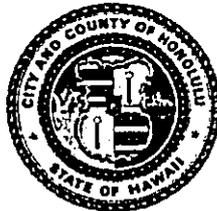


DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



C. MICHAEL STREET

RECEIVED
ACTING DIRECTOR AND CHIEF ENGINEER
IN REPLY REFER TO:

'92 MAR 24 P2:10
92-12-0159

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

March 23, 1992

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 Kulei Street Storm Drain Improvements,
Honolulu, Oahu, Hawaii, Tax Map Key: 2-7-16 and 17

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 notice of determination and environmental assessment are enclosed. Also attached is a copy of the document for publication form.

Please contact Mel Takakura of the Division of Engineering at 523-4931 with any questions you may have in regard to this matter. Thank you.

Very truly yours,

C. Michael Street

C. MICHAEL STREET
Acting Director and Chief Engineer

Attach.

cc: SSFM Engineers, Inc. (w/o attach.)

1992-04-08-0A-FEA-Kuilei Street Storm
Drain

NOTICE OF DETERMINATION
NEGATIVE DECLARATION FOR THE PROPOSED
KUILEI STREET STORM DRAIN IMPROVEMENTS

A. Proposing Agency

Department of Public Works, City and County of Honolulu

B. Accepting Authority

Not applicable to a negative declaration.

C. Description of the Proposed Action

The location of the proposed project is along Kuilei Street east of University Avenue and south of South King Street in Honolulu on the island of Oahu, Hawaii (Tax Map Key: 2-7-16 and 17). The project area encompasses approximately 4.5 city blocks and involves a drainage area of approximately 14.1 acres.

The purpose of the proposed project is to alleviate drainage problems on Kuilei Street between Kahuna and Kahoaloha Lanes. Initial plans were to also alleviate the drainage problems on Kahoaloha Lane between Kuilei Street and Nakookoo Street with a combined system, however, an engineering study concluded that to adequately drain the lowest areas of both Kahoaloha Lane and Kuilei Street would require two independent systems, each eventually connecting to the University Avenue storm drain system. Constraints on funds available this fiscal year preclude construction of both systems, and the recommended initial action consists of construction of a single line along Kuilei Street from University Avenue through the intersection of Kahoaloha Lane. This will indirectly reduce flooding on Kahoaloha Lane by intercepting a portion of the surface flow contributing to problems in that area. More permanent solutions to drainage problems on Kahoaloha Lane and Nakookoo Street will have to await further funding increments.

The major elements of work are: (a) installation of drain inlets on Kuilei Street; (b) installation of a storm drain line varying in diameter from 24 inches at Kahoaloha Lane to 54 inches at University Avenue; and (c) associated trenching in and patching of the streets.

D. Determination and Reasons Supporting the Determination

The proposed project would not have a significant effect on the environment and therefore preparation of an environmental impact statement is not required. The "Significance Criteria," Section 12 of Hawaii Administrative Rules Title 11, Chapter 200, "Environmental Impact Statement Rules," were reviewed and analyzed. Based on the analysis, the following were concluded:

1. *No irrevocable commitment to loss or destruction of any natural or cultural resource would result.* There are no significant natural resources which would be affected by the proposed project. It involves excavating an existing paved surface. If significant cultural (archaeological) resources are uncovered, appropriate mitigation measures would be developed and implemented in consultation with the State Historic Preservation Division.
2. *The action would not curtail the range of beneficial uses of the environment.* The proposed action would increase potential beneficial uses of the environment by providing better drainage thereby allowing better access for vehicular and pedestrian traffic.
3. *The proposed action does not conflict with the state's long-term environmental policies or goals and guidelines.* The proposed action would have no significant negative impacts which could not be mitigated. It would be supportive of other state goals and guidelines in the areas of transportation, public health and safety.
4. *The economic or social welfare of the community or state would not be substantially affected.* The proposed project would provide short-term economic benefits in the form of engineering and construction jobs, and long-term benefits to nearby residents in terms of reliable access, public health and safety.
5. *The proposed action does not substantially affect public health.* The elimination of large pools of stagnant water after heavy rains will benefit both public health, by removing habitats for potential disease vectors such as mosquitos, and public safety, by eliminating slippery surfaces which pedestrians cannot now avoid in transiting the area.
6. *No substantial secondary impacts, such as population changes or effects on public facilities, are anticipated.* The proposed action would not affect population growth or distribution, but would simply improve conditions in the affected neighborhood during rainy periods. No long-term effects are expected on any public facilities, although access to Kuhio School may be slightly hindered during construction.
7. *No substantial degradation of environmental quality is anticipated.* The proposed action is expected to result in a long-term improvement in environmental quality, although there would be minor short-term increases in noise, emissions of air pollutants from mobile sources, and traffic congestion in the immediate area of construction.

8. *The proposed action does not involve a commitment to larger actions, nor would cumulative impacts result in considerable effects on the environment.* The proposed action is a small, isolated project. While further improvements of the affected roadways may take place at some time in the future, the proposed action would in no way constitute a commitment to further improvements. By the nature of the action, the potential for cumulative impacts is limited to impacts on the storm drain system itself.
9. *No rare, threatened or endangered species or their habitats would be affected.* The project site is in urban Honolulu; the affected roadways are already paved. No protected species or important habitat exist in the project area.
10. *Air quality, water quality or ambient noise levels would not be detrimentally affected.* Each of these environmental characteristics would be affected by the proposed action, but to insignificant degrees. Operation of heavy equipment and other vehicles associated with the action would temporarily elevate ambient noise and concentrations of exhaust emissions in the immediate vicinity of the site during construction. After completion of the project, coastal waters would receive an insignificantly higher percentage of Honolulu's rainfall and substances entrained in street runoff.
11. *The project would not affect environmentally sensitive areas, such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters.* The project site is not in an environmentally sensitive area. Impacts to coastal waters are discussed in item 10 above.

E. Supplementary Information

The Environmental Assessment (EA) for the proposed action and the results of the coordination undertaken with affected agencies and parties are attached to support the determination of a Negative Declaration. The description of the proposed action is taken from the engineering report prepared for the City.

Some of the activities associated with the proposed project are on the Comprehensive Exemption List for the City and County of Honolulu Department of Public Works, as approved by the state Environmental Council on August 15, 1990. Among the actions which are generally exempt from requirements regarding preparation of an EA are "Pavement resurfacing and striping" (Exemption Class #1); "Drainage structure replacement and repair" and "Storm drain line replacement and repair" (Exemption Class #2); and "Existing storm drain extension" (Exemption class #3). Notwithstanding the above, an EA was prepared for the proposed action because the potential impacts of the project on buried archaeological resources was uncertain. Section 11-200-8(b) (HAR) states that "...exemptions...are inapplicable...when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment."

F. Name, Address and Phone Number of Contact Person

Department of Public Works, Drainage Division
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Mel Takakura, (808) 523-4931

RESPONSIBLE OFFICIAL

C. Michael Street
C. Michael Street
Acting Director and Chief Engineer

3/20/92
Date

KUILEI STREET STORM DRAIN IMPROVEMENTS

ENVIRONMENTAL ASSESSMENT

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

Prepared by
GK & Associates
for
SSFM Engineers, Inc.

March, 1992

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1.0 PROJECT DESCRIPTION

The location of the proposed project is along Kuilei Street and Kahoaloha Lane east of University Avenue and south of South King Street in Honolulu on the island of Oahu, Hawaii (Tax Map Key: 2-7-16 and 17) (Figure 1). The project area encompasses approximately 4.5 city blocks and involves a drainage area of approximately 14.1 acres.

