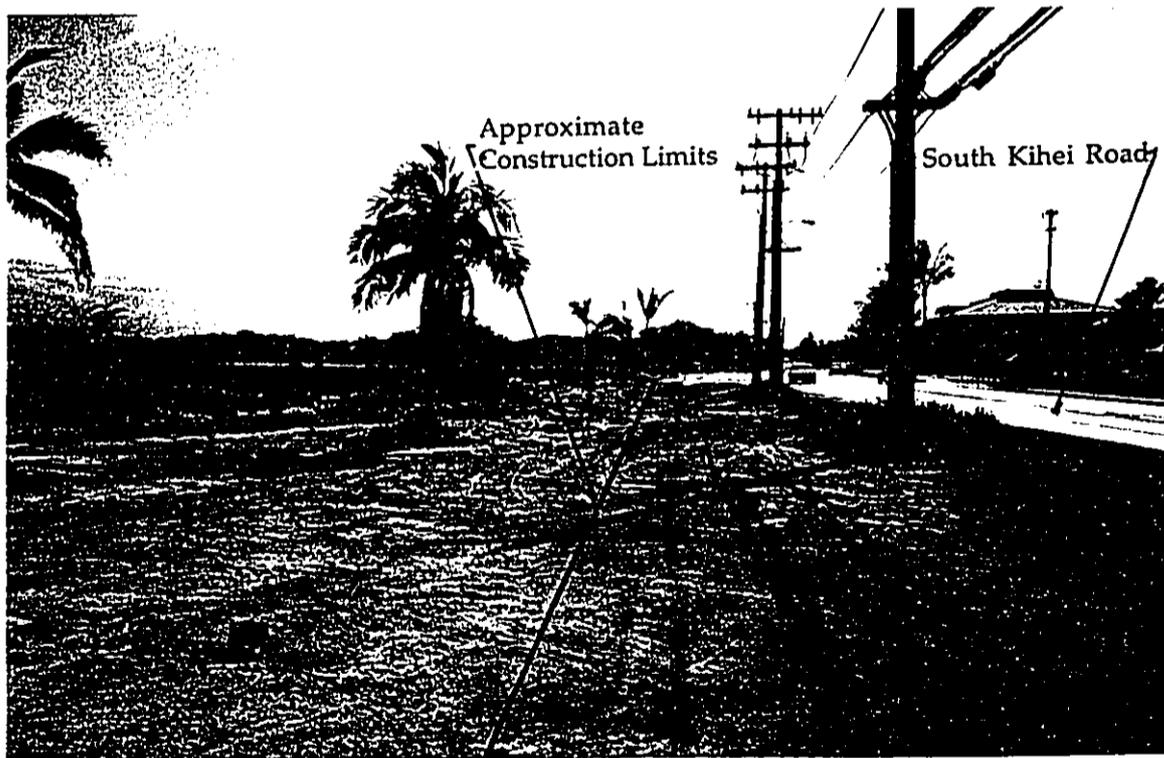
Photograph No.3 - View to the South of State Regulation Reservoir



Photograph No.4 - View to the North of State Regulation Reservoir From Kapu Place



Photograph No.1 - View to the South along Mauka side of South Kihei Road



Photograph No.2 - View to the South along South Kihei Road

APPENDIX A -  
Drainage Report

**DRAINAGE REPORT**  
**FOR**  
**SOUTH KIHEI ROAD IMPROVEMENTS-PHASE III**  
**(LIPOA STREET TO WELAKAHAO ROAD)**

**Kihei, Maui, Hawaii**

**Job No. 94-81**

**Prepared For:**

**ENGINEERING DIVISION  
DEPARTMENT OF PUBLIC WORKS  
AND WASTE MANAGEMENT  
COUNTY OF MAUI  
WAILUKU, MAUI, HAWAII 96793**



*Stacy A. Otomo*

**Prepared By:**

**OTOMO ENGINEERING, INC.  
Consulting Civil Engineers  
1129 E. Main Street, Suite 102  
Wailuku, Maui, Hawaii 96793**

**September, 1995**

**DRAINAGE REPORT  
FOR  
SOUTH KIHEI ROAD IMPROVEMENTS-PHASE III  
(LIPOA STREET TO WELAKAHAO ROAD)  
Kihei, Maui, Hawaii**

**I. INTRODUCTION**

The purpose of this report is to evaluate the existing drainage patterns and the effect due to the construction of the proposed project.

**II. SITE LOCATION AND PROJECT DESCRIPTION**

The proposed project is located along South Kihei Road, between Lipoa Street and Welakahao Road. It will be a continuation of the South Kihei Road-Phase II project, which ends at Welakahao Road.

