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March 5, 2012

Gary Hooser, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Mr. Hooser:

Subject: Draft Environmental Assessment For Waimanalo Bay Beach Park Master Plan (TMK: 4-1-015:015), Ahupua'a Of Waimanalo District Of Ko'olaupoko, O'ahu Hawai'i

The City and County of Honolulu, Department of Design and Construction (DDC) has reviewed the Draft Environmental Assessment (DEA) for the subject project and anticipates a Finding of No Significant Impact (FONSI) determination. We transmit this DEA and Anticipated FONSI (DEA-AFONSI) for the Waimanalo Bay Beach Park Master Plan for the next publication of the Environmental Notice.

We have enclosed a completed OEQC Publication Form in MS Word format, one copy of the document in pdf format and a copy of this letter on a CD along with one hard copy of the Draft EA.

Please call Catie Cullison at PBR Hawaii (521-5631) or Terry Hildebrand at the Department of Design and Construction (768-8401) if you have any questions.

Very truly yours,

Chris Takashige
for Lori M.K. Kahikina, P.E.
Director

LMKK:li

Enclosures

c: PBR Hawaii - Catie Cullison

Project Name: Waimanalo Bay Beach Park Master Plan

Publication Form
The Environmental Notice
Office of Environmental Quality Control

Instructions: Please submit one hardcopy of the document along a with determination letter from the agency. On a compact disk, put an electronic copy of this publication form in MS Word and a PDF of the EA or EIS. Please make sure that your PDF documents are ADA compliant. Mahalo.

Applicable Law:	HRS 343
Type of Document:	Draft Environmental Assessment
Island:	Oahu
District:	Koolaupoko
TMK:	4-1-015:015
Permits Required:	Special Management Area Use Permit; Shoreline Setback Determination; Compliance with Ch.6E, HRS (Historic Preservation); Conditional Use Permit-minor; Public Infrastructure Map Amendment
Applicant or Proposing Agency:	City and County of Honolulu, Department of Design and Construction, Facilities Division, Planning Branch
Address	650 S. King Street, 11th floor
Contact & Phone	Terry Hildebrand, Planner (808) 768-8401
Approving Agency/ Accepting Authority:	City and County of Honolulu, Department of Design and Construction
Address	650 S. King Street, 11th floor
Contact & Phone	Lori M.K. Kahikina, P.E., Director (808) 768-8480
Consultant:	PBR Hawaii & Associates, Inc.
Address	1001 Bishop Street, Suite 650, Honolulu, HI 96813-3484
Contact & Phone	Catie Cullison, Project Manager (808) 521-5631

Draft Environmental Assessment

Waimānalo Bay Beach Park Master Plan

Prepared for:

City and County of Honolulu
Department of Design and Construction

Prepared by:

PBR HAWAII
& ASSOCIATES, INC.

March, 2012

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ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
ALISH	Agricultural Lands of Importance
CZM	Coastal Zone Management
DDC	City and County of Honolulu, Department of Design and Construction
DPR	City and County of Honolulu, Department of Parks and Recreation
DLNR	State of Hawai‘i Department of Land & Natural Resources
DOH	State of Hawai‘i Department of Health
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
HAR	Hawai‘i Administrative Rules
HRS	Hawai‘i Revised Statutes
LID	Low Impact Development
LSB	University of Hawai‘i Land Study Bureau
LUO	Land Use Ordinance
LWCF	Land and Water Conservation Fund
NRCS	Natural Resource Conservation Service
OEQC	State of Hawai‘i, Office of Environmental Quality Control
ROH	Revised Ordinances of Honolulu
SHPD	State Historic Preservation Division
SLUD	State Land Use District
SMA	Special Management Area
TMK	Tax Map Key
WWTP	Waimānalo Wastewater Treatment Plan

PROJECT OVERVIEW

The City and County of Honolulu has prepared a Master Plan for Waimānalo Bay Beach Park. The purpose of the Master Plan is to set forth an orderly and logical design for the addition of outdoor recreation elements in the Park. At the outset, recreational elements anticipated by the Department of Parks and Recreation included more camping and the addition of sports fields. In preparing the Master Plan, the City and their consultant team engaged with the community to understand the community's desired Park elements. Through the process of community engagement, specific Park elements were identified, and strong themes emerged as important to the Park, as follows:

- Maintain the security and rural, forested character of the Park
- Improve existing Park facilities including repair of comfort stations and supporting infrastructure
- Add Park services including camping, picnicking and sports fields
- Utilize Low Impact Development (LID) and green building techniques for new improvements

The Master Plan that developed through the planning process includes sports fields, an increase in the number of camp sites, two group camping/gathering areas, walking trails, picnic areas along with comfort stations and parking areas.

The proposed Master Plan elements are compliant with land use controls of the City, State and Federal government and not expected to have a significant impact on the natural or social environment. The primary mitigation measures employed with the Master Plan are to avoid construction in sensitive areas of the Park including: areas of known archaeological resources; intact sand dunes; large trees; and the floodplain. In the areas where earth movement and/or construction is proposed, Archaeological Inventory Survey prior to action is recommended. Mitigation will be implementation of archaeological monitoring alongside best management practices for construction site management. Long term, ecological impacts are proposed to be minimized by utilizing sustainable building materials, sourced locally when possible, that can withstand the coastal environment. The Master Plan and Environmental Assessment anticipate the possibility of lighting one sports field although expense and maintenance concerns, may see this element unrealized. Because lighting can cause fledgling seabirds to become disoriented, proposed mitigation includes shielding light fixtures and incorporating automatic timers for shut off. To mitigate against the impacts to water resources, the Master Plan proposes the use of pervious materials for parking areas, landscaped bioswales and R-1 recycled of water from the Waimānalo Waste Water Treatment Plant for landscape irrigation. Traffic mitigation measures include widening the on-site access drive to allow for a right and left turn lanes out of the Park.

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1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared in compliance with Chapter 343, Hawai‘i Revised Statutes (HRS) for the proposed Master Plan for Waimānalo Bay Beach Park.

1.1 PROJECT SUMMARY

Project Name:	Waimānalo Bay Beach Park Master Plan	
Location:	Waimānalo Bay Beach Park, Waimānalo Ahupua‘a, Waimānalo, Hawai‘i	
Applicant:	City and County of Honolulu, Department of Design and Construction	
Landowner:	City and County of Honolulu	
Tax Map Key:	TMK: 4-1-015: 015	
Project Area:	Approximately 75 acres	
Existing Uses:	County beach park	
Proposed Uses:	Recreational uses including camping, picnicking, sports fields, trails and associated comfort stations, parking and supporting infrastructure	
Land Use Designations:	*State Land Use:*	Urban
	Ko‘olaupoko Sustainable Community Plan:	Park
	County Zoning:	P-2
Special Management Area:	Within the Special Management Area	
Need for Assessment:	Compliance with Chapter 343, Hawai‘i Revised Statutes Use of County lands and funds	
Permits/Approvals Required:	Compliance with Chapter 343, Hawai‘i Revised Statutes; Compliance with Ch. 6E, Hawai‘i Revised Statutes; Special Management Area Use Permit; Shoreline Setback Determination; (Historic preservation); Conditional Use Permit – minor; Public Infrastructure Map Amendment	
Approving Agency:	City and County of Honolulu, Department of Design and Construction	
Anticipated Determination:	Finding of No Significant Impact (FONSI)	

1.2 LOCATION

Waimānalo Bay Beach Park is located on windward Oʻahu in the ahupuaʻa of Waimānalo. The site tax map key is TMK: 4-1-015: 015. The Park is situated on Waimānalo Bay, immediately south of the Bellows Air Force Reserve and north of the Waimānalo Bay Beach Lots, a residential subdivision. The Park is bound to the west by Kalanianaʻole Highway. Across the highway is land owned by the State, and leased for use as a polo grounds. Also across the highway, south of the polo grounds is the Waimānalo Waste Water Treatment Plant. Figure 1 is a Regional Location Map.

1.3 LAND OWNERSHIP

The City and County of Honolulu is the fee owner of the parcel. A tax map highlighting the project area is provided in Figure 2.

1.4 IDENTIFICATION OF APPLICANT

The applicant is the City and County of Honolulu, Department of Design and Construction.

Contact: Terry Hildebrand
City and County of Honolulu
Department of Design and Construction
Telephone: (808) 768-8401
Fax: (808) 768-4767

1.5 IDENTIFICATION OF ENVIRONMENTAL CONSULTANT

The City and County of Honolulu Department of Design and Construction's consultant for the project is PBR HAWAII.

Contact: Catie Cullison, Project Manager/Planner
PBR HAWAII
1001 Bishop Street, Suite 650
Honolulu, Hawaiʻi 96813
Telephone: (808) 521-5631
Fax: (808) 523-1402

1.6 IDENTIFICATION OF APPROVING AGENCY

The approving agency is City and County of Honolulu, Department of Design and Construction.

Contact: Lori M.K. Kahikina, P.E., Director
Telephone: (808) 768-8480
Fax: (808) 768-4567

1.7 COMPLIANCE WITH STATE OF HAWAI‘I AND CITY AND COUNTY OF HONOLULU ENVIRONMENTAL LAWS

This document has been prepared in accordance with the provisions of the State of Hawai‘i’s Environmental Impact Statement Law, Chapter 343, HRS and Hawai‘i Administrative Rules (HAR) Title 11, Department of Health, Chapter 200, Environmental Impact Rules. Section 343-5 HRS establishes nine (9) “triggers,” which require the environmental review process. Implementation of the Waimānalo Bay Beach Park Master Plan will involve the use of County land and funds, thus it is subject to the provisions of Chapter 343, HRS.

1.8 IDENTIFICATION OF AGENCIES AND COMMUNITY GROUPS CONSULTED

Throughout the planning process for this Master Plan, the City and County of Honolulu consulted with the community, state and federal agencies as well as other County departments. The group membership was initially comprised of known active community members, elected officials, non-profit organizations and sports interests. As knowledge of the Master Plan activities spread through the community, additional individuals expressed interest in participating as advisory group members. Membership was not limited and the group operated on an informal basis, engaging in discussion and encouraging contributions from anyone who expressed interest. Three Community Advisory Group meetings were held. The first two meetings were designed to understand the community’s desires for the Park and to review concept park plans. After the first two Advisory Group meetings, one open community meeting was held to further refine the Master Plan and ensure that the ideas developed in the Community Advisory Group meetings were favorable to the greater community. The third and final Advisory Group meeting was in preparation for the issuance of the Environmental Assessment to ensure that issues raised by the community were adequately addressed as best as possible by the Master Plan that is included in this document. Appendix A includes a record of CAG meetings as well as the community meeting record. Elements of the proposed Master Plan required specific coordination with agency representatives, including the United States Air Force and the City and County Department of Environmental Services. Records of those interactions can be found in Appendix B and C. In addition, other agencies were consulted as a matter of course for this Environmental Assessment. Those correspondences are identified in Section 8.0 of this report and documented in Appendix D.

1.9 STUDIES CONTRIBUTING TO THIS ENVIRONMENTAL ASSESSMENT

The information contained in this report has been gathered from agency and community consultations, document and historical research, site visits, feasibility studies, and generally available information regarding the characteristics of the site and surrounding area. References can be found in Section 9.0 of this report.

Figure 1, Regional Location Map

LEGEND

Waimānalo Bay Beach Park

Regional Location

Master Plan
Waimānalo Bay Beach Park

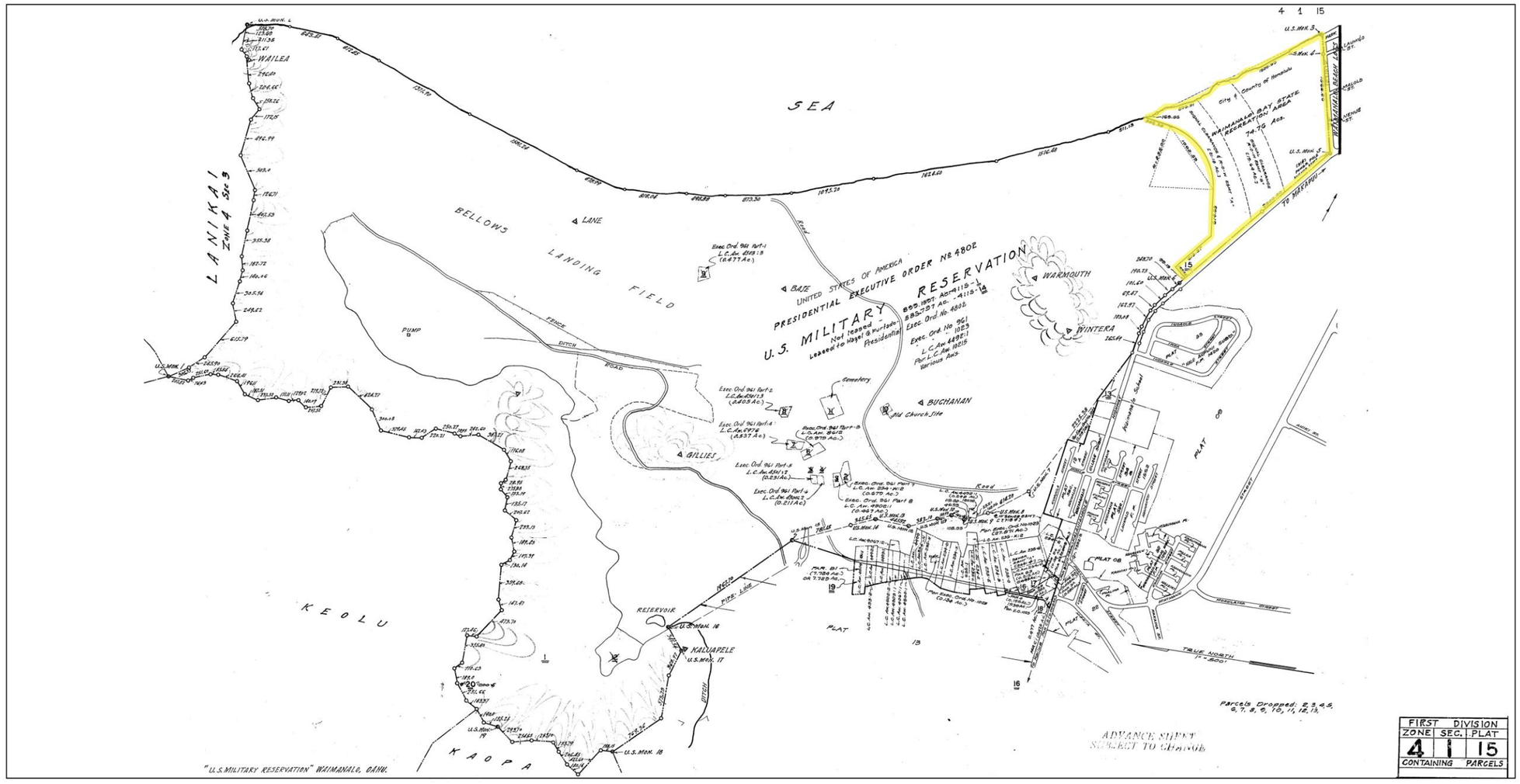
City and County of Honolulu — ISLAND OF O'AHU

NORTH — LINEAR SCALE (FEET) 0 1,000 2,000 4,000

PBR HAWAII & ASSOCIATES, INC.

Source: U.S. Geological Survey (2003)
Disclaimer: This graphic has been prepared for general planning purposes only.

Figure 2, TMK Map



LEGEND

Project Area

Tax Map Key

Master Plan

Waimānalo Bay Beach Park

City and County of Honolulu — ISLAND OF O'AHU

PBR HAWAII & ASSOCIATES, INC.

Disclaimer: This Graphic has been prepared for general planning purposes only.

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2.0 PROJECT DESCRIPTION

This section provides background information, identifies the project's goals and objectives, describes the proposed improvements, describes construction activities and provides approximate costs.

2.1 BACKGROUND INFORMATION

2.1.1 Park Ownership and Development

Waimānalo Bay Beach Park was formerly owned and managed by the State of Hawai'i, Department of Land and Natural Resources, Division of State Parks and known as Waimānalo State Recreation Area. Prior to the land being in the state's hands, it was part of the adjacent Air Force facility, known at the time as "Bellows Field". In 1972, after the land was transferred from the military to the State, a general plan was developed. The 1972 plan encompassed both the subject 75 acre site as well as lands that are still under management by the Air Force. An Environmental Assessment (EA) followed the general plan in 1977. The 1977 EA concerned the development of the first increment of Waimānalo Bay State Recreation Area, the 75 acres that is the current Park area. In 1978, the Park improvements were developed utilizing federal money from the Land and Water Conservation Fund (LWCF). The State's improvements include many of the features that are present in the park today including: perimeter fencing, picnicking and camping facilities, comfort stations, landscaping, and a caretaker's house. In 1992 the Park was transferred to the City and County of Honolulu and renamed, Waimānalo Bay Beach Park. Day to day operations and management of the Park are the responsibility of City and County's Department of Parks and Recreation (DPR).

2.1.2 Project Need

The Waimānalo Bay Beach Park and surrounding area includes a wealth of resources including views and access to Waimānalo Bay, picturesque stands of ironwood trees, large open spaces, known archaeological sites as well as an active and engaged community. These resources lay the foundation to improve and expand the aging facilities at Waimānalo Bay Beach Park.

In the years since the Park was transferred from the State to the County, no major improvements have been made. Essential maintenance has been performed; however, time and the coastal environment have taken a toll on the Park's facilities. At the outset of the master planning process, the three comfort stations were in various states of disrepair, with leaking roofs, broken showers and graffiti. In 2011, the roof was replaced on comfort station #3 (the center of the three beach-side comfort stations). Design for rehabilitation of comfort station #2 (the beach-side comfort station nearest Aloiloi Street) is presently underway. The caretaker's residence has also suffered from the elements and despite repairs to maintain it as a habitable space, it is deteriorating. In the absence of a baseyard, maintenance equipment is often parked near the caretaker's residence on a highly visible slab of pavement located between the caretaker's residence and one of the visitor parking areas. The Park's picnic tables are broken and serve little function. Hot coals are dumped in the Park's hot coal disposal areas, but are also often found at the base of the Park's large ironwood trees. The southeast corner of the Park is essentially unused for recreation. It has become overgrown

with a thick tangle of introduced vegetation, dominated by haole koa (*Leucaena leucocephala*).

In addition, the City and County of Honolulu, Department of Parks and Recreation (DPR) has found that there is a strong demand for more and better Park services including additional and upgraded camping and picnicking areas as well as additional sports fields. Figure 3 shows a variety of images of the Park.

2.2 PROJECT OBJECTIVES

The project objectives are as follows:

- Improve existing park services including repair of comfort stations and supporting infrastructure
- Add park services including camping, picnicking and sports fields
- To minimize operational and maintenance costs, utilize Low Impact Development (LID) and green building techniques for new improvements
- Maintain the security and rural character of the Park

2.3 EXISTING PARK ELEMENTS

Waimānalo Bay Beach Park includes camping facilities, picnic areas and beach access. Each of the ten camping sites is equipped with a picnic table and tent space. A central sink is also available for camper dish washing. Picnic areas include tables and hot coal disposal pits. Supporting facilities include an access road, two parking areas that accommodate 182 vehicles, three comfort stations, showers, drinking fountains and pathways. See Figure 3 & Figure 4.

2.4 SURROUNDING USES

The Park is bound to the northeast by Waimānalo Bay. The southeast boundary of the Park is adjacent to Aloiloi Street and the Waimānalo Bay Beach Lots subdivision. A McDonald's restaurant is located at the intersection of Aloiloi Street and Kalaniana‘ole Highway. Kalaniana‘ole Highway, a State Department of Transportation facility, bounds the southwest side of the Park. Across Kalaniana‘ole is a polo field and associated facilities. South of the polo grounds, but not visible from the Highway or the Park is the Waimānalo Waste Water Treatment Plant. The Park is bound to the northwest by Bellows Air Force Station, which is operated by the US government. See Figure 4, Existing Park Elements and Surrounding Land Uses.

