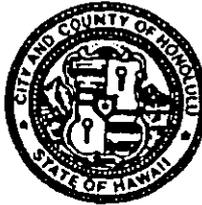


DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-4564 Fax: (808) 523-4567
Website: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR



RECEIVED

'00 AUG 28 P3:19

GARY Q. L. YEE, AIA
DIRECTOR

ROLAND D. LIBBY, JR., AIA
DEPUTY DIRECTOR

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL
August 28, 2000

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State Office Tower
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: Finding of No Significant Impact (FONSI) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

The City and County of Honolulu, Department of Design and Construction (DDC), has reviewed the comments received during the 30-day draft environmental assessment (DEA) public comment period which began on March 23, 2000. The chief issues raised during the comment period are discussed below.

Project Justification

Kahaluu Regional Park was conceived as the recreational component of the *Kahaluu Watershed Workplan* project, a combination of flood-control, watershed planning, and recreation development created by a partnership of the County, State, and Federal government. The *Watershed Workplan* was developed in response to community concerns following major flood events in the 1960s. The *Watershed Workplan* was also strongly influenced by the community's vision for a major recreational component (park and lagoon) to flood control.

At present, recreational facilities in the area are limited to the joint Kahaluu Elementary School/Kahaluu Community Park facilities mauka of the proposed park site. The deficiency in local recreational facilities has been recognized by area residents, the Kahaluu Neighborhood Board, and the City government in numerous planning documents since the 1968 *Watershed Workplan*. (See also: *Kahaluu Watershed EIS*, 1975; *A Planned Community: Steps on the Journey*, 1980; *Kaneohe Bay Master Plan*, May 1992).

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Ms. Genevieve Salmonson
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August 28, 2000

Cultural Resources

Correspondence with the State Historic Preservation Division (SHPD) is included in the final EA, along with discussion of impacts and mitigation measures regarding possible historic and archaeological sites. Cultural resource mitigation measures were developed through several meetings with representatives from the SHPD, DDC, the Kahaluu Regional Park Advisory Committee, and R. M. Towill Corporation. The recommendations that developed from those meetings, discussed below, will be carried out to ensure that historic preservation concerns are addressed.

Prior to Commencing with Phase 1 Construction:

Soil sample data from borings conducted in the Phase 1 area by GeoLabs, Inc. will be provided to the SHPD for documentation and analysis.

Backhoe trench soil sampling will be conducted by a qualified archaeologist in at least five locations within the Phase 1 area. The results of the soil investigation and subsequent analysis will be provided to the SHPD.

Documentation in the form of published literature and unpublished material of historic land uses and prior land alterations in the Phase 1 area will be provided to the SHPD.

Prior to Commencing with Construction in Subsequent Phases of Park Development:

An archaeological inventory survey will be conducted by a qualified archaeologist working in consultation with the SHPD for all areas of the proposed park outside of the Phase 1 area. The area adjacent to the surplus soccer field and old rice mill will be given special attention, including subsurface investigation for potentially significant sites identified during surface reconnaissance. Park areas makai of Kamehameha Highway will be included in the inventory survey.

A Cultural Resources Mitigation Plan will be prepared for significant sites identified in the Archaeological Inventory Survey. Measures may include preservation (passive protection or active study), adaptive reuse (rehabilitate taro lo'i, perhaps commercially), interpretive efforts (signage, educational activities), and "curator agreements" between the community and government.

Water Quality

The project will comply with all necessary permits and approvals that may be required at each phase of development. This includes all federal and State permits required by Sections 401, 402, and 404 of the Clean Water Act of 1977 (Department of the Army Permit, Department of

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Health's Water Quality Certification, Coastal Zone Management Approval, and National Pollutant Discharge Elimination System Permit). Best Management Practices will be employed in all phases of development to control storm water run-off and any construction dewatering that might be required. Further, all structures proposed for the project will be sited outside the 500-year flood plane.

Wetlands

In exchange for filling in the three small wetland areas (approximately 0.3 acres combined), the City and County of Honolulu proposes to enhance the remaining wetland areas (approximately 2.12 acres) within the park site. Enhancements will consist of: (1) periodic maintenance of vegetation by mowing or grazing; (2) select removal of Hau (*Hibiscus tiliaceus*) within delineated wetland boundaries; and (3) fencing (against predators) of select wetland areas.

Clearing of vegetation will add to the diversity and abundance of wildlife by expanding wetland habitats. Proposed enhancements will also provide more storage for storm water run-off, thereby adding to the recharge of groundwater and reducing flooding in adjacent, nonwetland areas.

As noted in the *Wetland Mitigation Plan* prepared by AECOS, Inc., the wetlands proposed to be filled are too small, isolated, and infrequently wetted to serve as habitat for water birds, fish, or shellfish, or to serve as flood water storage. The loss of these three patches, though permanent, does not constitute a significant adverse impact to wetland functions in the area, particularly in light of enhancement measures that will be undertaken on the remaining wetland areas.

Wastewater

The project is located in the critical wastewater disposal area as determined by the Oahu Wastewater Advisory Committee. No new cesspools will be allowed in the area. The planned Kahaluu Sewers Section 3 I. D. is scheduled for completion within the next five years. When sewers become available to this project, connection will be made to park facilities. Any plans and designs for a temporary wastewater system will be submitted to the Department of Health for review and approval. All wastewater plans will conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems".

Ms. Genevieve Salmonson
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Solid Waste Disposal

The Department of Design and Construction will work with the Kahaluu Neighborhood Board to develop an Integrated Waste Management Plan for the park to consider specific waste reduction and diversion opportunities which support State and County waste reduction goals. Measures will include waste minimization practices such as recycling, use of recycled materials in construction, and reuse of greenwaste.

Visual Impacts

No adverse impacts are anticipated to result from the project. The project will enhance the landscaping throughout the area and improve access for park users to appreciate the natural aesthetics of the mauka wetland areas and the makai shoreline area. The architectural and landscaping features will be designed to minimize impacts on the line of sight towards Kaneohe Bay from the highway. Area residents will be consulted during each phase of development to gain input on visual impacts in the area. The proposed development would retain the open space character of the Kahaluu area and the mauka view plain.

Consultation with Kuleana Owners and Private Property Owners

Kuleana owners, notably the Kalahiki family, and other private landowners affected by the park have been actively consulted during the project planning. Communication with these owners will continue during all subsequent phases of park development. Documentation of communication with kuleana owners is included in Appendix F, Resident Consultation, of the final EA.

Traffic

The traffic study acknowledges that the maximum traffic impact of the proposed park would occur during special events, such as regional sporting tournaments. Such impacts would be intermittent and temporary and do not warrant permanent roadway or traffic signalization remedies. Measures to mitigate special event traffic can be imposed on a case-by-case basis as a condition of special event permits for park use issued by the City.

The traffic study prepared for the project determined that traffic signalization was not required at the intersection of Waihee Road and Kamehameha Highway based on an analysis of federal traffic signal warrants #1-11, as defined in Section 4C of the Federal Highways Administration Manual on Uniform Traffic Control Devices.

All parking requirements will be accommodated within the park grounds. Parking accommodations at the park will conform with Section 21-6, Off-Street Parking and Loading, of the Land Use Ordinances of the City and County of Honolulu.

Ms. Genevieve Salmonson
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Park landscape plans provide for a 50-foot setback on the mauka side of Kamehameha Highway to accommodate future roadway expansion.

Plans and designs for any work affecting roadways and parking will be submitted to the City's Department Transportation Services or the State's Department of Transportation for review and approval.

No other significant issues were raised during the draft EA comment period.

Best Management Practices and mitigation measures referred to above and described in the final EA will ensure that no significant negative impacts to water and air quality, flora and fauna, cultural and scenic resources, transportation, land use and community well-being will result from the proposed project.

The DDC has, therefore, determined that this project will not have significant environmental effects and hereby issues a Finding of No Significant Impact. Please publish this notice in the September 8, 2000 Environmental Notice.

We have enclosed a completed OEQC Environmental Notice Publication Form, a project description, and four copies of the final EA.

If there are any questions, please contact Mr. Donald Griffin at 527-6324.

Sincerely,


GARY Q. L. YEE, AIA
Director

GQLY:ei

Enclosures

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The project has been estimated to have the following impacts on traffic volumes at the intersection of Kamehameha Highway and Waihee Road:

approach from:	<u>Morning Peak Hour</u>		<u>Afternoon Peak Hour</u>	
	<u>increase</u>	<u>of existing</u>	<u>increase</u>	<u>of existing</u>
Waihee Road	35	14.2%	95	94.2%
Kamehameha Highway, southbound	15	2.5%	30	5.0%
Kamehameha Highway, northbound	25	5.5%	50	6.1%

As noted above, traffic due to the proposed project will significantly increase traffic volumes on Waihee Road. Peak hour conditions at the intersection of Waihee Road and Kamehameha Highway will remain similar to existing, in which very long delays occur for the left turn onto the highway.

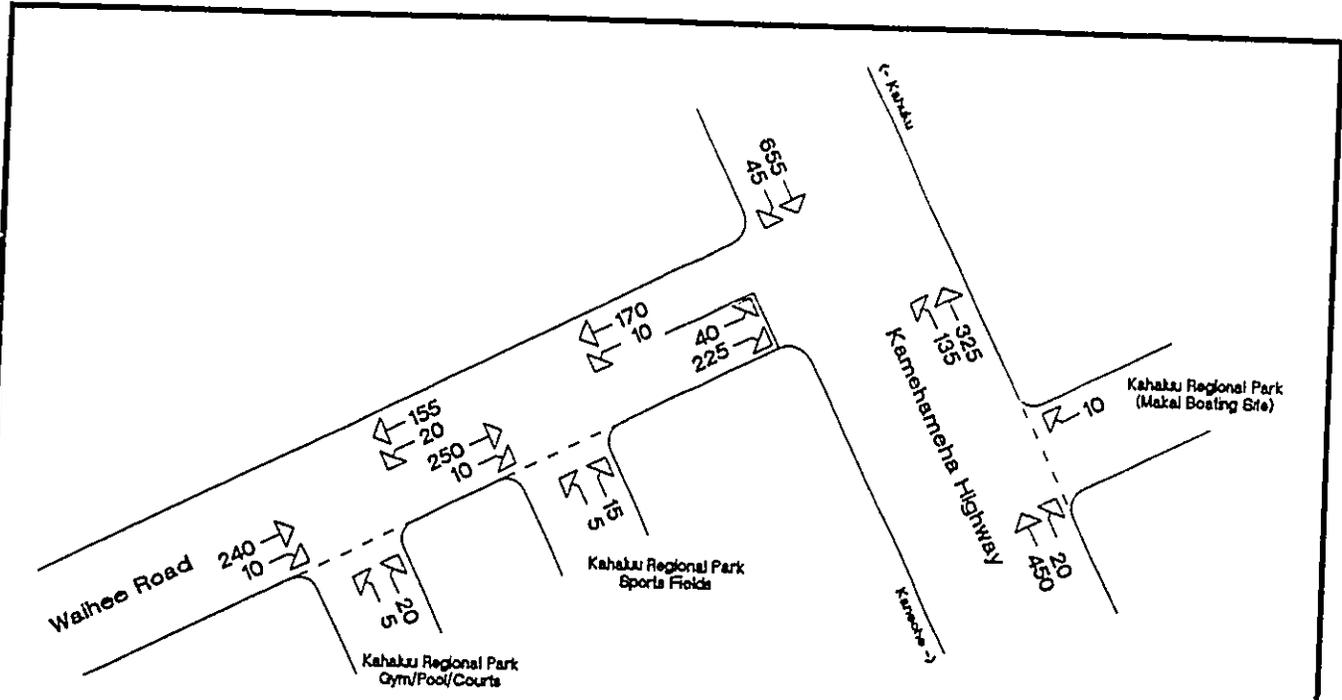
Possible Mitigation Measures

At the intersection of Kamehameha Highway and Waihee Road, additional delays will be incurred by vehicles on Waihee Road and those turning left into Waihee Road as a result of increased traffic volumes. Traffic signals would reduce delays; however, the vehicular volumes, even with the addition of project traffic, would not satisfy minimum requirements (or warrants, defined by the Federal Highway Administration) for traffic signals. A roundabout or traffic circle may also reduce delays for Waihee Road traffic; however, because through movements on the highway are much greater than other movements at the intersection, a roundabout is not recommended.

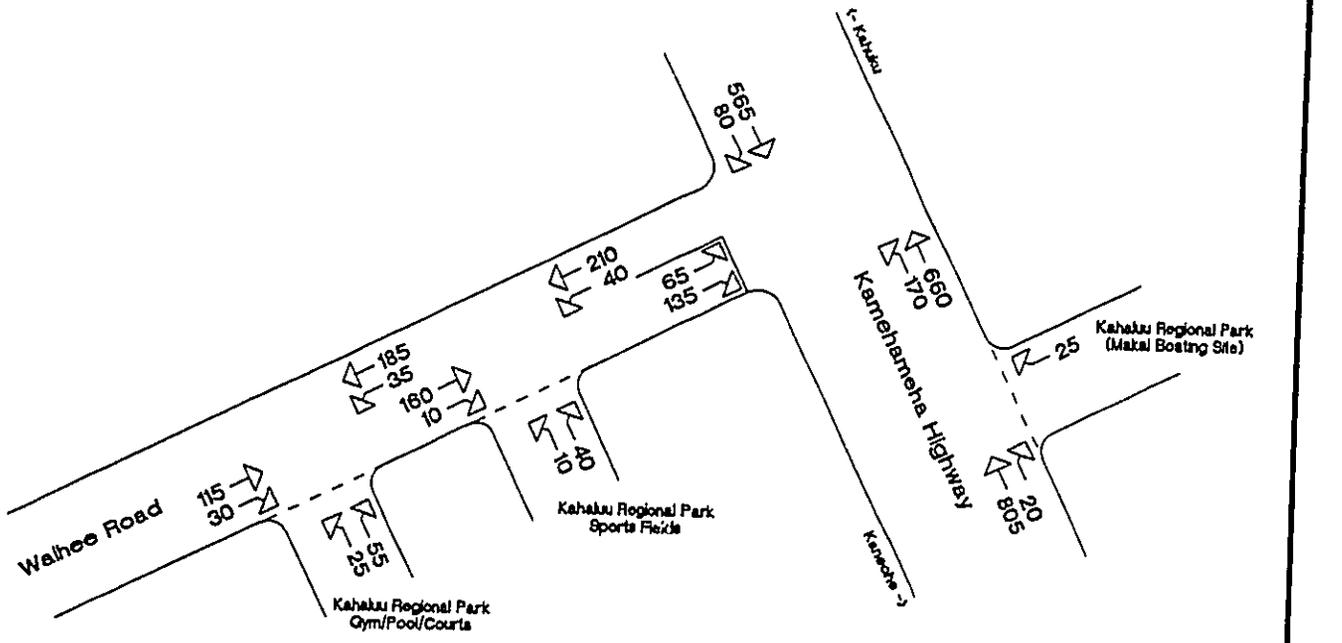
A possible mitigation measure for existing poor peak hour conditions is the addition of a separate left turn lane for northbound traffic on Kamehameha Highway for traffic wishing to turn onto Waihee Road. If the additional lane is designed so that left turns onto the highway are provided a refuge area so that drivers can make the turn by first crossing the southbound traffic, then merging with northbound traffic, delays can be significantly reduced.

The park master plan indicates plantings near the intersection of Kamehameha Highway and Waihee Road. These plantings will be set back far enough from the highway so that highway widening to accommodate the separate left turn lane can be accommodated without obscuring intersection sight lines. At the driveway connections, proper design to maintain adequate sight lines for entering and exiting vehicles should provide sufficient capacities for driveway movements. Prohibition of on-street parking near the driveways on Waihee Road may be necessary.

* * *



AM Peak Hour



PM Peak Hour

Traffic Assignments
With Project Traffic

Appendix F

Resident Consultation

Lester H. Inouye
& Associates Inc.

Landscape 90 Kawanakoa Place
Urban Design Honolulu, Hawaii
Planning 96817-1708

Tel 808 595-6979
Fax 808 595-6980
lesinouye@aol.com

TRANSMITTAL/MEMORANDUM

RE: Kahaluu Regional Park - on site meeting with Kalahiki Property Owners

TO: Department of Parks and Recreation

ATTENTION: Carl Emura
FROM: Kevin Fisher
DATE: May 5, 1998

We are sending you:

Information: Prints: Plans:

Copy of Letter: Change Order: Specifications:

DESCRIPTION \ COMMENTS:

notes from site meeting

Meeting date: May 4, 1998

Meeting Location: KEY Project and Kalahiki Property

Present at meeting:

Mel Kalahiki, Herman Kalahiki, Ballard Kalahiki, Bob Nakata, Snookie Mello, John Reppun, Kevin Fisher (see attached sign in sheet)

This meeting was arranged so that the Kalahiki family, who own the property behind KEY Project could be informed of the current plans for the park which will surround their land.

Kevin presented the concept plans of the park site which included a detail plan of the gymnasium and pool complex.

- The scheme shows a gymnasium structure at elevation 15' +/- at approximately the same location of the existing horse stable structures. This is approximately 130' away from the Kalahiki house which is at elevation 32' +/-.
- Members of the Kalahiki family agreed that as long as the new gym structure was that far away and did not block their views to the ocean they would have no objections to this location.
- They did express concern over noise generated from the facility and from the paved courts below their property.
- It was suggested that the retaining wall adjacent to the courts could be made higher to also act as a sound attenuation wall. The retaining wall could be terraced and screened with plants.
- Additional planting would be desirable to screen out the roof structure of the new gym structure.

SEP 8 2000

FILE COPY

Final Environmental Assessment

2000-09-08-OA-~~FEA~~

(Kahalu'u Regional Park)

KAHALU'U, ISLAND OF OAHU, STATE OF HAWAII

August 2000

PREPARED FOR:

City and County of Honolulu
Department of Design and Construction
650 South King Street
Honolulu, Hawaii 96813

PREPARED BY:

R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941
RMTTC Ref. No. 1-18074-OE

FINAL ENVIRONMENTAL ASSESSMENT

Kahalu'u Regional Park
KAHALU'U, ISLAND OF OAHU, STATE OF HAWAII

August 2000

PREPARED FOR:
City and County of Honolulu
Department of Design and Construction
650 South King Street
Honolulu, Hawaii 96813

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PROJECT SUMMARY

Project: Kahalu'u Regional Park

Applicant: City and County of Honolulu
Department of Design and Construction
650 South King Street
Honolulu, Hawaii 96813

Agent: R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941
Chester Koga, AICP
(808) 842-1133

Approving Agency: City and County of Honolulu
Department of Design and Construction

Tax Map Keys: 4-7-12: 1, 2, 11, 12, 13, 16, 17, 18, 19, 28, & 24 (por.)
4-7-13: 1
4-7-26: 9, 10, 20, 21, 23

Location: Kahalu'u and Waihe'e, Island of Oahu, State of Hawaii

Recorded Fee Owners: City and County of Honolulu, Department of Parks and Recreation
State of Hawaii

Total Acreage: Approximately 46 acres
Including the Kahalu'u Community Park & Kahalu'u Regional Park

Zoning: P-2 (General Preservation)
AG-2 (General Agriculture)
B-1 (Neighborhood Business)

Existing Land Use: Park/Open

State Land Use Designation: Urban (recommend change to Conservation)

Development Plan Land Use Designation: Park, Agriculture, Commercial and Preservation

SECTION 1 PROJECT BACKGROUND

1.1 PROPOSED ACTION

The City and County of Honolulu, Department of Design and Construction (DDC), plans to develop a "community-based" park in the Kahalu'u area of the Island of Oahu. The project will involve the development of approximately 46 acres of land into the Kahalu'u Regional Park complex. The proposed Kahalu'u Regional Park will include the existing Kahalu'u Community Park.

The project lies in the coastal plain of Kaneohe Bay. Since State of Hawaii lands and City and County of Honolulu lands and funds will be used for the proposed project, it is subject to the preparation of an environmental assessment according to requirements of Chapter 200, Title 11, Hawaii Administrative Rules (HAR), and Chapter 343, Hawaii Revised Statutes (HRS). This assessment will provide analysis of the project's impacts to water quality, air quality, existing utilities, noise levels, archaeological sites, wildlife habitat and mitigation methods. The DDC will file all required environmental documents.

It has been preliminarily determined that an Environmental Impact Statement (EIS) will not be required, and a determination of Finding of No Significant Impact (FONSI) is anticipated for this project. This Environmental Assessment will address the environmental and social impacts anticipated from development of the proposed project.

1.2 GENERAL DESCRIPTION

The project area is located on the windward coast of the Island of Oahu (**Figure 1**). The site is situated primarily in the Waihe'e Ahupua'a, at the terminus of three watersheds (Waihe'e, Kahalu'u and Ahuimanu). The project site is within the northern portion of Koolaupoko District and is identified as Tax Map Keys (TMK's): 4-7-12: 1, 2, 11, 12, 13, 16, 17, 18, 19, 28, & portion of 24, 4-7-13-1 and 4-7-26: 9, 10, 20, 21, and 23. The project

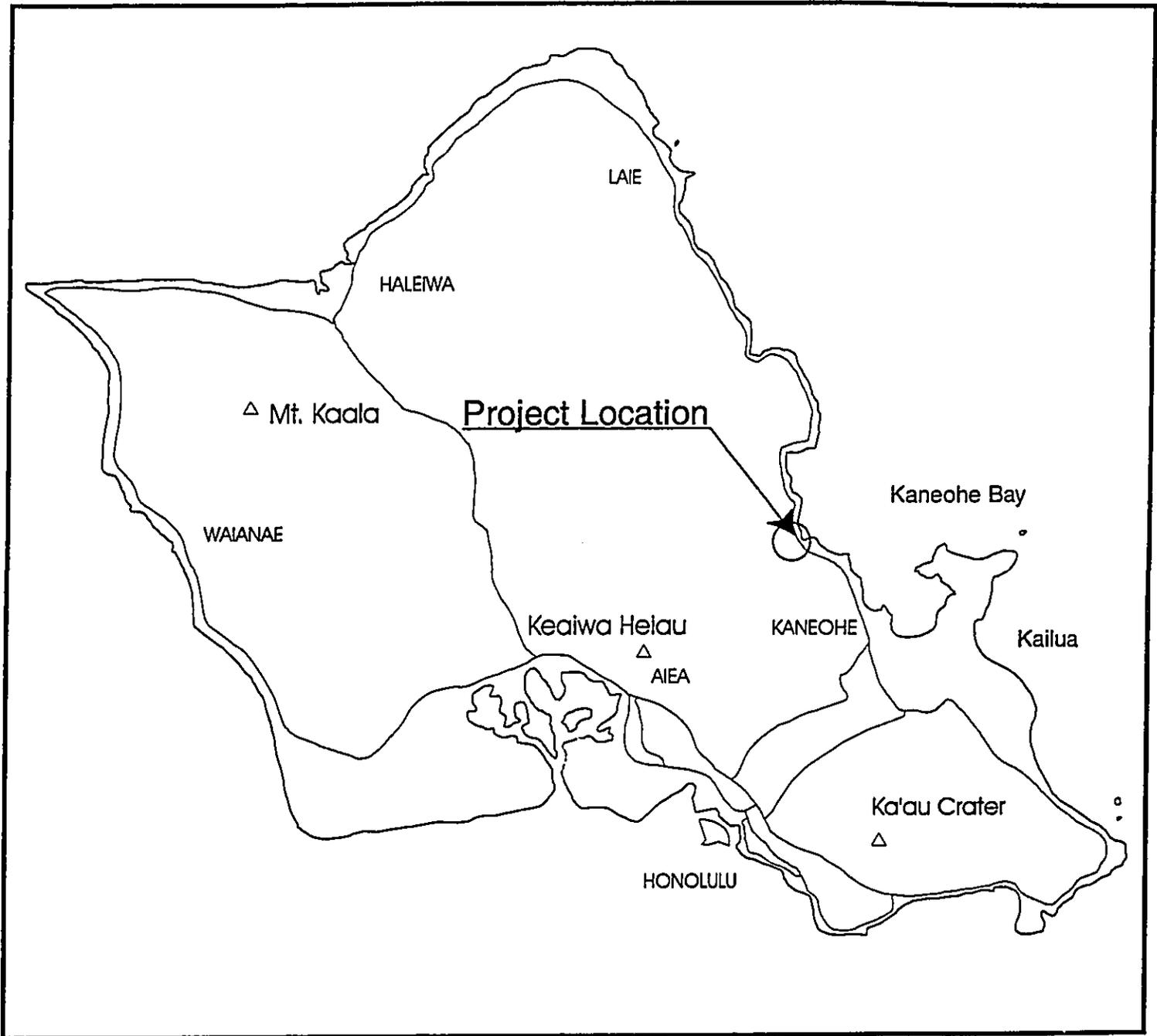


Figure 1
LOCATION MAP



No Scale

KAHALUU REGIONAL PARK
Kahaluu, Island of Oahu, State of Hawaii

R. M. TOWILL CORPORATION

August 2000

faces Kaneohe Bay and Kahaluu lagoon to the north and east (Figure 2). Waihe'e Stream runs along the southern boundary of the project. Kahalu'u Elementary School and Kahaluu Fire Station are located west of the project.

Kamehameha Highway divides the project area into two portions, the makai and mauka sections. Approximately 5.962 acres of the project is situated in the makai section, north of Kamehameha Highway. The remaining portion of the regional park project (approximately 39.7625 acres) is located in the mauka section south of Kamehameha Highway. There are kuleana lands and other privately owned property within the mauka section of the project site. Kuleana lands are located along the southern boundary of the proposed park (TMK: 4-7-26:3, 6). The Kalahiki kuleana (TMK: 4-7-12:10) is located along the northern boundary adjacent to the Kualoa-Heeia Ecumenical Youth (KEY) Project.

Although the kuleana lands will not be part of the proposed regional park, the proposed project will be designed to incorporate and maintain access to Waihe'e Road for these privately owned properties. A privately owned parcel, the Chung Wa Estate property (TMK: 4-7-26:7), is located along the lower reaches of Waihe'e Stream in the vicinity of the proposed path around the lagoon. The City is currently negotiating with the owners of the Chung Wa Estate property to acquire the land for the park.

The KEY Project is a community-based family center created with the mission of assisting residents in the Kualoa-Heeia area to gain greater control over their own lives and the future of their community. Towards this end, the KEY Project organizes and supports numerous programs and services related to health, education, employment, and the arts. It receives funding from private and government sources, and is a United Way Agency.

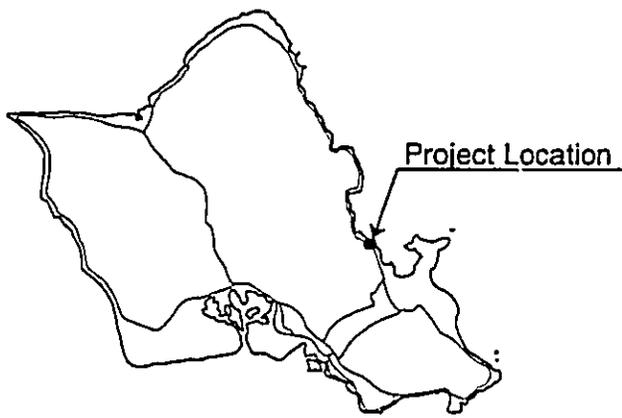
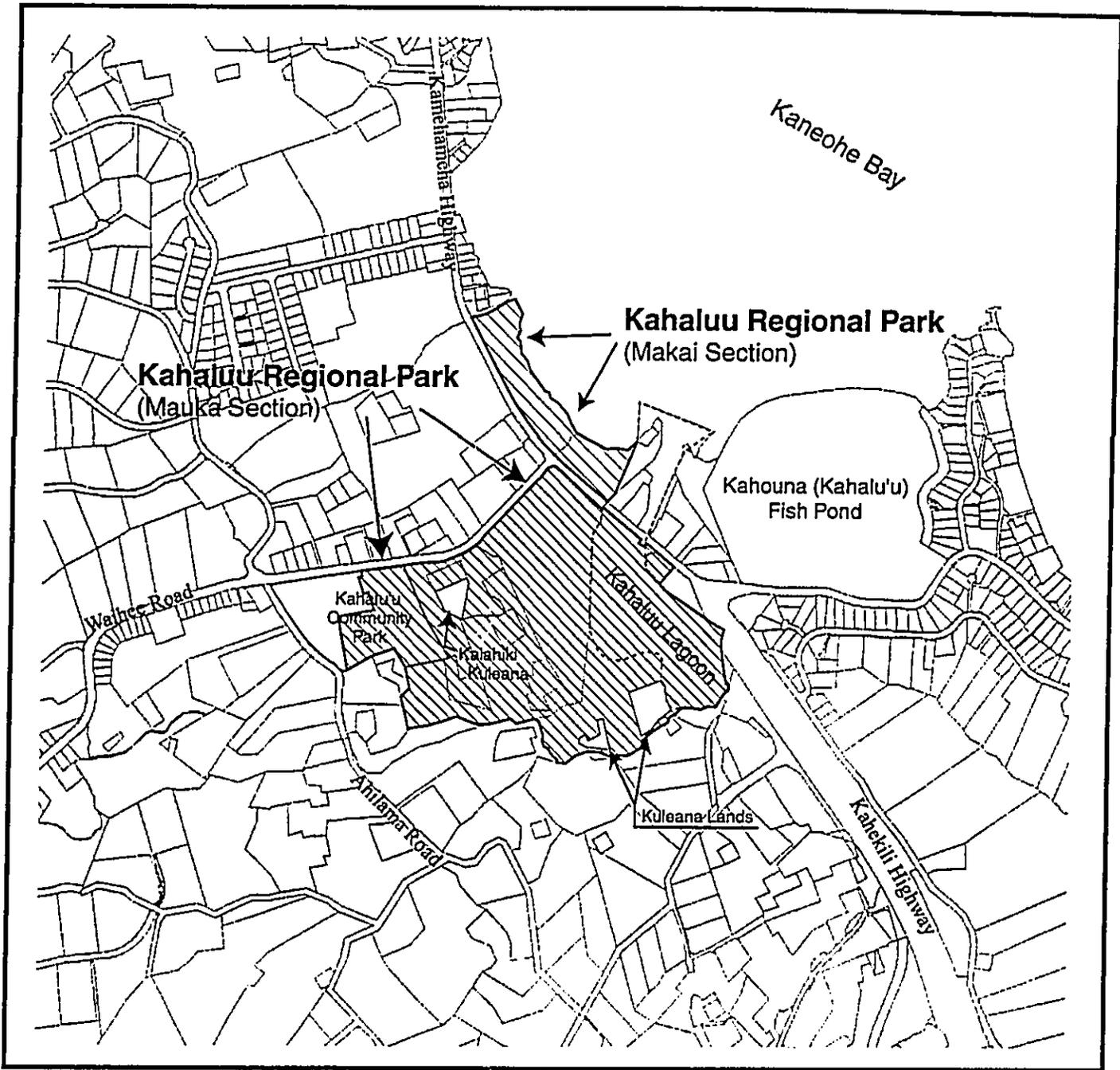
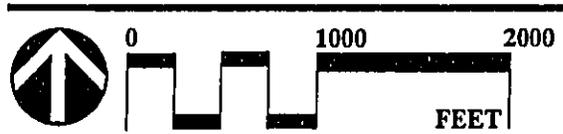


Figure 2
VICINITY MAP



KAHALUU REGIONAL PARK
Kahaluu, Island of Oahu, State of Hawaii

R. M. TOWILL CORPORATION

August 2000

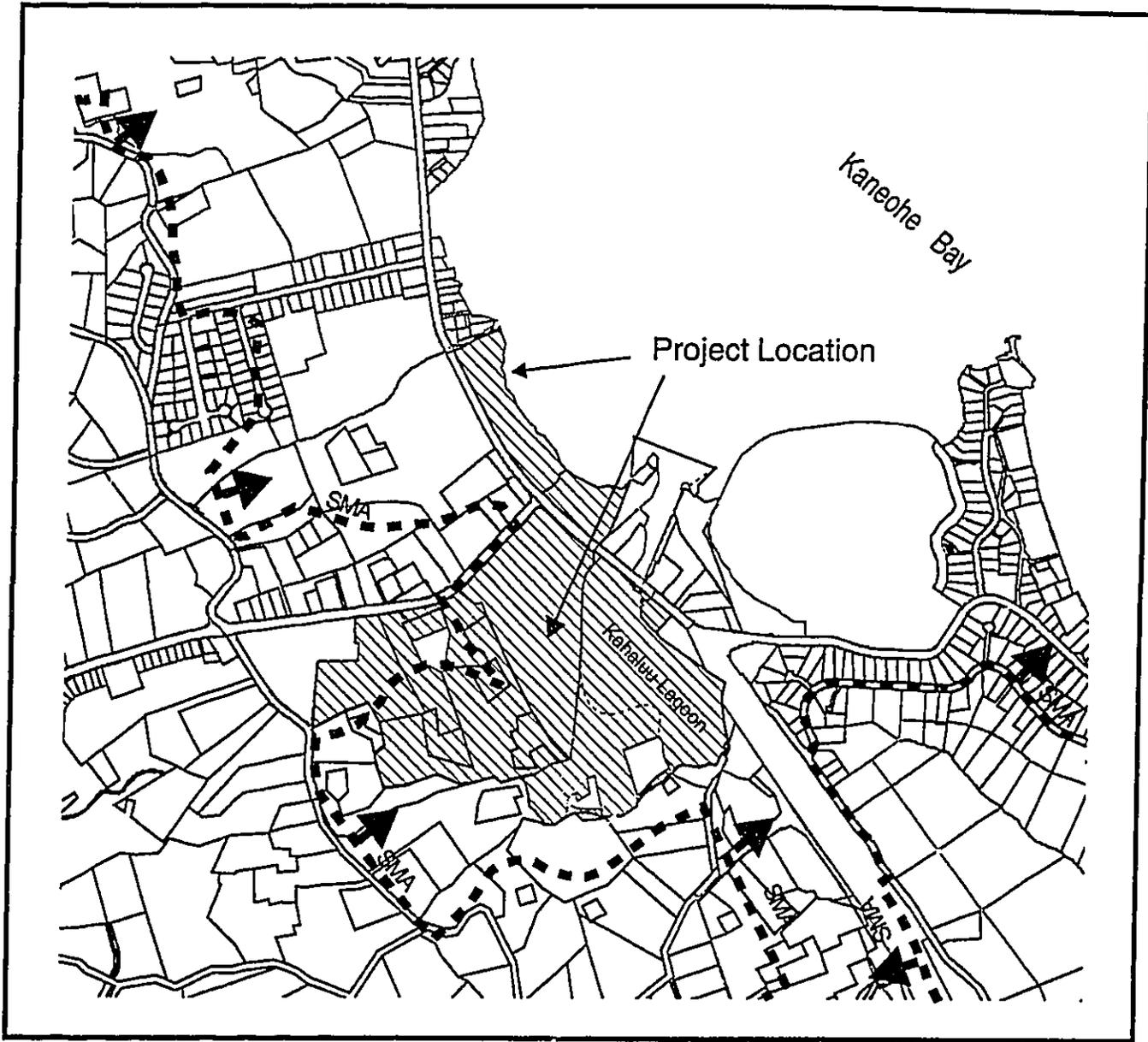
Although the KEY project will not be a part of the proposed park, there will be a synergistic relationship between the KEY project and the park as centers for community activity. Additionally, several members of the Kahalu'u Neighborhood Board and Kahalu'u Regional Park Advisory Committee are also active in the KEY Project Administration.

The proposed project also includes the existing Kahalu'u Community Park (KCP). The existing KCP consists of: a small recreational building for arts and crafts, office space and a kitchen; a lighted basketball court; a lighted volleyball court; children's play apparatus; two (2) softball fields; and three parking stalls.

1.3 SPECIAL MANAGEMENT AREA (SMA)

The area is situated in the coastal plain of Kaneohe Bay and is relatively flat. The majority of the project is located within the Special Management Area (SMA) as designated by the City and County of Honolulu, Chapter 25 of the Revised Ordinance of Honolulu (ROH) (Figure 3). The makai section of the park fronts Kaneohe Bay and the manmade flood control/recreational lagoon. Portions of the KRP are located within forty (40) feet of the certified shoreline. A Shoreline Setback Variance will be obtained from the Department of Planning and Permitting prior to construction of any proposed improvements within 40-feet of the certified shoreline.

Since a portion of the project lies in the SMA and has a total construction cost in excess of \$125,000.00, approval of a major SMA use permit is required prior to construction within the SMA. Prior to the Department of Planning and Permitting's (DPP's) acceptance of the SMA Use Permit application for the areas within the SMA, the acceptance of a Final Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) will be required.



--- SMA Boundary

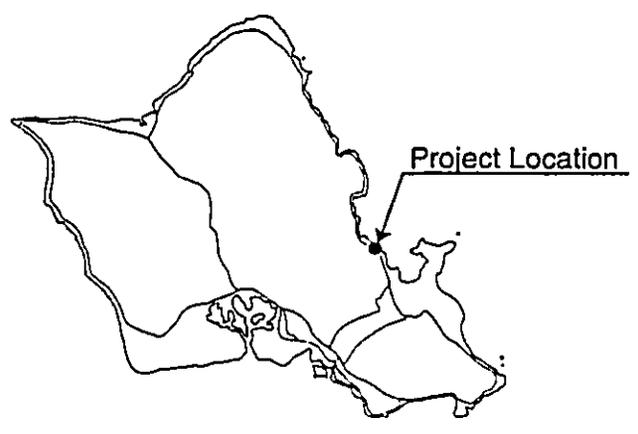


Figure 3
SPECIAL MANAGEMENT AREA MAP



KAHALUU REGIONAL PARK
Kahaluu, Island of Oahu, State of Hawaii
R. M. TOWILL CORPORATION August 2000

SECTION 2 DESCRIPTION OF PROJECT

2.1 TECHNICAL CHARACTERISTICS

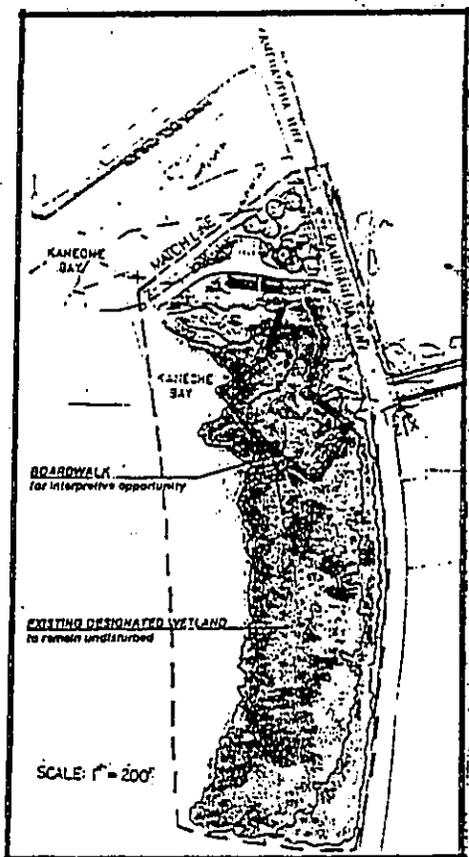
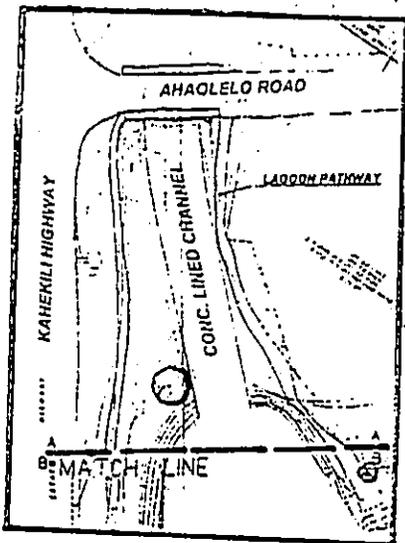
2.1.1 Use Characteristics

The primary purpose of the project is to develop a major flood control project with a community resource to mitigate flooding from the three watersheds in the area (Waihe'e, Kahalu'u and Ahuimanu). As a community resource, the park will also provide recreational opportunities which include, but are not limited to the following:

1. fields, courts and facilities supportive of active recreation (soccer, football, frisbee, shore casting practice, baseball, basketball, tennis, in-line skating, skate boarding, bicycling, swimming, and other activities);
2. sports facilities for team sports and organized competition;
3. opportunities for passive recreation such as walking, jogging, dog-walking, hiking and picnicking;
4. opportunities for wildlife observation and interpretation;
5. access to the bay and the lagoon for water-based activities such as canoeing, kayaking, boating, crabbing, fishing, radio-controlled boating;
6. opportunities for cultural activities including taro production and other agricultural activities (flowers and plants for making leis and hula adornments), canoeing, performing arts, traditional crafts;
7. opportunities for music and entertainment events; and,
8. Educational activities and programs highlighting the park's cultural resources, agricultural traditions, and wetland wildlife.

2.1.2 Physical Characteristics

The proposed 46-acre "community-based" regional park will contain various site improvements and recreational features (Figure 4-5). Such improvements and features



BOAT LAUNCHING RAMP
modify existing ramp

CANOE RAMP
for canoe storage

COMFORT STATION
w/ beach shower

BOARDWALK
for interpretive opportunity

prepared by:
Lester Inoué & Associates, Inc.
90 Kawanānākoa Plāhu
Honolulu, Hawaii



A MATCH LINE

B MATCH LINE

Z MATCH LINE

X MATCH LINE

MOHEL BOAT LAUNCHING AREA

MAINTENANCE ACCESS ROAD
as required by DPW for access to dredging easement.

TEMPORARY SOCCER FIELD
within DPW dredging easement
to be restored after completion of each dredging operation.

EXISTING DESIGNATED WETLAND
to be enhanced per agreement with Army Corps of Engineers

PEDESTRIAN BRIDGE
attachment to the existing bridge

EXISTING DESIGNATED WETLANDS
to be altered per mitigation agreement with Army Corps of Engineers

EXISTING DESIGNATED WETLAND
to remain undisturbed

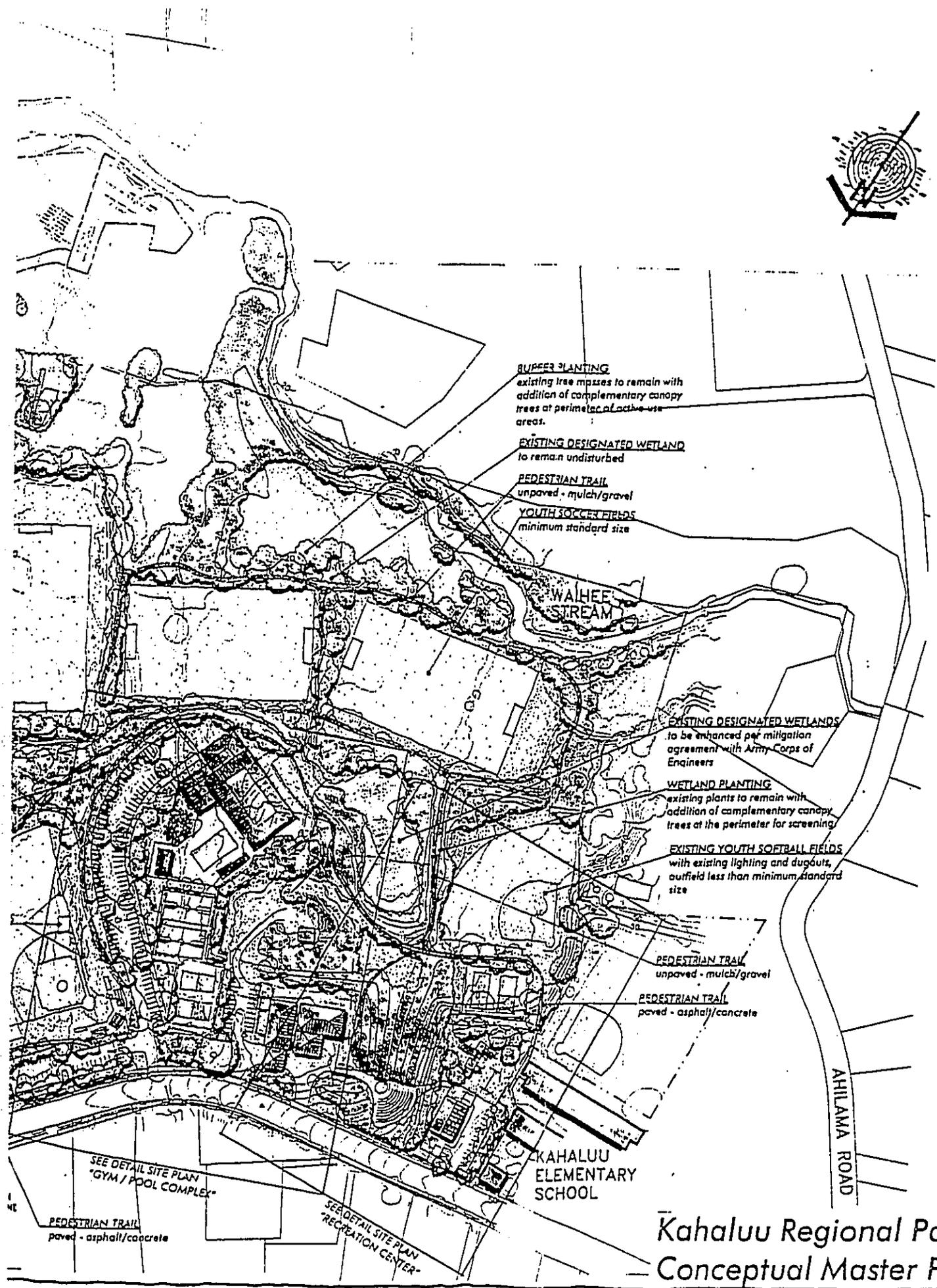
SEE DETAIL "GYM / POOL"

PEDESTRIAN TRAIL
paved - asphalt/conc

SEE DETAIL SITE PLAN "SPORT FIELDS"

HAWAIIAN TELEPHONE

BWS



BUFFER PLANTING
existing tree masses to remain with addition of complementary canopy trees at perimeter of active-use areas.

EXISTING DESIGNATED WETLAND
to remain undisturbed

PEDESTRIAN TRAIL
unpaved - mulch/gravel

YOUTH SOCCER FIELDS
minimum standard size

EXISTING DESIGNATED WETLANDS
to be enhanced per mitigation agreement with Army Corps of Engineers

WETLAND PLANTING
existing plants to remain with addition of complementary canopy trees at the perimeter for screening.