The purpose of the proposed project is to alleviate drainage problems on Kuilei Street between Kahuna and Kahoaloha Lanes. Initial plans were to also alleviate the drainage problems on Kahoaloha Lane between Kuilei Street and Nakookoo Street with a combined system, however, an engineering study concluded that to adequately drain the lowest areas of both Kahoaloha Lane and Kuilei Street would require two independent systems, each eventually connecting to the University Avenue storm drain system. Constraints on funds available this fiscal year preclude construction of both systems, and the recommended initial action consists of construction of a single line along Kuilei Street from University Avenue through the intersection of Kahoaloha Lane. This will indirectly reduce flooding on Kahoaloha Lane by intercepting a portion of the surface flow contributing to problems in that area. More permanent solutions to drainage problems on Kahoaloha Lane and Nakookoo Street will have to await further funding increments.

The major elements of work are: (a) installation of drain inlets on Kuilei Street; (b) installation of a storm drain line varying in diameter from 24 inches at Kahoaloha Lane to 54 inches at University Avenue; and (c) associated trenching in and patching of the streets.

2.0 ALTERNATIVES

2.1 NO ACTION

The No Action Alternative would continue the situation which has existed for many years. That is, after heavy rains significant ponding of water occurs on Kahoaloha Street fronting the exit to the Parkland Gardens condominium parking structure and on Kuilei Lane fronting Honolulu Hale Towers. The ponding inhibits vehicular and pedestrian traffic and serves as a breeding habitat for mosquitos. Such heavy rains were experienced in October, 1991, and Figure 2 consists of photographs of the problem areas under ponded conditions.

2.2 DELAYED ACTION

Delay of the project would only serve to increase its cost when construction ultimately takes place. Delaying the project would not eliminate its necessity. This is not considered a prudent option.

FIGURE 1
PROJECT LOCATION

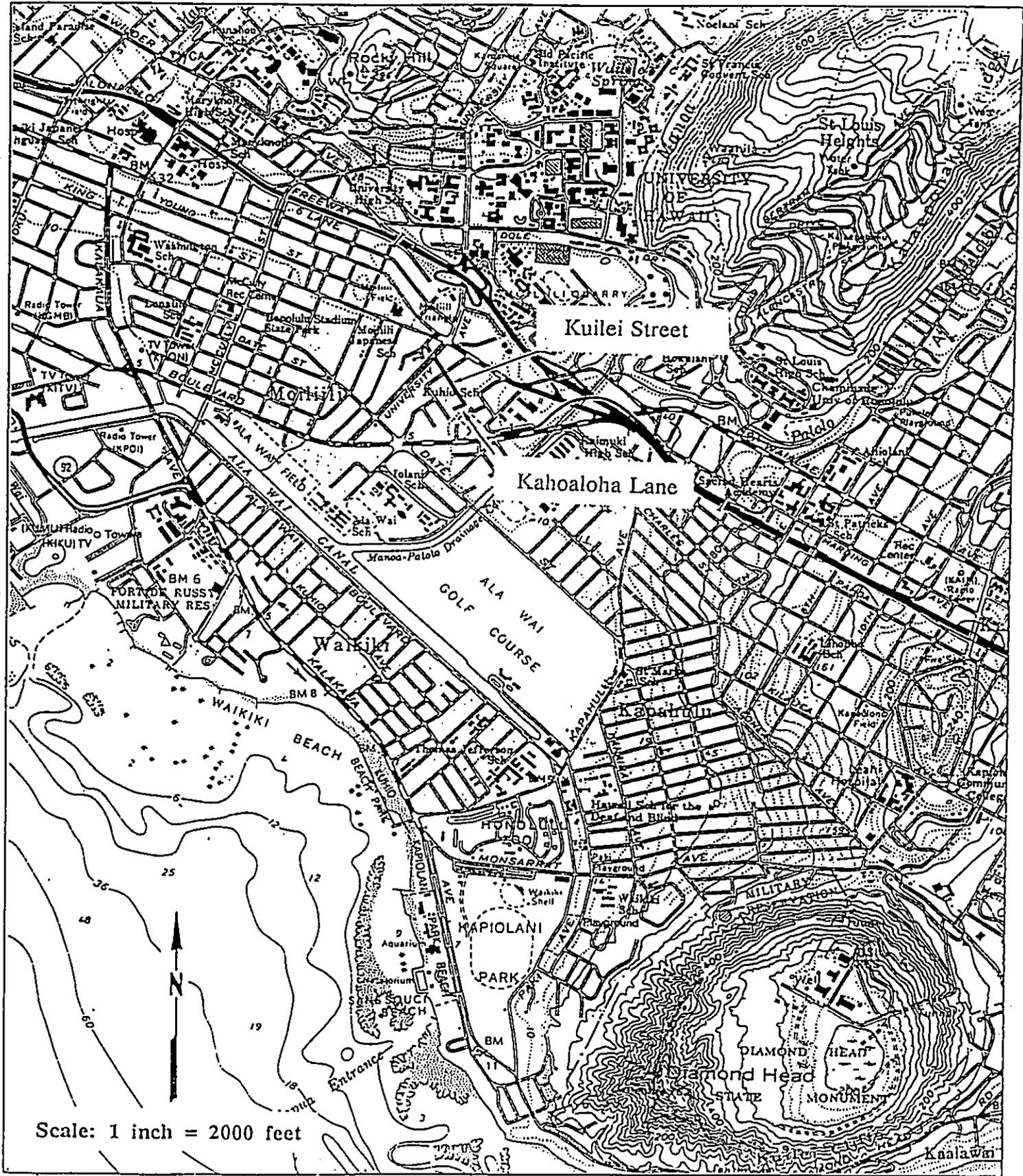
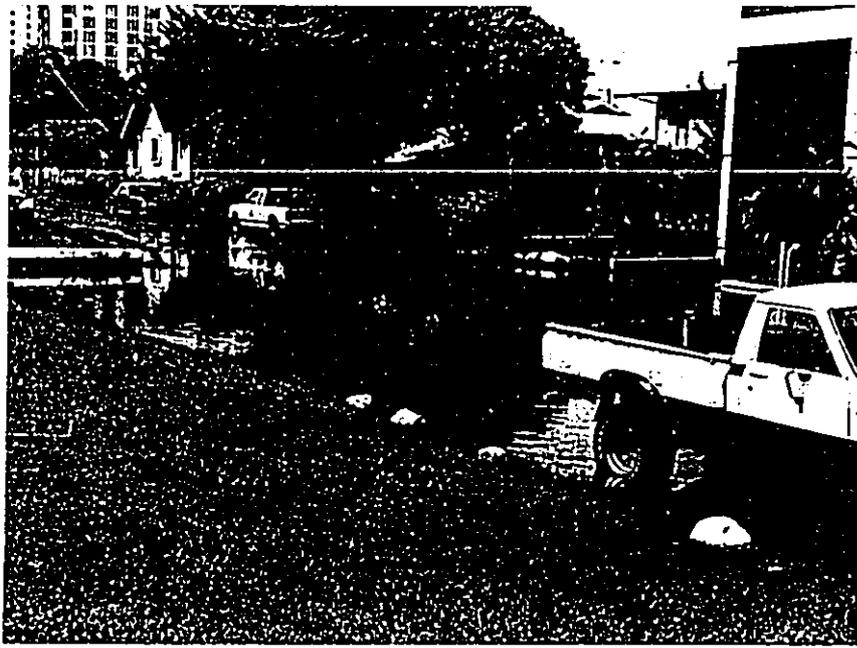