Figure 3, Site Photos

1. Kalaniana'ole Highway Looking South

2. Kalaniana'ole Highway Looking North

3. Waimānalo Bay Beach Park Entry

4. Waimānalo Bay Beach Park Entry Road

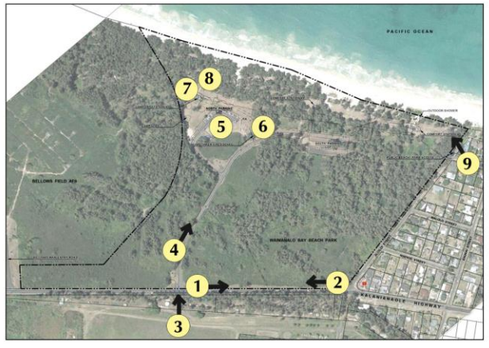
5. Concrete area used for park maintenance storage

6. Park Caretaker's Residence

7. Picnic Table

8. Camping Area

9. Entrance from Aloiloi Street



Site Photo Key

Site Photos
Master Plan
Waimānalo Bay Beach Park
City and County of Honolulu ISLAND OF O'AHU

PBR HAWAII & ASSOCIATES, INC.

Disclaimer: This Graphic has been prepared for general planning purposes only.

10. Parking Loop

11. Picnic Area

12. Shoreline

13. Looking toward parking lot, camping area and north comfort station.

Site Photo Key

Site Photos

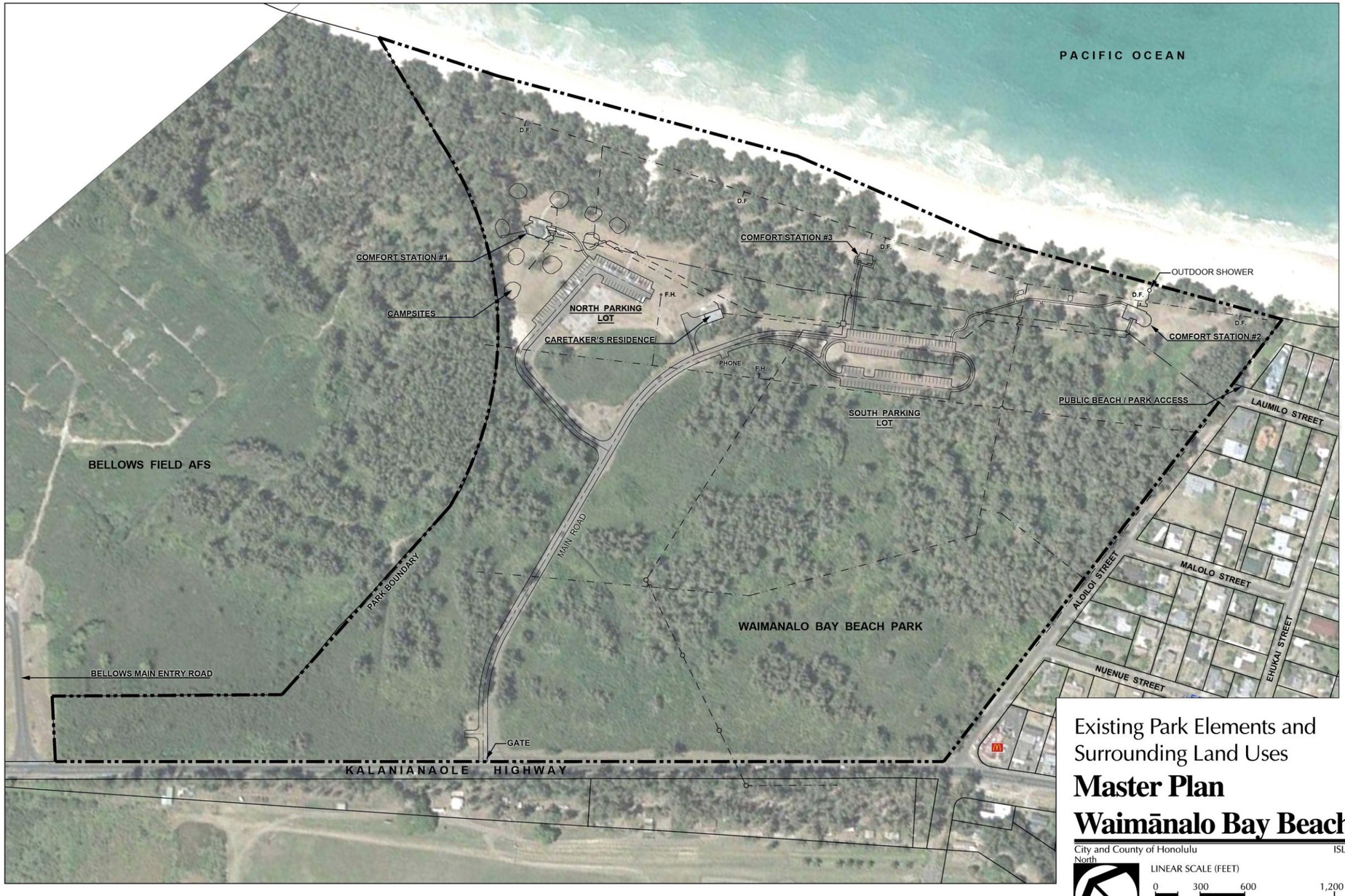
Master Plan

Waimānalo Bay Beach Park

City and County of Honolulu ISLAND OF O'AHU

PBR HAWAII & ASSOCIATES, INC.

Figure 4, Existing Park Elements and Surrounding Land Uses



Existing Park Elements and Surrounding Land Uses

Master Plan

Waimānalo Bay Beach Park

City and County of Honolulu — ISLAND OF O'AHU

North

LINEAR SCALE (FEET)

0 300 600 1,200

PBR HAWAII & ASSOCIATES, INC.

Source: ESRI Aerial Imagery. City and County of Honolulu, Site Observations.
Disclaimer: This Graphic has been prepared for general planning purposes only.

Figure 5, Draft Master Plan

2.5 DESCRIPTION OF THE PROPOSED MASTER PLAN IMPROVEMENTS

The Master Plan improvements subject to this Environmental Assessment are depicted on the previous page, Figure 5, Draft Master Plan and include:

Park Entry – The Park edge and entry are planned to be evocative of rural Waimānalo, including a bike path along Kalaniana'ole Highway and a pasture fence similar to that of the polo grounds across the road. The Park entry road will be widened to add an outbound left turn lane to better facilitate egress from the Park.

Sports and Fitness Areas - Near the entry of the Park is a softball/little league-sized diamond (north side of the entry road) and a full-size baseball field (south side of the entry road). Two additional fields that could be used for soccer, rugby or football are included in this area. A children's play structure is also proposed in this area. The remnants of the forested area (nearest Aloiloi Street) are planned be thinned to accentuate the existing stands of mature trees that are obscured by haole koa. The forest will remain more dense where the dunes are more intact. A walking/jogging/fitness trail is proposed to be added in the forest area. A pedestrian/bicycle connection to Aloiloi Street is also suggested to allow the Park's neighbors to easily walk to sporting events and access the play structure and fitness trail. A security gate is planned for the access.

Group Camping/Gathering Areas – Two large group camping/gathering areas are proposed. Both are designed to be multi-functional areas that could serve group picnicking as well as overnight camping. The group camping area at the center of the Park would be defined by a low wall (with breaks for access) and include a large multi-purpose pavilion with cooking areas. The second group camping area is less defined and no new structures are proposed.

Family Camping Area - The existing camping area is proposed to be expanded from ten family sites to 22 sites. City and County standard camp site size is 30-feet by 30-feet. Camping permits sanction up to two tents and ten individuals per campsite. 30-foot square camp sites are represented in clusters on the plan. Specific layout will be dependent on the location of trees and upon Archaeological Inventory Survey work. A naturalistic children's play area is also proposed in close proximity to the family camping area.

Beach Recreation Area – The area that parallels the beach will continue to offer beach park activities and picnicking facilities. Open spaces in this area allow for volleyball and horseshoes.

Comfort Stations – In order to minimize ground disturbance in a park that contains known burials, the three beach comfort stations are proposed to be rehabilitated at their present location. As previously noted, design work for the rehabilitation of Comfort Station #2 (nearest Aloiloi Street) is underway. An additional comfort station is proposed with the large pavilion in the multi-function group camping/gathering area and two additional comfort stations are proposed in conjunction with the sports field area.

Infrastructure Improvements – To support the proposed recreational uses, water, wastewater, drainage, irrigation and electrical improvements are proposed. In order to provide irrigation to the sports fields, non-potable treated water reused from the Waimānalo Wastewater Treatment Plant is proposed. In addition, an emergency exit route is planned for the Park. The emergency exit will connect a gravel surfaced road to Tinker Road on the Bellows Air Force Station facility. Not included in this Environmental Assessment are improvements to the wastewater conveyance system, a project that is currently underway.

Parking – Parking is proposed to be increased in phases from 182 stalls to 470 stalls to accommodate existing beach use and the anticipated additional camping, sports field and other park uses. National park planning guidelines suggest one to two vehicle spaces per campsite. However, recognizing regional preference for family gatherings at campsites, three spaces per campsite have been planned, with an additional 60 spaces to accommodate additional camping area daytime use. An additional 120 spaces are estimated for beach use. Similarly, parking for sports fields has been estimated at higher than the minimum requirement of the County's Land Use Ordinance, which is 12 spaces per field. Parking for sports fields assumes the potential for up to 15 cars per team, and allows for some overlap as back-to-back games are often scheduled and teams customarily picnic together post-game. See Table 1, Parking Count.

Table 1, Parking Count

Park Element	Quantity	Parking	
		Planned	Guidelines/Stds
Beach activities	Assumes 250 people	120[1]	NR&PA[2]: capacity of beach + 30% LUO: As determined by manager
Camping	22 sites (44 tents or 220 people[3])	66 (3 spaces per site)	NR&PA: 1-2 spaces per site LUO: As determined by manager
Group Camping North	8 sites (16 tents or 80 people[4])	24 (3 spaces per site)	NR&PA: 15-20 spaces LUO: As determined by manager
Group Gathering/Camping South	10 sites (20 tents or 100 people)	30 (3 spaces per site)	NR&PA: 15-20 spaces LUO: As determined by manager
Additional Daytime Gathering with Campers	1.5 additional cars for every campsite	60	NR&PA: n/a LUO: As determined by manager
Sports Fields[5]	4 (max 3 in use at one time)	141 + ability to phase in additional 29 +/- as needed	NR&PA: n/a LUO: 12 spaces per field

[1] Maintain existing parking for beach uses
[2] Fogg, George E. *Park Planning Guidelines 3rd Edition*. 1990. Prepared for the National Recreation & Park Association
[3] DPR camping permits allow 2 family-size tents and up to 10 people per campsite
[4] Assumes 2 campsites per area (4 tents or 40 people)
[5] Assumes 15 vehicles per team, 3 fields in use (90 spaces) with potential for overlap if back to back games

2.6 PRELIMINARY COST ESTIMATE AND TIMELINE

The Master Plan improvements are expected to be completed in phases as outlined in Table 2, Proposed Phasing Plan. By phasing the Park's development, the cost can be distributed over time allowing funding sources to be sought. Funding sources may include funds for park maintenance (i.e. for rehabilitation of comfort stations) or Capitol Improvement Project (CIP) funds. Outside sources of funds in the form of grants and loans could be sought for the proposed park elements that support low-impact infrastructure or water quality and conservation (i.e. pervious parking lot surfaces or the irrigation water main from the Waste Water Treatment Plant). Timing of construction will be dependent on availability of resources.

Cost estimate information provided in the Civil Engineering Report (Appendix G), Electrical Engineering PER (Appendix H) as well as estimated costs for new structures, landscaping, trails and ball fields has been compiled into an Order of Magnitude Construction Cost Table (Appendix I).

If the City and County elected to construct all of the recreational elements, structures, landscaping, lighting plus the on and off-site infrastructure to support the Park improvements, the sum total in 2012 dollars would be approximately $32M. Notable large expenditure items include:

- New landscaping at $5-$15 per square foot depending on location in the park ($6.8M-$9.9M)
- New structures including three rehabilitated comfort stations; two new comfort stations; a maintenance building and a large group pavilion ($4.8M)
- New water and wastewater systems to serve new comfort stations ($2.5M)
- New sports fields fields ($1M)
- Irrigation for ball fields and group camping area ($2.4M)
- Off-site irrigation line from Waimanalo WWTP to Park ($855,000-$1.8M)
- Lighting (field lighting, $730,000+ road and parking lot lighting $3.3M)
- New roadways and parking areas ($1.5M)

The balance of the estimated cost is derived from the estimated costs for walkways, exercise stations, bike paths, bike racks, security fencing, signage, picnic tables, garbage/recycling, charcoal disposal pits, demolition of old concrete, clearing/grubbing/grading, erosion control, traffic control and photovoltaic security lighting at the beach comfort stations.

Table 2, Proposed Phasing Plan

SHORT RANGE		
Recreational Improvements	**Infrastructure Improvement**	**Natural/Cultural Environment**
1. Maintain and repair existing picnic tables, camping facilities	1. Rehabilitate Beach Comfort Stations "3" and "2" 2. New security lighting at Comfort Stations "3" and "2"	1. Continue monitoring ironwood trees and prune or remove those that pose a hazard to park users from falling limbs
SHORT-MID RANGE		
Recreational Improvements	**Infrastructure Improvement**	**Natural/Cultural Environment**
1. Install additional family camp sites 2. Install naturalistic play structure 3. Clear and level (as needed) open play areas in vicinity of family camp sites 4. Construct bicycle trail along Highway frontage	1. Expand camping area parking, including ADA-accessible parking stalls 2. Rehabilitate Comfort Station "1" and repair associated drinking fountains Add new dishwashing sink to facility 3. Add security lighting at Comfort Station "1" 4. Clear, grade and fence park maintenance area & construct covered maintenance port and staff restroom 5. New electrical service at Kalanianaole Highway. Install entry road lighting and security lighting and needed power to maintenance area 6. Rehabilitate, remove or relocate park caretaker's residence to maintenance area	1. Perform Archaeological Inventory Survey in expanded camping and parking area 2. Work with community to develop interpretive signage in/near coastal picnic and play areas 3. Construct expanded and any resurfaced parking areas with pervious concrete or pavers; landscape parking area to accept and infiltrate stormwater 4. Prune or remove dead or dying ironwood trees in camping area that pose hazard to campers 5. Abandon water and sewer connections or septic associated with caretaker's residence if removed or relocated
MID RANGE		
Recreational Improvements	**Infrastructure Improvement**	**Natural/Cultural Environment**
1. Construct softball/little league size field north (Kailua side) of park entry	1. Construct parking area for softball/little league field 2. Construct comfort station for softball/little league field 3. Install softball/little league field lighting, or conduit for lighting with a future phase 4. Construct off- and on-site improvements for connection to wastewater treatment plant for ball field irrigation water 5. Formalize access agreement with USAF and grade and gravel emergency exit road to connect park access road to Tinker Road 6. Widen access road at driveway to include right and left-turn exit lanes. 7. Install new entry signage and landscaping 8. Replace park perimeter fence and gates; install pasture fence along site frontage	1. Perform Archaeological Inventory Survey for areas of proposed disturbance 2. Ensure ball field lighting fixtures include timers and are shielded downward to avoid attraction by seabirds, glare into Highway and light pollution 3. Construct new parking area with pervious concrete or pavers; landscape parking area to accept and infiltrate stormwater
MID-LONG RANGE		
Recreational Improvements	**Infrastructure Improvements**	**Natural/Cultural Environment**
1. Construct baseball and multi-purpose fields 2. Construct play structure near multi-purpose fields	1. Construct parking area for baseball and multi-purpose fields 2. Construct comfort station for baseball and multi-purpose fields	1. Perform Archaeological Inventory Survey for areas of proposed disturbance 2. Construct new parking areas with pervious concrete or pavers; landscape parking area to accept and infiltrate stormwater 3. Work with community group to develop forest restoration plan
LONG RANGE		
Recreational Improvements	**Infrastructure Improvements**	**Natural/Cultural Environment**
1. Construct large group camping/gathering area, pavilion and comfort station at center of park 2. Construct north large group camping area 3. Install walking/jogging trail and fitness stations 4. Install trail connection to Aloiloi Street	1. Construct parking area for large group camping/gathering area 2. Construct decorative wall and install landscaping to define large group camping/gathering area 3. Evaluate, and as needed, expand parking for baseball and multi-purpose fields	1. Perform Archaeological Inventory Survey for areas of proposed disturbance 2. Construct new parking areas with pervious concrete or pavers; landscape parking area to accept and infiltrate stormwater 3. Thin forest as necessary to accommodate walking/jogging/fitness trail. 4. Begin implementing forest restoration activities

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3.0 LAND USE CONFORMANCE

The processing of certain permits and approvals are prerequisites to the implementation of the Waimānalo Bay Beach Park Master Plan. Relevant State of Hawai‘i and City and County of Honolulu land use plans, policies, and ordinances are described below.

3.1 STATE OF HAWAI‘I

3.1.1 State Environmental Review Law (Chapter 343, Hawai‘i Revised Statutes)

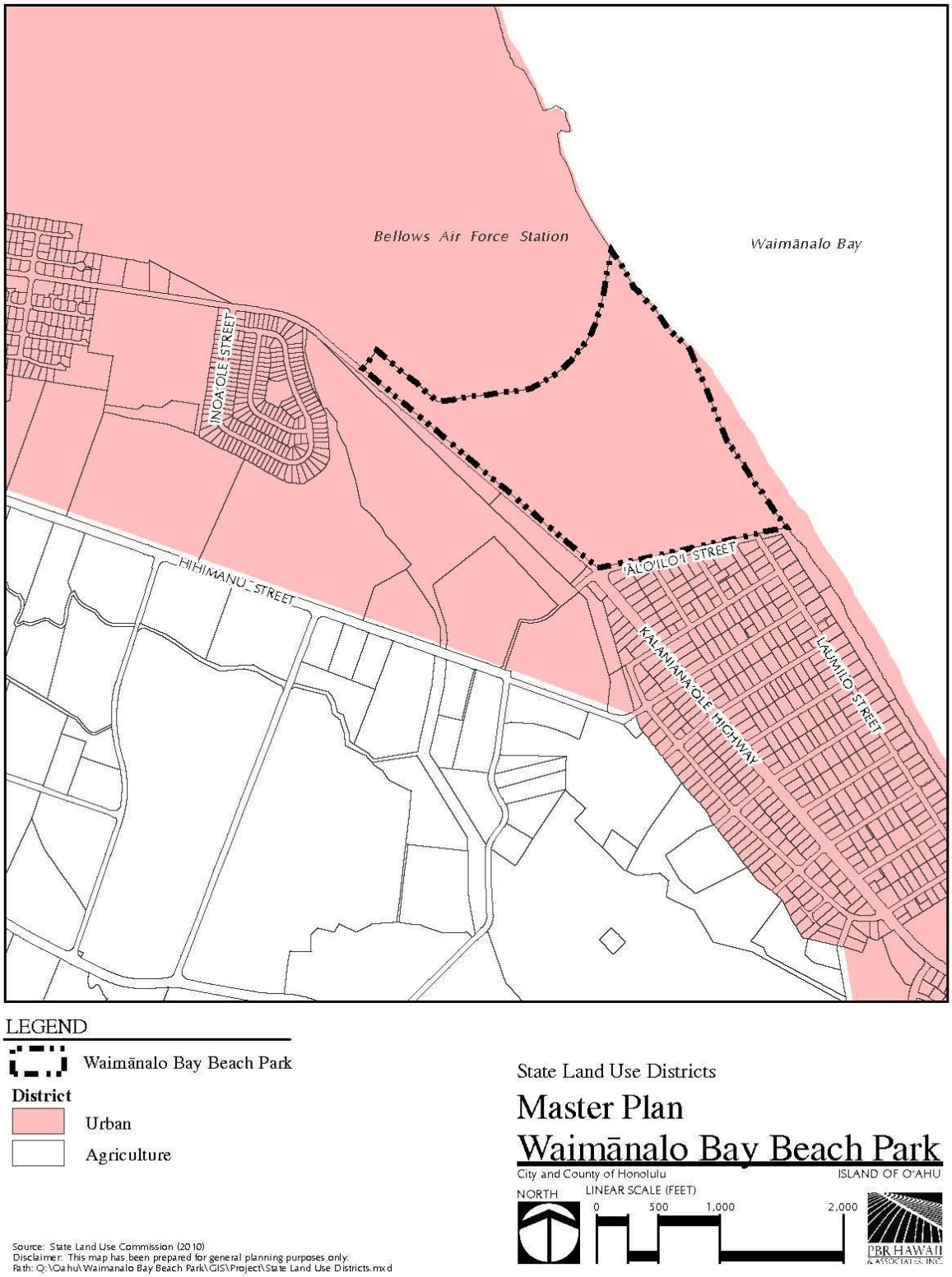
The State Environmental Review Law (Chapter 343, Hawai‘i Revised Statutes (HRS)) requires an environmental assessment for any action that proposes the use of County lands and funds or when an action is proposed within a historic site. This environmental assessment has been prepared in compliance with Chapter 343, HRS as the proposed Park Master Plan requires the use of County land and funds.

