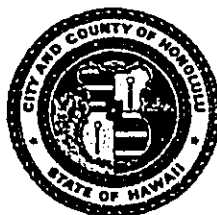


DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

FRANK F. FASI  
MAYOR



SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER

IN REPLY REFER TO:

91-12-0525

November 18, 1991

OFC. OF ENVIRONMENTAL  
QUALITY CONTROL

'91 NOV 20 08:03

RECEIVED

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

Dear Mr. Choy:

Subject: Negative Declaration for the Kunawai Lane Drainage Improvement Project,  
Honolulu, Oahu, Hawaii, Tax Map Key: 1-7-36

This letter is a notice of Negative Declaration by the proposing agency, the City and County of Honolulu, Department of Public Works. The subject action has been assessed according to Title 11, Chapter 200, Environmental Impact Statement Rules, and Chapter 343, HRS.

A determination has been made that an environmental impact statement is not required based on an environmental assessment which was prepared for the project. Four copies of the environmental assessment are enclosed.

The pertinent information for this notice of determination is summarized below.

1. **PROPOSING AGENCY**

City and County of Honolulu, Department of Public Works.

2. **DESCRIPTION OF THE PROPOSED ACTION**

The project proposes to construct a storm drain system that will serve Kunawai Lane from the front of Kunawai Springs (and Kunawai Park) to Liliha Street.

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Mr. Brian Choy, Director  
November 18, 1991  
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Storm water will be collected by 4 drain inlets that will be spaced approximately 250 feet apart. The inlets will connect to an underground pipe drain system. The drainage inlet boxes will measure 2 x 4 feet and the pipe diameters will be 18-24 inches. This system will be connected to the existing Liliha Street storm drain system. The connection will be at the catch basin midway between Kunawai Lane and Kuakini Street (in front of 1832 Liliha Street).

The project will take approximately six months to complete and will cost approximately \$125,000. City funds from the Capital Improvement Programs (CIP) budget will be used to construct this project.

3. ***DETERMINATION***

After preparing an environmental assessment and consulting with other agencies, we have determined that the proposed project will not have a significant impact on the environment, and an Environmental Impact Statement is not required.

4. ***REASONS SUPPORTING DETERMINATION***

Reasons and conclusion supporting determination are based on the following criteria.

The proposed project will not:

- a. Involve an irrevocable commitment to loss or destruction of any natural or cultural resource;
- b. Curtail the range of beneficial uses of the environment;
- c. Conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;
- d. Substantially affect the economic or social welfare of the community or State;
- e. Substantially affect public health;
- f. Involve substantial secondary impacts, such as population changes or effects on public facilities;
- g. Involve a substantial degradation of environmental quality;
- h. Have either an individual or cumulative effect upon the environment or involve a commitment for larger actions;

Mr. Brian Choy, Director  
November 18, 1991  
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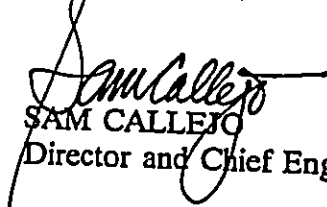
- i. Substantially affect a rare, threatened, or endangered species, or its habitat;
- j. Detrimently affect air or water quality or ambient noise levels; or
- k. Affect an environmentally sensitive area, such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

5. **CONTACT PERSON**

Melvin Takakura  
Department of Public Works  
Division of Engineering  
Honolulu Municipal Building, 15th Floor  
650 South King Street  
Honolulu, Hawaii 96813

Telephone No.: 523-4931

Very truly yours,

  
SAM CALLEJO  
Director and Chief Engineer

Attachment (4 copies)

cc: Fujita & Associates, Inc. (w/attach.)  
Department of General Planning (w/o attach.)

1991-12-08-0A-FED-

**ENVIRONMENTAL ASSESSMENT  
FOR THE  
\* KUNAWAI LANE DRAINAGE  
IMPROVEMENT \***


**TAX MAP KEY 1-7-36**

**THIS ENVIRONMENTAL  
DOCUMENT WAS  
PREPARED PURSUANT TO  
CHAPTER 343, HRS**

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

**APPROVING AGENCY:**  
City and County of Honolulu  
Department of  
General Planning

Responsible Official:

  
Sam Callejo  
Director and Chief Engineer

NOV. 8, 1991  
Date

**PREPARED BY:**  
ENVIRONMENTAL TECHNOLOGIES INTERNATIONAL, INC.  
**FOR:**  
FUJITA & ASSOCIATES, INC.

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RECEIVED

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

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# KUNAWAI LANE DRAINAGE IMPROVEMENTS ENVIRONMENTAL ASSESSMENT

## I. DESCRIPTION OF THE PROPOSED PROJECT:

### A. INTRODUCTION:

Kunawai Lane is located within the City and County of Honolulu, designated by Tax Map Key 1-7-36. This lane is approximately 1,860 feet in length and connects Lanakila Avenue with Liliha Street in the 1800 block.

Kunawai Lane has a multiple ownership which includes the City and County of Honolulu (C & C Honolulu), State of Hawaii and private parties. As a result, the C & C Honolulu Public Works Department assumed jurisdiction and maintenance responsibility over Kunawai Lane. Most of Kunawai Lane is served by a storm drain system built in increments by the City in 1935, 1948 and 1967. The last segment is a 750 foot section between Kunawai Springs and Liliha Street, with a tributary area of approximately 5.5 acres. This segment has no storm drain system and is downgradient of the existing storm drain system as previously described. The Kunawai Lane Drainage Improvement Project will provide adequate drainage for the road and the homes that border it, to relieve residents from the effects of the inadequate drainage (i.e. ponding, flooding). The project location is depicted in Figures 1 and 2.

### B. NEED FOR THE PROJECT

The proposed project (hereinafter referred to as the project) concerns an area that affects 750 feet of Kunawai Lane, that runs in a northwesterly to southeasterly direction. The northwest end is bordered by Kunawai Springs and Kunawai Park, and the southeast end connects to Liliha Street (see Figure 2). The project will continue down Liliha Street for another 250 feet and connect to an existing C & C Honolulu storm drain system. The existing storm drain is shown in Figure 3.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

The section of Kunawai Lane above the project site is served by a storm drain system consisting of curb inlets and an underground storm water conveyance system. Part of this system is depicted in Figure 2. This system is upgradient and directed away from the project area. Being upgradient, it cannot be used to serve this project area.