FIGURE 2
PROJECT SITE SHOWING FLOODED CONDITIONS



KAHOALOHA LANE LOOKING SOUTH



KUILEI STREET LOOKING WEST

2.3 ALTERNATE DESIGNS

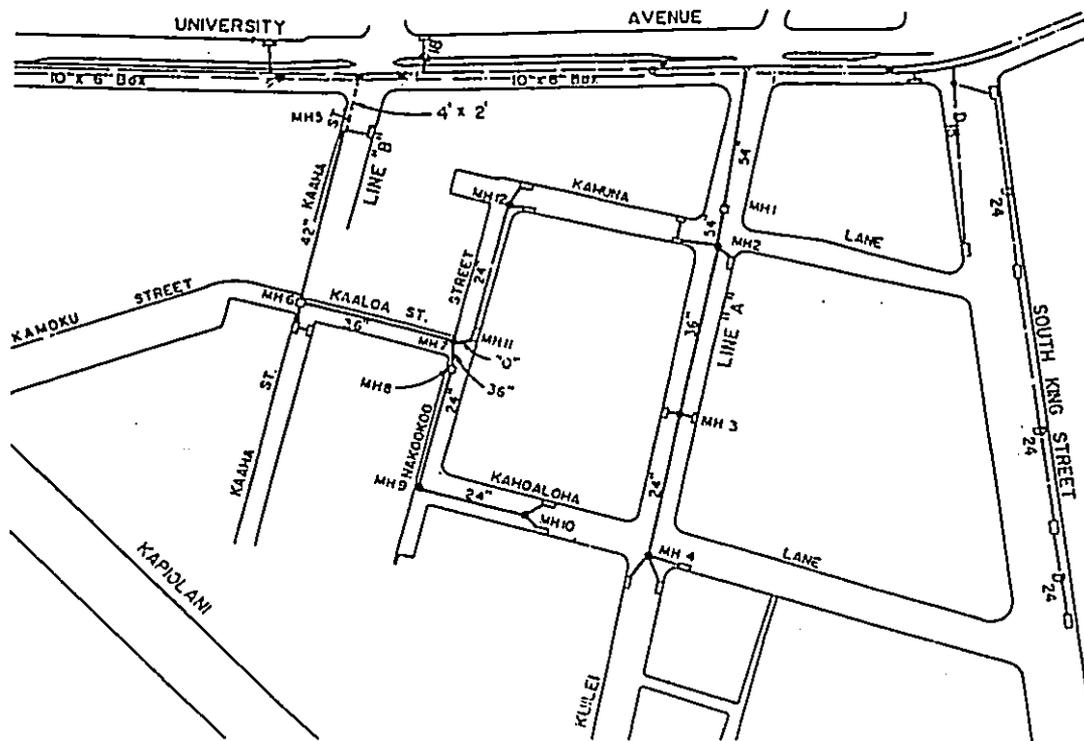
The preliminary engineering report (SSFME Engineers, Inc., 1992) examined five alternative designs on the basis of hydraulics, feasibility, relief and economics. Schematic configurations of each of the designs are shown in Figures 3 through 7.

Key assumptions and criteria were established and held constant for all alternatives. System capacity was sized to accommodate a 10-year storm, except at sump conditions where the 50-year storm was used. Minimum pipe size would be 18-inches. Locations of catch basins and/or drain inlets were held constant for all alternatives. All improvements were designed to be compatible with future street improvements.

Due to the small hydraulic gradient between the low points on Kuilei Street and Kahoaloha Lane and the box culvert beneath University Avenue, several of the alternatives were found to be infeasible. In every case it was found necessary to include a rubber tide gate at the entrance to the University Avenue culvert to prevent backflow during high flow events.

Alternative I (Figure 3) consists of two separate storm drain systems serving Kuilei Street and Kahoaloha Lane, respectively. Line "A", which collects runoff from Kuilei Street, extends from University Avenue to the intersection of Kuilei Street and Kahoaloha Lane. Line "B" extends from University Avenue and follows Kaaha, Kaalooa, and Nakookoo Streets to the low point on Kahoaloha Lane.

FIGURE 3
ALTERNATIVE 1



Alternative II (Figure 4), a modification of Alternative I, also consists of two separate storm drain lines. In this alternative, however, line "A" terminates mid-block at the low point on Kuilei between Kahuna and Kahoaloha. Line "B" extends further up Kahoaloha to its intersection with Kuilei.

Alternative III (Figure 5) consists of a single storm drain line identical to line "A" of Alternative I. This alternative includes no improvements on Kahoaloha Lane, but potential flooding would be reduced because the inlets at the intersection of Kahoaloha and Kuilei will intercept a portion of the overland runoff from reaching the low point on Kahoaloha.

Alternative IV (Figure 6) is an attempt to alleviate the flooding on both Kuilei and Kahoaloha with a single storm drain line. It adds a branch down Kahoaloha to line "A" of Alternative I. Although this was the conceptually preferred solution prior to initiating the engineering study, it was found to be infeasible due to the topography of the area. To function properly, the pipe would have to be above the existing street grade.

Alternative V (Figure 7) would route all of the lines to the University Avenue - Kaaha Street connection. The hydraulics of this alternative are such that the system would not adequately alleviate the flooding problems.

The preferred design is Alternative III. Alternatives IV and V are not feasible because of the topography of the area and the consequent hydraulic constraints. Similarly, hydraulic considerations indicate that the configuration of line "B" of Alternative II would be less effective than that of Alternative I. The best overall solution to the drainage problems in the area would be Alternative I. Several practical considerations, however, argue for the immediate implementation of Alternative III (line "A" of Alternative I), and a later installation of line "B" to complete the system. Presently, \$300,000 of city funds and \$85,000 of state funds are available for construction. Alternative III, employing drain inlets rather than more expensive catch basins, is the least expensive of the alternatives, but is still estimated to cost approximately \$483,000. Clearly, additional funds will be required in the future to address the remaining problems on Kahoaloha Lane (and Nakookoo Street).

An additional rationale for proceeding initially with Alternative III is that the tide gate which will be required for any of the alternatives is of a new design not used before in Hawaii. Construction of one line will allow time to observe the reliability of the valve under various heads and rainfall conditions. It should be noted that under conditions exceeding the design storm, some flooding in the area will likely occur regardless of the engineering solutions adopted.

2.4 TENTATIVE PROJECT SCHEDULE

Design Completion	1992
Begin Construction	July 1992
Complete Construction	June 1993

3.0 SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.1 EXISTING SITE AND LAND USE

The area adjacent to and surrounding the proposed project is predominantly residential with some commercial uses at the University Avenue boundary. Although there are a few single-family residences along Kahoaloha Lane, the surrounding properties support mainly two- to four-story apartment buildings and several high-rise apartment buildings. The area is within the Urban State Land Use District. Zoning under the City and County of Honolulu's Land Use Ordinance is A-2 (Apartment - medium density) except along University Avenue where it is BMX-3 (Business Mixed Use - community).

A portion of Kuilei Street between Kahuna Lane and University Avenue is believed to be private, and may require acquisition of a drain easement. There will be no interference with any existing or proposed use of surrounding properties.

There is no storm drain system serving the project area, but there are "french drains" or dry wells at the low points on Kuilei and Kahoaloha. These drains have become clogged with dirt and debris, and provide little relief from flooding.

3.2 TOPOGRAPHY AND SOILS

The project area generally slopes downward toward the west except in several notable depressions where runoff accumulates. Surface elevations are about nine feet at University Avenue and 12 feet at the intersection of Kuilei and Kahoaloha Lane. The low points on Kahoaloha and Kuilei, however, are 5.1 and 6.2 feet, respectively.

The predominant soil type is "Ewa silty clay loam, moderately shallow, 0 to 2 percent slopes. The Ewa soil series consists of well-drained soils in basins and on alluvial fans on Oahu and Maui. These soils developed in alluvium from basic igneous rock. Annual rainfall is 10-30 inches, predominantly between November and April. In profile the surface layer is dark reddish-brown silty clay loam 20-50 inches thick. The subsoil, about 42 inches thick, is dark reddish-brown and dark-red silty clay loam that has a subangular blocky structure. The substratum is coral limestone, sand, or gravelly alluvium. Runoff is very slow, and the erosion hazard is slight.