3.1.2 State Land Use Law (Chapter 205, Hawai‘i Revised Statutes)

The State Land Use Law (Chapter 205, HRS), establishes the State Land Use Commission and authorizes this body to designate all lands in the State into one of four districts: Urban, Rural, Agricultural, or Conservation.

The proposed site improvements are located within the State Urban District (Figure 6, State Land Use Districts). The proposed improvements are compliant with Urban District Uses.

Figure 6, State Land Use Districts



3.2 CITY AND COUNTY OF HONOLULU

3.2.1 The O‘ahu General Plan

The O‘ahu General Plan is a statement of long-range social, economic, environmental and design objectives for the general welfare and prosperity of the people of O‘ahu. The General Plan is also a statement of broad policies which facilitate the attainment of the objectives of the Plan. The General Plan is currently in the process of being updated, however, during this process the adopted plan remains in effect. Applicable General Plan objectives and policies relating to culture and recreation include:

Objective: To protect O‘ahu’s cultural, historic, architectural and archaeological resources.
Policy: Encourage the restoration and preservation of early Hawaiian structures, artifacts and landmarks.
Policy: Identify, and to the extent possible, preserve and restore buildings, sites and areas of social, cultural, historic, architectural and archaeological significance.

As discussed throughout this report, the Park is located adjacent to a historic site known as Bellows Field Archaeological Complex. Over the course of the last 40 years several archaeological surveys have been conducted and located archaeological features in the Park (discussed in greater length in Section 5.1). To protect archaeological resources, areas of known features are proposed to be avoided. Additionally, the three existing comfort stations are proposed to be rehabilitated at their present location so as to avoid earth disturbing activities as much as possible. To further avoid any impacts to archaeological resources, Archaeological Inventory Surveys will be performed prior to ground disturbance.

Objective: To provide a wide range of recreational facilities and services that are readily available to all residents of O‘ahu.
Policy: Provide convenient access to all beaches and inland recreation areas.
Policy: Provide for recreation programs which serve a broad spectrum of the population.
Policy: Encourage ocean and water-oriented recreation activities that do not adversely impact on the natural environment.
Policy: Provide for safe and secure use of public parks, beaches and recreation facilities.
Policy: Encourage the safe use of O‘ahu’s ocean environments.

Waimānalo Bay Beach Park is a beach park that is intended to serve the Waimānalo community as well as the population of greater O‘ahu. The Master Plan elements expand recreational opportunities within the Park with the addition of group camping, trails and sports fields near the highway. The Park Master Plan continues to promote convenient access to Waimānalo beach, but does not seek to encourage new ocean activities that are unsafe or have an adverse impact on the natural environment. Park security measures such as perimeter fencing and night closure are proposed to be maintained.

3.2.2 Ko‘olaupoko Sustainable Community Plan

The second tier of the City and County’s system of planning objectives, policies, guidelines and regulations are the regionally-based Development Plans and Sustainable Community Plans. The Sustainable Community Plans provide a policy context for the land use and budgetary actions for the City and County. As part of the annual city budget process, all capital improvement projects are reviewed to determine if they are consistent with the

respective Sustainable Community Plan. The Koʻolaupoko Sustainable Communities Plan is currently in the process of being updated, as required by City Charter. However, until the revisions are adopted by ordinance, the existing plan policies remain applicable and provide valuable policy guidance.

The Koʻolaupoko Sustainable Community Plan identifies the Park as a, "Major Park" as shown in Figure 7, Koʻolaupoko Sustainable Communities Plan Open Space Map. The figure also makes reference to viewplanes at the Park. The plan is currently being updated, but the adopted plan remains in effect through the update process. Applicable land use policies and guidelines from the Koʻolaupoko Sustainable Communities Plan include:

Expand active recreational facilities by incorporating facilities such as playfields and playcourts in regional and beach parks…(KSCP 3.3.3)

Have master plans for development of new parks or redevelopment of existing parks provide for facilities and accessible pathways from surrounding streets to facilitate pedestrian and bicycle access to parks. (KSCP 3.34)

Determine the appropriate preservation methods on a site-by-site basis in consultation with the State Historic Preservation Officer. (KSCP 3.4.4)

Determine the appropriateness of public access on a site-by-site basis in consultation with the State Historic Preservation Officer and the owner of the land on which the site is located. (KSCP 3.4.4)

The Master Plan for Waimānalo Bay Beach Park is consistent with applicable land use policies and guidelines of the Koʻolaupoko Sustainable Communities Plan. The plan expands active recreational facilities by incorporating sports fields into areas of a beach park that are presently unused for active or passive recreation. The master plan maintains the existing vehicle access and the existing pedestrian access at the end of Aloiloi Street, but also adds another pedestrian/bicycle access to Aloiloi Street to facilitate neighborhood access to the Park. Bicycle facilities along the highway frontage are also proposed to be improved. With regard to the site's archaeological features, the State Historic Preservation Office has been consulted to ensure that appropriate preservation measures are proposed and implemented. Public access in the vicinity of the archaeological features has been previously deemed appropriate at this public park. Master Plan elements will not serve to add access restrictions, nor will they invite inappropriate access to the site's known archaeological features.

Figure 8 is the Koʻolaupoko Sustainable Communities Plan Public Facilities Map. Applicable policies and guidelines pertaining to public facilities and infrastructure include:

Expand the bikeway network by implementing the proposals in the State of Hawai'i bikeway master plan and adding bike facilities along residential streets in conjunction with traffic calming initiatives for neighborhoods…(KSCP 4.1.6)

Use recycled (R-1 or R-2) water for the irrigation of golf courses, as well as for landscaping, and agricultural areas where this would not adversely affect potable groundwater supply or other aspects relating to public health. (KSCP 4.2.4)

Promote waste reduction, re-use and recycling. (KSCP 4.5.1)

Design system elements and incrementally replace facilities such as sub-stations, transmission lines and towers to avoid or mitigate any potential adverse impacts on scenic and natural resource values and to enhance system reliability. (KSCP 4.4.1)

New utility distribution lines should be placed underground and a long-range program for systematically relocating existing overhead lines underground should be developed and implemented. (KSCP 4.4.1)

Promote drainage system design that emphasizes control and minimization of non-point source pollution and the retention of storm water on-site and in wetlands. (KSCP 4.6.1)

Supply litter containers for the street-outlet end of public beach right-of-ways (sic). (KSCP 4.9.2.1)

The Master Plan is consistent with the policies and guidelines pertaining to public facilities and infrastructure in that the plan promotes wise use of resources and minimizes use of public infrastructure whenever possible. Most notably, the plan calls for use of treated, recycled water from the Waimānalo Wastewater Treatment Plant (WWTP) for irrigation of sports fields and landscaping. This serves two purposes. First, it provides a location for the WWTP to dispose of excess water in a safe and beneficial way. Second, it allows sports fields to be landscaped with non-potable water, reducing demand on O‘ahu’s drinking water system. Further minimizing impacts to O‘ahu’s water resources, pervious parking lot surfacing is proposed along with Low-Impact Development (LID) techniques for infiltration of stormwater. The Master Plan also promotes waste reduction by calling for use of “green” building materials, which may include recycled materials for new Park facilities. Additionally, the Master Plan calls for recycling bins alongside garbage receptacles. The Master Plan also anticipates City plans for alternative transportation into the future. The draft O‘ahu Bike Plan identifies the need for a shoulder bikeway along Kalaniana‘ole Highway. The shoulder bikeway is projected as a “Tier 2” project (not among the highest priorities), thus the frontage bike path proposed is not considered to be redundant, but rather an enhancement to the greater bike system that is anticipated in the future. Finally, new electrical lines planned for parking lot security lighting will be underground, rather than overhead lines to protect views of the Park’s natural resources.

3.2.3 County Zoning

Chapter 21 of the Revised Ordinances of Honolulu is the Land Use Ordinance (LUO). The LUO regulates land use to encourage orderly development in accordance with the General Plan and Sustainable Communities Plans and to protect public health, safety and welfare. The document establishes zoning, permitted uses and development standards within the zoning districts.

Waimānalo Bay Beach Park is zoned P-2 (General Preservation District). The LUO defines public parks as, “Recreation facilities, outdoor”. Recreational facilities, outdoor are permitted in the P-2 zone as a Conditional Use-minor. That is, the use is subject to the standards of the P-2 zoning district as well as Article 5 of the LUO. The LUO sets forth general development standards as well as specific design standards relating to height for the P-2 district. The

development standards enumerated in Section 21-3.40-1 for the P-2 zoning district are as follow:

Height. The maximum height may be increased from 15 to 25 feet if height setbacks are provided.

Height Setbacks. Any portion of a structure exceeding 15 feet shall be set back from every side and rear buildable area boundary line one foot for each two feet of additional height about 15 feet.

No structures over 25 feet in height are anticipated with the Master Plan elements. Baseball field backstops are typically 16 feet in height, thus, the height setback standard of the P-2 district will apply. As designed, the Master Plan calls for the backstops to be set back from property lines, well exceeding the height setback requirement.

Article 4 of the LUO provides general development standards. Applicable development standards include those relating to landscaping and screening, including parking lot landscaping requirements and requirements for irrigation and outdoor lighting. Article 5 of the LUO sets forth specific development standards for Recreational facilities-Outdoor which pertain to riding animals and agricultural uses. Article 6 of the LUO pertains to parking requirements, including number of vehicle parking spaces, and Article 7 pertains to signage.

The improvements proposed with the Master Plan will be subject to review as a Conditional Use-minor. The elements of the Master Plan have been designed to conform to the LUO standards pertaining to landscaping, screening, parking and signage.

Table 3, LUO Development Standards & Anticipated Compliance

LUO Section	Development Standard	Designed to satisfy? Y/N	Notes
3.4	Maximum heights	Y	If backstops or pavilion structures exceed 16-ft height limit, additional 1-ft:1-ft setback ratio can be accommodated
4.100	Outdoor lighting	Y	Any lighting will be shielded for compliance with this section and to avoid negative effects on seabirds
4.70	Landscaping and screening	Y	Accommodations for parking lot landscaping are included in plan
5.510	Recreational facilities-Outdoor	Y	No riding animals or facilities proposed
6.30	Number of off-street parking spaces	Y	LUO Table 21-6.1 specifies 12 parking spaces per outdoor playfield. Parking for other Park elements are to be determined by the Planning Director. See Table 1, Parking Count
6.40	Arrangement of parking spaces	Y	Standard size, 90-degree parking stalls are proposed with aisle and ingress/egress widths consistent with minimum dimensional standards of Section 21-6.50
7.40	District sign standards	Y	Existing sign on site