The project area was previously served by a storm drain system utilizing grate inlets and underground pipes which were connected to a swale adjacent to Kunawai Springs Park via an underground piping system (see Figure 3). All grates have since been covered by asphalt during subsequent road repairs and are no longer serviceable. The condition of the other underground components are not known. The downstream sections of the underground components have since been abandoned and are no longer useable.

The following paragraphs describe the drainage as it presently exists, based on field observations and informal surveying of some residents from the area.

Kunawai Park has a pond on the northwest end, with an overflow connecting to the storm drain system (upgradient of the project site). The lower half of the park is paved and impervious. Some properties along Panui Street also border and slope towards the park. This accumulated storm water runoff drains to the lower southwest corner where two drain pipes direct the flow onto Kunawai Lane. A concrete pad has been included beneath these pipes, to break the force of the falling water and prevent erosion. However, the erosion around the pad demonstrates that the volume of the water is too great and that the pad is not totally effective. Residents reported relatively large volumes of runoff flowing from these pipes. This runoff flows partially down the lane adjacent to Kunawai Springs, while the rest is diverted down Kunawai Lane.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

Another private lane (designated by #1 on Figure 2), connects to Kunawai Lane between the addresses 525 and 603 Kunawai Lane, and terminates behind the Shobukan Judo Club. A resident explained that the storm water runoff from Kunawai Lane and another nearby private road (designated by #2 on Figure 2), ponds behind the Judo Club and the excess overflows onto the adjacent property below it. It was also reported that runoff also ponds on other properties along this lane. Observations along Kunawai Lane, made after a light rain, showed signs of ponding on both sides of the road. It also appeared that runoff during heavy rains may affect some of the homes on the southwest side, flowing through their properties, including carports, etc. The presence of algae in some roadside depressed areas indicates long term ponding. Other ponds were observed to drain slowly onto Liliha Street. At the time of this field investigation, there were no other sources of water draining onto that section of Liliha Street except for the drainage from Kunawai lane. The runoff enters the storm drain system at a curb inlet midway between Kunawai Lane and Kuakini Street (see Figure 3).

The project site has no existing drainage system, the soils have generally poor drainage characteristics, and the presence of underground springs may leave the subterranean soil in a saturated state.

The purpose of this project is to provide an adequate drainage system for the area as described. This will be accomplished through a storm water management system that will divert runoff to curb drains and an underground pipe drain system. The objectives are to eliminate flooding and ponding for the residences on the southwest side of the road and create a safe and convenient environment for the pedestrians who are traversing the area on foot. Residences on the northeast side are upgradient and their property is not directly affected by the storm water runoff.



KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

C. DESCRIPTION OF THE PROPOSED PROJECT

The C & C Honolulu proposes to construct a storm drain system that will serve Kunawai Lane from the front of Kunawai Springs (and Kunawai Park) to Liliha Street. It is proposed that runoff will be diverted to an asphalt curb bordering the southwest side of the lane. The curbing will catch all storm water runoff from Kunawai Park, houses bordering the park, the paved roadway from the northwest section of the project area, the private road, and the homes bordering the northeast side of Kunawai Lane. A lateral asphalt extension beyond the diversion curbing, running the length of the project will also be included. This will extend from the edge of the road where the curbing will be placed, to the fenceline. The asphalt will not be extended on the northeast side as it is already too high above grade and will result in ponding on those properties.

Storm water will be diverted to 4 curb inlets that will be spaced approximately 250 feet apart (depending on the final design). The inlets will connect to an underground pipe drain system. The drainage inlet boxes will measure 2 x 4 feet and the pipes diameter will be 18-24 inches. This system will be connected to the existing Liliha Street storm drain system. The connection will be at the catch basin midway between Kunawai Lane and Kuakini Street (in front of 1832 Liliha Street). This catch basin on Liliha Street discharges into Waolani Stream. Figure 4 shows the proposed drainage improvements.

The design and construction of the proposed drainage system will be based on standards approved and/or adopted by the C & C Honolulu. Since the project will require minor road work, all requirements will be followed to insure that traffic disruptions will be kept to a minimum. All work will be performed in accordance with State of Hawaii Department of Health and Occupational Safety and Health regulations. The project is projected to be completed within six months and will cost approximately \$125,000. City funds from the Capital Improvement Programs (CIP) budget will be used to construct this project.

II. DESCRIPTION OF THE AFFECTED AREA

A. LOCATION

The project is located along Kunawai Lane. One end of the project is fronting the Kunawai Springs, approximately 750 feet from Liliha Street. The project will join with and extend down Liliha Street to connect with the catch basin midway between Kunawai Lane and Kuakini Street (in front of 1832 Liliha Street).

The project area is already well developed and is zoned as R-3.5. The roads and much of the area is paved and has no drainage. There are two parks and one multi-family dwelling located in the northwest part of the project. All other structures are single-family type dwellings (some residences appear to have been converted to multi-family dwellings). At the intersection of Kunawai Lane and Liliha Street there is a business located on each corner. The property, adjacent to the business on the southeast corner of Kunawai Lane and Liliha Street, is vacant, followed by the Korean Christian Church.

B. ECONOMIC-SOCIAL

This area is an older neighborhood. As the homes become older and property values increase, the homes may eventually be renovated or replaced. It is expected that appropriate drainage improvement keep pace with the upgrade of the neighborhood. The existing homes are currently in need of a drainage system.

During a two hour observation period, the automobile traffic on Kunawai Lane was from light to moderate. During that time there was a moderate amount of foot traffic in the roadway; however, passing automobiles forced these walkers to the sides of the road where there was ponding. People included both residents of the project area as well as people from above the project site.

Residents park their cars on both sides of Kunawai Lane. Some of the homes provide parking on the property and the temporary construction trenches will be plated to allow for parking during non-working hours and when not being worked on. In general, parking will be dictated by construction activity.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

Part of the project will include a lateral asphalt extension beyond the diversion curbing as previously described. The result will improve the parking conditions and eliminate the ponding on the southwest side of the road.

Liliha Street, in the 1800 block, is a five-lane roadway. Two of these lanes are used for parking. If necessary, during the phase of construction involving Liliha Street, one parking lane for that section could be temporarily banned. This would not result in any significant disruption of traffic flow. This phase, in which the drainage from Kunawai would be connected to the storm drain system on Liliha Street, would last approximately 2 months.

The construction of diversion curbing and an underground conveyance system for storm water will:

- 1) Create a safer walking environment for residents;
- 2) Control the movement of runoff flowing through properties; and
- 3) Improve the general environment for residents, by removing the pools and upgrading the roadway and utilities.

Other advantages to this project include the benefits to the job market in the construction industry. Various construction trades will be utilized for the installation.