The proposed project includes approximately 2,600 lineal feet of road improvements to South Kihei Road, from Lipoa Street to Welakahao Road. South Kihei Road will be aligned along the baseline established by Austin Tsutsumi & Associates, Inc. The proposed improvements include a 50 feet A.C. pavement section with curb, gutters, and sidewalks on both sides of the street. Left and right turn lanes will be constructed at the intersection of South Kihei Road and Lipoa Street and left turn lanes will be constructed at the intersections of South Kihei Road with Waiohuli Street and Kapu Place. A roadway drainage system will be constructed along the entire length of the road improvements which will be conveyed to the State Regulation Reservoir located to the south of St. Theresa Church. A box culvert system will be installed across South Kihei Road fronting the Regulation Reservoir to accommodate runoff from the mauka drainage areas.

The pavement section along South Kihei Road will be striped to allow two 12-foot lanes, parking along the mauka side of South Kihei Road, and bike paths on both sides of the street.

**III. EXISTING DRAINAGE CONDITIONS**

Presently, there are three (3) independent drainage systems within the limits of the project site.

The first system consists of an open concrete-lined ditch which runs on the mauka side and parallel to South Kihei Road from Welakahao Road to Halekuai Street (the entrance to the recently completed Kihei Franks Subdivision). It is then diverted under South Kihei Road to the State Regulation Reservoir.

The second system was installed by the Maui Gardens development and consists of catch basins along South Kihei Road between Waiohuli Street and West Kapu Place. This system also outlets into the State Regulation Reservoir.

The third system was installed by the County of Maui and consists of catch basins and box culverts along South Kihei Road from Azeka Shopping Center to the outlet at the State Regulation Reservoir.

Runoff diverted to the State Regulation Reservoir eventually discharges into the ocean.

#### IV. PROPOSED DRAINAGE IMPROVEMENTS

Based on previous drainage studies and reports, two major offsite drainage improvements were recommended immediately mauka of the project site. The first system is referred to as the "Kihei School Offsite Drainage", which proposes a drainage system through private property with an outlet into the State Regulation Reservoir.

The second system is referred to as the "Keokea Gulch Diversion", which channelizes and diverts runoff from Keokea Gulch at Piilani Highway, then diagonally across private properties. The system would then be diverted across South Kihei Road into the State Regulation Reservoir.

The proposed South Kihei Road drainage system, to be installed as part of this project, will be designed to intercept runoff makai of the proposed Keokea Gulch Diversion. All runoff intercepted by this system will be conveyed into the State Regulation Reservoir, maintaining the existing drainage pattern.

#### V. CONCLUSION

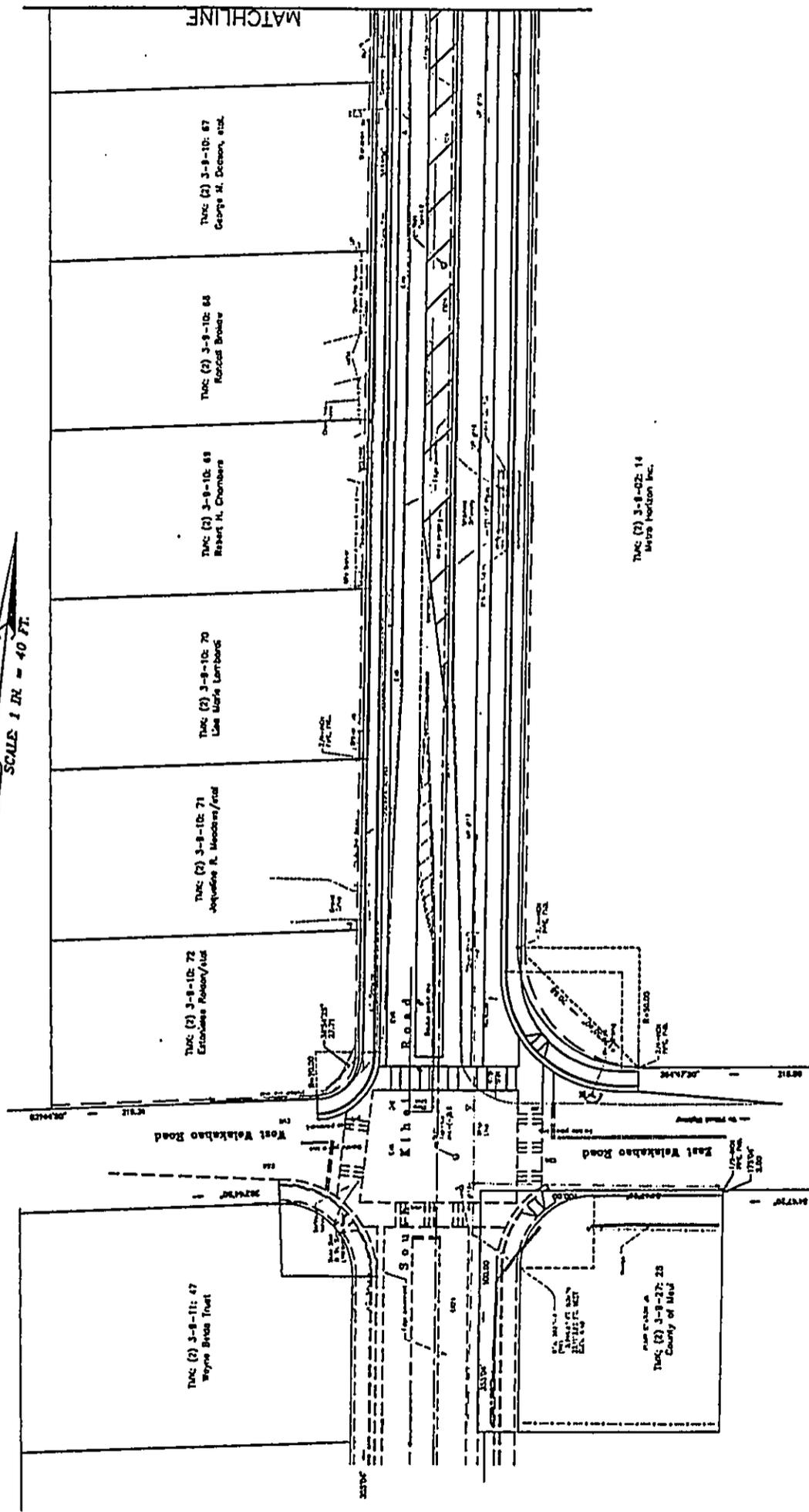
The runoff from the proposed project will continue to flow into the State Regulation Reservoir. Existing drainage patterns will be maintained.