EXISTING YOUTH SOFTBALL FIELDS
with existing lighting and dugouts, outfield less than minimum standard size

PEDESTRIAN TRAIL
unpaved - mulch/gravel

PEDESTRIAN TRAIL
paved - asphalt/concrete

SEE DETAIL SITE PLAN
"GYM / POOL COMPLEX"

SEE DETAIL SITE PLAN
"RECREATION CENTER"

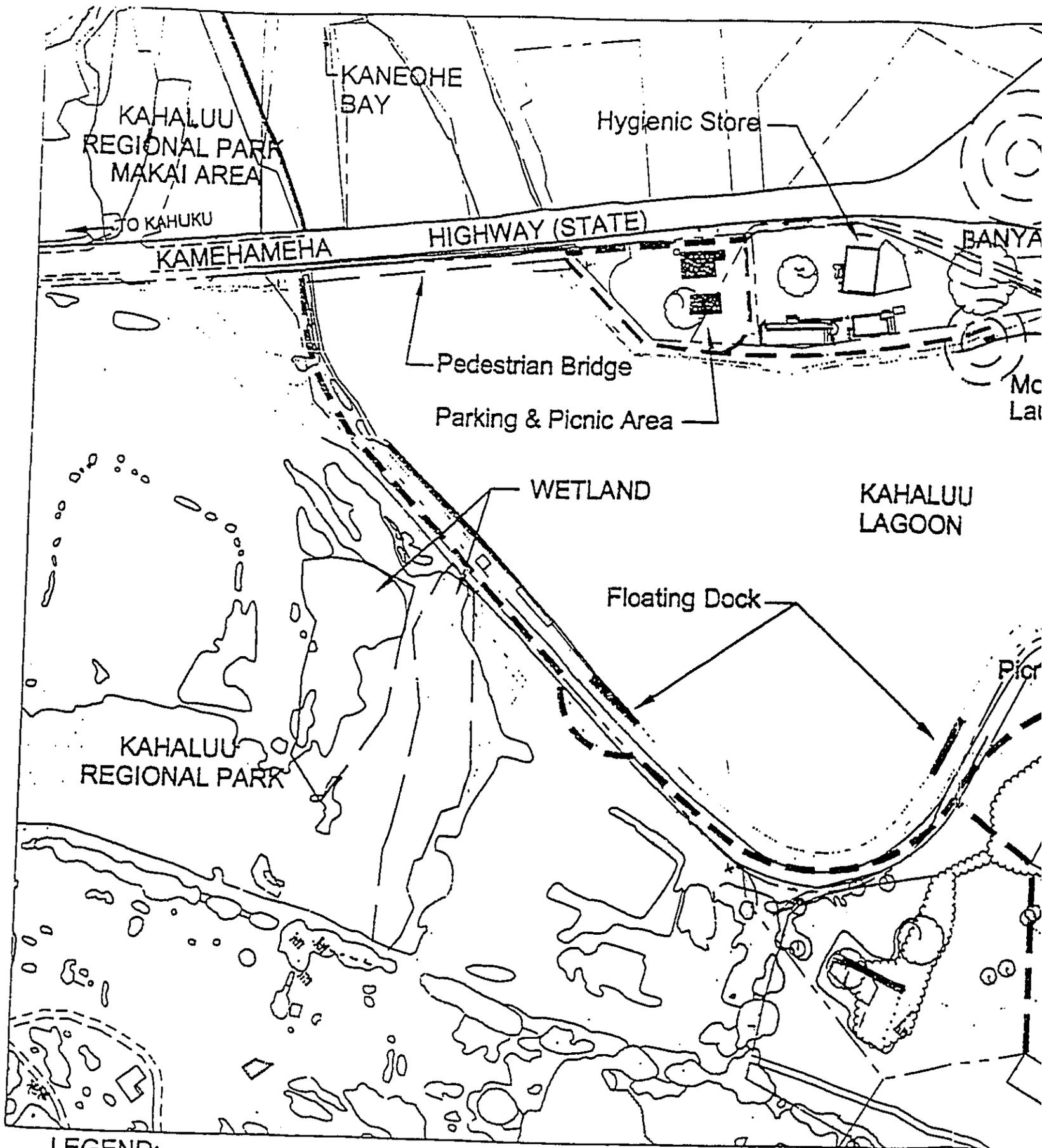
KAHALUU
ELEMENTARY
SCHOOL

AHILAMA ROAD

Kahaluu Regional Park Conceptual Master Plan

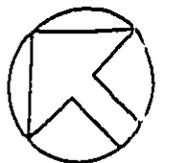
Site Plan

scale 1" = 100'



LEGEND:

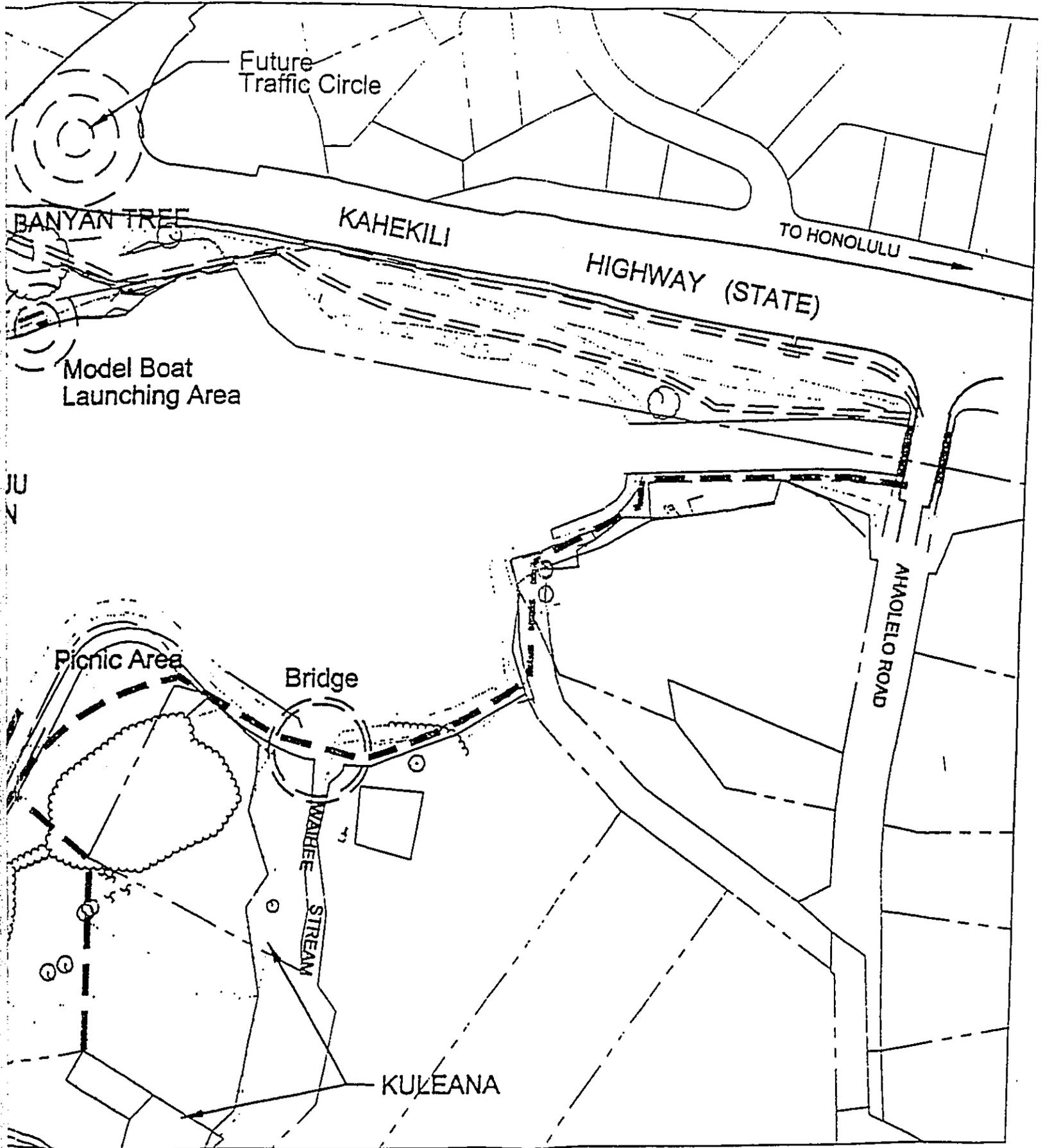
- — — LAGOON TRAIL W/IN THE CITY BOUNDARY
- == == LAGOON TRAIL W/IN THE STATE PROPERTY
- — — EXISTING UNPAVED ROAD
- — — EXISTING TREES
- — — PROPERTY LINE



NORTH

150





GRAPHIC SCALE

KAHALUU REGIONAL PARK
LAGOON AREA STUDY

LAGOON TRAIL MAP

will include boating areas, picnic areas, sports fields (regulation baseball field with 2 overlaid soccer/football field, 3 multi-use [youth soccer] fields), sports courts (2 basketball and 2 volleyball courts), comfort stations, maintenance building, canoe hale, Department of Facility Maintenance's (DFM's) drainage easements and basins, multiple-use fields, agricultural land, wetlands (existing and enhanced), wetland network trails, Lagoon Path, Waihe'e Stream bridge, and Kamehameha Highway Pedestrian bridge, gymnasium complex, model boat launching area, floating docks, boardwalk, and several parking areas. The project will also include restoration of the rock edges at the mouth of Waihe'e Stream. The overall layout responds to the configuration and slope of the property and takes into account drainage courses that occur within the project area.

Also included in the design of the proposed regional park, are the access ways for the privately owned kuleana properties. The proposed project will construct and maintain access to Waihe'e Road for these privately owned lands, within the mauka section of the park.

2.1.3 Construction Characteristics

The majority of the project area is currently vacant, relatively level, and covered by grass and weeds. Development of the project will require site preparation involving vegetation clearing, excavation, filling, grading, general construction, irrigation, planting and general landscaping. Clearing and grubbing will be limited only to accommodate the proposed recreational fields and related facilities. The project will also involve grading and filling with soils stockpiled within the project site. These soils are from successive dredgings of the Kahalu'u lagoon.

The majority of the project within the SMA boundary is on a low lying coastal plain. A portion of the project will require filling up to 2 to 5 feet, relative to the existing ground elevation, in order to provide a level ground for sports fields and berms. In March 1997

Geolabs-Hawaii conducted a Geotechnical Evaluation and Material Testing on the existing dredged soil, which is stockpiled on the property. According to the Geotechnical Evaluation and Material Testing, the existing dredged soil, will be suitable for the construction of ball fields and sustaining plant life (**Appendix A**). Grading and required approvals will be obtained prior to the construction and development of the sports fields and berms.

A portion of the proposed park development will also require drainage easements to be maintained the along Kahaluu Flood Control Lagoon. Significant wetland areas will be preserved and/or enhanced to provide increased wildlife habitat, flood control capacity and educational value. A Wetland Analysis was prepared by Char and Associates (October 1993) to analyze the characteristics and boundaries of jurisdictional wetlands on the property (**Appendix B**). This on-site evaluation and testing of the wetland areas was conducted to identify and analyzed the character of each area considered.

In April 1999, a Wetland Mitigation Plan, prepared by the AECOS, Inc. (**Appendix C**), was prepared to evaluate and detail mitigation, monitoring and maintenance measures for the proposed project. As described in the Wetland Mitigation Plan, the proposed grading will cover and fill three, isolated wetlands areas and enhance three existing wetlands. However each of the wetlands proposed for enhancement are individually more than twice the size of the wetland acreage proposed for fill. Moreover, the three wetland areas that are to be filled are too infrequently wetted to serve as habitat for waterbirds, fish, or shellfish, or to serve as flood water storage. Non-wetland plants (*Wedelia*) are the dominant plant type at one of these wetlands. The other two are covered with California Grass. The AECOS assessment determined that wetland functions are only poorly realized in these sites.

In exchange for filling in the three small wetland areas (approximately 0.3 acres combined), the City and County of Honolulu proposes to enhance the remaining wetland areas (approximately 2.12 acres) within the park site. Enhancements will consist of: (1) periodic maintenance of vegetation by mowing or grazing; (2) select removal of Hau (*Hisbiscus tiliaceus*) within delineated wetland boundaries; and, (3) fencing (against predators) of select wetland areas.

Clearing of vegetation will add to the diversity and abundance of wildlife by expanding wetland habitats. The wetlands being enhanced will provide more storage for run-off during storm conditions thereby adding to the recharge of ground water and reducing flooding of adjacent non-wetland areas. Approvals for the alterations within and maintenance of wetlands will be obtained prior to construction and development.

The existing trees and vegetation will be kept undisturbed as much as practicable. Landscape improvements are integral elements of this project. Landscaping will be designed in a way that will enhance the aesthetic quality of the site and blend in the existing landscape.

Staging and stockpile areas shall be prepared as necessary with appropriate discharge pollution prevention features, refuse containment, and parking areas for workers. During mobilization, ground disturbance shall be held to the minimum area necessary to accommodate heavy equipment and materials required for construction activities. This will insure protection of the site from storm generated run-off.

The development process of the proposed dredging and breaching will include, but are not limited to the following: mobilization, installation of discharge pollution prevention measures, clearing and grubbing of vegetation, grading and filling, demobilization and restoration.

2.1.3.1 Mobilization

Mobilization of equipment, materials and workforce shall occur on an as needed basis, in schedule with the phases of construction. Construction activities require that staging areas be established along the lagoon and streams as well as within the project site.

Prior to mobilization, the project contractor will identify staging and stockpiling areas for construction equipment and materials and will obtain necessary rights of access through public or private properties.

Staging and stockpile areas shall be prepared as necessary with appropriate discharge pollution prevention features, refuse containment, parking areas for workers, and clearly marked transit paths for heavy equipment. During mobilization, ground disturbance shall be held to the minimum area necessary to accommodate the heavy equipment and materials required for construction activities.

2.1.3.2 Installation of Discharge Pollution Prevention Measures

Discharge pollution prevention measures will be installed for each project action as required by the construction activities and project scheduling. Measures to prevent runoff and the release of sediment into the lagoon or streams during construction will be in place and functional before project activities begin and will be maintained throughout the construction period. Runoff and discharge pollution prevention measures will be incorporated into a site-specific Best Management Practices (BMP) plan by the project contractor. The contractor will be referred to *Hawaii's Coastal Nonpoint Source Control Plan*, for guidance on mitigation measures and practices for specific project activities. The contractor shall include, but not be limited to the following control measures in the BMPs:

- Compliance with the sequence of operation as recommended by the "Rules Relating to Soil Erosion Standards and Guidelines," provided by the City and County of Honolulu, Department of Planning and Permitting;
- Clearing only areas essential for construction;
- Grassing (common Bermuda grass or Star grass cuttings) of all exposed or graded areas shall be done immediately after final grades are established.
- Graded areas that are not at final grade and are expected to be exposed for more than 14 days, shall be mulched in order to prevent erosion and silt runoff.

2.1.3.3 Clearing and Grading of Vegetation

The area is heavily vegetated with vines, trees and various ground cover. The project will require removal of trees and other vegetation within the project area in order to develop safe playing fields, parking areas, pathways and recreational facilities.

2.1.3.4 Grading and Filling

The majority of the project is on a low lying coastal plain and therefore will involve grading and filling with soils stockpiled within the project site. These soils are the spoils from dredging of the Kahalu'u Lagoon completed around 1996. Phase 1 involves grading the dredged spoils stockpile area adjacent to Kahalu'u Lagoon to create three multi-use sports fields and a temporary playing field that will be used intermittently for stockpiling future dredged material and restored between each dredging operation. The Phase 1 area encompasses 15.5 acres. Approximately 38,000 cubic yards of dredged spoils will be moved to create level playing fields ringed with low berms. Existing grade is between 10 and 22 feet above mean sea level (msl). Final grade on the multi-use field will slope between 12 and 16 feet above msl with the perimeter berm rising a few feet higher. On the temporary playing field, final grade will slope between 16 and 18 feet above msl. Creating a uniformly level filed surface will involve a change in grade of ± 2 to 6 feet in some areas. Both the multi-use sports field area and the temporary playing field will be

slightly sloped toward the wetland / flood control area to facilitate drainage. Grading and required approvals will be obtained prior to the construction and development of the sports fields and berms.

2.1.3.5 Demobilization and Restoration

Upon completion of the proposed improvements, the contractor shall restore the project site as much as possible to conditions prior to project implementation. This will include, but is not limited to, the following:

- All construction-related material, including excavated material, fill material, and refuse shall be removed from the project site and disposed of properly by the contractor.
- All construction equipment shall be removed from the project site promptly after construction is complete.
- Roadways providing access to the site and surrounding areas shall be cleared of construction debris and any damage from construction traffic will be repaired. Gates and/or fencing removed to provide access to the site shall be replaced and/or repaired.
- All areas damaged by construction staging shall be restored. Impacted pasturage, lawns, driveways or vegetated areas excluding of channel improvements shall be replanted and restored. Exposed ground areas shall be seeded or hydro-mulched as appropriate.

2.1.4 Best Management Practices

A site-specific Best Management Practices (BMP) plan will be prepared by the project contractor as part of the project construction plan. The BMPs will include guidelines and mitigation measures to prevent runoff, discharge pollution, and other detrimental impacts related to construction activities. BMPs will be designed and implemented for normal

stream flow conditions at the project site and will include contingency plans to respond to heavy rainfall conditions and the possibility of an emergency release of water.

Regional and special conditions outlined by the Army Corps of Engineers (ACOE) and the State Department of Health (DOH) per requirements of Section 404 and 401 permits will also be addressed in the site-specific BMPs.

Mitigation measures, in addition to the discharge pollution controls described above, shall include, but not be limited to the following:

- Clearing and grading shall be held to a minimum necessary to meet project design and construction plan requirements.
- Construction shall be phased to minimize the exposure time of cleared or graded areas. Existing ground cover shall not be destroyed, removed or disturbed more than 20 calendar days prior to the start of construction.
- Stabilization shall be accomplished by temporarily or permanently protecting the disturbed surface from rainfall impacts and runoff.
- Storm water flowing toward active project areas shall be diverted as much as practicable using the appropriate controls, including berms and silt fences, as determined by the contractor according to site conditions.
- Areas that remain unfinished for more than 30 calendar days shall be hydro-mulched or seeded to provide temporary soil stabilization.
- The project contractor will select locations for stockpiling construction material. Stockpile sites will be identified in the site-specific BMPs and construction plans. A sediment retention berm or silt fence will be installed around the down-slope side of stockpile sites to retain sediment discharge during heavy rainfall.
- No fuel will be stored on the project site. Fueling of construction equipment will only be performed off-site or within an area designated by the contractor. Any site

designated for refueling shall be located away from the lagoon and streams, enclosed by a containment berm and constructed to contain spills and seepage and prevent storm water runoff from carrying pollutants into state coastal waters.

The contractor, based on professional experience and expertise, may modify the proposed BMP mitigation measures as necessary to account for unanticipated or changed site conditions.

2.1.5 Utilities

In keeping with the goals and objectives of the Kahalu'u Regional Park Advisory Committee, utility lines should be located underground in logical corridors, taking into consideration future work and/or future maintenance (i.e. under or along side service roads and pathways.)

Electrical Supply

The existing community park area is served by Hawaiian Electric Company (HECO) overhead service lines. The project will require the installation of on-site electric and communication service lines. The DDC will coordinate with HECO as necessary for electric service.

Water Supply

There are 12-inch water mains along Waihe'e Road and Kamehameha Highway which serve residential lots in the area. According to the City and County of Honolulu, Board of Water Supply (BWS), the existing water system of the area is presently adequate to accommodate the proposed project (**Appendix D**). The DDC will investigate the availability and use of non-potable water for proposed irrigation. The DDC will coordinate further with the BWS for necessary water supply.

2.1.6 Solid Waste

The solid waste from the operation of the proposed park is anticipated to be primarily generated by park users. The solid waste on-site will be collected and disposed by the City and County of Honolulu. It is expected that solid waste from the proposed project will be disposed of at the H-POWER plant with residue and excess materials deposited at the Waimanalo Gulch landfill. The project is not anticipated to have a significant effect on the existing solid waste treatment facilities for the area.

DDC will work with the Kahalu'u Neighborhood Board to develop an Integrated Waste Management Plan for the park to consider specific waste reduction and diversion opportunities which support State and County waste reduction goals. Measures will include waste minimization practices such as recycling, use of recycled materials in construction, and reuse of greenwaste.

During construction of the park, the contractor will make use of secondary resources wherever practicable, including, but not limited to, the use of crushed glass as an aggregate substitute in road paving and the use of locally-produced green waste compost as a soil amendment.

2.1.7 Wastewater

The proposed park is located in the critical wastewater disposal area demarcated by the Oahu Wastewater Advisory Committee. No new cesspools are allowed in this area. There are currently no municipal wastewater lines servicing the areas. The City and County of Honolulu is currently developing a facilities plan for the Kailua-Kaneohe-Kahalu'u area. The Kailua-Kaneohe-Kahalu'u plan includes Kahalu'u Sewers Section 3 I.D. which will serve residential lots in the area, however this project is not anticipated to occur within the next 5 years. Any temporary wastewater systems will be reviewed and approved by the Department of Health.

The DDC will coordinate with DPP and the Department of Environmental Services for wastewater services to the project. Any plans for any temporary wastewater systems will be submitted to the State Department of Health (DOH) for review and approval. When sewers do become available in Kahalu'u, connection will be made to park facilities. When the park sewer system is being designed, the city will explore, in collaboration with KRPAC, such options as effluent reuse and the installation of "dry lines" in anticipation of future needs. All wastewater plans will conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems". All development plans will be approved by the appropriate agency prior to construction.

2.1.8 Access

The project is located on both the mauka and makai sides of the intersection of Kamehameha Highway and Waihe'e Road. The mauka side consists of the Kahaluu Community Park, KEY Project, Kahalu'u School, private properties and vacant lands. The limited amounts of traffic generated is mainly due to the small community park and KEY Project. The makai side is used primarily by fishermen and boaters. The project will have access via Waihe'e Road, Kamehameha Highway, Kaneohe Bay and Kahalu'u Lagoon. Parking for the project will be provided in both makai and mauka sections of the park and will be provided as needed at different phases of construction. The project will provide pedestrian and bike paths, a boardwalk and floating docks to enhance shoreline access.

Kamehameha Highway is an arterial, two-lane highway that services the entire Koolaupoko area. Kamehameha Highway is part of State Route 83 under the jurisdiction of the State Department of Transportation, with a posted speed limit of 35 miles per hour. The pavement width varies from 20 feet to 24 feet and the pavement is flanked by unpaved shoulders that are 2 to 8 feet in width. Park design will maintain a minimum setback of 50 feet on the mauka side of Kamehameha Highway for future highway widening.

Waihe'e Road is a curbed street under the jurisdiction of the City and County of Honolulu, with one lane provided in each direction of travel. Parallel parking along the curbs is generally permitted along Waihe'e Road. At Kamehameha Highway, Waihe'e Road is controlled by a stop sign and the approach is of sufficient width that right turns can be made past a vehicle waiting to turn left onto the highway.

As detailed in the Traffic Study (**Appendix E**) impacts from the proposed project will result in an increase of traffic on Waihe'e Road. Although the proposed project will increase traffic volumes, the peak traffic conditions at the intersection of Waihe'e Road and Kamehameha Highway will remain similar to existing, in which very long delays occur for the left turn onto the highway. At the intersection, additional delays will be incurred by vehicles on Waihe'e Road and those turning left into Waihe'e Road as a result of increased traffic volumes. However, there is only short delay for vehicles turning right onto the highway, and a short delay for the northbound through traffic on the highway.

The Study determined that the maximum traffic impact of the proposed development would occur during special events, however during these times, other traffic on the adjoining roads would be less than during the weekday peak hours. The Study explains that the vehicular volumes, even with the additional project traffic, would not satisfy minimum requirements (or warrants, defined by the Federal Highway Administration) for traffic signals. Measures to mitigate special event traffic can be imposed on a case by case basis as a condition of special event permits for park use issued by the City. Such measures might include temporary signs, lane coning, and hiring off-duty police officers to direct traffic.

To mitigate existing traffic delays on Kamehameha Highway, a left-turn lane for northbound traffic on Kamehameha Highway wishing to turn onto Waihe'e Road has been approved for funding by the 2000 Legislature. While the proposed turn lane will benefit the park, it

is a separate project, the need for which pre-exists park plans. Future traffic conditions might require an alternative to the left-turn lane design. A roundabout is one possible solution to future traffic delays at the intersection of Waihe'e Road and Kamehameha highway, although fitting the design into the limited intersection space adjacent to a wetland area could prove to be problematic. In considering a roundabout at this intersection, special consideration should be given to boat trailer use at the nearby makai park area.

The Department of Transportation (DOT) is currently in the process of designing a traffic circle to be located at the intersection of Kamehameha and Kahekili Highways. The traffic circle is anticipated to have a positive impact directly relating to the park, however it is a separate project. All plans for the traffic circle are being designed and developed by the DOT.

In order to alleviate additional traffic impacts, the proposed project incorporates several separate parking areas and driveways. Nearest Kamehameha Highway the proposed project will provide a parking lot for 83 vehicles, between the sports fields and Waihe'e Road. A larger parking lot, for 100 vehicles, will be located mauka of the sports fields to serve the sports field, gymnasium, swimming pool and outdoor courts. The driveway serving the larger parking lot connects to smaller parking area near the street, which is also served by another driveway at its makai end. Existing driveways to the KEY Project building and a recreation center are located farther mauka along Waihe'e Road. The Makai Section will provide 6 trailer stalls and 23 other parking spaces.

All parking requirements, including parking for special events, will be accommodated within the park grounds, although it is reasonable to expect that park users will also likely use on-street parking along Waihe'e Road. Parking accommodations at the park will conform with

Section 21-6, Off-Street Parking and Loading, of the Land Use Ordinances of the City and County of Honolulu.

The proposed project includes plantings and landscaping near the intersection of Kamehameha Highway and Waihe'e Road. These plantings will be set back far enough from the highway to accommodate future highway widening without obscuring intersection sight lines. At the driveway connections, proper design to maintain adequate sight lines for entering and existing vehicles should provide sufficient capacities for driveway movements. All development plans for the proposed park project will be coordinated with, as well as reviewed and approved by the State and County prior to construction.

The proposed project design includes the provision of access for the kuleana properties within the regional park. Although these privately owned properties, located in the mauka section of the park, are not included in the regional park, access will be provided and maintained to Waihe'e Road or Kamehameha Highway, depending on design constraints. At present, access to the Kalahiki kuleana is via a graded dirt road exiting onto Waihe'e Road. Access to the Kalahiki kuleana is planned to go through the Key Project parking lot. As an alternative, access could be planned to come off of the park access road that will eventually lead to the Gymnasium/ Pool complex.

Two other kuleana parcels adjacent to Waihe'e Stream will use an existing, graded dirt maintenance access road that runs along Kahalu'u Lagoon and exits onto Kamehameha Highway near the makai boat launch parking lot driveway. The Department of Design and Construction currently maintains the road for access to a dredging easement.

2.1.9 Public Services

Fire Protection

The Kahalu'u Fire Station #37, located at the corner of Waihe'e Road and Ahilama Road, will provide fire service protection for the project. The proposed project is not anticipated to influence changes in fire protection services within the Kahaluu community. The proposed park will not be an impetus to increased emergency service requirements or result in any adverse impacts that would disproportionately impact emergency service for the surrounding community.

Police Protection

The Kaneohe Station and the Kailua Substation are the closest stations to the project site and will provide police services as needed. The proposed project is not anticipated to influence changes in police protection services within the Kahaluu community. The proposed park will not result in any adverse impacts that would disproportionately impact emergency service for the surrounding community.

During project development, the Kahaluu Regional Park Advisory Committee (KRPAC) and the Kahaluu Neighborhood Board (KNB) recognized and discussed the need to consider "line-of-sight" concerns for police as they are expected to discourage/monitor unwanted park activity, especially at night. KRPAC/NB planning and design discussions have regularly included community members employed in law enforcement and fire protection, and an official representative from the Police Department has been present at each board meeting.

As the project progresses, the Department of Design and Construction will coordinate efforts with the Police Department to incorporate concepts of "Crime Prevention through Environmental Design" into the final design for the park. At present, designed berms may cause some restricted vision from Waihe'e Road, however, the access road mauka of the

sports field area will provide the necessary access and viewing angles needed to deter unwanted activity in the park. As the park becomes operational, other policies concerning park security, such as establishing curfews, prohibiting certain activities, and locking parking areas overnight, will be developed by the City in consultation with KRPAC.

2.2 PROJECT SCHEDULE

Development of the project will commence in sections or portions upon receipt of necessary permits and pending availability of funding. The entire park project is planned and designed to be developed in the following five phases:

Phase 1: Multi-use sports fields - The initial phase will include the mauka-side sports fields, and paved parking area. Amenities such as restrooms and drinking fountains are included in this phase, but will be provided later when sewer hook-ups become available.

Phase 2: Makai-side shoreline park - Phase 2 initiates work on the makai park area with development of a canoe area and hale, paved parking layout, and landscaping. The existing boat ramp will remain as is with no alterations. Parking layout will include oversize spaces to accommodate boat trailers.

Phase 3: Makai-side shoreline park - Phase 3 will complete the makai area park with development of a comfort station, and final landscaping.

Phase 4: Sports courts - Phase 4 continues work on the mauka park area with development of two tennis courts and two multi-use courts (basketball / volley ball). The courts will be lighted and will be provided with restroom and drinking fountain amenities, and landscaping. A paved parking area will also be developed during this phase.

fountain amenities, and landscaping. A paved parking area will also be developed during this phase.

Phase 5: Gym/pool complex - The final phase involves development of the gymnasium / pool complex. The gymnasium will include an indoor sports court, shower and locker facilities, bathrooms, equipment room, office space, and meeting space. The paved parking area will be extended to provide parking for the Phase 5 improvements. Lighting and landscaping will be included.

Additionally, the provision of "floating docks" at several designated sites along the lagoon bank, while not funded or scheduled, is included in the park master plan as a community project. The timing and construction of the docks are dependent on volunteers for design, construction, and funding. Permits and approvals for the floating docks will be scoped out in the future by the KRPAC.

Some work on the park has already been initiated by community volunteers and is ongoing. Volunteer work includes clearing of vegetation (hau trees and "fiddlewood") that is encroaching on a wetland area between the lower baseball field (next to Kahalu'u School) and the Kalahiki kuleana. The KRPAC, the KEY Project's Community Development Program, and staff members from the environmental consulting firm AECOS, Inc., provide supervision. The U. S. Fish and Wildlife Service has also observed the efforts over several years of monitoring and discussion.

Vegetation clearing and general maintenance at the kipuka area mauka of the KEY Project facility is also in progress by community volunteers. Design scenarios for a planned amphitheater are on the drawing board as a focus of continuing discussion between the community, planners, and others.

The proposed "community-based" park development is not anticipated to have significant long-term effects on the area's economic activities. Short-term economic impacts from the proposed project will result from construction jobs, services, and procurement in the form of construction supplies and equipment. No mitigation measures are required or recommended.

The proposed park will retain the open space character of the Kahalu'u area and provide increased recreational amenities, which will enhance the quality of the life for the community and residents.

2.3 ENVIRONMENTAL CHARACTERISTICS

2.3.1 Climate and Air Quality

Average temperatures in the Kahalu'u area range between 72° to 79° Fahrenheit. The extreme temperatures range from 62° to 83° Fahrenheit during the coolest and warmest months, respectively. The average annual precipitation of the area is approximately 40 inches of rain (Atlas of Hawaii, 1983).

The present ambient air quality in the project area is good due to the prevailing tradewinds and the absence of substantially "heavy" industries. Automobile emissions from traffic passing through this part of the windward Oahu coast is one of the major impacts to the ambient air quality. On the whole, air quality at the project site has a very low level of urban generated pollutants due to the relatively low residential density and distance from emission sources.

Impacts: Except for short-term dust emissions during the construction phase of the project, development of the regional park complex is not anticipated to result in significant adverse impacts on climatic conditions or air quality.

2.3.2 Topography and Soils

The windward side of Oahu is generally characterized with steep cliffs of the Koolau mountain range and flat coastal plains. The project site is situated on coastal plains, directly adjacent to Kaneohe Bay. The majority of the site is nearly flat and poorly drained.

The project site is included in the U.S. Department of Agriculture Natural Resources Conservation Service soil survey of the Hawaiian islands (Figure 6). According to the Soil Survey, the following soil types are found on site:

FL - Fill Land

This land type occurs mostly adjacent to the ocean. It consists of areas filled with material dredged from the ocean or hauled from nearby areas and general material from other sources. This soil is used for urban development including airports, housing areas, and industrial facilities.

LoB - Lolekaa Silty Clay, 3 to 8 percent

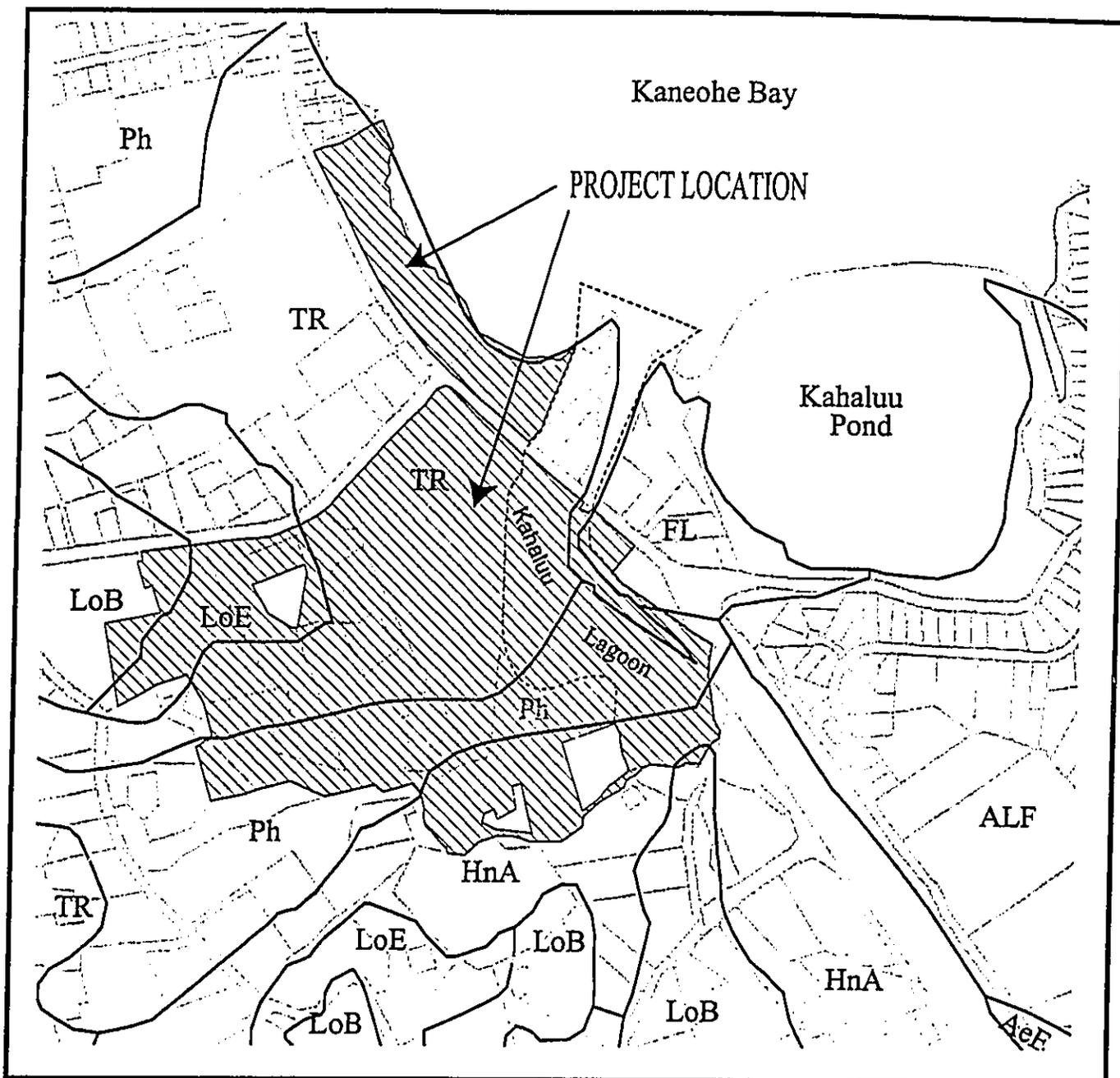
This soil is strongly acid in the surface layer and strongly acid to extremely acid in the subsoil. Permeability is moderately rapid. Runoff is slow, and erosion hazard is slight. This soil is used for pasture, truck crops, bananas, and papaya.

LoE - Lolekaa Silty Clay, 25 to 40 percent

This soil occurs along drainageways and fans adjacent to the Koolau Range. Runoff is medium to rapid, and erosion hazard is moderate to severe. This soil is used for pasture.

HnA - Hanalei Silty Clay, 0 to 2 percent

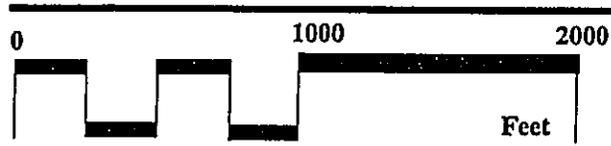
This soil is strongly acid to very strongly acid in the surface layer and neutral in the subsoil. Permeability is moderate. Runoff is very slow, and erosion hazard is no more than slight. This soil is used for taro, pasture, and sugarcane.



Legend

-  - Project Location
- AeE - Alaeloa Silty Clay, 15% - 35% slopes
- ALF - Alaeloa Silty Clay, 40% -70% slopes
- FL - Fill Land
- HnA - Hanalei silty Clay, 0-2% slopes
- LoB - Lolekaa Silty Clay, 3%-8% slopes
- LoD - Lolekaa Silty Clay, 15% - 25% slopes
- LoE - Lolekaa Silty Clay, 25% - 40% slopes
- Mt - Mokuleia Clay Loam
- Ph - Pearl Harbor Clay
- TR - Tropaquepts

**Figure 6
SOILS MAP**



KAHALUU REGIONAL PARK
Kahaluu, Island of Oahu, State of Hawaii

R. M. TOWILL CORPORATION

August 2000

Ph - Pearl Harbor Clay

This soil is on low coastal plains adjacent to the ocean. It is level or nearly level. In a representative profile the surface layer is very dark gray, mottled clay about 12 inches thick. The subsoil, about 19 inches thick, is very dark gray and very dark grayish-brown, mottled clay that has angular and sub-angular blocky structure. The substratum is muck or peat. The soil is neutral in the surface layer and mildly to moderately alkaline in the subsoil. Permeability is very slow. Runoff is very slow, and the erosion hazard is no more than slight. The available water capacity is about 1.4 inches per foot in the surface layer and subsoil.

TR - Tropaquepts

This soil is poorly drained and marshy. This soil is used for production of taro, rice, and watercress on flooded paddies.

Impacts: The area has historically been modified for various agricultural uses especially taro, rice and dairy farming. Land preparation for the public park is anticipated to involve limited clearing and grubbing due to the natural flat topography of the proposed project site. Significant wetland areas will be preserved and/or enhanced. Plans for the alterations and enhancement of wetlands will be designed and developed according to mitigation agreements with the Army Corps of Engineers (ACOE). Plans will be submitted for review and approval prior to construction and development.

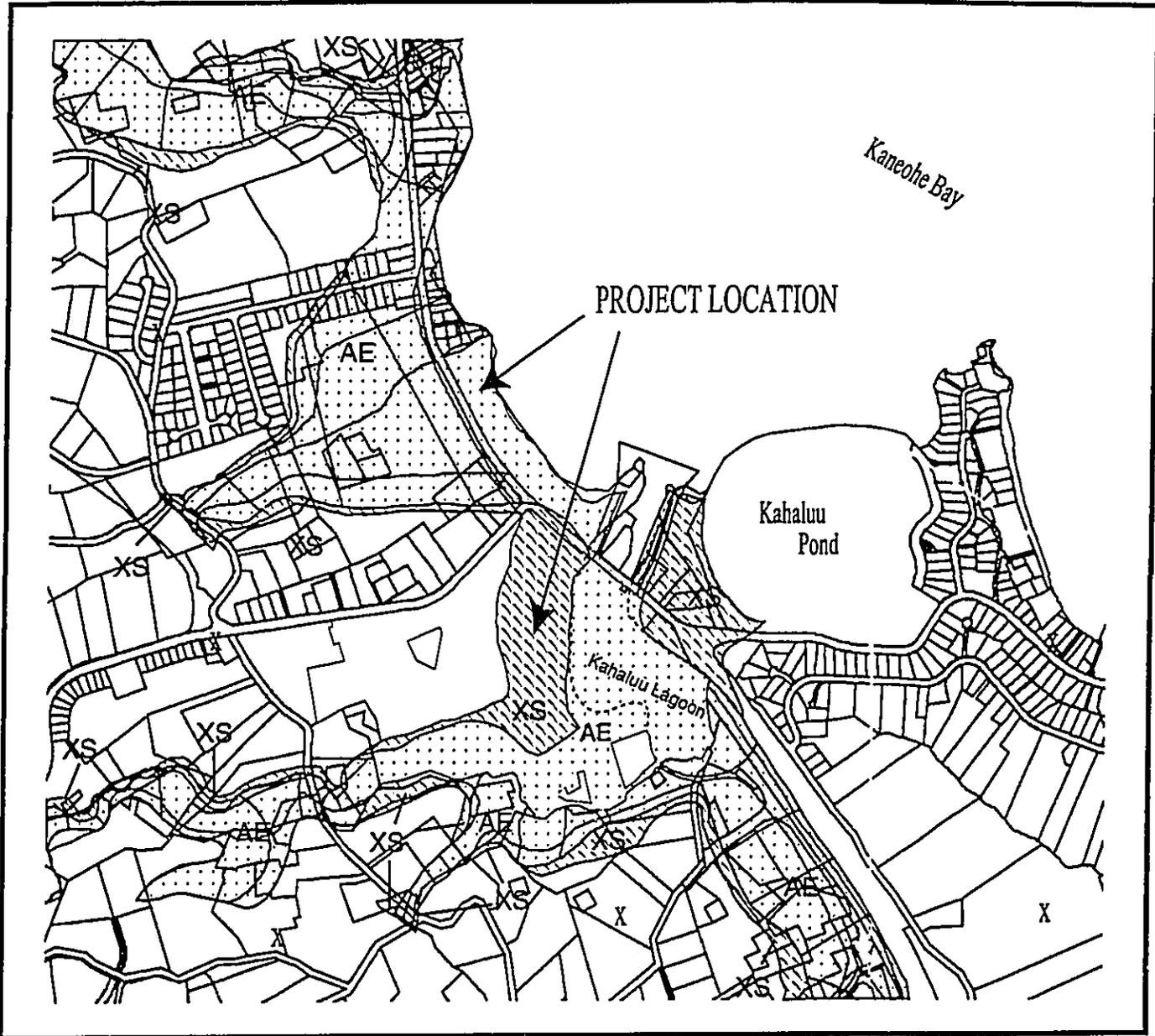
During the actual construction phase, soil retention values will temporarily be disturbed. However, upon completion of work, increased vegetative ground cover and landscaping will prevent further soil loss. According to Geotechnical Evaluation and Material Testing report, the dredged soils may be used as on-site fill material and are suitable for plant growth (Appendix A).

2.3.3 Hydrology

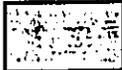
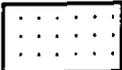
According to the Flood Insurance Rate Map, the project is located in the area within Zones AE and X (Figure 7). Zone AE indicates "special flood hazard areas inundated by 100-year flood, base flood elevation is determined." The stream banks along Waihe'e Stream and the northern tip of the makai section are included within the AE Flood District. The areas identified as Zone X are divided into Zone XS and X for the purpose of this study. Zone XS is an "area of 500-year flood; area of 100-year flood with average depths of less than 1 foot." The remaining area is within Zone X, which is defined as "area determined to be outside 500-year flood plain." According to the Land Use Ordinance, Section 21-9.10-5, this public outdoor recreation facility is permitted subject to flood hazard development standards.

As identified by the Kahalu'u Watershed Work Plan (1968), the project area is in need of watershed and flood protection plan that will provide a variety of recreational opportunities. The Work Plan identified sets down a proposed agreement to launch a \$12 million flood control project in Kahalu'u, an agreement involving the Windward Oahu Soil and Water Conservation District, the City and County of Honolulu and the Natural Resources Conservation Service of the U.S. Department of Agriculture. The Work Plan describes the history of the watershed and its existing and potential problems. The Work Plan then details the importance of recreational development attached to a flood protection plan in Kahalu'u. The Work Plan provides a cost-benefit analysis and summaries of supporting hydrologic, engineering, geologic and economic investigations and analyses for a 28 acre flood control lagoon surrounded by a 22 acre park with recreational facilities.

Impacts: The overall layout responds to the configuration and slope of the property and takes into account drainage courses that occur within the project area. Waihe'e Stream is currently subjected to serious erosion and undercutting of the banks. The project will include maintaining a vegetation buffer along the stream bank for erosion control and for



Legend

-  Project Location
-  Flood Zone AE: 100 year, Base flood elevations determined.
-  Flood Zone XS: Areas of 500-year flood; areas of 100-year flood with average depth of <1 ft.
-  Flood Zone X: Areas determined to be outside the 500-year flood plain.

**Figure 7
FLOOD MAP**



KAHALUU REGIONAL PARK
Kahaluu, Island of Oahu, State of Hawaii

R. M. TOWILL CORPORATION

August 2000

shading to drop the stream temperature. Additionally, the current practice of grazing water buffalo along the stream bank and within the stream bed will be stopped to eliminate this contribution to stream bank erosion.

The designated wetland areas will improve the existing drainage conditions, aesthetics and wildlife habitat values. No adverse impacts are anticipated on surface water or groundwater. The development of the project will be in compliance with the requirements of Federal Flood Insurance Program, the City and County of Honolulu Drainage Standards, Grading Ordinance, and Development Standards for DPP Flood Hazards District.

The project will comply with all necessary permits and approvals that may be required at each phase of development. This includes all federal and state permits required by sections 401, 402, and 404 of the Clean Water Act of 1977 (Department of the Army Permit, Department of Health Water Quality Certification, Coastal Zone Management Approval, National Pollutant Discharge Elimination System Permit). Best Management Practices will be employed in all phases of development to control storm water run-off and construction dewatering.

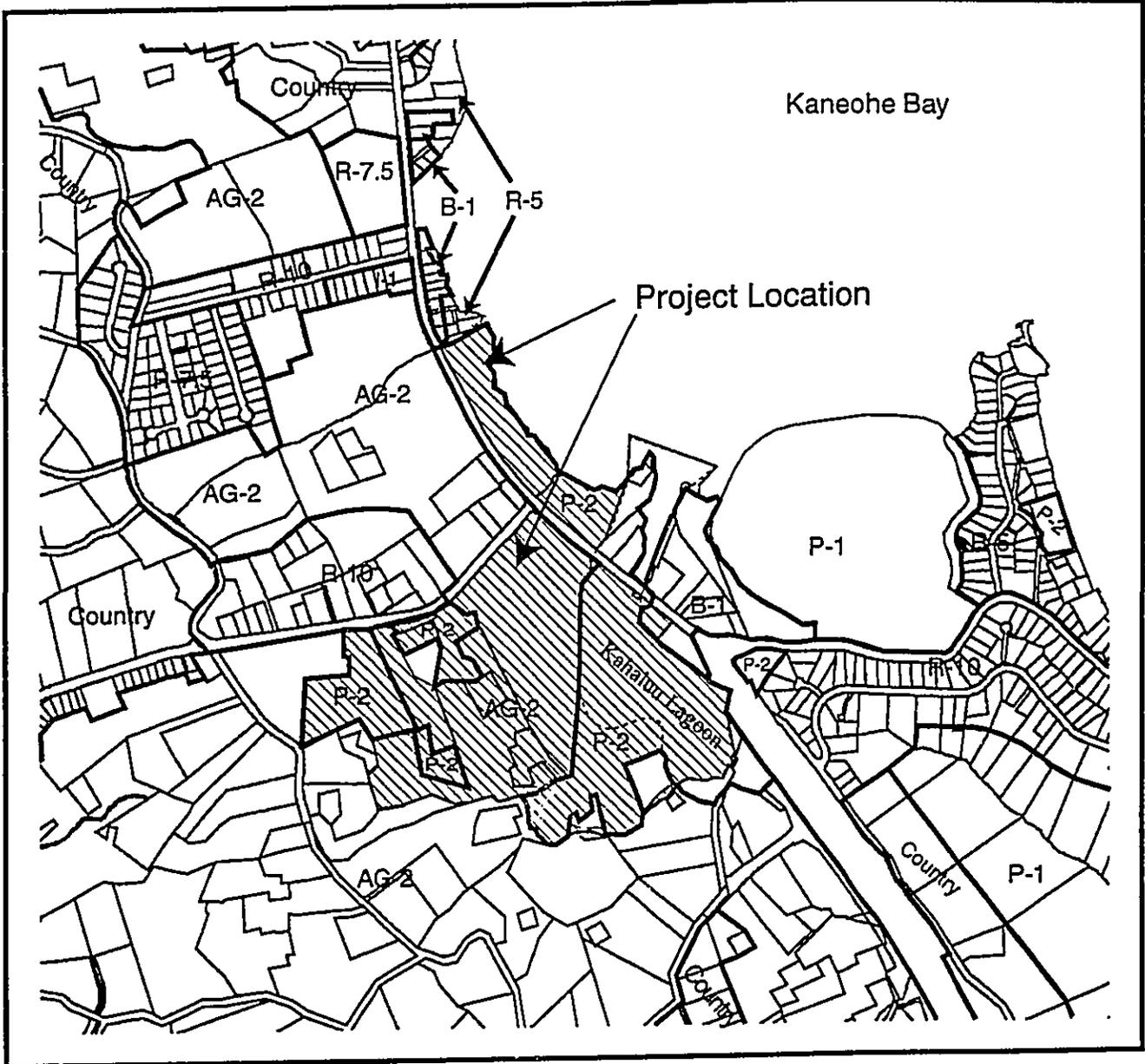
SECTION 3 AFFECTED ENVIRONMENT

3.1 SURROUNDING LAND USES AND LAND USE DESIGNATION

Kahalu'u is a rural area which has been characterized by a predominantly agricultural lifestyle. For over a hundred years, the area has been used for various agricultural practices, including taro, rice, sugarcane, and pineapple productions, and cattle grazing. The trend has been moved from extensive large-scale taro, rice, or pineapple production to small-scale rice and taro cultivation. Taro still flourishes on a number of properties along Waihe'e and Kahalu'u streams immediately adjacent to the park.

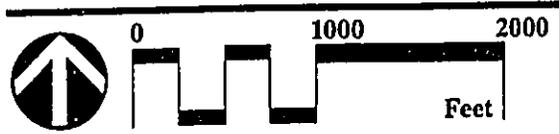
Immediate adjacent properties are mostly utilized for small farming along with some commercial development along Kamehameha Highway. Across Waihe'e Road and along Kaneohe Bay are single-family residential uses and the Kahalu'u Elementary School. Surrounding uses also include the KEY Project and Kahalu'u Elementary school to the north and Kahalu'u industrial area to the west. Lands immediately east of the site are designated as drainage easements. The parcels to the south along Ahilama Drive are zoned Agriculture. Kuleana properties are located within the mauka section of the project. A kuleana plot owned by the Kalahiki family (TMK: 4-7-12: 10) is located behind the KEY project facilities and land-locked within the park boundaries. Kuleana lands are also located along the southern border of the park. Although these privately owned properties are not included in the park, access will be maintained to for these properties to Waihe'e Road.

The entire project has three City and County of Honolulu zoning districts designations (General Agricultural (AG-2), General Preservation (P-2) and Neighborhood Business (B-1)) (Figure 8). The City and County Development Plan Land Use classification identifies these areas as Park, Agriculture, Commercial and Preservation. The State Land Use designation is Urban. The existing land use is park and undeveloped area.



- Legend**
- AG-2 - General Agriculture
 - B-1 - Neighborhood Business
 - Country - Country
 - I-2 - Intensive Industrial
 - P-1 - Restricted Preservation
 - P-2 - General Preservation
 - R-5, R-7.5 and R-10 - Residential

Figure 8
ZONING MAP



KAHALUU REGIONAL PARK
Kahaluu, Island of Oahu, State of Hawaii

R. M. TOWILL CORPORATION

August 2000

Impacts: No adverse effects are anticipated to result from the proposed regional park. The plan is based on the city's intent to set aside flood-prone areas for public parks. A public park and open space is an integral element of the healthy community. In addition, the development of a public park is permitted under the present land use designations.

Since the kuleana properties will be landlocked upon development of the regional park, access routes will be provided within the project to Waihe'e Road. The kuleana will not be incorporated in recreational uses of the proposed project, however the design of the project will include the provisions and maintenance of access for these properties.

3.2 FLORA AND FAUNA

No known endangered/threatened flora has been reported to exist on site. The majority of the site is covered by deep, cultivatable soil, which was previously cleared and used for agriculture practices, plant introductions, grazing pressures, clearing and grading activities, and fires. The majority of the area is currently abandoned and covered with predominantly introduced species.

Wild animal life within the Kaneohe area includes mongoose (*Herpestes auropunctatus auropunctatus*), rat (*Rattus rattus*), wild pig (*Sus scrofa*), feral cats (*Felis catus*), and dogs (*Canis familiaris*). The open waterways are nearly always eutrophic and are dominated by exotic warm water species such as tilapia (*Sarotherodon, Oreochromis* spp.) and mosquitofish (*Gambusia affinis*). The coastal regions include natural habitats and feeding areas for many introduced exotic birds such as cardinals (*Cardinalis cardinalis*), linnets (*Carduelis cannabina*), sparrows (*Passer domesticus*), mynah birds (*Acridotheres tristis*), thrush (*Copsychus malabaricus*), and doves (*Columba livia, Streptopelia chinensis, Geopelia striata*). The introduced cattle egret (*Bubulcus ibis*) frequents and feeds in the fish ponds of Kahalu'u, Moli'i and He'eia. The Hawaiian Owl, Pueo (*Asio flammeus sandwichensis*), is generally found in open grassland areas. The State of Hawaii lists the

Hawaiian owl as endangered species on Oahu. The marshy wetlands along the shoreline, near mouths of streams and fish ponds, are the natural habitat for endangered species of waterbirds. The native bird species known to frequent wetlands of the area include the endangered Hawaiian moorhen (*Gallinula chloropus sandvicensis*), the black-crowned night heron (*Nycticorax nycticorax*), and the Pacific golden-plover (*Pluvialis dominica*). Numerous species of introduced birds and other migratory birds use wetlands in the area.

Waihe'e Stream is one of only two streams known to support spawning populations of the o'opu alamo'o (*Lentipes concolor*). Waihe'e is also one of the only five (5) streams on Oahu where all of the native fish, shrimp, and prawn species native to Hawaii are known to still occur (State Department of Land and Natural Resources, Division of Aquatic Resources). Under the park plan, the stream will remain in its natural state without channelization. More passive park uses are purposely located towards the drainage vector created by the stream, while active uses (playing fields and facilities) are concentrated on higher ground towards Waihee Road up and out of the flood plain.