C. METEOROLOGICAL

The Rainfall Atlas of Hawaii, R76, State of Hawaii Department of Land and Natural Resources, shows the mean total rainfall for the area in which the project is located as 77 inches per year. The mean rainfall for each individual month, ranges from 3.6 inches in September, the driest month, to 10 inches in March, the wettest month.

The Rainfall Frequency Atlas of The Hawaiian Islands, as prepared by various agencies in 1962, show the "ten year storm" could result in 2.5 inches in a one hour period.

In summary the project is in a medium to high rainfall area.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

D. LAND USE

The lots are zoned residential with the minimum lot size set at 3500 square feet (R-3.5), the smallest designation. There are many homes concentrated in this small area and very little available land for the seepage of storm water. This project will create a better environment for these houses, by controlling adverse effects from storm water runoff.

The northwest end of the project area is bordered by two parks Kunawai Springs and Kunawai Park. Kunawai Springs is a small park that was dedicated to the C & C Honolulu in 1966. The park supports an underground spring that was believed by the early Hawaiians to have healing powers. These waters were considered sacred by the royalty. The waters were also used to irrigate taro patches in lower Nuuanu. The springs have their own overflow and are not connected to the storm drain system. The park is already protected from storm runoff on the southwest side, as it is just below the existing upslope storm drain system and has a wall bordering Kunawai Lane. No other aspect of this project will affect this park.

Directly across the street from Kunawai Springs, is Kunawai Park. As described earlier, this playground is well drained. The northwest end has a pond with the overflow connecting to a storm drain system. The remainder of the park, and some bordering properties, drain toward two pipes in the southeast corner of the park. The drainage from these pipes contribute to the runoff problem on Kunawai Lane. The project will improve the capability of the receiving area to manage the storm water. The project will have no effect on this park.

E. HISTORIC OR CULTURAL SITES

Other than the Kunawai Springs Park as described, there are no known archeological or historical sites of significance in the project area. It is not expected that the project will have any effect on the Kunawai Springs or the Kunawai Park Playground.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

F. WILD LIFE AND FLORA

There are no known endangered species of plants or wildlife inhabiting the project area. Also, there are no protected Exceptional Trees within the area. Most of the flora within the project area are believed to be introduced species.

G. GEOLOGICAL

The Soil Survey of the State of Hawaii, U.S. Department of Agriculture, Soils Conservation Service (August 1972) designates the soil at the project site as Kaena series, which is characterized as very sticky, plastic, and having a high shrink-swell potential. It is also a very deep and poorly drained soil. Normally this soil is a stoney clay with few or no stones on the surface layer. Runoff is slow and there is little erosion hazard.

H. HYDROLOGICAL

Below the surface there are underground springs, as is noted by the presence of the Kunawai Springs and the general history of the area. The result is that the sub-surface soils are always saturated. The geological and hydrogeological factors result in poor capacity for the soil to absorb any storm water once it has ponded; consequently, the small ponds remain for days.

II. SUMMARY OF IMPACT AND PROPOSED MITIGATING MEASURES

A. AESTHETIC

For the short term, construction activities will affect aesthetics for the residents; however, upon completion all disturbed land surfaces will be restored to a condition equal to or better than previously existed. For the long term, the installation of the storm drains and the underground conveyance pipelines will not be detrimental to the aesthetics of the area.

B. AIR QUALITY

There will be some air quality impacts resulting from excavation and construction activities.

Fugitive dust will be generated by trench excavation and backfilling. Dirt from the trenching and backfilling operations will be controlled by use of water if necessary. Arrangements will be made for the disposal of excavated dirt that is not to be used for backfill. This will not be stockpiled at the site. Any dirt tracked onto the road will be wetted and washed by a water wagon to control fugitive dust emissions.

There may also be emissions from heavy equipment. Most heavy equipment is diesel driven and will have some allowed emissions. As much as possible the emissions will be controlled through maintenance of the equipment. Equipment not capable of meeting the standards will either be replaced or repaired. Emissions will be kept at or lower than the levels allowed by Hawaii Administrative Rules Title 11 Department of Health Chapter 60 Air Pollution Control. Equipment not meeting the acceptable emissions levels will not be used and will be either replaced or repaired.

In the short term, these impacts may have minor effects if some of the residents living within the vicinity have respiratory problems. This will be a temporary problem for the residents and will need to be dealt with as complaints are received. The C & C Honolulu will insure that residents are informed of the project prior to the initiation of the construction activity. As much as possible, foreseeable impacts will be mitigated through scheduling, equipment maintenance, and good engineering practices as described.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

C. NOISE

The State Department of Health Noise and Radiation branch limit construction activities as a means of curbing the noise nuisance created. Noise Regulations require that heavy demolition equipment only operate Monday through Friday from 9:00 a.m. to 5:30 p.m., while general construction work can operate Monday through Saturday from 7:00 a.m. to 6:00 p.m. The Street Use Permit, from the C & C Honolulu, Transportation Services Division, will restrict operations on Liliha Street to avoid affecting rush hour traffic and will probably limit operations from 8:30 a.m. to 3:30 p.m. Should the noise generate genuine problems, mitigation will be accomplished through the modifications to the work schedules. The total project is expected to last six months.

D. SOCIAL AND ECONOMIC

The immediate economic impact is in the creation of jobs during the construction phase. The increased construction will also result in increased revenues for the C & C Honolulu.

The short term impacts will affect residents ability to park in the area. This will be reinstated at the termination of the project. Most of the houses already have some parking associated with their residence and will have at least one car available, others will need to temporarily relocate their cars.

The access to the Church on Liliha Street and the two businesses at the corner of Kunawai Lane and Liliha Street may be affected as the project activity moves within their vicinity. As much as possible access to these will be maintained and trenches will be plated during non-working hours. Although the project will take a total of six months the effect on each area will be considerably less.

Long term social and economic impacts are best illustrated by noting what will happen if the storm water system is not built. The result could be a slow deterioration of the properties affected by the runoff. This will decrease effects on both economic and physical parameters caused by a gradual erosion and damage to residences from major rainfall events.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

E. TRAFFIC

There will be some disruption to both the automobile and foot traffic in the area; however, efforts will be made to minimize disruption to both types of traffic as much as possible. This will include coordinating all activities on Liliha Street with the C & C Honolulu, Department of Transportation Services, Street Usage Section. Trenches will be covered with steel plates during non-working hours for the safety of both the residents and the pedestrians. The plating will also allow for full street use for traffic flow and residents requiring parking.