Therefore, it is our professional opinion that the proposed project will not adversely affect the adjacent or downstream properties.

**EXHIBIT A**  
**PROPOSED PROJECT**



TRUE NORTH  
SCALE 1 IN. = 40 FT.



SOUTH KIHAI ROAD IMPROVEMENTS-PHASE III  
LIPOA STREET TO WELAKAHO ROAD  
JOB NO. 94-81

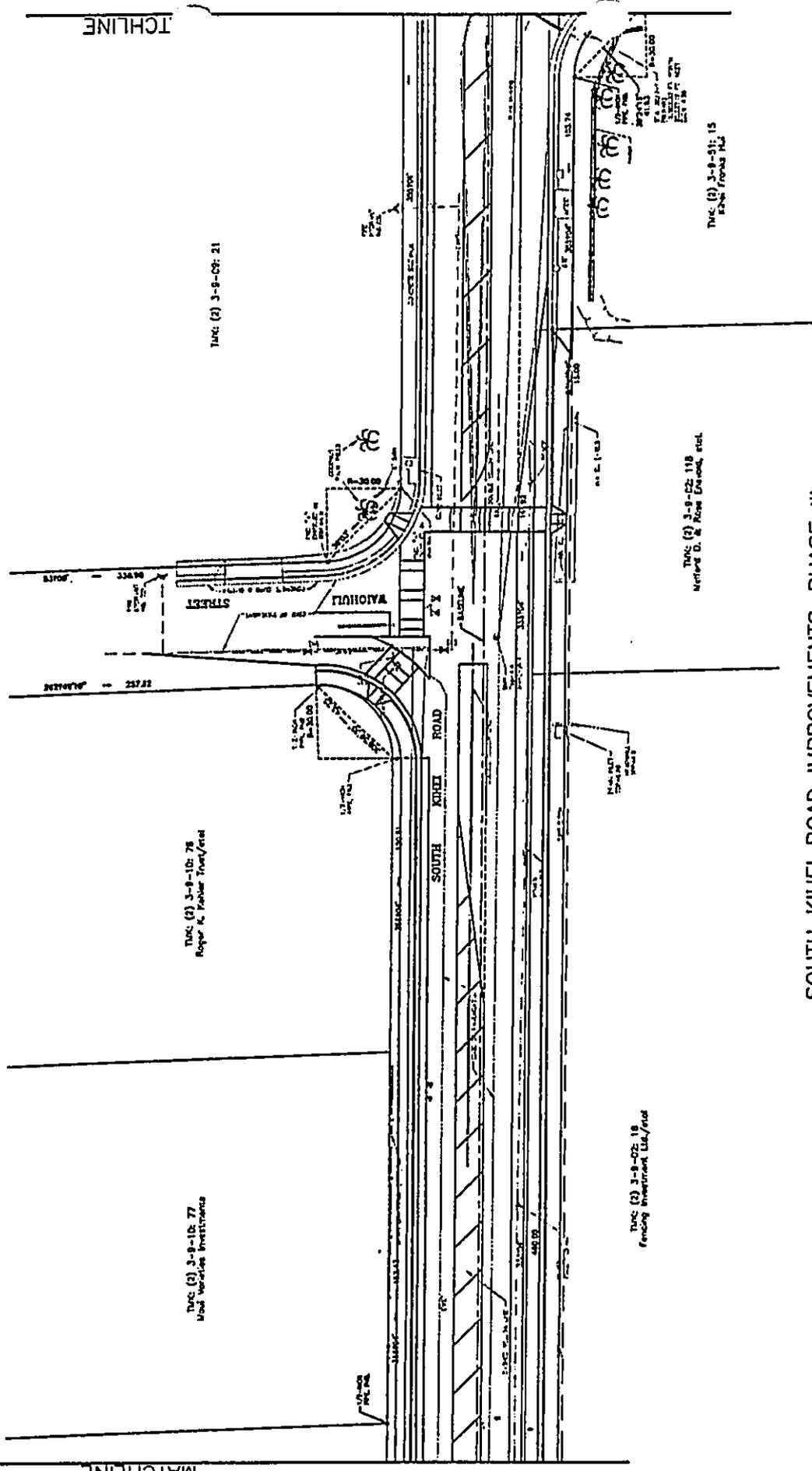
SEPTEMBER 1995



TRUE NORTH  
SCALE 1 IN. = 40 FT.