Impacts: Except for short-term disturbance during construction, site development for park facilities and associated uses are not anticipated to adversely impact flora and fauna in the area. Project activities will likely alter the local distribution and abundance of birds using the site, but will not impact the overall abundance of these species on Oahu. Moreover, project-related disturbance of local wildlife will end as construction activities are concluded. Throughout construction activities, the major wetland areas will remain untouched and under the scrutiny of the U.S. Fish and Wildlife Service and area residents.

Clearing and grubbing activities during construction will temporarily disturb existing wildlife and vegetation on the project site. In order to minimize impacts to local wildlife and habitats, all construction activities will be guided by Best Management Practices and by measures set forth in the Wetland Mitigation Plan being prepared by AECOS, Inc.. Long-

term mitigation measures include enhancement of wetlands and vegetative ground cover. Also, extensive landscaping featuring indigenous and endemic plants and trees will provide improved habitats.

3.3 WETLANDS

In March 1997 a Wetland Analysis of the project site was conducted to analyze the characteristics and boundaries of jurisdictional wetlands on the property (**Appendix B**). According to the Wetland Analysis the wetland areas on the property commonly consists of small areas of bare earth, as a result of compaction of the soil by livestock. A few of these depressions included wetland plants; however, very limited amounts of wetland hydrology and hydric soils were found.

Wetlands were delineated using the U.S. Army Corps of Engineers (ACOE) 1987 manual. Under Section 404 of the Clean Water Act, discharge of dredged or fill material into waters of the U.S., including wetlands, is under the jurisdiction of the Department of the Army. All plans to alter existing wetlands will be designed and developed according to mitigation agreements with the ACOE in consultation with U.S. Department of Fish and Wildlife Services.

Impacts: The proposed project will temporarily impact some of the existing wetlands on site due to construction activities, however the project will also include the preservation and enhancement of the existing wetlands. In the long-term, the project will enhance wetland values such as wildlife habitats, flood control, and aesthetics. Significant wetland areas will be preserved and/or enhanced to provide increased wildlife habitat, flood control capacity and educational value.

In April 1999, a Wetland Mitigation Plan, prepared by the AECOS, Inc. (**Appendix C**), was prepared to evaluate and detail mitigation, monitoring and maintenance measures for the

proposed project. As described in the Wetland Mitigation Plan, the proposed grading will cover and fill three, isolated wetlands areas and enhance three existing wetlands. However each of the wetlands proposed for enhancement are individually more than twice the size of the wetland acreage proposed for fill. The wetlands being enhanced will provide more storage for run-off during storm conditions thereby adding to the recharge of ground water and reducing flooding of adjacent non-wetland areas. Approvals for the alterations within and maintenance of wetlands will be obtained prior to construction and development.

As noted in the *Wetland Mitigation Plan* prepared by AECOS, Inc., the wetlands proposed to be filled are too small, isolated, and infrequently wetted to serve as habitat for waterbirds, fish, or shellfish, or to serve as flood water storage. The loss of these three patches, though permanent, does not constitute a significant adverse impact to wetland functions in the area, particularly in light of enhancement measures that will be undertaken on the remaining wetland areas.

The existing trees and vegetation will be kept undisturbed as much as practicable. Landscape improvements are integral elements of this project. Landscaping will be designed in a way that will enhance the aesthetic quality of the site and blend in the existing landscape. Native vegetation will be given special consideration over non-indigenous species in landscape plant selection.

Waihe'e (Haiamoa) Marsh, approximately 36 acres in size, is located northwest of Waihe'e Road about 100 yards from the proposed park site at the nearest point. Due to the distance and an intervening block of development (including a HECO substation, Hawaiian Telephone Company baseyard, residences, and the Kahalu'u Baptist Church), the proposed development is not anticipated to have any adverse impact on Waihe'e (Haiamoa) Marsh.

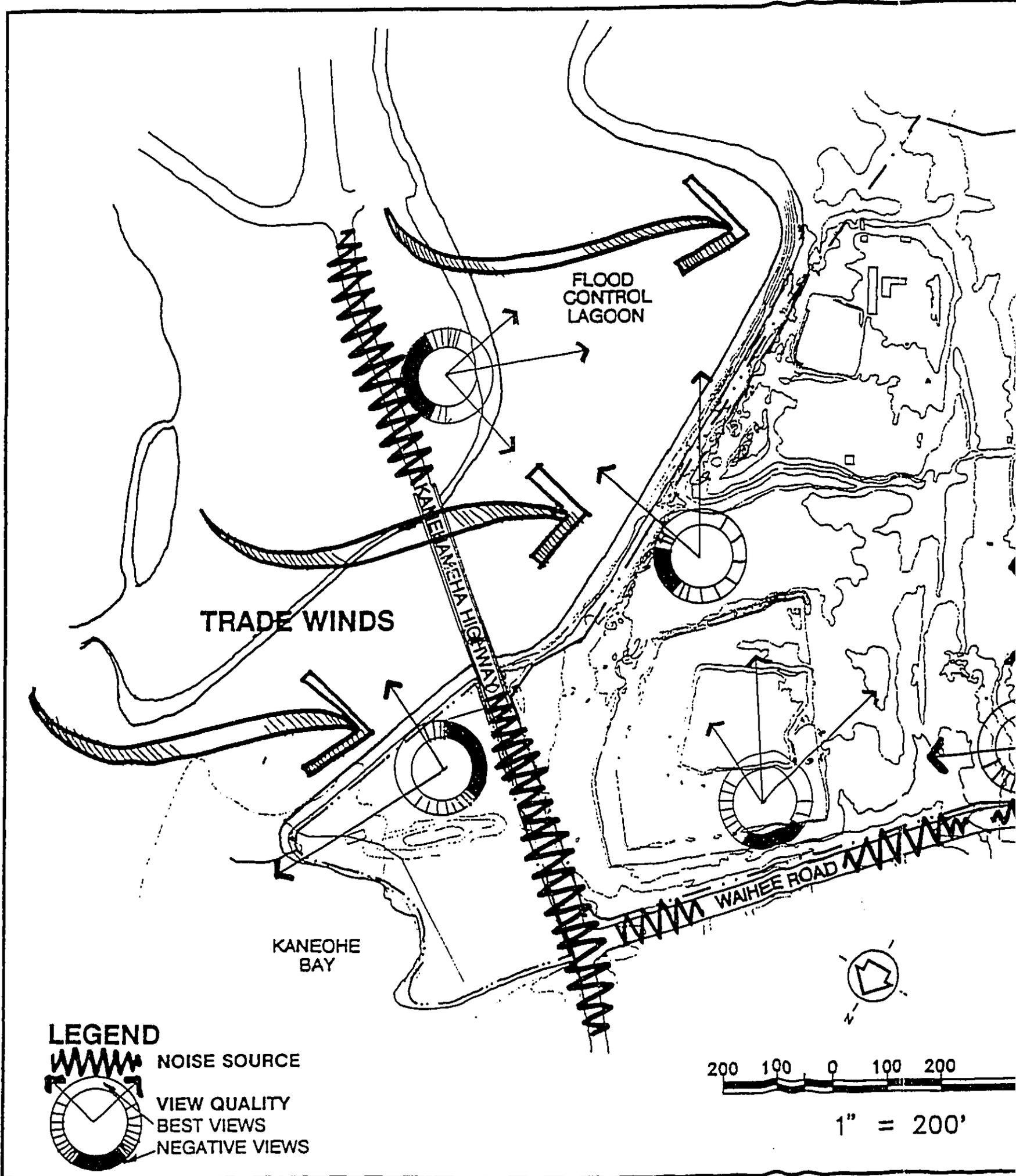
3.4 SCENIC AND VISUAL RESOURCES

Windward Oahu has steep cliffs and valleys juxtaposed against flat coastal plains in a relatively short distance, which creates a series of magnificent views. The project site is located primarily on the low-lying land adjacent to Kaneohe Bay. The majority of the property consists of flat terrain except a small portion along the southwest boundary of the mauka side of the site, bordered by Kahalu'u Elementary School, the KEY Project and the Kalahiki property.

Oahu has many distinguished coastal viewsheds including that of Kaneohe Bay and views mauka towards the Koolau Mountains. The Makai section of the project is located between Kaneohe Bay and Kamehameha Highway. Makai views from Kamehameha Highway near Kahouna (Kahalu'u) Fish Pond provide spectacular views.

A sensory analysis map (Figure 9) prepared for the site depicts Six (6) distinct viewpoints within the project area. These viewpoints identify locations that provide significant visual function and value to the park setting. The diagram illustrates view quality at each of the six locations. The quality of the view, as depicted in the diagram, enhances the function of the view. Viewports provide a variety of functions that are of benefit to park users, such as: (1) direct line-of-sight into the park for heightened security and to assist park users in quickly getting oriented to the park grounds; (2) visual "access" into the park and visual "link" connecting park features into a comprehensive whole; and, (3) highlights the park's aesthetic qualities inherent in the water features, land forms, and open space.

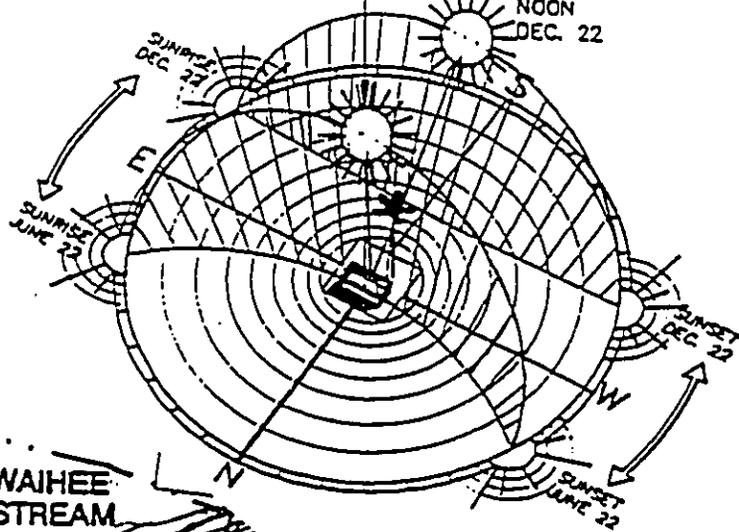
Impacts: No adverse impacts are anticipated to result from the project. The project will enhance the landscaping throughout the area and improve access for park users to appreciate the natural aesthetics of the mauka wetland areas and the makai shoreline area. The architectural and landscaping features will be designed to minimize impacts on



SUN DIRECTION

NOON
JUNE 22

NOON
DEC. 22



WAIHEE
STREAM

AHLAMA ROAD

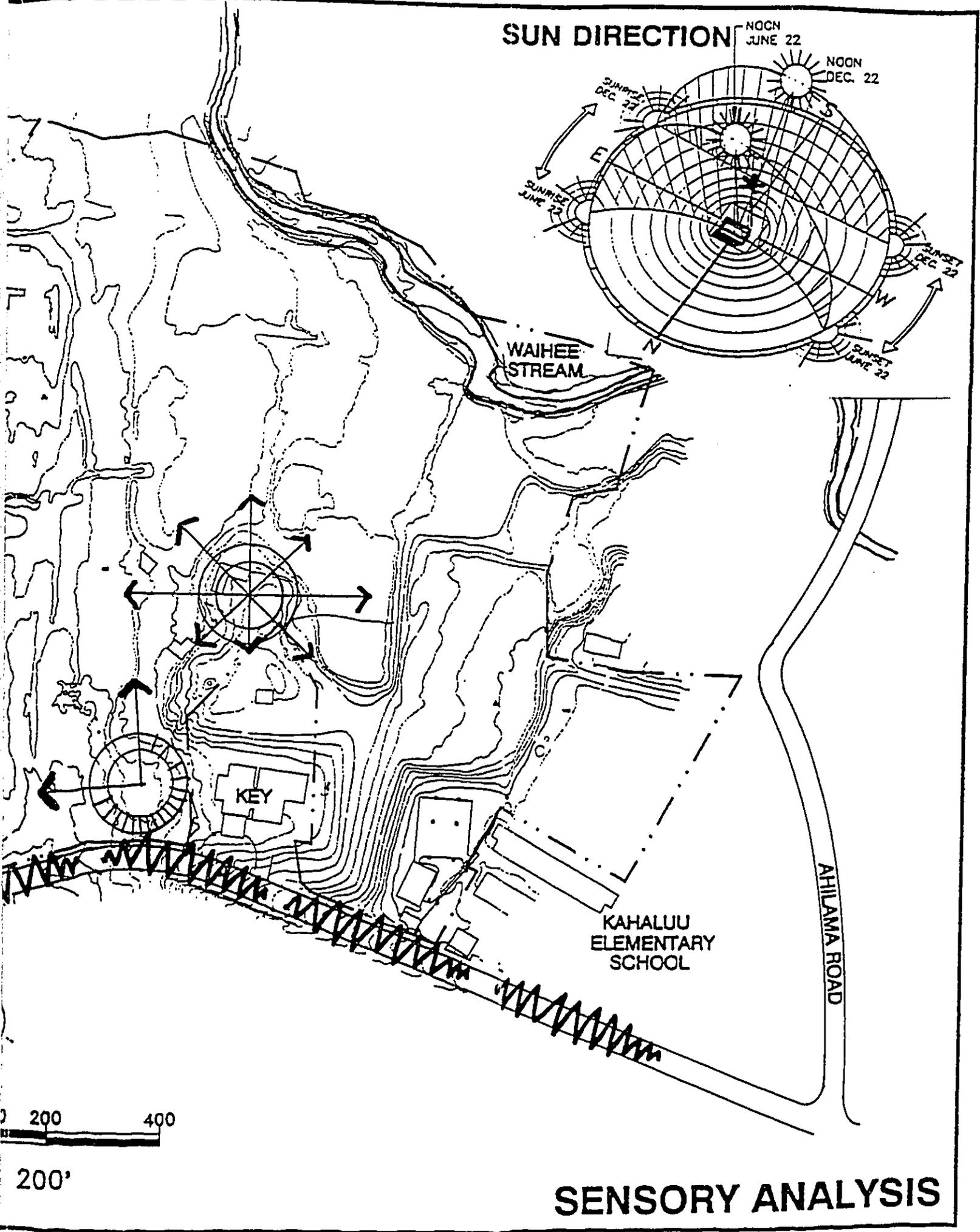
KAHALUU
ELEMENTARY
SCHOOL

KEY



200'

SENSORY ANALYSIS



the line of sight towards Kaneohe Bay from the highway. The proposed development would retain the open space character of the Kahalu'u area and mauka view plain.

As funding becomes available for successive phases of park development, more detailed simulations and drawings will be developed to depict visual and scenic resources in the park area. All structures will be designed to minimize intrusion on existing view planes and scenic resources. Area residents will be consulted during each phase of development to gain input on visual impacts in the area.

In siting park structures at the conceptual master plan level, consideration has been given to potential visual impacts. For example, the canoe hale and comfort station proposed for the makai park area are set back from the roadway and situated adjacent to the existing tree line. From the vantage of traffic on Kamehameha Highway, these structures would be visually backed by trees and shrub vegetation and would not interfere with views of the ocean.

Also, the proposed gymnasium / pool facility is set back off of Waihe'e Road sufficient distance to avoid interfering with views from the roadway. It is also sited down-slope and out of the line-of-sight to the ocean from the Kalahiki kuleana. These facilities were sited to address concerns of the Kalahiki family over possible interference with their ocean views. If these facilities are reoriented during their design, the kuleana families and other property owners will be consulted about possible impacts.

3.5 NOISE

The overall characteristics of the area surrounding the project site are of a low density residential and agricultural community. With the exception of a few general preservation lots east of the project, lands surrounding the park are zoned for Agriculture, Commercial and Residential/ Country uses. Light industrial use is also located approximately 1,500 feet

to the north. Ambient noise levels in the area are currently dominated by traffic on nearby streets - primarily on Kamehameha Highway and Waihe'e Road. Other noise sources include the Kahalu'u

Elementary school, the KEY Project, the Fire Station and the use of landscape and maintenance equipment in the area, including tractors, compressors, and hand-held gas-powered tools.

Possible concerns about noise were raised during park planning in consultation with the owners of kuleana parcels and other private property. The kuleana parcels adjacent to Waihe'e Stream were determined to be sufficiently distant from lighted fields and courts not to be disturbed by night lighting and noise. The Kalahiki family expressed concern over noise generated from the gymnasium and paved courts proposed to be located near their home. When that phase of development is funded, retaining walls will be included in the design at sufficient height to attenuate sound from the park facilities. Additionally, landscaping will be used as a screen around all of the kuleana parcels within the park to minimize visual impacts.

Impacts: Noise levels will temporarily increase during the construction period. Noise generated by construction activities will be mitigated to some degree by requiring contractors to adhere to State and County noise regulations. This includes ensuring that machinery are properly muffled and maintained. All construction and facility operations will comply with applicable maximum permissible sound levels as indicated in Hawaii Administrative Rules, Chapter 11-46, entitled "A Community Noise Control". The contractor will obtain a noise permit if the noise levels from construction activities are expected to exceed the allowable levels of the rules.

Noise generated by park users will have some effects on the present noise quality of the area, however they will be similar to the existing noise from the nearby elementary school, KEY Project recreational park and beachfront areas. The proposed regional park is not designed or developed for noise-intensive activities. Normal activities at the recreational park will include also low levels of noise from vehicle traffic and periodic use of maintenance and landscaping equipment on the facility grounds.

3.6 HISTORIC/ARCHAEOLOGICAL RESOURCES

According to the State Historic Preservation Division (SHPD), the project site has not been archaeologically surveyed. However, the bulk of the project area was once subjected to intensive taro production and the presence of abandoned and buried lo'i kalo (taro paddies) and auwai (irrigation channels) is known in the area, particularly in the area of Waihe'e Stream. The land was transformed into extensive rice field cultivation around the turn of the century, and a rice mill was constructed to facilitate this commercial enterprise. The remnants of the mill are still visible near the lagoon in the southern portion of the park, where now, as cattle graze and dredging spoils pile atop the former rice fields, they serve as a tangible link to the past history of the region. Historic alteration of the environment for agricultural uses and cattle ranches have greatly affected the preservation of archaeological features in the Kahalu'u area. Therefore, historic structures, which may still exist on the sites, are likely to be related to agricultural practices such as taro cultivation which continues until today.

There are several kuleana land owners living within or adjacent to the park facility. These parcels trace directly back to the Mahele and, today, enrich the cultural landscape as living evidence of the area's history of traditional occupation and agricultural use. The owners of the kuleana plots have been actively consulted during planning for the park.

The only recorded archaeological site identified in the vicinity of the project area is the Kahouna (Kahalu'u) Fish Pond. Although located outside of the project site, this historic site is listed on the state and national registers of historic sites.

Cultural resource investigation and mitigation measures have been developed in the course of several meetings with representatives from the State Historic Preservation Division (SHPD), the Kahalu'u Regional Park Advisory Committee, and the City Department of Design and Construction. The recommendations that developed from those meetings, discussed below, will be carried out to ensure that historic preservation concerns are addressed.

Prior to commencing with Phase 1 construction:

- Soil sample data from borings conducted in the Phase 1 area by GeoLabs, Inc. will be provided to the SHPD for analysis and recording.
- Backhoe trench soil sampling will be conducted by a qualified archaeologist in at least five locations within the Phase 1 area. The results of the soil investigation and subsequent analysis will be provided to SHPD.
- Documentation, in the form of published literature and unpublished material, of historic land uses and prior land alterations in the Phase 1 area will be provided to SHPD.

Prior to commencing with construction in subsequent phases of park development:

- An archaeological inventory survey will be conducted by a qualified archaeologist working in consultation with SHPD for all areas of the proposed park outside of the Phase 1 area. The area adjacent to the surplus soccer field and old rice mill will be given special attention, including subsurface investigation for potentially significant sites identified during surface reconnaissance. Park areas makai of Kamehameha Highway will be included in the inventory survey.
- A Cultural Resources Mitigation Plan will be prepared for significant sites identified in the Archaeological Inventory Survey. Measures may include Preservation (passive protection or active study), Adaptive Re-use (rehabilitation of taro lo'i - perhaps commercially), Interpretive efforts (signage, educational activities), and "Curator Agreements" between the community and SHPD.

Impacts: The proposed project is not anticipated to have substantial impacts on cultural resources in the region. The project is not anticipated to affect the Kahouna (Kahalu'u) Fish Pond. Although impacts to archaeological resources are not expected, if any unidentified cultural remains are uncovered during the course of the project, work in the immediate area will cease and the KRPAC, State Historic Preservation Division, and other appropriate government agencies will be contacted for further instructions.

SECTION 4 MITIGATION MEASURES

4.1 POTENTIAL SHORT-TERM IMPACTS AND MITIGATION

Kahalu'u Regional Park, when fully developed will provide a broad diversity of balanced activities and passive uses envisioned by the community. These recreational amenities include: boating and picnic areas; sports fields and courts; comfort stations and maintenance building; botanical and community gardens; wetland network trails; gymnasium complex; floating docks, wetland network trails, boardwalk and several parking areas. The project will generate short-term adverse impacts due to construction activities. The following is a discussion of potential short-term impacts and mitigation measures to minimize potential adverse effects.

- Clearing and grubbing will disturb soils and cause some soil erosion. Adequate erosion control measures such as silt screens or sand bags will be provided to prevent silt and other undesirable materials from entering Kaneohe Bay, the lagoon and the wetlands. Prior to any construction, an Erosion Control Plan must be approved by the City and County of Honolulu. Following construction work, planting will be conducted, as appropriate, to minimize further soil loss.
- Construction operations will temporarily generate increased noise levels. Noise generated from construction activities will be mitigated to some degree by requiring the contractor to adhere to State of Hawaii DOH regulations and the City and County of Honolulu Noise Ordinance, which limits construction operations and resultant noise to daytime hours and specific maximum levels.
- Construction activities will temporarily impact the air quality in the form of fugitive dust and emissions from construction equipments and vehicles. Fugitive dust emission will be reduced by following State DOH Rules and Regulations Title 11,

Chapter 60-1, regarding Air Pollution Control. This type of emission will be controlled by frequent watering of the construction site. Another measure is to maintain equipment in proper working order.

- Construction activities will temporarily impact traffic in the surrounding area. The traffic circle being designed and developed by DOT will be located at the intersection of Kamehameha and Kahekili highway. During construction there will be temporary congestion and delays on these roadways. All design and construction plans will be submitted for review prior to construction. In order to minimize traffic impacts to the nearby residents, the contractor will schedule heavy truck activity between the hours of 9:00 am and 3:00 pm on weekdays and will suspend activity on weekends, State and Federal holidays. All roadways impacted by construction-related debris or damage will be returned to clean and serviceable condition following completion of construction activities.

4.2 POTENTIAL LONG-TERM IMPACTS AND MITIGATION

No long-term adverse impacts are anticipated to result from development of the proposed regional park. All anticipated adverse impacts are construction-related and will cease as work activities are completed.

Although the proposed project involves permanent alteration to the existing landscape and the elimination of three designated wetlands, mitigation measures outlined in this document, measures set forth in the Wetland Mitigation Plan, and provisions in permits and approvals required for the project will minimize or prevent adverse impacts to the existing natural setting. The three wetland areas that are proposed to be filled are small in size, and are generally dry except during sustained rainfall. They are not fed by ground water or streams, and do not support permanent resident populations of wetland fauna. The three wetland areas that are identified for preservation and enhancement are more

biologically diverse, and better situated to collect rainfall runoff and drainage water that will sustain wetland conditions year round.

The project will require filling approximately 2 to 5 feet relative to the existing ground elevation in order to provide a level ground for sports field and berms around the perimeter of the fields. Other fields or areas will involve leveling and little fill to maintain safe level playing areas and foundations.

A Geotechnical Evaluation and Material Testing was conducted by Geolabs-Hawaii, March, 1997, to assure that the existing dredged soil, which is stockpiled on the property, will be suitable for the construction the ball fields and sustaining plant life. A Wetland Mitigation Plan was prepared by AECOS, Inc. on April 23, 1999, for the proposed grading and fill of three small, isolated wetlands. A field survey revealed that these isolated wetlands are marginal in size and no standing water was present. According to the Wetland Mitigation Plan, these sites are too infrequently wetted to serve as water bird habitat, fish and shellfish habitat, or flood water storage.

Drainage easements and rock, rip-rap buffers will be maintained along the Kahalu'u Flood Control Lagoon and Waihe'e Stream to prevent erosion and undercutting of the stream banks. The overall layout is designed to respond to the configuration and slope of the property and takes into account general drainage courses that already occur within the project area. The designated wetland areas will increase wildlife habitat values, visual qualities, aesthetics, and flood control under the proposed layout.

Planting and landscaping are integral elements of this project. Existing trees will be kept undisturbed as much as is practicable. Indigenous and endemic plants and trees will be given . Architectural and landscaping features will be designed in such ways to retain the open space character of the Kahalu'u area.

The proposed botanical garden/cultural "kipuka" located mauka of the KEY Project facilities will feature native Hawaiian and Polynesian-introduction species. The site is located in the vicinity of a designated wetland area. Work on the proposed garden will be undertaken per a wetland mitigation agreement with the Army Corps of Engineers. The use of fertilizers and pesticides that might affect nearby surface waters (wetlands, Waihe'e Stream, Kahalu'u Lagoon) will be limited to the terms of the mitigation agreement. While the community gardens will include taro lo'i and vegetable gardens for community use, the increased recreational amenities will provide residents with both recreational and cultural experiences for all age groups.

SECTION 5 RELATIONSHIP TO STATE AND COUNTY LAND USE PLANS AND POLICIES

5.1 THE HAWAII STATE PLAN

The Hawaii State Plan, Chapter 226, Hawaii Revised Statutes, serves as a written guide for the future long range development of the State. The Plan identifies statewide goals, objectives, policies, and priorities.

The proposed project will be in conformance with the State Plan's objectives and policies for leisure. According to Section 226-23 objectives and policies for socio-cultural advancement- leisure, the following policies would apply to the proposed project:

- (1) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.
- (2) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.

5.2 STATE LAND USE LAW

The project site lies within the state land use category Urban. Park development is permitted under this land use designation. The Kaneohe Bay Master Plan, with concurrence from the Kahalu'u Neighborhood Board #29, recommends a change from Urban to Conservation for the Kahalu'u Regional Park.

5.3 STATE FUNCTIONAL PLAN

The Hawaii State Functional Plans (Chapter 226, Hawaii Revised Statutes) provide a management program that allows use of State resources to improve current conditions and attend to various social issues and trends. The proposed project is consistent with the State Functional Plan for Recreation through the following Implementing Action:

RECREATION OBJECTIVE II-C: Improve and expand the provision of recreation facilities in urban areas and local communities.

Policy II-C(1): Meet the demand for recreational opportunities in local communities.

Implementing Action II-C(1)b: Provide additional playing fields and upgrade existing fields for both youth and adult sports leagues.

5.4 KANEOHE BAY MASTER PLAN

The *Kaneohe Bay Master Plan* (KBMP) was given planning authority by the State Legislature in 1990 under Act 208, State Laws of Hawaii. The act recognized Kaneohe Bay as a "unique and treasured resource" and called for a plan that would be recommended as "the recommended guideline" for the Bay. The effort addressed both the Bay and watershed influences affecting the Bay, touching on many topics relevant to Kahalu'u Regional Park. Issues addressed in the KBMP include wetland protection, open space, access, and stream and ocean water protection. The plan specifically cites the following relevant points:

- Open Space: Kahalu'u Regional Park / Lagoon is identified as an important "public open space...public access to the Bay." (KBMP, Section 4.8.1, Item 8).
- Ocean Access/Fisheries: the site is acknowledged for importance as a place for "small boat access...use of flood control lagoon" (KBMP, Section 4.8.2, Item 7); and, the plan

recognizes the "Kahalu'u inshore area near the Hygienic store" as an established nehu fishing grounds important for commercial fisheries, and as a limited/alternative access for small boats and canoes (KBMP, Section 4.9.2, Item C).

- Future Parklands Additions: The KBMP also sets the stage for the acquisition of lands currently under consideration for addition to the park: "Consider adding land makai of Kamehameha Highway near Waihe'e Marsh to the adjacent Kahalu'u Regional Park. There is potential for 'boardwalks' through mangrove and estuarine environment." (KBMP Section 4.8.2, Item 9)
- Stream/Habitat Protection: The plan advocates creation of "a stream belt along Waihe'e stream to protect water quality and prevent flooding" (KBMP, Section 4.8.2, Item 8).

5.5 CITY AND COUNTY ZONING

The City and County of Honolulu zoning designations for the project site are P-2, General Preservation District, AG-2, General Agriculture District and B-1, Neighborhood Business District. Table 1, on the following page, details the breakdown of zoning and acreage for each parcel.

The proposed regional park development in B-1, P-2 and AG-2 zoned lands complies with the intent and objectives of these districts. The single B-1 parcel listed in Table 1 (TMK 4-7-26:09) is a remnant parcel formerly owned by the Lau family and recently acquired by the City & County for park development. The community based park assists in the preservation and maintenance of flood-prone areas for park use which provides recreation and cultural experiences for all age groups in the Kualoa to Heeia (Kahalu'u) community, including potential for education, community gardens, and open market. TMK parcels are depicted in **Figure 10**.

TABLE 1

	Tax Map Key	Area in Acres	Zoning
Makai	4-7-12-13	2.658	P-2
	4-7-13-01	3.304	P-2
Mauka	4-7-12-01	1.305	AG-2
	4-7-12-02	1.279	P-2
	4-7-12-11	1.996	P-2
	4-7-12-12	14.823	AG-2
	4-7-12-16	0.800	AG-2
	4-7-12-17	0.605	P-2
	4-7-12-18	9.653	AG-2
	4-7-12-19	2.634	AG-2
	4-7-12-24	5.751	P-2
	4-7-12-28	0.276	P-2
	4-7-26-09	0.497	B-1
Mauka	Tax Map Key	Area in Acres	Zoning
	4-7-26-10	0.017	P-2
	4-7-26-20	0.030	P-2
	4-7-26-21	0.076	P-2
	4-7-26-23	0.022	P-2
	Total Area	45.724	



Figure 10
TMK MAP



NOT TO SCALE

KAHALUU REGIONAL PARK
Kahaluu, Island of Oahu, State of Hawaii

R. M. TOWILL CORPORATION
August 2000

TMK PLAT DIVISION LINE

PARK COMPRISED OF PORTIONS OF
TMK PLAT: 4-7-12 & 4-7-26

5.6 CITY AND COUNTY GENERAL PLAN & DEVELOPMENT PLAN

The General Plan identifies the long-range planning goals and objectives which the City and County of Honolulu attempts to accomplish in the interest of Oahu residents. The proposed project is in conformance with the General Plan's objectives and policies for Natural Environment as well as Culture and Recreation:

Natural Environment

Objective B: To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.

Policy 2: Protect Oahu's scenic views, especially those seen from highly developed and heavily traveled areas.

Policy 4: Provide opportunities for recreational and educational use and physical contact with Oahu's natural environment.

Culture and Recreation

Objective D: To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu.

Policy 1: Develop and maintain community-based parks to meet the needs of the different communities on Oahu.

Policy 2: Develop and maintain a system of regional parks and specialized recreation facilities.

The Development Plan Land Use Designations are Park, Agriculture, Preservation, Commercial and Public Facilities.

5.7 COASTAL ZONE MANAGEMENT

The State of Hawaii designates the Coastal Zone Management program to manage the intent, purpose and provisions of Chapter 205A-2 of the Hawaii Revised Statutes, as amended, and federal regulations for the areas from the shoreline to the seaward limit of the State's jurisdiction and any other area which a lead agency may designate for the purpose of administering the Coastal Zone Management program.

The proposed project conforms to the Coastal Zone Management Program Objective 1, Policies A and B, Recreational Resources, which calls for the provision of adequate, accessible, and diverse recreational opportunities in the Coastal Zone Management area. Portions of the proposed KRP are located within the coastline or shoreline and construction will involve impacts to coastal resources. The proposed improvements are planned to develop new and enhance existing coastal recreational opportunities and dedicate additional coastal areas with increased recreational value.

The site includes the existing community park. The remaining areas are open and currently vacant. The proposed KRP will be a community-based park which encourages the involvement of the community in the planning, implementation, maintenance and management of the park. The proposed 46-acre public park will contain various site improvements and recreational amenities as demanded by the community.

The primary purpose of the project is to develop a major flood control project with a community resource to mitigate flooding from the three watersheds in the area (Waihe'e, Kahalu'u and Ahuimanu). The community resource will provide recreational opportunities which include the following:

1. fields, courts and facilities supportive of active recreation.

2. opportunities for passive recreation which may include but is not limited to walking, jogging, hiking and picnicking.
3. access to the bay and the lagoon for water-based activities such as canoeing, kayaking, boating, crabbing, fishing, radio-controlled boating.
4. opportunities for cultural activities which may include but are not limited to taro production, canoeing and performing arts.

The KRP faces Kaneohe Bay and the manmade flood control/recreation lagoon. The lands immediately east of the site are designated as a drainage easement for Kahalu'u Flood Control Lagoon. During construction, access to Kaneohe Bay and the lagoon may be limited for safety reasons. Closures and other impacts resulting from construction activities will be temporary and short term. Upon completion of construction, the project will provide a major flood control project with newly enhanced access to Kaneohe Bay, the lagoon and cultural recreational amenities for the community.

The proposed project also conforms to the Coastal Zone Management Program Objective 2, Historic Resources, which ensures that new development will protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources that are significant in Hawaiian and American history and culture. The proposed project achieves this objective by planning for the design and development of this area in a culturally and archeologically sensitive manner. The proposed project integrates recreation and cultural experiences for all age groups through the proposed botanical garden/cultural "kipuka" which will feature native Hawaiian and Polynesian introduced species as well as taro lo'i and vegetable gardens for community use. The intent of the proposed project takes into consideration the archeological and cultural history of the area and provides methods to enhance and utilize these amenities for the entire community.

The bulk of the project area was once subjected to intensive taro production, and later transformed into extensive rice fields which was eventually used for cattle grazing. Historic alteration of the environment for agricultural uses and cattle ranches have greatly affected the preservation of archaeological features in the Kahalu'u area. Therefore, historic structures, which may still exist on the site, are likely to be related to agricultural practices such as taro cultivation, which continues until today. The only archaeological sites identified in the vicinity of the project area are portions of the abandoned rice mill and the Kahouna (Kahalu'u) Fish Pond. The abandoned rice mill site will be integrated in the design of the park. Although located outside of the project site, the Kahaluu Fish Pond is listed on the State and National Registers of Historic Sites. The project is not anticipated to affect the Kahouna (Kahalu'u) Fish Pond.

Although impacts to archaeological resources are not expected, in the unlikely event that archaeologically significant remains are encountered, work will cease in the immediate area and the DLNR, State Historic Preservation Division will be notified at (808) 692-8015 to determine significance and treatment of any findings.

The proposed improvements conforms to the Coastal Zone Management Program Objective 3, Scenic and Open Space, which encourages the protection, preservation and where desirable, restoration or improvement of the quality of coastal scenic and open space resources. The propose project is compatible with this objective by enhancing existing wetlands and providing additional public areas for the entire community to enjoy the spectacular scenic views of Kaneohe Bay, Kahaluu Lagoon and the mountains. The architectural and landscaping features will be designed to minimize impacts on the line of sight towards Kaneohe Bay and towards the mountains from the highway. The proposed development will retain the open space character of the Kahaluu area and mauka view plain. The proposed multi-story gymnasium complex will be located outside of the SMA. Landscaping will be designed to enhance aesthetics and visual quality of the area.

The proposed improvements conforms to the Coastal Zone Management Program Objective 4, Coastal Ecosystems, which calls for the protection of valuable coastal ecosystems from disruption and minimizing adverse impact on all coastal ecosystems. Development of the project will require site preparation involving vegetation clearing, excavation, filling, grading, general construction, and planting and landscaping. A large portion of the project within the SMA boundary is low lying coastal plain, thus requiring soil importation. The project will require filling up to 2 to 5 feet relative to the existing ground elevation, in order to provide a safe, level ground for sports fields and berms. A Geotechnical evaluation and material testing was conducted by Geolabs-Hawaii, March, 1997, to assure that the existing dredged soil, which is stockpiled on the property, will be suitable for the construction the ball fields and sustaining plant life.

As described in the Wetland Mitigation Plan, the proposed grading will cover and fill three, isolated wetlands areas and enhance three existing wetlands. However, each of the wetlands proposed for enhancement are individually more than twice the size of the wetland acreage proposed for fill. The wetlands being enhanced will provide more storage for run-off during storm conditions thereby adding to the recharge of ground water and reducing flooding of adjacent non-wetland areas. Approvals for any alterations within and maintenance of wetlands will be obtained prior to construction and development.

The existing trees and vegetation will be kept undisturbed as much as practicable. Landscape improvements are integral elements of this project. Landscaping will be designed in a way that will enhance the aesthetic quality of the site and blend in the existing landscape.

Mobilization of equipment, materials and workforce shall occur on an as needed basis, in schedule with the phases of construction. Construction activities require that staging areas be established along the lagoon and streams as well as within the project site. Prior to

mobilization, the project contractor will identify staging and stockpiling areas for construction equipment and materials and will obtain necessary rights of access through public or private properties.

Staging and stockpile areas shall be prepared as necessary with appropriate discharge pollution prevention features, refuse containment, parking areas for workers, and clearly marked transit paths for heavy equipment. During mobilization, ground disturbance shall be held to the minimum area necessary to accommodate the heavy equipment and materials required for construction activities.

Discharge pollution prevention measures will be installed for each project action as required by the construction activities and project scheduling. Measures to prevent runoff and the release of sediment into the lagoon or streams during construction will be in place and functional before project activities begin and will be maintained throughout the construction period. Runoff and discharge pollution prevention measures will be incorporated into a site-specific Best Management Practices (BMP) plan by the project contractor. The contractor shall include, but not be limited to the following control measures in the BMPs.

- Compliance with the sequence of operation as recommended by the "Rules Relating to Soil Erosion Standards and Guidelines," provided by the City and County of Honolulu, Department of Planning and Permitting.
- Grassing (common Bermuda grass or Star grass cuttings) of all exposed or graded areas shall be done immediately after final grades are established.
- Graded areas that are not at final grade and are expected to be exposed for more than 14 days, shall be mulched in order to prevent erosion and silt runoff.

The area is heavily vegetated with vines, trees and various ground cover. The project will require removal of trees and other vegetation within the project area in order to develop safe playing fields, parking areas, pathways and recreational facilities.

The majority of the project is on a low lying coastal plain and therefore will involve grading and filling with soils stockpiled within the project site. These soils are from the dredging of the Kahalu'u lagoon completed around 1996. A portion of the project will require filling up to 2 to 5 feet, relative to the existing ground elevation, in order to provide a level ground for sports fields and berms. Grading and required approvals will be obtained prior to the construction and development of the sports fields and berms.

Upon completion of the proposed improvements, the contractor shall restore the project site as much as possible to meet project requirements. This will include, but is not limited to, the following:

- All construction-related material, including excavated material, fill material, and refuse shall be removed from the project site and disposed of properly by the contractor.
- All construction equipment shall be removed from the project site promptly after construction is complete.
- Roadways providing access to the site and surrounding areas shall be cleared of construction debris and any damage from construction traffic will be repaired.
- Gates and/or fencing removed to provide access to the site shall be replaced and/or repaired.
- All areas damaged by construction staging shall be restored. Impacted pasturage, lawns, driveways or vegetated areas shall be replanted and restored. Exposed ground areas shall be seeded or hydro-mulched as appropriate.

A site-specific Best Management Practices (BMP) plan will be prepared by the project contractor as part of the project construction plan. The BMPs will include guidelines and mitigation measures to prevent runoff, discharge pollution, and other detrimental impacts related to construction activities. BMPs will be designed and implemented for normal stream flow conditions at the project site and will include contingency plans to respond to heavy rainfall conditions and the possibility of an emergency release of water.

Regional and special conditions outlined by the Army Corps of Engineers (ACOE) and the State Department of Health (DOH) per requirements of Section 404 and 401 permits will also be addressed in the site-specific BMPs.

Mitigation measures, in addition to the discharge pollution controls described above, shall include, but not be limited to the following:

- Clearing and grading shall be held to a minimum necessary to meet project design and construction plan requirements.
- Construction shall be phased to minimize the exposure time of cleared or graded areas. Existing ground cover shall not be destroyed, removed or disturbed more than 20 calendar days prior to the start of construction.
- Stabilization shall be accomplished by temporarily or permanently protecting the disturbed surface from rainfall impacts and runoff.
- Storm water flowing toward active project areas shall be diverted as much as practicable using the appropriate controls, including berms and silt fences, as determined by the contractor according to site conditions.
- Areas that remain unfinished for more than 30 calendar days shall be hydro-mulched or seeded to provide temporary soil stabilization.
- The project contractor will select locations for stockpiling construction material. Stockpile sites will be identified in the site-specific BMPs and construction plans.

A sediment retention berm or silt fence will be installed around the down-slope side of stockpile sites to retain sediment discharge during heavy rainfall.

- No fuel will be stored on the project site. Fueling of construction equipment will only be performed off-site or within an area designated by the contractor. Any site designated for refueling shall be located away from the lagoon and streams, enclosed by a containment berm and constructed to contain spills and seepage and prevent storm water runoff from carrying pollutants into state coastal waters.

The contractor, based on professional experience and expertise, may modify the proposed BMP mitigation measures as necessary to account for unanticipated or changed site conditions.

In the Makai Section of the KRP portions of development and the wetland area are located within forty (40)-feet of the certified shoreline. A Shoreline Setback Variance will be submitted prior to development of the Makai Section of the KRP.

The proposed project also conforms to the Coastal Zone Management Program Objective 6, Coastal Hazards, which ensures that new development reduce hazard to life and property from tsunami, storm waves, stream flooding, The proposed project is situated on coastal plains, adjacent to Kaneohe Bay. The majority of the site is nearly flat and poorly drained. According to the Flood Insurance Rate Map, the project is located in the area within Zones AE and X. Zone AE indicates "special flood hazard areas inundated by 100-year flood, base flood elevation are determined." The narrow strip along Waihe'e Stream and the northern tip of the Makai Section are within the floodway areas. The areas identified as Zone X are divided into Zone XS and X. Zone XS includes the "areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot." The remaining areas are within Zone X, which is defined as "areas determined to be outside 500-year flood plain."

The project will preserve the floodway areas and maintain a buffer zone along the edge of the floodway. Waihe'e Stream is currently subjected to serious erosion and undercutting along the bank. The project will allow for an adequate vegetative buffer along the stream bank. Also, the designated wetland areas and extensive landscaping will prevent erosion and improve flood control. The development of the project will be in compliance with the requirements of Federal Flood Insurance Program, the City and County of Honolulu Drainage, Grading and Development standards for Flood Hazard Districts.

The proposed project also conforms to the Coastal Zone Management Program Objective 7, Policies A, B and C regarding Managing Development which ensures to improve the development review process, communication, and public participation in the management of coastal resources and hazards. The project site lies within the state land use category "urban". The Development Plan Land Use Designations are Park and Agriculture. The City and County of Honolulu zoning designations are P-2 General Preservation, AG-2 General Agriculture and B-1 Neighborhood Business District. According to Article 3 of the LUO, development of P-2, AG-2 and B-1 zoned lands for public uses and structures, such as this project, are permitted.

Public notification will be through public hearings required as part of the permit approval process. Additional public notice will be provided by publication of the proposed action in the OEQC Bulletin. A Draft Environmental Assessment has been published in the March 23, 2000 Office of Environmental Quality Control Environmental Notice and is a matter of public record.

5.8 SPECIAL MANAGEMENT AREA (SMA) RULES AND REGULATIONS

The City and County of Honolulu has designated the shoreline and certain inland areas of Oahu as being within the Special Management Area (SMA) as designated by City and County of Honolulu, Chapter 25, ROH. SMA areas are defined sensitive environments that

should be protected in accordance with the State's Coastal Zone Management policies, HRS, Section 205A. Portions of the proposed canoe storage building, comfort station, and section of proposal along Kaneohe Bay might be located within forty (40) feet of the certified shoreline. A Shoreline Setback Variance will be obtained from the City and County of Honolulu, Department of Planning and Permitting prior to any park improvements within the 40-foot certified shoreline.

Since the project is located within the SMA boundary and has an estimated construction cost in excess of \$125,000.00, approval of a major SMA use permit will be obtained from the Department of Planning and Permitting (DPP) prior to construction. Since the design and intent of the proposed activities are shoreline dependent and encourage the preservation and utilization of the shoreline and coastal regions according to goals and objectives of ROH, the proposed project complies with the intent and purpose of the SMA and coastal management policies.

- (a) All development in the Special Management Area shall be subject to reasonable terms and conditions set by the Council to ensure that:**
- (1) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas and natural reserves is provided to the extent consistent with sound conservation principles;**

The KRP will have access via Waihe'e Road, Kamehameha Highway, Kaneohe Bay and Kahalu'u Lagoon. Parking for KRP will be provided in both Makai and Mauka Sections of the park. Street parking will also be available on Waihe'e Road. The proposed project consists of pedestrian and bike paths along with floating docks for shoreline access. Proposed improvements to existing wetlands will provide additional public access to recreational and natural resources.

Kamehameha Highway is an arterial, two-lane highway that services the entire Koolaupoko area. Kamehameha Highway is part of State Route 83 under the jurisdiction of the State Department of Transportation, Highways Division. Waihe'e Road is a curbed street under the jurisdiction of the City and County of Honolulu, with one lane provided for each direction of travel. Parallel parking along the curbs is generally permitted. At Kamehameha Highway, Waihe'e Road is controlled by a stop sign and the approach is of sufficient width that right turns can be made past a vehicle waiting to turn left onto the highway.

As detailed in the Traffic Study (Appendix E of the project Environmental Assessment (EA)) impacts from the proposed project will increase traffic on Waihe'e Road. Although the proposed project will increase traffic volumes, the peak traffic conditions at the intersection of Waihe'e Road and Kamehameha Highway will remain similar to existing, in which very long delays occur for the left turn onto the highway. At the intersection, additional delays will be incurred by vehicles on Waihe'e Road and those turning left into Waihe'e Road as a result of increased traffic volumes. However, there is only short delay for vehicles turning right onto the highway, and a short delay for the northbound through traffic on the highway.

The Study determined that the maximum traffic impact of the proposed development would occur during special events, however during these times, other traffic on the adjoining roads would be less than during the weekday peak hours. The Study explains that the vehicular volumes, even with the additional project traffic, would not satisfy minimum requirements (or warrants, defined by the Federal Highway Administration) for traffic signals.

A roundabout or traffic circle may also reduce delays for Waihe'e Road traffic. The Department of Transportation (DOT) is currently in the process of designing a traffic

circle to be located at the intersection of Kamehameha and Kahekili Highways. All plans for the traffic circle are being designed and developed by the DOT.

In order to alleviate additional traffic impacts, the proposed project incorporates several separate parking areas and driveways. Nearest Kamehameha Highway, the proposed project will provide a parking lot for 83 vehicles, between the sports fields and Waihe'e Road. A larger parking lot for 100 vehicles, will be located mauka of the sports fields to serve the sports field, gymnasium, swimming pool and outdoor courts. The driveway serving the larger parking lot connects to a smaller parking area near the street, which is also served by another driveway at its makai end. Existing driveways to the KEY Project building and a recreation center are located farther mauka along Waihe'e Road. The Makai Section will provide 6 trailer stalls and 23 stalls for other vehicles.

The proposed project includes plantings and landscaping near the intersection of Kamehameha Highway and Waihe'e Road. These plantings will be set back far enough from the highway to accommodate future highway widening without obscuring intersection sight lines. At the driveway connections, proper design to maintain adequate sight lines for entering and existing vehicles should provide sufficient capacities for driveway movements. All development plans for the proposed park project will be coordinated with, as well as reviewed and approved by the State and County prior to construction.

Also included in the design of the proposed project are access ways for the privately owned kuleana lands. The proposed project will construct and maintain access to Waihe'e road for these privately owned lands within the park.

(2) Adequate and properly located public recreation areas and wildlife preserves are reserved;

The City's intent to develop KRP is a result of plans to develop a major flood control project with a regional park to mitigate flooding from the three watersheds in the area (Waihe'e, Kahalu'u and Ahuimanu). Through the diligent efforts of the Kahalu'u community and numerous lawmakers this community-based plan was adopted by Resolution 94-188. This resolution recognizes the Kahalu'u Regional Park Advisory Committee, a standing committee of Kahalu'u Neighborhood Board No. 29, for the community-based master planning of the Kahalu'u Regional Park. The park development will be suitable to the area due to the rural atmosphere and extensive open space. The project will also relieve some of the demand for playing fields in the Kaneohe Bay area and northern Koolaupoko District.

Kahalu'u Regional Park will be a community-based park established and operated through the involvement of the community in the planning, implementation, maintenance and management process. One of the project goals is to preserve and enhance the natural features of the area. The primary objectives of the project include:

- preserve and enhance water quality of the streams, lagoon and bay
- preserve high quality wetlands for habitat and flood control
- provide opportunities for outdoor education
- provide watershed management, and
- preserve view planes and major trees.

In order to maintain and enhance the existing high quality wetlands and drainage easements rock rip-rap will be maintained along Kaneohe Bay Lagoon. The project

will maintain designated wetland areas and extensive landscaping which will improve the area's aesthetics and visual quality as well as flood control capacity. During construction adequate erosion control measures will be applied to prevent silt and other undesirable materials from entering Kaneohe Bay, the lagoon and streams. Such measures will include silt screens or sand bags. For details of best management practices (BMPs) and discharge prevention measures see Section B - Hawaii Coastal Zone Management Objectives & Policies or Section 2.1.3 of the Final EA.

(3) Provisions are made for solid and liquid waste treatment disposition and management which will minimize adverse effects upon Special Management Area resources;

There are currently no municipal wastewater lines servicing the area. The City and County of Honolulu is currently developing a Facilities plan for the Kailua-Kaneohe-Kahalu'u area. The Kailua-Kaneohe-Kahalu'u plan includes Kahalu'u Sewers (Section 3 I.D.) which is intended to serve the area, however this Facilities plan is not anticipated to occur within the next 5 years. The Department of Design and Construction (DDC) will coordinate with Department of Planning and Permitting (DPP) and Department of Environmental Services (ENV) for wastewater services to the project. All development plans will be approved by the appropriate agency prior to construction.

The amount of solid waste generated by the operation of the regional park is anticipated to be minimal. The solid waste generated by the park use will be collected and disposed by ENV. It is expected that solid waste from the proposed project will be disposed of at the H-POWER plant with residue and excess materials

deposited at the Waimanalo Gulch landfill. The project is not anticipated to have a significant effect on the existing solid waste treatment facilities for the area.