F. WATER QUALITY

The project will connect to the present storm drain system on Liliha Street that discharges to Waolani Stream. All efforts will be made to insure that debris from the excavation and construction activities does not enter the system. There should be no further concern after construction since the system will only convey storm water. At this time it is not expected that any dewatering will be required; however, if it is, all requirements from the C & C Honolulu Public Works Department will be met, including the acquisition of a dewatering permit. If required, filtration and/or settling will be used to remove the suspended solids from the water as pumped from any excavation.

G. UTILITIES

To insure that the utility lines are not impacted the utility companies will be consulted prior to any excavation along Kunawai Lane and Liliha Street. Utilities that will be checked include electric, telephone, water, gas, sewage, and street lights.



KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

IV. AGENCIES CONSULTED DURING THE ASSESSMENT PROCESS

A. FEDERAL AGENCIES

1. U.S. Army Corp of Engineers, Honolulu District
2. USDI, Fish and Wildlife Service

B. STATE AGENCIES

1. Department of Health
2. Department of Business, Economic Development & Tourism
3. Department of Land and Natural Resources
4. Department of Transportation
5. Office of Environmental Quality Commission

C. CITY AGENCIES

1. Board of Water Supply
2. Department of General Planning
3. Department of Land Utilization
4. Department of Parks and Recreation
5. Department of Transportation Services
6. Fire Department
7. Police Department
8. Councilman Gary Gill
9. Liliha-Kapalama Neighborhood Board No. 14

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

D. SUMMARY OF RESPONSES TO PROPOSED PROJECT:

1. U. S. Army Corps of Engineers - No permit is required; however, it has been assigned File No. NP91-078;
2. U. S. Fish and Wildlife - Verbal "no comment" to proposed project;
3. Hawaii State Department of Health - No permit required;
4. Hawaii State Department of Business, Economic Development & Tourism - No comments except to note that it is within the State Land Use Urban District;
5. Hawaii State Department of Land and Natural Resources - Not under their jurisdiction; however, would appreciate contact if archeological artifacts are encountered;
6. Hawaii State Department of Transportation - No comments;
7. Hawaii State Office of Environmental Quality Control - No comments;
8. C&C Honolulu Board of Water Supply - Construction drawings are requested to be submitted for review and approval;
9. C&C Honolulu Department of General Planning - No amendment to Development Plan Public Facilities is required;
10. C&C Honolulu Department of Land Utilization - Verbal "no comment" to proposed project;
11. C&C Honolulu Department of Parks and Recreation - No comments; Would like to review construction plans. They also caution that there are a number of springs in the vicinity that may affect the project.
12. C&C Honolulu Department of Transportation Services - Construction Plans within the City's right-of-way, along with a traffic control plan, should be submitted for review;

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

13. C&C Honolulu Fire Department - No comments;
14. C&C Honolulu Police Department - No comments;
15. Honolulu City Councilman Gary Gill - In favor of project, but would like to be called with more information as plans are finalized; and
16. Neighborhood Commission Liliha Board - Verbal "no comments" to proposed project.

A copy of the responses received from the above agencies are appended.

V. ALTERNATIVES

There are four alternatives to this project. These are as follows:

1. Set up diversionary curbing, no underground conveyance, directing the total flow towards Liliha Street;
  2. Install the system as proposed without the lateral extension of asphalt to the fenceline on the southwest edge;
  3. Install a drainage system with curbing, bring the road and bordering properties up to the same grade;
  4. Do nothing.
- A. Alternative 1-Installation of diversionary curbing, no underground conveyance, directing the total flow towards Liliha Street

This alternative would be the least expensive, requiring very little road work and time. However, this would still leave the water on the roadway. Although the runoff would be somewhat controlled through the curbing, it could still result in large volumes of water accumulating and flowing the 750 feet to Liliha Street and down to the C & C Honolulu storm drain system.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

- B. Alternative 2-Install the system as proposed without the lateral extension of asphalt to fenceline on the southwest edge.

Alternative 2 would be the second least expensive. It would reduce the ponding on the southwest side, but would not eliminate it.

- C. Alternative 3-Install a drainage system with curbing, bring the road and bordering properties up to the same grade

This alternative would be a more complete solution; however, it would cost many times more than the project as proposed. The roadway and adjacent properties would need to be brought up to grade. It would also result in major road work, including the area above the project site. Since the project area is relatively small the magnitude of work required to achieve this alternative would not be cost beneficial.

- D. Alternative 4-Do Nothing

Alternative 4 was considered; however, it would leave the drainage in the same condition and result in the continual deterioration of the area.

VI. DETERMINATION:

Based on the preceding sections, it is anticipated that the impacts as described by this proposed action are insignificant and will result in no significant adverse impacts. As a result, a Negative Declaration is recommended.