Figure 7, Ko'olaupoko Sustainable Communities Plan Open Space Map

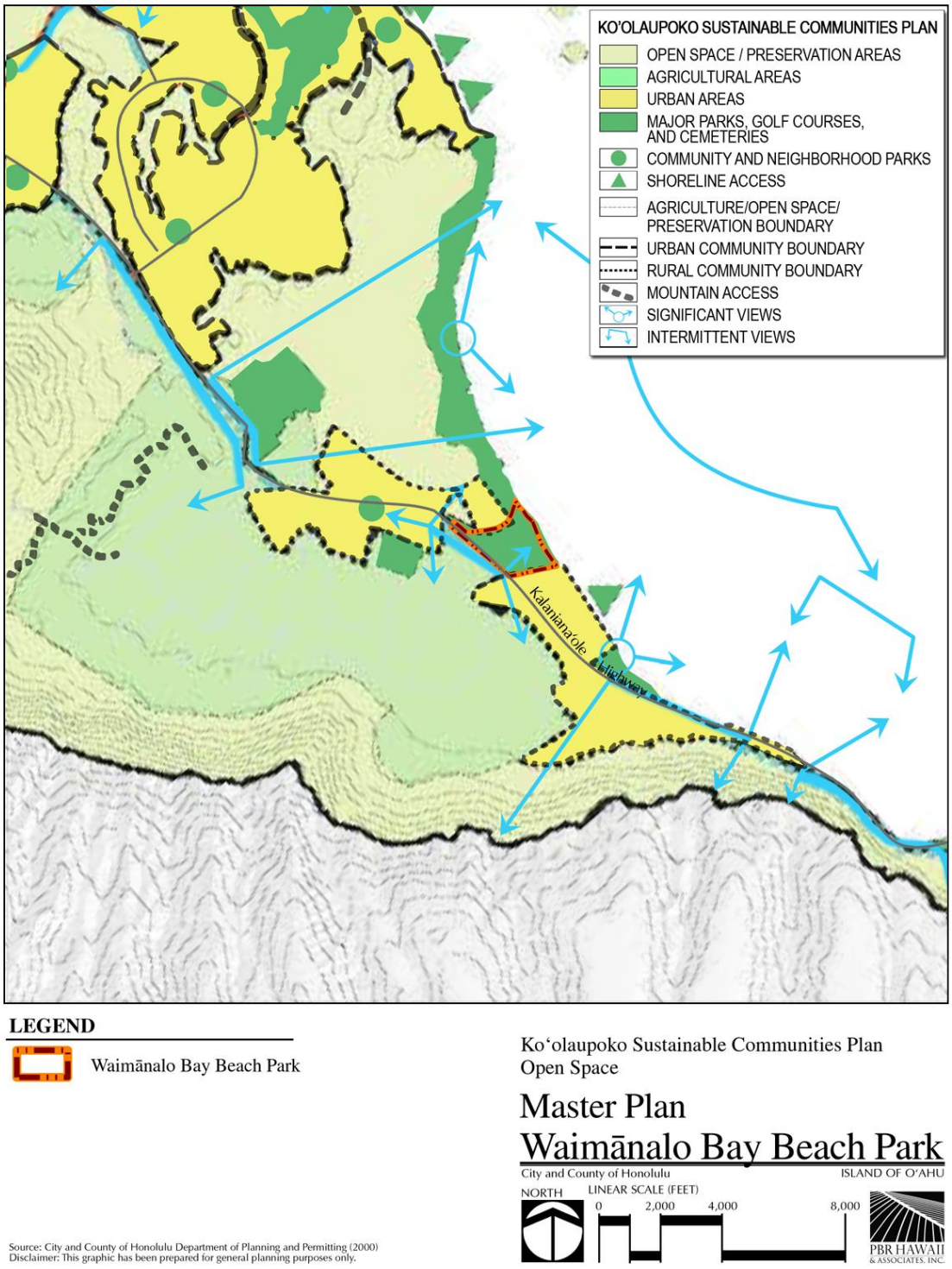


Figure 8, Ko'olaupoko Sustainable Communities Plan Public Facilities Map

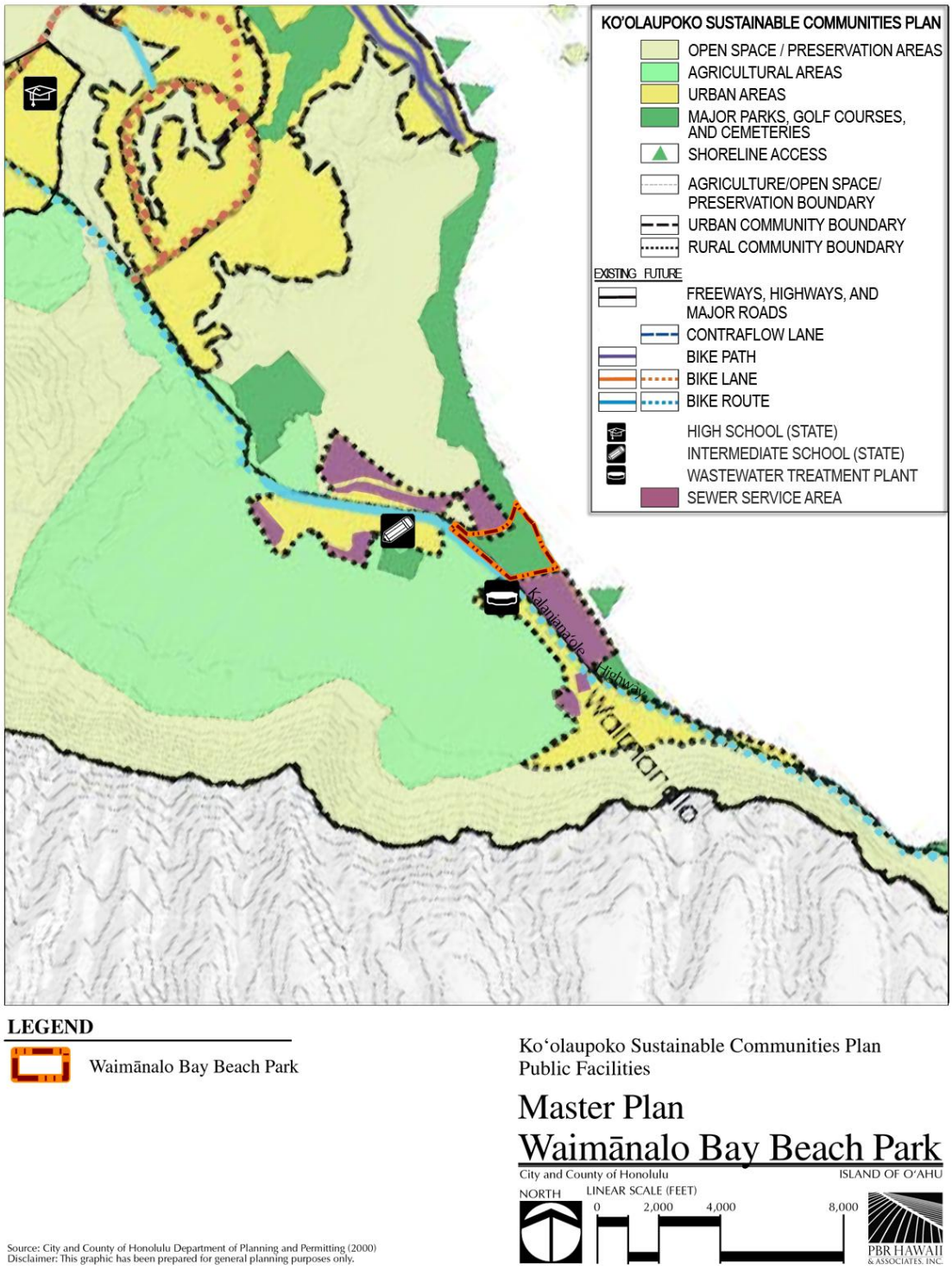


Figure 9, Ko'olaupoko Sustainable Communities Plan, Section Map

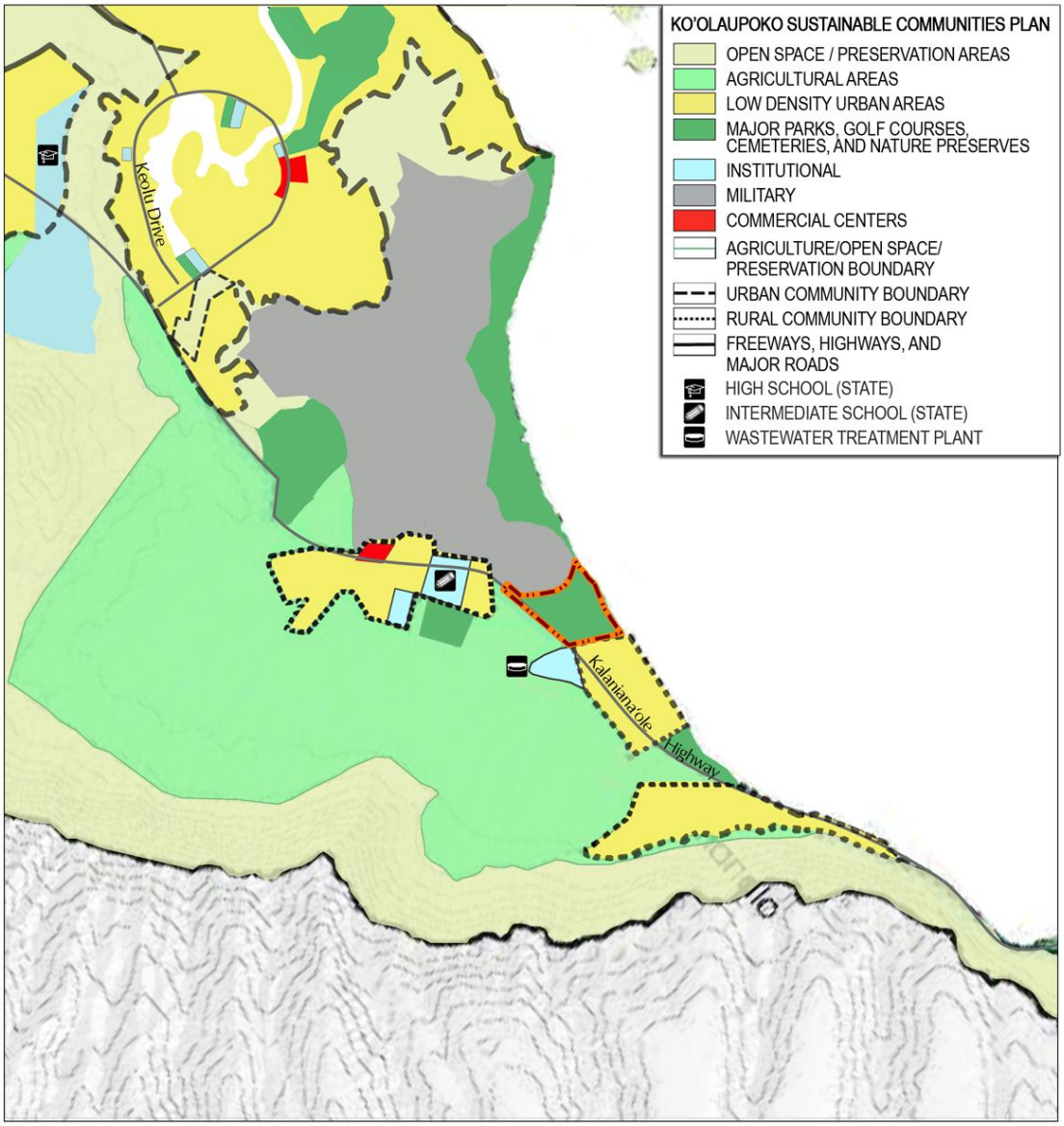
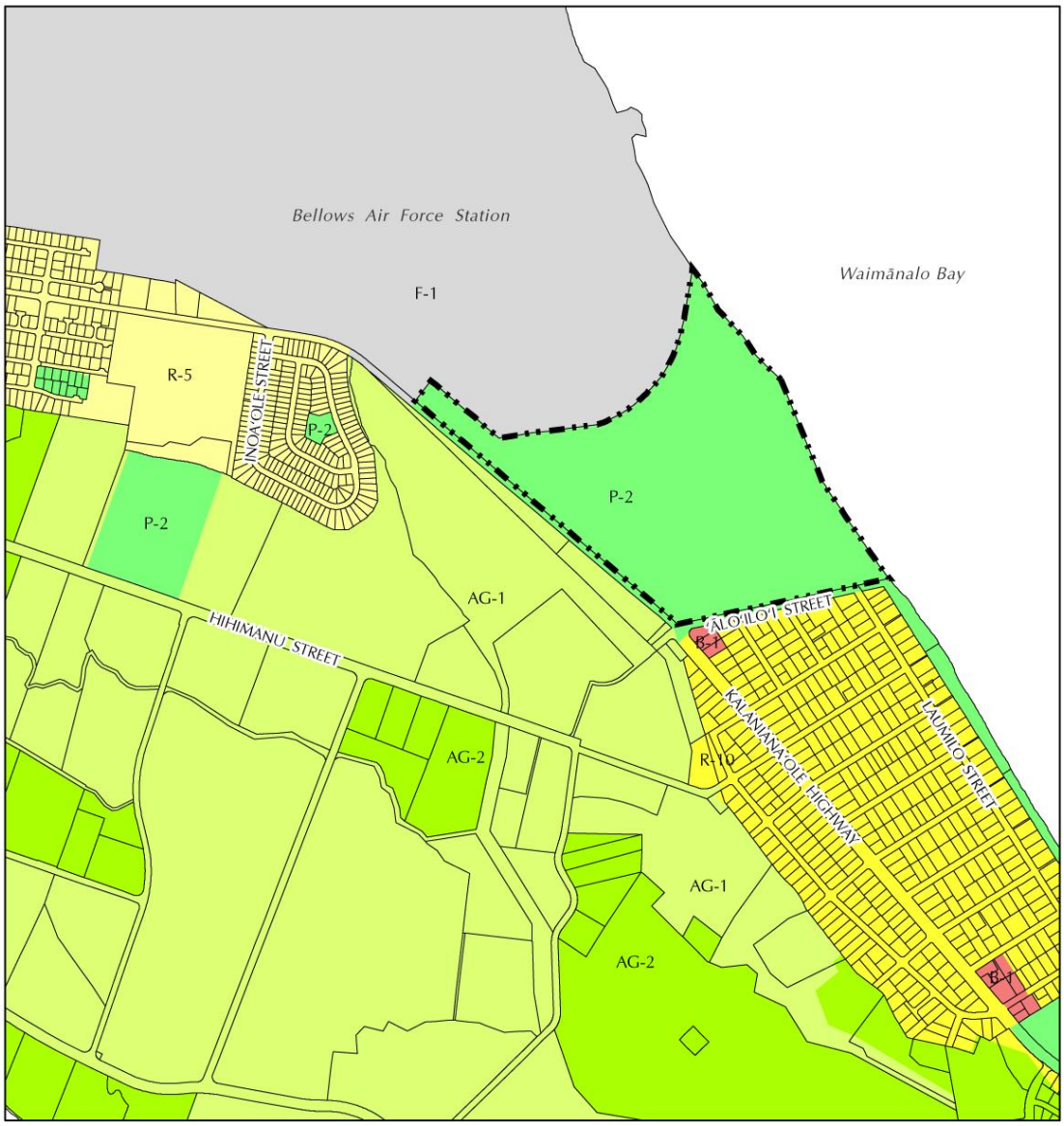


Figure 10, Zoning Map



3.2.4 Special Management Area

Chapter 25 of the ROH pertains to the Special Management Area. The Special Management Area (SMA) for the City and County of Honolulu was established pursuant to HRS Chapter 205A (Coastal Zone Management). Its purpose is to, "preserve, protect and where possible, to restore the natural resources of the coastal zone…".

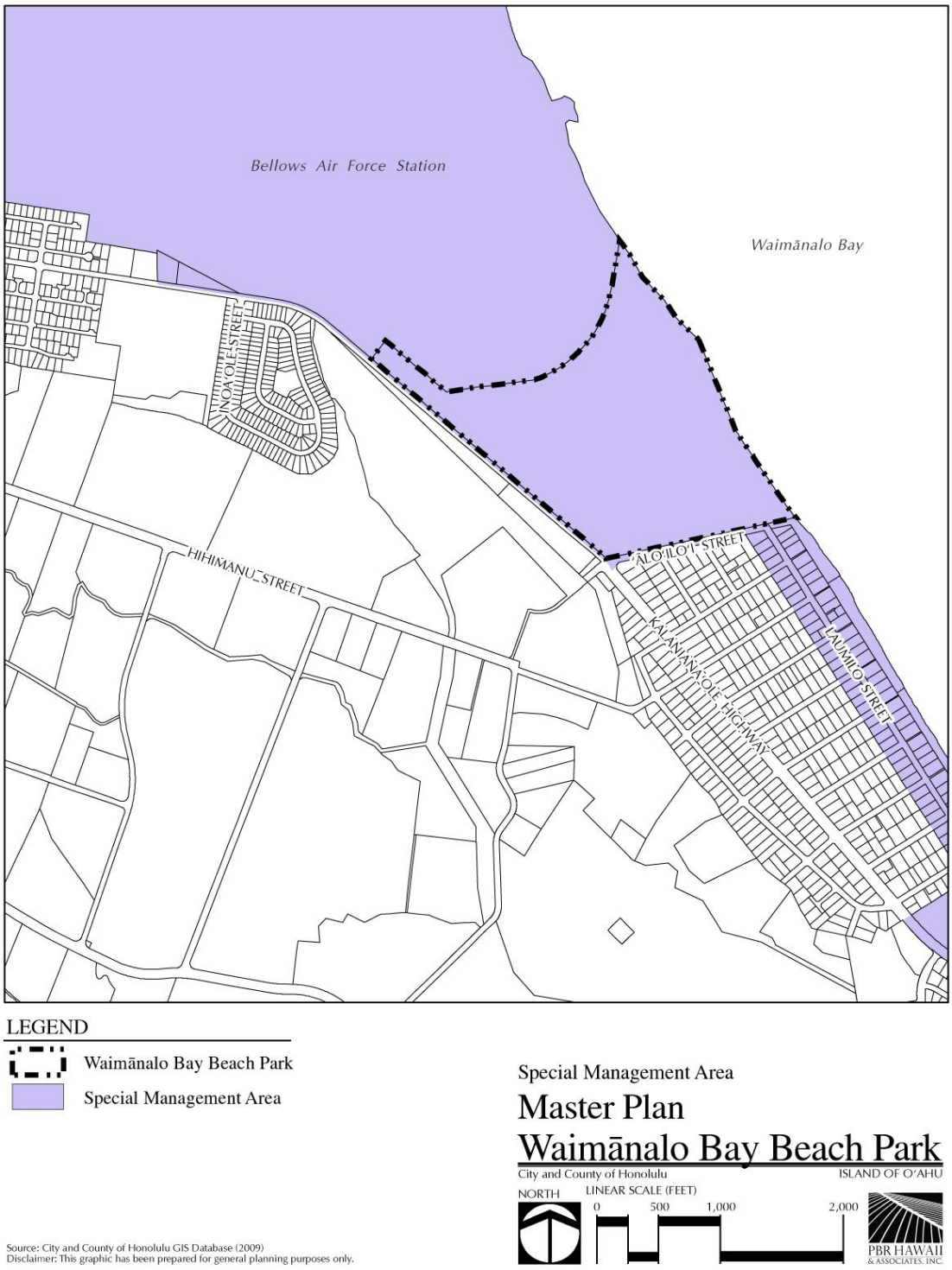
The site is within the SMA. Upon acceptance of a Final Environmental Assessment, a Special Management Area Assessment Use Permit will be requested for the Master Plan. See Figure 11.

3.2.5 County Shoreline Setback

Chapter 23 of the ROH pertains to shoreline setbacks as set forth by HRS Chapter 205A. The City and County of Honolulu regulates development along the shoreline to protect sandy beaches, the public's access along the shoreline and to reduce hazards from coastal floods. The shoreline setback, "General Rule" (Sec. 23-1.4) establishes the shoreline setback 40 feet inland from the certified shoreline. Additionally, the County prohibits certain activities within the shoreline area, such as mining of sand or construction of structures.

No structures or earth disturbing activities are proposed within the shoreline area or the shoreline setback.

Figure 11, Special Management Area



3.3 FEDERAL

3.3.1 Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) of 1990, as amended, sets forth guidelines for accessibility to buildings and facilities for individuals with physical disabilities.

Any new or reconstructed comfort stations will be constructed to be ADA compliant. Parking areas are designed to include requisite number of accessible spaces.

3.3.2 National Register of Historic Places

A review of available records show that at one time, the Waimānalo Bay Beach Park was included as a property within the "Bellows Field Archaeological Complex", a site on the National Register of Historic Places (known as Site # 80-15-0511 or Site # 50-80-511). It is generally accepted that the property was arbitrarily included within the National Register site and has been subsequently removed. A review of archaeological literature supports the conclusion that the Park is not on the National Register. In 1994, Tuggle describes that,

"as best as can be determined, only one site at Bellows is listed on the National Register of Historic Places (NRHP). Site 50-80-511, which was listed on the National Register in 1974 includes the original Bellows Dune Site (Bishop Museum site number 018) which is a small area of habitation and burials that was thought to contain one of the earliest settlements in Hawai'i (Pearson et al. 1971). Because of the importance of Site 018, the boundaries of Site 511 were broadly drawn in order to incorporate any potential occupations of equal importance."

In 2009, Dye describes Site 50-80-15-511 as having boundaries that were drawn when the distribution of archaeological remains at Bellows were poorly known. Dye states,

"over the years, as information on historic sites has accumulated, it became apparent that the boundaries of site 50-80-15-511 bore little relation to the distribution of archaeological remains. Consequently, site boundaries were redefined and the significance of the sites were evaluated without reference to site 50-80-15-511. For these reasons, site 50-80-15-511 is no longer included in the inventory of archaeological sites recognized as historic properties."

The Environmental Assessment process has included coordination with the State Historic Preservation Office (SHPO) to help ensure compliance with the requirements of the State of Hawai'i Revised Statutes pertaining to Historic Preservation. Regardless of the Park's status with relation to the National Register, there are known archaeological resources within the Park. The Master Plan improvements have been designed to be located away from archaeologically sensitive areas and Archaeological Inventory Survey work is recommended at the time of detailed design. A review of archaeological literature and the site's archaeological resources is included as Appendix E and is discussed in Section 5.0 of this report. Additionally, there are remnants of the former military use of the site, such as concrete slabs and building foundation remains. If they are over 50 years of age, they also will be treated as historic features. It is recommended that these features be mapped, photographed and recorded.

3.4 APPROVALS AND PERMITS

The permits and/or approvals anticipated to implement the proposed site improvements are listed in Table 4, List of Anticipated Permits and Approvals.

Table 4, List of Anticipated Permits and Approvals

PERMIT/APPROVAL	AUTHORITY
Compliance with Chapter 343 HRS	Office of Environmental Quality Control
Compliance with Chapter 6E, HRS (Historic Preservation)	State Historic Preservation Division
Special Management Area Permit	City and County of Honolulu, City Council
Shoreline Setback Determination	City and County of Honolulu, Department of Planning and Permitting
Conditional Use Permit – minor	City and County of Honolulu, Department of Planning and Permitting
Public Infrastructure Map Amendment	Honolulu City Council (by Resolution)

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4.0 DESCRIPTION OF THE AFFECTED NATURAL ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

This section describes the existing conditions of the physical or natural environment, potential impacts of the proposed Master Plan for Waimānalo Bay Beach Park on the environment, and mitigation measures to minimize any impacts.

4.1 CLIMATE

Existing Conditions
Mild temperatures, persistent northeast trade winds, and plentiful rainfall characterize climatic conditions in Waimānalo. Moisture delivered by the trade winds is forced upwards when it blows against the Koʻolau Mountain ranges. The moisture cools and falls as precipitation. Monthly average temperatures in Waimānalo range from 71 degrees to 79 degrees Fahrenheit. Rainfall averages 40-60 inches.

Potential Impacts and Mitigation
The proposed park improvements are not expected to have an impact on climatic conditions and no mitigation measures are planned.

4.2 GEOLOGY, TOPOGRAPHY & SOILS

4.2.1 Geology

Existing Conditions
The island of Oʻahu was formed by two volcanoes, Waiʻanae and Koʻolau. Koʻolau consists of the eruptive products of the shield and rejuvenated stages; no post-shield-stage lavas are known (Juvik & Juvik). The lavas of Koʻolau are thought to be over 100,000 years old. A rift zone extends from the former Koʻolau crater, toward Makapuu Point at the south end of Waimānalo.

Potential Impacts and Mitigation
The Park Master Plan will have no effect on geologic conditions. The Master Plan does not place any new uses in geologically sensitive areas. No mitigation is proposed.

4.2.2 Soils

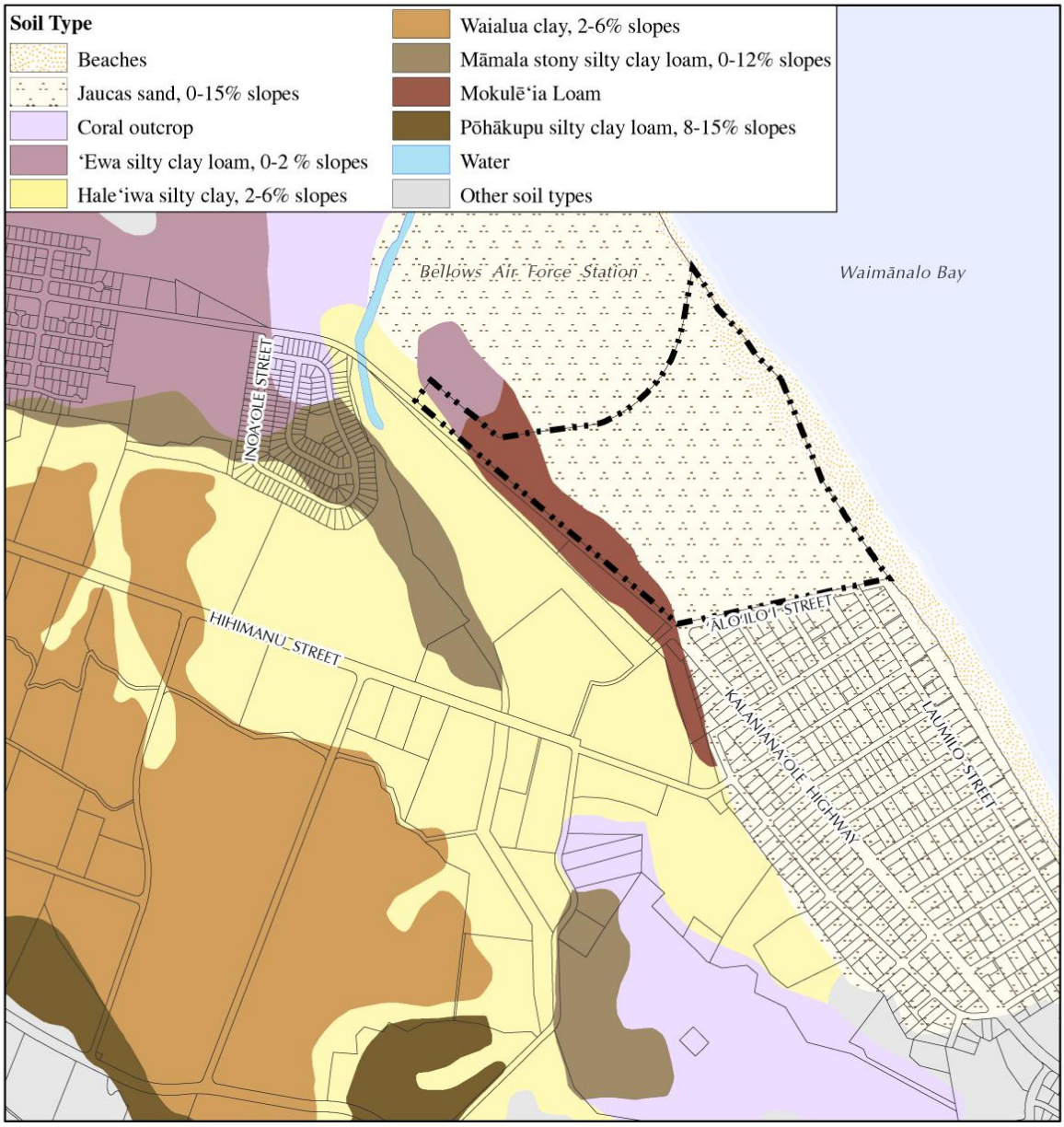
Natural Resource Conservation Service
The majority of the Park consists of Jaucas Sand, with a band of Mokuleʻia loam that follows the site frontage along Kalanianaʻole Highway (Figure 12). ʻEwa silty clay loam, 0-2% slopes and Haleʻiwa silty clay 2-6% slopes may also be found in the most northwest portion of the site (nearest Tinker Road). The majority soil, Jaucas Sand is described as consisting of very deep, excessively drained, very rapidly permeable soils on beaches and along the sea coast. The Mokuleʻia loam that can be found near Kalanianaʻole Highway is described as consisting of well drained soils that formed in recent alluvium deposited over coral sand. The loam can be found on coastal plains.