- (4) Alterations to existing land forms and vegetation; except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of an earthquake.**

The majority of the site is covered by deep, cultivatable soil, which was previously cleared and used for agriculture. The area has historically been used for cattle grazing and various agricultural practices, including taro, rice, sugarcane, and pineapple productions. The majority of the project site is currently abandoned and covered with predominantly introduced species.

Currently vacant, relatively level, and covered by grass and weeds the development of the project will require site preparation involving vegetation clearing, excavation, filling, grading, general construction, irrigation, planting and general landscaping. Clearing and grubbing will be limited only to accommodate the proposed recreational fields and related facilities. The project will also involve grading and filling with soils stockpiled within the project site. These soils are from the dredging of the Kahalu'u lagoon completed around 1996.

The majority of the project within the SMA boundary is on a low lying coastal plain. Portions of the project will require filling up to 2 to 5 feet, relative to the existing ground elevation, in order to provide a safe, level ground for sports fields, berms and foundations. In March 1997 Geolabs-Hawaii conducted a Geotechnical Evaluation and Material Testing on the existing dredged soil, which is stockpiled on

the property. According to the Geotechnical Evaluation and Material Testing, the existing dredged soil, will be suitable for the construction of the ball fields and sustaining plant life (See Appendix A of the Project EA). Grading and required approvals will be obtained prior to the construction and development of the sports fields and berms.

A portion of the proposed park development will also require drainage easements to be maintained the along Kahaluu Flood Control Lagoon. Significant wetland areas will be preserved and/or enhanced to provide increased wildlife habitat, flood control capacity and educational value. A Wetland Analysis was prepared by Char and Associates to analyze the characteristics and boundaries of jurisdictional wetlands on the property (See Appendix B of the Project EA). This on-site evaluation and testing of the wetland areas was conducted to identify and analyzed the character of each area considered.

In April 1999, a Wetland Mitigation Plan, prepared by the AECOS, Inc. (See Appendix C of the Project EA), was prepared to evaluate and detail mitigation, monitoring and maintenance measures for the proposed project. As described in the Wetland Mitigation Plan, the proposed grading will cover and fill three, isolated wetlands areas and enhance three existing wetlands, however each of the wetlands proposed for enhancement are individually more than twice the size of the wetland acreage proposed for fill. The wetlands being enhanced will provide more storage for run-off during storm conditions thereby adding to the recharge of ground water and reducing flooding of adjacent non-wetland areas. Approvals for the alterations within and maintenance of wetlands will be obtained prior to construction and development.

The existing trees and vegetation will be kept undisturbed as much as practicable. Landscape improvements are integral elements of this project. Landscaping will be designed in a way that will enhance the aesthetic quality of the site and blend in the existing landscape.

During construction activities staging and stockpile areas shall be prepared as necessary with appropriate discharge pollution prevention features, refuse containment, and parking areas for workers. Mobilization and ground disturbance shall be held to the minimum area necessary to accommodate heavy equipment and materials required for construction activities. This will insure protection of the site from storm generated run-off. Development of the project will require site preparation involving vegetation clearing, excavation, filling, grading, general construction, and planting and landscaping. Clearing and grubbing will be limited only to accommodate the proposed recreational fields and related facilities.

The floodway areas will be preserved with vegetative buffers and rock rip-rap along the floodway to prevent soil erosion and undercutting of the stream and shoreline banks. The extensive landscaping which will incorporate indigenous and endemic plants should also improve flood control and reduce soil erosion hazards. The overall layout is designed to respond to the configuration and slope of the property and takes into account general drainage courses that already occur within the project area. The designated wetland areas will increase wildlife habitat values, visual qualities, aesthetics, and flood control under the proposed layout.

For more information please refer to the Sections 2.1 and 2.3 of the project EA.

- (b) No development shall be approved unless the Council has first found that:**

- (1) **The development will not have any substantial, adverse environmental or ecological effect except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interest. Such adverse effect shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect and the elimination of planning options;**

The proposed project is not anticipated to involve a substantial degradation of environmental quality. The area has historically been disturbed by various agricultural and minor farming practices. The proposed plan will set aside a flood prone area for a public park, protect water quality, and preserve habitats.

The City's intent to develop KRP is the result of a plan to develop a major flood control project with a regional park to mitigate flooding from the three watersheds in the area (Waihe'e, Kahalu'u and Ahuimanu).

The City's intent to develop KRP has been recognized and supported by the residents of Kahalu'u since the late 1960's. The area is suitable for park development due to the rural atmosphere and extensive open space. Public park development is permitted under the present land use designation. The proposed development would provide increased recreational amenities while retaining the open space character of the Kahalu'u area. The project will also provide drainage improvements which will both reduce flood hazards and protect the stream, wetlands and estuary habitats in the vicinity.

It is one of the long-term goals of the project to preserve and enhance the natural features of the area. The project will protect water quality of the stream, lagoon and Bay as well as significant wetland areas. In addition to the open space atmosphere, the project will provide opportunities for outdoor recreation and education for all age groups through various cultural activities.

- (2) The development is consistent with the objectives and policies set forth in Section 25-3.1 and area guidelines contained in HRS Section 205A-26;**

The project is in compliance with the objectives and policies set forth in Hawaii Revised Statutes (HRS) 205A-2, and Special Management Area guidelines contained in HRS Section 205A-26. Due to phasing, the development of the Makai Section which involves work proposed within the Shoreline Setback will occur at a later date. This application is prepared to summarize the proposed Mauka Section project impacts in relation to the Special Management Area guidelines in HRS Section 205A-26 and ROH Section 25. Please refer to Section B "Hawaii Coastal Zone Management (CZM) Objectives and Policies" for the project's compliance with the objectives and policies set forth in HRS 205A-2.

- (3) The development is consistent with the County General Plan, Development Plans and Zoning.**

The proposed project is in conformance with the General Plan's objectives and policies for Natural Environment as well as Culture and Recreation:

Natural Environment

Objective B: To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.

Policy 2: Protect Oahu's scenic views, especially those seen from highly developed and heavily traveled areas.

Policy 4: Provide opportunities for recreational and educational use and physical contact with Oahu's natural environment.

Culture and Recreation

Objective D: To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu.

Policy 1: *Develop and maintain community-based parks to meet the needs of the different communities on Oahu.*

Policy 2: Develop and maintain a system of regional parks and specialized recreation facilities.

The Development Plan Land Use Designations of the project area are Park, Agriculture, Commercial and Preservation. The proposed project is in compliance with these Development Plan Land Use Designations. The Zoning designations are P-2 General Preservation, B-1 Neighborhood Business and AG-2 General Agriculture. According to Article 3 of the Land Use Ordinance (LUO), development of P-2, B-1 and AG-2 zoned lands for the proposed public uses and structures are permitted.

(c) The Council shall seek to minimize where reasonable:

- (1) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;**

A wetland assessment of the proposed project was conducted in March 1997, indicated the presence of jurisdictional wetlands on the property (See Appendix B of the project EA). According to the Wetland Analysis, wetland areas on the property commonly consists of small areas of bare earth, as a result of compaction of the soil by livestock. A few of these depressions included wetland plants; however, very limited amounts of wetland hydrology and hydric soils were found.

The Wetlands Analysis delineated the wetlands using the U.S. Army Corps of Engineers (ACOE) 1987 manual. Under Section 404 of the Clean Water Act, discharge of dredged or fill material into waters of the U.S., including wetlands, is under the jurisdiction of the Department of the Army. All plans to alter existing wetlands will be designed and developed according to mitigation agreements with the ACOE in consultation with U.S. Department of Fish and Wildlife Services.

The project will not involve dredging, filling or alteration of the shoreline configuration of Kaneohe Bay or Kahalu'u lagoon. Drainage easements along Kaneohe Bay and Kahalu'u lagoon will be maintained. The project will require filling in order to provide a safe, level ground for sports fields and berms. Waihe'e (Haiamoa) Marsh, approximately 36 acres in size, is located to the northwest of Waihe'e Road. The proposed development is not anticipated to have any adverse impact on Waihe'e (Haiamoa) Marsh.

The proposed project will impact some of the existing wetlands on site due to construction activities, however the project will also include the preservation and enhancement of existing wetlands. In fact, as described in the Wetland Mitigation Plan, the wetlands proposed for enhancement are individually more than twice the size of the wetland acreage proposed for fill. In the long term, the project will overall enhance wetland values such as wildlife habitats, flood control, educational value

and aesthetics. The Wetland Mitigation Plan provides guidelines for the proposed grading and fill of the three small, isolated wetlands.

- (2) Any development which would reduce the size of any beach or other area usable for public recreation;**

The project will increase the usable area for public recreation and provide recreational opportunities for all ages. The existing small community park will be incorporated into the proposed 47-acre regional park thereby increasing the total acreage of public beach and recreation area. The proposed project will also increase the variety of sports and cultural amenities for public utilization.

- (3) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the Special Management Area and the mean high tide line where there is no beach;**

The project will not reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the Special Management Area. Although access to Kaneohe Bay and Kahalu'u lagoon will be restricted during construction, the congestion and access impacts will only short term. Upon completion of construction activities, the access to the beach and shoreline areas will be improved with additional access trails and enhanced recreation areas.

- (4) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast;**

The property is located on the low-lying land adjacent to Kaneohe Bay. The majority of the property consists of flat terrain except a small portion of the land on the southwest portion of the site bordered by Kahalu'u Elementary School, the Kalahiki property and KEY Project.

The project will enhance the landscaping and improve access and aesthetics throughout the area. The architectural and landscaping features will be designed to minimize impacts on the line of sight toward Kaneohe Bay from the highway, as well as from the Bay toward the mountains. The proposed development would retain the open space character of the Kahalu'u area.

- (5) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.**

The project is not anticipated to have adverse impacts on the water quality of Kaneohe Bay. The enhanced wetland areas will improve the existing drainage conditions, and aesthetics as well as wildlife habitats. No adverse impacts are anticipated on surface water or groundwater. Except for short-term disturbance during construction, the project is not anticipated to cause adverse impacts on the area's botanical or wildlife resources. The potential impacts due to construction activities and proposed mitigation measures are described in Sections 2 of the project EA.

5.9 KAHALUU REGIONAL PARK ADVISORY COMMITTEE

The Kahalu'u Regional Park Advisory Committee (KRPAC) was established as a standing committee of the Kahalu'u Neighborhood Board in compliance with 1994 City Council

Resolution 94-188. The Advisory Committee was created as an active community-based planning group to guide government agencies in the planning, designing, and management of Kahalu'u Regional Park.

Kahalu'u Regional Park was originally conceived as the recreational component of the *Kahalu'u Watershed Workplan* project, a combination of flood-control, watershed planning, and recreation development created by a partnership of County, State, and Federal government. The *Watershed Workplan* was developed in response to community concerns following major flood events in the 1960's. The *Watershed Workplan* was also strongly influenced by the community's vision for a major recreational component (park and lagoon) to flood control.

Kahalu'u Regional Park had been planned and designed to accomplish the goals and objectives proposed by the KRPAC. The Advisory Committee developed the following goals and objectives through committee meetings, community workshops, and hearings with the Kahalu'u Neighborhood Board tended by the public.

GOAL: Kahalu'u Regional Park (KRP) will be a community-based park. Establish and operate KRP with the involvement of the community in the planning, implementation, maintenance and management of the park.

- Objectives:
- Establish a permanent KRP Advisory Board, comprised of various user groups and agencies, to facilitate community involvement and facilitate integrated use.
 - Establish space for community-based storage to facilitate community "adopt-a-park" maintenance of KRP and for storage of organized sports equipment.

GOAL: Preserve and enhance the natural features of the area.

- Objectives:
- Preserve and enhance water quality of stream, lagoon and bay.
 - Preserve high quality wetlands for habitat and flood control.
 - Provide opportunities for outdoor education.
 - Provide watershed management.
 - Preserve view planes and major trees.

GOAL: Develop and establish KRP as a community resource for passive and active recreational and cultural activities for all ages.

- Objectives:
- Provide fields, courts and facilities supportive of active recreation.
 - Provide opportunities for passive recreation which may include but is not limited to walking, jogging, hiking and picnicking.
 - Provide access to the bay and the lagoon for water-based activities such as canoeing, kayaking, small boats, crabbing, fishing, radio-controlled boats.
 - Provide opportunities for cultural activities which may include but are not limited to Taro production, canoeing and performing arts.

GOAL: Maintain the feeling of quiet open space free of motorized vehicular traffic while still providing adequate access to facilities and activity areas.

GOAL: Develop and provide safe pedestrian and bike (non-motorized) connections between KRP and other areas of the community.

- Objectives:
- Provide safe passage between mauka and makai sections of the park.
 - Utilize existing public-owned corridors to provide pedestrian/bike access to KRP.
 - Establish corridors connecting KRP to Waihe'e Nature Park.
 - Provide safe pedestrian/bike access from neighborhoods to KRP.

GOAL: Ensure that park structures are consistent with other park goals.

- Objectives:
- Design structures that are architecturally consistent with existing structures.
 - Locate structures to maintain view planes.

GOAL: Provide opportunities for people's open markets.

This project is the result of the City and County of Honolulu to develop a major flood control project along with a regional park to mitigate flooding from the three watersheds in the area (Waihe'e, Kahalu'u and Ahuimanu). Through the diligent efforts of the Kahalu'u community and numerous lawmakers this community-based plan was adopted in Resolution 94-188. This resolution recognizes the Kahalu'u Regional Park Advisory Committee, a standing committee of Kahalu'u Neighborhood Board No. 29, for the community-based master planning of the Kahalu'u Regional Park. This proposed park development will compliment and enhance the rural atmosphere and extensive open space of the area. The project will also relieve some of the demand for playing fields in the Kaneohe Bay area and northern Koolau-poko District.

5.10 KAHALUU NEIGHBORHOOD BOARD

As detailed in *A Planned Community: Steps on the Journey* (1980), the Kahalu'u Neighborhood Board formally adopted a goal to enhance and preserve the community from Kualoa to He'eia. The purpose and intent of the proposed project conforms to the Kahalu'u Neighborhood Board community goal as it is stated below:

"The windward area from Kualoa to He'eia is distinctively rural in character, possesses great scenic beauty and serves as a critical buffer zone at the very edge of Honolulu's urbanization. The goals of the Development Plan shall insure the Kahalu'u (a) remains a community devoted to diversified

agriculture and related activities; (b) preserves its ocean (Kaneohe Bay) and Mountain (Ko'olau Range) beauty and its natural water and land resources; and (c) maintains its essentially rural life-style. All efforts to preserve and develop the community's economic, natural and human resources shall be directed toward the accomplishment of these goals."

The proposed project is a distinctive and integral part of the Kahalu'u community achievements listed in *A Planned Community: Steps on the Journey*. The following are two of the achievements listed among its actions taken since 1969:

- Federal and local government funding for the Kahalu'u Flood control and Recreation Project.
- A proposal for an 85 acre District Park and Community Service Center Complex with the following existing and planned components: Recreation Facilities, Social, Educational, Health, Safety, Emergency and Utility Services and a Village Style Commercial Farmers Market.

SECTION 6 ALTERNATIVES TO THE PROPOSED ACTION

6.1 NO ACTION

The City's intent to develop Kahalu'u Regional Park has been recognized and supported by the residents of Kahalu'u area since the late 1960's. The area is suitable for park development due to the rural atmosphere and extensive open space. Public park development is permitted under the present land use designations. The proposed development would provide increased recreational amenities while retaining the open space character of the Kahalu'u area. Also, the project will provide drainage improvements which will both reduce flood hazards and protect the stream, wetlands and estuary habitats in the vicinity.

The diverse recreational benefits that would be provided by the proposed park figured prominently in the cost-benefit analysis that helped to secure critical Federal funding for the original flood control planning in the *Kahalu'u Watershed Workplan*. The "no action" alternative would prevent the recreational component of that plan from being realized, and thereby undermine the basis for federal funding.

Additionally, the "no action" alternative would retain the majority of the site in its present unmaintained condition. In addition to underutilizing the land regarding existing governmental policies for the district, no action would also fail to:

- provide increased recreational amenities to meet present demands;
- improve the area's flood control capacity and habitat management; and,
- protect the kuleana lands from development encroachment.

6.2 ALTERNATIVE SITE

The proposed site was selected based on the City's intent to set aside flood-prone areas for public parks. No reasonable alternative site is currently available in this watershed area for the City and County of Honolulu to accomplish a similar scale or function of the development. The inundation of coastal development in Kaneohe Bay area and throughout Koolau-poko is such that few scenic opportunities, if any, exist.

**SECTION 7 RELATIONSHIP BETWEEN LOCAL
SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE
MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

No short-term exploitation of resources resulting from the development of the site for a regional park will have long-term adverse consequences. The existing vegetation will be retained as much as practicable. The proposed development will provide various landscape improvements such as botanical garden, community gardens, and wetlands. The proposed botanical garden features native Hawaiian and Polynesian-introduction plants. Community gardens will include taro lo'i and vegetable gardens for community use, coordinated with the City's "Community Garden" program. The wetland areas will be preserved and enhanced to compensate for the wetland areas impacted from this project as well as to improve water quality of the Bay, aesthetics, flood control, and wildlife habitat values.

Once construction activities for support infrastructure are completed there will be no negative short-term effects on air and noise quality, wildlife, or residents of the area.

Long-term gains resulting from the development of the proposed project include provision of a well-balanced community which features of extensive open space, increased recreational amenities, and opportunities for cultural experiences. The project will enhance the use of the land which is now underutilized.

**SECTION 8 IRREVERSIBLE/IRRETRIEVABLE COMMITMENT
OF RESOURCES BY THE PROPOSED ACTION**

Development of the proposed project will involve the irretrievable loss of certain environmental and financial resources. However, the costs associated with the use of these resources should be evaluated in light of recurring benefits through increased recreational amenities which are renewable resources. As well as the wetlands proposed for enhancement are individually more than twice the size of the wetland acreage proposed for fill. The wetlands being enhanced will provide more storage for run-off during storm conditions thereby adding to the recharge of ground water and reducing flooding of adjacent non-wetland areas.

It is anticipated that the construction of the proposed project will commit the necessary construction materials and human resources (in the form of planning, designing, engineering, construction and labor). Reuse for much of these materials and resources is not practicable. Although labor is compensated during the various stages of development, labor expended for project development is non-retrievable.

SECTION 9 DETERMINATION

The potential effects of the proposed project are evaluated based on the significance criteria in section 11-200-12 (Hawaii Administrative Rules, revised in 1996). The following is a summary of the potential effects of the action.

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource:

Development of the project will involve the irrevocable loss of certain environmental resources. However, the area has historically been modified for various agricultural and public works (flood control projects) uses. Also, the costs associated with the use of these resources should be evaluated in light of recurring benefits through increased recreational amenities, cultural experiences, and aesthetics provided by the regional park which are renewable resources. Lastly, the proposed project includes the preservation and enhancement of existing wetlands, the lagoon and the stream.

(2) Curtails the range of beneficial uses of the environment:

The project will not curtail the range of beneficial uses of the environment. The surrounding areas are sparsely developed for single family residential and agriculture uses. The project will improve the current park area and expand it to utilize undeveloped park land as a whole regional park complex, including habitat, agriculture, cultural resources, and additional access to water resources of Kaneohe Bay and watersheds.

(3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS:

The project would be in conformance to the Chapter 344, HRS, State Environmental Policy. It is one of the long-term goals of the project to preserve and enhance the natural features of the area. The project will protect water quality of a high-quality stream (CWRM

1990), lagoon and bay as well as wetlands. In addition to the open space atmosphere, the project also intends to provide opportunities for outdoor recreation and education through various cultural activities.

(4) Substantially affects the economic or social welfare of the community or State:

The proposed "community-based" park development is not anticipated to have significant effects on the area's economic activities. The proposed public park will maintain the open space character of the Kahalu'u area and provide increased recreational amenities, which will enhance the quality of living environment.

(5) Substantially affects public health:

The park will provide a public health benefit by providing space and facilities for athletic activity that is critical to a preventative health approach for island residents. It will also benefit public health by improving the environmental conditions of the parcels proposed for park development. Some of the proposed park lands currently attract a variety of activities, including illegal dumping of non-perishable waste, and motocross and 4-wheel drive use, that compromise environmental and, by extension, public health.

The proposed park project is not anticipated to have adverse effects on public health. Drainage easements and rock, rip-rap stream buffers will be maintained along Kahalu'u Flood Control Lagoon and Waihe'e Stream. The water quality of stream, lagoon and bay will not be negatively affected by the project. In addition, the project will restore and enhance the existing wetlands to improve water quality of the Bay, aesthetics, flood control, and wildlife habitat values.

(6) Involves substantial secondary impacts, such as population changes or effects on public facilities:

The proposed park development is not anticipated to result in substantial secondary impacts, such as population changes or effects on public facilities. The proposed public park will provide additional recreational amenities, which will relieve demands for other park facilities in the area.

(7) Involves a substantial degradation of environmental quality:

The proposed project is not anticipated to involve a substantial degradation of environmental quality. The area has historically been altered by intensive agricultural use. The agricultural landscape has, in turn, been degraded by extensive public works dredging at this site. The proposed plan will set aside a flood prone area for a public park that protects of the water quality of the Bay, maintains the open space character of the area, and improves aesthetics.

As described the proposed project will include the grading, cover and fill of three, isolated wetlands areas and enhance three existing wetlands. However, each of the wetlands proposed for enhancement are individually more than twice the size of the wetland acreage proposed for fill. The wetlands being enhanced will provide more storage for run-off during storm conditions thereby adding to the recharge of ground water and reducing flooding of adjacent non-wetland areas.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions:

The proposed project is being developed in accordance with the State Plan and the State Functional Plan for Recreation as well as community-based plans (Kaneohe Bay Master Plan and others). The proposed facility is a component of the State's commitment to assure the preservation and maintenance of recreational amenities within the community.

The Kahalu'u Regional Park is proposed as a regional park to meet existing and future needs within and beyond the Kahalu'u community. It will not result in cumulative effects upon the environment nor will it involve a commitment for larger actions.

(9) Substantially affects a rare, threatened, or endangered species, or its habitat:

The proposed project is not anticipated to have substantial effects on rare, threatened, or endangered species, or their habitats. Since most of the site has historically been modified for agricultural uses, it is not likely to significantly impact any rare, threatened, or endangered species. The proposed park will preserve and restore wetlands, streams, and estuarine areas to maintain wildlife habitats for future generations.

(10) Detrimentially affects air or water quality or ambient noise levels:

The proposed regional park is not anticipated to cause significant adverse effects on the area's long-term air or water quality or ambient noise levels.

(11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters:

The proposed park is situated in a flood-prone plain. Areas planned for active use, including the official playing fields described in Phase 1, will be constructed on lands that have been lifted above the flood plain. The multi-use fields adjacent to Waihe'e Stream will remain at their current grade within the flood plain to serve as flood ways. Existing floodway areas will be preserved, and buffer planting will be provided along the edge of the floodway areas for additional erosion protection and screening. Wetland enhancement will provide additional flood control benefits. It is the major objective of this project to set aside flood-prone areas for public parks. The project will improve the area's flood control and safety.

(12) Substantially affects scenic vistas and view planes identified in county or states plans or studies:

The proposed public park will not significantly affect the area's visual resources. One of the project goals is to maintain the open space character of the area. Landscaping will be designed in such ways to enhance the area's visual resources.

(13) Requires substantial energy consumption:

The proposed regional park is not anticipated to result in substantial energy consumption. Construction activities associated with the proposed project would require average daily energy use, and operations of the proposed facility would not result in a substantial burden to the available power supply. Hawaiian Electric Company has adequate lines available to serve this project. The proposal will be designed to maximize the natural daylight and tradewinds of the area by using roofing styles and building surfaces that improve radiant and/or insulation with minimal intrusion on the surrounding area. The design will include exceeding the requirements stated in the State of Hawaii Model Energy Code for installing qualifying energy efficient technologies.

In accordance with the provision set forth in Chapter 343, Hawaii Revised Statutes, this Final Environmental Assessment has determined that the project will not have significant adverse impacts to water quality, air quality, existing utilities, noise, cultural resources, land use, wildlife habitat, or community well-being. Based on this assessment, the City and County of Honolulu, Department of Design and Construction has determined that an Environmental Impact Statement (EIS) is not required and that a Finding of No Significant Impact (FONSI) be issued for this project.

SECTION 10 NECESSARY PERMITS AND APPROVALS

Development of the entire Kahaluu Regional park will require obtaining various Federal, State and County permits, however, due to phasing of the project these approvals and permits will be obtained incrementally. Since the Makai Section of the proposed regional park will be developed at a later date, the permits and approvals specifically detailing the development of the Makai Section will be obtained later. The following is a comprehensive list of permits and approvals required for the development of the entire Regional Park.

10.1 FEDERAL

- Department of Army (DOA) Permit, Section 404

10.2 STATE

- Department of Health, Water Quality Certification (per DOA Permit)
- Coastal Zone Management Approval (as determined by Army Permit 404)
- Department of Health, NPDES General Permit and Notice of Intent
- Department of Health, NPDES Individual Permit (permit requirement contingent on Park Operations)

10.3 CITY AND COUNTY

- Department of Planning and Permitting, Special Management Area Use Permit
- Department of Planning and Permitting, Shoreline Setback Variance (Makai Section only)
- Grading Permit
- Building Permit

**SECTION 11 CONSULTED AGENCIES AND PARTICIPANTS IN THE
PREPARATION OF THE ENVIRONMENTAL ASSESSMENT**

11.1 FEDERAL AGENCIES

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Services

11.2 STATE AGENCIES

Department of Land and Natural Resources
 Historic Preservation Division
 Forestry and Wildlife Division
Department of Health

11.3 CITY & COUNTY OF HONOLULU

Department of Environmental Services
Department of Design and Construction
Department of Planning and Permitting

11.4 GROUPS AND INDIVIDUALS CONTACTED

Kahalu'u Neighborhood Board #29 / KRPAC
KEY Project / Community Development Program Administration
Wilson Okamoto & Associates, Inc

REFERENCES

- A Planned Community: Steps on the Journey; Kualoa to Heeia Community Initiatives, Kahalu'u Neighborhood Board No. 29, City and County of Honolulu, July 1980.
- An Archaeological Reconnaissance at Waihe'e, Ko'olau Piko, O'ahu, Hawaii*, Archaeological Consultants of Hawaii, 1981.
- Atlas of Hawaii, Second Edition*. Department of Geography, University of Hawaii, 1983.
- Coastal View Study*, Michael S. Chu and Robert B. Jones, 1987, City & County of Honolulu, Department of Land Utilization.
- Environmental Assessment for the Kahalu'u Flood Control Lagoon and Outlet Channel Maintenance Dredging Project, Kahalu'u Oahu, Hawaii*, Engineering Surveyors, Hawaii, Environmental Communications, Inc. January 1992.
- Hawaii Stream Assessment, A Preliminary Appraisal of Hawaii's Stream Resources, Report R84*, State of Hawaii, Commission on Water Resources Management, in cooperation with The National Parks Service, December 1990.
- Index of Oahu Parks and Facilities*, City and County of Honolulu, Department of Parks and Recreation, April 1997.
- Kahalu'u - Mauka A Report on 700 Acres of Mauka Land In Kahalu'u Presently Designated for Agricultural Use on the Kahalu'u - Kualoa DLUM*, City and County of Honolulu, Planning Department, September 1971.
- Kahalu'u Watershed Workplan*, U.S. Department of Agriculture, Soil Conservation Service, 1968.
- Kahalu'u Watershed City and County of Honolulu Final Environmental Impact Statement*, United States Department of Agriculture, April 1975.
- Kaneohe Bay Master Plan*, prepared by the Kaneohe Bay Master Plan Task Force for the Office of State Planning, State of Hawaii, May 1992.
- Negative Declaration for Land Acquisition to Expand Kahalu'u Regional Park and Construction of Site Improvements, Koolaupoko, Oahu*, City and County of Honolulu, Department of Parks and Recreation, July 1988.

Report on the Potential Rehabilitation and Management of the Waihe'e Wetland, United States Department of Fish and Wildlife Service, December, 1994.

Revised Environmental Impact Statement for the Proposed Kahalu'u Industrial Project Development, Gray, Hong & Associates, Inc., January 1982.

Sequent Occupance in Waihe'e Valley, Oahu, Paul M. P. Chun, Graduate Thesis, University of Hawaii, August 1954.

Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, United States Department of Agriculture, Natural Resources Conservation Service in cooperation with the University of Hawaii Agricultural Experiment Station, August 1972.

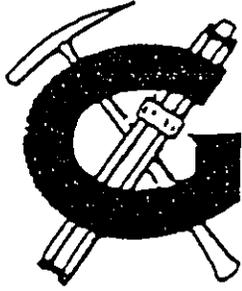
The State of Hawaii Data Book 1995-1996; A Statistical Abstract. Department of Business, Economic Development and Tourism, State of Hawaii, 1996.

State Recreation Functional Plan Technical Reference Document, State of Hawaii, Department of Land and Natural Resources, December 1990.

World of Aloha, Inc., Kahalu'u, Kaneohe Bay, Oahu, Hawaii, Environmental Assessment for Special Management Area (SMA) Use Permit Application, Environmental Consultant, June 1997.

Appendix A

Geotechnical Evaluation and Material Testing



C.W. ASSOCIATES, INC. dba
G E O L A B S - H A W A I I
Geotechnical Engineering, Geology and Environmental Services

March 21, 1997
W.O. 3742-00

Mr. Lester H. Inouye
Lester H. Inouye & Associates, Inc.
1200 College Walk, Suite 115
Honolulu, HI 96817-3947

Dear Mr. Inouye:

**PRELIMINARY GEOTECHNICAL EVALUATION AND MATERIAL TESTING
PROPOSED KAHALUU REGIONAL PARK
KAHALUU, OAHU, HAWAII**

In accordance with our proposal dated February 18th, we have performed geotechnical engineering services and material testing for the proposed Kahaluu Regional Park in Kahaluu on the island of Oahu, Hawaii. This letter report summarizes the findings from our field exploration and laboratory testing and presents our geotechnical engineering recommendations derived from our analyses of the proposed project. These recommendations are intended for design input only and are subject to the limitations noted at the end of this letter report.

PROJECT CONSIDERATIONS

The project site is located at the corner of Kamehameha Highway and Waihee Road in Kahaluu, adjacent to Kahaluu Community Park, on the island of Oahu, Hawaii. The general location and vicinity of the project site are shown on the Project Location Map, Plate 1. The project site covers an area of approximately 5.7 acres. It is bounded by Kamehameha Highway and Waihee Road to the north and west, respectively, and by wetlands to the south and east. The project site is adjacent to the mouth of Kahaluu Stream. At present, the site is being used as a stockpile area for dredged soils from the adjacent stream. Based on the information provided, we understand that it is proposed to construct a regional park consisting of two or more soccer and/or baseball fields as part of a future park system which may include driveways, a parking lot and a comfort station. It is also our understanding that the dredged soils are to be used totally or in a soil mixture to construct the ball fields and should support plant growth.

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Based on the existing topography and information provided, we understand that fills on the order of up to about 3 feet will be required to attain the design finished grades for the proposed construction. Our previous experience in the area suggests that the project site may be underlain by earlier dredged fills over alluvium or saprolite. Special attention was given to the engineering properties of the dredged soils; and the thickness, moisture content, and anticipated settlements of the near-surface soils along with the effects from the proposed fills.

PURPOSE AND SCOPE

The purpose of our geotechnical engineering services and materials testing for the subject project was to obtain information pertaining to the physical properties of the dredged soils and subsurface conditions at the project site. Results of the materials analysis and subsurface information were used to formulate a summary of the soil conditions and recommendations for potential fill materials for the design of the ball fields and site grading. The work was performed in general accordance with our fee proposal dated February 18, 1997. Our scope of work included the following tasks and work efforts:

1. Coordination of the field exploration including a field reconnaissance survey, materials sampling, and logging of test pits by a Field Engineer from our firm.
2. Laboratory testing of selected samples obtained during the field exploration as an aid in classifying the materials encountered and evaluating their engineering properties.
3. Laboratory testing of selected fill materials to evaluate their engineering properties.
4. Coordination with an agronomist to evaluate the vegetation growth potential of selected materials.
5. Analyses of the field and laboratory data to develop geotechnical design recommendations pertinent to the proposed ball fields and site grading.
6. Preparation of this report summarizing our work on the project and presenting our findings and geotechnical engineering recommendations.
7. Coordination of our work on the project by an Engineer of our firm.

8. Quality assurance of our overall work on the project and client/design team consultation by a Principal Engineer of our firm.
9. Miscellaneous work efforts, such as drafting, word processing, clerical support, and reproductions.

SUBSURFACE CONDITIONS

Our field exploration program consisted of the excavation of two test pits, designated as Test Pit Nos. 1 and 2, to depths ranging from about 7 to 7.5 feet below the existing ground surface. The approximate locations of the test pits are shown on the Site Plan, Plate 2.

In general, our field exploration encountered a surficial layer of previously dredged soils consisting of soft to stiff silty clays extending to depths of approximately 3 to 3.5 feet below the existing ground surface followed by a layer of stiff to very stiff silty clay. This was generally underlain by alluvial deposits of stiff to very stiff silty clays extending to the maximum depth explored of 7.5 feet below the existing ground surface.

Groundwater was encountered in both test pits at depths ranging from about 7 to 7.5 feet below the existing ground surface. It should be noted that groundwater levels are subject to change due to seasonal precipitation, and other factors.

Detailed descriptions of the materials encountered in our field exploration are presented on the Logs of Test Pits, Plate 3. Laboratory testing was performed on selected samples obtained and the test results are summarized on Plate 4 and presented on Plates 5 through 11.

DISCUSSION AND RECOMMENDATIONS

Based on information provided and our field exploration at the subject site, we understand that the site has been previously filled with dredged soils from the adjacent Kahaluu Stream. Our field exploration at the subject site generally encountered near-surface soft to stiff silty clay soils (previously dredged soils) extending to depths of approximately 3 to 3.5 feet below the existing ground surface. Based on the relatively soft subsoil conditions encountered in our test pits, it is our opinion that new fills would induce some ground settlements as a result of consolidation of the underlying relatively soft soils. Therefore, we recommend that new fills be limited to 2 feet in height to reduce the amount of areal settlement. It is our opinion that the ball fields may be constructed with the dredged soils, provided that the subgrade and fill materials are prepared in accordance with the recommendations presented in the "Site Grading" section of this report; however, some ground settlement should be expected.

The history and extent of previous fills of dredged soils from the adjacent Kahaluu Stream at the subject site is generally unknown. Based on this uncertainty and the relatively soft near-surface soil conditions encountered during our test pit excavation, we recommend that for any future improvements proposed, especially structures such as a comfort station, a separate subsurface exploration be performed to evaluate anticipated ground settlements and make recommendations accordingly.

Our laboratory test results indicate that the dredged soils may be used as on-site fill material. However, laboratory tests show that the moisture content of the soil is considerably greater than optimum. Therefore, special attention should be given to the "Site Grading" section of this report.

According to the agronomist, Dr. J. Lee Ingamells, based on laboratory results, he believes that the dredged soils are suitable for plant growth. Tests showed the dredged soils appeared to behave like a typical agricultural soil. If the dredged soils were to be used as a topsoil, he believes that cracking would not appear to be a problem physically. At the time this report was prepared, Bermuda grass was being grown successfully in the soil. However, Dr. Ingamells believes the optimum moisture content for plant growth should be in the 20 to 30 percent range for proper drainage. If the moisture content is in the 30 to 40 percent range, he believes that ponding of water could occur and adequate drainage would be compromised. Therefore, we believe the top 6 inches of fill may be dried to a moisture content of about 30 percent or less prior to placement.

Detailed discussion and recommendations are presented in the following sections of this report.

Site Grading

Final grading plans were not available at the time this report was prepared. However, we anticipate that site grading will consist of fills on the order of 2 feet or less relative to the existing ground surface to provide a level ground for the ball fields, and fills on the order of 2 to 5 feet for berms around the perimeter of the ball fields for aesthetic purposes. We assume the on-site dredged soils will be used as fill material. Items of grading that are addressed in the following subsections include the following: (1) Site Preparation; (2) Fill Materials; and (3) Fill Slopes.

Site grading operations should be observed by a representative of Geolabs-Hawaii. It is important that a representative of our office observe the site grading operations to evaluate whether undesirable materials are encountered during the site grading, and whether the exposed soil/rock conditions are similar to those encountered in our exploration.

Site Preparation

Currently the project site is being used as a stockpile area for dredged soils from the adjacent stream. At the on-set of earthwork, the area within the contract grading limits should be thoroughly cleared and grubbed. Stockpiled dredged soils should be relocated on-site outside the contract grading limits. All vegetation, debris, rubbish and other unsuitable materials should be removed and disposed of properly off-site. Soft and yielding areas encountered during clearing and grubbing below any areas designated to receive fill should be dried and reworked or over-excavated to expose firm natural material and the resulting excavation should be backfilled with well-compacted engineered fill. The excavated soft and/or organic soils should be properly disposed of off-site.

After clearing and grubbing, all areas at grade or to receive fill should be moisture-conditioned to between 2 and 10 percent above the optimum moisture content, and recompacted to a minimum of 85 percent relative compaction. Where shrinkage cracks are noted after compaction of the subgrade, we recommend that the soil be thoroughly moistened to close all cracks. Saturation and subsequent yielding of the exposed subgrade due to inclement weather and poor drainage may require over-excavation of the soft areas and replacement with well-compacted engineered fill. Contract documents should include additive and deductive unit prices for over-excavation and engineered fill placement to account for variations in the over-excavation quantities.

Fill Materials

The on-site dredged soils may be used as a source of fill material provided that no lumps or fragments are greater than 6 inches in largest dimension. Due to the high moisture of the dredged soils, we envision that the dredged soils will require drying prior to use as compacted fill material. To obtain the proper moisture condition, the dredged soils will have to be processed and aerated.

All fills should be moisture-conditioned to between 2 to 10 percent above the optimum moisture content, placed in level lifts not exceeding 8 inches in loose thickness, and compacted to a minimum of 85 percent relative compaction. Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same soil determined in accordance with ASTM Test Designation D 1557-91. Optimum moisture is the water content (percentage by dry weight) corresponding to the maximum dry density.

If imported fill materials are required, the imported fill material should consist of fine-grained, low expansive materials less than 3 inches in maximum dimension. The material should have a laboratory California Bearing Ratio (CBR) value of 6 or more and should have a maximum swell of 1 percent or less when tested in

accordance with ASTM Test Designation D 1883. Imported fill materials should be tested by Geolabs-Hawaii for conformance with our recommendations prior to delivery to the project site for its intended use. Imported materials should be brought to above the optimum moisture content, placed in level lifts not exceeding 10 inches in loose thickness, and compacted to a minimum of 85 percent relative compaction.

Fill Slopes

Based on the laboratory test results of the dredged soils, fill slopes should be designed with an inclination of two and one-half horizontal to one vertical (2.5H:1V) or flatter for the proposed perimeter berms. The filling operations should start at the lowest point and continue up in level horizontal compacted layers in accordance with the above recommendations for fill placement. Fill slopes should be constructed by over-filling past the design limits of the slope and cutting back to the design slope to provide adequate compaction at the edges of the slope. The finished fill slopes should consist of a smooth surface for plant growth.

Pavements

We anticipate that driveways and parking areas may be planned for future expansions of the Kahaluu Regional Park. Therefore, we recommend the following flexible pavement design as a preliminary design assuming the pavement subgrade soil will be similar to the silty clay soils encountered in our test pits. We also have assumed that the vehicle loading for this project will consist primarily of passenger vehicles and light pick-up trucks. Based on the above assumptions, we recommend that the following pavement section be used for preliminary design purposes:

Asphaltic Concrete Pavement

2.0-Inch Asphalt Concrete
6.0-Inch Basalt Base Course (90 percent relative compaction)
6.0-Inch Basalt Subbase Course (90 percent relative compaction)
14.0-Inch Total Pavement Thickness on a Compacted Subgrade

The pavement subgrade soils should be compacted to not less than 90 percent relative compaction within 12 inches below the finish subgrade. The base course should consist of crushed basalt aggregate compacted to between 90 to 95 percent relative compaction.

Laboratory CBR tests should be performed on samples of the actual subgrade soils encountered during construction to confirm the above recommended design section. The recommended pavement section assumes that good drainage will be provided for areas adjacent to the pavements.

Paved areas should be sloped and drainage gradients maintained to carry all surface water off the site. Surface water ponding should not be allowed anywhere on the site during or after construction. Where concrete curbs are used to isolate landscaping in or adjacent to the pavement areas, we recommend that the curbs extend a minimum of 2 inches into the subgrade below the aggregate base course to reduce migration of landscape water into the pavement section. Alternatively, a subdrain system could be constructed to collect excessive water from landscaping irrigation. For long-term performance, we recommend a subdrain system be constructed adjacent to paved/landscape areas.

Drainage

The finished grades of the ball fields should be sloped to shed water away from the playing area to reduce the potential for ponding. Excessive landscape watering of the ball fields should also be avoided. These drainage requirements are essential for the proper performance of the above site grading recommendations since ponded water could cause subsurface soil saturation and subsequent loss of strength. Drainage swales could be constructed to drain all surface run-off away from the ball fields.

Design Review

Preliminary and final drawings and specifications for the proposed new regional park should be forwarded to Geolabs-Hawaii for review and written comments prior to advertisement for bidding. This review is necessary to evaluate conformance with the intent of the earthwork recommendations provided herein. If this review is not made, Geolabs-Hawaii cannot be responsible for misinterpretation of our recommendations.

Construction Monitoring

It is recommended that Geolabs-Hawaii be retained to provide geotechnical engineering services during the construction of the proposed Kahaluu Regional Park. The items of construction monitoring that are critical requiring "Special Inspection" include observation of subgrade preparation, fill placement and compaction. Other aspects of earthwork construction should also be observed by a representative from Geolabs-Hawaii. This is to observe compliance with the design concepts, specifications, or recommendations and to expedite suggestions for design changes that may be required in the event that subsurface conditions differ from those anticipated at the time this report was prepared. The recommendations provided in this report are contingent upon such

Lester H. Inouye & Associates, Inc.
W.O. 3742-00
March 21, 1997

observations. If actual exposed subsurface conditions encountered during construction are different from those assumed or considered in this report, then appropriate modifications to the design should be made.

LIMITATIONS

The analyses and recommendations submitted in this report are based, in part, upon information obtained from field test pits and laboratory results. Variations of subsoil conditions between the test pits may occur, and the nature and extent of these variations may not become evident until construction is underway. If variations then appear evident, it will be necessary to reevaluate the recommendations provided in this report.

The locations of the test pits indicated in this report are approximate, having been estimated by sighting from the property lines shown on the Topographic Plan given to our field engineer by Lester H. Inouye on February 13, 1997. The physical locations of the test pits should be considered accurate only to the degree implied by the method used.

The depths shown on the test pit logs depict the approximate boundaries between soil types and, as such, may denote a gradual transition. Water level data from the test pits were measured at the time of excavation. These data have been reviewed and interpretations made in the formulation of this report. However, it must be noted that fluctuation may occur due to variation in rainfall, tides, temperature and other factors.

This report has been prepared for the exclusive use of Lester H. Inouye & Associates, Inc. and their consultants for specific application to the proposed Kahaluu Regional Park in accordance with generally accepted geotechnical engineering principles and practices. No warranty is expressed or implied.

This report has been prepared solely for the purpose of assisting the architect/engineer in the preliminary design evaluation of the proposed project. Therefore, this report may not contain sufficient data, or the proper information, to serve as the basis for preparation of construction cost estimates. A contractor wishing to bid on this project is urged to retain a competent geotechnical engineer to assist in the interpretation of this report and/or in the performance of additional site-specific exploration for bid estimating purposes.

The Owner/Client should be aware that unanticipated soil conditions are commonly encountered. Unforeseen soil conditions, such as perched groundwater, soft deposits, hard layers or loose fills, may occur in localized areas and may require additional probing or corrections in the field (which may result in construction delays) to attain a properly constructed project. Therefore, a sufficient contingency fund is recommended to accommodate these possible extra costs.

GEOLABS-HAWAII

Lester H. Inouye & Associates, Inc.
W.O. 3742-00
March 21, 1997

Page 9

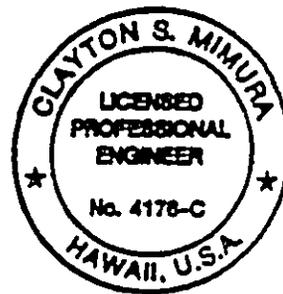
Closure

We appreciate the opportunity to be of service to you on this project. If you have questions or need additional information, please contact our office.

Respectfully submitted,

C.W. ASSOCIATES, INC.
dba GEOLABS-HAWAII

By *Maureen T. Lee*
Maureen T. Lee, P.E.
Staff Engineer



By *Clayton S. Mimura*
Clayton S. Mimura, P.E.
President

THIS WORK WAS PREPARED BY ME OR UNDER
MY SUPERVISION.

CSM:MTL:as

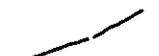
Attachments: Project Location Map (Plate 1)
Site Plan (Plate 2)
Logs of Test Pits (Plate 3)
Laboratory Test Result (Plates 4 thru 11)

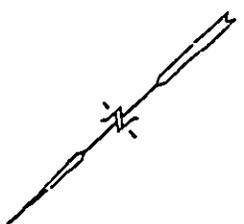
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GEOLABS-HAWAII

LEGEND:

 APPROXIMATE TEST PIT LOCATION

 KAHALUU STREAM

 KAHALUU MULTI-PURPOSE CHANNEL

WETLANDS

WETLANDS

APPROXIMATE BOUNDARY OF PROJECT SITE

KAMEHAMEHA HIGHWAY

WAIHEE ROAD

APPROXIMATE BOUNDARY OF PROJECT SITE

TP-2

TP-1

REFERENCE: TOPOGRAPHIC PLAN PROVIDED TO OUR FIELD ENGINEER BY LESTER H. INOUE ON FEB. 13, 1997.