MATCHLINE

MATCHLINE



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Road Vehicle Inspection

TRAC (2) 3-9-10: 78  
Roger A. Fisher Turn/Arch

TRAC (2) 3-9-09: 21

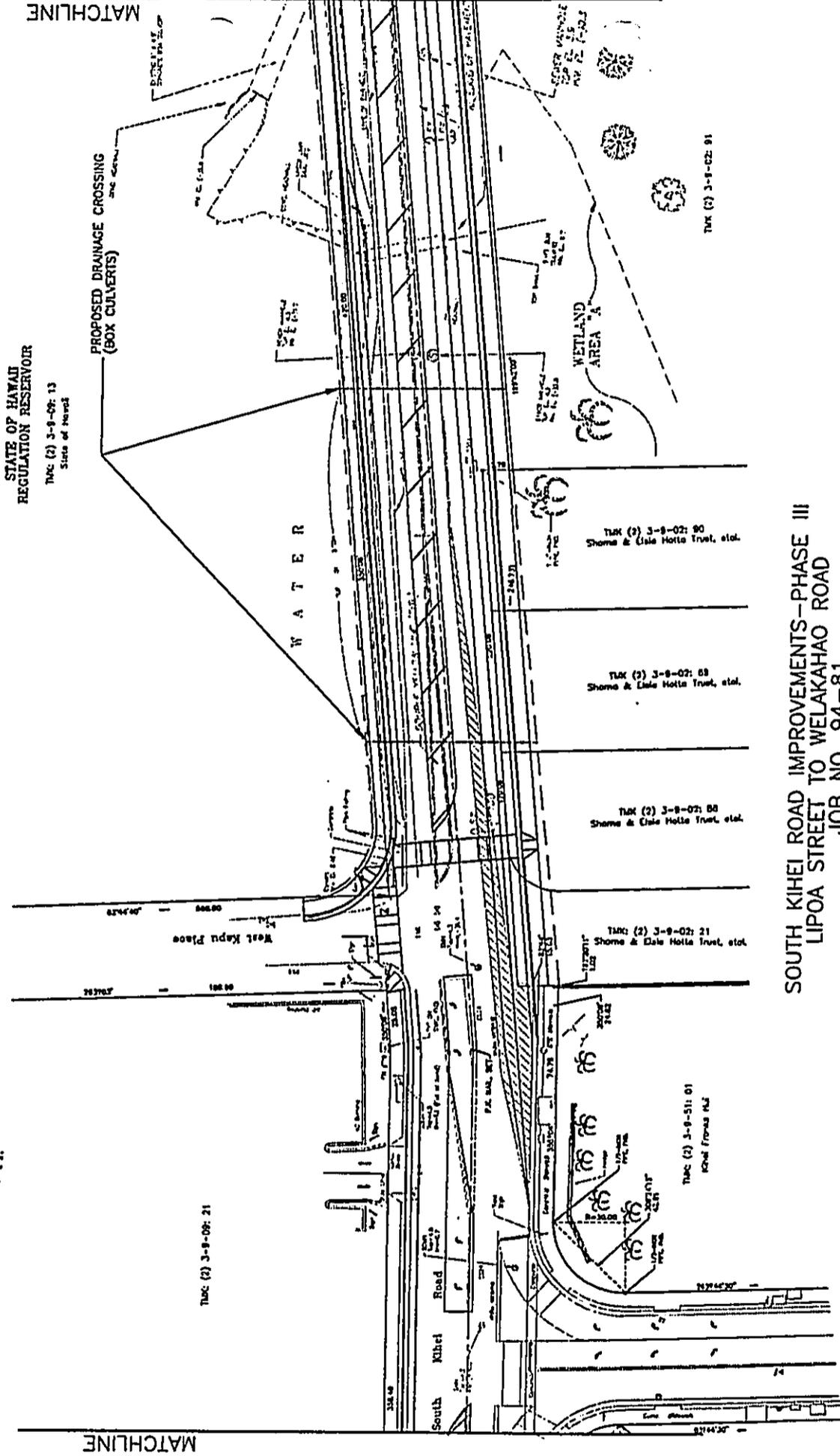
TRAC (2) 3-9-02: 18  
Fencing Inspection U/L/aid

TRAC (2) 3-9-02: 118  
Verifone D. & Rose Erased, et al.

TRAC (2) 3-9-01: 15  
Kane Photos 1/2

SOUTH KIHAI ROAD IMPROVEMENTS—PHASE III  
LIPOA STREET TO WELAKAHAO ROAD  
JOB NO. 94-81

TRUE NORTH  
SCALE 1 IN. = 40 FT.