VII. FINDINGS AND REASONS SUPPORTING DETERMINATION:

A. FINDINGS

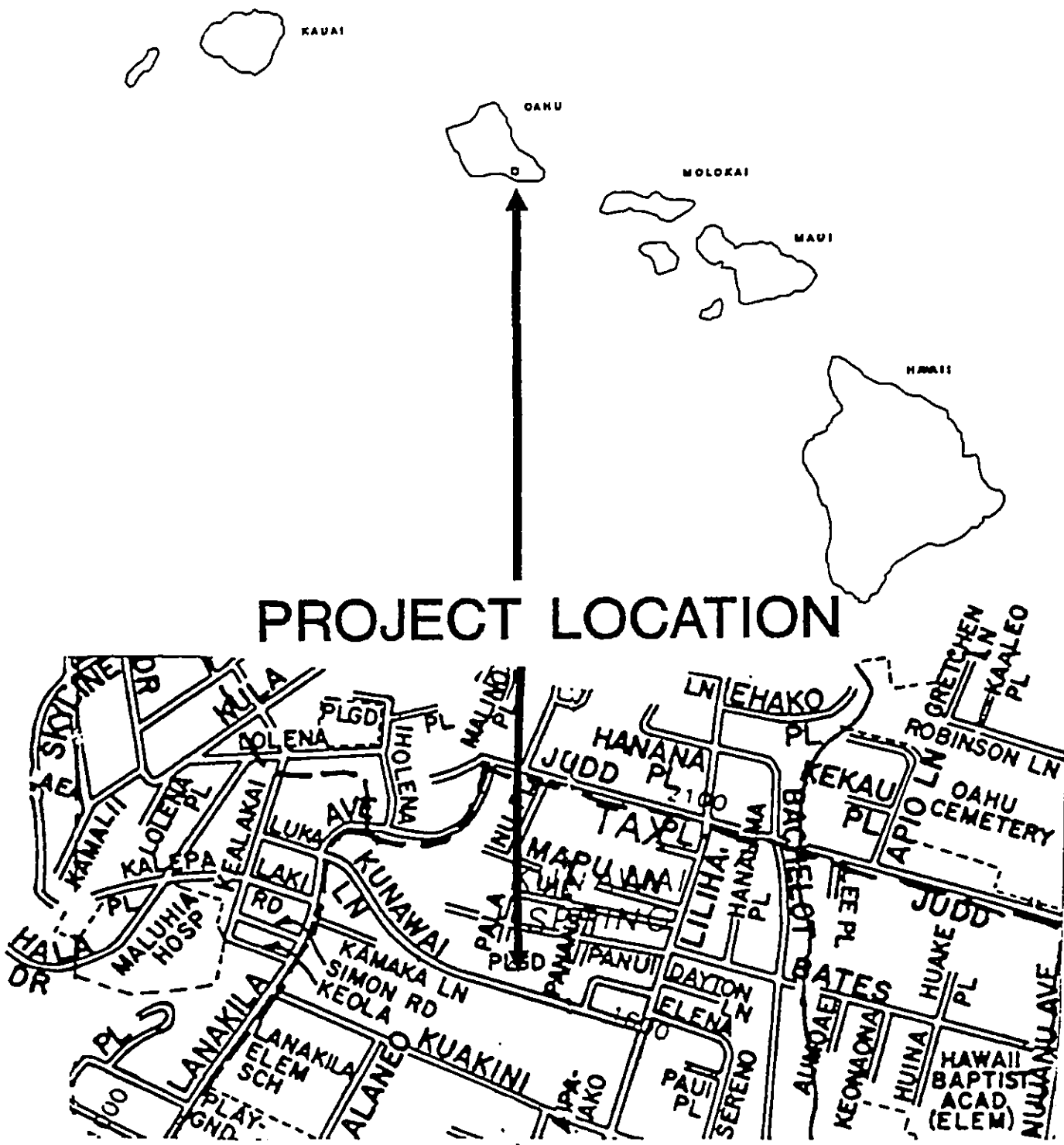
The effect of the project upon the environment has been determined to be insignificant. The construction of the project, as described, will not:

1. Involve an irrevocable commitment to loss or destruction of any natural or cultural resource;
2. Curtail the range of beneficial uses of the environment;
3. Conflict with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;
4. Substantially affect the economic or social welfare of the community or State;
5. Substantially affect public health;
6. Involve substantial secondary impacts, such as population changes or effects on public facilities;
7. Involve a substantial degradation of environmental quality;
8. Have either an individual or cumulative effect upon the environment or involve a commitment for larger actions;
9. Substantially affect a rare, threatened or endangered species, or its habitat;
10. Detrimentally affect air or water quality or ambient noise levels; or
11. Affect an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

B. REASONS

This project will have beneficial economic and social effects for the State. It is compatible with the locality and appropriate to the physical conditions and capabilities of the area. Potential adverse environmental impacts resulting from the project have been determined to be insignificant based upon experience with similar projects. The applicant will be responsible for and comply with all applicable statutes, ordinances, and rules of the federal, state, and county governments.