50 0 50 100 150

GRAPHIC SCALE IN FEET



GEOLABS-HAWAII
Foundation & Soil Engineering • Geology

DATE
MARCH 1997

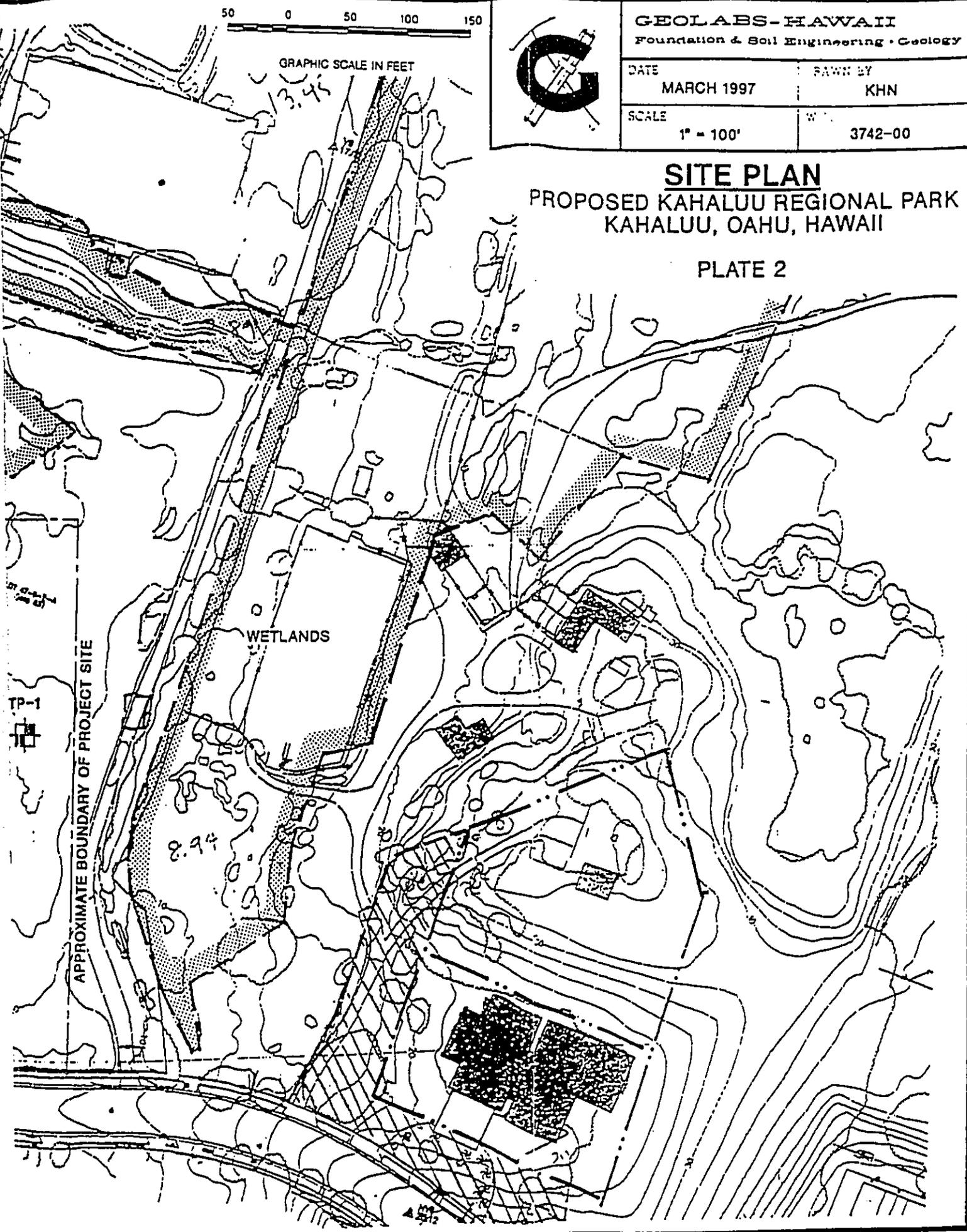
DRAWN BY
KHN

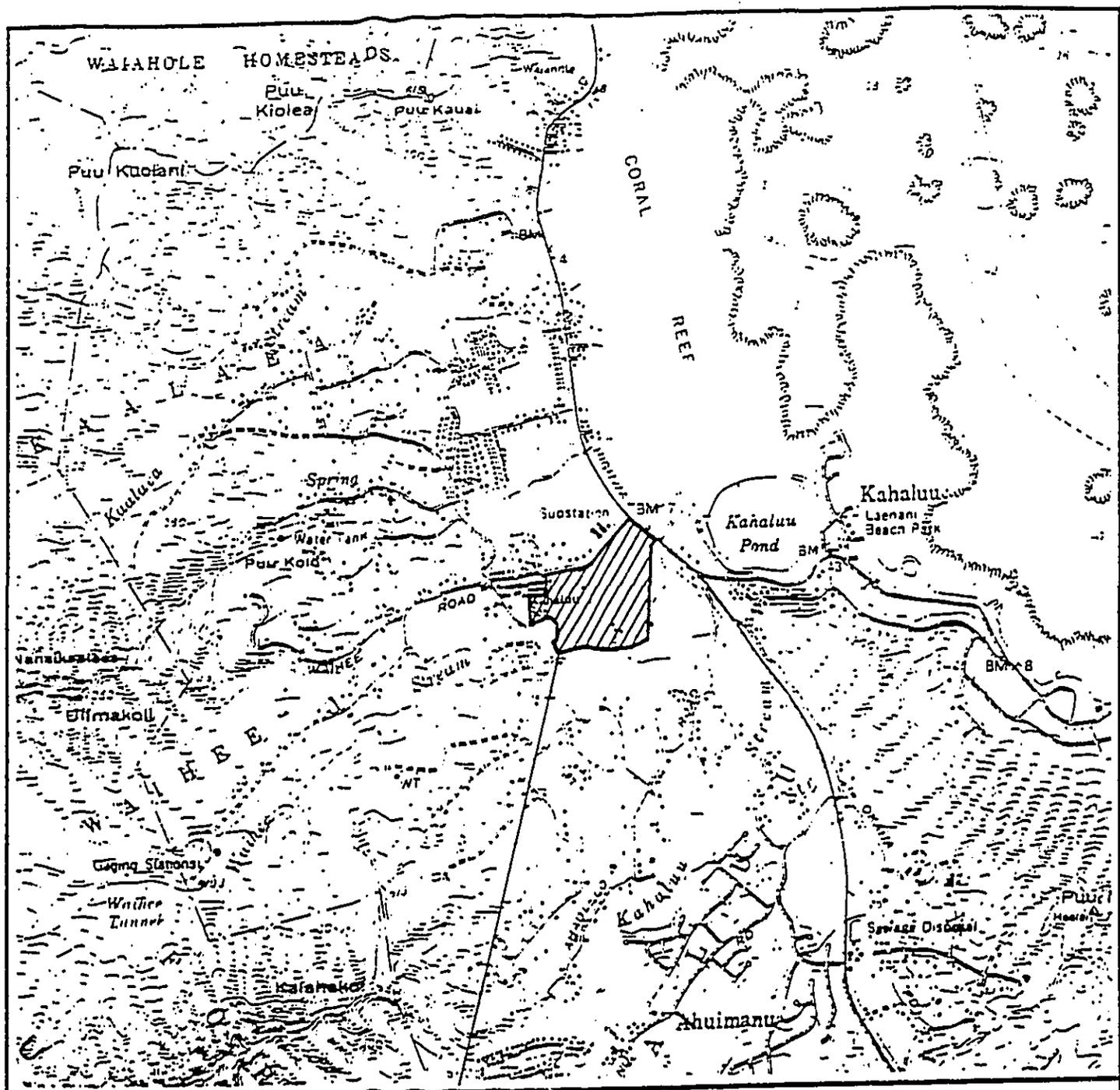
SCALE
1" = 100'

W.P.
3742-00

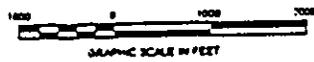
SITE PLAN
PROPOSED KAHALUU REGIONAL PARK
KAHALUU, OAHU, HAWAII

PLATE 2





GENERAL PROJECT LOCATION >>>



REFERENCE: U.S.G.S. QUADRANGLE MAP; KANEHOE, OAHU, HAWAII (1983)

PROJECT LOCATION MAP
PROPOSED KAHALUU REGIONAL PARK
KAHALUU, OAHU, HAWAII

PLATE 1



GEOLABS - HAWAII	
Foundation & Soil Engineering-Geology	
DATE	MARCH 1997
SCALE	1" = 2,000'
DRAWN BY	KHN
W.O.	3742-00

LOGS OF TEST PITS

Proposed Kahaluu Regional Park
Kahaluu, Oahu, Hawaii

<u>Test Pit No.</u>	<u>Depth Below Surface (feet)</u>	<u>Moisture Content (%)</u>	<u>Description</u>
TP-1	0 - 3.5	45.5	Dark brown and gray SILTY CLAY (CH) , stiff, damp to moist. (previously dredged soils) PP @ 1.0' \cong 0.5-1.0 tsf, PP @ 2.0' \cong 1.0 tsf.
	3.5 - 4.5	42.0	Reddish brown mottled SILTY CLAY (CH) , very stiff, moist.
	4.5 - 7.5	30.9	Dark gray and reddish brown SANDY CLAY (CH) with GRAVEL , stiff, moist to wet. (Alluvium) Test pit terminated at 7.5 feet on February 15, 1997. Groundwater encountered at 7.0 feet. Fairly easy excavation.
TP-2	0 - 3.0	34.7	Dark brown and gray SILTY CLAY (CH) with GRAVEL , soft, damp to moist. (previously dredged soils) PP < 0.5 tsf.
	3.0 - 3.5		Dark gray and reddish brown SILTY CLAY (CH) , stiff, damp to moist. (Alluvium)
	3.5 - 4.0	12.8	Grades with highly weathered GRAVEL , and very stiff. PP \cong 3.0 tsf.
	4.0 - 5.0	45.6	Reddish brown SILTY CLAY (CH) , very stiff, moist. PP \cong 3.0 tsf. (Alluvium)
	5.0 - 7.0	14.7	Grades with highly weathered GRAVEL . Medium difficult excavation. Test pit terminated at 7.0 feet on February 15, 1997. Groundwater encountered at 7.0 feet.

PP = Pocket Penetrometer
tsf = tons per square foot

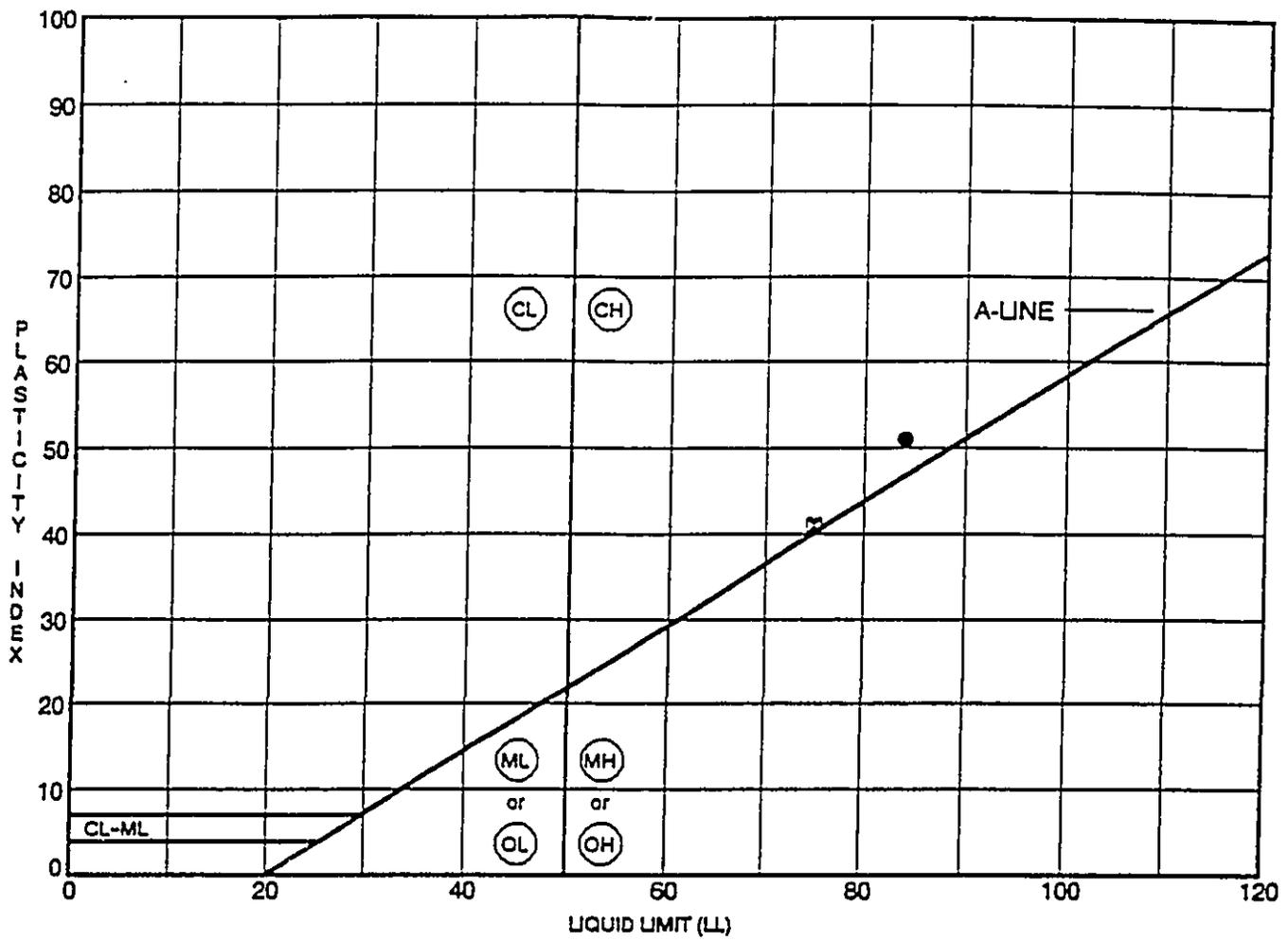
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**Summary of Laboratory Test Results
Proposed Kahaluu Regional Park
Kahaluu, Oahu, Hawaii**

Sample	Depth (ft)	Moisture Content (%)	Atterberg Limits			Particle-Size Analysis			Proctor		CBR					
			LL (%)	PL (%)	PI (%)	Gravel (%)	Sand (%)	Silt/Clay (%)	MDD (pcf)	OMC (%)	Molding Moisture (%)	Molding Dry Densit (pcf)	CBR Pen. @ 0.1 in	Swell (%)		
TP-1	2.0	45.4														
	4.0	42.0														
	6.5	30.9														
TP-2	2.0	34.7														
	3.5 - 4.0	12.8														
	4.0 - 4.5	45.6	R4	33	51		6	24	70	90	30.5					
	6.0	14.7														
ND	Surface	63.9														
		67.6											28.5	90	14	2.8
OD	Surface	40.7	75	34	41		11	36	53	94	28.5		40.4	80	2	0.0
		34.4								92	29.5					

Notes: ND = Dredged soil stockpiled approximately 3 days
 OD = Dredged soil stockpiled approximately 3 weeks
 MDD = Maximum dry density
 OMC = Optimum moisture content

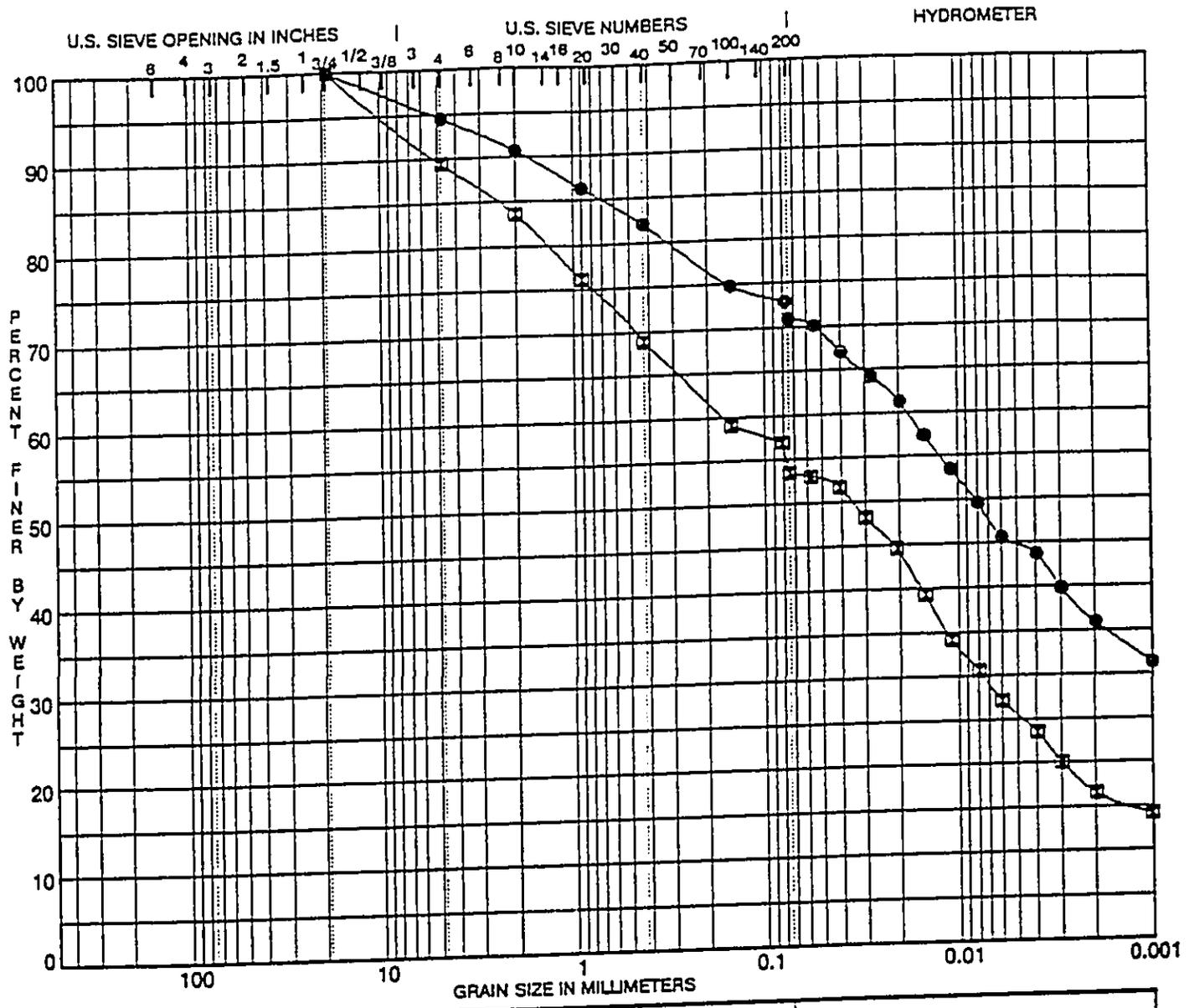
For the Proctor Test of sample OD, the first test indicated was performed dry to wet. The second test was performed wet to dry.

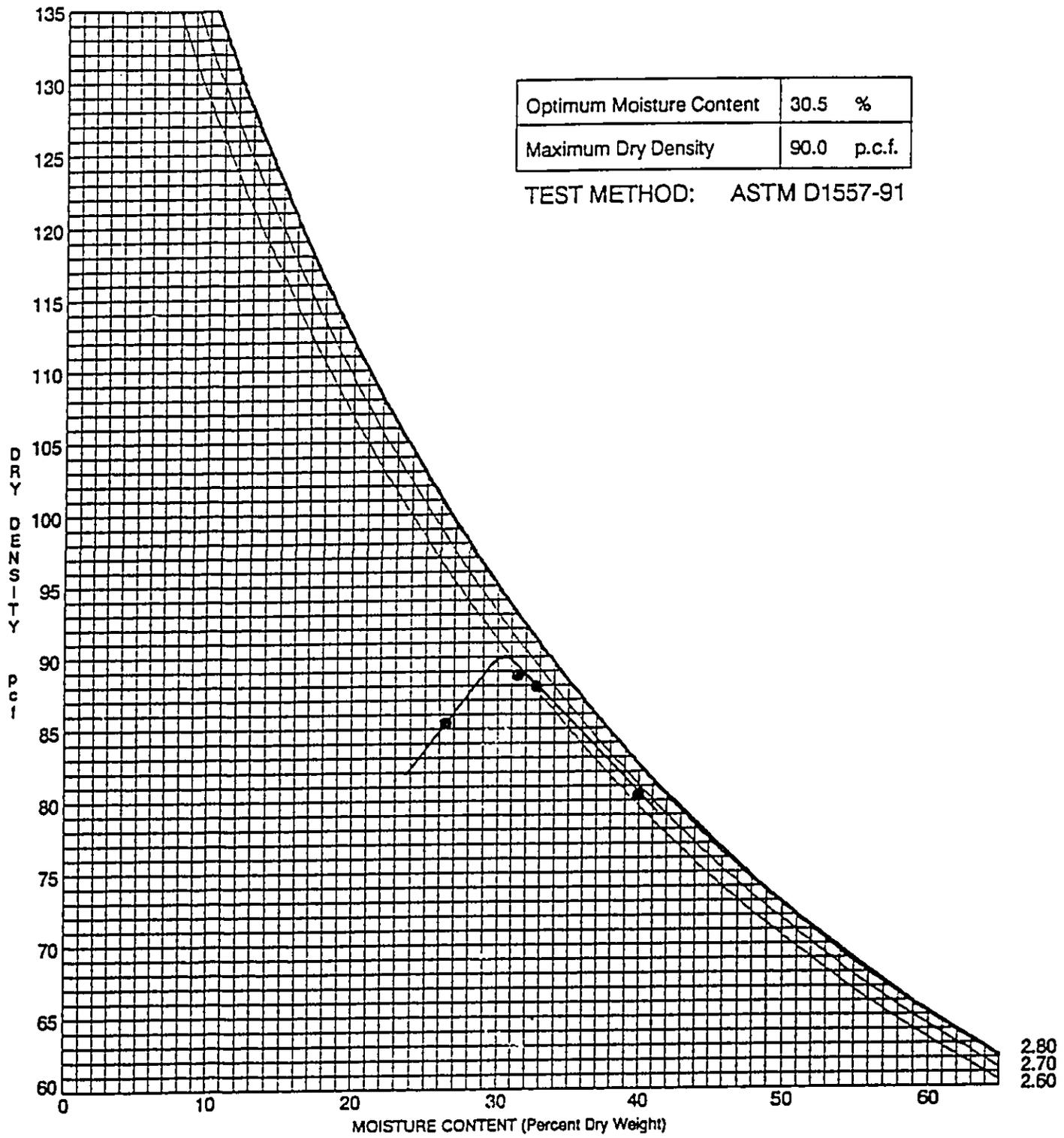


	Location	Depth (feet)	Description	LL	PL	PI
●	TP - 2	4.0 - 4.5	Reddish brown SILTY CLAY (CH)	84	33	51
■	OD	Surface	Dark brown and gray SILTY CLAY (CH)	75	34	41

PROJECT:
 PROPOSED KAHALUU REGIONAL PARK
 KAHALUU, OAHU, HAWAII

ATTERBERG LIMITS SUMMARY	
C.W. ASSOCIATES, Inc. dba Geolabs-Hawaii	
DATE Feb 97	W.O. 3742-00

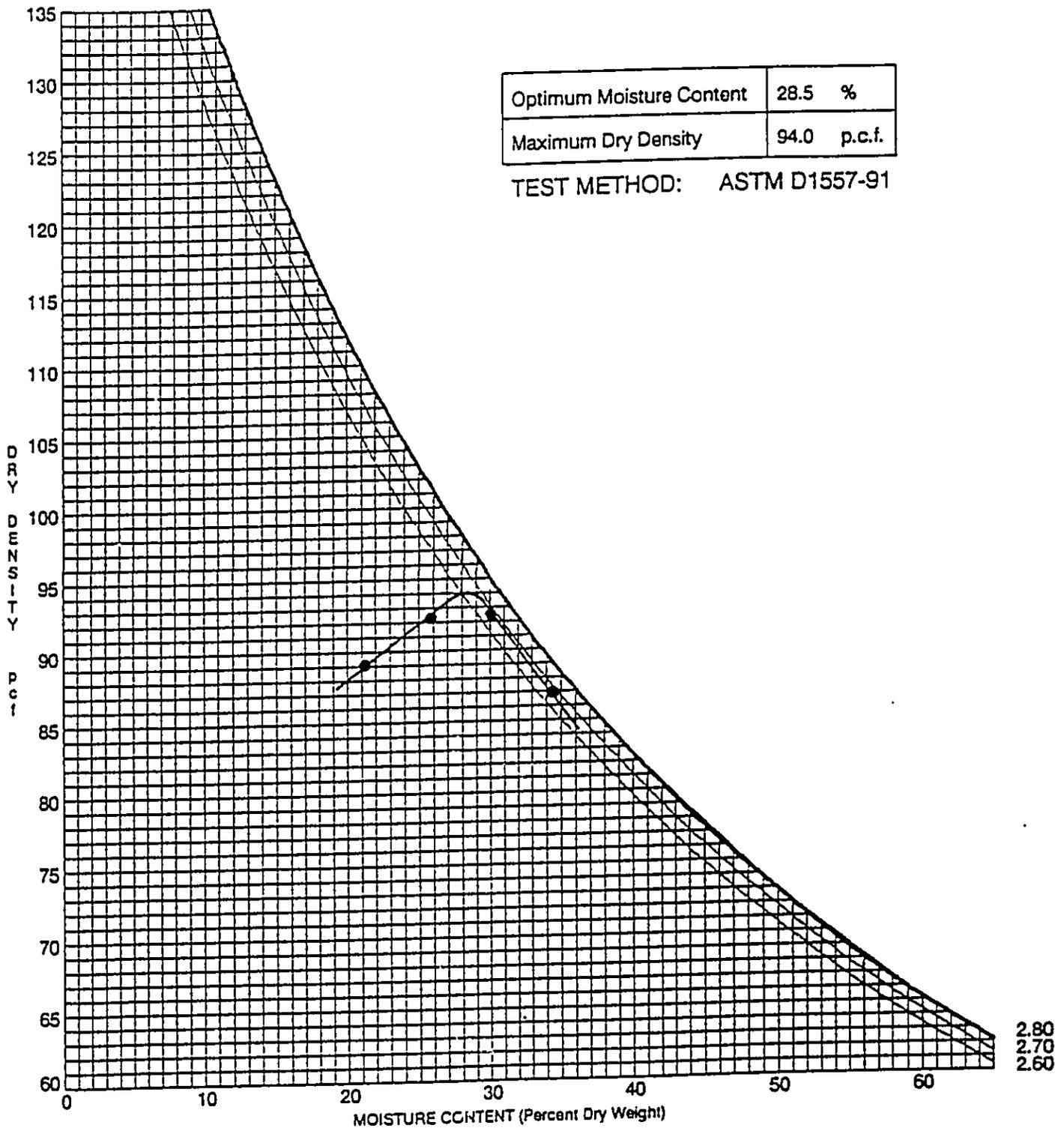




LOCATION: TP - 2
 DEPTH (FEET): 4.0 - 4.5
 DESCRIPTION: Reddish brown SILTY CLAY (CH)

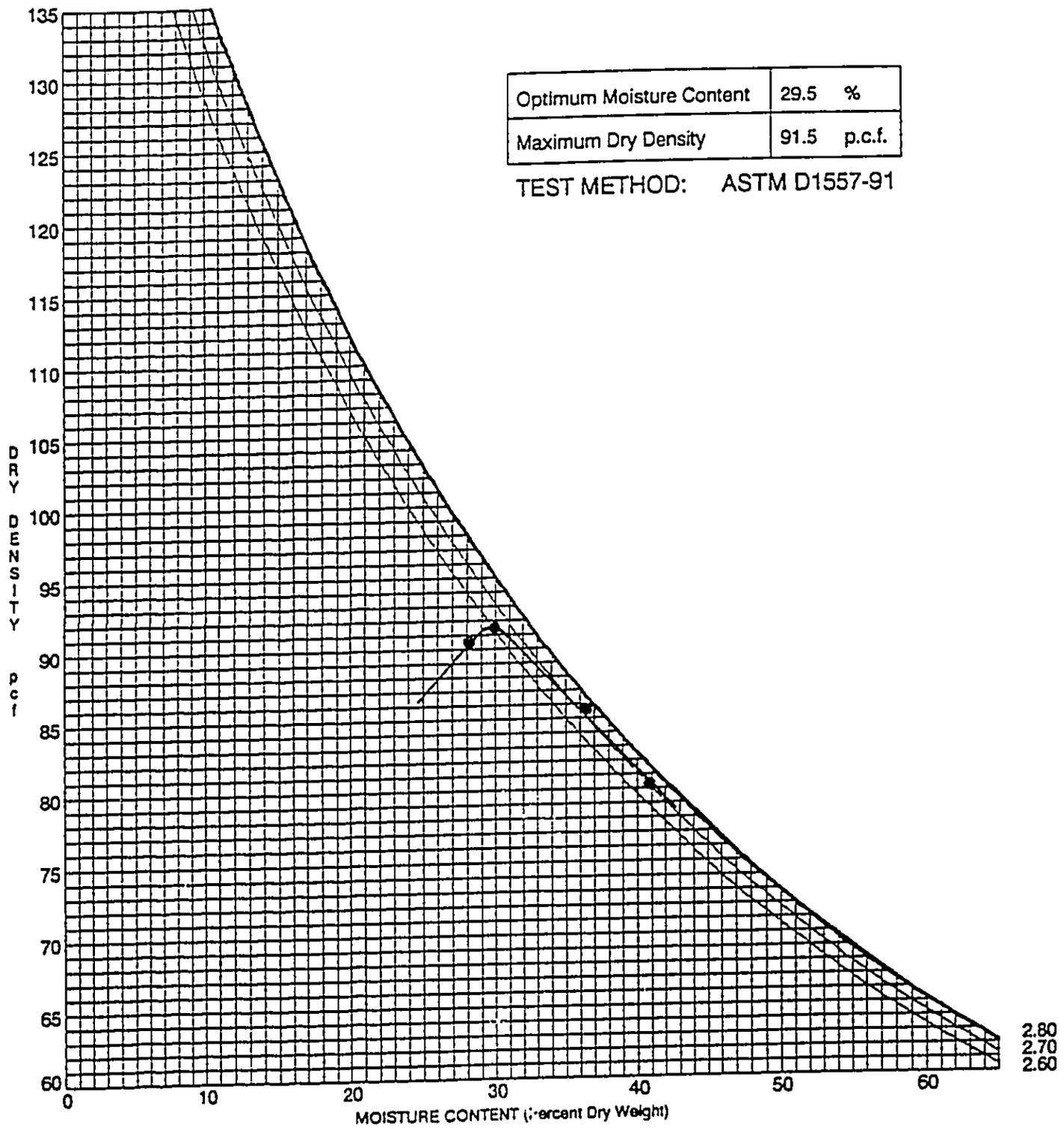
PROJECT:
 PROPOSED KAHALUU REGIONAL PARK
 KAHALUU, OAHU, HAWAII

MOISTURE - DENSITY RELATIONSHIP	
C.W. ASSOCIATES, Inc. dba Geolabs-Hawaii	
DATE Feb 97	W.O. 3742-00



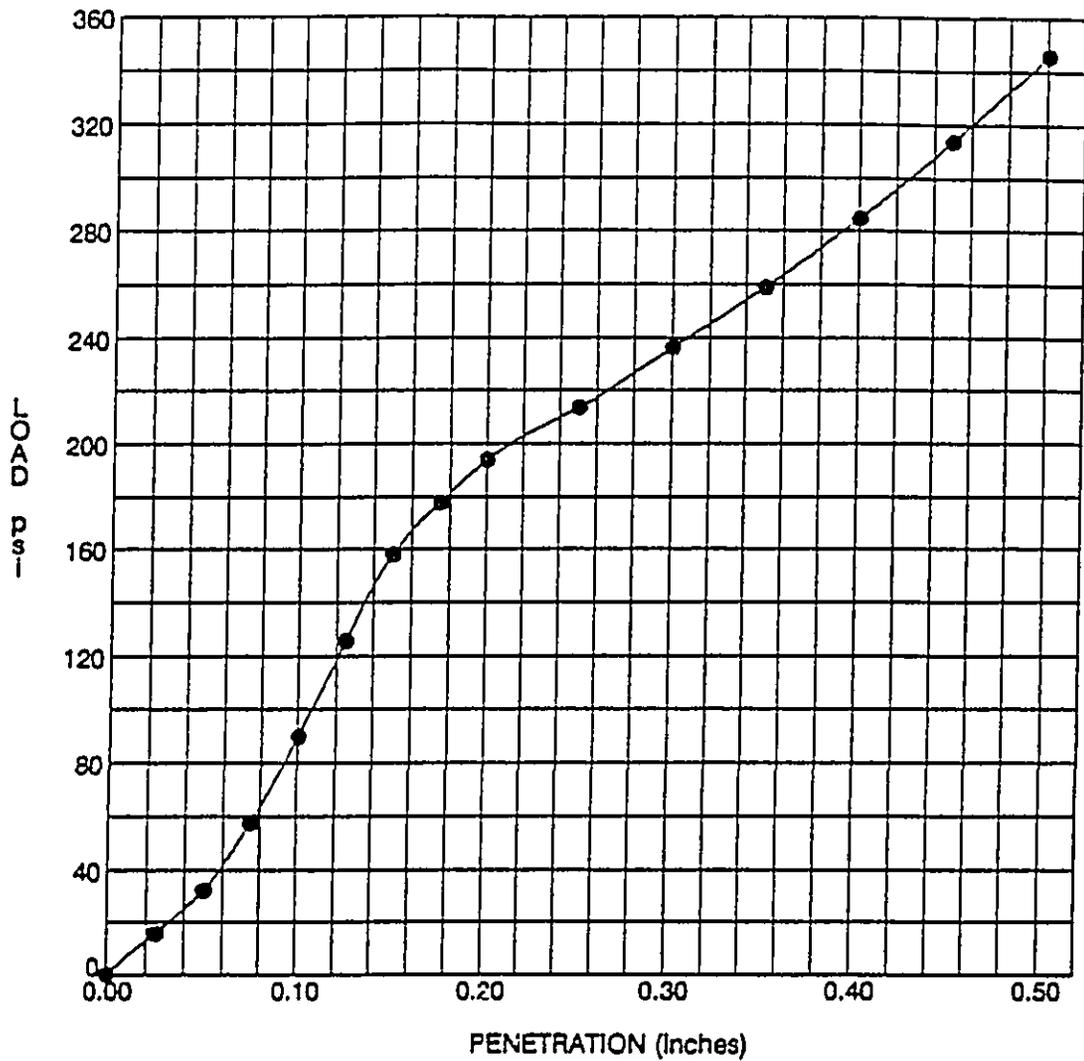
LOCATION: OD
 DEPTH (FEET): Surface
 DESCRIPTION: Dark brown and gray SILTY CLAY (CH)
 PROJECT:
 PROPOSED KAHALUU REGIONAL PARK
 KAHALUU, OAHU, HAWAII

MOISTURE - DENSITY RELATIONSHIP	
C.W. ASSOCIATES, Inc. dba Geolabs-Hawaii	
DATE Feb 97	W.O. 3742-00



LOCATION: OD
 DEPTH (FEET): Surface
 DESCRIPTION: Dark brown and gray SILTY CLAY (CH)

PROJECT:
 PROPOSED KAHALUU REGIONAL PARK
 KAHALUU, OAHU, HAWAII



LOCATION: ND
DEPTH (FEET): Surface
DESCRIPTION: Dark brown and gray SILTY CLAY (CH) w/gravel

AGGREGATE 3/4 inch minus
HAMMER WT. 10 lbs.
HAMMER DROP 18 inches
NO. OF BLOWS 56
NO. OF LAYERS 5

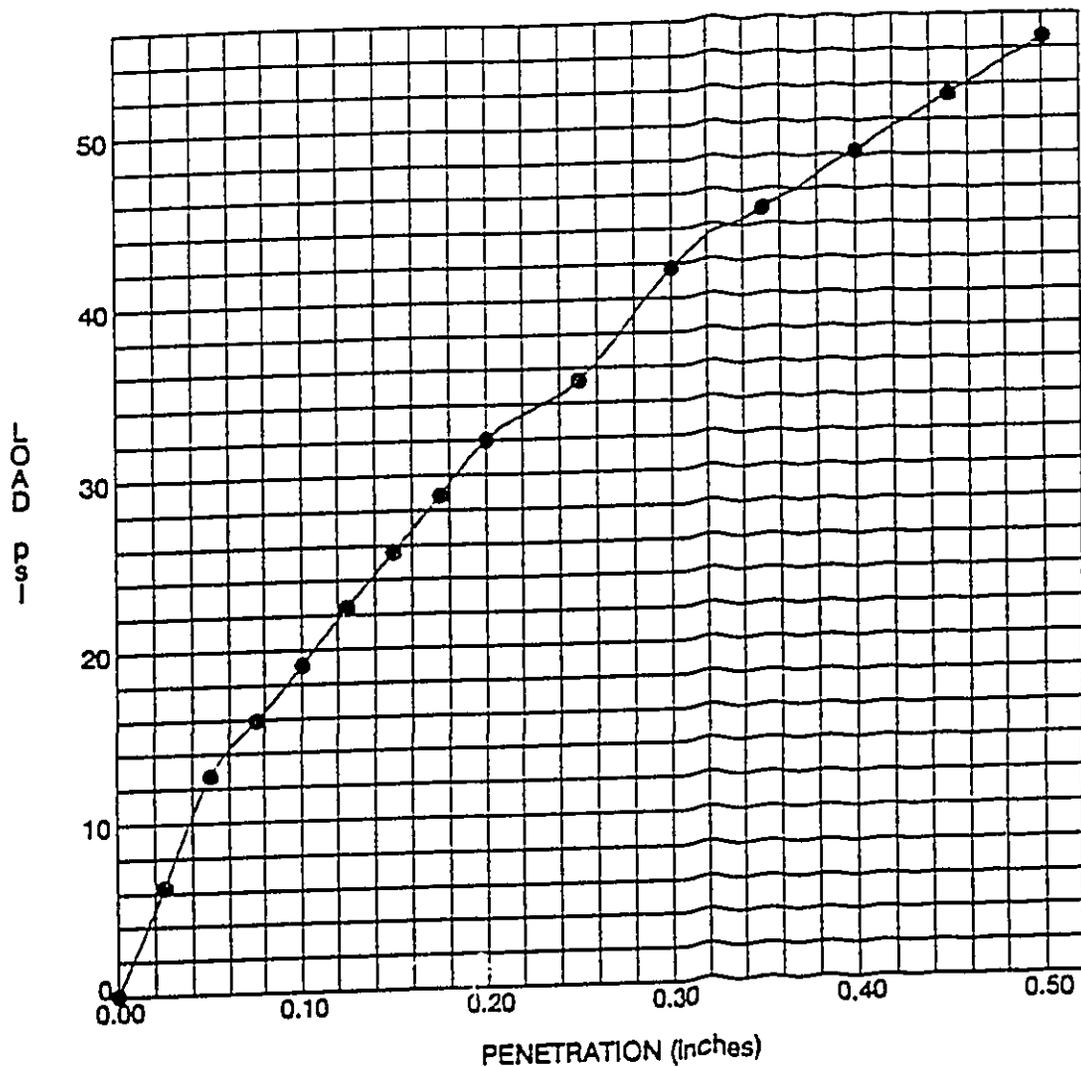
MOLDING MOISTURE (%): 28.5
MOLDING DRY DENSITY (p.c.f.): 90.4
CBR @ 0.1" PENETRATION: 14.0
DAYS SOAKED: 4
SWELL (%): 2.80

CORRECTED CBR @ 0.1"
PENETRATION: $140 \times 100/1000 = 14.0$

PROJECT:
PROPOSED KAHALUU REGIONAL PARK
KAHALUU, OAHU, HAWAII

CBR TEST	
C.W. ASSOCIATES, Inc. dba Geolabs-Hawaii	
DATE Feb 97	W.O. 3742-00

PLATE 10



LOCATION: ND
DEPTH (FEET): Surface
DESCRIPTION: Dark brown and gray SILTY CLAY (CH) w/gravel

AGGREGATE 3/4 Inch minus
HAMMER WT. 10 lbs.
HAMMER DROP 18 inches
NO. OF BLOWS 56
NO. OF LAYERS 5

MOLDING MOISTURE (%): 40.4
MOLDING DRY DENSITY (p.c.f.): 79.6
CBR @ 0.1" PENETRATION: 2.0
DAYS SOAKED: 1
SWELL (%): 0.00

CORRECTED CBR @ 0.1"
PENETRATION: 20 x 100/1000 = 2.0

PROJECT:
PROPOSED KAHALUU REGIONAL PARK
KAHALUU, OAHU, HAWAII

CBR TEST	
C.W. ASSOCIATES, Inc. dba Geolabs-Hawaii	
DATE Mar 97	W.O. 3742-00

Appendix B

Wetland Analysis

CHAR & ASSOCIATES

Botanical/Environmental Consultants

4471 Puu Panini Ave.
Honolulu, Hawaii 96816
(808) 734-7828

27 October 1993

Mr. Robert Watari
Engineers Surveyors Hawai'i, Inc.
Suite No. 1, Building No. 6
1020 Aushi Street
Honolulu, Hawai'i 96814

SUBJECT: Wetlands Delineation
Fong Property

Dear Mr. Watari:

A wetlands delineation survey was made for the Fong property on 01 and 02 October 1993. A walk-through of the entire site was made since we did not have a recent, detailed topographic map of the site to pin-point low-lying areas. We found that the majority of the property is elevated and well-drained. The property was filled sometime back in the early 1970's.

Several soil test pits were made in low-lying areas (see data forms attached). From our detailed survey, five wetland areas were identified; the boundaries were flagged and staked.

Wetland "A" -- This is found on the corner of Waihe'e Road and Kamehameha Highway. It is well defined by the topography. The person who oversees the Fong property (he lives in the bus parked on the property) told us that water from the wetland across the street, on the HECO property, flows through wetland "A" during heavy rains.

Wetlands "B" and "C" -- These have been tentatively identified as wetlands. I have some doubts that they are wetlands. When the COE representative conducts the site visit, we can go over the criteria for these two sites.

Wetland "D" -- This wetland is found near the drainage ditch. It is well-defined by the topography and presence of seashore paspalum (Paspalum vaginatum), a facultative wet indicator plant. The vegetation, hydrology, and hydric soils are clear cut at this site.

8:02

FAX NO. 808 528 4767

DOB
FEB-11-87 TUE 10:43

R. Watari

27 October 1993

page 2

Wetland "E" -- This is the drainage ditch which runs through the property. There were pools of standing water in the ditch. We did not conduct any soil test pits for the ditch, but suspect it to be similar to test pit 6.

Please do not hesitate to call me should you have any questions regarding our findings.

Sincerely,



Winona P. Char

enclosures: data forms

P. 03

FAX NO. 808 523 4767

DEC 8
FEB-11-97 TUE 10:44

TEST PIT #1 -- NOT WETLAND

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹

(Low spot)

Field Investigator(s): CHAR & ASSOCIATES Date: 01 Oct. 1993
 Project/Site: Fong property State: _____ County: _____
 Applicant/Owner: _____ Plant Community s/Name: Mixed grass pasture land
 Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
 Yes No _____ (If no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (If yes, explain on back)

VEGETATION

	Dominant Plant Species		Indicator	Stratum	Dominant Plant Species		Indicator	Stratum
	1-4	5-9	Status		11-14	15-19	Status	
abundant	1. <u>Thuja indica</u>		<u>FAC+</u>	<u>shrub</u>	11. _____			
	2. <u>Cynodon dactylon</u>		<u>FACU</u>	<u>grass</u>	12. _____			
	3. <u>Brachiaria mutica</u>		<u>FACW</u>	<u>grass</u>	13. _____			
	4. <u>Populus conjugatum</u>		<u>FAC+</u>	<u>grass</u>	14. _____			
occasional	5. <u>Ayresia polystachya</u>		<u>FAC+</u>	<u>grass</u>	15. _____			
	6. <u>Desmanthus virgatus</u>		<u>FACU+</u>	<u>herb</u>	16. _____			
	7. <u>Flaveria tinctoria</u>		<u>NL</u>	<u>herb</u>	17. _____			
	8. <u>Mimosa pudica</u>		<u>FACU</u>	<u>herb</u>	18. _____			
	9. <u>Leucaena leucocephala</u>		<u>Alb</u>	<u>shrub</u>	19. _____			
10. <u>Scorpa nana</u>		<u>OB</u>	<u>herb</u>	20. _____				

Percent of dominant species that are OBL, FACW, and/or FAC > 50%
 Is the hydrophytic vegetation criterion met? Yes No _____ but questionable.
 Rationale: Success pasture periodically maintained - shrubs & trees removed to promote grass. Many NL & FACU spp. invading general area.

SOILS

Series/phase: Fill - from dredge material? Subgroup: _____
 Is the soil on the hydric soils list? Yes _____ No _____ Undetermined
 Is the soil a Histosol? Yes _____ No _____ Histoc epipedon present? Yes _____ No _____
 Is the soil Mottled? Yes No _____ Gleyed? Yes _____ No
 Matrix Color: dk. brown to very dk. brown Mottle Colors: Weak red-brown
 Other hydric soil indicators: _____
 Is the hydric soil criterion met? Yes _____ No
 Rationale: Note: Stony soil - difficulty digging pit. If mottling present then weak or ok.

HYDROLOGY

Is the ground surface inundated? Yes _____ No Surface water depth: _____
 Is the soil saturated? Yes _____ No
 Depth to free-standing water in pit/soil probe hole: _____
 List other field evidence of surface inundation or soil saturation: _____
 Is the wetland hydrology criterion met? Yes _____ No
 Rationale: No free water in test pit; soil moist (forms loose ball which falls apart), soil friable at bottom of pit (2') & well-drained.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No
 Rationale for jurisdictional decision: Soils & hydrology do not support decision. Veg. is yes but suspect if left in natural condition, then non wetland, woody plants will dominate.
¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² Classification according to "Soil Taxonomy."

TEST PIT # 2 -- NOT WETLAND

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹

Field Investigator(s): CHAR & ASSOCIATES Date: 01 Oct. 1993
 Project/Site: Fog property State: _____ County: _____
 Applicant/Owner: _____ Plant Community #/Name: Mixed grass pastureland
 Note: if a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
 Yes No _____ (if no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (if yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator	
				Status	Stratum
1. <u>Sida rhombifolia</u>	<u>FACU</u>	<u>herb</u>	11. _____	_____	_____
2. <u>Paspalum conjugatum</u>	<u>FAC+</u>	<u>grass</u>	12. _____	_____	_____
3. <u>Indigofera suffruticosa</u>	<u>SL</u>	<u>shrub</u>	13. _____	_____	_____
4. <u>Verbena littoralis</u>	<u>NL</u>	<u>herb</u>	14. _____	_____	_____
5. <u>Ipomoea triloba</u>	<u>NL</u>	<u>vine</u>	15. _____	_____	_____
6. <u>Cyperus lactylon</u>	<u>FACU</u>	<u>grass</u>	16. _____	_____	_____
7. <u>Pluchea symbolifolia</u>	<u>FAC+</u>	<u>shrub</u>	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 20%
 Is the hydrophytic vegetation criterion met? Yes _____ No
 Rationale: Non-wetland indicator spp. dominate.

SOILS

Series/phase: Fill - dredge material (?) Subgroup:² _____
 Is the soil on the hydric soils list? Yes _____ No _____ Undetermined
 Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
 Is the soil Mottled? Yes No _____ Gleyed? Yes _____ No
 Matrix Color: dk. brown Mottle Colors: weak red-brown
 Other hydric soil indicators: _____
 Is the hydric soil criterion met? Yes _____ No
 Rationale: some slight mottling but well-drained; old mottles

HYDROLOGY

Is the ground surface inundated? Yes _____ No Surface water depth: _____
 Is the soil saturated? Yes _____ No
 Depth to free-standing water in pt/soil probe hole: _____
 List other field evidence of surface inundation or soil saturation: _____
 Is the wetland hydrology criterion met? Yes _____ No
 Rationale: No free-water in pt; soil well-drained -- friable, loose at bottom of pit.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No
 Rationale for jurisdictional decision: Does not meet 3 criteria.

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² Classification according to "Soil Taxonomy."

TEST PIT #5 -- NOT WETLAND

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹

Field Investigator(s): CHAR & ASSOCIATES Date: 01 Oct. 1993
 Project/Site: Long property State: _____ County: _____
 Applicant/Owner: _____ Plant Community #/Name: mixed grass pastureland
 Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
 Yes No _____ (If no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator		Dominant Plant Species	Indicator	
		Status	Stratum		Status	Stratum
Abun.	1. <u>Paspalum vaginatum</u>	<u>FACW</u>	<u>grass</u>	11. _____	_____	_____
	2. <u>Eleusine indica</u>	<u>FACT</u>	<u>shrub</u>	12. _____	_____	_____
Common	3. <u>Paspalum conjugatum</u>	<u>FACT</u>	<u>grass</u>	13. _____	_____	_____
	4. <u>Phalaris leucostachya</u>	<u>All</u>	<u>herb</u>	14. _____	_____	_____
	5. <u>Phalaris debilis</u>	<u>All</u>	<u>herb</u>	15. _____	_____	_____
occ.	6. <u>Pycnos nuchitarsis</u>	<u>FACT</u>	<u>grass</u>	16. _____	_____	_____
	7. <u>Indigofera suffruticosa</u>	<u>All</u>	<u>shrub</u>	17. _____	_____	_____
nearcom	8. <u>Delphinium album</u>	<u>PACW</u>	<u>herb</u>	18. _____	_____	_____
	9. _____	_____	_____	19. _____	_____	_____
	10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC > 50%
 Is the hydrophytic vegetation criterion met? Yes No _____
 Rationale: Note: All species which indicate no drier conditions

SOILS

Series/phase: All -- dredge material (?) Subgroup: _____
 Is the soil on the hydric soils list? Yes _____ No _____ Undetermined
 Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
 Is the soil mottled? Yes No _____ Gleyed? Yes _____ No
 Matrix Color: dk brown Mottle Colors: 7.5 YR 5/6 - weak
 Other hydric soil indicators: _____
 Is the hydric soil criterion met? Yes _____ No
 Rationale: Soils stony (with stones larger than at test pit 2). Weak mottles -- old?

HYDROLOGY

Is the ground surface inundated? Yes _____ No Surface water depth: _____
 Is the soil saturated? Yes _____ No
 Depth to free-standing water in pt/soil probe hole: _____
 List other field evidence of surface inundation or soil saturation: _____

Is the wetland hydrology criterion met? Yes _____ No
 Rationale: Eniable, well-drained; somewhat more clayey but only damp at 2 ft.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No
 Rationale for jurisdictional decision: Soil criteria weak; hydrology absent.

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² Classification according to "Soil Taxonomy."

TEST PIT #3 - WETLAND "D"

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹

Field Investigator(s): CHAR & ASSOCIATES Date: 02 Oct. 1993
 Project/Site: Long property State: _____ County: _____
 Applicant/Owner: _____ Plant Community #/Name: _____
 Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
 Yes No _____ (if no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (if yes, explain on back)

VEGETATION

Abund. -
Uncommon -

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. <u>Aspidum vaginatum</u>	<u>FACU+</u>	<u>grass</u>	11. _____	_____	_____
2. <u>Veronica littoralis</u>	<u>Alc</u>	<u>herb</u>	12. _____	_____	_____
3. <u>Sida rhomboidalis</u>	<u>FACU</u>	<u>herb</u>	13. _____	_____	_____
4. <u>Zizania alba</u>	<u>FACU</u>	<u>herb</u>	14. _____	_____	_____
5. <u>Aspidum conjugatum</u>	<u>FAC+</u>	<u>grass</u>	15. _____	_____	_____
6. <u>Cyperus pectinatus</u>	<u>FAC+</u>	<u>grass</u>	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 99%
 Is the hydrophytic vegetation criterion met? Yes No _____
 Rationale: SP 6 Wetland indicator spp.

SOILS

Series/phase: Fill (?) (Could be original material) Subgroup: _____
 Is the soil on the hydric soils list? Yes _____ No _____ Undetermined
 Is the soil a Histosol? Yes No _____ Histosol epipedon present? Yes _____ No _____
 Is the soil Mottled? Yes _____ No _____ Gleyed? Yes No _____
 Matrix Color: (See below) Mottle Colors: _____
 Other hydric soil indicators: _____
 Is the hydric soil criterion met? Yes No _____ Interesting hydric soil colors & texture.
 Rationale: Upper layer soil is loose, blocky clumps of dark reddish-brown material, lower layer is gray-brown gleyed material. No smells.

HYDROLOGY

Is the ground surface inundated? Yes _____ No Surface water depth: _____
 Is the soil saturated? Yes No _____
 Depth to free-standing water in pit/soil probe hole: 2 inches
 List other field evidence of surface inundation or soil saturation:
Mineral crust on soil surface; soil damp at surface
 Is the wetland hydrology criterion met? Yes No _____
 Rationale: depth to free-standing water

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No _____
 Rationale for jurisdictional decision: All three criteria present.

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² Classification according to "Soil Taxonomy."

TEST PIT #4 -- "WETLAND" C
Questionable wetland

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹

Field Investigator(s): CHAR & ASSOCIATES
 Project/Site: Boya property State: _____ Date: 01 Oct. 1993
 Applicant/Owner: _____ Plant Community #/Name: _____ County: Mixed grass pasture land

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.
 Do normal environmental conditions exist at the plant community?
 Yes No _____ (If no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (If yes, explain on back)

VEGETATION

Abun.	Dominant Plant Species	Indicator Status	Stratum	Indicator	
				Status	Stratum
Common	1. <u>Cynodon dactylon</u>	<u>FACU</u>	<u>grass</u>	11.	
	2. <u>Brachiaria rubicoma</u>	<u>FACU</u>	<u>grass</u>	12.	
occ	3. <u>Sida rhomb. folia</u>	<u>FACU</u>	<u>herb</u>	13.	
	4. <u>Phaseolus latifolius</u>	<u>AL</u>	<u>herb</u>	14.	
	5. <u>Paspalum conjugatum</u>	<u>FACU</u>	<u>grass</u>	15.	
	6. _____			16.	
	7. _____			17.	
	8. _____			18.	
	9. _____			19.	
	10. _____			20.	

Percent of dominant species that are OBL, FACW, and/or FAC ± 50%
 Is the hydrophytic vegetation criterion met? Yes _____ No
 Rationale: Cynodon dactylon lowest lying spots.

SOILS

Series/phase: Fill-?
 Is the soil on the hydric soils list? Yes _____ No _____ Subgroup: 2
 Is the soil a Histosol? Yes _____ No _____ Undetermined
 Is the soil: Mottled? Yes No _____ Histic epipedon present? Yes _____ No _____
 Matrix Color: dark brown Gleyed? Yes _____ No
 Other hydric soil indicators: _____ Mottle Colors: 2, 4, 8; value between 4-5; chroma below 2
 Is the hydric soil criterion met? Yes _____ No
 Rationale: This doesn't look like normal mottle -- appears to be a layer of red-colored hardpan at bottom of test pit

HYDROLOGY

Is the ground surface inundated? Yes _____ No Surface water depth: _____
 Is the soil saturated? Yes No _____
 Depth to free-standing water in pit/soil probe hole: _____
 List other field evidence of surface inundation or soil saturation:
Elementary green algae (Gladiphora sp.) present on soil surface
 Is the wetland hydrology criterion met? Yes _____ No
 Rationale: few standing water on 25 Sept. 1993

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No check with COE representative - "C" + "B"
 Rationale for jurisdictional decision: Questionable wetland, but I would say No, because 1) Veg. weak FACU abundant 2) no free-water in pit 3) are these mottles??
 1 This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure. hmm?
 2 Classification according to "Soil Taxonomy."