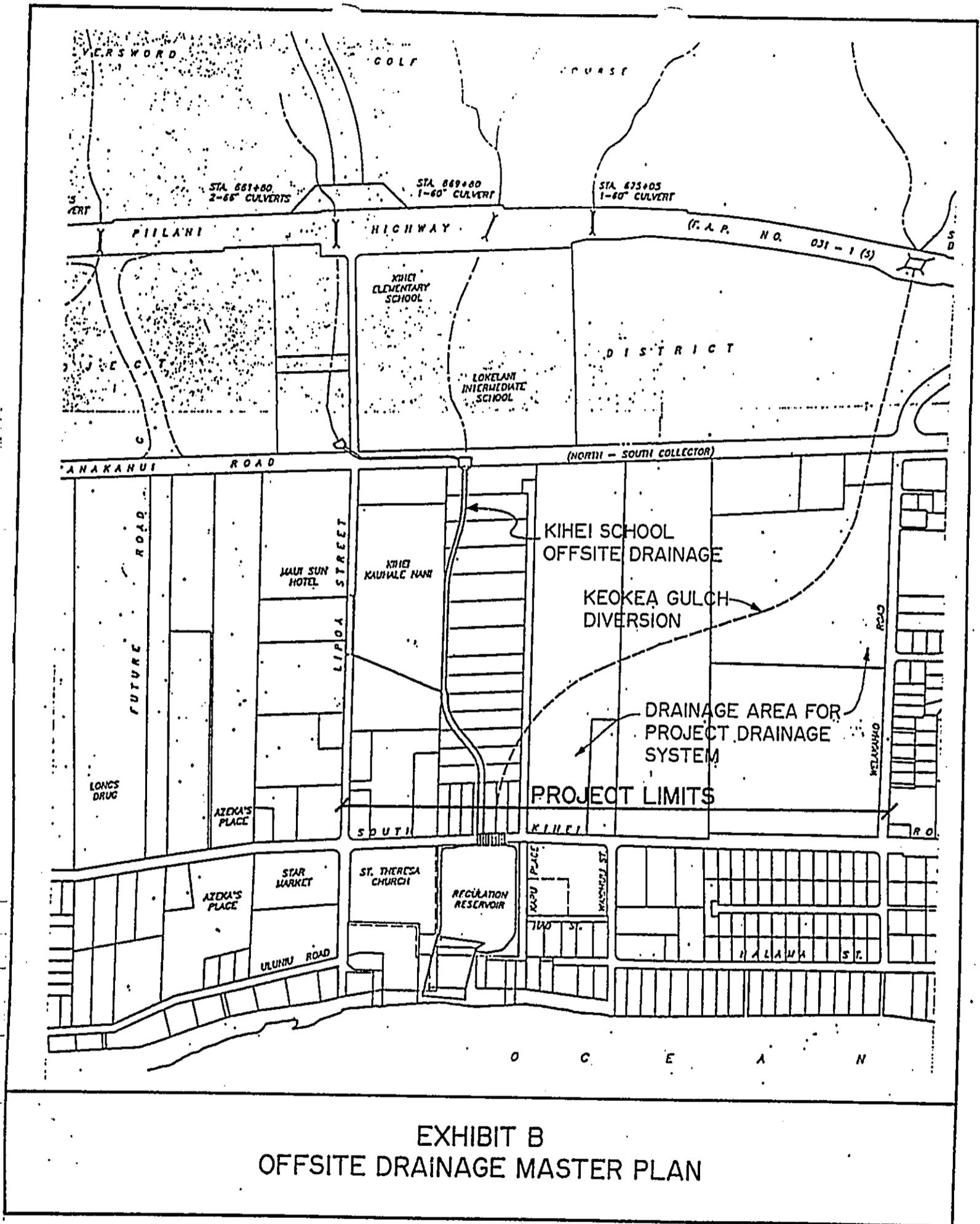
STATE OF HAWAII  
REGULATION RESERVOIR  
TNC (2) 3-9-09: 13  
State of Hawaii

SOUTH KIHEI ROAD IMPROVEMENTS-PHASE III  
LIPOA STREET TO WELAKAHAO ROAD  
JOB NO. 94-81

SEPTEMBER 1995



**EXHIBIT B**  
**OFFSITE DRAINAGE MASTER PLAN**



APPENDIX B -  
DRAFT EA COMMENT  
AND RESPONSE LETTERS

BENJAMIN J. CAYETANO  
GOVERNOR



GARY GILL  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 588-4188  
FACSIMILE (808) 588-4188

February 22, 1996

VIA TELEPHONE FACSIMILE 9-1-808-243-7955

The Honorable Charles Jencks, Director  
Department of Public Works and Waste Management  
County of Maui  
200 South High Street  
Wailuku, Hawai'i 96793

Dear Mr. Jencks:

Thank you for your January 9, 1996, letter (LL:ch(ED96-25)) submitting a draft environmental assessment (DEA) for Proposed South Kihei Road Improvements, Phase III, Kihei, Maui, Hawai'i, Job No. 95-05. The Office of Environmental Quality Control published notice of availability of this DEA in the January 23, 1996, edition of the Environmental Notice. We submit for your response (required by Section 343-5(b), Hawaii Revised Statutes) the following comments on the DEA.