**PROJECT LOCATION**

Figure 1

DOCUMENT CAPTURED AS RECEIVED

# TAX MAP OF PROJECT AREA



Figure 2

# DRAINAGE

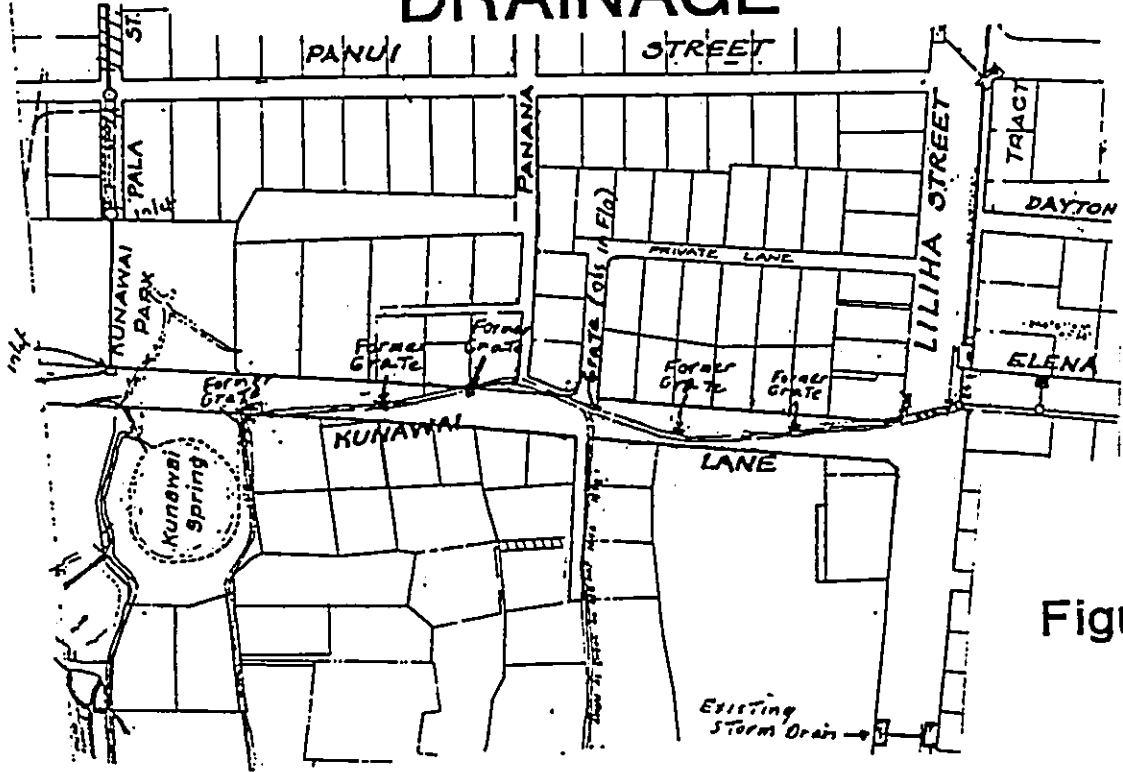
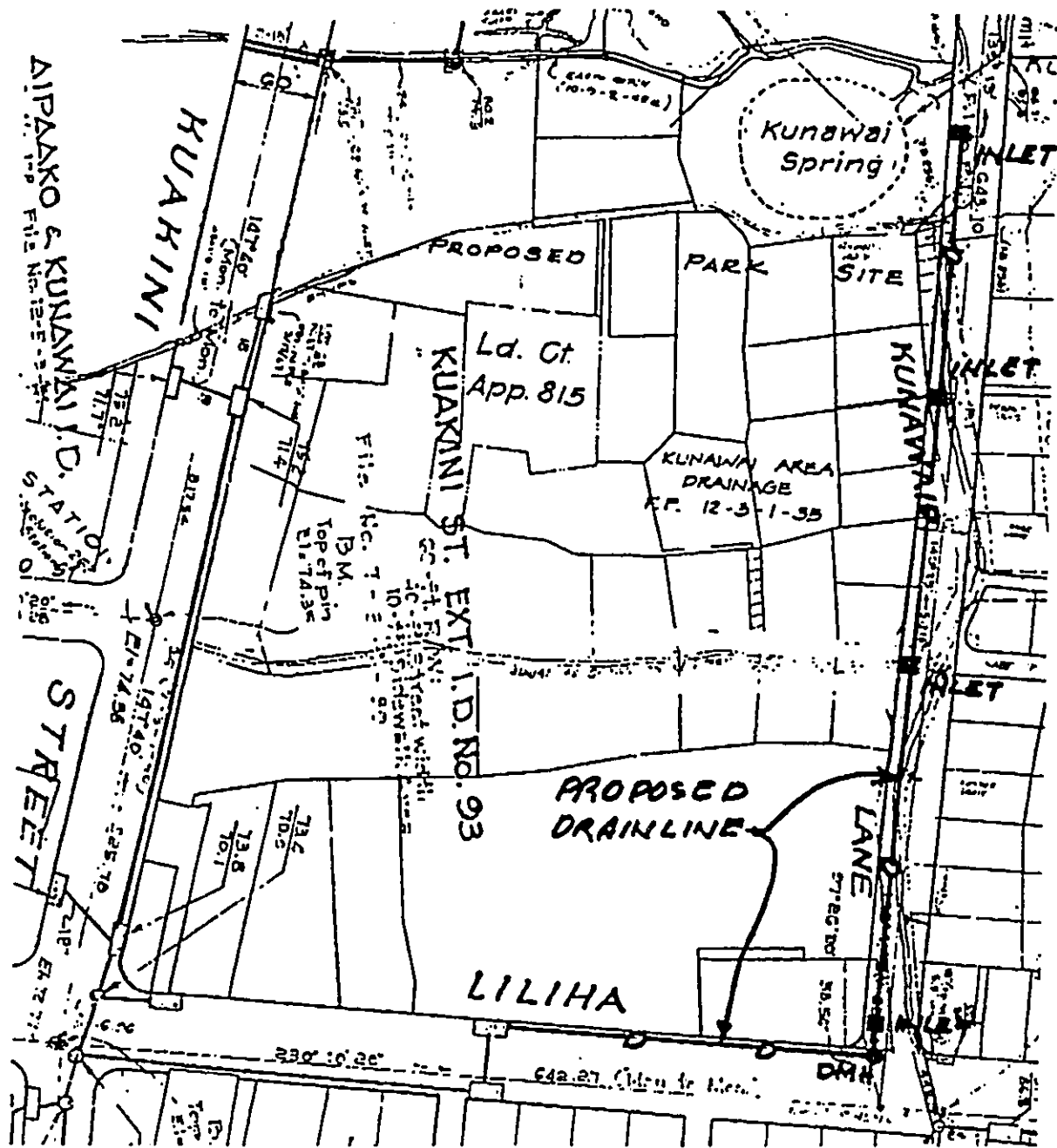


Figure 3



# PROPOSED DRAINAGE IMPROVEMENTS



KUNAWAI LANE DRAINAGE IMPROVEMENT  
ENVIRONMENTAL ASSESSMENT

APPENDIX

COMMENTS TO PROPOSED PROJECT  
FROM AGENCIES CONSULTED  
DURING THE ASSESSMENT PROCESS



DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
FT. SHAFTER, HAWAII 96858-5440  
June 10, 1991

RECEIVED

JUN 12 1991

REPLY TO  
ATTENTION OF  
Operations Division

Mr. Rich Rosen  
Environmental Technologies  
P.O. Box 3379  
Honolulu, Hawaii 96842

Dear Mr. Rosen:

This is in response to your letter dated May 30, 1991 requesting U.S. Army Corps of Engineers review of the Kunawai Lane Drainage Improvement project.

Through reviewing the plans, we have determined that no permit is required for this project. File no. NP91-078 has been assigned to your project. Please refer to this number in any future correspondence. Should you have any questions, please contact David Taira or Benton Ching at 438-9258.

Sincerely,

*Stanley T. Arakaki*  
Stanley T. Arakaki  
Chief, Operations Division

Copy Furnished:

City & County of Honolulu, Department of Public Works  
650 South King Street, 11th Floor, Honolulu, Hawaii  
96813

September 23, 1991

TO: File

FROM: Richard Rosen *RR*

SUBJ: Comments for Kunawai Lane Drainage Improvement Project

Per telephone conversation with Andy Yuen of the U. S. Fish and Wildlife, they have no comments on the proposed project and will not be responding in writing.

JOHN WAIHEE  
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH

P. O. BOX 3378  
HONOLULU, HAWAII 96801

In reply, please refer to:  
File: EMD/CWB

July 2, 1991

P0660AW

Ms. Lisa Cody  
Environmental Specialist  
Environmental Monitoring  
Assessment Division  
Environmental Technologies  
International, Inc.  
Mauka Tower, 22nd Floor  
737 Bishop Street  
Honolulu, HI 96842

Dear Ms. Cody:

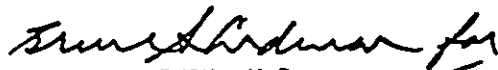
Subject: Kunawai Lane Drainage Improvement

The Department of Health, Clean Water Branch, has reviewed the materials on the above-mentioned project which were submitted to us on May 30, 1991. Based on our evaluation, we have determined that the project does not require a National Pollutant Discharge Elimination System (NPDES) permit.

In accordance with 40 Code of Federal Regulations Parts 122, 123, and 124, construction activities including clearing, grading and excavation activities that result in more than five acres or more of total land area must apply for a NPDES permit. It is our understanding that the proposed project concerns a 750-foot portion of Kunawai Lane that is between Kunawai Springs and Liliha Street. The total construction area will be less than five acres of total land area and, therefore, does not require an NPDES permit.

Thank you for the opportunity to review and comment on the subject project. If you should have any questions, please contact Mr. Alec Wong of the Clean Water Branch at 543-8309.