3.3 CLIMATE AND AIR QUALITY

Honolulu lies along the coastal plain leeward (relative to the trade winds) of the 2,000-foot high Koolau Mountains. The climate is characterized by the persistence of trade winds, a strong gradient of increasing rainfall from the coast to the mountains, a concomitant gradient from sunny coastal areas to persistent cloudiness over nearby mountain crests, equable temperatures from day to day and season to season, and the infrequency of

severe storms. Northeasterly trade winds prevail throughout the year, although their average frequency varies from more than 90 percent during the summer to only 50 percent in January. Annual rainfall in the Honolulu area averages less than 30 inches along the coast, but increases inland at about 30 inches a mile.

Air quality in Honolulu is generally very good due to the effects of the tradewinds blowing pollutants out to sea. During periods of light or calm winds, however, "hot spots" where air pollutants may exceed short-term standards can occur in areas of traffic congestion.

Exhaust emissions during construction would be generated from vehicles and construction machinery. Fugitive dust will be generated during earthmoving activities and as a result of vehicular traffic.

Impacts due to exhaust emissions should be minimized by keeping all equipment properly tuned and maintained, as well as by minimizing unnecessary idle time. The contractor will be required to comply with Hawaii Administrative Rules 11-60 "Air Pollution Control" which contains restrictions on visible emissions from motor vehicles and fugitive dust generation.

To reduce fugitive dust emissions, exposed surfaces should be kept well watered whenever feasible. Wet cutting or dry cutting with other dust control measures should be used for asphaltic concrete pavements. The City and County of Honolulu will include special provisions in the construction contract to minimize fugitive dust emissions and erosion from trenching, stockpiling and other operations.

3.4 WATER RESOURCES

There are no surface water resources within or adjacent to the site. The nearest surface water to the site is the Manoa-Palolo Drainage Canal, a quarter mile to the east, which discharges Manoa and Palolo Streams into the Ala Wai Canal. The state is undertaking a study of the hydrodynamics and water quality of the Ala Wai Canal, and the consultants for that study have been made aware of this proposed action so that the anticipated flows can be added to the discharge inventory presently being prepared. A major product of the state's study will be a watershed management plan which is expected to include engineering solutions to improve water quality in the Ala Wai Canal. The drainage area to be served by this project will be included in the watershed management plan.

Significant groundwater resources are located below the project site, but would not be affected by the proposed project. An extensive basal aquifer containing large supplies of fresh water underlies all of southern Oahu, but in coastal areas is overlain by a thick layer of caprock containing a non-potable aquifer. In the coastal caprock which underlies the project site, water levels are 1-3 feet above sea level. Excavations for the proposed

project will likely intersect the caprock aquifer, and dewatering of the trench will likely be required. This water will be discharged into the nearest storm drain.

3.5 FLORA AND FAUNA

The introduced grasses, shrubs and trees which prevail along the site provide some degree of habitat for the typical array of exotic birds and mammals that one would expect at this elevation and in this type of environment throughout the island. No candidate, endangered or threatened plant or animal species are known to exist on the site or use the site as habitat.

3.6 ARCHAEOLOGY AND HISTORICAL SITES

An archaeological review of the project area was conducted, and is presented as Appendix A. Radiocarbon dates indicate an occupation of the area as early as the late 14th century. There is the potential for significant buried historic and prehistoric resources within the project area, particularly an early agricultural wall in the vicinity of Kuilei Street and Kahoaloha Lane.

At this time it is uncertain whether the trenching will extend below layers previously excavated for other utility installations. Coordination with the State Historic Preservation Division (see memorandum included in Section 4.0) established the following mitigation measures: 1) inspection of all open trenches by a qualified archaeologist who will collect information and samples from any subsurface historic sites; 2) dating and other analyses of collected samples; and 3) submission of an acceptable report of the work. Should any human burials be encountered during the excavations, all work in the vicinity must stop temporarily while the State Historic Preservation Office is notified and mitigative actions undertaken.

3.7 SOCIAL AND ECONOMIC ENVIRONMENT

The following projections are from the Department of Business and Economic Development (1988). The resident population on Oahu is projected to rise 23 percent, from 811,100 in 1985 to 999,500 in 2010. Oahu's de facto population, which includes visitors present but excludes residents temporarily absent, is projected to grow to 1,094,700 in 2010. The civilian job count, which was 473,100 in 1985, is projected to increase to 720,600 by 2010. Most gains are expected in trade, services and diversified agriculture. Per capita personal income is projected to rise from \$12,400 in 1985 to \$16,800 (in 1982 dollars) in 2010, or 35.5%

The proposed project would provide short-term economic benefits in the form of engineering and construction jobs, and long-term benefits to nearby residents in terms of reliable access, public health and safety.

3.8 RECREATIONAL AND EDUCATIONAL FACILITIES

There are no public recreational facilities adjacent to the project area. At the southeast corner of Kuilei and Kahoaloha is a small, private playground and tennis court. Use of these facilities could be deterred by the noise and dust coincident with construction activities. The preschool at Mother Rice Park is accessed from South King Street, but activities could be affected by the noise and dust. Access to Kuhio School would be hindered during construction. To the extent that these temporary impacts cannot be mitigated, they are unavoidable, however, the long-term benefits to the neighborhood would seem to greatly outweigh these inconveniences during construction.

3.9 UTILITIES

Both above ground and buried utility installations will be affected by the proposed work. Preliminary coordination with all affected utilities (electrical, water, sewer, telephone, cable TV, and gas) was done during the engineering study. All alternatives would require the relocation of a 2-inch high pressure gas line along the western edge of Kuilei Street. The locations of existing sewer lines were taken into consideration in devising the alternatives, and all proposed drain lines cross existing sewer lines with a minimum vertical clearance of 6-inches. Short sections of water main lines would have to be relocated to accommodate the storm drain lines.

The contractor will be required to verify utility locations and coordinate any temporary or permanent displacement so as to insure no interruption of service.

3.10 NOISE

The operation of construction equipment will raise ambient noise levels in the project vicinity. Construction equipment and on-site vehicles or devices requiring an exhaust of gas or air would have to be equipped with mufflers. In addition, all construction-related vehicles traveling on roadways must meet the vehicle noise level requirements set by the State (Hawaii Administrative Rules 11-42 "Vehicular Noise Control for Oahu").

3.11 TRAFFIC

Standard specifications for traffic control will be used during construction. Appropriate signs and barriers will be required, and generally one lane will remain open during working hours (8:30 AM to 3:30 PM). Installation of the 54-inch pipe between Kahuna Lane and University Avenue may require closing both lanes. After working hours trenches will be covered with a non-skid bridging material and all lanes will be open. It is not anticipated that off-duty police will be required for traffic control. Pedestrian traffic will be provided for.

The presence of construction equipment and vehicles, stockpiled earth and construction supplies will result in an unavoidable, but temporary, loss of parking in the area.

4.0 LIST OF REFERENCES

Department of Business and Economic Development, State of Hawaii. 1988. Population and Economic Projections for the State of Hawaii to 2010 (Series M-K).

SSFM Engineers, Inc. 1992. Kuilei Street Storm Drainage Improvement Project. Preliminary Engineering Report (Revised). Prep. for City and County of Honolulu, Dept. of Public Works.

5.0 LIST OF AGENCIES CONSULTED

In addition to the individual utility companies, the following agencies were consulted in preparation of the EA. As engineering design progresses coordination will continue. Comment letters received during the consultation period are reproduced following the list.