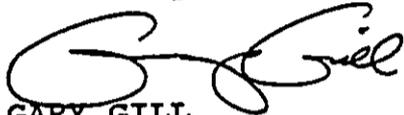
1. **WETLAND ENCROACHMENT AND DISCUSSION OF MITIGATION.** Noting that the area of encroachment represents a small fraction of the total wetlands (delineated in Figure 5), the DEA concludes that "the proposed project is not anticipated to have a significant adverse impact upon the adjacent wetland areas." An assessment of significance is usually conditioned by disclosure of impacts, alternatives, and mitigation. The next paragraph, however, defers discussion of mitigation to the the permitting phases (Section 401 of the Clean Water Act and Coastal Zone Consistency Determination). Please include a discussion of mitigation for wetland encroachment in the final environmental assessment.
2. **DRAINAGE PATTERNS.** On page 21, in a discussion on coastal ecosystems, the DEA notes that the proposed drainage plan would allow runoff to sheet flow in its present direction, keep alterations to the existing drainage pattern to a minimum and implement soil erosion mitigation measures to protect downstream properties. The DEA then goes on to say that "the proposed project is not anticipated to have an negligible impact upon the existing hydrologic conditions and adjoining or downstream properties." [Underscoring supplied]. This statement appears to

The Honorable Charles Jencks, Director  
Page 2  
February 22, 1996

conflict with a statement in the conclusion on page 2 of Appendix  
A (Drainage Report for South Kihei Road Improvements - Phase  
III).

Please include this letter and your response in the final  
environmental assessment for this project. If there are any  
questions, please call Mr. Leslie Segundo, Environmental Health  
Specialist toll-free at 1-800-468-4644 extension 64185. Thank  
you.

Sincerely,



GARY GILL  
Director

c: Mr. Richard Takase, Maui Interstate Realty, Inc.  
Mr. Stacy Otomo, Otomo Engineering Inc.  
Mr. John Min, Chris Hart & Partners

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CHARLES JENCKS  
Director

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AARON SHINMOTO, P.E.  
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DEPARTMENT OF PUBLIC WORKS  
AND WASTE MANAGEMENT  
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Wastewater Reclamation Division

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Engineering Division

Solid Waste Division

BRIAN HASHIRO, P.E.  
Highways Division

May 22, 1996

Mr. Gary Gill, Director  
Mr. Leslie Sequndo  
State of Hawaii  
Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

SUBJECT: SOUTH KIHEI ROAD IMPROVEMENTS, PHASE III  
JOB NO. 94-81

Dear Mr. Gill and Mr. Sequndo:

We are in receipt of your letter dated February 22, 1996 in response to our application for a draft environmental assessment (DEA). We contacted Mr. Sequndo on February 29, 1996 regarding this matter and discussed items in question. This letter is our written response addressing these concerns as discussed with Mr. Sequndo.

Item 1. WETLAND ENCROACHMENT AND DISCUSSION OF MITIGATION

The area in discussion is an area on the makai and mauka side of South Kihei Road, about 400 feet from the Lipoa intersection (see enclosed map). On the makai side there is a State Reservoir, drain outlet, and dirt channel waterway. The mauka side is currently residential and vacant land. According to the Army Corps of Engineers wetland map (copy enclosed), they have designated the areas adjacent to the road right of way of the wetland area. Highlighted by orange on the map are the areas affected by the planned road improvements. This area is located in the "existing right of way" and NOT in the wetlands. The yellow line represents about where the wetlands begin. The pictures in the draft assessment show this area in photographs 2, 3, 4, and 5. Currently, the area is being used as a shoulder, a walkway for the existing roadway and is void of any substantial vegetation or wildlife habitat. A drain outlet on the makai side next to Kapu Place connects to a wetland area. The plans will include a replacement and improvement of this outlet. However, according to the Army Corps of Engineers, this is not considered a wetland. It is an existing and necessary part of the roadway.

Mr. Gary Gill and Mr. Leslie Segundo  
SUBJECT: SOUTH KIHEI ROAD IMPROVEMENTS, PHASE III  
May 23, 1996  
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During the construction phase, the contractor may need to enter some of these wetland areas. No roadway improvements will be built in the wetland's area and appropriate mitigation measures to protect any wetland sites will be implemented during construction. The following mitigation measures for construction shall apply:

- a. Dust control in all area. Water and screening to be used to mitigate construction dust.
- b. Fence protection of sensitive areas during construction.
- c. Clean up and removal of any waste.
- d. Follow-up with landscaping in necessary areas.