TEST PIT #6 -- WETLAND "D"

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD¹

Field Investigator(s): CHAR & ASSOCIATES Date: 02 Oct. 1993
 Project/Site: FONG PROPERTY State: _____ County: _____
 Applicant/Owner: _____ Plant Community #/Name: Scaevola patulum pasture
 Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
 Yes No _____ (If no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (If yes, explain on back)

VEGETATION

	Dominant Plant Species	Indicator		Dominant Plant Species	Indicator	
		Status	Stratum		Status	Stratum
Abun.	1. <u>Paspalum vaginatum</u>	<u>FACW</u>	<u>ore 3</u>	11. _____	_____	_____
Uncom.	2. <u>Heliotropium curassavicum</u>	<u>FAC</u>	<u>herb</u>	12. _____	_____	_____
	3. _____	_____	_____	13. _____	_____	_____
	4. _____	_____	_____	14. _____	_____	_____
	5. _____	_____	_____	15. _____	_____	_____
	6. _____	_____	_____	16. _____	_____	_____
	7. _____	_____	_____	17. _____	_____	_____
	8. _____	_____	_____	18. _____	_____	_____
	9. _____	_____	_____	19. _____	_____	_____
	10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC 100%
 Is the hydrophytic vegetation criterion met? Yes No _____
 Rationale: Wetland indicator spp. dominant

SOILS

Series/phase: F11 (?) (original material?) Subgroup: 2
 Is the soil on the hydric soils list? Yes _____ No Undetermined
 Is the soil a Histosol? Yes No _____ Histic epipedon present? Yes _____ No _____
 Is the soil Mottled? Yes No _____ Gleyed? Yes No _____
 Matrix Color: dk gray to black Mottle Colors: red-brown
 Other hydric soil indicators: Strong Smells - anaerobic; good gleyed material
 Is the hydric soil criterion met? Yes No _____
 Rationale: hydric soil characteristics strong

HYDROLOGY

Is the ground surface inundated? Yes _____ No Surface water depth: _____
 Is the soil saturated? Yes No _____
 Depth to free-standing water in p/s soil probe hole: 12 inches (side seepage at 8 inches)
 List other field evidence of surface inundation or soil saturation:
soil surface damp - with green algae; mineral crust present
 Is the wetland hydrology criterion met? Yes No _____
 Rationale: free-standing water

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No _____
 Rationale for jurisdictional decision: all three criteria strong

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² Classification according to "Soil Taxonomy."

CHAR & ASSOCIATES

Botanical, Environmental Consultants

4471 Puu Panini Ave.
Honolulu, Hawaii 96816
(808) 734-7828

01 November 1993

Mr. Robert Watari
Engineers Surveyors Hawai'i, Inc.
Suite No. 1, Building No. 6
1020 Auahi Street
Honolulu, Hawai'i 96814

SUBJECT: Kahalu'u Stream Dredging
Preliminary Survey - City & County Property
("Hau Tree Area")

Dear Mr. Watari:

Please find enclosed a summary of our findings for the subject property. Also enclosed is a sketch of the wetland location: this can be overlaid onto the City and County, Planning Department, aerial photograph (sheet no. 560-102). The approximate locations of the two culverts which empty into this low-lying area from upslope are shown on the map. There is a rather large gully or ravine upslope of the wetland. It may support an intermittent drainageway during periods of very heavy rainfall.

Please do not hesitate to call me should you have any questions regarding the summary report.

Sincerely,

Winona P. Char

Winona P. Char

RECEIVED
NOV 2 1993

enclosures

ENGINEERS SURVEYORS HAWAII, INC

P.10

FAX NO. 809 523 4767

Doc. A.
FEB-11-87 TUE 10:51

PRELIMINARY WETLANDS SURVEY
CITY & COUNTY PROPERTY ("HAU TREE AREA")

On 25 September 1993, a reconnaissance survey was made of the subject property for the presence of wetlands. A large low-lying area which supports wetland vegetation is found in the middle of the study area (see map attached). A dense hau thicket is found on the north and east boundary of the wetland; on the west is a stonewall which separates the wetland from the Kahalu'u athletic field; and along the south boundary is scrub pasture land.

The following wetland indicator species are abundant to common within the wetland; these plants make up about 90 to 95% of the plant cover.

<u>Scientific name</u>	<u>Common name</u>	<u>*Indicator</u>
Paspalum conjugatum	Hilo grass	FAC ⁺
Ludwigia palustris	marsh purslane	OBL
Ludwigia octovalvis	primrose willow	OBL
Cuphea carthagenensis	Colombian cuphea	FAC
Eclipta alba	false daisy	FACW
Hibiscus tiliaceus	hau	FACW

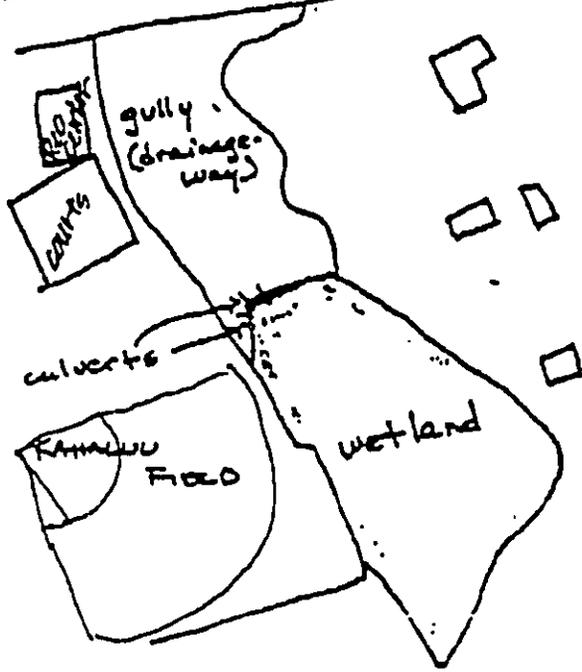
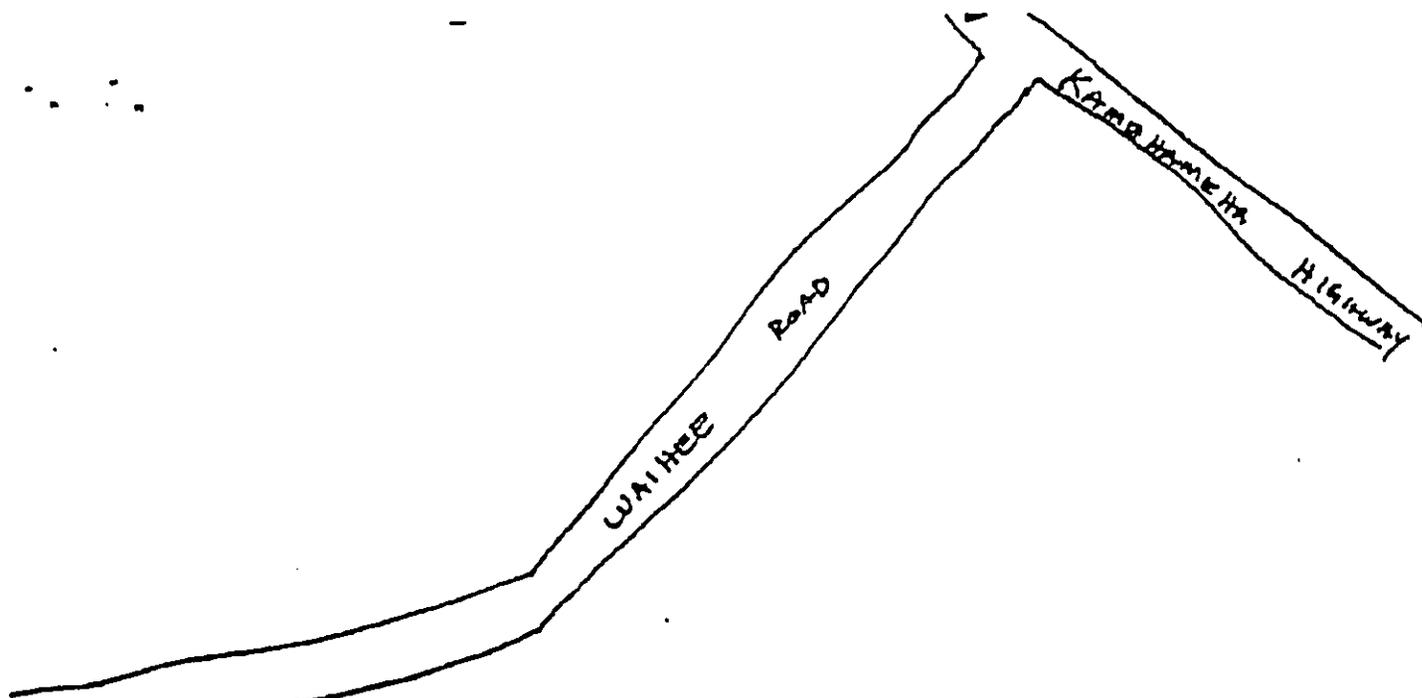
*Indicator status

OBL = obligate wetland = occur almost always (estimated probability greater than 99%) under natural conditions in wetlands

FACW = facultative wet = usually occurs in wetlands (estimated probability 67-99%)

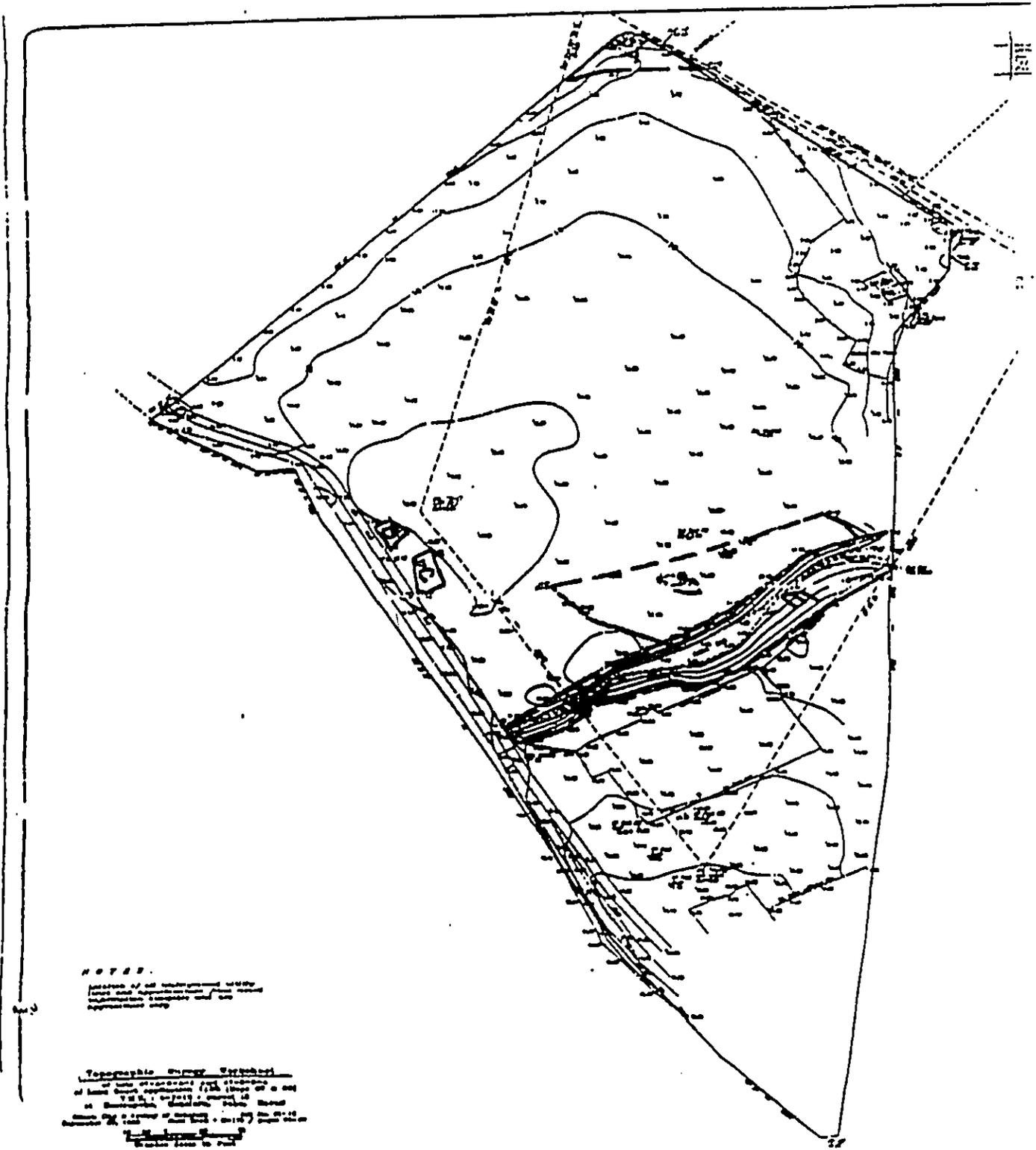
FAC = facultative = equally likely to occur in wetlands or non-wetlands (estimated probability 34-66%); a "+" indicates a frequency toward the higher end of the category

At the time of our survey, the soil surface throughout the wet-land was moist and there were scattered pools of shallow, open water. One soil test pit was made near the south end of the wet-land. Free standing water was found at one foot below the soil surface. The hydric soils have a gray-black to black matrix with reddish-brown mottles common.



1" = 200'

Doc. A'



NOTES.
 Section of all underground utility lines and appurtenances from recent topographic surveys and are approximate only.

Topographic Survey Worksheet
 of the Department of the Interior
 of the United States (1916) (page 1 of 2)
 U.S.G.P. Form 1000 - revised 1916
 as amended by Circular 1000 Series
 1000 of 1917 and 1000 of 1918
 Revised 1918 to 1919
 Revised 1920 to 1921
 Engineers Bureau Wash., D.C.
 1000 Series - Land Surveys - Standard

CHAR & ASSOCIATES

Botanical/Environmental Consultants

4471 Puu Panini Ave.
Honolulu, Hawaii 96816
(808) 734-7828

08 December 1992

Engineers Surveyors Hawaii, Inc.
Attention: Robert Watari
Suite No. 1, Building No. 6
1020 Auahi Street
Honolulu, Hawaii 96814

RECEIVED
DEC 10 1992

ENGINEERS SURVEYORS HAWAII, INC.

SUBJECT: Kahalu'u Lagoon Dredging
Wetlands Delineation

Dear Mr. Watari:

Please find enclosed the data sheets for the 9 soil test pits. The first set (1 to 3) is located makai of Station "Horse"; the second set (4 to 6) is located at about the 22-foot contour; and the last set (7 to 9) is located near the 24-foot contour line. They are staked and numbered.

Also enclosed is a portion of the site map showing the wetlands boundary area to be corrected (in red). I suspect that the horses may have knocked down or removed the stakes; I have seen them pull out stakes with their teeth at other project sites before.

The corrected map and data sheets along with the project's plans and description should be sent the the Corps (COE) prior to their site visit.

Please do not hesitate to call me should you have any questions.

Sincerely,



Winona P. Char

enclosures

P.03

FAX NO. 808 523 4767

FEB-11-97 TUE 16:08

ROUTINE ONSITE DETERMINATION J. MOD' 1 1 1 1

Field Investigator(s): CHAR & ASSOCIATES Date: 21 Nov. 1992
 Project/site: Kahala'u State: _____ County: _____
 Applicant/owner: _____ Plant Community #/Name: _____

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

 Do normal environmental conditions exist at the plant community?
 Yes No _____ (If no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indic. Stat.	Strat.	Dominant Plant Species	Indic. Stat.	Strat.
1. <u>Paspalum conjugatum</u>	<u>FAC+</u>	<u>herb</u>	11. _____	_____	_____
2. <u>Kyllinga brevifolia</u>	<u>FAC</u>	<u>herb</u>	12. _____	_____	_____
3. <u>Centella asiatica</u>	<u>FAC</u>	<u>herb</u>	13. _____	_____	_____
4. <u>Sida rhombifolia</u>	<u>FACW</u>	<u>shrub</u>	14. _____	_____	_____
5. _____	_____	_____	15. _____	_____	_____
6. _____	_____	_____	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC > 50%

Is the hydrophytic vegetation criterion met? Yes No _____

Rationale: Dominant components are Paspalum conjugatum + Kyllinga brevifolia throughout most of Kahala'u shaly site & on top pits

SOILS

Series/phase: HNA -- Hanaki silt clay Subgroup: _____

Is the soil on the hydric soils list? Yes No _____ Undetermined _____

Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____

Is the soil: Mottled? Yes No _____ Gleyed? Yes _____ No _____

Matrix Color: dark gray Mottle Colors: red (2.5YR 5/4) + yellowish red (5YR 4)

Other hydric soil indicators: _____

Is the hydric soil criterion met? Yes No _____

Rationale: Strong mottles

HYDROLOGY

Is the ground surface inundated? Yes No _____ Surface Water Depth: 1-2" (in scattered pools)

Is the soil saturated? Yes No _____

Depth to free-standing water in pit/soil probe hole: No standing water

List other field evidence of surface inundation or soil saturation.

"Cow potholes" in places

Is the wetland hydrology criterion met? Yes No _____

Rationale: somewhat questionable as we did not find standing water. Surface water due to heavy rains that was there yesterday

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No _____

Rationale for jurisdictional decision: Strong mottles

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure. ...
² See classification according to "Soil Taxonomy."

#2

Field Investigator(s): CHAR & ASSOCIATES Date: 21 Nov. 1991

Project/Site: Kahalaui State: _____ County: _____

Applicant/Owner: _____ Plant Community #/Name: _____

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No (If yes, explain on back)

VEGETATION

Table with 6 columns: Dominant Plant Species, Indic. Stat., Strat., Dominant Plant Species, Indic. Stat., Strat. Rows 1-20.

Percent of dominant species that are OBL, FACW, and/or FAC > 50% _____

Is the hydrophytic vegetation criterion met? Yes No _____

Rationale: dominated by Paspalum conjugatum

SOILS

Series/phase: Hna - Hanalei silty clay Subgroup: _____
Is the soil on the hydric soils list? Yes No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes No _____ Gleyed? Yes No _____
Matrix Color: dark gray Mottle Colors: red (2.5YR 5/1) + yellowish red (5YR 4/1)
Other hydric soil indicators: gleying - dark black; parts of soil anaerobic
Is the hydric soil criterion met? Yes No _____
Rationale: strong mottles + gleying; some odor

HYDROLOGY

Is the ground surface inundated? Yes No _____ Surface Water Depth: 1-2" (in scattered pools)
Is the soil saturated? Yes No _____
Depth to free-standing water in pit/soil probe hole: No standing water
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No _____
Rationale: somewhat questionable as we did not find standing water. Surface water due to heavy rains today + yesterday

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No _____
Rationale for jurisdictional decision: strong mottles, gleying, slight anaerobic odor

1 This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
2 See classification according to "Soil Taxonomy."

Field Investigator(s): CHAR & ASSOCIATES Date: 21 Nov. 1991
 Project/Site: Kahalu'u State: _____ County: _____
 Applicant/Owner: _____ Plant Community #/Name: _____

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

 Do normal environmental conditions exist at the plant community?
 Yes No _____ (If no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indic. Stat.	Strat.	Dominant Plant Species	Indic. Stat.	Strat.
1. <u>Paspalum conjugatum</u>	<u>FAC+</u>	<u>herb</u>	11. _____	_____	_____
2. <u>Cyrtandra dactylon</u>	<u>FACU</u>	<u>herb</u>	12. _____	_____	_____
3. <u>Eclipta alba</u>	<u>FACW</u>	<u>herb</u>	13. _____	_____	_____
4. <u>Centella asiatica</u>	<u>FAC</u>	<u>herb</u>	14. _____	_____	_____
5. <u>Sida rhombifolia</u>	<u>FACU</u>	<u>shrub</u>	15. _____	_____	_____
6. <u>Pluchea indica</u>	<u>FAC*</u>	<u>shrub</u>	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC > 50%
 Is the hydrophytic vegetation criterion met? Yes No _____
 Rationale: Paspalum is most abundant species; Eclipta occasional; Pluchea uncommon.

SOILS

Series/phase: HxA - Haxei silty clay Subgroup: _____
 Is the soil on the hydric soils list? Yes No _____ Undetermined _____
 Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
 Is the soil: Mottled? Yes No _____ Gleyed? Yes _____ No _____
 Matrix Color: dark gray Mottle Colors: red (2.5 YR 5/6) + yellowish red (5YR 4/6)
 Other hydric soil indicators: _____
 Is the hydric soil criterion met? Yes No _____
 Rationale: strong mottles

HYDROLOGY

Is the ground surface inundated? Yes No _____ (in scattered pools)
 Is the soil saturated? Yes No _____ Surface Water Depth: 1-2"
 Depth to free-standing water in pit/soil probe hole: No standing water
 List other field evidence of surface inundation or soil saturation: _____
 Is the wetland hydrology criterion met? Yes _____ No _____?
 Rationale: Somewhat questionable. Surface water due to rain.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No _____
 Rationale for jurisdictional decision: soils show strong mottling

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² See classification according to "Soil Taxonomy."

Field Investigator(s): CHAR & ASSOCIATES Date: 21 Nov. 1992
Project/Site: Kahala'u State: _____ County: _____

Applicant/Owner: _____ Plant Community #/Name: _____

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indic. Stat.	Strat.	Dominant Plant Species	Indic. Stat.	Strat.
1. <u>Paspalum conjugatum</u>	<u>FAC+</u>	<u>herb</u>	11. _____	_____	_____
2. <u>Cyperus doctylon</u>	<u>FACU</u>	<u>herb</u>	12. _____	_____	_____
3. <u>Centella asiatica</u>	<u>FAC</u>	<u>herb</u>	13. _____	_____	_____
4. <u>Pluchea indica</u>	<u>FAC+</u>	<u>shrub</u>	14. _____	_____	_____
5. _____	_____	_____	15. _____	_____	_____
6. _____	_____	_____	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC > 50%
Is the hydrophytic vegetation criterion met? Yes No _____

Rationale: Paspalum is most abundant plant

SOILS

Series/phase: Hn A -- Hanksi silty clay Subgroup:² _____
Is the soil on the hydric soils list? Yes No _____ Undetermined _____

Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____

Is the soil: Mottled? Yes No _____ Gleyed? Yes _____ No _____

Matrix Color: gray Mottle Colors: _____
Other hydric soil indicators: _____

Is the hydric soil criterion met? Yes _____ No _____ ?
Rationale: Questionable - very weak mottles at 2 ft.

HYDROLOGY

Is the ground surface inundated? Yes No _____ Surface Water Depth: 1'

Is the soil saturated? Yes No _____ @ top layer -
Depth to free-standing water in pit/soil probe hole: No water

List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No
Rationale: Soil at bottom of pit -- friable, dry, not saturated

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No
Rationale for jurisdictional decision: Soil + hydrology criteria not met or very weak

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² See classification according to "Soil Taxonomy."

Field Investigator(s): CHAR & ASSOCIATES
 Project/Site: Kahala'u State: _____ Date: 21 Nov. 1992
 Applicant/owner: _____ County: _____
 Plant Community #/Name: _____
 Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

 Do normal environmental conditions exist at the plant community?
 Yes No _____ (If no, explain on back)
 Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes _____ No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indic. Stat.	Strat.	Dominant Plant Species	Indic. Stat.	Strat.
1. <u>Ageratum conyzoides</u>	<u>FACW</u>	<u>herb</u>	11. _____	_____	_____
2. <u>Ruellia brevifolia</u>	<u>FAC</u>	<u>herb</u>	12. _____	_____	_____
3. <u>Centella asiatica</u>	<u>FAC</u>	<u>herb</u>	13. _____	_____	_____
4. <u>Oxalis corniculata</u>	<u>FACW</u>	<u>herb</u>	14. _____	_____	_____
5. <u>Eclipta alba</u>	<u>FACW</u>	<u>herb</u>	15. _____	_____	_____
6. <u>Cyperus carthagenensis</u>	<u>FAC</u>	<u>herb</u>	16. _____	_____	_____
7. <u>Verbena litorea</u>	<u>NL</u>	<u>herb</u>	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. <u>(NL = not listed Reed 1985)</u>	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC about 50%
 Is the hydrophytic vegetation criterion met? Yes No _____
 Rationale: but tending toward upland -- Verbena dominant in places

SOILS

Series/phase: Hn A - Hanalei silty clay Subgroup: 2
 Is the soil on the hydric soils list? Yes No _____ Undetermined _____
 Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
 Is the soil: Mottled? Yes No _____ Gleyed? Yes _____ No _____
 Matrix Color: dark gray Mottle Colors: Very weak reddish-brown at 2 ft.
 Other hydric soil indicators: _____
 Is the hydric soil criterion met? Yes _____ No _____
 Rationale: Questionable -- weak mottles

HYDROLOGY

Is the ground surface inundated? Yes No _____ in places about _____
 Is the soil saturated? Yes No _____ Surface Water Depth: 1"
 Depth to free-standing water in pit/soil probe hole: None Upper surface only due to rain
 List other field evidence of surface inundation or soil saturation: _____

Is the wetland hydrology criterion met? Yes _____ No
 Rationale: Soil at bottom of pit (2 ft.), dry -- not saturated, friable -- crumbles + does not form a ball when squeezed.

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No
 Rationale for jurisdictional decision: Soil + hydrology criteria not met; vegetation tending toward upland species dominance.

This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure. See classification according to "Soil Taxonomy."

FOR THE ONSITE DETERMINATION METHOD

Field Investigator(s): CHAR & ASSOCIATES Date: 21 Nov. 1992
Project/Site: Kahala State: County:
Applicant/Owner: plant Community #/Name:

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes X No (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes No X (If yes, explain on back)

VEGETATION

Table with 4 columns: Dominant Plant Species, Indic. Stat., Strat., and another set of the same columns. Lists species like Paspalum conjugatum, Kyllinga brevifolia, etc.

Percent of dominant species that are OBL, FACW, and/or FAC > 50%
Is the hydrophytic vegetation criterion met? Yes X No
Rationale: dominants are Paspalum + Kyllinga; Centella common

SOILS

Series/phase: Hn A -- Hanaki silty clay Subgroup:
Is the soil on the hydric soils list? Yes X No Undetermined
Is the soil a Histosol? Yes No Histic epipedon present? Yes No
Is the soil: Mottled? Yes X No Gleyed? Yes No
Matrix Color: dark gray Mottle Colors: very weak reddish brown at 1 1/2 ft.
Other hydric soil indicators:
Is the hydric soil criterion met? Yes No ?
Rationale: Somewhat questionable -- very weak

HYDROLOGY

Is the ground surface inundated? Yes X No Surface Water Depth: 1"
Is the soil saturated? Yes X No Only few inches below surface - rains
Depth to free-standing water in pit/soil probe hole: No standing water
List other field evidence of surface inundation or soil saturation.
Is the wetland hydrology criterion met? Yes No X
Rationale: Only few inches at surface saturated, bottom of pit at about 2 ft. dry + friable

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No X
Rationale for jurisdictional decision: Soils + hydrology weak to non

1 This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
2 See classification according to "Soil Taxonomy."

Field Investigator(s): CHAR & ASSOCIATES Date: 21 Nov, 1992
 Project/site: Kahalu'u State: _____ County: _____
 Applicant/Owner: _____ Plant Community #/Name: _____

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

 Do normal environmental conditions exist at the plant community?
 Yes No (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed?
 Yes No (If yes, explain on back)

 VEGETATION

Dominant Plant Species	Indic. Stat.	Strat.	Dominant Plant Species	Indic. Stat.	Strat.
1. <u>Paspalum conjugatum</u>	<u>FAC+</u>	<u>herb</u>	11. _____	_____	_____
2. <u>Kyllinga brevifolia</u>	<u>FAC</u>	<u>herb</u>	12. _____	_____	_____
3. <u>Sida rhombifolia</u>	<u>FACU</u>	<u>shrub</u>	13. _____	_____	_____
4. _____	_____	_____	14. _____	_____	_____
5. _____	_____	_____	15. _____	_____	_____
6. _____	_____	_____	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC > 50%

Is the hydrophytic vegetation criterion met? Yes No
 Rationale: Paspalum is dominant species

SOILS

Series/phase: HNA--Hanalei silty clay Subgroup: 2
 Is the soil on the hydric soils list? Yes No Undetermined
 Is the soil a Histosol? Yes No Histic epipedon present? Yes No
 Is the soil: Mottled? Yes No Cleyed? Yes No
 Matrix Color: dark gray-gray Mottle Colors: very weak--reddish
 Other hydric soil indicators: _____
 Is the hydric soil criterion met? Yes No
 Rationale: mottles weak, at 2 ft. soil at bottom hard, friable, friable at about 1 ft. down

HYDROLOGY

Is the ground surface inundated? Yes No Surface Water Depth: 1/2-1" ^{in places}
 Is the soil saturated? Yes No Upper surface only
 Depth to free-standing water in pit/soil probe hole: No free standing water
 List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes No
 Rationale: No free standing water

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes No
 Rationale for jurisdictional decision: Soils + hydrology weak to none

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² See classification according to "Soil Taxonomy."

Field Investigator(s): CNAR & ASSOCIATES Date: 21 Nov. 1992

Project/Site: Kahala'u State: _____ County: _____

Applicant/Owner: _____ Plant Community #/Name: _____

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community?
Yes No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No (If yes, explain on back)

VEGETATION

Table with 4 columns: Dominant Plant Species, Indic. Stat., Strat., and another set of the same columns. Rows 1-10 contain handwritten species names like Paspalum conjugatum, Kallima brevifolia, Verbena litoralis, and Sida rhombifolia.

Percent of dominant species that are OBL, FACW, and/or FAC about 50%

Is the hydrophytic vegetation criterion met? Yes No _____
Rationale: but again tending toward upland species dominance

SOILS

Series/phase: HnA - Hanalei Subgroup: 2
Is the soil on the hydric soils list? Yes No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes No _____ Gleyed? Yes _____ No _____
Matrix Color: dark gray to gray Mottle colors: very weak mottles
Other hydric soil indicators?
Is the hydric soil criterion met? Yes _____ No to ?
Rationale: Questionable, very weak mottles at 2 ft.; much earthworms

HYDROLOGY

Is the ground surface inundated? Yes No _____ Surface Water Depth: 1/2 - 1"
Is the soil saturated? Yes No _____ Only top layer
Depth to free-standing water in pit/soil probe hole: No standing water
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No
Rationale: Soil at bottom of pit, dry, crumbly. Friable at about 1 ft. down

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No
Rationale for jurisdictional decision: Soil + hydrology criteria not met or very, very weak

1 This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
2 See classification according to "Soil Taxonomy."

#9

Field Investigator(s): CHAR & ASSOCIATES Date: 21 Nov. 1992

Project/Site: _____ State: _____ County: _____

Applicant/Owner: _____ Plant Community #/Name: _____

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Do normal environmental conditions exist at the plant community? Yes No _____ (If no, explain on back)

Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indic. Stat.	Strat.	Dominant Plant Species	Indic. Stat.	Strat.
1. <i>Kyllinga brevifolia</i>	FAC	herb	11. _____	_____	_____
2. <i>Paspalum conjugatum</i>	FAC+	herb	12. _____	_____	_____
3. <i>Desmodium uncinatum</i>	FACU*	herb	13. _____	_____	_____
4. <i>Centella asiatica</i>	FAC	herb	14. _____	_____	_____
5. <i>Cotula australis</i>	NL	herb	15. _____	_____	_____
6. <i>Sida rhombifolia</i>	FACU	shrub	16. _____	_____	_____
7. _____	_____	_____	17. _____	_____	_____
8. _____	_____	_____	18. _____	_____	_____
9. _____	_____	_____	19. _____	_____	_____
10. _____	_____	_____	20. _____	_____	_____

Percent of dominant species that are OBL, FACW, and/or FAC = 50%
Is the hydrophytic vegetation criterion met? Yes _____ No _____
Rationale: Questionable Desmodium is abundant

SOILS

Series/phase: HnA-Hanalei Subgroup: 2
Is the soil on the hydric soils list? Yes No _____ Undetermined _____
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes No _____ Gleyed? Yes _____ No _____
Matrix Color: dark gray Mottle Colors: very, very weak red-brown
Other hydric soil indicators: _____
Is the hydric soil criterion met? Yes _____ No
Rationale: Top layer is clayey - weak mottles

HYDROLOGY

Is the ground surface inundated? Yes No _____ Surface Water Depth: 1/2-1"
Is the soil saturated? Yes No _____ surface only
Depth to free-standing water in pit/soil probe hole: No standing water
List other field evidence of surface inundation or soil saturation.

Is the wetland hydrology criterion met? Yes _____ No
Rationale: Top layer is clayey but becomes friable + somewhat loose at about 1 ft. down

JURISDICTIONAL DETERMINATION AND RATIONALE

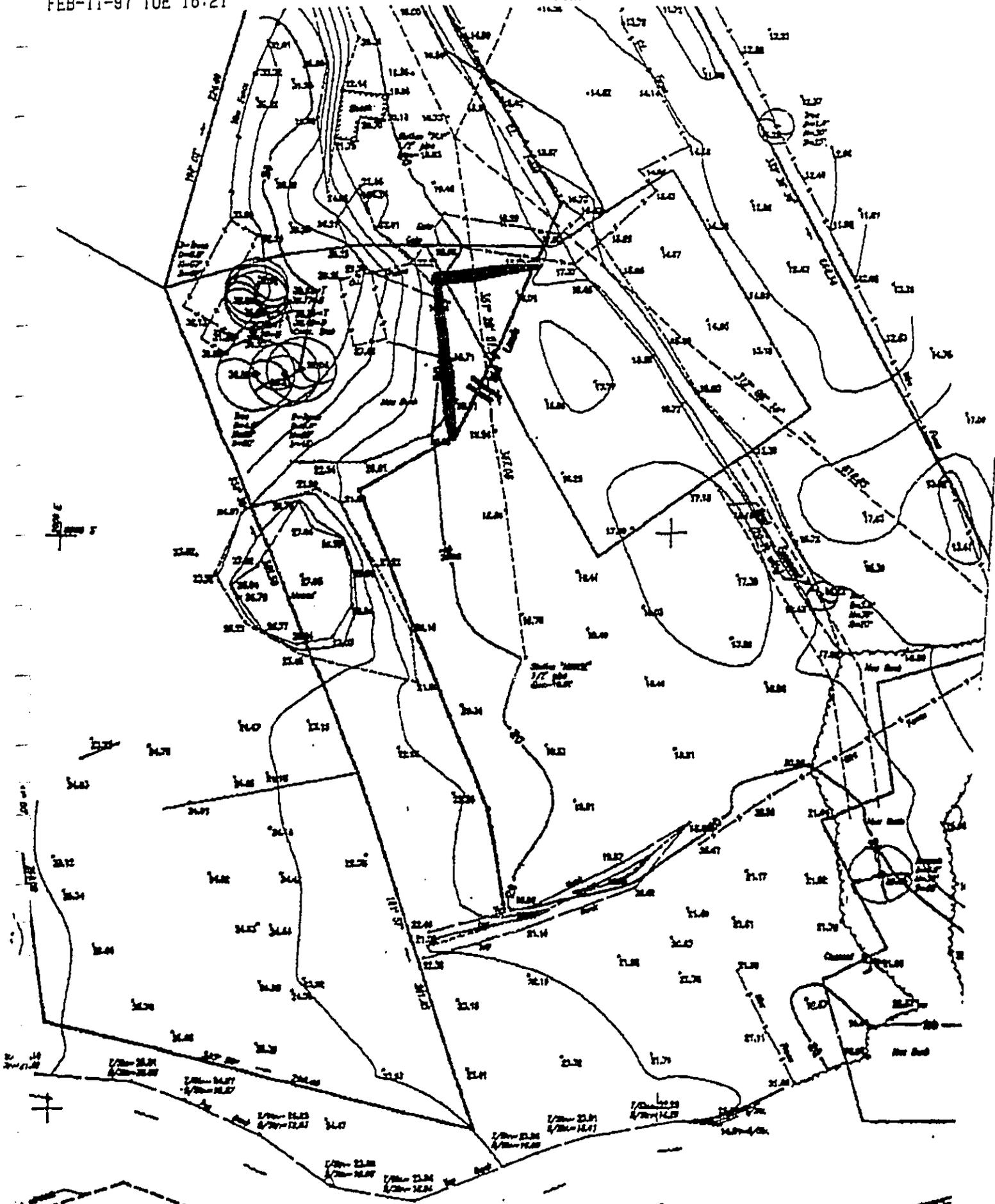
Is the plant community a wetland? Yes _____ No
Rationale for jurisdictional decision: Soils + Hydrology criterion

¹ This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
² See classification according to "Soil Taxonomy."

FEB-11-97 TUE 16:21

FAX NO. 808 4767

P. 13



5221618 P. 11

10

FROM CHAR & ASSOCIATES

12-28-1992 25:15PM

Appendix C

Wetland Mitigation Plan

Kahalu'u Regional Park, Phase I Wetland Mitigation Plan¹

Revised April 23, 1999

DRAFT

AECOS No. 898

Jacqueline Mello & Eric B. Guinther
AECOS, Inc. 970 N. Kalaleo Ave., Suite C311
Kailua, Hawai'i 96734
Phone: (808) 254-5884 Fax: (808) 254-3029 Email: aecos@pxi.com

Introduction

The Kahalu'u Regional Park consists of approximately 41 acres of land owned and designated by the City and County of Honolulu for regional park use. The land, consisting of Tax Map parcels 4-7-12:1, 2, 11, 12, 13, 16, 18, 19 and portions of 24, was formerly used for taro culture, rice culture, and pasturing livestock. Proposed park uses currently include playing fields, a gymnasium/pool complex, playing courts, and large open areas that may be used for gardens, nature trails, and picnicking. Phase I of the project involves grading of soil stockpiled from the 1996-1997 dredging of adjacent Kahalu'u Lagoon. The existing soil mound will be graded to provide a level base for baseball, soccer, and football fields. This grading will cover and fill three small, isolated wetlands. The locations of these wetlands are found in Figures 1a and 1b.

¹ Report prepared for Lester Inouye and Associates, Inc. for submission with the Department of the Army permit application. This report will become part of the public record.

Figure 1a.
Kahaluu Regional Park
Delineated Wetlands

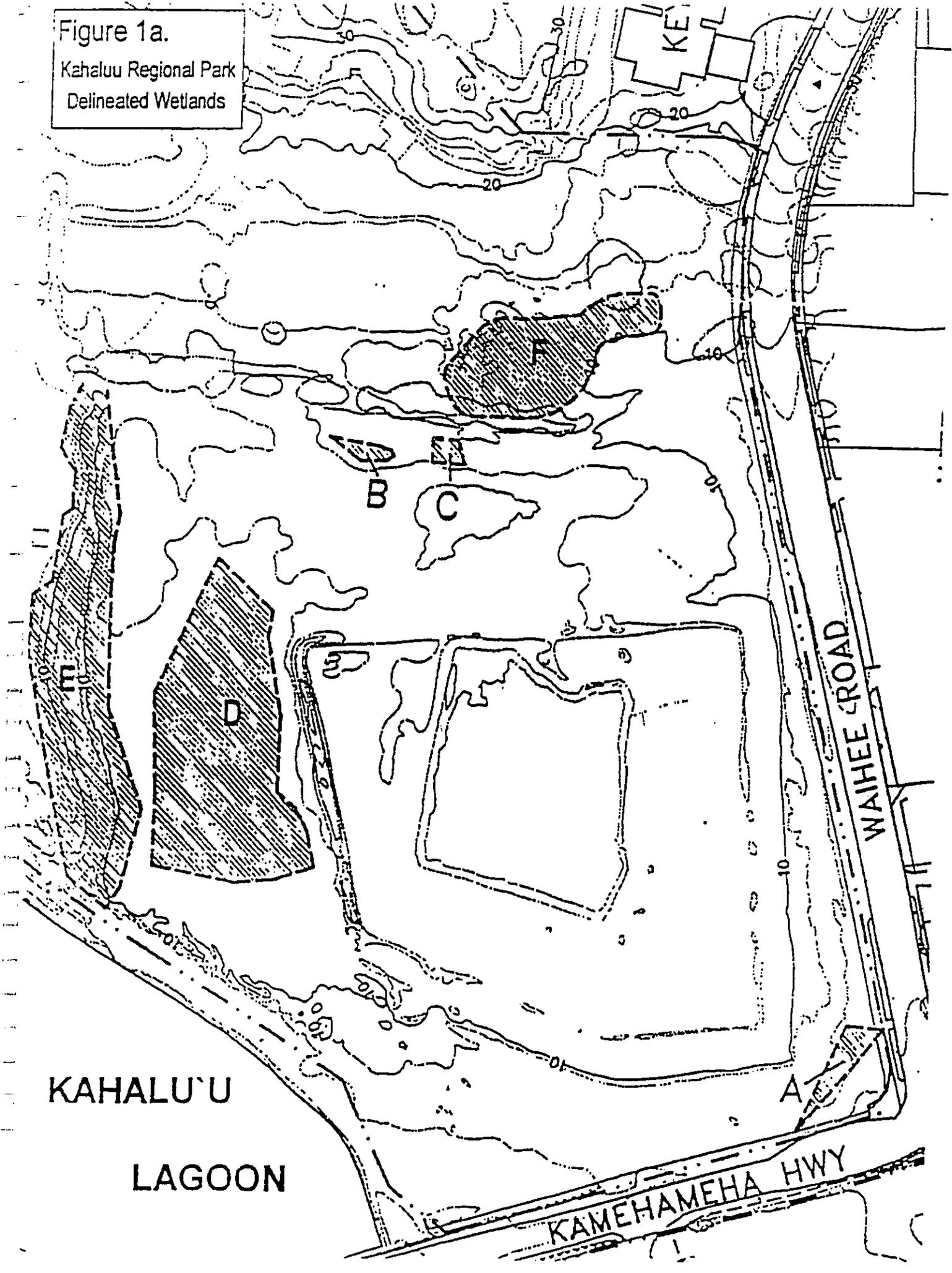


Figure 1b.
Kahaluu Regional Park
Delineated Wetlands



Existing Conditions

Three small areas comprising a total of approximately 0.30 acres were delineated as wetlands B, C and F in 1994 and 1997 field surveys (ACOE map, 1998). These isolated wetlands are marginal. Field surveys in April and May 1998 revealed that no standing water was present in wetland areas B, C and F. Further, non-wetland plants (mainly *Wedelia*) covered most of the largest area delineated as wetland F. The two smaller wetlands, B and C were covered with California grass. These three wetland areas may be remnants of old wetlands or may have been established after the original dredged material from the excavation of the Kahalu'u Flood Control Lagoon, was graded over the property.

Many wetland functions are only poorly realized in small isolated wetlands such as wetlands B, C and F. These sites are too infrequently wetted to serve as waterbird habitat, fish and shellfish habitat, or flood water storage. Minimal aesthetic, recreational, research and other educational opportunities could be ascribed to these wetlands.

Mitigation

In view of the findings above and the need for additional playing fields in the Kahalu'u area, the City and county of Honolulu proposes to fill the small marginal wetlands. In exchange, the city proposes to enhance existing wetlands D (0.67 ac), E (0.66 ac) and G (0.79 ac). Each of these wetlands is individually more than twice the size of the wetland acreage proposed for fill. These wetlands will be enhanced to provide more storage for run-off during storm conditions thereby adding to the recharge of ground water and reducing flooding of adjacent non-wetland areas. Enhancement will add to diversity and abundance of wildlife by expanding wetland habitats. Enhancement will also provide more recreational, educational, aesthetic, and research opportunities.

The City proposes that these enhancements will consist of the following. 1) mowing the grass periodically in Wetlands D and E; 2) removal of Hau (*Hibiscus tiliaceus*) within the delineated boundaries of Wetland G; 3) fencing of Wetland G (against predators) and periodic maintenance (once a quarter or as deemed necessary) of vegetation by mowing or grazing.

Wetland Mitigation Proposal

General Site Description

At the present time Wetland D and E are overgrown with California grass (*Brachiaria mutica*). Although a wetland indicator species, California grass obliterates open water areas and crowds out other wetland species. Standing water has been noted in pockets in Wetlands D and E (ACOE, field notes dated March 7, 1997). Wetland E is a drainage area. Wetland G for the most part is open with low shrubs due to grazing of horses. The hau is encroaching on this wetland from the makai side. This wetland is periodically flooded.

Excavation

At this time, no excavation is being considered as part of the enhancement for Wetlands D, E or G.

Hydrology

The surface elevations of the enhanced wetlands will remain the same. Removal or mowing of vegetation will improve water flow through the enhanced Wetlands D, E and G.

Wetland Vegetation and Planting

No planting of wetland vegetation is anticipated as part of the enhancement program. Cutting back of hau and quarterly mowing may allow a greater variety of wetland plants to become established in these areas.

Schedule

Upon agreement by all concerned parties, this conceptual mitigation plan will be implemented. It is expected that the Kahalu'u community, including but not limited to

it's sports leagues and service organizations, will undertake the initial cutting and mowing under City & County of Honolulu direction. Predator fencing for Wetland G will be contracted by the City.

The Kualoa-He'eia Ecumenical Youth (KEY) Project, by board motion at it's board meeting held on July 27, 1998 agreed to be oversee the organizing of community groups to undertake the required maintenance contingent upon a conceptual agreement between the City and KEY Project. KEY Project, a non-profit agency that has serviced the Kahalu'u community for 30 years, is located on Waihe'e Road and is bounded on two sides by the regional park..

Monitoring and Maintenance

The Kahalu'u community, under the City's direction will maintain the enhanced wetlands through mowing and cutting back of encroaching vegetation. Representatives from the U. S. Fish and Wildlife Service and the Forestry and Wildlife Division of the State Department of Land and Natural Resources will be invited to on-site inspection of the enhanced wetland areas on a regular basis. No further monitoring is recommended at this time.

Appendix D

Comments Received During Preparation of Draft EA
and 30-Day Public Comment Period

BENJAMIN J. CAYETANO
GOVERNOR
STATE OF HAWAII



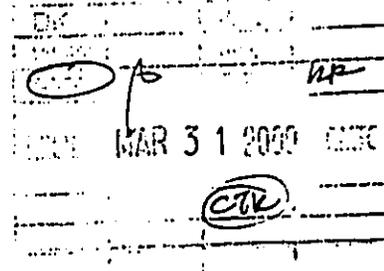
RAYNARD C. SOON
CHAIRMAN
HAWAIIAN HOMES COMMISSION

JOE M. K. M. YAMAGUCHI
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAII 96805

File
CTM

March 29, 2000



for
fr

Mr. Chester Koga
420 Waiakamilo Road, Suite 411
Honolulu, HI 96817

Dear Mr. Koga:

Subject: Draft Environmental Assessment Notice for the Proposed
Kahaluu Regional Park, 46 Acres Kahaluu, Oahu, Dated
March 2000

Thank you for the opportunity to review the subject application.
The Department of Hawaiian Home Lands has no comment to offer.

If you have any questions, please call Daniel Ornellas of our
Planning Office at 586-3836.

Aloha,

Raynard C. Soon
Raynard C. Soon, Chairman
Hawaiian Homes Commission

fr

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



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August 27, 2000

Mr. Raynard Soon, Chairman
Hawaiian Homes Commission
State of Hawaii
P.O. Box 1879
Honolulu, HI 96805

SUBJECT: Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Soon:

Thank you for your letter dated March 29, 2000 responding to requests for comments on the subject Draft EA for the proposed Kahaluu Regional Park. We acknowledge that you have no comments to offer at this time.

Should you have questions or require additional information in the future regarding this project, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,

Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

DK		KTS
WES	a	NM
ATT		RF
REC'D JUN 01 2000		RMTC

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to:
File:

May 24, 2000

00-055/epo

Mr. Chester T. Koga
R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

Dear Mr. Koga:

Subject: Draft Environmental Assessment (DEA)
Proposed Kahaluu Regional Park
Kahaluu District, Oahu
TMK: 4-7-12:1, 2, etc.

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Wastewater

The subject project is located in the critical wastewater disposal area as determined by the Oahu Wastewater Advisory Committee. No new cesspools will be allowed in the subject area.

Wastewater treatment and disposal has not been adequately addressed in the subject document. At this time, there is no existing municipal sewer service in the area, however, the plan states that the City and County of Honolulu is currently developing a facilities plan for the Kailua-Kaneohe-Kahuluu area, which includes Kahaluu Sewers Section 3 I.D. This project will serve the residential lots in the area. However, the sewers may not be completed for possibly 5 years. In the meantime, any temporary wastewater system will have to be reviewed and approved by the Department of Health.

Whenever sewers do become available to this project, connection will be required.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems."

Should you have any questions on these comments, please contact the Planning/Design Section of the Wastewater Branch at 586-4294.

Mr. Chester T. Koga
May 24, 2000
Page 2

Solid Waste

1. The applicant should develop an overview of the solid waste impacts resulting from the proposed development, including a conceptual plan for minimizing the generation and disposal of waste during construction and operations, based on the State's waste management hierarchy and goals and any applicable County goals or conditions.
2. The applicant should develop an Integrated Waste Management Plan for the development and consider specific waste reduction and diversion opportunities which support State and County waste reduction goals.
3. The applicant should investigate the use of secondary resources (recycled materials) whenever possible in the construction of the project, including but not limited to, the use of crushed glass as an aggregate substitute in road paving and the use of locally-produced greenwaste compost as a soil amendment in landscaping.
4. Please see enclosed suggestions for waste minimization.

Any questions regarding this matter should be directed to Mr. Steve Chang, Chief of the Solid and Hazardous Waste Branch at 586-4226.

Water Pollution

1. The applicant should contact the Army Corps of Engineers to identify whether a federal permit (including a Department of Army permit) is required for this project. If a federal permit is required, then a Section 401 Water Quality Certification is required from the State Department of Health, Clean Water Branch.
2. A National Pollutant Discharge Elimination System (NPDES) general permit is required for the following discharges to waters of the State:
 - a. Storm water discharges relating to construction activities, such as clearing, grading, and excavation, for projects equal to or greater than five acres;
 - b. Storm water discharges from industrial activities;
 - c. Construction dewatering activities;

Mr. Chester T. Koga
May 24, 2000
Page 3

00-055/epo

- d. Noncontact cooling water discharges less than one million gallons per day;
- e. Treated groundwater from underground storage tank remedial activities;
- f. Hydrotesting water;
- g. Treated effluent from petroleum bulk stations and terminals; and
- h. Treated effluent from well drilling activities.