FEDERAL AGENCIES

U.S. Army Engineer District
U.S. Department of the Interior, Fish and Wildlife Service

STATE AGENCIES

Department of Health
Department of Land and Natural Resources

COUNTY AGENCIES

Department of General Planning
Department of Land Utilization
Department of Transportation Services
Councilmember Leigh-Wai Doo
McCully/Moiliili Neighborhood Board No. 8



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858-5440

February 28, 1992

REPLY TO
ATTENTION OF:

Planning Division

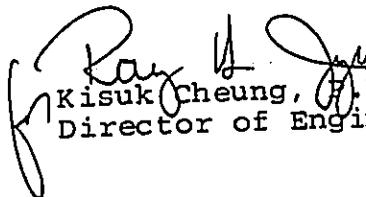
Ms. June J. Nakamura, P.E.
SSFM Engineers, Inc.
501 Sumner Street, Suite 502
Honolulu, Hawaii 96817

Dear Ms. Nakamura:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment and Negative Declaration for the Kuilei Street Storm Drainage Improvements, Honolulu.

The following comment is provided pursuant to Corps of Engineers authorities to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act: the proposed project will not require a DA permit.

Sincerely,


Kisuk Cheung, P.E.
Director of Engineering

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

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

DEPUTIES
John P. Keppeler, II
Dona L. Hanaike

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RESOURCES ENFORCEMENT
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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

150
MAR 18 1992

REF:OCEA:skk

FILE NO.: 92-506
DOC. ID.: 346

Ms. June Nakamura, P.E.
SSFM Engineers, Inc.
501 Summer Street, Suite 502
Honolulu, Hawaii 96817

Dear Ms. Nakamura:

SUBJECT: Kuilei Street Storm Drainage Improvements - Oahu
TMK: 2-7-16 and 17

Thank you for giving our office the opportunity to review this matter. Our Department's Historic Preservation Division will comment on this project in a separate letter. We have no other comments at this time.

Thank you for your cooperation on this matter. Please feel free to contact Sam Lemmo at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

WILLIAM W. PATY

92-0980

March 11, 1992

RECEIVED
DIV. OF ENGINEERING
MAR 13 3 33 PM '92
RECEIVED
DEPT OF PUBLIC WORKS
MAR 13 2 45 PM '92

MEMORANDUM

TO: Roger Evans, OCEA
FROM: Don Hibbard, Administrator
State Historic Preservation Division
SUBJECT: Kuilei Street Storm Drain Improvements (File No: 92-506)
Waikiki, Kona, O'ahu
TMK: 2-7-16 and -17

LOG NO: 4691
DOC NO: 06117

HISTORIC PRESERVATION PROGRAM CONCERNS:

Trenching for this project will occur in areas of former agricultural plots and habitations. Human burials have been uncovered during construction in the general area. The archaeological literature and archival review by Allan J. Schilz concludes that it is likely that subsurface historic sites will be uncovered by the trenching.

Therefore, in order for this project to be in compliance with Chapter 6E (H.R.S.) -- to have "no adverse effect" on any significant historic sites -- the City & County's Public Works Department must have an archaeologist properly inventory any sites found in the trenching. To do so, the following must be done: 1) inspection of all open trenches by a qualified archaeologist who will collect information and samples from any subsurface historic sites; 2) dating and other analyses of collected samples; and 3) submission of an acceptable report of this work. Such work is relatively inexpensive and has minimal hindrance to construction.

Please be sure that any State permits require such work to occur.

There is also the possibility that human burials will be exposed during routine construction activities. Should this be the case then all work in the immediate vicinity must stop and this office contacted at 587-0047. If you have any questions, please contact Tom Dye at 587-0014.

TD:jen

cc: Department of Public Works, City & County of Honolulu

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



BENJAMIN B. LEE
CHIEF PLANNING OFFICER

ROLAND D. LIBBY, JR.
DEPUTY CHIEF PLANNING OFFICER

VW 2/92-451

February 27, 1992

Ms. June J. Nakamura, P.E.
SSFM Engineers, Inc.
501 Sumner Street, Suite 502
Honolulu, Hawaii 96817

Dear Ms. Nakamura:

Kuilei Street Storm Drainage Improvements

In response to your letter of February 11, 1992 transmitting the Draft Environmental Assessment and Negative Declaration for the referenced project, we agree with the Department of Public Works that the proposed action will not have any significant impact on the environment. Therefore, a Negative Declaration is in order.

One of the major proposals of our Waikiki Master Plan is to promote recreational use of Ala Wai Canal and to improve the canal edges. Cleaning up the canal is essential to the public's enjoyment of this resource.

We are concerned, however, that this project may contribute to the conditions which affect the water quality of the Ala Wai Canal. We, therefore, recommend that this project be coordinated with the Department of Land and Natural Resources in their study of the Ala Wai Canal hydrodynamics and water quality and that appropriate measures be incorporated in the project's design to diminish the possibility of pollutants entering the canal.

Sincerely,

A handwritten signature in black ink, appearing to read "Benjamin B. Lee", is written over the typed name and title.

BENJAMIN B. LEE
Chief Planning Officer

BBL:ft

cc: Mel Takakura, Drainage Section,
Engineering Div., DPW

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU 92.0807

630 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4433

RECEIVED
DIV. OF ENGINEERING
MAR 3 10 20 AM '92

FRANK F. FASI
MAYOR



RECEIVED
DEPT. OF PUBLIC WORKS
MAR 2 3 43 PM '92

Eugene
DONALD A. CLEGG
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR
LU2/92-839 (JM)

March 2, 1992

MEMORANDUM

TO: C. MICHAEL STREET, ACTING DIRECTOR
DEPARTMENT OF PUBLIC WORKS - DRAINAGE DIVISION

FROM: DONALD A. CLEGG, DIRECTOR

SUBJECT: Special Management Area Review

Tax Map Key : 2-7-16 and 17
Type of Project: Installation of Drain Inlets on
Kuilei Street and Installation of
Storm Drain Lines

The proposed project on the referenced tax map key has been reviewed. We find that it:

- Is not within the Special Management Area.
- Is within the Special Management Area, but is not defined as "development" and is therefore, Exempt (Exemption No.).

We have also reviewed your draft environmental assessment. Although we share your concern that your project may disturb significant historic or prehistoric resources, we are satisfied that coordination of your efforts with the Department of Land and Natural Resources will provide adequate safeguards for any threatened resources. We agree that a Negative Declaration seems appropriate for this project.

Should you have any questions, please contact the Environmental Affairs Branch at 523-4077.

Very truly yours,

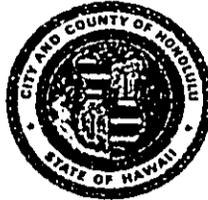
Donald A. Clegg
DONALD A. CLEGG
Director of Land Utilization

DAC:cct

a:LU92-839.jsm

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

JOSEPH M. MAGALDI, JR.
DIRECTOR

AMAR SAPPAL
DEPUTY DIRECTOR

TE-0651
PL92.1.050

March 10, 1992

MAR 12 1992

Ms. June J. Nakamura, P. E.
SSFM Engineers, Inc.
501 Sumner Street, Suite 502
Honolulu, Hawaii 96817

/JN

Dear Ms. Nakamura:

Subject: Kuilei Street Storm Drain Improvements
Draft Environmental Assessment
TMK: 2-7-16 and 17

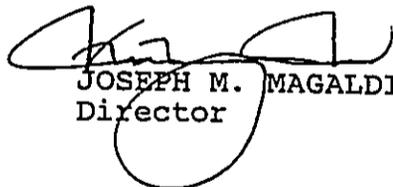
This is in response to your letter of February 11, 1992
requesting our comments on the draft environmental assessment.

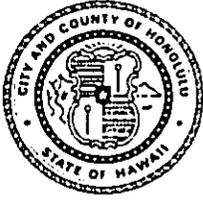
Based on our review, we have the following comments:

1. The location of the drain inlets should be placed at the future curblineline, or it should be constructed in a way that will make it easy to relocate when the streets in the area are widened and improved.
2. 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 for pedestrians and vehicles should be included in these plans.