Item 2. DRAINAGE PATTERNS

There is some misunderstanding on this item in relation to how the wording appears. The road improvements that are being designed and planned include a new drainage system. This system is designed to address the drainage of this project and include some drainage improvements for future use. This system will actually improve the existing drainage conditions. The project will collect and properly regulate flows into the reservoir area by directing it through the new underground drainage system. The plans also call for;

- a. A new box culvert with flap gates on the makai side of the culvert outlet that will connect to the existing reservoir and comply with future drainage master plans (Keokea gulch improvements);
- b. A new drain outlet on the makai side next to Kapu Place. This will also ensure the integrity of the current dirt outlet, dirt banks, and avoid sediment blockage;
- c. Sidewalks, curbs and gutters of both sides; and
- d. An underground drainage system along South Kihei Road to handle roadway and adjacent property runoff.

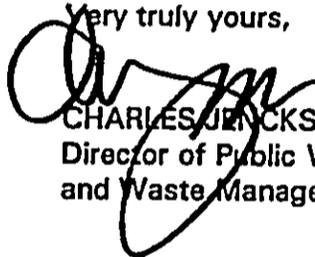
Presently, water sheet flows over this area. The proposed improvements will enhance the current environmental and safety conditions, and will not have any negative impact to existing conditions or downstream properties.

Mr. Gary Gill and Mr. Leslie Sequndo  
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In summary, this project will improve current conditions of the existing roadway and adjacent properties. The design phase of this project has taken every precaution to address all environmental concerns.

If you have any questions on this matter, please call Lloyd Lee or Joe Krueger of our Engineering Division at (808) 243-7745.

Very truly yours,

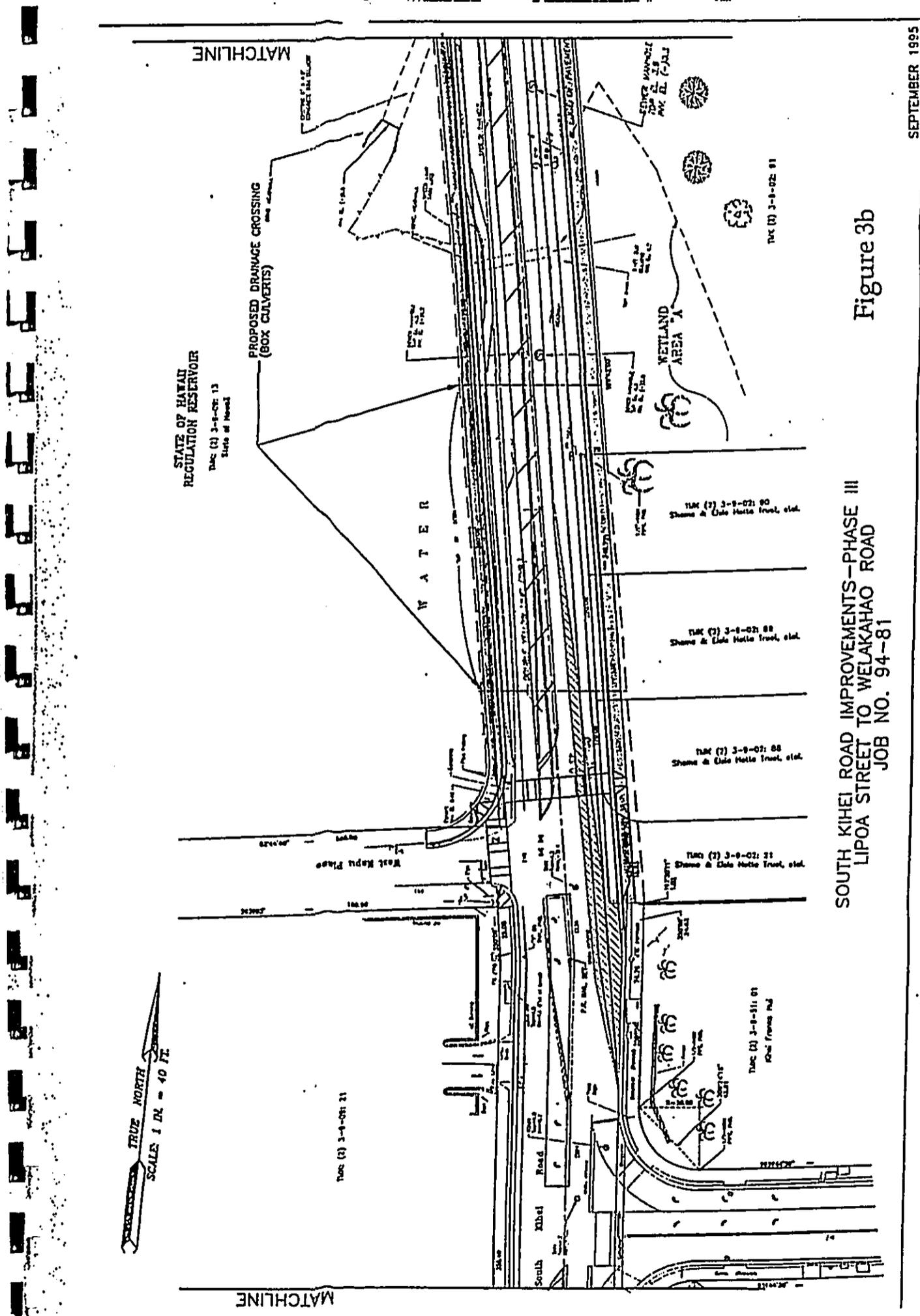
  
CHARLES JENCKS  
Director of Public Works  
and Waste Management

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**Enclosures**

xc: Mr. Stacy Otomo, Otomo Engineering, Inc.  
Richard Takase, Maui Interstate Realty, Inc.