Land Study Bureau Detailed Land Classification
The University of Hawai‘i Land Study Bureau (LSB) document titled Detailed Land Classification, Island of O‘ahu, classifies non-urban land by a five-class productivity rating system, using the letters A, B, C, D and E, where “A” represents the highest class of productivity and “E” the lowest. The Park is in an area that is unclassified (Figure 13).

Agricultural Lands of Importance to the State of Hawai‘i
The State of Hawai‘i Department of Agriculture’s Agricultural Lands of Importance to the State of Hawai‘i (ALISH) system rates agricultural land as “Prime,” “Unique” or “Other.” The remaining land is not classified. The site is not classified (Figure 13).

Potential Impacts and Mitigation
The sandy soils at the site are expected to be advantageous for drainage, particularly at the proposed sports fields. During construction and landscaping of Master Plan elements, top soil and vegetation will be disturbed on a localized basis. Contractors will use best management practices (BMPs) to minimize erosion during construction and planting. Long term, landscaping and field turf grass will mitigate the potential of soil erosion from wind and storm runoff.

Figure 12, NRCS Soil Classification



LEGEND

Waimānalo Bay Beach Park

Soil Classification

Master Plan

Waimānalo Bay Beach Park

City and County of Honolulu — ISLAND OF O'AHU

NORTH

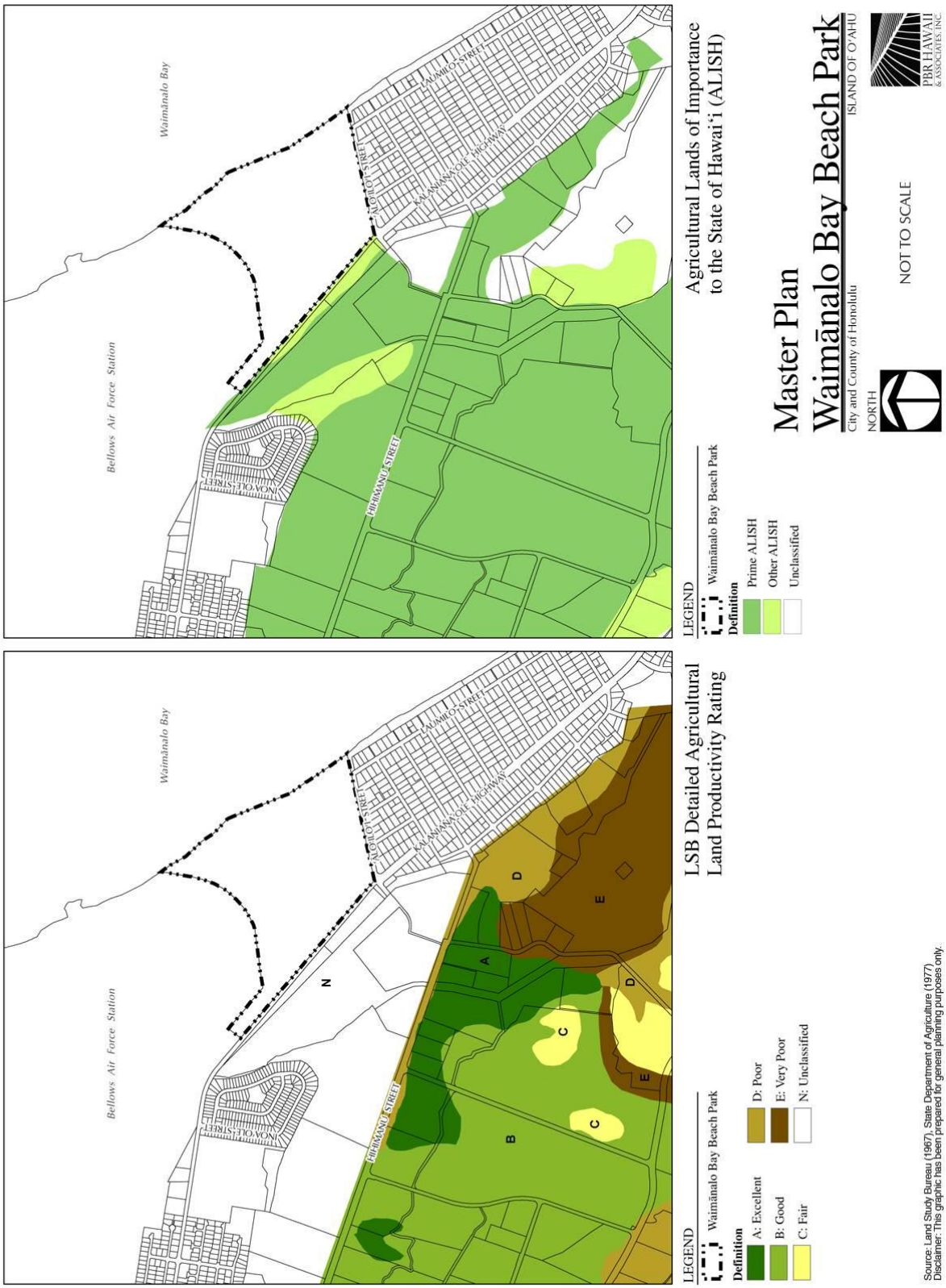
LINEAR SCALE (FEET)

0 500 1,000 2,000

PBR HAWAII & ASSOCIATES, INC.

Source: Natural Resources Conservation Service (2007)
Disclaimer: This map has been prepared for general planning purposes only.

Figure 13, Agricultural Land Classifications



4.3 NATURAL HAZARDS

Existing Conditions
Natural hazards impacting the Hawaiian Islands include flooding, tsunami inundation, hurricanes, volcanic eruptions, earthquakes and landslides. Areas of flood hazard are documented by Flood Insurance Rate Map (FIRM) Panel 15003C0385F prepared by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program. Adjacent to the shoreline, the Park is within the 100 year floodplain. Kalaniana‘ole is also located in the 100 year floodplain – this area of flood hazard extends into the project boundary along the Highway. The 500-year floodplain extends further into the site, encompassing the portion of the Park that is relatively unused and overgrown (Figure 14).

Waimānalo Bay Beach Park is located within the tsunami evacuation zone (Figure 15).

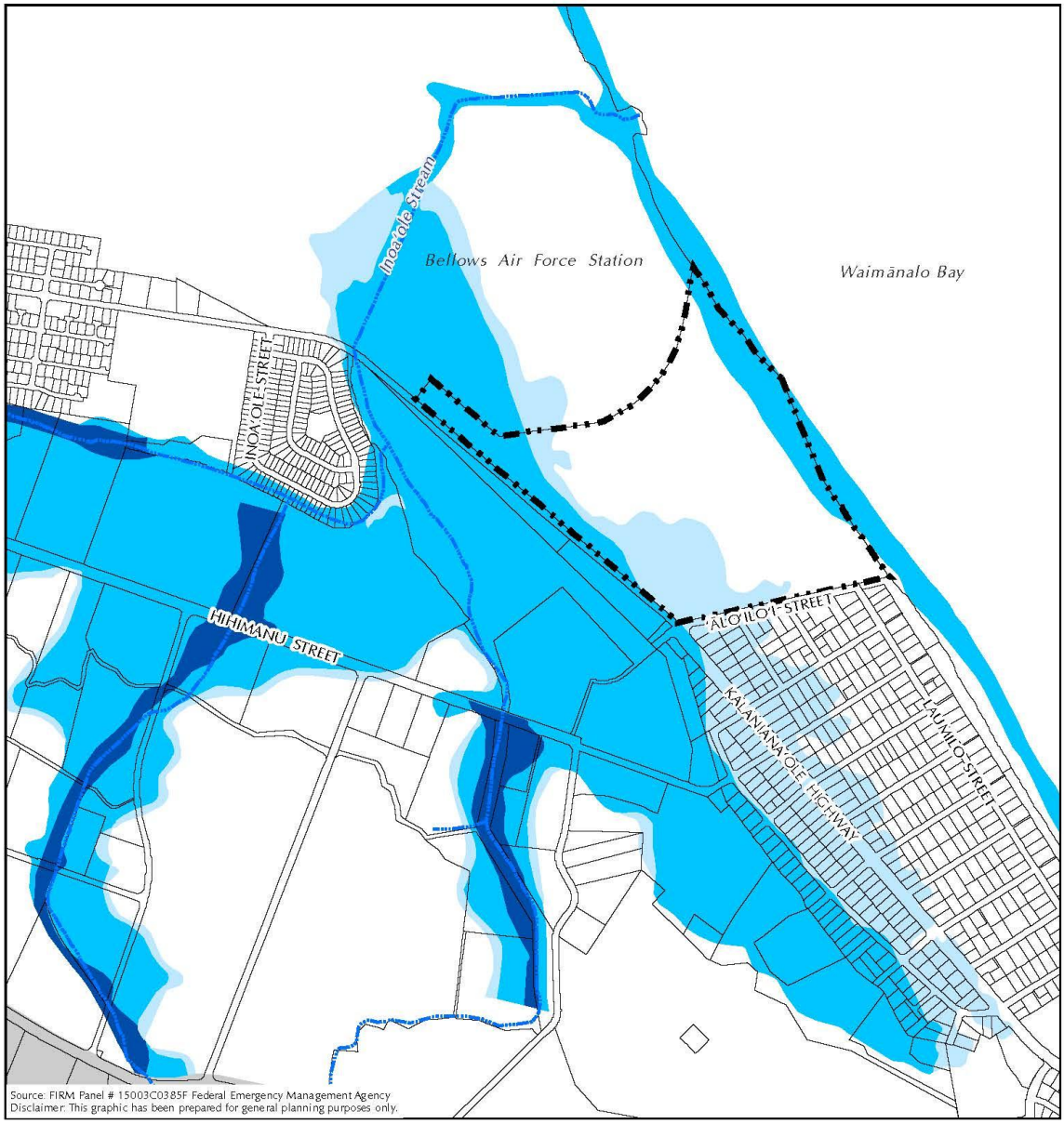
Since 1980, two hurricanes have had significant effect on O‘ahu; Hurricane ‘Iwa in 1982 and Hurricane ‘Iniki in 1992. These hurricanes had a devastating effect on Kaua‘i and brought the most damage to the Wai‘anae coast on O‘ahu.

Volcanic hazard is considered minimal due to the extinct status of the Ko‘olau volcano. Kona winds may bring volcanic gasses from Hawai‘i Island, on an intermittent basis.

In Hawai‘i, most earthquakes are linked to volcanic activity, unlike other areas where a shift in tectonic plates is the cause of an earthquake. Each year, thousands of earthquakes occur in Hawai‘i, the vast majority of which are so small they are detectable only with highly sensitive instruments. The threat of an earthquake to the site area is no greater than any other location on O‘ahu.

Potential Impacts and Mitigation
While it is difficult to predict natural disasters, it is reasonable to assume that future incidents are likely. However, the threat of such hazard is no greater for the proposed project site than any other location on O‘ahu. The coastal location of the Park makes it vulnerable to high winds and potential storm surge and tsunami in particular. However, maintaining open spaces at coastal locations provide a valuable function for flood storage during high rain events. To help better protect the public, a new emergency egress is planned for the Park via Tinker Road. The egress will be locked except for emergencies, when the Park must be vacated or if the Park’s main access is blocked. Correspondence with the Air Force regarding use of Tinker Road is included as Appendix C.

Figure 14, Flood Insurance Rate Map



LEGEND

- Waimānalo Bay Beach Park
- Streams

Flood Rating

- Floodway
- 100-Year Floodplain
- 500-Year Floodplain
- Outside Floodplain/Minimal Flooding
- Undetermined Flood Hazards

Flood Insurance Rate Map

Master Plan

Waimānalo Bay Beach Park

City and County of Honolulu — ISLAND OF O'AHU

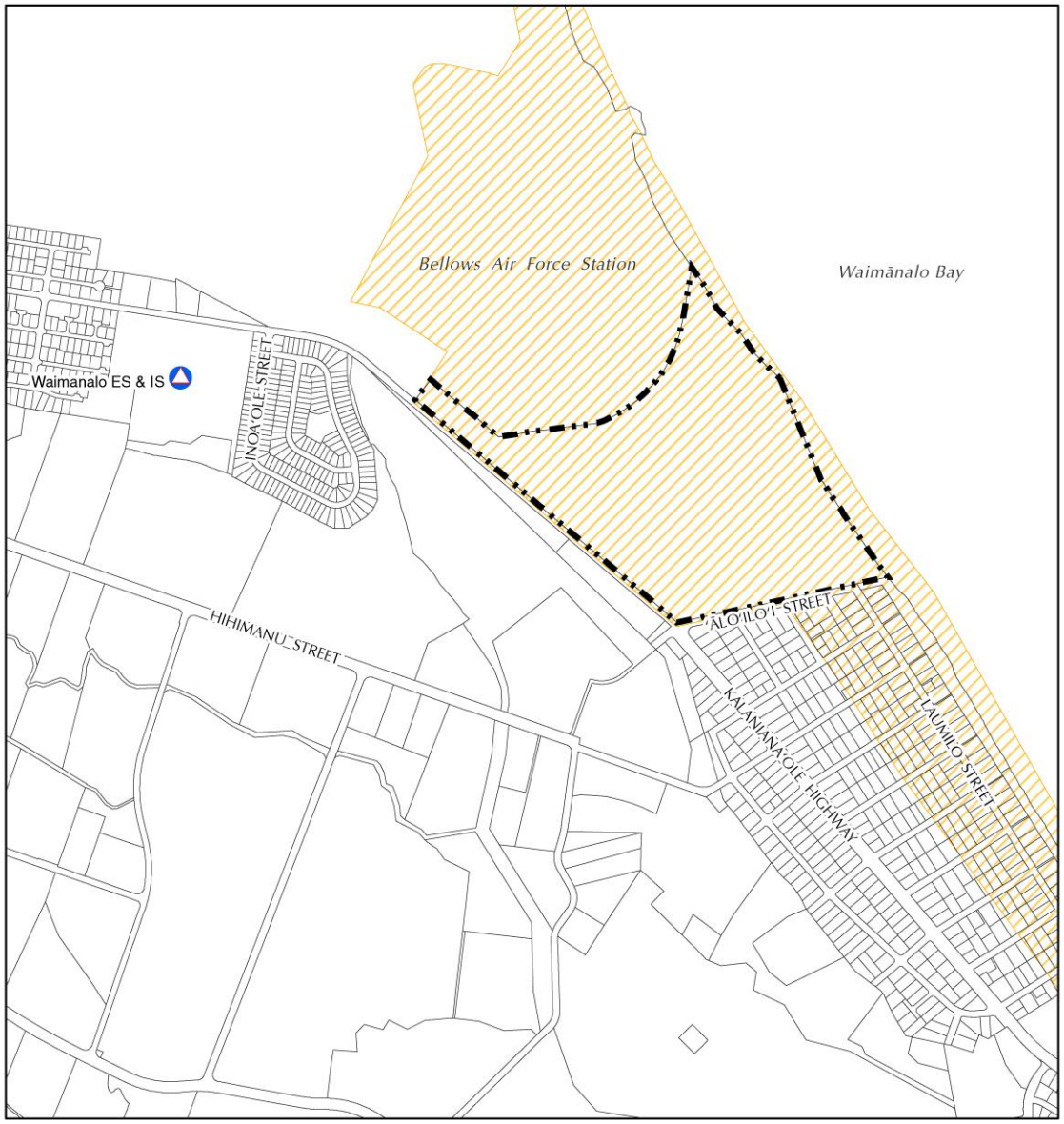
NORTH

LINEAR SCALE (FEET)

0 500 1,000 2,000

PBR HAWAII & ASSOCIATES, INC.

Figure 15, Tsunami Evacuation Zone



LEGEND

- Waimānalo Bay Beach Park
- Tsunami Evacuation Area
- Emergency Shelters

Source: Pacific Disaster Center (2010)
Disclaimer: This map has been prepared for general planning purposes only.
Path: Q:\Oahu\Waimanalo Bay Beach Park\GIS\Project\Tsunami.mxd

Tsunami Evacuation & Emergency Shelters

Master Plan

Waimānalo Bay Beach Park

City and County of Honolulu — ISLAND OF O'AHU

NORTH

LINEAR SCALE (FEET)

0 500 1,000 2,000

PBR HAWAII & ASSOCIATES, INC.