Any person requesting to be covered by a NPDES general permit for any of the above activities should file a Notice of Intent with the Department's Clean Water Branch at least 30 days prior to commencement of any discharge to waters of the State.

3. After construction of the proposed facility is completed, a NPDES individual permit will be required if the operation of the facility involves any wastewater discharge into State waters.

Any questions regarding these comments should be directed to Mr. Denis Lau, Branch Chief, Clean Water Branch at 586-4309.

Polluted Runoff Control

Proper planning, design and use of erosion control measures and management practices will substantially reduce the total volume of runoff and limit the potential impact to the coastal waters from polluted runoff. Please refer to the Hawaii's Coastal Nonpoint Source Control Plan, pages III-117 to III-119 for guidance on these management measures and practices for specific project activities. To inquire about receiving a copy of this plan, please call the Coastal Zone Management Program in the Planning Office of the Department of Business, Economic Development and Tourism at 587-2877.

The following practices are suggested to minimize erosion during construction activities:

1. Conduct grubbing and grading activities during the low rainfall months (minimum erosion potential).
2. Clear only areas essential for construction.

3. Locate potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas.
4. Protect natural vegetation with fencing, tree armoring, and retaining walls or tree wells.
5. Cover or stabilize topsoil stockpiles.
6. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drain.
7. On long or steep slopes, construct benches, terraces, or ditches at regular intervals to intercept runoff.
8. Protect areas that provide important water quality benefits and/or are environmentally sensitive ecosystems.
9. Protect water bodies and natural drainage systems by establishing streamside buffers.
10. Minimize the amount of construction time spent in any stream bed.
11. Properly dispose of sediment and debris from construction activities.
12. Replant or cover bare areas as soon as grading or construction is completed. New plantings will require soil amendments, fertilizers and temporary irrigation to become established. Use high planting and/or seeding rates to ensure rapid stand establishment. Use seeding and mulch/mats. Sodding is an alternative.

The following practices are suggested to remove solids and associated pollutants in runoff during and after heavy rains and/or wind:

1. Within the proposed park, include swales or depressed areas which would act as sediment basins to retain and prevent polluted runoff from entering coastal waters.
2. Sediment traps.
3. Fabric filter fences.
4. Straw bale barriers.

Mr. Chester T. Koga
May 24, 2000
Page 5

00-055/ePo

5. Vegetative filter strips.

Any questions regarding these matters should be directed to the
Polluted Runoff Control Program in the Clean Water Branch at
586-4309.

Sincerely,



Gary Gill
Deputy Director
for Environmental Health

Enclosure

c: WWB
CWB
SHWB

ENCLOSURE

THE FOLLOWING ARE A FEW WASTE MINIMIZATION MEASURES FOR IMPLEMENTATION IN DESIGN AND CONSTRUCTION OF NEW DEVELOPMENTS:

I. WASTE REDUCTION DURING CONSTRUCTION/DEMOLITION

GREENWASTE - SOD AND TOP SOIL COMPOSTING
CONCRETE OR ASPHALT RECYCLING - ROCK & BOULDER
SEPARATION
SALVAGE OF DIMENSIONAL LUMBER
METALS RECOVERY

WASTE MINIMIZATION PLAN - USUAL PRACTICE BUT
EMPHASIZE
SALVAGE BY LOCAL NON-PROFIT
HAZWASTE MINIMIZATION - ESPECIALLY SUB-CONTRACTORS

II. USE OF RECYCLED MATERIALS

LOCAL COMPOST - SOIL AMENDMENTS
CRUSHED GLASS IN PAVING - BASE - BACKFILL
CONSTRUCTION BOARD WITH RECYCLED CONTENT
RECYCLED CONCRETE OR ASPHALT IN BASE
RECYCLED PLASTIC "LUMBER" IN OUTDOOR FURNITURE,
FENCING, ETC.

III. DESIGN AND OPERATIONAL REQUIREMENTS

CONSIDER SPACIAL REQUIREMENTS AT INTERNAL
COLLECTION AND EXTERNAL STORAGE AREAS
REVIEW OPERATIONAL REQUIREMENTS WITH MAINTENANCE
AND CUSTODIAL STAFF
PROVIDE COLLECTION CAPABILITIES FOR SEPARATED
GREENWASTE
DISCUSS EQUIPMENT AND CONTAINER REQUIREMENTS WITH
HAULERS AND VENDORS
MULTI-MATERIAL CHUTES IN HIGH RISES
CONVENIENT DROP-OFF SITES IN TOWN HOUSES
INTERNAL TENANT RECYCLING IN SHOPPING CENTERS

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

August 27, 2000

Mr. Gary Gill, Deputy Director
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, HI 96801

SUBJECT: Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Gill:

Thank you for your comments dated May 24, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments we offer the following information:

Wastewater

We note that the project is located in the critical wastewater disposal area as determined by the Oahu Wastewater Advisory Committee and that no new cesspools will be allowed in the area. Further, as noted in Section 2.1.7 of the Final EA, the planned Kahaluu Sewers Section 3 I. D. may not be completed for possibly five years. We acknowledge that any temporary wastewater system will have to be reviewed and approved by the Department of Health. When sewers do become available to this project, connection will be made. All wastewater plans will conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems".

Solid Waste

As noted in Section 2.6 of the Final EA, the Department of Design and Construction will work with the Kahalu'u Neighborhood Board to develop an Integrated Waste Management Plan for the park to consider specific waste reduction and diversion opportunities which support State and County waste reduction goals. Measures will include waste minimization practices such as recycling, use of recycled materials in construction, and reuse of greenwaste.

During construction of the park, the contractor will make use of secondary resources wherever practicable, including, but not limited to, the use of crushed glass as an aggregate substitute in road paving and the use of locally-produced green waste compost as a soil amendment.

Mr. Gary Gill
August 27, 2000
Page 2

Water Pollution

Work on Phase I, including the multi-use sports fields mauka of Kamehameha highway, involves no discharge into the waters of the State, therefore a Department of the Army Permit is not required. The Army Corps of Engineers has been consulted on the project, including a site visit on August 1, 2000, and does not claim jurisdiction over Phase 1 project activities. If subsequent phases of the project involve discharges into waters of the State, then the Department of the Army will be consulted to determine permit requirements and all necessary permits will be obtained prior to commencing with work activities.

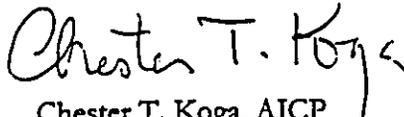
The requirement for an National Pollutant Discharge Elimination System general permit is noted in Section 10.2 of the Final EA. If, following project completion, operation of the park facilities results in wastewater discharge into State waters, then an NPDES individual permit will be obtained.

Polluted Runoff Control

Erosion control measures are discussed in Section 2.1.4, Best Management Practices (BMP), of the Final EA. Many of the practices recommended in your letter are included in the list of mitigation measures. The list of control measures that may be employed by the project contractor is not limited to the BMPs described in the Final EA. The contractor, based on professional experience and expertise, may modify the proposed BMP mitigation measures as necessary to account for unanticipated or changed site conditions.

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

BENJAMIN J. CAYetano
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 556
601 Kamohala Boulevard
Honolulu, Hawaii 96817

TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JANET E. KAWALO

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

August 16, 2000

Chester T. Koga
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941

DK		KTS	
WES	W	NM	
RTT		RF	
REC'D AUG 23 2000 RMTC			

LOG NO: 26024 ✓
DOC NO: 0007EJ11

Dear Mr. Koga:

SUBJECT: Chapter 6E-8 Historic Preservation Review – Draft Environmental Assessment Notice For the Proposed Kahalu`u Regional Park Kahalu`u, Ko`olaupoko, O`ahu
TMK: 4-7-12: 1,2,11-13, 16-19, 28 & por. 24;
4-7-13:1, 4-7-26:9, 10, 20, 21, 23

Thank you for the opportunity to comment on the DEA for the proposed Kahalu`u Regional Park. Our review is based on historic reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was made of the project areas. We have met with Mr. Jim Niermann of your staff and with John Reppun in July 2000 to discuss this project. We apologize for our delay in providing comments.

A review of our records shows that no archaeological inventory survey has been conducted for these parcels and that Kahalu`u (Kahouna) fishpond [SIHP 50-80-10-319] is currently the only known historic site within the planned regional park. However, other historic sites are likely to be present. Kahalu`u was a populous *ahupua`a* in traditional Hawaiian times and many LCA awards are documented for this area. The *mauka* portion of the park parcel contains tropaquepts and various clay soils that were traditionally used for production of taro, and later for rice and other irrigated crops. In more recent times this area has been used for cattle grazing. The *makai* parcel is also partly comprised of tropaquepts as well as dredged fills soils. Excavations for the H3 corridor have shown that historic sites in this region are frequently buried beneath historic-era soil deposits. These sites include earth ovens, hearths, and occupation deposits, cobble pavements and terraces. It is possible that similarly buried historic sites may be located at the Kahalu`u Regional Park parcels; in particular, agricultural sites are likely to be present. Also, although no subsurface cultural deposits or human burials have been previously found within the *makai* parcel, human burials have been recorded in nearby coastal areas.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamehaha Boulevard
HONOLULU, HAWAII 96817

TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JANET E. KAWELO

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

August 16, 2000

Chester T. Koga
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941

DK		KTS	
WES	W	NM	
RTT		PF	
REC'D AUG 23 2000 RMTC			

LOG NO: 26024 ✓
DOC NO: 0007EJ11

Dear Mr. Koga:

**SUBJECT: Chapter 6E-8 Historic Preservation Review – Draft Environmental Assessment Notice For the Proposed Kahalu`u Regional Park Kahalu`u, Ko`olaupoko, O`ahu
TMK: 4-7-12: 1,2,11-13, 16-19, 28 & por. 24;
4-7-13:1, 4-7-26:9, 10, 20, 21, 23**

Thank you for the opportunity to comment on the DEA for the proposed Kahalu`u Regional Park. Our review is based on historic reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was made of the project areas. We have met with Mr. Jim Niermann of your staff and with John Reppun in July 2000 to discuss this project. We apologize for our delay in providing comments.

A review of our records shows that no archaeological inventory survey has been conducted for these parcels and that Kahalu`u (Kahouna) fishpond [SIHP 50-80-10-319] is currently the only known historic site within the planned regional park. However, other historic sites are likely to be present. Kahalu`u was a populous *ahupua`a* in traditional Hawaiian times and many LCA awards are documented for this area. The *mauka* portion of the park parcel contains tropaequepts and various clay soils that were traditionally used for production of taro, and later for rice and other irrigated crops. In more recent times this area has been used for cattle grazing. The *makai* parcel is also partly comprised of tropaequepts as well as dredged fills soils. Excavations for the H3 corridor have shown that historic sites in this region are frequently buried beneath historic-era soil deposits. These sites include earth ovens, hearths, and occupation deposits, cobble pavements and terraces. It is possible that similarly buried historic sites may be located at the Kahalu`u Regional Park parcels; in particular, agricultural sites are likely to be present. Also, although no subsurface cultural deposits or human burials have been previously found within the *makai* parcel, human burials have been recorded in nearby coastal areas.

Chester T. Koga

Page 2

Therefore, we believe that an archaeological inventory survey with subsurface testing should be carried out for these parcels, prior to park development. An inventory-level survey will accomplish the following goals: (1) identify all historic sites in the project area; (2) identify which historic sites are significant; (3) determine what effects, if any, the proposed development actions will have on significant historic sites; and (4) provide plans to mitigate any "adverse effect" the development may have on significant historic sites.

Prior to beginning inventory survey work, we would recommend that the applicant provide our office with additional and more specific information on any prior land alterations that have taken place in the past. We understand that portions of the proposed park have undergone extensive land alteration (modern farming, pasture, grading, etc.); such information should first be provided our office that will assist us in determining the effects the project might have on historic sites. We also understand that geological borings have taken place and would appreciate any information regarding the findings of the samples taken and their location. An archaeological scope of work could then be designed in conjunction with this information and with the park development plans.

Should you have any questions, please feel free to call Sara Collins at 692-8026 or Elaine Jourdane at 692-8027.

Aloha,



DON HIBBARD, Administrator
State Historic Preservation Division

EJ:an

Cc: Lester Inouye, Lester H. Inouye and Associates, Inc. 1200 College Walk Suite 115,
Honolulu, HI 96817-3947 Mr. Donald Griffin, C&C of Honolulu, Department of Design
and Construction

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



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Planning
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Environmental Services
Photogrammetry
Surveying
Construction Management

August 27, 2000

Mr. Don Hibbard, Administrator
State Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Blvd.
Honolulu, Hawaii 96707

ATTN: Ms. Muffet Jourdane

SUBJECT: Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Hibbard:

Thank you for your comments dated August 16, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments we offer the following information.

Cultural resource investigation and mitigation measures have been developed in the course of several meetings with representatives from your office, the Kahalu'u Regional Park Advisory Committee (KRPAC), the City Department of Design and Construction, and R. M. Towill Corporation, consultant to the City on this project. The recommendations that developed from those meetings, discussed below, will be carried out to ensure that historic preservation concerns are addressed.

Prior to commencing with Phase 1 construction:

1. Soil sample data from borings conducted in the Phase 1 area by GeoLabs, Inc. will be provided to the State Historic Preservation Division (SHPD) for analysis and recording.
2. Backhoe trench soil sampling will be conducted by a qualified archaeologist in at least five locations within the Phase 1 area. The results of the soil investigation and subsequent analysis will be provided to SHPD.
3. Documentation, in the form of published literature and unpublished material, of historic land uses and prior land alterations in the Phase 1 area will be provided to SHPD.
4. In the event that cultural deposits are discovered during soil investigations or during construction activities, construction work will be put on hold until SHPD, KRPAC, and other appropriate government agencies are contacted.

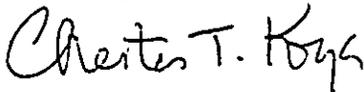
Mr. Don Hibbard
August 27, 2000
Page 2

Prior to commencing with construction in subsequent phases of park development:

1. An archaeological inventory survey will be conducted by a qualified archaeologist working in consultation with SHPD for all areas of the proposed park outside of the Phase 1 area. The area adjacent to the surplus soccer field and old rice mill will be given special attention, including subsurface investigation for potentially significant sites identified during surface reconnaissance. Park areas makai of Kamehameha Highway will be included in the inventory survey.
2. A Cultural Resources Mitigation Plan will be prepared for significant sites identified in the Archaeological Inventory Survey. Measures may include Preservation (passive protection or active study), Adaptive Re-use (rehabilitation of taro lo'i - perhaps commercially), Interpretive efforts (signage, educational activities), and "Curator Agreements" between the community and SHPD.

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

BENJAMIN J. CAYETANO
GOVERNOR



GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4186
FACSIMILE (808) 586-4186

April 18, 2000

DK	
APR 20 2000	

Mr. Gary Yee, Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, Second Floor
Honolulu, Hawaii 96813

Dear Mr. Yee:

Subject: Draft Environmental Assessment for the Kahalu'u Regional
Park, Oahu

Thank you for the opportunity to review the subject document. We
have the following comments.

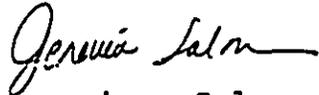
1. Please describe how the wastewater generated by the project will be handled. Will it be connected to the City's wastewater facilities or treated by separate individual systems? If individual systems are planned, please consult with the Department of Health regarding this matter.
2. Please include a "no effect" letter from the State Historic Preservation Division in the final environmental assessment. Otherwise consult with SHPD and carry out their recommendations to ensure that historic preservation concerns are addressed.
3. Please consult with the State Department of Transportation concerning the proposal to construct a traffic circle at the intersection of Kahekili Highway and Kamehameha Highway.
4. Please consult with the affected private land owners (kuleana lands & Kalahiki property) within the mauka section of the project site and document this consultation (by including comment letters or meeting minutes) in the final environmental assessment.
5. Please include more details about the plans to modify the existing boat launching ramp. We are particularly concerned about impacts to the adjacent shoreline and near shore waters.

Mr. Yee
Page 2

6. We recommend that glassphalt be used in constructing roadways, trails path and other types of pavements associated with this project.

Should you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,



Genevieve Salmonson
Director

c: R.M. Towill

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION
SINCE 1930

Planning
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Environmental Services
Photogrammetry
Surveying
Construction Management

August 27, 2000

Ms. Genevieve Salmonson,
Director
Office of Environmental Quality Control
236 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

ATTN: Ms. Jeyan Thirugnanam

SUBJECT: Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Ms Salmonson:

Thank you for your comments dated April 18, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments we offer the following information:

1. *Please describe how the wastewater generated by the project will be handled.*
The Department of Design and Construction will coordinate with the Department of Planning and Permitting and the Department of Environmental Services for wastewater services to the project. Plans for temporary wastewater systems will be submitted to the State Department of Health (DOH) for review and approval. When sewers become available in Kahalu'u, connection will be made to park facilities. All wastewater plans will conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems".
2. *Please include a "no effect" letter from the State Historic Preservation Division (SHPD) in the final environmental assessment. Otherwise, consult with SHPD and carry out their recommendations to ensure that historic preservation concerns are addressed.*

Correspondence with the State Historic Preservation Division (SHPD) is included in the Final EA along with discussion of impacts and mitigation measures regarding possible historic and archaeological sites. Cultural resource mitigation measures were developed through several meetings with representatives from SHPD, DDC, the Kahalu'u Regional Park Advisory Committee, and R. M. Towill Corporation. The recommendations that developed from those meetings, including preparation of an archaeological inventory survey and cultural resources mitigation plan, will be carried out to ensure that historic preservation concerns are addressed.

Ms. Genevieve Salmonson
August 27, 2000
Page 2

3. *Please consult with the State Department of Transportation concerning the proposal to construct a traffic circle at the intersection of Kahekili Highway and Kamehameha Highway.*

A copy of the Draft EA was sent to the Department of Transportation for review. A copy of the resulting correspondence is included in the Final EA. Relevant comments are incorporated into Section 2.1.8, Access.

4. *Please consult with the affected private land owners (kuleana lands & Kalabiki property)...and document this consultation in the Final EA.*

The private land owners affected by the proposed park have been involved in planning for the Kahalu'u Regional Park since the Park's inception in the Kahalu'u Watershed Workplan. Consultation with kuleana land owners and other private property owners will be included in Appendix F, Resident Consultation, of the Final EA.

5. *Please include more details about the plans to modify the existing boat launching ramp.*

The proposed boat launch facility includes paved access and parking for vehicles and boat trailers, construction of a comfort station and canoe house, landscaping, and repair work to an existing Rip Rap wall lining the north side of the Kahaluu Channel. The facility will utilize the existing concrete boat ramp. No repair work or additional construction to the boat ramp is required. All appropriate permits and approvals will be secured for the project prior to initiating work activities.

6. *We recommend that glassphalt be used in constructing roadways, trails, paths or other types of pavement associated with this project.*

Whenever practicable, the contractor will utilize glassphalt in the construction of roadways, trails, paths and other types of pavements associated with this project.

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5007

KAZU HAYASHIDA
DIRECTOR
DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

APR 25 2000

DK		KTS	
WES		NM	
RT	P	RF	ng
REC'D APR 26 2000 RMTc			

IN REPLY REFER TO:
HWY-PS
2.8066

Mr. Chester T. Koga
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

Dear Mr. Koga:

Subject: Draft Environmental Assessment Notice for the Proposed Kahaluu Regional Park, Kahaluu District, Oahu, Hawaii

Thank you for your letter of March 21, 2000, requesting our review and comments regarding the subject documents.

We have the following comments:

1. The traffic study should evaluate a traffic scenario not only during weekday peak periods but also during weekend peak periods when sporting events are scheduled at the park.
2. We have future plans to widen Kamehameha Highway in that vicinity and widening will most likely occur on the mauka side. Therefore, a minimum setback of 50 feet on the mauka side Kamehameha Highway fronting the regional park should be set aside for this future highway widening.
3. Construction plans within Kamehameha Highway rights-of-way must be submitted for our review and approval.

Sincerely,

Brian K. Minaii
BRIAN K. MINAAI
Deputy Director

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



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Planning
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Environmental Services
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August 27, 2000

Mr. Brian K. Minaai, Deputy Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813

SUBJECT: Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Minaai:

Thank you for your comments dated April 25, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments we offer the following information:

1. *The traffic study should evaluate a traffic scenario not only during weekday peak periods, but also during weekend peak periods when sporting events are scheduled at the park.*

The traffic study acknowledges that the maximum traffic impact of the proposed park would occur during special events, such as regional sporting tournaments. Such events would be held on weekends when traffic on Waihe'e Road and Kamehameha Highway is at its lowest volume, however, delays to traffic on both roads can still be expected from special event traffic. Traffic mitigation measures might be required on a case by case basis and can be imposed as a condition of special event permits for park use issued by the City.

2. *...a minimum setback of 50 feet on the mauka side Kamehameha Highway fronting the regional park should be set aside for...future highway widening.*

Park design will maintain a minimum setback of 50 feet on the mauka side of Kamehameha Highway for future highway widening.

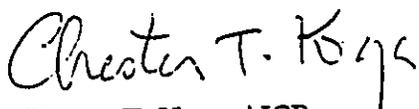
3. *Construction plans within Kamehameha Highway rights-of-way must be submitted for our review and approval.*

For any work conducted within Kamehameha Highway rights-of-way, construction plans will be submitted to your office for review and approval.

Mr. Brian K. Minaai
August 27, 2000
Page 2

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843



April 10, 2000

JEREMY HARRIS, Mayor

EDDIE FLORES, JR., Chairman
CHARLES A. STED, Vice-Chairman
JAN M.L.Y. AMII
HERBERT S.K. KAOPUA, SR.
BARBARA KIM STANTON

KAZU HAYASHIDA, Ex-Officio
ROSS S. SASAMURA, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

DK			
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RTT			
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SH *DT* *EW* *4/11/00*

Mr. Chester T. Koga
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941

Dear Mr. Koga:

Subject: Your Letter of March 21, 2000 Regarding
the Draft Environmental Assessment for the
Proposed Kahaluu Regional Park, Kahaluu, Oahu

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the proposed regional park.

Our comments of January 8, 1998 on the proposed water availability for the regional park are still applicable and enclosed for your use. In addition, Board of Water Supply approved double check valve backflow prevention assemblies are required after all domestic water meters serving the proposed regional park.

If you have any questions, please contact Kathryn Kami at 527-5221.

Very truly yours,


CLIFFORD S. JAMILE
Manager and Chief Engineer

Enclosure

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96843
PHONE (808) 527-6180
FAX (808) 533-2714

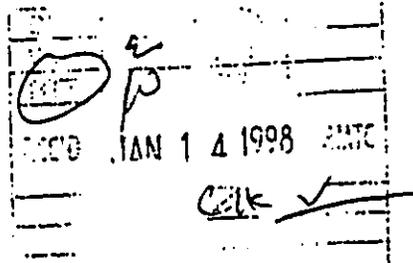


January 8, 1998

JEREMY HARRIS, Mayor
WALTER O. WATSON, JR., Chairman
MAURICE H. YAMASATO, Vice Chairman
KAZU HAYASHIDA
MELISSA Y. J. LUM
FORREST C. MURPHY
JONATHAN K. SHIMADA, PhD
BARBARA KIM STANTON

RAYMOND H. SATO
Manager and Chief Engineer

Mr. Masatomo Murata
R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941



Dear Mr. Murata:

Subject: Your Letter of December 8, 1997 Regarding the Proposed Water Availability for Kahaluu Regional Park, TMK: 4-7-12: 1, 2, 11, 12, 13, 16, 18, 19 and 23 (por)

Thank you for your letter regarding the proposed park development. The existing water system is presently adequate to accommodate the proposed development.

The applicant should investigate the availability and use of nonpotable water for the proposed irrigation. If nonpotable water is not available or its use is not feasible, a report of the investigation should be submitted to us before we will consider the use of potable water.

The availability of domestic water will be confirmed when the building permit is submitted for our review and approval. The development plan will require action by the Department of Land Utilization; therefore, the plan should be approved by that department before we take action on the proposed development. When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.

If a three-inch or larger meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.

If you have any questions, please contact Joseph Kaakua at 527-6123.

Very truly yours,


RAYMOND H. SATO
Manager and Chief Engineer

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96843
PHONE (808) 527-6180
FAX (808) 533-2714



January 8, 1998

JEREMY HARRIS, Mayor
WALTER O. WATSON, JR., Chairman
MAURICE H. YAMASATO, Vice Chairman
KAZU HAYASHIDA
MELISSA Y.J. LUM
FORREST C. MURPHY
JONATHAN K. SHIMADA, PhD
BARBARA KIM STANTON

RAYMOND H. SATO
Manager and Chief Engineer

Mr. Masatomo Murata
R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941

DR	MTS
RTT	RM
REC'D	JAN 14 1998
	RMTC
	GRK ✓

Dear Mr. Murata:

Subject: Your Letter of December 8, 1997 Regarding the Proposed Water Availability for Kahaluu Regional Park, TMK: 4-7-12: 1, 2, 11, 12, 13, 16, 18, 19 and 23 (por)

Thank you for your letter regarding the proposed park development. The existing water system is presently adequate to accommodate the proposed development.

The applicant should investigate the availability and use of nonpotable water for the proposed irrigation. If nonpotable water is not available or its use is not feasible, a report of the investigation should be submitted to us before we will consider the use of potable water.

The availability of domestic water will be confirmed when the building permit is submitted for our review and approval. The development plan will require action by the Department of Land Utilization; therefore, the plan should be approved by that department before we take action on the proposed development. When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.

If a three-inch or larger meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.

If you have any questions, please contact Joseph Kaakua at 527-6123.

Very truly yours,


RAYMOND H. SATO
Manager and Chief Engineer

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION
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August 28, 2000

Mr. Clifford S. Jamile
Manager and Chief Engineer
Board of Water Supply
630 South Beretania Street
Honolulu, HI 96843

SUBJECT: Draft Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Jamile:

Thank you for your comments dated April 10, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. The information you provided will be incorporated into project design as park development proceeds. Construction plans, when complete, will be forwarded to your office for review.

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niemann at 842-1133.

Very truly yours,

Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Don Griffin, Department of Design & Construction, City & County of Honolulu

City Fax 4/14/00

DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU HI 96813

JEREMY HARRIS
Mayor



KENNETH E. SPRAGUE, P.E., Ph.D.
Director

BARRY FUKUNAGA
Deputy Director

IN REPLY REFER TO:
EST 00-016

April 6, 2000

DK	LIKES
WES	LNK
RIT	RE
REC'D	APR 10 2000 RMTC
	GW

Mr. Chester T. Koga
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, HI 96817-4941

Dear Mr. Koga:

**SUBJECT: Draft Environmental Assessment Notice for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii**

In response to your request of March 21, 2000, we have reviewed the subject Draft Environmental Assessment (EA) and have the following comments:

1. The Draft EA should address best management practices (BMPs) during construction to mitigate discharge of pollutants.
2. Runoff from parking lots and paved areas should be diverted to landscaped areas and/or water quality inlets to minimize discharge of pollutants.
3. Please provide a complete list of Federal, State, City and County required permits and approvals.
4. On page 10, the reference to the "Department of Public Works (DPW)" should be changed to the "Department of Facility Maintenance (DFM)".
5. On page 15, the term "Liquid Waste" should be changed to "Wastewater".
6. On page 24, we believe the reference to the "Soil Conservation Service" should be changed to the "Natural Resources Conservation Service".

Should you have any questions, please call Jack Pobuk at 527-6696. "Mahalo."

Very truly yours,

KENNETH E. SPRAGUE
Director

KES:nt

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION
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August 28, 2000

Dr. Kenneth E. Sprague, Director
Department of Environmental Services
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Jack Pobuk

Subject: Draft Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Dr. Sprague:

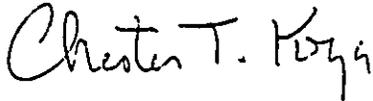
Thank you for your comments dated April 6, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. The following response to your comments will be included in the Draft EA as follows:

- 1) The Environmental Assessment will be revised to address best management practices (BMPs) during construction in order to mitigate discharge of pollutants.
- 2) The project will incorporate the design of the parking lots and paved areas to divert runoff to landscaped areas and/or water quality inlets to minimize discharge of pollutants.
- 3) The Environmental Assessment will provide a complete list of Federal, State, City and County required permits and approvals.
- 4) The Environmental Assessment will be corrected in its reference to the Department of Facility Maintenance (DFM).
- 5) The Environmental Assessment will be corrected in its reference to Wastewater rather than Liquid Waste.
- 6) The Environmental Assessment will be corrected in its reference to the Natural Resources Conservation Service.

Dr. Kenneth E. Sprague
August 27, 2000
Page 2

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

CTK / F... 4/14/00

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

3375 KOAPAKA STREET, SUITE H425
HONOLULU, HAWAII 96819-1869

JEREMY HARRIS
MAYOR



ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

April 4, 2000

DK	KTS
WFC	WAG
RTT	RF
REC'D APR 10 2000 RMTC	
CTK	

Mr. Chester T. Koga
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941

Dear Mr. Koga:

Subject: Draft Environmental Assessment Notice for the Proposed
Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

We received your letter dated March 21, 2000, regarding the proposed Kahaluu Regional Park.

The Honolulu Fire Department (HFD) requests that the following be complied with for all Group A, B, M, and S Occupancies:

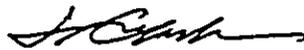
1. Provide a private water system where all appurtenances, hydrant spacing, and fire flow requirements meet Board of Water Supply standards.
2. Provide a fire department access road to within 150 feet of the first floor of the most remote structure. Such access shall have a minimum vertical clearance of 13 feet 6 inches, be constructed of an all-weather driving surface complying with Department of Transportation Services (DTS) standards, capable of supporting the minimum 60,000 pound weight of our fire apparatus, and with a gradient not to exceed 20%. The unobstructed width of the fire apparatus access road shall meet the requirements of the appropriate county jurisdiction. All dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround having a radius complying with DTS standards.

Mr. Chester T. Koga
Page 2
April 4, 2000

3. Submit construction plans to the HFD and the Department of Planning and Permitting.

Should you have any questions, please call Battalion Chief Kenneth Silva of our Fire Prevention Bureau at 831-7778.

Sincerely,



JOHN CLARK
Acting Fire Chief

JC/KS:jl

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



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Construction Management

August 27, 2000

Acting Fire Chief John Clark
City and County of Honolulu
Honolulu Fire Department
3375 Koapaka Street, Suite H425
Honolulu, Hawaii 96819-1869

SUBJECT: Draft Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Chief Clark:

Thank you for your comments dated April 4, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments, we offer the following information:

- 1) The proposed project will provide a private water system where all appurtenances, hydrant spacing, and fire flow requirements meet Board of Water Supply standards.
- 2) The proposed project will provide a fire department access road to within 150 feet of the first floor of the most remote structure. Such access shall comply with all State and County standards. All dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround having a radius complying with State and County standards.
- 3) Construction plans will be submitted to the HFD and DPP for review and approval.

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,

Chester T. Koga, AICP
Project Manager

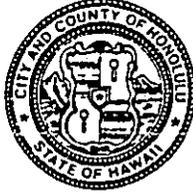
CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE (808) 523-4414 • FAX (808) 527-6743 • INTERNET www.co.honolulu.hi.us/planning

JEREMY HARRIS
MAYOR



RANDALL K. FUJIKI, AIA
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

April 24, 2000

Mr. Chester T. Koga
R.M. Towill Corporation
420 Waiakamilo Street, Suite 411
Honolulu, Hawaii 96817-1133

2000/CLOG-1877 (ST)

DK		KTS	
WES	<i>W</i>	NM	
RTT	<i>T</i>	RF	
REC'D - APR 25 2000 RMTC			
		<i>etc</i>	

Dear Mr. Koga:

Draft Environmental Assessment (DEA):
Kahaluu Regional Park
Kahaluu, Oahu
Tax Map Keys 4-7-12: 1, 2, 11-13, 16-19, por. 24, 28;
4-7-13: 1; 4-7-26: 9, 10, 20, 21, 23

We have reviewed the DEA for the above-referenced project received on March 24, 2000, and confirm that a major Special Management Area (SMA) Use Permit and Shoreline Setback Variance (SV) is required. Inasmuch as we anticipate that this DEA will become the primary document utilized for both applications, we find the following revisions/additions are required:

SECTION 1.2 GENERAL DESCRIPTION

An additional exhibit which displays the tax map key (TMK) boundaries and numbers of the parcels involved in this project should be provided. The private and Kuleana properties landlocked by the proposed park, should also be identified by TMK. Similarly, Figure 2 should be revised to identify the boundaries of the existing Kahaluu Community Park.

This section, as well as others in this document, mentions the KEY Project without further describing what it is, or its significance to the proposed regional park. The Final EA should provide this clarification.

SECTION 1.3 SPECIAL MANAGEMENT AREA (SMA)

This section should be revised to clarify that a shoreline setback variance (SV) is required for park construction within 40 feet of the certified shoreline (*Determined by the State Department of Land and Natural Resources*).

Mr. Chester T. Koga
Page 2
April 24, 2000

SECTION 2.1.1 Use Characteristics

The discussion of the goals and objectives of the Kahaluu Regional Park Advisory Committee should be relocated to Section 3.1 regarding compliance with land use plans, policies and regulations.

The revised section must clearly describe how the proposed regional facility will be used (eg., play fields for organized community sport leagues, hard courts with lighting for night play to be used by the general public, etc.).

This section should also be expanded to disclose the timetable and estimated cost for the development of the proposed park. Although briefly discussed in Section 2.2.1 Project Schedule, a more detailed description of the improvements planned for each of the five (5) phases, as well as the anticipated duration of each phase, should be provided. An exhibit illustrating the different phases of this proposed park should also be included.

SECTION 2.1.2 Physical Characteristics

This section must be expanded to more completely describe the physical characteristic of various site improvements and recreational features proposed. The size of the various park areas should be provided (eg., Acreage of soccer and baseball fields, the area devoted to hard surfaces such as tennis, basketball and volleyball courts, as well as parking lots); the size of the picnic area, dog park, model boat launching area, as well as the area to remain as wetlands, should be individually described.

This section must also provide general dimensions and features of various structures proposed, including the gymnasium complex, canoe hale, comfort stations and maintenance facility. The Final EA should also describe the length and dimensions of the pedestrian bridge, wetland and lagoon paths and boardwalk. Elevation illustrations of these various structures should be included.

An expanded discussion is needed on the existing access ways for the "landlocked" private and kuleana properties located within the park. The overall length and width of these access ways and whether they are currently unpaved or not should be disclosed. This section must also elaborate on whether grading, filling and/or paving of these access ways are proposed, and provide estimates of such quantities if planned.

Mr. Chester T. Koga
Page 3
April 24, 2000

Section 2.1.3 Construction Characteristics

This section must be expanded to provide a more comprehensive discussion of the construction activities required to develop the proposed regional park. Perhaps separated by phases (a total of 5), general estimates on the amount of grubbing, grading and fill required for various components of the park must be provided.

Furthermore, we note that the Geotechnical Evaluation and Materials Testing (Appendix A) referred to in this section, indicates that a separate subsurface evaluation is required for the construction of structures associated with the Regional Park. Consequently, the outcome of such subsequent evaluations may result in the need to relocate proposed structures, and/or increase costs of their construction.

This section must also be expanded to elaborate on the proposed preservation and/or enhancement activities contained in the Draft Wetland Mitigation Plan (Appendix C). This section should clearly outline the final wetland enhancement activities which are proposed for the various wetland areas. A better description should also be provided on the size of each of the wetland areas to be enhanced.

This section should also briefly discuss why other wetland enhancement activities, such as basin sculpting, creating nesting mounds, and the establishment of native vegetation, were not considered. In addition, details on the amount and type of fencing proposed for wetland "G" should be disclosed.

Section 2.3.2 Topography and Soils

The existing topography of the project site should be described by a topographic map which should be included as an exhibit.

SECTION 3 AFFECTED ENVIRONMENTS

In the absence of a study and evaluation of the location and construction conditions for the proposed structures (eg., Gym Complex, canoe hale, maintenance facility, etc.), it is unclear how the determination that the proposed project will not result in adverse impacts to surface or groundwater can be made.

Although continued access to private parcels and kuleana land located within the Park boundaries has been indicated, an additional discussion should be provided on the park's possible impacts (eg., noise, night lighting, security, etc.) to these landowners and any mitigation that may be required.

Mr. Chester T. Koga
Page 4
April 24, 2000

SECTION 3.4 SCENIC AND VISUAL RESOURCES

The visual analysis provided is insufficient to determine that proposed park improvements will not impact existing scenic resources. Additional information, including elevation drawings and or simulations should be provided which illustrate how proposed improvements, especially makai structures such as the canoe hale, comfort station, will not negatively impact this area.

Clarification should also be provided on the significance of the six (6) viewports identified in the "sensory analysis."

SECTION 3.5 NOISE

An expanded discussion should be provided on the possible noise impacts, primarily to the private and kuleana properties located within the regional park boundaries. Park hours and types of organized recreational league use of the facilities could result in significant concerns for noise impacts.

SECTION 5.6 SPECIAL MANAGEMENT AREA (SMA) RULE AND REGULATIONS

This section must be expanded to discuss how the development of the proposed park conforms with the policies and objectives of the Coastal Zone Management Act (Section 205A-2, HRS), and the Special Management Area guidelines (Section 25-3.2, ROH).

Should you have any questions, please contact Steve Tagawa of our Land Use Approvals Branch at 523-4817.

Sincerely yours,



For RANDALL K. FUJIKI, AIA
Director of Planning
and Permitting

R.F.:lg

cc: Office of Environmental Quality Control
Gary Doi, DDC
Bill Balfour, DPR

POSSE: J4914

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



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Construction Management

August 27, 2000

Mr. Randall K. Fujiki, AIA, Director
Department of Planning & Permitting
650 South King Street
Honolulu, Hawaii 96813

ATTN: Mr. Steve Takagawa

SUBJECT: Draft Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Fujiki:

Thank you for your comments dated April 24, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments, we offer the following information:

SECTION 1.2 GENERAL DESCRIPTION

1. An exhibit displaying the tax map key boundaries and numbers of the parcels involved in this project will be included in the Final EA.
2. Figure 2 will be revised to identify the boundaries of the existing Kahalu'u Community Park.
3. The Kualoa-Heeia Ecumenical Youth (KEY) Project is a community-based family center created with the mission of assisting residents in the Kualoa-Heeia area to gain greater control over their own lives and the future of their community. Towards this end, the KEY Project organizes and supports numerous programs and services including literacy programs, an alternative learning center, artistic enrichment workshops, nutrition and health education, legal assistance, work referral service, food bank program, elderly services, and family counseling. It receives funding from private and government sources, and is a United Way Agency. This information will be included in the Final EA.

Although the KEY project will not be a part of the proposed park, there will be a synergistic relationship between the KEY project and the park as centers for community activity. Additionally, several members of the Kahalu'u Neighborhood Board and Kahalu'u Regional Park Advisory Committee are also active in the KEY Project Administration.

SECTION 1.3 SPECIAL MANAGEMENT AREA (SMA)

1. The Final EA will clarify that a shoreline setback variance (SSV) will be required for any construction conducted within 40 feet of the certified shoreline. This requirement will apply to work conducted in the park area makai of Kamehameha Highway. Proposed improvements on the mauka side of the Highway are more than 40 feet away from the certified shoreline and will not require a SSV.

SECTION 2.1.1 USE CHARACTERISTICS

1. The discussion of the goals and objectives of the Kahalu'u Regional Park Advisory Committee has been relocated to Section 5.9 in the Final EA.
2. Section 2.1.1 is revised to describe how the proposed regional facility will be used.
3. The timetable for development of the proposed park and project phasing is discussed in Section 2.2.1., Project Schedule. Phase 1 is the only active phase of development at present. Because subsequent phases are dependent on the availability of funding, a timetable for their development is not yet established. This information will be included in the Final EA. Elaboration of the project timetable in Section 2.1.1 is not considered necessary.

SECTION 2.1.2 PHYSICAL CHARACTERISTICS

1. This section has been revised to describe, in as much detail as is available, the physical characteristics of proposed site improvements and recreational features. Details that are currently unavailable will be developed further in later phasing as project funds become available.
2. Design work has begun for Phase 1 of the project only. Phase 1 is limited to earth moving and paving and includes no structural improvements. Dimensions of proposed structures, including the gymnasium complex, canoe hale, comfort stations, and maintenance facility, as well as the length and dimensions of the pedestrian bridge, wetland and lagoon paths, and boardwalk will be developed in later phases of development as funds become available.
3. The Kalahiki kuleana is located behind the KEY Project buildings. Access to the Kalahiki family parcel will be provided from Waihe'e Road through the existing KEY Project parking to a graded dirt driveway. At present, access to the Kalahiki kuleana is via a graded dirt road exiting onto Waihe'e Road. At a future phase of park development, access to the Kalahiki kuleana will be re-routed to a new park road that will service the gymnasium/court complex.

Two other kuleana parcels adjacent to Waihe'e Stream will use an existing, graded dirt maintenance access road that runs along Kahalu'u Lagoon and exits onto Kamehameha Highway near the makai boat launch parking lot driveway. The Department of Design and Construction currently maintains the road for access to a dredging easement.

2.1.3 CONSTRUCTION CHARACTERISTICS

1. This section has been expanded to provide additional details of construction characteristics. At present, grubbing and grading information is available for Phase 1 only. Design and construction plans for subsequent phases will be developed as project funds become available. Project phasing is discussed in Section 2.2.1, Project Schedule.
2. The ultimate design of structures proposed for the park is dependent on a separate subsurface evaluation to be performed at each phase of development. We acknowledge that the outcome of these evaluations might result in the need to relocate proposed structures and might impact the cost of their construction. Such determinations will be made during subsequent development phases as funding becomes available.
3. Wetland information in Section 2.1.3 of the Final EA will be expanded to describe the wetland enhancement activities proposed for each wetland. The size of each wetland area proposed for enhancement measures will also be provided.
4. Wetland enhancement measures were developed to expand wildlife habitat and to increase flood storage area. These objectives can be satisfactorily met through maintenance and removal of vegetation within the wetland areas, therefore, basin sculpting, nesting mounds, and other such measures were not considered necessary at this stage of project development. As stated in Section 3.3, Wetlands, of the Final EA, native vegetation will be emphasized in park landscaping, including within flood zones and wetland areas to provide erosion protection and sediment filtration. The amount and type of fencing around wetland area G will be determined at a later date. The amount of fencing will be sufficient to surround the entire demarcated area of wetland G.

SECTION 2.3.2 TOPOGRAPHY AND SOILS

1. An exhibit displaying topographic features of the project site is enclosed in this letter.

SECTION 3 AFFECTED ENVIRONMENTS

1. The determination that the proposed project will not result in adverse impacts to surface or ground water is made based on the following:

The project will comply with all necessary permits and approvals that may be required at each phase of development. This includes all federal and state permits required by sections

401, 402, and 404 of the Clean Water Act of 1977 (Department of the Army Permit, Department of Health Water Quality Certification, Coastal Zone Management Approval, National Pollutant Discharge Elimination System Permit). Best Management Practices will be employed in all phases of development to control storm water run-off and construction dewatering. Further, all structures proposed for the project will be sited outside the 500-year flood plane.

2. Possible concerns about noise, night lighting, and security were raised during park planning in consultation with the owners of kuleana parcels and other private property. The kuleana parcels adjacent to Waihe'e Stream were determined to be sufficiently distant from lighted fields and courts not to be disturbed by night lighting and noise.

The Kalahiki family expressed concern over noise generated from the gymnasium and paved courts proposed to be located near their home. When that phase of development is funded, retaining walls will be included in the design at sufficient height to attenuate sound from the park facilities. Additionally, landscaping will be used as a screen around all of the kuleana parcels within the park to minimize visual impacts.

Security concerns were carefully considered during project planning and design in consultation with area residents and the police and fire departments. Police have been present at all of the Kahalu'u Neighborhood Board Meetings and the Kahalu'u Regional Park Advisory Committee, as have community members who are employed in police work and fire protection.

SECTION 3.4 SCENIC AND VISUAL RESOURCES

1. Detailed designs for park building structures have not been developed. As funding becomes available for successive phases of park development, more detailed simulations and drawings will be developed to depict visual and scenic resources in the park area. All structures will be designed to minimize intrusion on existing view planes and scenic resources. Area residents will be consulted during each phase of development to gain input on visual impacts in the area.

In siting park structures, consideration has been given to potential visual impacts. For example, the canoe hale and comfort station proposed for the makai park area are set back from the roadway and situated adjacent to the existing tree line. From the vantage of traffic on Kamehameha Highway, these structures would be visually backed by trees and shrub vegetation and would not interfere with views of the ocean.

Also, the proposed gymnasium / pool facility is set back off of Waihe'e Road sufficient distance to avoid interfering with views from the roadway. It is also sited down-slope and out of the line-of-sight to the ocean from the Kalahiki kuleana. These facilities were sited to address concerns of the Kalahiki family over possible interference with their ocean views. If

Mr. Randall K. Fujiki
August 27, 2000
Page 5

these facilities are reoriented during their design, the kuleana families and other property owners will be consulted about possible impacts.

2. The significance of the six view ports identified in Figure 9 is clarified in Section 3.4 of the Final EA.

SECTION 3.5 NOISE

1. The discussion of noise impacts related to park activities is expanded in Section 3.5 of the Final EA.

SECTION 5.6 SPECIAL MANAGEMENT AREA (SMA) RULE AND REGULATIONS

1. An expanded discussion of how the development of the proposed park conforms with the policies and objectives of the Coastal Zone Management Act and the Special Management Area Guidelines is included in Section 5.6 of the Final EA.

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 529-3111
http://www.honolulu.police.org
www.co.honolulu.hi.us

Handwritten: 4/14/00

JEREMY HARRIS
MAYOR



LEE D. DONOHUE
CHIEF
MICHAEL CARVALHO
ROBERT AU
DEPUTY CHIEFS

OUR REFERENCE CS-TL

April 14, 2000

DK	RECEIVED	APR 13 2000	RMT
APR 13 2000	APR 13 2000	APR 13 2000	APR 13 2000
APR 13 2000	APR 13 2000	APR 13 2000	APR 13 2000
APR 13 2000	APR 13 2000	APR 13 2000	APR 13 2000

Mr. Chester Koga
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

Dear Mr. Koga:

Subject: Draft Environmental Assessment Notice for the Proposed Kahaluu Regional Park Kahaluu District, Oahu, Hawaii

Thank you for the opportunity to review and comment on the subject document.

This project will have an impact on calls for police service. Therefore, we recommend that the concepts of Crime Prevention through Environmental Design be applied in designing the park. Officers from the District 4 Community Policing Team are available to assist. This can help to minimize criminal activity and enhance safety for park users.

Further, we have concerns about the long-range impact on traffic and the recreational use of the area. More vehicles will be expected in the area because of the proposed activities at the park. During the weekends, this will impact the already heavy North Shore-bound traffic and will potentially cause more traffic congestion in the area.

We may have further comment as the plans are developed.

If there are any questions, please call me at 529-3255 or Lieutenant John Thompson of District 4 at 247-2166.

Sincerely,

LEE D. DONOHUE
Chief of Police

By

Signature of Eugene Uemura
EUGENE UEMURA
Assistant Chief
Support Services Bureau

cc: Mr. Donald Griffin,
Department of Design and Construction
Lester Inouye and Associates

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
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R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

August 27, 2000

Chief Lee D. Donohue
City and County of Honolulu
Police Department
801 South Beretania Street
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Chief Donohue:

Thank you for your comments dated April 14, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments we offer the following information:

- 1) The Department of Design and Construction will coordinate efforts with the Police Department, during the design and development of the park, to minimize criminal activity and enhance safety for park users.
- 2) According to the Traffic Study for the proposed project the maximum traffic impact will be during special events. However, during the times of special events, other traffic on the adjoining roads would be less than the weekday peak hours. The analysis at the driveways, assuming complete turnover of the parking spaces in each lot, resulted in peak hour conditions at the intersection of Waihee Road and Kamehameha Highway similar to existing long delays for the left turns onto the highway.

The Study states that a roundabout or traffic circle being proposed by the State Department of Transportation (DOT) may reduce delays for traffic. The DOT is in the process of designing a traffic circle to be located at the intersection of Kamehameha and Kahekili Highways. All plans for the traffic circle are being designed, developed and processed by the DOT.

In order to alleviate additional traffic impacts, the proposed project incorporates several separate parking areas and driveways. Nearest Kamehameha Highway the proposed project will provide a lot for approximately 83 vehicles, between the sports fields and Waihee Road. A larger parking lot, for 100 vehicles, will be located mauka of the sports fields to serve the sports field, gymnasium, swimming pool and outdoor courts. The driveway serving the larger parking lot connects to smaller parking area near the street, which is also served by another driveway at its makai end. Existing driveways to the Kahaluu Ecumenical Youth (KEY) Project building and a recreation center are located farther mauka along Waihee Road. The Makai Section will have 6 trailer stalls and 23 other parking spaces.

Chief Lee D. Donohue
August 27, 2000
Page 2

The proposed project includes plantings and landscaping near the intersection of Kamehameha Highway and Waihee Road. These plantings will be set back far enough from the highway so that future highway widening can be accommodated without obscuring intersection sight lines. At the driveway connections, proper design to maintain adequate sight lines for entering and existing vehicles should provide sufficient capacities for driveway movements. All development plans for the proposed park project will be coordinated with, as well as reviewed and approved by the State and County prior to construction.

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

PACIFIC PARK PLAZA • 711 KAPIOLANI BOULEVARD, SUITE 1200 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4529 • FAX: (808) 523-7730

JEREMY HARRIS
MAYOR



DK	KTS
WES	NM
(RTT)	RF
REC'D MAY 30 2000 RMTC	
C. M. G.	

CHERYL D. SOON
DIRECTOR

JOSEPH M. MAGALDI, JR.
DEPUTY DIRECTOR

TP3/00-01504R

May 25, 2000

Mr. Chester T. Koga
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

Dear Mr. Koga:

Subject: Kahaluu Regional Park

In response to your March 21, 2000 letter, the draft environmental assessment for the proposed project was reviewed. The following comments are the result of this review:

Section 2.1.7 Access

1. On Page 15, the statement is made that street parking will also be available on Waihee Road. On-street parking should not be counted on for park use. All parking required for park use (including special events, regional events, etc.) should be provided within the park.
2. The first full paragraph on Page 17 states that the vehicular volumes, even with the additional project traffic, would not satisfy the warrants for traffic signals. This discussion should identify the warrants (pedestrian, peak hour, etc.) that have been checked.
3. The second full paragraph on Page 17 discusses the roundabout or traffic circle that is being proposed by the State Department of Transportation for the intersection of Kamehameha and Kahekili Highways. It is unclear whether a roundabout or a traffic circle is being designed.