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

Sincerely,


JOSEPH M. MAGALDI, JR.
Director



CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII 96813 / TELEPHONE 523-4000

FEB 18 1992

LEIGH-WAI DOO
Councilmember
(808) 523-4615

February 18, 1992

JN

Ms. June J. Nakamura, P.E.
SSFM Engineers, Inc.
501 Sumner Street, Suite 502
Honolulu, Hawaii 96817

Dear Ms. Nakamura:

RE: KUILEI STREET STORM DRAINAGE IMPROVEMENTS

Thank you for your letter of February 11, 1992 and the accompanying "Notice of Determination: Negative Declaration for the Proposed Kuilei Street Storm Drain Improvements", which my staff and I have reviewed.

We find your Environmental Assessment to have been thorough and sensitive to the surrounding community viz. construction needs and concur with your findings that the project will not have significant impact on the environment.

Thank you for forwarding this information to me; I will see that a copy of your report reaches the McCully-Moiliili Neighborhood Board, Physical Planning Committee.

Again, my many thanks for your thoroughness.

Sincerely,

LEIGH-WAI DOO
COUNCILMEMBER

cc: Sam Callejo, Director DPW
Mel Takakura, Drainage Section, Engineering Division DPW
McCully-Moiliili Neighborhood Board
HonoHale Towers Residents Association

APPENDIX A

ARCHAEOLOGICAL LITERATURE AND ARCHIVAL REVIEW
MOILILI DISTRICT, HONOLULU
TMK: 2-7-16,17

Prepared By
Allan J. Schilz

Submitted to:
GK & Associates
294 Awakea Road
Kailua, Hawaii 96734

Submitted by:
ERC Environmental and Energy Services Company
Honolulu, Hawaii 96813

October, 1991

INTRODUCTION

The following report presents the results of an archaeological literature and archival review within the proposed Kuilei Street Drainage Improvement Project, Moiliili District, Honolulu, Oahu. The purpose of the proposed project is to alleviate a drainage problem on Kahoaloha between Kuilei and Nakookoo. Drain inlets will be installed on Kahoaloha and Kuilei. A storm drain line will be installed, starting on Kahoaloha with an 18-inch diameter pipe, placed at a depth of approximately four feet. The drain line will increase in size and slope downward to University Avenue. At University Avenue the depth will be approximately seven feet and the pipe will be greater than 30 inches in diameter (Figure 1). Installation of the storm drain line requires trenching within the street, laying the pipe, and patching the street.

The purpose of the current archaeological literature and archival review is to evaluate the potential for buried archaeological resources within the proposed pipeline route. The investigations were performed by ERC Environmental and Energy Services Company (ERCE), Honolulu, Hawaii, for GK & Associates, Kailua, Hawaii. The scope of the current study focuses on existing literature and records to determine the likelihood of significant cultural resources within the project area, and includes recommendations to mitigate impacts to those resources. The study includes information collected from the Hawaii State Survey Office, the Bureau of Conveyances, the State Historic Preservation Division, and the State Archives.

Historical Background

The early occupation of Waikiki has been well documented by a number of early European explorers. In 1792, Captain George Vancouver and his surgeon and naturalist, Archibald Menzies, described coastal villages and coconut palm groves; sugar cane, banana, and irrigated taro fields extending inland well into the Manoa and Palolo valleys; and numerous fishponds between the irrigated fields and the coastal villages (Vancouver 1798: I, 161-164; Menzies 1920:23-24). In 1825, Andrew Bloxam, of the English frigate Blonde, noted "innumerable" artificial freshwater ponds extending a mile inland from the shore (Bloxam 1925:35-36).

The importance of the Waikiki area is indisputable. Beckwith (1940:383) notes that Waikiki was the "...ruling seat of the chiefs of O'ahu..." by the late 14th century.

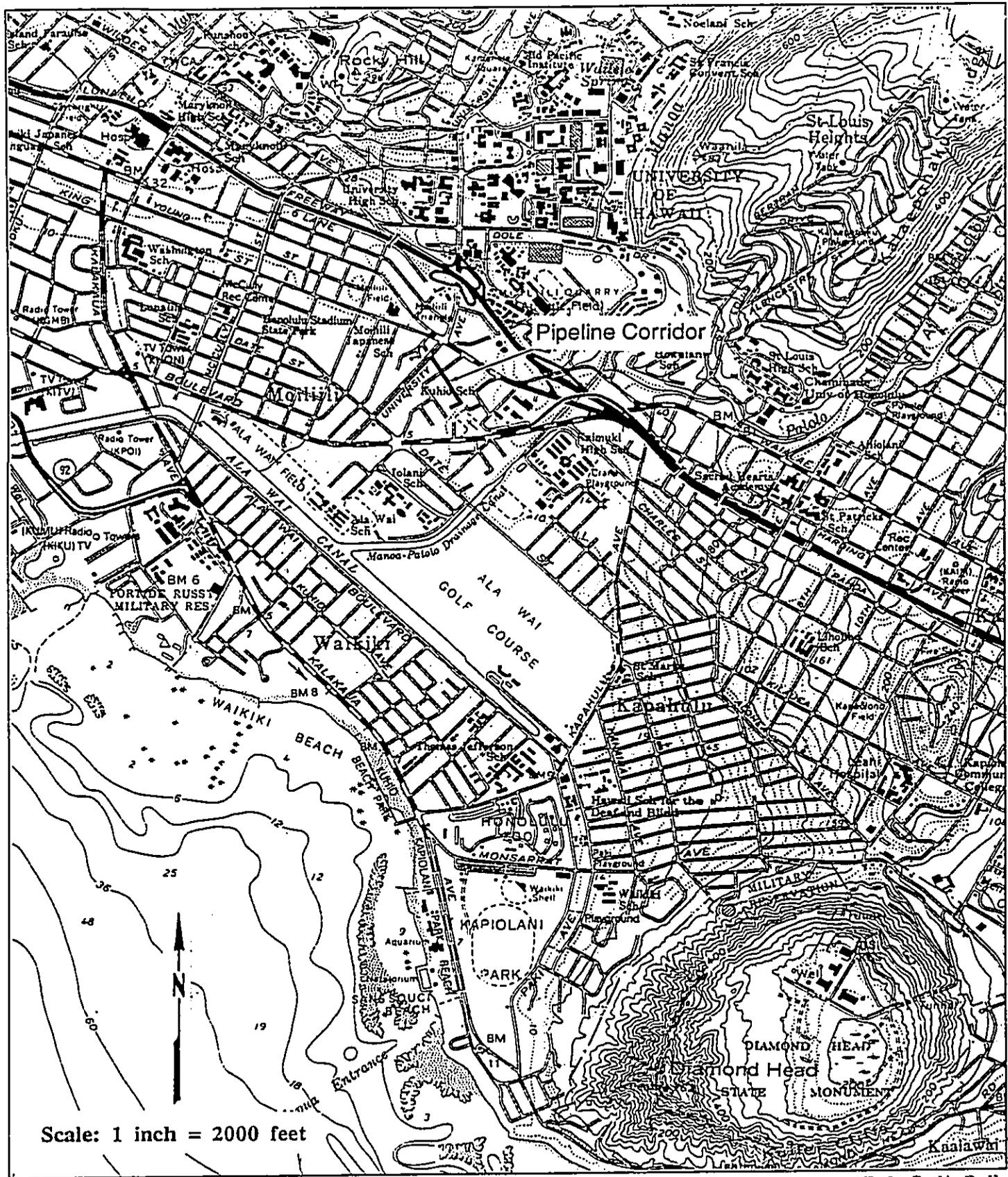


FIGURE
1



Pipeline Corridor

Kahekili, after his conquest of O'ahu in 1785, made his residence at Waikiki (Kuykendall 1983:34). John Papa I'i (1800-1870) further notes that Kamehameha I maintained a residence in Waikiki after his victory over Kalanikupule at Nu'uaniu in 1795 (I'k 1959:15-17).