4.4 BEACH, COASTAL EROSION & SEA LEVEL RISE

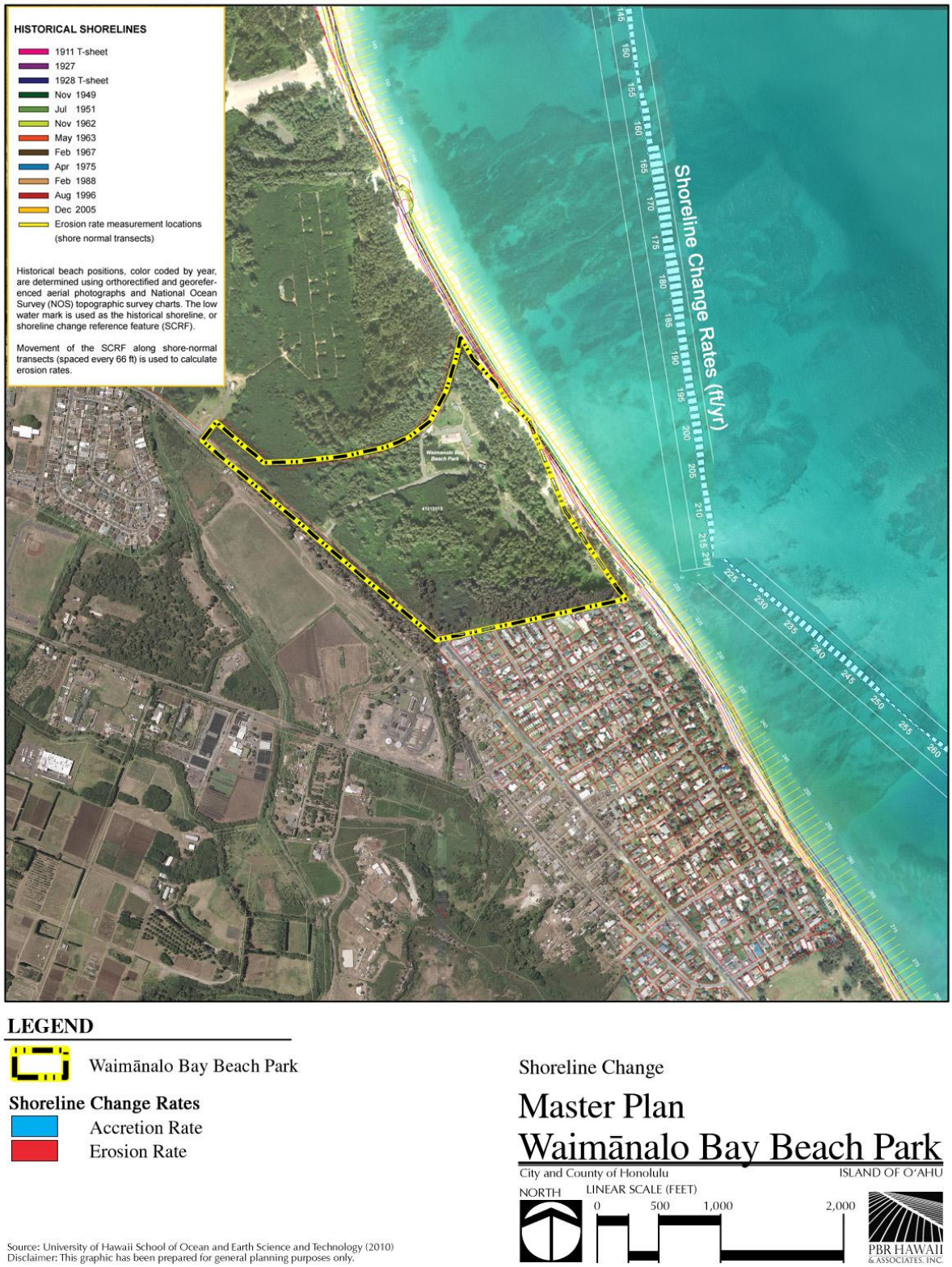
Existing Conditions
Wind, wave and currents are components of the system that shapes beaches. Sand must also be available in order to sustain beaches. Reduction of sand supply can be caused by shoreline hardening and can also be affected by reef health, storms and rising sea level. The University of Hawai‘i School of Oceanography and Earth Science Technology (SOEST) has developed shoreline change maps for the island of O‘ahu. The maps document the historical shorelines dating back to 1911. These maps are used to calculate the erosion rates of beaches on O‘ahu. The beach adjacent to Waimānalo Bay Beach Park is accreting (becoming wider), by rates of .3 to .8 feet a year (see Figure 16, Coastal Change Map).

In April, 2010, the report, “City Beach Parks Erosion Study, Island of Oahu, Hawaii” was prepared for the City and County of Honolulu. This study gives each park an Erosion Hazard Priority Rating (EHPR) of Low, Medium, High or Critical based on: vulnerability of structures or facilities; shoreline erosion; park frequency of use and; environmental impacts of erosion. Waimānalo Bay Beach Park was given a rating of “Low”. This conclusion was based on the evidence that the beach is accreting, that the sandy beach is over 100 feet wide and that the comfort stations are over 100 feet landward of the vegetation line.

The Hawai‘i State Multi-Hazard Mitigation Plan, 2007 addresses sea level rise, explaining that in the future it may be a serious hazard. The plan discusses coastal retreat (beach loss) and documents a recommended Erosion Zone. For beaches that accrete, like that adjacent to Waimānalo Bay Beach Park, an erosion zone of 35 feet for structures with a 50-year life span and 49 feet for structures with a 70-year life span.

Potential Impacts and Mitigation
No shoreline hardening or shoreline structures are proposed. Because the beach adjacent to Waimānalo Bay Beach Park measures over 100 feet in width and is accreting, no mitigation measures are proposed for rehabilitation of the three beach-side comfort stations at their present location.

Figure 16, Coastal Change Map



4.5 WETLANDS & SURFACE WATER BODIES

Existing Conditions
The site is not thought to contain any freshwater wetlands and contains no streams. A review of the National Wetlands Inventory (NWI) maps, prepared by the US Fish and Wildlife Service, show a band of estuarine and marine wetlands, classified as M2USP, along the site's coastal frontage. This wetland classification is the intertidal area of marine open ocean and high energy coast lines with unconsolidated shore (beaches).

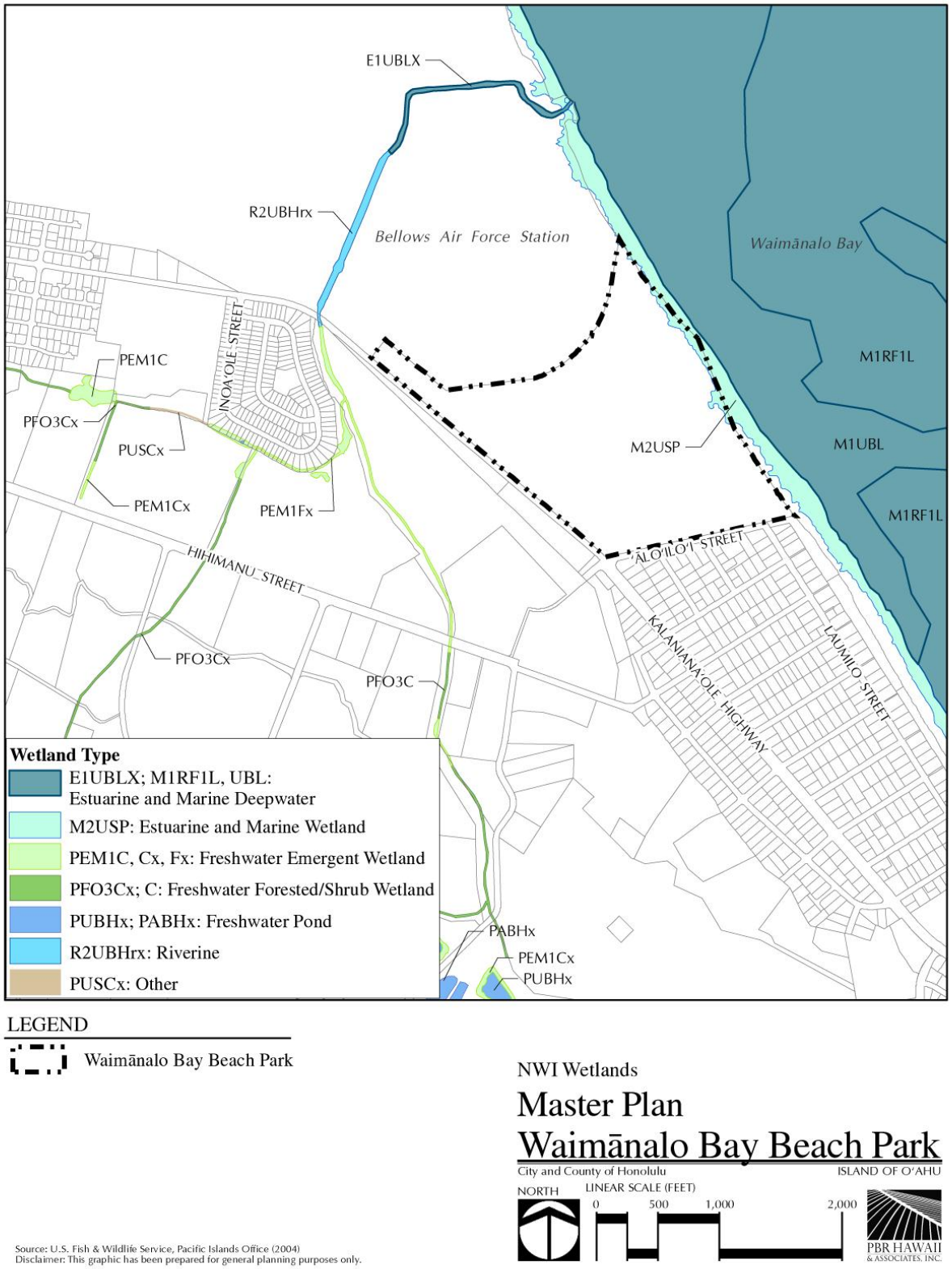
Potential Impacts and Mitigation
The Master Plan does not include any structures or changes to the beach or dune area. Thus, no impacts to wetland resources are expected and no mitigation measures are proposed.

4.6 WATER QUALITY

Existing Conditions
The Hawai‘i Department of Health classifies the marine waters at Waimānalo Bay Beach Park as Class A waters. According to the 2006 State of Hawai‘i Water Quality Monitoring and Assessment Report, published by the Department of Health, the marine waters at the site attain minimum standards for the bacteria enterococci. It is unknown whether or not the waters meet minimum standards for other parameters such as Nitrogen, Phosphorous or turbidity. Nearby marine waters at the mouth of Waimānalo Stream (at Bellows Field) do not meet minimum standards for the bacteria enterococci. It is assumed that the non-attainment of marine waters at Bellows are due to inputs to Waimānalo Stream, which is listed on the 2004 303(d) list for nutrients, turbidity and suspended solids.

Potential Impacts and Mitigation
The addition of impervious surfaces could result in increases in volume of stormwater and/or reduced water quality running off the site. The primary mitigation measure to address stormwater quality and quantity will be to propose pervious paving materials for all new parking areas. Landscaping of parking areas are recommended to be capable of accepting stormwater that sheet flows from the surface in heavy rain events (i.e. bio-swales vs. raised curbs).

Figure 17, National Wetland Inventory Map



Source: U.S. Fish & Wildlife Service, Pacific Islands Office (2004)
Disclaimer: This graphic has been prepared for general planning purposes only.

4.7 FLORA

Existing Conditions

The coastal dunes are primarily vegetated by ironwood trees (*Casuarina*) and naupaka (*Scaevola*). Hala (*Pandanus),* beach heliotrope (*Tournefortia argentea*), ʻaki ʻaki (*Sporobolus virginicus*) pohuehue (*ipomoea pes-caprae*) and romerillo (*Bidens alba*) was also observed in this area. The ironwood trees in the coastal dunes have aged and suffered from human-induced damage, including burned trunks from charcoal disposal and fires. In 2008, several ironwoods were removed from the Park as they were determined by an arborist's inspection to be dangerous to the public's safety.

The actively used areas central to the Park have been landscaped with grass which is kept mowed. The remaining forest areas are thickly vegetated with a combination of trees, shrubs and grasses. The forest area is dominated by haole koa (*Leucaena leucocephala*), a shrubby, non-native tree. However, the forest also includes some stands of mature ironwood trees. Other plants observed within the forest include, Christmas berry (*Schinus terebinthifolius*), papaya (*Carica papaya L.),* sea grape (*Coccoloba uvifera*), asystasia (*Asystasia gangetica*), castor bean (*Ricinus communis*), false kamani (*Terminalia catappal*), hau (*Talipariti tiliaceus*) and non-native grasses.

Potential Impacts and Mitigation

None of the flora observed in the Park are listed as threatened or endangered by the US Fish and Wildlife Service. No changes to the vegetation in the coastal dune are proposed with the Master Plan, thus no mitigation measures are proposed. It is recommended that the City and County continue to monitor the health of the coastal ironwoods so as to protect the public's welfare from diseased or dying trees that can lose their limbs. It is also recommended that a reforestation plan be developed for the Park as the coastal ironwood trees age and die. The Master Plan does not propose reforesting the dunes with ironwood as the trees are considered by the State of Hawai'i to be an invasive plant. Native coastal plants and trees are recommended as an alternative.

Selective clearing is proposed for the forested area of the Park to provide new opportunities for recreation and to highlight stands of mature trees that are obscured by haole koa. Existing stands of mature trees will be maintained in the jogging/walking path areas and vegetation will not be cleared along Aloiloi Street. These remaining forested areas are expected to provide bird habitat, shade for Park users as well as a vegetated buffer between the Park and residential uses at Waimānalo Beach Lots.

4.8 FAUNA

Existing Conditions

Faunal communities in the project area are alien dominated. Avian species commonly encountered are all introduced species common to lowland areas across Hawai`i. These include common myna (*Acridotheres tristis*), red-crested cardinal (*Paroaria coronata*), and house sparrow (*Passer domesticus*). It is expected that detrimental animal species such as feral cats and rats are present at times at Waimānalo Bay Beach Park where there is greater opportunity for these species to forage in trash or debris left behind by visitors.

According to the US Fish and Wildlife Service's pre-consultation comments found in Appendix D, the federally endangered Hawaiian coot (*Fulica alai*), Hawaiian duck (*Anas wyvilliana*), Hawaiian moorhen (*Gallinula chloropus sandvicensis*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian hoary bat (*lasiurus cinereus semotus*), endangered hawksbill turtle (*Eretmochelys imbricata*) and threatened green turtle (*Chelonia mydas*) have all been observed near the Park. Additionally the federally threatened Newell's shearwater (*Puffinus auricularis newelli*) and the Migratory Bird Treaty Act-protected wedge-tailed shearwater (*P. pacificus*), are known to fly through the area.

Potential Impacts and Mitigation Measures

Threats to protected species can come from removal of habitat, lighting and attraction of feral predators and pets such as dogs, cats, rats and mongoose. Hawaiian hoary bats roost in woody vegetation and leave their young unattended in "nursery" trees and shrubs when they forage. There is a risk that young bats could inadvertently be harmed or killed if trees or shrubs suitable for bat roosting are cleared during the bat breeding season of April to August. Sea turtles are susceptible to artificial lighting that can disorient them away from the ocean. Turtle nests and hatchlings are susceptible to human disturbance and predation by mammals such as mongoose, cats, dogs and pigs. Lighting can also adversely impact listed and migratory seabird species. Seabirds fly at night and are attracted to artificially-lighted areas which can result in disorientation and subsequent fallout due to exhaustion or collision with objects such as utility lines, guy wires and towers that protrude above the vegetation layer. Once grounded, the birds are vulnerable to predators or can be struck by vehicles along roadways. An increase in the use of night-time lighting for ball fields or parking lot lights, particularly during the peak fallout months between September 15th and December 15th could result in additional seabird fallout. Domestic pets, such as dogs running freely through the Park can cause harm to both turtle nests and downed seabirds. These faunal resources are also susceptible to predation by feral cats, rats and mongoose.

No wetlands exist in the Park, thus no open water habitat will be lost to the Hawaiian waterbird population.

In order to minimize threats to federally protected species, the following measures, as recommended by the US Fish and Wildlife Service will be implemented with the Master Plan improvements:

- To avoid impacts to young Hawaiian hoary bats, tree and shrub clearing of woody plants over 15 feet tall will not occur during the bat breeding and pupping season of April 15th through August 15th.
- To maintain dark beaches that allow turtle nesting, no structures or beach-oriented lighting is proposed.
- To protect seabirds, outdoor lighting, if installed at the softball/little league diamond will be of a type that is shielded so the bulb can only be seen from below and use the lowest wattage bulbs possible.
- To discourage attraction and foraging of feral predators such as cats, rats and mongoose, trash and recycling bins are recommended to be of animal-proof design.
- To educate the public about how individuals can contribute to the protection of threatened and endangered seabirds and turtles, interpretive kiosks or signage are proposed:

- To educate Park-goers regarding the seabird fallout issue and to inform the public that downed birds can be taken to Sea Life Park for rehabilitation.
- To discourage the free movement of pets in the Beach Park and to discourage feeding of feral animals in or near beach habitats.

5.0 ASSESSMENT OF EXISTING HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

This section describes the existing conditions of the human environment, potential impacts of the proposed constructed wetlands and mitigation measures proposed to minimize any impacts.

5.1 ARCHAEOLOGICAL, CULTURAL AND HISTORIC RESOURCES

Existing Conditions
Waimānalo Bay Beach Park is in the ahupua‘a of Waimānalo, District of Ko‘olaupoko.

Significant Place Names

Waimānalo:	“potable water” (Pukui et al.)
Ko‘olaupoko:	“short Ko‘olau” (Pukui et al.)
Ko‘olau:	“windward” (Pukui et al.)
Mānana:	An off-shore island and state seabird sanctuary, visible to the south from Waimānalo Bay Beach Park, also known as “Rabbit Island”, for the colony of rabbits deposited on the island by John Cummins. Translated as, “to stretch out or protrude”. (Handy et al., Ulukau)
‘ālo‘ilo‘i:	Street name adjacent to project site. A damselfish (*Dascyllus albisella*) (Ulukau)
Kalaniana‘ole:	Highway adjacent to project site named for Prince Jonah Kūhiō Kalaniana‘ole (1871-1922), delegate to congress and father of the Hawaiian Homes Commission Act. Translated as, “the royal chief without measure” (Pukui et al.)

History
Pre-Contact
As re-told in *Native Planters of Old Hawai‘i*, Pele had thought to take up residence at Makapu‘u (southeast of the project site), but opted for Maui. Her sister, Hi‘iaka, in pursuit of Lohi‘au, also passes Makapu‘u Point and calls it, “He wahine a ke Akua Pololi” (Wife to the god of Starvation) (Handy, et al).

North of the rocky Makapu‘u point, wet taro was thought to have been extensively cultivated in the Waimānalo ahupua‘a as evidenced by remnant terraces running to the back of the valley. Native varieties of banana were also planted in small protected gulches in Waimānalo because they did not withstand wind as well as introduced varieties. The agricultural terraces throughout the valley were fed by the area’s well known springs. In the book, *Native Planters in Old Hawaii*, Mary Kawena Pukui translated the following from the Hawaiian language newspaper, *Hoku o Hawaii*, March 11, 1930:

There are two peculiar springs at Waimānalo…The one called Kupunakane [Grandfather] is away up in the mountains. The spring called Kupunawahine [Grandmother] is a spring way down on the level land. The strange, strange thing about these ponds was that on calm, sunny days they begin to cry out to each other. Their voices are soft and sounded very much like a woman mourning her husband. On days that were overcast with clouds in the sky, then the water of the mountain spring changed. The water of the mountain spring became warm and when you drank the water in the lowland spring it was cool, according to their legend.

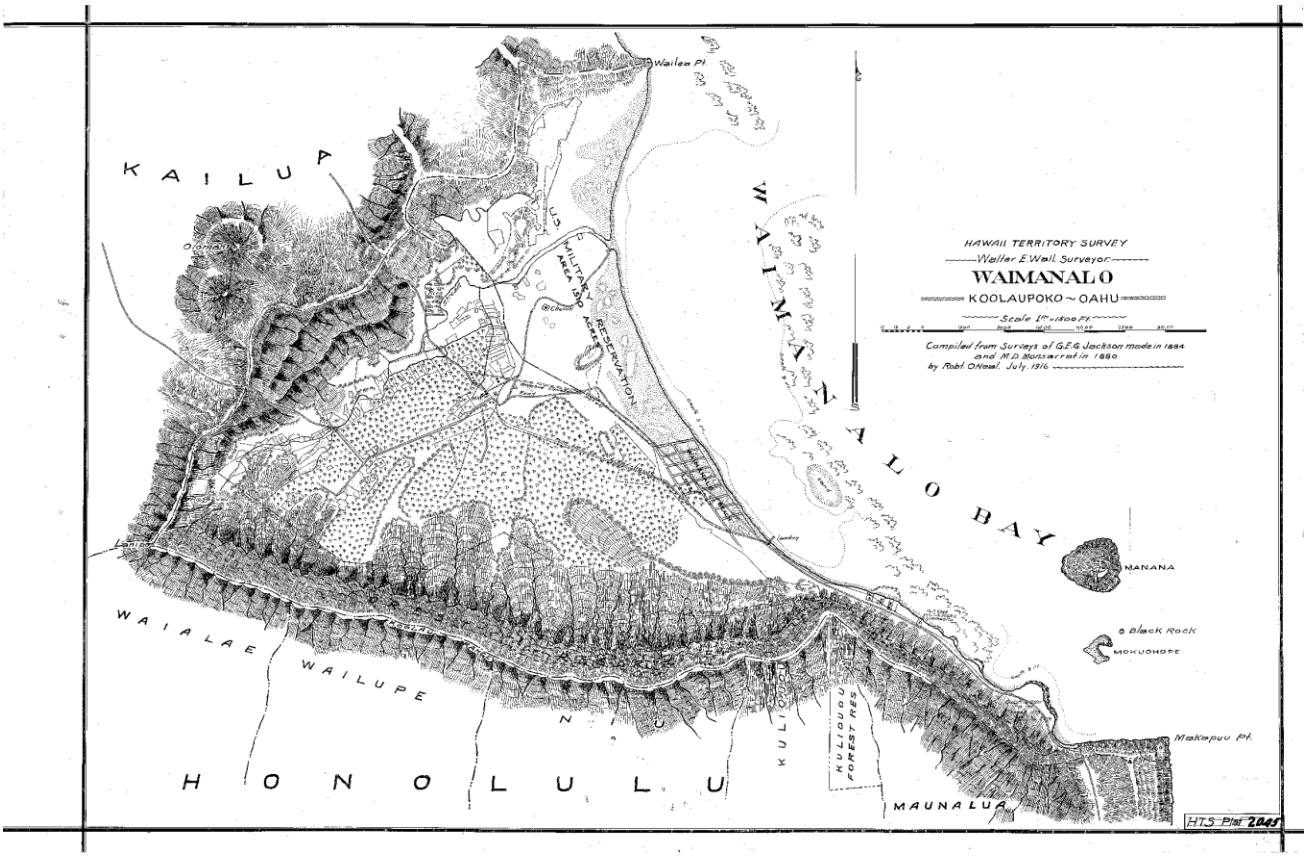
Another spring was known to be across Kalaniana‘ole Highway from Bellows Air Force Reserve. This area was heavily populated and known as Maha‘ilua. Further east, across from Waimānalo Beach Park, Charles Alona recounted for *Native Planters in Old Hawaii* that there was a small village, populated with people from Moloka‘i, giving the village its name, Pu‘u o Molokai. Continuing east, at what is now Kai‘ona Beach Park, Both Clark and Handy et. al. tell the story of a turtle pond that was kept well stocked with *honu* for an ali‘i with great fondness for their meat (Handy et al.).