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SOUTH KIHAI ROAD IMPROVEMENTS—PHASE III  
LIPOA STREET TO WELAKAHAO ROAD  
JOB NO. 94-81

Figure 3b

SEPTEMBER 1995

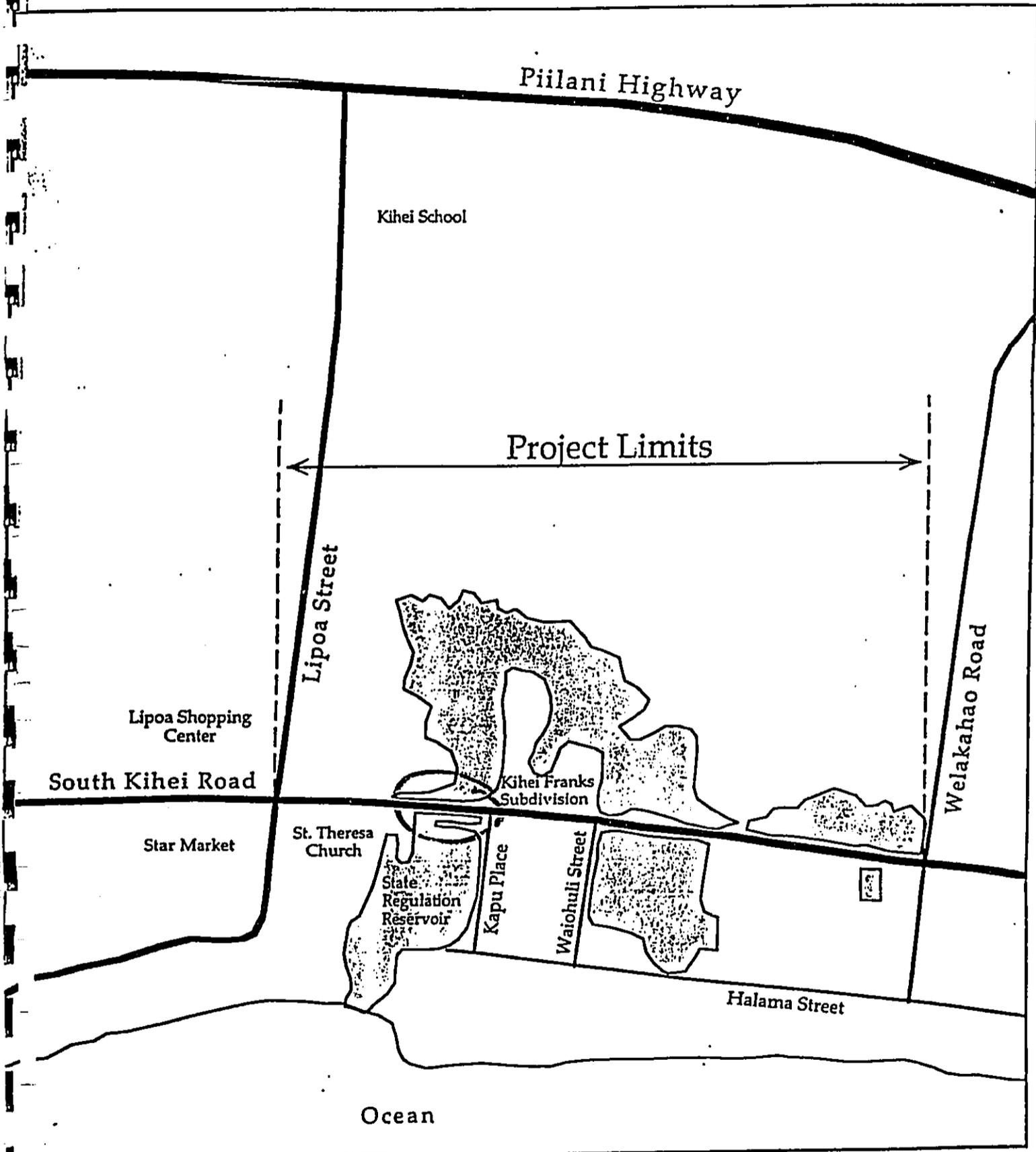


Figure - 5  
Wetlands Location Map  
South Kihei Road Improvements - Phase III  
Between Lipoa Street & Welakahao Road



□ - Approximate Area of Wetlands  
Source: Wetlands Location  
Kihei, Maui, Hawaii February 1991  
U.S. Army Corp. of Engineers &  
R.M. Towill Photograph 8/87