Protected by a reef, Waikiki was far more important to the Hawaiians than Honolulu; Kamehameha maintained his residence at Waikiki until as late as 1807 (Kuykendall 1983:27). Nevertheless, the harbor at Honolulu was of great commercial interest to foreigners, and the native population was eventually drawn away from Waikiki. By the late 1820's, a number of factors had contributed to the decline of the Waikiki area. Perhaps the most disastrous of these was the introduction of European diseases. Disease and civil warfare contributed much to the decline of the population. As other industries developed, particularly commercial agriculture, the manpower required to maintain the irrigation system and native fields was not available and they were neglected.

By 1900, only 15 fishponds remained in the Waikiki area and much of the surrounding area supported the cultivation of plantation crops. Europeans and Americans owned much of the land, and imported Chinese and Japanese laborers that dominated the labor force (Cobb 1902:429; Kuykendall and Day 1938:137).

The antiquity of the Waikiki irrigation complex is problematic. Oral tradition, however, suggest that it was constructed in the early 15th century during the reign of chief Kalamakua (Fornander 1919-1920:VI, 314). The available data suggest that Hawaiian settlement of Waikiki was well established at least by the mid-15th century. Analysis of sediments from the Halekulani site further indicate that the beachfront was a stable barrier between Mamala Bay and the inland fishponds. It was on this barrier that the early settlements were located. Therefore, there exists the possibility that intact cultural deposits and natural features have survived modern development.

Previous Archaeological Investigations

The archaeological sensitivity of Waikiki has been recognized for a number of years, but, until recently, very few systematic archaeological studies have been completed in the Waikiki area, and none have been completed within the Moilili District in the vicinity of the proposed pipeline route. Prior to 1980, archaeological work focused on the analysis of human remains and a few artifacts discovered during various construction projects. A

summary of the previous archaeological work in the area is presented by Davis (1989) and need not be repeated here.

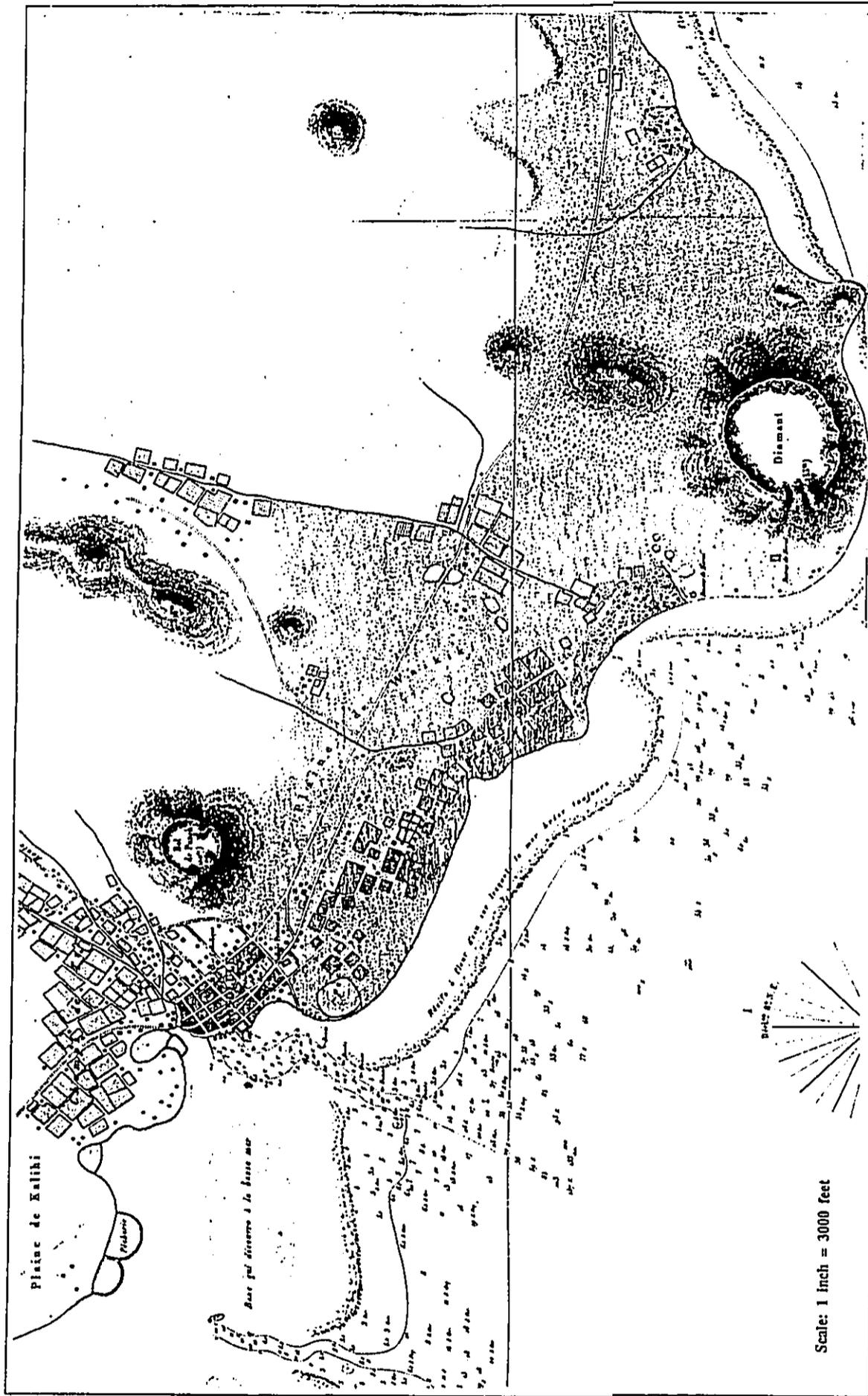
The most recent, and perhaps the most comprehensive, study in the area was conducted by Bertell Davis (1989). Under contract to the U.S. Army Engineer District, Pacific Ocean Division, Davis conducted historical/archival research and excavated 20 backhoe trenches and 9-1 x 2m hand excavated units within the Fort DeRussy area. Archival sources indicated that fishponds, 'auwai, and associated habitation deposits were once located in the area. The results of the archival research were corroborated by the field research; Davis identified buried fishponds, fishpond walls, and 'auwai in the inland portions of his study area and habitation deposits along the coast.

HISTORIC LAND USE

Accounts of early explorers and the maps they produced, and more recent historic maps provide considerable information regarding land use patterns. Lieutenant de Lapasse's 1855 map of Honolulu depicts a number of fishponds (*Marais de Pecheries*), agricultural plots, and dwellings located along the coast and inland within the Waikiki Plain (*Plaine de Waikiki*) (Figure 2). While it is difficult to locate the current project on this early map, the general route of Beretania Street (formerly Moiliili Road), is shown, and agricultural plots and dwellings are shown in the vicinity.

A Hawaiian Government Survey Map of Waikiki dating from 1881 (S.E. Bishop) shows the route of Beretania Street-Moiliili Road and South King Street (Figure 3). Beretania and King streets end at Maui Loko; it is at this approximate location that King and Beretania streets now converge and cross University Avenue. Located south of Maui Loko and Beretania and King streets is Loko Paakea and several walls, presumably enclosing individual agricultural plots. It appears that Loko Paakea may be the location of Kumulae Spring cited in *Sites of Oahu* (Sterling and Summers 1978:281-282).

A second Government Survey Map produced by S.E. Bishop, also ca.1880's, shows Beretania and King streets, Maui Pond, Loko Paakea, and the walled agricultural plots (Figure 4). Two additional features not identified in Bishop's 1881 map are also shown. Immediately *mauka* of Maui Loko is a structure designated as a Heiau and east of this Heiau is Mauoke Spring. The Heiau may be Mauoki Heiau (Sterling and Summers 1978:279; Kamakau 1976:144). This Heiau is now destroyed.