Historic Period
A description of the decline of traditional agriculture in the year 1847, Puku‘i translates the following from *Ku‘oko‘a*, October 26, 1906:

At that time it seemed that the valley was filled with breadfruit, mountain apples, kukui and coconut trees. There were taro patches, with banks covered with ti and wauke plants. Grass houses occupied the dry lands, a hundred of them here, and sweet potatoes and sugar cane were much grown. It was a great help toward their livelihood…. The whole ahupua‘a of Waimanalo was leased to white men except the native kuleanas and because the cattle wandered over them, they were compelled to build fences for protection. The taro patches that were neatly built in the time when chiefs ruled over the people and the land, were broken up. The sugar cane, ti and wauke plants were destroyed. The big trees that grew in those days, died because the roots could not get moisture. The valley became a place for animals.

Captain Thomas Cummins is known for his early establishment of western-style agriculture in Waimānalo. In 1840, he began grazing beef, dairy cows and sheep. With the rise of sugar in the late 1800’s, Cummins initiated the Waimānalo Sugar Cane Company. Vast areas of the lowland ahupua‘a were put into cultivation of sugar cane for the plantation. A 1916 survey of Waimānalo documents the extensive cane plantation as well as some rice cultivation associated with Kahawai Stream. The same map documents the location of the Waimānalo Sugar Company’s mill located mauka of the project site (see Figure 18, Hawai‘i Territory Survey, 1916).

Figure 18, Hawai'i Territory Survey, 1916



Military:
The Waimānalo Military Reservation was established by Executive Order in 1917. In 1933, the reservation was renamed Bellows Field for 2nd Lieutenant F.B. Bellows who perished in an airplane accident. Two Americans were killed at Bellows when it was attacked by the Japanese on December 7, 1941. The following day, a two-person Japanese submarine was disabled when it encountered reef in Waimānalo Bay. One crew member survived and was captured as a prisoner of war. The second crew member did not survive and his body washed ashore. During World War II, the facility was expanded and was used for training US Air Force personnel for combat. Since 1964 areas of Bellows between Waimānalo Stream and Ina'ole Stream have been open to the public for camping (by permit) and beach activities on weekends and national holidays.

The site of Waimānalo Bay Beach Park was utilized by the military for warehousing and recreational purposes including beach front cabins and an officers' club (see Appendix E, Figure 3). At that time, the beach was known as Bagley Beach, for Vice-Admiral David W. Bagley, commandant of the 14th Naval District during World War II.

Recreation:
In the 1950's the military discontinued using the project area for recreational purposes and by the 1960's, the site became notorious for suspect activities. It is thought that during this time, the project area became known as "Sherwood Forest". The nickname continues to be commonly used by O'ahu residents. In 1966, the 76 acres that comprise the project site were

transferred from the military to the State of Hawai'i. Renamed, "Waimānalo State Recreation Area", the state land was managed by the Department of Land and Natural Resources, Division of State Parks. State Parks implemented outdoor recreational uses for the public including camping and picnic areas. In 1992, the Park was transferred to the City and County of Honolulu and the Department of Parks and Recreation became the Park's manager.

State and National Register of Historic Places

In 1974, the Bellows Field Archaeological Area (BFAA) was determined eligible for inclusion and formally listed in the National Register of Historic Places. The boundaries of the BFAA included archaeological sites numbered 512 and 513, located in the remains of the Bellows Sand Dune in the Park property as well as an archaeological site documented by the Bishop Museum as Site 018, located within Bellows Air Force Station to the north. Site 018 is a very early habitation and burial site. It is accepted that the Bellows Field Archaeological Area was intended to primarily protect Site 018 and that the boundary of Bellows Field Archaeological Area was arbitrarily drawn when the extent of the archaeological resources were not known. It is also accepted that that the Park property is not on the National Register.

This is supported by Tuggle's research in 1994 as well as by Dye in 2009. Dye states, *"over the years, as information on historic sites has accumulated, it became apparent that the boundaries of site 50-80-15-511 bore little relation to the distribution of archaeological remains. Consequently, site boundaries were redefined and the significance of the sites were evaluated without reference to site 50-80-15-511. For these reasons, site 50-80-15-511 is no longer included in the inventory of archaeological sites recognized as historic properties."*

The Environmental Assessment process has included coordination with the State Historic Preservation Office (SHPO) to help ensure compliance with the requirements of the State of Hawai'i. Regardless of the Park's status with relation to the National Register, there are known archaeological resources within the Park discussed on the following pages.

Other Waimānalo properties on the State and National Register of Historic Places include:

Table 5, Waimānalo National Register Sites

Site Name	Site Number
Pohakunui Heiau	80-15-0382
Koa (Rabbit Island)	80-15-0489
Waimanalo Taro Terraces	80-15-0515
Pueo Heiau	80-15-1031
Pahonu Turtle Pond	80-15-1037
US Coast Guard Makapuu	80-15-1355
Hawaiian Trail and Mountain Club	80-15-9072
Alfred Hocking Beach House	80-15-9012

Source: Hawai'i State Historic Preservation Division

Archaeology

A number of archaeological surveys have been conducted on what is now known as Waimānalo Bay Beach Park. An archaeological literature review was conducted to compile this work, review the results of the research and make recommendations concerning future archaeological research as the Master Plan is implemented. The archaeological literature review is included as Appendix E. A summary of previous archaeological research and correspondence is provided in the following table. The findings of the archaeological literature review was strong evidence of Site 512, as it was re-identified on more than one study. Site 513 was not re-identified on studies subsequent to the initial 1971 research study. Evidence of two additional burials were discovered in 1978 and two small fire pits were found in 1979. These features were left in place. The report also verifies that 60 sets of human remains were re-interned within the Park. Extensive testing has taken place elsewhere within the Park and have returned culturally sterile. The report concludes that extensive areas of the site area have been impacted by construction activities and archaeological testing throughout the years leaving very little, if any, of the original surface intact (see Appendix E, Figure 13).

Table 6, Archaeological Review Summary

YEAR	AUTHOR	TYPE OF RESEARCH	CULTURAL REMAINS	ADDITIONAL NOTES
1971	R.J. Pearson	University of Hawai`i Field Exercise	Site 512: a cultural deposit Site 513: two burials	
1977	Bertell Davis	Phase I Sub-surface testing Report	None	Approx. 200 cores excavated throughout Park. All culturally sterile. Site 512 re-identified, site 513 not re-identified
1977	Div. of State Parks	Environmental Impact Statement	N/A	
1978	David Cox	Monitoring report	One burial, human bone	Site 512 avoided; Site 513 not re-identified. Burial and bone found were left in place.
1979	Griffin and Yent	Memo: Monitoring, sub-surface testing	None	48 cores near Kalaniana‘ole. All negative for cultural deposits
1979	M. Yent	Memo: Specifying location and container for reburial of 60 sets of human remains		
1979	Yent and Griffin	Memo: Reporting unauthorized bulldozing	N/A	
1979	M. Yent	Memo: Concerning reburial of 60 sets of human remains	N/A	
1979	State Parks	Monitoring and testing report	Two small pit features	
1980	Lovelace	Memo: Sub-surface testing	None	
1980	J. Ota	Memo: Monitoring	None	
1991	Hibbard	Memo: Concerning reburial of 28 sets of human remains	N/A	Origin of remains unknown; no further information about these 28 sets remains were located
1991	Nagata	Memo: Requesting reburial info.	N/A	See above
1991	M. Yent	Memo: Concerning reburial of 60 sets of human remains	N/A	Reburial confirmed.
2000	M. Dega	Monitoring and sampling report	None	
2002	Ogg and Dega	Testing and sampling report	None	

Potential Impacts and Mitigation Measures
The Master Plan was designed to avoid any impacts to archaeological resources, including the site's known archaeological features. Previous archaeological studies and correspondence provide evidence that the most sensitive area of the Park is the most intact portion of the Bellows Sand Dune complex. Thus, impacts to resources in this area will be avoided by ensuring that no earth moving takes place for Master Plan improvements.

In an effort to ascertain any impacts that the Park may have on cultural uses within the Park, the Community Advisory Group was made aware of the location of known burials within the Park and the potential for additional discovery in the future. A request to the community for input with regard to cultural practices was also voiced at a Waimānalo Neighborhood Board presentation in September, 2011. Additionally letters requesting input relative to cultural practices were mailed to the Waimānalo Hawaiian Civic Club and Waimānalo Hawaiian Homes Association; and email requests for information were also submitted to individuals knowledgeable of Park activities and cultural practices in Waimānalo generally, for input to the project. These contacts did not illicit any specific additional information regarding current cultural practices within the Park.

Because there is a possibility of burials along the previously disturbed portion of the dune complex, the three comfort stations nearest the beach are proposed to be reconstructed in place. Elsewhere in the Park, great depths of earth are not expected to be graded, however Archaeological Inventory Assessment (AIS) is recommended prior to completion of detailed park design for areas proposed for ground disturbance. The most extensive areas of earth moving will be required to create level sports fields near Kalaniana‘ole Highway. These areas have been tested by archaeologists and extensively bulldozed by the military in the late 1970's, however, there is the possibility of discovering sub-surface intact cultural deposits.

Additionally, there are remnants of the former military use of the site, such as concrete slabs and building foundation remains. If they are over 50 years of age, they also will be treated as historic features. It is recommended that these features be mapped, photographed and recorded.

5.2 NOISE

Existing Conditions
The predominant sources of noise in the vicinity of the site stem from automobile traffic on Kalaniana‘ole Highway. Other sources of noise are from natural sources, such as wind, rain and ocean waves.

Potential Impacts and Mitigation Measures
Development of sports fields will invariably bring an increase in noise from the likes of spectators and referee whistles. In order to mitigate noise disturbance to the Park's most sensitive adjacent use (single family residences at Waimānalo Beach Lots), the sports fields have been located closest to Kalaniana‘ole Highway. Remnant forest is proposed to be left in place as a buffer between these uses. The placement of the sports fields near Kalaniana‘ole is also intended to minimize noise impacts on other uses within the Park such as picnicking, camping and nature viewing that benefit from peace and quiet.

To mitigate construction noise levels, the Department of Design and Construction will work with their contractors to ensure adherence with State Department of Health (DOH) regulations, use of proper equipment and ensure regular vehicle maintenance. Equipment mufflers or other noise attenuating equipment may also be employed as required. All construction activities will be limited to daylight work hours.

5.3 AIR QUALITY

Existing Conditions
Regional and local climate, together with the amount and type of activity generally determine the air quality of a given location. At the project site, trade winds predominate.

Due to relatively undeveloped nature of the Park and surrounding properties, air quality is excellent. There are no point sources of airborne emission within proximity of the project site. Pollutants that exist may be attributable to automobile traffic accessing the Park. Emissions from such sources are intermittent and are quickly dispersed by prevailing winds.

Potential Impacts and Mitigation Measures
Long term, the additional park uses will not contribute to air pollution. The Park will include an improved bicycle trail along the Kalaniana‘ole frontage as well as walking paths internal to it. These enhanced features will offer better opportunities for multi-modal access to and within the Park.

Emissions derived from operation of construction equipment and other vehicles involved in construction activities may temporarily affect the ambient air quality in the immediate vicinity. However, these effects will be minimized through proper maintenance of construction equipment and vehicles. In addition, there may be a temporary adverse impact on air quality attributable to dust generated during project construction, particularly earthmoving activity. The Department of Design and Construction will work with their contractors to ensure that best management practices to control fugitive dust are employed. This may include the use of construction fencing or watering the site while soil is exposed. After construction, the Park will be revegetated with grass or landscaping.

5.4 VISUAL RESOURCES

Existing Conditions
Waimānalo Bay Beach Park contains treasured scenic resources that are centered on the beach and bay. Some of these resources are documented in the Ko‘olaupoko Sustainable Community Plan (Figure 7). The sandy beach adjacent to the Park is over 100 feet wide. Views from the Park toward the bay include a stretch of sand that reaches northward toward Lanikai where Wailea Point reaches out to the Mokulua Islands. Southward, miles of beach give way to the pali face where the islets of Manana (Rabbit Island) and Mokuohope can be seen.

Within the Park, the ironwood trees in the coastal dune area are valued by the community for their shade, shelter from wind and scenic quality. Other areas of the Park have become overgrown with non-native invasive plants and their scenic qualities have become diminished.

From Kalaniana‘ole, the Park appears as a thick tangle of Haole koa trees, which have grown right up to the aging perimeter chain link fence.

Potential Impacts and Mitigation Measures
The objective of the proposed Master Plan is to preserve the Park’s existing scenic resources and enhance those scenic resources that have lost their integrity. Master Plan improvements have been proposed to be sited so as to retain mature trees and maintain viewplanes.

The Kalaniana‘ole frontage is proposed to be improved with a meandering bike path that is separated from the Highway by a landscape strip. A pasture fence that is similar in design to the polo grounds fence across the Highway is proposed to be installed in the planter strip (outside Highway right-of-way). The purpose of this measure is to make bicycle riding along or to the Park more enjoyable and safe. However, it will also serve to enhance the Park visually from the Highway. The aging perimeter security fencing is also proposed to be replaced. Sports fields will be turf grass and associated parking areas will be landscaped with high canopy shade trees. The central portion of the Park has been laid out to preserve stands of large trees. The thick understory of non-native shrubs is proposed to be thinned so as to allow visual access to the Park’s larger trees. Similarly, non-native trees and understory will be removed to allow for a walking/jogging path through the remnant forest and dunes adjacent to Aloiloi Street.

New camping sites near the beach will be designed within the existing stand of ironwood trees, and no trees are planned for removal to accommodate camp sites. However, as an ongoing safety consideration outside the scope of this Master Plan, the City and County continues to monitor the health of the aging trees and will need to consider selectively removing any trees that pose a safety hazard to the public.

No adverse impacts to scenic resources are expected; thus, no mitigation measures are proposed.

5.5 SOCIO-ECONOMIC CHARACTERISTICS

Existing Conditions
Waimānalo Bay Beach Park is located in the ahupua‘a of Waimānalo, District of Ko‘olaupoko, Island of O‘ahu. Waimānalo is characterized by its rural, agricultural environment, family-oriented neighborhoods and small businesses oriented to Kalaniana‘ole Highway. The Waimānalo community is comprised of a greater percentage of Native Hawaiian or “other Pacific Islander” population than O‘ahu as a whole. Significant land area in Waimānalo is under the ownership of the Department of Hawaiian Home Lands (DHHL). According to the DHHL 2009 Annual Report, there are 800 residential leases in Waimānalo. Approximately 50 additional residential leases are expected as a new DHHL subdivision on Kakaina Street is developed.

The Census Bureau tabulates data for unincorporated localities, called Census Designated Places (CDP). Waimānalo Bay Beach Park is located adjacent to two CDPs. The Waimānalo Beach CDP extends from Makapu‘u to Aloiloi Street, encompassing residential subdivisions on both sides of Kalaniana‘ole. The Waimānalo CDP encompasses lands primarily between Kalaniana‘ole and Hihimanu Street as well as subdivisions between Kakaina and Kumuhau Streets. Census 2010 reported the total population of the Waimānalo CDP to be 5,451

persons and the total population of the Waimānalo Beach CDP to be 4,481 persons. Resident population by race for the two CDPs are as shown in the following table:

Table 7, Resident Population by Race and CDP, 2010

	C&C Honolulu	**Waimānalo CDP**	**Waimānalo Beach CDP**
Population total	876,156 (100%)	5,451 (100%)	4,481 (100%)
Two or more races	174,624 (20%)	2,157 (40%)	1,910 (43%)
Population of one race	701,532 (80%)	3,294 (60%)	2,571 (57%)
White alone	186,484 (21%)	668 (12%)	412 (9%)
Black or African American alone	20,619 (2%)	15 (<1%)	10 (<1%)
AIAN alone 1/	2,178 (<1%)	10 (<1%)	6 (<1%)
Asian alone	403,371 (46%)	1,295 (24%)	189 (4%)
NHOPI alone 2/	77,680 (9%)	1,268 (23%)	1,941 (43%)
Some other race alone	11,200 (12%)	38 (<1%)	13 (<1%)

1/ American Indian and Alaska native alone.
2/ Native Hawaiian and other Pacific Islander alone.
Source: U.S. Census Bureau, 2010 Census Redistricting Data (Public Law 94-171) Summary File Table P1; extracted by the Hawai'i State Department of Business, Economic Development & Tourism, Hawai'i State Data Center

The demographic information that follows is from the 2009 American Community Survey profiles for the Island of O'ahu and the CDPs neighboring the project site.

Table 8, Household, Age and Income Estimates by CDP, 2009

	C&C Honolulu	**Waimānalo CDP**	**Waimānalo Beach CDP**
Number of Households	304,000	980	1,100
Household Size	2.9 people	3.6	3.8
% Households with own children under 18 years	29.9%	46.3%	23.7%
Median Age	36.9	32.4	39.2
Housing: Owner Occupied	32.4	57.8%	80.2%
Housing: Renter Occupied	44%	42.2%	19.8%
Median Household Income	$67,066	$50,000	$72,500

Potential Impacts and Mitigation Measures

The Waimānalo Bay Beach Park Master Plan is not expected to affect the demographics of the Waimānalo Beach CDP, the Waimānalo CDP or the island of O'ahu as a whole. The construction itself will stimulate purchase of materials (generating excise tax revenues) and employment for labor (generating income tax revenues). No mitigation measures are proposed.

5.6 INFRASTRUCTURE

5.6.1 Roadways and Traffic

Existing Conditions

Waimānalo Bay Beach Park is located with frontage on Kalaniana'ole Highway (State Route 72), a State of Hawai'i, Department of Transportation (DOT) owned and maintained facility. Kalaniana'ole Highway is a three lane highway with a posted speed limit of 35 miles per hour in the vicinity of the Park. The highway right-of-way measures 50-feet in width. Highway improvements include a north-bound lane, south-bound lane and a center lane. The center lane is striped to allow left-turn movements into the Park from the south-bound lane and to allow left turn movements out of the Park. The highway shoulders are unpaved and grass, except at bus stops, where paved pull-outs are provided. Beyond the grass shoulders, there is an asphalt sidewalk in each direction. Overhead powerlines are sited in the highway corridor adjacent to the northbound lane.