Mr. Chester T. Koga
Page 2
May 25, 2000

Appendix E - Traffic Analysis

1. The section on "Existing Traffic Conditions" (Page 1) should include a discussion regarding the condition of the roadways (such as roadway widths, sidewalk widths, project frontage along Waihee Road, and right-of-way and roadway sectional widths on Waihee Road) fronting the proposed project site. A scaled drawing (possibly 1"=40') showing the Kamehameha Highway/Waihee Road intersection and roadway conditions along the project's frontage on both Kamehameha Highway and Waihee Road should be included as part of the report. The statement is made that the Waihee Road approach at Kamehameha Highway is of sufficient width that right turns can be made past a vehicle waiting to turn left onto the highway. This should be shown on the scaled drawing.
2. The first sentence in the last paragraph on Page 1 states that long delays occur for traffic wishing to turn left from Waihee Road to Kamehameha Highway. A clarification as to whether the peak period/hour warrant for traffic signals is satisfied should be included.
3. The first paragraph on Page 2 describes the makai site and its driveway to the highway. The location of this driveway should be identified or shown on a site plan. If this driveway could be aligned with Waihee Road, a roundabout should be considered to provide additional, if not all, movements.
4. The second paragraph on Page 2 discusses the parking that is proposed for the mauka site. Off-street parking areas in addition to those proposed need to be considered in the design of the project to adequately accommodate regional events, such as soccer tournaments. If adequate off-street parking areas are not provided, on-street parking on Waihee Road may not be sufficient.
5. The first paragraph of the section on "Possible Mitigation Measures" (Page 3) does not recommend a roundabout for the Kamehameha Highway/Waihee Road intersection. We believe that a roundabout is feasible because of the great difference in traffic volumes between Waihee Road and Kamehameha Highway and the safety benefits that a roundabout would provide.
6. Consideration should be given to constructing a raised concrete median along the park project length on Waihee Road. This would facilitate pedestrian crossing of Waihee Road.
7. Consideration should be given to providing an additional ingress/egress driveway onto Kamehameha Highway to alleviate traffic congestion on Waihee Road during large events.

Mr. Chester T. Koga
Page 3
May 25, 2000

Should you have any questions regarding these comments, please contact Faith Miyamoto of the Transportation Planning Division at 527-6976.

Sincerely,



CHERYL D. SOON
Director

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
Fax 808 842 1937
eMail rmtowill@hawaii.rr.com



R. M. TOWILL CORPORATION
SINCE 1930

Planning
Engineering
Environmental Services
Photogrammetry
Surveying
Construction Management

August 27, 2000

Ms. Cheryl Soon, Director
Department of Transportation Services
City & County of Honolulu
711 Kapiolani Blvd. Suite 1200
Honolulu, HI 96813

SUBJECT: Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Ms. Soon:

Thank you for your comments dated May 25, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments we offer the following information:

Section 2.1.7 Access - (changed to Section 2.1.8, Access, in Final EA)

1. All parking requirements will be accommodated within the park grounds. The EA does acknowledge that park users will also likely use on-street parking on Waihe'e Road. Parking accommodations at the park will conform with Section 21-6, Off-Street Parking and Loading, of the Land Use Ordinances of the City and County of Honolulu.
2. The traffic study prepared for the project determined that traffic signalization was not required based on an analysis of federal traffic signal warrants #1-11, as defined in Section 4C of the Federal Highways Administration Manual on Uniform Traffic Control Devices. Of these, Warrants #4, 5, and 7 are not applicable and Warrant #6 was not considered because crash data is not available for this intersection.

The Warrants that were analyzed are based on traffic volumes (with the exception of Warrant #3, Minimum Pedestrian Volume) on the minor street (Waihe'e Road). In each case, intersection approach volumes on Waihe'e Road did not meet minimum requirements to satisfy the federal warrants for signalization. Additionally, pedestrian crossings of Kamehameha Highway at Waihe'e Road were estimated at one-third of the minimum number required to satisfy Warrant #3.

3. The traffic circle being planned by the State Department of Transportation (SDOT) for the intersection of Kamehameha and Kahakili Highways is anticipated to have a positive impact directly relating to the park, however it is a separate project. All plans for the traffic circle are being designed and developed by the DOT. The final design of the proposed intersection improvement is beyond the purview of this document.

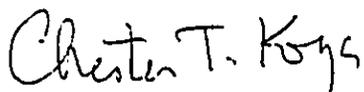
Appendix E - Traffic Analysis

1. A detailed description of roadway features and conditions has been included in section 2.1.8, *Access*, of the Final EA. A scaled drawing of the of the Kamehameha Highway / Waihe'e Road intersection was not considered necessary for the accompanying traffic analysis.
2. Clarification as to whether the peak period/hour warrant for traffic signals is satisfied is stated on Page 3: "...vehicular volumes do not satisfy minimum requirements (or warrants, defined by the Federal Highway Administration) for traffic signals."
3. The makai site driveway is identified on the Conceptual Master Plan figure in Section 2 of the Final EA. The driveway does not align with Waihe'e Road. Due to the current distance separating the driveway and Waihe'e Road intersection, and the intervening wetland area, such an alignment is not practicable.
4. Off-street parking has been considered in the overall Master Plan and will be accommodated in the final design of the different phases of development as required. Off-street parking will be provided to meet the requirements of regional events, such as sporting tournaments.
5. To mitigate existing traffic delays on Kamehameha Highway, a left-turn lane for northbound traffic on Kamehameha Highway wishing to turn onto Waihe'e Road has been approved for funding by the 2000 Legislature. While the proposed turn lane will benefit the park, it is a separate project, the need for which pre-exists park plans. The plan for the left-turn lane does not eliminate discussion of a roundabout at the intersection of Waihe'e Road and Kamehameha Highway. Section 2.1.8 discusses the roundabout as a future option.
6. The Department of Design and Construction will consider the possibility of constructing a raised median along the park project length on Waihe'e Road to facilitate pedestrian crossing of the roadway. However, because Waihe'e Road lies outside of the project boundary, such an improvement to the roadway would have to be a coordinated effort between the Department of Transportation Services and DDC.
7. Consideration has been given to providing an additional ingress/egress driveway onto Kamehameha Highway. The additional driveway would be aligned with the existing makai park driveway and would be kept closed except as special park events would require its use.

Ms. Cheryl Soon
August 27, 2000
Page 3

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

Beyond the call

March 28, 2000

R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

Attention: Mr. Chester Koga

Subject: Draft Environmental Assessment Notice for the Proposed Kahaluu
Regional Park, Kahaluu District, Oahu, Hawaii

DK		KTS	
WFS	2	RM	
SIT	7	FE	
REQD	MAR 30 2000	RNTC	
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Dear Chester,

Thank you for the opportunity to review the above subject project. We have existing aerial facilities that border the proposed Kahaluu Regional Park. If there is any new building that requires phone service, then we will need to be contacted to determine the appropriate service point. We do not foresee any other impacts at this time.

Should you have any questions, please call Garret Hayashi at 840-1438.

Sincerely,

Garret Z. Hayashi
for Wayne L. Cabral
Section Manager
Access Design & Construction

cc: K. Okumura
File (Kahaluu)

420 Waiakamilo Road
Suite 411
Honolulu Hawaii 96817-4941
Telephone 808 842 1133
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R. M. TOWILL CORPORATION
SINCE 1930

Planning
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Surveying
Construction Management

August 27, 2000

Mr. Wayne L. Cabral
Section Manager
Access Design and Construction
GTE Hawaiian Telephone Company, Inc.
P.O. Box 2200
Honolulu, Hawaii 96841

Subject: Draft Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Cabral:

Thank you for your comments dated March 28, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. The applicant will coordinate appropriate service connection with your office.

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,

Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

May 23 00 10:38a

John Reppun

(808) 239-4910

P.2



KAHALU'U NEIGHBORHOOD BOARD NO. 29

(He'eia Kea / 'Ahuimanu, Kahalu'u, Waihe'e, Ka'alaea, Waiahole, Waikane, Hakipu'u, Kualoa)

c/o KXY PROJECT • 47-200 WAIHE'E ROAD • KANE'OHE P.O. HAWAII 96744

"Let us not ever have an unhappy minority; rather, let us build a community consensus."

May 18th, 2000

Chester T. Koga
R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

Dear Mr. Koga:

SUBJECT: Draft Environmental Assessment for Proposed Kahalu'u Regional Park

At its regular meeting of March 2000, the Kahalu'u Neighborhood Board #29 authorized the *Kahalu'u Regional Park Advisory Committee (KRPAC)* to review and provide you with the board's comments on the Draft EA. The KRPAC is a standing committee of the Neighborhood Board, formally recognized and supported by City Council resolution.

The advisory committee has met for several years, reporting to the full Neighborhood Board at regularly scheduled board meetings. Comments offered here are reflective of both board and public input expressed at regular board meetings. The KRPAC is comprised of a diverse representation of recreational and community-planning interests that have contributed to the process in concert with both City planners and private consultants such as your firm. As you know, our board has worked hard to see that communities have a place at the planning table, helping to design their own future. We extend our sincere appreciation for your "inclusive" approach to planning & design.

Generally, we are satisfied that the EA is an accurate description of the project and of the community context within which the project will take place. Our specific comments and suggested corrections are included as an attachment to this letter.

Mahalo,
John L. Reppun

John Lewis Reppun
Chair, KRPAC

Attachment



Oahu's Neighborhood Board System - Established 1973

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING



KAHALU'U NEIGHBORHOOD BOARD NO. 29

(He'eia Kea / 'Ahuimanu, Kahalu'u, Waihe'e, Ka'alaea, Waiahole, Waikane, Hakipu'u, Kualoa)

c/o KEY PROJECT - 47-200 WAIHE'E ROAD - KANE'OHE P.O., HAWAII 96744

"Let us not ever have an unhappy minority; rather, let us build a community consensus."

May 18th, 2000

Chester T. Koga
R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

Dear Mr. Koga:

SUBJECT: Draft Environmental Assessment for Proposed Kahalu'u Regional Park

At its regular meeting of March 2000, the Kahalu'u Neighborhood Board #29 authorized the *Kahalu'u Regional Park Advisory Committee (KRPAC)* to review and provide you with the board's comments on the Draft EA. The KRPAC is a standing committee of the Neighborhood Board, formally recognized and supported by City Council resolution.

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Generally, we are satisfied that the EA is an accurate description of the project and of the community context within which the project will take place. Our specific comments and suggested corrections are included as an attachment to this letter.

Mahalo,
John L. Reppun

John Lewis Reppun
Chair, KRPAC

Attachment



**Kahalu'u Neighborhood Board #29 - Comments submitted re: Draft
Environmental Assessment for Kahalu'u Regional Park:**
[Comments generally follow the order and format of the Draft EA.]

Project Summary:

- Location description: should include Waihe'e along with Kahalu'u. The project actually resides, primarily, in Waihe'e ahupua'a.
- State Land Use Designation: While the SLU Designation for the park area is currently Urban, the Kaneohe Bay Master Plan, with concurrence from our NB, recommended a change from Urban to Conservation for the Kahalu'u Regional Park. The State Land Use Boundary Review process took place during the Master Plan effort (~1991-92) and involved extensive review and input from the community, NB, Kaneohe Bay Task Force etc. (see Kaneohe Bay Master Plan, page 82; Recommendation #8; Map p.23). The urban designation is now "out-of-sync" with both the County's Zoning and the Development Plan designation, with the exception of the recently acquired *Lani* property in the vicinity of the Hygienic Store/Heart of Kahalu'u business area.

Section I Project Background:

- 2nd paragraph: The reference, "All required environmental documents will be filed...", creates confusion. It is not clear whether such documents will be filed by or with the DDC (Dept of. Design & Construction).

1.2 General Description:

- In the first full paragraph, p. 3, there seems to be some confusion with regard to the term *kuleana land* and the family name *Kalahiki*. The Kalahiki family's lands are kuleana lands as are those held by other families (including - *Hookano, Shiratori, Newalu, Gohier* et al). This confusion reigns throughout the text and should be clarified.
- Mention should be made with regard to the privately-owned *Chung Wa Estate* property - also an exclusion from the park lands - along the lower reaches of Waihe'e Stream, vicinity of the proposed path around-the-lagoon (pedestrian/jogging path). KRPAC is currently working with Lester Inouye and Associates to determine the status of this property, establish contact with owner(s), and research the title/background of this property (reference document: Sequent Occupance In Waihee Valley, Oahu; Thesis, UH 1954 by Paul M.P. Chun).

1.3 Special Management Area (SMA):

- Suggest refining mention of "canoe storage" to be "proposed canoe storage"
- The facilities mentioned "may be [are] located" w/in the 40 ft. setback. This will be determined as design work takes place...after which requirement (if any) for a variance would be determined.

Vicinity Map

- We suggest identification of the fishpond as follows: Kahouua (Kahalu'u) Pond; "Kahouua" is the proper place name – the latter, its commonly used name, should be listed parenthetically.
- We also suggest identifying the marsh that lies both mauka and makai of Kamehameha Hwy north of Waihe'e Rd. on the map. A portion of this marsh is slated for City addition to the park (makai). The area, while commonly known as "Waihe'e Marsh" should be identified as follows: Haiamoa (Waihe'e) Marsh (Haiamoa is the name of the stream that bisects the area and is a more accurate place name description of that area). This will help to differentiate this designated wetland area from others, mauka, in Waihe'e ahupua'a.

Section 2 Description of Project

2.1.1 Use Characteristics

- The KRPAC "was established in compliance [to] with City Council Resolution..."
- The stated "goals & objectives" were developed through KRPAC committee meetings, reviewed at community workshops and were subsequently reviewed and approved by the Kahalu'u Neighborhood Board.
- Page 9: the section describing the inception of this project needs some rewriting. There is confusion here between the original *Kahalu'u Watershed Workplan* project, a combination of flood-control, watershed planning and recreation development in which a partnership was forged between County, State and Federal jurisdictions. Government began to consider broad planning concerns coming from this community during the effort to address 60's flooding. That project was the impetus for this park. The community's vision for a major recreational component (park and lagoon) figured prominently in the cost-benefit analysis that helped to secure critical Federal funding support.

Resolution 94-188, also mentioned in this paragraph, is a separate action that came about following years of community effort to see that the promised park component of the flood control project did not fall prey to urban and/or commercial development pressure. The formalization of a park advisory committee was supported by the City Council in this '94 resolution. That measure urged government agencies to work directly with this community-based entity in planning, designing, and management of the park.

- The 1980 NB-generated planning document, *A Planned Community: Steps on the Journey* should be dated here in the text.

2.1.2 Physical characteristics

- Figure 4.5 describes physical facilities (fields, courts, docks etc.). The notion of a "dog park" while considered by the KRPAC is not a physical characteristic and should be included elsewhere as one possible "use" of the park, along with discussion of other possible uses allowed at to-be-decided areas/time slots including *in-line skating, skateboards, etc.*
- The description of "improvement and features" includes "sports fields". The parenthetical breakdown of those facilities should read as follows: "sports fields (regulation baseball field...football field, 3 multi-use [youth soccer] fields, sports courts". Use of the open fields towards Waihe'e stream is a park management issue to be determined later, unlike the

main field(s) usage that is purposely determined by physical design. These *hack* fields may support other recreational uses including practice-sessions for a variety of sports. They are not exclusively for soccer as stated here.

2.1.3 Construction Characteristics

- Clarify that "soils are from successive dredging(s)..." of the lagoon.
- Date needed, in text, to describe when the Char & Associates wetland analysis was done.

2.1.4 Utilities

- In keeping with goals and objectives stated earlier, language here should reflect the board's desire to underground utilities in logical corridors, taking into consideration future work &/or maintenance (i.e.: under or along side service roads/pathways).

2.1.6 Liquid Waste

- The guess at when the Kahalu'u Sewers Section 31.D will occur (not anticipated for 5 years) should be attributed to a source of information. It seems excessive. The NB encourages the City to explore, and describe options and some cost comparison and analysis. The latter should also address carrying costs (Operating and maintenance). Has consideration been given to effluent re-use on site? Has consideration been given to developing a "pilot" project within the Section 3 I.D that might serve the institutions on Waihe'e Rd. makai of and including the Fire Station (Kahalu'u School, HCAP & KEY, churches, pre-school, public utility base yards etc.)?
- We suggest including plans for "dry lines" within the park that would be installed now that anticipate future options (again, in logical corridors for future maintenance and work). This will help us to avoid major renovation in the near future so as not to disturb recreation use just as it gets rolling.

2.1.7 Access

- Kahalu'u School is not mentioned in this section.
- The Traffic Circle (intersection of Kamehameha Hwy & Kahekili) has been supported by the NB and is expected to provide a much-needed "calming effect" as this park comes on line. It has been funded and is contracted out for design by the State DOT. While it is anticipated to have a positive impact – directly relating to the park, it is a separate project and should be so clarified.
- The "left turn lane", anticipated for Waihe'e Rd. has been approved for funding by the 2000 Legislature and should be viewed as a separate project from park development. The need for this turn lane pre-exists park plans. This should be noted and reflected in figures/plans.
- With regard to *kuleana/private property* access, we suggest adding language as follows (last paragraph, page 7): "...access will be provide and maintained to Waihe'e Road [...] or Kamehameha Highway, depending on design constraints.
- Access to the Kalahiki kuleana is currently planned to go through the expanded KEY Project parking lot (improvement project under construction as of this writing). That kuleana access should come off of the park access road that will lead, eventually to a gymnasium/court complex. While the Kalahiki family seemed willing to consider access through the makai KEY parking lot, events taking place at KEY are such that this access will become problematic. Alternatives should be explored.

2.1.8

Police Protection

- This section should note that the KRPAC/NB, recognized and discussed the need to consider "line-of-site" concerns for police as they are expected to discourage/monitor unwanted park activity, especially at night. While designed berms may cause some restricted vision from Waihe'e Road, we anticipate that the access road mauka of the sports field area will provide the necessary access and viewing angles needed to deter such activity. Please note our careful consideration of this subject. KRPAC/NB planning & design discussion(s) have regularly included community members who happen to be employed in police work, fire protection. Police have been present at each board meeting. The goals and objectives section also calls for on-going community involvement beyond planning & design into maintenance and operation.

2.2 Economic & Social Characteristics

2.2.1 Project Schedule

- The discussion of phasing sequences should be reflect the community's clear desire to see:
 1. Mauka-side playing fields and necessary amenities (restrooms and paved parking) completed first and as a single project unit;
 2. Makai-side shoreline park improvements (parking layout, landscaping) and a canoe/kayak facility as the second priority;
 3. Sports courts and gym/pool complex would follow, pending funding. It is acknowledged that funding for the gym/pool complex is dependent on either future City funding and/or other, private funding sources (private foundations etc.) Design work, however, should provide some measure of detail for such facilities.
- Wetland mitigation should be identified as a phase that is already underway and will be "on-going". Community volunteers have already started to clear back vegetation (hau, "fiddlewood") that is encroaching on the wetland area between the lower baseball field (next to Kahalu'u School) and the Kalahiki kuleana. The KRPAC, KEY's Community Development Program, staff members from the environmental consulting firm of AECOS and others provide supervision. The effort has the blessing of US Fish & Wildlife Service, based on discussions taking place over several years.
- The "Kipuka" area, mauka of KEY is also a phase "in progress", undertaken by community volunteers. Clearing of underbrush and general maintenance of the site has been undertaken by volunteers. Design scenarios for a planned amphitheater, cultural component are on the drawing board and reflect a continuing discussion between community, planners and others
- Temporary provision for access to kuleana parcels will continue until a permanent access corridor is agreed upon. These kuleana are key components of the historical and cultural landscape or context of the park. Continued protection and integration of these sites into the overall park scheme, by design, provides a reminder of the living history of this site and its roots in taro, rice and other forms of agriculture.
- Planning and construction of "floating docks" at several designated sites along the lagoon bank, while not funded or scheduled, will be community-based projects. Their timing and construction are dependent on volunteer design, construction and funding. Permitting responsibilities are being explored by the KRPAC.

2.3.3 Hydrology

- Paragraph 2 of this section should identify the date of the "Kahalu'u Watershed Workplan", for clarification sake – so as not to have this document confused with others.
- Paragraph 3 ("Impacts") states that "Waihee Stream is currently subjected to serious erosion and undercutting of the banks" without explanation. Currently, grazing of water buffalo belonging to adjacent land owners is allowed to occur both in the stream bed and into the park area extends from the Kaneohe side of the stream into City park lands contributing to erosion causes. Plans to curtail such activity should go hand in hand with eventual re-vegetation of stream banks and maintenance of a planted riparian zone (for erosion control and shading to drop stream temperature).

3.1 Surrounding Land Uses...

- 2nd Paragraph: With regard to access to *kuleana* and other "privately owned properties" within the park, we suggest that not ruling out the option of connecting to Kamehameha Highway (along with Waihee Rd) at this time... pending detailed design consideration to the matter.

3.2 Flora & Fauna

- The description of Waihe'e Stream (p.28) is excellent. It is important to note that the stream will remain in its natural state (without channelization) and that the more passive uses are purposely situated towards that drainage vector while active uses (playing fields/facilities) are concentrated on higher ground towards Waihee Rd., up and out of the floodplain.
- We suggest addition of "and endemic" after "indigenous" (and on p.36) to reflect the kind of plants and trees anticipated in landscaped habitats.

3.3 Wetlands

- The description (first sentence) of impacts is confusing and might be clarified by the following suggested change:
"The proposed project will temporarily impact some of the existing wetlands on site due to construction activities [however...existing wetlands]."

3.4 Scenic and Visual Resources

- Paragraph 3 relating to impacts makes reference to replacing an "existing storage area"; we are not sure what area this is a reference to.

3.6 Historic/Archaeological Resources

- SHPD mention of the history of taro, succeed by rice, then grazing is accurate. There is, however, no discussion in this section of the expected coincidence of *kuleana* in this vicinity and the connection to the area's history. Similarly, the existence of auwai (irrigation ditches), lo'i, an old rice mill site (pointed out to archaeologists on site) are also not mentioned in any significant way.

While the community-based park plan has, in fact, been careful to integrate this cultural landscape, we suggest including mention of key reference materials here. Waihe'e Valley's rich history, and the descent of lo'i & auwai (mauka) to estuary & ancient fishpond (makai)

are key elements of that landscape. The system of use and habitation is well documented in Paul M. P. Chun's August 1954 thesis (UH - submitted towards an MA degree) entitled Sequent Occupance In Waihee Valley, Oahu.

As part of the on-going use/programs for this park, we anticipate work on interpretation and/or restoration of some of the cultural landscape features and functions of the area.

- We suggest that, in keeping with the Council Resolution recognizing the KRPAC, the latter be specifically listed here as one of the entities to be kept apprised of "any unidentified cultural remains..." as the project takes place.

Section 5 Relationship to State and County Land Use Plans and Policies

- Generally, this section does an excellent job of relating how this project comports with various State and County plans and policies...with one exception: The Kaneohe Bay Master Plan (KBMP) is overlooked. While our Board, KRPAC participants, and the park plan itself may reflect many of the elements included in the KBMP, it is important that this EA formally address the relationship of this park plan with the latter. Our Neighborhood Board, together with neighboring Kaneohe Neighborhood Board, worked hard to identify and address a wide range of issues, concerns and opportunities relevant to Kaneohe bay and its surrounding watersheds. The resultant document was given its "planning authority" (still supported today) by the State Legislature (Act 208, SLH 1990). That act recognized Kaneohe Bay as a "unique and treasured resource" calling for a plan that would be utilized as "the recommended guideline" for the bay. The effort addressed both bay and watershed influences on the same, touching on many topics relevant to the subject EA including wetland protection, open space and access issues, land use designations (see SLU discussion above), stream protection, protection of class AA waters etc. The plan specifically cites the following relevant points:
 - Open Space: Kahalu'u Regional Park/Lagoon is identified as an important "public open space...public access to the Bay" (KMBP p.34, Sect 4.8.1-8).
 - Ocean Access/Fisheries: the site is acknowledged for importance as a place for "small boat access...use of flood control lagoon" (KMBP Sect 4.8.2-7). Again, in Section 4.9.2.C (p.47), the plan recognizes the "Kahalu'u inshore area near Hygienic store" as an established nehu fishing grounds important for commercial fisheries, and as a limited/alternative access for small boats and canoes.
 - Future Parklands Additions: The KBMP also sets the stage for the acquisition of lands currently under consideration for addition to the park: (KMBP p. 37 - "Ka'alaea Watershed") "9. Consider adding land *makai* of Kamehameha Highway near Waihe'e Marsh to the adjacent Kahalu'u Regional Park. There is potential for "boardwalks" through the mangrove and estuarine environment."
 - Stream/Habitat Protection: (p.36, Sect 4.8.2 - 8) The plan advocates creation of "a streambelt along Waihe'e stream to protect water quality and prevent flooding."

Reference to that plan here would be appropriate as the KBMP effort was widely supported following extensive government agency and community input over a two-year time frame.

- Page 38 – Table 1 should explain the occurrence of business zoning for the .497 acre parcel listed therein. This is a remnant parcel, formerly owned by the Lau family and just acquired by the City. Section 5.4 also describes how the various zonings and designations fit with park development. We suggest adding to the last line of that section as follows:

“The community based park assists...for all age groups in the [Kahalu'u] Kualoa-to-Heeia community[.], including potential for education, community gardens and open market.”

Section 6. Alternatives to the Proposed Action

6.1 No Action

- Following the first paragraph (“..in the vicinity.”), we would suggest adding language that describes this project’s role in fulfilling the “cost/benefit” criteria for the original Kahalu’u Watershed Workplan. The promise of diverse recreational benefits – as proposed herein – contributed to efforts to secure Federal funding for flood control (similar to Ho’omaluhia Park/Flood Control).

6.2 Alternative Site

- Suggested changes for paragraph 1:
“The proposed site [is] was selected based on the City’s intent.....parks. No reasonable alternative site is currently available in this watershed area for the City and County of Honolulu to accomplish a similar scale or function of the development.”

Section 7 “Relationship between...”

- We suggest labeling features listed here such as a Botanical Garden area/Amphitheater (the “Kipuka” area) on the Master Plan/Insets drawings included in the EA.

Section 9 Determination

(1) “Involves an irrevocable commitment...”

- Suggested language clarification:
“However, the area has historically been modified for various agricultural and public works (flood control project) uses.”

(2) “Curtails the range...”

- add language: “...as a whole regional park complex[.] including habitat, agriculture, cultural resources and additional access to water resources of Kaneohe Bay/watersheds.”

(3) “Conflicts...”

- the mention of “a high quality stream” here should be referenced (is this from the report on Waihee Stream from DLNR – DAR, William Devick – provided to RM Towill?)

(4) Substantially affects public health

- Add mention of the benefit to public health that results from provision for athletic activity critical to a preventative health approach for island residents.

(7) “Involves a substantial degradation...”

- Again, mention is needed regarding the contribution to disturbance resulting from a history of public works dredging at this site.

(8) "Is individually limited but cumulatively has considerable effect..."

- We suggest additional language here to reflect the positive impact that this park will have, effectively mitigating/reversing cumulative impact(s) of extensive coastal development around Kaneohe Bay. Specific revisions to this paragraph are also suggested as follows:
 "The proposed project.....Functional Plan for recreation as well as community-based plans (Kaneohe Bay Master Plan, others)..... is proposed as a regional park to meet existing and future needs within and beyond the Kahalu'u community."

(9) "Substantially affects..."

- Suggested language addition to last line of paragraph: "and restore wetlands, stream and estuarine areas to maintain wildlife habitats..."

(11) "Affects or is likely to suffer damage..."

- add language following paragraph to further explain improvements to flooding conditions: The area that are planned for active use – official playing fields described in phase I – will be constructed on lands that have been lifted above the floodplain.

References

- Changes to this section with regard to inclusion of Kaneohe Bay master plan, 1954 Waihee thesis mentioned earlier.

John L. Reppun

**For Kahalu'u NB#29;
 Chair, KRPAC**

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August 27, 2000

Mr. John L. Reppun
Chair, KRPAC
Kahalu'u Neighborhood Board No. 29
c/o KEY Project
47-200 Waihe'e Road
Kane'ohe HI 96744

SUBJECT: Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Reppun:

Thank you for your comments dated May 18, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments we offer the following information. Responses are itemized by the headings used in your letter.

Project Summary:

- "Waihe'e" added to location description.
- The recommendation for changing the State Land Use designation from "Urban" to "Conservation" has been added to the project summary and to Section 5.2, State Land Use Law.

Section 1 Project Background:

- Text revised to read "...documents will be filed by the DDC."

1.2 General Description:

- Text revised throughout document to clarify the term *kuleana*, and explain the situation with the Kalahiki family land.
- Current status of the privately-owned Chung Wa Estate is described in the text.
- Sequent Occupence is Waihee Valley (1954) Oahu is referenced.

1.3 Special Management Area (SMAs):

- Text revised to read "...proposed canoe storage...".
- Text revised to read "...may be located...".

Vicinity Map:

- Fishpond identified as "Kahouna (Kahalu'u) Pond" throughout document.
- Marsh identified as "Haiamoa (Waihe'e) Marsh" throughout document.

2.1.1 Use Characteristics:

The discussion of Kahalu'u Regional Park goals and objectives was moved to Section 5.8 per Department of Planning and Permitting recommendation. Section 2.1.1 is rewritten to describe proposed park uses.

- Text revised to read "...in compliance with City Council Resolution..." and moved to Section 5.8.
- Development of park "goals and objectives" described in Section 5.8.
- Section describing inception of the project rewritten as recommended and moved to Section 5.8.
- Significance of Resolution 94-188 described in Section 5.8.
- *A Planned Community: Steps on the Journey* dated as (1980) in text.
- 2.1.2 Physical Characteristics:**
 - "Dog park" and other uses moved to Section 2.1.1, Use Characteristics.
 - Parenthetical breakdown of "sports fields" revised as recommended.
 - Use of open fields near Waihe'e Stream discussed as a future park management issue.
- 2.1.3 Construction Characteristics:**
 - Text revised to read "...successive dredgings...".
 - Wetland analysis dated in text as (October 1993).
- 2.1.4 Utilities:**
 - Text revised to reflect Board's desire to underground utilities.
- 2.1.6 Liquid Waste:**
 - Section 2.1.6, Liquid Waste changed to Section 2.1.7, Wastewater
 - The ultimate design of the park sewer system will be determined in later phases of park development as funding becomes available. At that time, the city will explore, in collaboration with KRPAC, such options as effluent reuse and the installation of "dry lines" in anticipation of future needs.
- 2.1.7 Access:**
 - Section 2.1.7, Access changed to Section 2.1.8.
 - Kahalu'u School added.
 - Traffic circle at Kam Hwy and Kahekili clarified as a separate State Department of Transportation project.
 - Left turn lane project described as a separate State Department of Transportation project.
 - Text revised to read "access will be provided and maintained to Waihe'e Road or Kamehameha Highway, depending on design constraints."
 - Discussion of Kalahiki kuleana access through KEY project added to text.
- 2.1.8 Police Protection:**
 - Section 2.1.8 changed to Section 2.1.9
 - Discussion of park security and "line-of-sight" deterrence added to text.
- 2.2 Economic & Social Characteristics:**
 - Discussion of project phasing rewritten.
 - Wetland mitigation discussed in relation to project phasing.
 - Kipuka area discussed in relation to project phasing.
 - Access to the kuleana parcels discussed in Section 2.1.8. Role of Kuleana parcels as "living history" discussed in Section 3.6, Historic/Archaeological Resources.
 - Discussion of phasing of floating dock facilities added to text.

2.3.3 Hydrology:

- Kahalu'u Watershed Workplan dated 1968.
- Explanation of causes of stream bank erosion added to text.

3.1 Surrounding Land Uses:

- Text written so as not to rule out the Karnehmeha Highway connection as an option.

3.2 Flora & Fauna:

- Per your comment, text revised to discuss park use with respect to Waihe'e Stream.
- "endemic" added

3.3 Wetlands:

- Text revised as recommended.

3.4 Scenic and Visual Resources:

- "existing storage area" deleted.

3.6 Historic and Archaeological Resources:

- Text revised to discuss agricultural history of the site.
- References added to text.
- KRPAC added to contact list in the event that cultural remains are discovered on site.

Section 5 - Relationship to State and County Land Use Plans and Policies:

- Project's relationship with Kaneohe Bay Master Plan added to section.
- Occurrence of business zoning explained.
- Requested text revision added.

Section 6 - Alternatives to the Proposed Action:

6.1 No Action:

- Project's role in satisfying cost/benefit criteria for original Watershed Workplan explained.

6.2 Alternative Site:

- Text revised as recommended.

Section 7 - "Relationship between...":

- Labels will be added to figures as necessary.

Section 9 - Determination:

- Text revised in all subsections as recommended.
- Stream reference added.
- Benefit to public health added.

References:

- Aforementioned references added.

Mr. John L. Reppun
August 27, 2000
Page 4

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:jn

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction



University of Hawai'i at Mānoa

Environmental Center
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April 26, 2000
EA: 00204

Gary Doi
City and County of Honolulu
Department of Design and Construction
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Doi:

Draft Environmental Assessment
Kahalu'u Regional Park
Kahalu'u, Oahu

The City and County of Honolulu, Department of Design and Construction proposes a "community-based" park in Kahalu'u, involving the development of approximately 46 acres. This new Kahalu'u Regional Park will incorporate the existing Kahalu'u Community Park. The purpose of this project is to provide a community resource for recreational and cultural activities while preserving and enhancing the natural features of the area.

This review was conducted with the assistance of Kem Lowry, Urban and Regional Planning; and Sherri Hiraoka, Environmental Center.

General Comments

This project appears to be beneficial use of the land. The county has recognized the importance of consulting with the community and has designated it as a "community-based" park. While this community participation is preferable, this does not take the place of a statistic-based justification of the project. There are no demand statistics presented, no delineation of service area, or even demographic statistics that would suggest that this use would justify the cost of development. This project's place in any planned development is not clear. Population statistics, growth in the area, and evidence of overuse of existing facilities or excessive burden in needing to use distant facilities should be included in the Final EA to establish the need for the project. In addition to this, projected park use in terms of the number and types of activities predicted, and the volume of individuals and groups would be helpful.

Physical Characteristics

The proposed park will include "access ways for the privately owned Kuleana and Kalahiki properties," as stated on page 10. Have these private landowners been contacted and informed of this project? What are their thoughts?

Mr. Doi
April 26, 2000
Page 2

Construction Characteristics

The description on page 13 of construction activities involving the sports fields, include "filling up to 2 to 5 feet, relative to the existing ground elevation." This many fills in floodplain areas raise the possibility of drainage and sedimentation problems. Many of these problems and their possible mitigation are outlined in Appendix A, but it was not clear how much of these proposed mitigations would be incorporated into the final plan.

Access

The KEY Project is mentioned in several areas of the document, including on page 15 of the discussion on access. What is this KEY Project, and how does it relate to the proposed project?

Hydrology

The discussion on hydrology on page 24 indicates that "no adverse impacts are anticipated on surface or groundwater." What is the basis for this conclusion?

As a note, the United States Department of Agriculture Soil Conservation Service mentioned on page 24 is now the Natural Resources Conservation Service.

Flora and Fauna

Please provide the source of the data provided on flora and fauna on page 27. Also, scientific names would be helpful in eliminating confusion as to the species that are present.

Will construction in and around the immediate vicinity of the wetland habitat be during the period of least frequent use by waterfowl, especially the endangered Hawaiian moorhen (*Gallinula chloropus sandvicensis*)? Why are short-term impacts determined to be benign?

The potential impacts on flora and fauna, discussed on page 28, will be mitigated in part, by monitoring construction activities. What types of monitoring activities are proposed and who will carry them out?

Wetlands

Landscaping improvements, proposed on page 29, are to "enhance the aesthetic quality of the site and blend in the existing landscape." Will native vegetation be given special consideration over non-indigenous species in landscape plant selection?

What type of runoff, sediment, and erosion control are planned for the streams and wetlands in the vicinity of the project?

Why are there no impacts anticipated for Waihee (Haiamoa) Marsh? Is it located sufficiently far enough away from the project? Are the proposed activities near that area relatively minor?

Mr. Doi
April 26, 2000
Page 3

Historic/Archaeological Resources

Previous land use indicates that the project site was involved in taro production. The presence of taro terraces suggests the presence of nearby habitats. Even if land has been converted to other purposes through grading and clearing, there may still be some subsurface archaeology that remains undetected and relatively unaltered. An archaeological survey may be appropriate in former terraced areas, complemented by tests for intact deposits. In the absence of such a survey, it would be prudent to keep in mind the potential for the presence of such archaeological resources when conducting construction activities, therefore reducing the possibility of unwittingly destroying any potentially significant deposits.

Coastal areas typically were targeted for living, farming, and fishing. There is the potential for subsurface archaeological remains in or near the site, especially in areas of dune deposits. Archaeological and traditional cultural surveys may be helpful in determining the presence of any significant archaeological resources, or lack thereof.

Potential Long-Term Impacts and Mitigation

"No long-term adverse impacts are anticipated to result from development of the proposed regional park." This statement on page 35 does not take into account that those wetlands that are to be filled will suffer "long-term adverse impacts," regardless of the fact that their impacts will be mitigated. What will happen if the proposed mitigation measures do not perform adequately to replace the filled wetlands? Is there a contingency plan in place?

A botanical garden/cultural "kipuka" is briefly discussed on page 36. However, this part of the project is not otherwise discussed and it was not designated on the Conceptual Master Plan on page 11. The location of such a project may need to be carefully planned. Excess fertilizers used in such a garden could potentially affect nearby wetlands, Waihee Stream, or Kahalu'u Lagoon.

Economic and Social Characteristics

Other areas of concern that were not discussed in the section on social impacts include possible disruption of the neighborhood due to loitering late at night and the possibility of night activities affecting nearby residents. Perhaps a curfew could be established to ensure that lights and noise would not inconvenience local residents at night. Parking lots could be locked after such a curfew to reduce the potential for loitering and drinking.

Has the applicant considered the use of energy-efficient facilities? Buildings such as the gymnasium could benefit from designs that maximize ventilation and natural lighting. Night events could perhaps implement energy efficient lighting with timers to reduce the potential for lights to be kept on during times of inactivity.

Mr. Doi
April 26, 2000
Page 4

No Action Alternative

Discussion of this alternative claims on page 41 that "no action" "would retain the majority of the site in its present barren condition." This appears to be a biased view, as the site is hardly "barren." The land supports several wetlands, which are apparently habitat or range for numerous flora and fauna.

Conclusion

The Kahalu'u Regional Park seems to be a desired project and one that will benefit the Kahalu'u community. The preparation of an Environmental Impact Statement is probably not necessary, however there are several deficiencies in the draft that should be addressed. Of these, the most significant is the lack of data supporting the need for the project. We appreciate the opportunity to comment on this Draft EA.

Sincerely,


Peter Rappa
Assistant Environmental Coordinator

cc: City and County of Honolulu, Department of Design and Construction
OEQC
James Moncur, WRRRC
Kem Lowry, Urban and Regional Planning
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August 27, 2000

Mr. Peter Rappa
Assistant Environmental Coordinator
UH Environmental Center
2550 Campus Road, Crawford 317
Honolulu, Hawaii 96822

SUBJECT: Draft Environmental Assessment (EA) for the Proposed Kahaluu Regional Park
Kahaluu District, Oahu, Hawaii

Dear Mr. Rappa:

Thank you for your comments dated April 26, 2000 regarding the subject Draft EA for the proposed Kahaluu Regional Park. In response to your comments we offer the following information:

General Comments

Kahaluu Regional Park was conceived as the recreational component of the *Kahaluu Watershed Workplan* project, a combination of flood-control, watershed planning, and recreation development created by a partnership of County, State, and Federal government. The *Watershed Workplan* was developed in response to community concerns following major flood events in the 1960's. The *Watershed Workplan* was also strongly influenced by the community's vision for a major recreational component (park and lagoon) to flood control. At present, recreational facilities in the area are limited to the joint Kahaluu Elementary School / Kahaluu Community Park facilities mauka of the proposed park site. The deficiency in local recreational facilities has been recognized by area residents, the Kahaluu Neighborhood Board, and the City government in numerous planning documents since the 1968 *Watershed Workplan* (See also: *Kahaluu Watershed EIS*, 1975; *A Planned Community: Steps on the Journey*, 1980; *Kaneohe Bay Master Plan*, May 1992).

Physical Characteristics

Kuleana owners, notably the Kalahiki family, and other private landowners affected by the park have been consulted during project planning and are supportive of efforts to make the park a reality. Documentation of communication with kuleana owners is included in Appendix F, Resident Consultation, of the Final EA.

Construction Characteristics

The proposed project is designed primarily for flood control and watershed management. The park component is subordinate to the objectives of flood control. The final design will incorporate as many features and mitigation measures as necessary to reduce or eliminate drainage and sedimentation problems.

Mr. Peter Rappa
August 27, 2000
Page 2

Access

The Kualoa-Heeia Ecumenical Youth (KEY) Project is a community-based family center created with the mission of assisting residents in the Kualoa-Heeia area to gain greater control over their own lives and the future of their community. Towards this end, the KEY Project organizes and supports numerous programs and services including literacy programs, an alternative learning center, artistic enrichment workshops, nutrition and health education, legal assistance, work referral service, food bank program, elderly services, and family counseling. It receives funding from private and government sources, and is a United Way Agency. This information is included in the Final EA.

Although the KEY project will not be a part of the proposed park, there will be a synergistic relationship between the KEY project and the park as centers for community activity. Additionally, several members of the Kahalu'u Neighborhood Board and Kahalu'u Regional Park Advisory Committee (KRPAC) are also active in the KEY Project Administration. The KEY project, in consultation with KRPAC and the Kalahiki family has, agreed to provide access to the Kalahiki family kuleana via the KEY Project parking lot.

Hydrology

No adverse impacts are anticipated on surface or groundwater sources. The project will comply with all necessary permits and approvals that may be required at each phase of development. This includes all federal and state permits required by sections 401, 402, and 404 of the Clean Water Act of 1977 (Department of the Army Permit, Department of Health Water Quality Certification, Coastal Zone Management Approval, National Pollutant Discharge Elimination System Permit). Best Management Practices will be employed in all phases of development to control storm water run-off and construction dewatering. Further, all structures proposed for the project will be sited outside the 500-year flood plane.

"Soil Conservation Service" has been revised to "Natural Resources Conservation Service" throughout the text.

Flora and Fauna

The source of flora and fauna data is attributed in the text. Scientific names have been added to the text to accurately identify species in the park vicinity.

Construction on Phase 1, which consists primarily of earth moving activities, will be conducted during dry periods to allow the graded soils to dry sufficiently before compaction. Although it was a secondary consideration, waterfowl activity is expected to be reduced at such times due to reduced water levels in the wetland areas.

Short-term impacts are anticipated to be insignificant to flora and fauna because they are temporary in nature. Project activities will likely alter the local distribution and abundance of birds using the site, but will not impact the overall abundance of these species in the region. Moreover, project-related disturbance of local wildlife will end as construction activities are concluded. Throughout construction activities, the major wetland areas will remain untouched and under the scrutiny of the

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U.S. Fish and Wildlife Service, KRPAC, and area residents. The project contractor will monitor construction activities to ensure that no encroachment into wetland areas occurs.

Wetlands

Native vegetation will be given special consideration over non-indigenous species in landscape plant selection.

Runoff, sediment, and erosion control in the Waihe'e Stream and the wetland areas will be accomplished through landscape planting and vegetation maintenance. Wetland enhancement will provide more storage for storm water run-off, thereby reducing flooding in adjacent non-wetland areas.

Waihe'e (Haiamoa) Marsh, approximately 36 acres in size, is located northwest of Waihe'e Road about 100 yards from the proposed park site at the nearest point. Due to the distance and an intervening block of development (including a HECO substation, Hawaiian Telephone Company baseyard, residences, and the Kahalu'u Baptist Church), the proposed development is not anticipated to have any adverse impact on the Marsh.

Historic / Archaeological Resources

Correspondence with the State Historic Preservation Division is included in the Final EA along with discussion of impacts and mitigation measures regarding possible historic and archaeological sites. Cultural resource mitigation measures were developed through several meetings with representatives from SHPD, DDC, the Kahalu'u Regional Park Advisory Committee, and R. M. Towill Corporation. The recommendations that developed from those meetings, including preparing an archaeological inventory survey and cultural resources mitigation plan, will be carried out to ensure that historic preservation concerns are addressed.

Potential Long-Term Impacts and Mitigation

As noted in the *Wetland Mitigation Plan* prepared by AECOS, Inc., the wetlands proposed to be filled are too small, isolated, and infrequently wetted to serve as habitat for waterbirds, fish, or shellfish, or to serve as flood water storage. The loss of these three patches, though permanent, does not constitute a significant adverse impact to wetland functions in the area, particularly in light of enhancement measures that will be undertaken on the remaining wetland areas. Any increase in wetland fauna habitat or flood storage that results from wetland enhancement efforts will be an improvement over existing wetland function, even with the loss of the three wetlands proposed for filling. No contingency plans are proposed for wetland mitigation.

The need for careful planning of the botanical garden / cultural "kipuka" is noted in the text of the Final EA. The potential hazard posed to water resources by the use of fertilizers and pesticides is also noted in Section 4.2, Potential Long-term Impacts and Mitigation, in the Final EA.

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Economic and Social Characteristics

Possible concerns about noise, night lighting, and security were raised during park planning in consultation with the owners of kuleana parcels and other private property. Security concerns were carefully considered during project planning and design in consultation with area residents and the police and fire departments. Police have been present at all of the Kahalu'u Neighborhood Board Meetings and the Kahalu'u Regional Park Advisory Committee, as have community members who are employed in police work and fire protection.

As the project progresses, the Department of Design and Construction will coordinate efforts with the Police Department to incorporate concepts of "Crime Prevention through Environmental Design" into the final design for the park. At present, designed berms may cause some restricted vision from Waihe'e Road, however, the access road mauka of the sports field area will provide the necessary access and viewing angles needed to deter unwanted activity in the park.

The possibility of establishing a park curfew is mentioned in Section 2.1.9, Public Services, of the Final EA.

Your recommendation for considering the use of energy-efficient facilities is noted.

No Action Alternative

Your comment regarding use of the term "barren" is noted. The term has been replaced with "unmaintained".

Should you have questions or require additional information, please do not hesitate to contact myself or Mr. Jim Niermann at 842-1133.

Very truly yours,



Chester T. Koga, AICP
Project Manager

CK:ja

cc: Lester H. Inouye & Associates
Mr. Gary Q.L. Yee, Department of Design & Construction

Appendix E

Traffic Analysis

Existing Traffic Conditions

The project is located both mauka and makai of the intersection of Kamehameha Highway and Waihee Road; the mauka site is presently vacant and no traffic is generated from it. The makai project site is currently used by fishermen and boaters; a driveway to Kamehameha Highway is located between Waihee Road and Waihee Stream.

Kamehameha Highway is an arterial highway which serves much of Oahu. Adjacent to the site, Kamehameha Highway is a two-lane highway and is part of State Route 83 under the jurisdiction of the State Department of Transportation, Highways Division, with a posted speed limit of 35 miles per hour. The pavement width varies from 20 feet to 24 feet and the pavement is flanked by unpaved shoulders that are 2 to 8 feet in width.

Waihee Road is a curbed street under the jurisdiction of the City and County of Honolulu, with one lane provided for each direction of travel. Parallel parking along the curbs is generally permitted. At Kamehameha Highway, Waihee Road traffic is controlled by a stop sign and the approach is of sufficient width that right turns can be made past a vehicle waiting to turn left onto the highway.

The State Highways Division, in October, 1997, counted a total volume of nearly 20,000 vehicles entering the intersection of Kamehameha Highway and Waihee Road. The highest hourly volume in the morning was counted between 7:00 AM and 8:00 AM; the highest afternoon volume occurred between 3:15 PM and 4:15 PM. Summaries of the count data are shown below:

approach from:	Weekday	Peak Hours (total volume)	
	<u>24-hour count</u>	<u>morning</u>	<u>afternoon</u>
Waihee Road	1,770	232	103
Kamehameha Highway, southbound	8,535	683	614
Kamehameha Highway, northbound	9,478	436	782
Total entering volume	19,783	1,351	1,499

Long delays occur for traffic wishing to turn left from Waihee Road to Kamehameha Highway during the existing peak hours because of the high volumes on the highway; the volume of left turns, however, is low and long queues do not develop. Right turns onto the highway have only short delays, and the short delay to left turns from the highway occasionally cause delays to the northbound through traffic on the highway. Traffic signals, which could mitigate the long peak hour delays to left turns onto the highway, are not warranted by the traffic volumes at the intersection.

Potential Traffic Impact of Project

The makai site is proposed to be developed for ocean-related activities. A canoe house, boat launch ramp, and comfort station are proposed along with 6 trailer stalls and 23 other parking spaces. Paving of the vehicular areas of the site will formalize the driveway to the highway, where only right turns in and right turns out are proposed.

The mauka site will include several areas served by separate parking lots. Nearest Kamehameha Highway, a large team sports field will accommodate a baseball field or two standard soccer fields. A parking lot for 83 cars will be provided between the field and Waihee Road. A parking lot for 100 vehicles located mauka of this field will serve the field as well as a gymnasium, swimming pool, and outdoor courts. The driveway serving the larger parking lot connects to the lot near the street, which is also served by another driveway at its makai end. Existing driveways to the Kahaluu Ecumenical Youth (KEY) project building and a recreation center are located farther mauka along Waihee Road.

Estimates of peak hour traffic volumes at the park's driveways are shown in Figure _____. Conditions at the driveways were analyzed using the unsignalized intersection procedure from the *Highway Capacity Manual (Third Edition)*, in which a "Level of Service" (LOS) is identified from the average delay, ranging from "A" representing short delays (less than 5 seconds) through "F" (greater than 45 seconds); LOS D is considered acceptable]. Right turns from the makai site to Kamehameha Highway were found to have short delays (LOS A) in the morning peak hour, and LOS B in the afternoon peak hour. Level of Service A conditions were found for both peak hours at each driveway to Waihee Road

The maximum traffic impact of the proposed park would occur during special events; during these times, other traffic on the adjoining roads would be less than during the weekday peak hours. The analyses at the driveways were repeated assuming complete turnover of the parking spaces in each lot and other volumes were estimated from the traffic counts. The following table summarizes the findings of the analyses:

Average delay (seconds), LOS driveway at	Weekday Peak Hours		Maximum site traffic
	morning	afternoon	
Gym/Pool/Courts			
left turn in from Waihee Road	2.8 A	2.5 A	2.8 A
shared lane (right and left turns) out	4.2 A	4.2 A	4.8 A
Sports Fields			
left turn in from Waihee Road	2.8 A	2.6 A	2.9 A
shared lane (right and left turns) out	4.3 A	4.0 A	4.6 A
Makai boating Site			
right turn onto Kamehameha Highway	4.5 A	7.0 B	6.7 B