Very truly yours,

  
JOHN C. LEWIN, M.D.  
Director of Health



DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM

KAMAMALU BUILDING, 250 SOUTH KING ST., HONOLULU, HAWAII  
MAILING ADDRESS: P.O. BOX 2389, HONOLULU, HAWAII 96804 FAX: (808) 548-8164

JOHN WAIHEE  
Governor  
MURRAY E. TOWILL  
Director  
BARBARA KIM STANTON  
Deputy Director  
RICK EGGED  
Deputy Director

June 19, 1991

Ms. Lisa Cody  
Environmental Specialist  
Environmental Technologies International, Inc.  
P.O. Box 3379  
Honolulu, Hawaii 96842

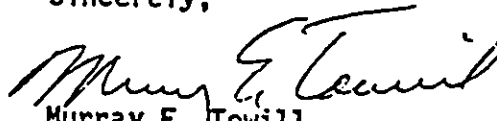
Dear Ms. Cody:

SUBJECT: Kunawai Lane Drainage Improvement

With reference to the above-named improvement project, the Department of Business, Economic Development & Tourism (DBED) has no comments to offer at this time except to note that the subject parcel is designated within the State Land Use Urban District.

Thank you for the opportunity to comment.

Sincerely,

  
Murray E. Towill

MET:EU:gak

JOHN WAIHEE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
P. O. BOX 521  
HONOLULU, HAWAII 96809

WILLIAM W. PATY, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

KEITH W. AHUE  
MANABU TAGOMORI  
DAN T. KOCHI

AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
CONSERVATION AND  
ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
PROGRAM  
LAND MANAGEMENT  
STATE PARKS  
WATER RESOURCE MANAGEMENT

REF:WRM-KO

JUN 28 1991

Mr. Rich Rosen  
Environmental Technologies,  
International, Inc.  
P.O. Box 3379  
Honolulu, Hawaii 96842

Dear Mr. Rosen:

Thank you for your letter of May 30, 1991 asking for our comments regarding the design of your proposed Kunawai Lane Drainage Improvement.

Your proposal to abate flooding at Kunawai Lane is noteworthy. Unfortunately, our State Department of Land and Natural Resources does not administer any street drainage permit system within urbanized Honolulu. You may wish to direct your request to the City and County of Honolulu, which has primary jurisdiction over projects of this nature, particularly in this instance where the receiving drainage system on Liliha Street is one that is operated by the City.

Nonetheless, if your project is approved, our Department would appreciate your contacting us should archaeological artifacts be encountered during the construction of your project.

Very truly yours,

A handwritten signature in black ink, appearing to read "W. Paty", written over the typed name.

WILLIAM W. PATY

JOHN WAIHEE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

EDWARD Y. HIRATA  
DIRECTOR

DEPUTY DIRECTORS  
AL PANG  
JOYCE T. OMIKE  
JEANNE K. SCHULTZ  
CALVIN M. TSUDA

IN REPLY REFER TO

HWY-CM 2.7577

June 26, 1991

Ms. Lisa Cody  
Environmental Technologies International, Inc.  
P.O. Box 3379  
Honolulu, Hawaii 96842

Attention: Mr. Rich Rosen

Dear Ms. Cody:

Subject: Kunawai Lane Drainage Improvement  
Your Letter of May 30, 1991

Thank you for your letter requesting our comments concerning the improvements to the drainage of Kunawai Lane.

As proposed, the underground drainage system will connect to the existing drainage system on Liliha Street, just below Kunawai Lane. This portion of Liliha Street is not within our jurisdiction. Therefore, we have no comments to offer.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Sterling H. Harano".  
for T. HARANO  
Chief  
Highways Division



JOHN WAIHEE  
GOVERNOR



BRIAN J. J. CHOY  
Director

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL  
220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813

June 4, 1991


Ms. Lisa Cody  
Environmental Technologies International, Inc.  
Mauka Tower 737 Bishop Street, 22nd Floor  
P.O. Box 3379  
Honolulu, Hawaii 96842

Dear Ms. Cody:

Reference: Kunawai Lane Drainage Improvement

Thank you for providing the opportunity to review and comment on the above proposed project. We do not have any comments to offer on the proposed project at this time.

Sincerely,

  
BRIAN J.J. CHOY  
Director, OEQC

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA STREET

HONOLULU, HAWAII 96843



June 14, 1991

FRANK F. FAS, Mayor

DONNA B. GOTH, Chairman

SAM CALLEJO

EDWARD Y. HIRATA

WALTER O. WATSON, JR.

MAURICE H. YAMASATO

KAZU HAYASHIDA

Manager and Chief Engineer

RECEIVED

JUN 26 1991

Mr. Rich Rosen  
Environmental Technologies  
International, Inc.  
P. O. Box 3379  
Honolulu, Hawaii 96842

Dear Mr. Rosen:

Subject: Your Letter of May 30, 1991 Regarding the Proposed Kunawai Lane  
Drainage Improvement, TMK: 1-7-36

Thank you for your letter regarding the proposed Kunawai Lane Drainage Improvement Project.

We have no objections to the proposed drainage project. We request that the construction drawings be submitted for our review and approval.

If you have any questions, please contact Bert Kuioka at 527-5235.

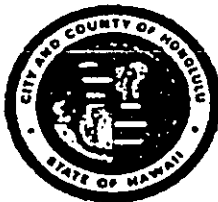
Very truly yours,

KAZU HAYASHIDA  
Manager and Chief Engineer

DEPARTMENT OF GENERAL PLANNING  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

FRANK FASI  
MAYOR



RECEIVED  
JUL 11 1991

BENJAMIN B LEE  
CHIEF PLANNING OFFICER  
ROLAND D LIBBY JR  
DEPUTY CHIEF PLANNING OFFICER

TH 6/91-1940

July 8, 1991

Mr. Rich Rosen  
Environmental Technologies  
International, Inc.  
P.O. Box 3379  
Honolulu, Hawaii 96842

Dear Mr. Rosen:

Proposed Kunawai Drainage Improvement  
TMK: 1-7-36, Kalihi, Oahu, Hawaii

In response to your letter of May 30, 1991, we have reviewed the proposal and offer the following comments.

The proposal is to correct "minor ponding" affecting properties along Kunawai Lane by improving drainage along a 750-foot portion of Kunawai Lane between Kunawai Spring and Liliha Street.

We have determined that an amendment to the Development Plan Public Facilities Map is not necessary since this project is considered minor.

Should you have any questions, please contact Tim Hata of our staff at 527-6070.

Sincerely,

A handwritten signature in cursive script, appearing to read "Roland D. Libby, Jr.", is written over the typed name and title.