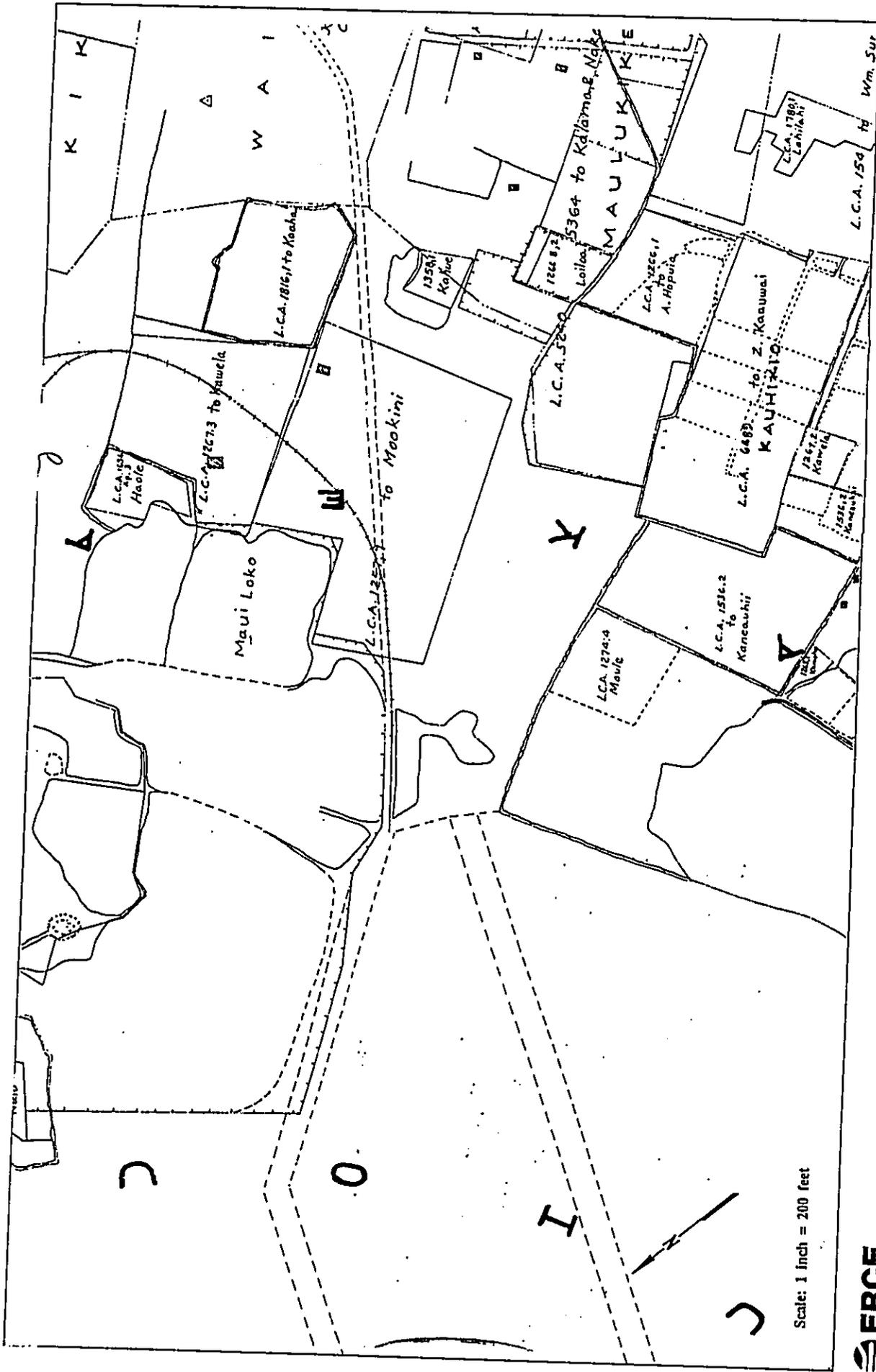


Plan Du Mouillage D'Honolulu
 (Le Woaohou)
 Lieutenant de Lapasse 1855
 (Published by Editions Limited, Honolulu)



FIGURE

2



Scale: 1 inch = 200 feet



Map of Waikiki, S.E. Bishop 1881
Register Number 1398

An 1887 Map of Honolulu by W.A. Wall shows the study area as Kapaakea and depicts Beretania-Moiliili Road, and King Street (Figure 5). Maui Pond, Loko Paakea, and the walled agricultural plots shown on Bishop's earlier maps are also shown.

The project passes through portions of LCA 5240 & 5364 to Kalama and Nakookoo as well as LCA 1266 to Hopuia. Hopuia's land is described in Volume 3 of the Native Testimony, pages 236-237 as having patches and a houselot. Other portions of land in the vicinity are described as "patches" and "houselots". The project crosses the stone wall between LCA 5240 & 5364 and LCA 1266. Both Bishop's map of Paakea and his 1881 map of Waikiki show *'auwai* in the area as well as stone walls.

The 1914 edition of Sanborn's Fire Insurance Maps of Honolulu, map 102 shows the area, prior to the creation of Kuilei Lane to be scattered wooden structures and open land, with *taro patches* noted in the present location of University Avenue.

The 1927 edition of Sanborn's Fire Insurance Maps for Honolulu, Volume 3 map 315 shows the area to be slightly more densely settled between Kapaakea Lane and Kahuna Lane, with Kuilei Lane diminishing and disappearing within 300 feet east of Kahuna Lane. In the 1927, 1947 and 1951 editions of Sanborn's maps, the area of the project corridor appears rural with several "pig pens" noted along Kuilei Lane.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the literature and archival review, there exists a potential for significant buried historic and prehistoric resources within the proposed pipeline corridor. This is particularly true in the vicinity of Kuilei Lane and Kahoaloha Lane; Kuilei Lane crosses the location of an early agricultural wall between Kahuna Lane and Kahoaloha Lane. Two ponds, Maui Loko and Loko Paakea, are located in the vicinity of the proposed pipeline route, but appear to be situated well away from the trenching.

Research conducted by Davis (1989), Allen (1989), and others demonstrate the existence and research potential of buried deposits in Waikiki. This research also yielded radiocarbon dates indicating an occupation of the area as early as the late 14th century (Davis 1989:14).

Three major research domains may be addressed through completion of a monitoring and subsurface sampling program along the pipeline route. These domains include chronology, site function, and settlement organization.

(1) Chronology

- a. Identify and date cultural and natural layers along the pipeline route to refine the relationship of archaeological sites to one another and to the natural strata.
- b. Compare the coastal sites with sites located inland to evaluate patterns of exploitation and changes in those patterns.

(2) Site Function

- a. Using, and perhaps refining, existing site typologies, establish a pattern of coastal vs. inland land use.
- b. Determine whether sites located inland were temporary or permanent.
- c. Evaluate the relationship between specific resources and the types of sites located within resource zones.

(3) Settlement Patterns

- a. Determine how sites complimented one another in terms of local and regional socioeconomic structures.
- b. Evaluate the relationship between coastal settlement, inland settlement, and the natural resources available within these areas.

The plans for placement of the drainage pipe include utilizing a previously excavated trench. The depth of the proposed trench may not exceed the previous trench; therefore, impacts to buried resources may not occur. In the event that buried resources are found, trenching should be diverted to allow the archaeologist time to evaluate the deposit and to consult with the State Historic Preservation Division.

If previously unexcavated soil is encountered during trenching, it is recommended that the pipeline excavations be monitored by a qualified archaeologist. The monitoring need not be continuous throughout the excavations, but should combine inspection and sample collection from the open trench at regular intervals with continuous monitoring at areas of high sensitivity. Specifically, near Kuilei Lane and Kahoaloha Lane because of the wall depicted on the 1881 map by S. E. Bishop.

It is anticipated that deposits will be exposed that may yield samples suitable for dating and reconstruction of earlier environments. Provisions should be made to collect and analyze charcoal, plant macrofossils, and pollen samples.

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