ROLAND D. LIBBY, JR.  
Acting Chief Planning Officer

RDL:ft

cc: Department of Public Works, Engineering Division



**BHP**  
Petroleum

Environmental Technologies  
International, Inc.

**MEMORANDUM**

September 23, 1991

TO: File

FROM: Richard Rosen *RR*

SUBJ: Comments for Kunawai Lane Drainage Improvement Project

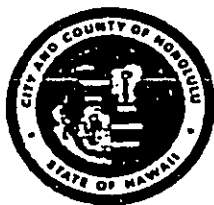
Per telephone conversation between Art Challacombe, Environmental Affairs Branch of the C&C Department of Land Utilization, and ET staff Judy Nishioka, on July 22, 1991, no response signifies that they have no comments.

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

RECEIVED

SEP 20 1991

FRANK FASI  
MAYOR



WALTER M. OZAWA  
DIRECTOR

ALVIN K. AU  
DEPUTY DIRECTOR

September 17, 1991

Mr. Rich Rosen  
Senior Environmental Specialist  
Environmental Technologies International, Inc.  
P. O. Box 3379  
Honolulu, Hawaii 96842

Dear Mr. Rosen:

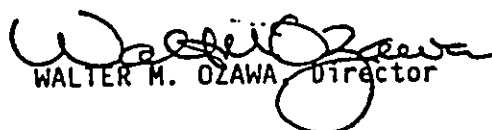
Subject: Kunawai Lane Drainage Improvement

We have no comments to the correspondence dated May 30, 1991 regarding the Kunawai Lane Drainage Improvement project. However, we would like to caution you that there are a number of springs in the vicinity that may be affected by this project.

We ask that we be given an opportunity to review the construction plans because of the proximity of our park facilities to the project.

If you have any questions, please call Mr. Wallace Mitsunaga of our Facilities Development Division at 527-6327.

Sincerely,

  
WALTER M. OZAWA, Director

WMO:js

DEPARTMENT OF TRANSPORTATION SERVICES  
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING  
650 SOUTH KING STREET  
HONOLULU HAWAII 96813

RECEIVED

JUN 1

FRANK FASI  
MATCH



JOSEPH M. MAGALDI, JR.  
DIRECTOR

AMAR SAPPAL  
DEPUTY DIRECTOR

TE-3090  
PL91.1.190

June 13, 1991

Mr. Rich Rosen  
Environmental Technologies  
International, Inc.  
P. O. Box 3379  
Honolulu, Hawaii 96842

Dear Mr. Rosen:

Subject: Kunawai Lane Drainage Improvement  
Tax Map Key: 1-7-36

This is in response to Ms. Lisa Cody's letter of May 30, 1991 requesting our comments on the subject project.

Based on our review, we have no objections to the proposed drainage improvements at this time. However, construction plans for all work within the City's right-of-way should be submitted to our department for review. A traffic control plan showing temporary detours should be included in these plans.

Should you have any questions, please contact Lance Watanabe of my staff at 523-4199.

Sincerely,

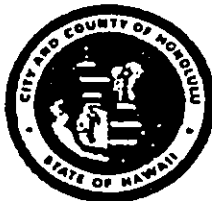
A handwritten signature in black ink, appearing to read "Joe Magaldi, Jr.", is written over the typed name.

JOSEPH M. MAGALDI, JR.  
Director

FIRE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

1455 SOUTH BERETANIA STREET, ROOM 305,  
HONOLULU, HAWAII 96814

FRANK F. FASI  
MAYOR



RECEIVED  
JUN 17 1991

LIONEL E. CAMARA  
FIRE CHIEF  
DONALD S.M. CHANG  
DEPUTY FIRE CHIEF

June 13, 1991

Mr. Richard Rosen  
Environmental Technologies  
International, Inc.  
P.O. Box 3379  
Honolulu, Hawaii 96842

Dear Mr. Rosen:

Re: Kunawai Lane Drainage Improvement

We have reviewed the application for the above subject request and have no comments on the proposal.

Should you have any questions, please contact Acting Assistant Chief Attilio Leonardi of our Administrative Services Bureau at 943-3838.

Sincerely,

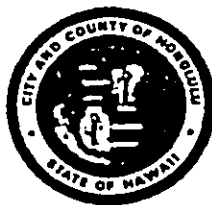
A handwritten signature in cursive script, appearing to read "Lionel E. Camara".  
LIONEL E. CAMARA  
Fire Chief

AKL:ny

POLICE DEPARTMENT  
CITY AND COUNTY OF HONOLULU

1455 SOUTH BERETANIA STREET  
HONOLULU HAWAII 96814 AREA CODE (808) 943-3111

FRANK F. FASI  
MAYOR



RECEIVED  
JUN 24 1991

MICHAEL S. NAKAMURA  
CHIEF

HAROLD M. KAWASAKI  
DEPUTY CHIEF

OUR REFERENCE ES-LK

June 21, 1991

Mr. Rich Rosen  
Environmental Technologies  
International, Inc.  
P.O. Box 3379  
Honolulu, Hawaii 96842

Dear Mr. Rosen:

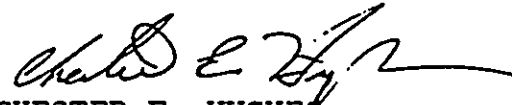
This is in response to your request of May 30, 1991, for comments concerning the Kunawai Lane drainage improvement project.

Our sole concerns would be for public safety and traffic flow during the construction phase of the project. We assume that the normal precautions will be taken to avoid pedestrian and vehicular hazards and to ease the movement of traffic in the area.

Thank you for the opportunity to comment.

Sincerely,

MICHAEL S. NAKAMAURA  
Chief of Police

By   
CHESTER E. HUGHES  
Assistant Chief of Police  
Support Services Bureau






**BHP**  
Petroleum

Environmental Technologies  
International, Inc.

## MEMORANDUM

TO: File September 23, 1991  
FROM: Richard Rosen   
SUBJ: Comments for Kunawai Lane Drainage Improvement Project

Per telephone conversation between Norie, of Gary Gill's office, and ET staff on June 14, 1991, they are in favor of the project; however, they would like to have more detailed plans if possible.




**BHP**  
Petroleum

Environmental Technologies  
International, Inc.

MEMORANDUM

September 23, 1991

TO: File

FROM: Richard Rosen 

SUBJ: Comments for Kunawai Lane Drainage Improvement Project

Per telephone conversation with Mr. Curtis Won, Chairman Neighborhood Commission Liliha Board, they have no comments on the proposed project and will not be responding in writing.