In addition to automobile traffic, Kalaniana'ole is a bus route. TheBus routes #57, #77 and #89 Express pass by the site frontage. A north-bound bus stop is located immediately north of the Park access point. South-bound bus stops are located on the mauka side of the highway, north and south of the Park entrance.

A Traffic Impact Analysis Report (TIAR) was prepared by the City and County of Honolulu, Department of Design and Construction (DDC) in 2011 (Appendix F). The report documents current traffic conditions and estimate the impacts of the proposed Master Plan elements on traffic patterns. The purpose of the TIAR is to evaluate how well the capacity of the existing system can support demand now and upon development of the Park Master Plan elements.

Based upon examination of 24-hour tube counts supplied by the Hawai'i Department of Transportation (HDOT), traffic is most heavy along Kalaniana'ole Highway from 3:30 PM to 7:30 PM on weekdays. Thus, the TIAR focuses on this time period for levels of service, delay, queuing and other measures of traffic congestion. Based on two days of weekday continuous traffic counts performed in 2007, the most heavy peak hour traffic on the highway is from 4:15 PM to 5:15 PM. This coincides with a time of day when participants using the proposed ball fields are expected to be arriving at the Park, thus the TIAR specifically analyses this time of day.

Potential Impacts and Mitigation Measures

The TIAR methodology included using the Institute of Transportation Engineers (ITE) Trip Generation Manual to estimate the number of trips that would be generated and assumptions about which direction the trips would take. It is estimated that a beach park of 75 acres would

generate 2,236 trips daily (a trip in to the Park is considered one trip, so a person that drives to and from the Park generates two trips). During the PM peak hour, 98 trips are estimated (49 entering, 49 leaving). A peak hour factor was further added to the model to account for an intensification of trips for the ball field use.

The TIAR analyzed whether a traffic signal would be warranted for the Park access. This analysis was performed as outlined in the Manual of Uniform Traffic Control Devices, which sets forth eight indicators to see if volumes of traffic meet the "warrant" for a signal. None of the warrants are met currently, meaning that a traffic signal is not appropriate for the intersection. Projected to the year 2031, none of the warrants are expected to be fully met. However, the TIAR recommends that the City monitor the intersection as traffic may grow at a faster rate than the model.

Another measure of capacity is Level of Service (LOS). The TIAR found that Kalaniana'ole Highway northbound and southbound will maintain a satisfactory Level of Service through a 20-year planning horizon. The TIAR found that the most congested roadway segment will be the Park's access road. Thus, the TIAR includes a recommendation to delineate a separate left turn and right turn lanes to facilitate vehicular movements out of the Park. Finally, the TIAR suggests that traffic traveling northbound on Kalaniana'ole and turning right into the Park should be monitored for congestion. A right-turn "pocket" may ease congestion if it arises.

In addition to on-site improvements to the driveway, an emergency route is also planned for the Park. The purpose of the exit route is to allow a secondary way for vehicles to exit the Park should an emergency necessitate evacuation of users or should an accident at the driveway/Highway intersection that restricts access occur. The emergency exit route is proposed to be gravel and under all circumstances except emergencies be gated and locked at Tinker Road. Preliminary agreement for this access has been provided by the Air Force, however, an agreement to formalize limited emergency access to Tinker Road must be secured.

5.6.2 Water

Existing Conditions

In Waimānalo, as with all of Ko'olaupoko, the source of water is precipitation along the Ko'olau mountains. Rainfall is impounded in dike complexes within the mountain geology and conveyed into the valley via springs and seeps which feed streams. The Waimānalo Aquifer System Area, part of the Windward Aquifer Sector Area as defined by the Commission on Water Resource Management (CWRM). The Waimānalo Aquifer System Area has an estimated sustainable yield of 10 million gallons per day (mgd). The neighboring Ko'olaupoko Aquifer System Area has a sustainable yield of 30 mgd. To satisfy agricultural demand in Waimānalo, irrigation water is conveyed from water tunnels, springs and streams in Maunawili (Ko'olaupoko Aquifer System Area) and Waimānalo Valley via the Waimānalo Ditch.

A Civil Engineering Report was prepared to document existing infrastructure and address infrastructure need for the proposed Master Plan elements. The existing water system is detailed in the Civil Engineering Report (Appendix G) and summarized below. A map showing existing utilities is provided as Exhibit 1 to the Civil Engineering Report.

The Park's water system consists of various sized polyvinyl chloride (PVC) pipe metered off a service line at Aloiloi Street. The oldest water lines in the system are 34-35 years old. A second water line owned by the Federal government crosses the Park from Aloiloi Street to Bellows Air Force Station. The second line serves a single fire hydrant within the Park.

Based on park hours and uses and number of fixtures, the Civil Engineering Report estimates existing water demand to be 57 gallons per minute, which equates to approximately 2.5 million gallons per month. Actual meter readings found that the average monthly usage is approximately 342,000 gallons per month, and a maximum monthly usages of 722,000 gallons in August, 2010.

The Park currently has one fire hydrant, located near the caretaker's residence. It is inadequate to serve existing Park facilities.

Currently, no irrigation system is in use at the Park.

Proposed Improvements

The Civil Engineering Report considered the age, location and performance history of the existing water system and determined that the existing system does not require wholesale replacement. Specifically, the water laterals that service the beach comfort stations #1, #2 and #3 as well as the Caretakers residence are not proposed to be replaced. Additionally the six-inch waterline near the beach which services comfort stations #2 and #3 and several of the drinking fountains is also recommended to remain in place. However, the location of some of the existing water lines relative to large trees and proposed Park elements are recommended to be replaced and abandoned (see Exhibit 2 of the Civil Engineering Report).

New Park elements are proposed to be served by a system of six-inch PVC pipe. The waterline is proposed to be placed within paved areas wherever practical. For pipe lengths that are located outside the paved areas, the pipes should be located away from stands of dense trees and proposed sports fields. Electronic markers should be installed with the proposed waterlines to help locate the waterlines in the future.

The Park's single fire hydrant is inadequate to serve existing and proposed facilities, thus eight additional hydrants are proposed within the Park.

An irrigation system is proposed for the sports fields areas and large group camping areas of the Park. The Master Plan anticipates utilizing "reuse" water from the Waimānalo Wastewater Treatment Plan (WWTP) to satisfy this demand. As of July, 2010, a study to address improvements required to bring the WWTP to full R-1 compliance was being scoped. R-1 water is defined by the State of Hawai'i Department of Health to have a "significant reduction in viral and bacterial pathogens" that is, "at all times oxidized, then filtered, and then exposed after the filtration process. Through correspondence with the City, the capacity of the WWTP is 1.1 million gallons per day. Based on the assumption that approximately 31.5 acres of the park will require irrigation, utilizing 5,000 gallons per acre per day, approximately 157,000 gallons per day will be required.

Utilizing R-1 water from the WWTP will require installation of infrastructure to pipe the water from the plant to the Park. Because the WWTP does not have direct access to

Kalaniana'ole Highway, there are two potential routes that a water conveyance line could take. The most efficient route would be across a driveway area on State-owned land (leased by the Polo Association). An easement for utility purposes is required before a waterline can be installed at this location. This route would require approximately 1,900 linear feet of waterline. Alternatively, the other potential route, for which no additional easements would be required is along Hihimanu Street to Kalaniana'ole Highway to the Park, an estimated length of 4,000 feet. Construction Cost Estimates provided in Appendix G and I allow for the alternative routes.

Potential Impacts and Mitigation Measures

According to pre-consultation comments from the Board of Water Supply (BWS), the existing water system is presently adequate to accommodate the domestic water requirements of the proposed plan. The BWS reserves the right to confirm availability of water when building permits are submitted for approval. The Board of Water Supply also recommends investigation into the availability of non-potable water for irrigation requirements at the Park. On-site water systems will also be subject to the BWS Cross-Connection Control and Backflow Prevention requirements prior to issuance of building permits. The BWS also recommends coordinating on-site fire protection requirements with the Fire Prevention Bureau.

The Civil Engineering Report documents proposed water demands, and makes the assumption that three of the comfort stations will be in use during daytime park hours and three of the proposed comfort stations will operate 24 hours for the five days per week that camping is permitted. Showers were assumed to be continuously in use during park hours. Demand was also analyzed based on size of comfort station, allowing the option of developing either "small" or "medium" type comfort stations near the ball fields. Water demand varied between each options from 90 gallons per minute to 94 gallons per minute (approximately 4 million gallons per month). Based on the earlier discussion where the civil engineer's existing demand estimate is much greater than actual meter readings (estimated 2.5 million gallons per month vs. average actual 322,000 gallons per month), the demand estimate is considered conservative, but allows consideration of the adequacy of the water facilities should the Park and its proposed improvements be used to their capacity.

Based on the estimated demand, proposed facilities are anticipated to be adequate to serve the Park Master Plan elements. To minimize the amount of potable water used for non-consumption purposes, irrigation water is proposed to be R-1 "re-use" water from the Waimānalo Waste Water Treatment Plant.

5.6.3 Wastewater

Existing Conditions

The Waimānalo Bay Beach Park is serviced by three comfort stations, located at intervals along the dunes.

The existing wastewater system consists of a combination of force mains and gravity sewers. The beach-side comfort stations (#1, #2, #3) were once serviced by a 2-inch force main that discharged to a sewer manhole. In 1990, this system was replaced with pump stations at comfort stations #1 and #2 that pumped to a central pump station. Comfort station #3 and the caretaker's house gravity fed the central pump station and the combined wastewater was all

pumped to a sewer manhole where it then gravity flowed to the city wastewater system at Kalaniana‘ole Highway. Currently, the forced main system is not working and wastewater is collected for disposal by pumper truck. Repairs to this system are currently in design and are not part of this master planning process.

The existing comfort stations include shower facilities. All shower water is allowed to infiltrate on site.

Proposed Improvements

The Master Plan proposed sewer system is shown in Exhibit 2 of the Civil Engineering Report, (Appendix G). New wastewater mains serving the group camping/gathering area, maintenance yard and sports fields are proposed to gravity flow from these facilities to a series of manholes and eventually to the public system in Kalaniana‘ole Highway.

The gravity flow portion of the existing system is located where multi-purpose fields are proposed. Existing manholes along the current alignment pose safety concerns for field users. Thus, the Master Plan includes relocating portions of the system and existing mains and manholes are proposed to be abandoned in place. The proposed sewer lines are proposed to be relocated away from the fields and realigned with the internal roadway system whenever practical.

In addition to the existing number of showers at beach comfort stations, additional showers are proposed at the large group camping/gathering area and at the maintenance area for staff use. As with the beach comfort stations, shower water is proposed to infiltrate on site at these facilities.

Potential Impacts and Mitigation Measures

Proposed wastewater demands have been estimated in the Civil Engineering Report and proposed facilities are anticipated to be adequate to serve the proposed recreational elements. Wastewater calculations in the Civil Engineering Report also factor in proximity to ocean and assume that the gravity system is below groundwater, thus infiltration has also been factored into the proposed sewer demand calculations.

Recognizing the potential of park users to introduce pollutants to shower water runoff, alternatives for water disposal were considered. Shower water may not be discharged directly to the ocean, and connecting shower drains to the wastewater system raises a serious maintenance difficulty in keeping the system sand-free. Thus, it is deemed most desirable to filter shower water through a mechanical device or utilize vegetation to clean water prior to its infiltration into the Park’s sandy soil.

5.6.4 Drainage

Existing Conditions

There are no improved storm drain facilities within the Park. Water is allowed to sheet flow off of impervious surfaces, such as the parking lots and infiltrate into the surrounding landscape. Similarly, precipitation that falls onto Kalaniana‘ole highway sheetflows into the grass beside the roadway. During especially heavy rain events, standing water has been observed on the highway and ponding on the Park’s frontage. The majority soil within the Park, Jaucas Sand is described as consisting of very deep, excessively drained, very rapidly

permeable soils on beaches and along the sea coast. The Mokule'ia loam that can be found near Kalaniana'ole Highway is described as consisting of well drained soils that formed in recent alluvium deposited over coral sand.

Potential Impacts and Mitigation Measures

The addition of impervious surfaces can result in an increase in stormwater that collects on a property. At the guidance of the community through the Master Plan Advisory Group, the Master Plan minimizes impervious surfaces wherever possible. To that end, no "hard court" (i.e. basketball and tennis) sport elements were added to the site. Additionally, parking areas are planned to be constructed of pervious surfaces such as pervious asphalt or pavers. Due to the nature of the Park's soils, the runoff generated from roofs of pavilions can be infiltrated on site. Additional features such as cisterns could be added to the caretaker's home to further capture rainfall for re-use in the immediate landscape. Along the Kalaniana'ole frontage, development will be limited so that the Park can continue to serve it's valuable open space function in storing and infiltrating stormwater during heavy rain and localized flooding events.

5.6.5 Electrical and Communication Systems

Existing Conditions

A preliminary engineering report was prepared by Ronald N.S. Ho & Associates, Inc. electrical engineers to describe the existing facilities and recommended facilities to serve proposed Park elements. See Appendix H.

In Waimānalo, electrical service is provided by Hawaiian Electric Company (HECO); telephone service is provided by Hawaiian Telcom (HTCO) and cable/internet provided by Oceanic Time Warner Cable (OTWC). The existing off-site facilities that serve the Park include HECO's Waimānalo Beach Substation, located at Hihimanu Street and HTCO's Waimānalo central office located near the intersection of Kalaniana'ole Highway and Aloiloi Street.

Existing service near the Park consists of aerial cables attached to a joint overhead pole line running along the north (park-side) of Kalaniana'ole Highway. However, electrical service is provided to the Park's comfort station and caretaker's house from an underground feeder off Aloiloi Street. While the Park includes a pay phone, a check with HTCO indicates that there are no telephone lines serving the Park.

Proposed Improvements

The proposed electric and communications systems will be developed in accordance with the specifications and standards of HECO, HTCO and OTWC. The electrical engineer's preliminary engineering report identifies that the proposed Park elements will include an increase in electrical power demand to 250 kiloVolt-Amperes (kVA). Demand is projected to be as little as 100 kVA, if overhead lighting is not pursued for the softball/little league field.

The onsite electric and communications systems to support the Park Master Plan include concrete encased PVC conduits, installed within a common trench and located, when feasible, in the grass shoulder of the Park access road. Manholes and handholes would be placed periodically to serve as pulling points for utility servicing. Near the proposed Park maintenance yard and at another central location transformer pads would be placed for HECO

transformers. The latter would be provided for the Park access road, restroom and parking lot lighting systems. A stainless steel metering and electrical equipment cabinet would be provided for the utility meter socket, panelboard and lighting controls. Metering and service equipment for the maintenance yard would be placed on one of the buildings in the maintenance yard. In providing the new electric service to the Park, the existing secondary electric service of Aloloi Street would be terminated and the electric service to the comfort stations consolidated on to the same meter feeding the Park access road and parking lot lighting.

Throughout the planning process, the City and community members have discussed whether the sports fields should be lighted for night play. Because baseball field lighting is provided in Waimānalo at the District Park and at Waimānalo Beach Park, and to minimize effects of lighting on residential properties, field lighting is only proposed at the softball/little league field. The lighting for the field should be designed in conformance with City and County Department of Parks and Recreation design standards and should utilize 1000 watt metal halide sports lighting fixtures and poles that are acceptable to the Department of Design and Construction.

Because of the Park's access to near year round trade winds and sun exposure, consideration for use of alternative energy systems for the more remote Park facilities, such as the beach-side comfort stations should be considered. Specifically, wind turbines and photovoltaics should be considered for the interior building lighting and night security lighting for these facilities. Installation of inverters and batteries would probably need to be installed to ensure that lighting is available throughout the night and a photovoltaic system to serve these facilities is estimated to be approximately $6,000. However, decentralized alternative energy facilities may be preferable over re-routing electrical service to the maintenance yard via overhead or underground lines. Use of photovoltaics would minimize need for additional ground disturbance for boring/trenching or poles and would also ensure continuity of security lighting at these facilities in the event of an outage on the grid.

Potential Impacts and Mitigation Measures
The additional lighting required to service the new park elements are not expected to create significant demand on the electric system and no off-site system improvements are expected. Demand on the system would be further reduced should the city pursue alternative electrical systems for the beach-side comfort stations. Impacts of sports field lighting can be minimized by utilizing sports lighting fixtures that are cast downward.

5.6.6 Solid Waste Disposal

Existing Conditions
Garbage receptacles are located throughout the developed portions of the Park. Hot coal bins are also located near the camping and picnicking areas. A bottle and can recycling receptacle is located near the Aloiloi Street entrance. Community members have expressed a concern with the frequency of garbage and hot coal pickup, indicating that the facilities can become overwhelmed.

Potential Impacts and Mitigation Measures

With additional development, garbage and recycling receptacles are proposed. Receptacles are recommended to have animal proof lids to discourage foraging by birds, rats and feral cats.

5.7 PUBLIC SERVICES

5.7.1 Police Protection

Existing Conditions
Waimānalo is located within the Honolulu Police Department's District 4, Kane'ohe Patrol District. The nearest police sub-station to the project site is in Kailua. In addition to the patrol district, the HPD has investigative units focused on criminal, narcotics, traffic and scientific investigation. The HPD also has a number of community policing initiatives including neighborhood security watches, citizen patrols as well as programs oriented toward children and elderly. The HPD has a graffiti hotline available as well as a new initiative called Project C.L.E.A.N. (Community Lokahi to Enrich our Aina Now), which brings community organizations together to paint out graffiti, remove trash and bulky items.

Potential Impacts and Mitigation Measures
The improvements made with the proposed Master Plan are not anticipated to adversely affect crime or police operations. Pre-consultation comments received from the Honolulu Police Department (Appendix D) raise no concerns. Representatives of the Honolulu Police Department, as well as the Police Activities League (PAL) have participated in the Community Advisory Group meetings for the Master Plan, providing guidance in matters of security and emergency response.

5.7.2 Fire Protection

Existing Conditions
The Honolulu Fire Department is divided into three platoons that are further divided into battalions which are in turn divided into companies. Fire Company 27 is located in Waimānalo, approximately .5 miles from the project site. The station includes ambulance service. Currently, there is one vehicular access in and out of the Park. The Park is serviced with one fire hydrant.

Potential Impacts and Mitigation Measures
The Park improvements proposed with the Master Plan include new structures such as comfort stations and a group camping pavilion. The new uses will likely encourage more park use for camping and picnic gatherings as well as post-game picnic gatherings. Thus, an increase in risk of fire can be expected. The Honolulu Fire Department made the following requirements in order to mitigate the risk to health and property damage due to emergencies:

- Provide a fire apparatus access road for every facility, building or portion of a building constructed when any exterior wall is more than 150 feet from an access road.
- Provide a water supply approved by the county capable of supplying the required fire flow for fire protection to all premises upon which facilities or buildings are constructed.

- Provide civil drawings to the department for review and approval.

To mitigate against the risk of fire, apparatus accesses will be constructed throughout the Park and eight hydrants are planned to ensure an adequate system to fight fires. Water supply is expected to be sufficient to fight fires within the Park. In addition to the requirements of the Fire Department, comments from members of the Community Advisory Group suggested that more hot coal bins might facilitate proper disposal of coals used for barbeques. Additional hot coal disposal bins are proposed with the Master Plan improvements. Finally, the mitigation measures proposed include a new emergency ingress/egress via Tinker Road. A preliminary affirmation of this plan has been secured with the Air Force, provided that the access is gated and locked, except in event of an emergency.

5.7.3 Education

Existing Conditions
Public school education is under the direct supervision of the Hawai‘i State Department of Education. Waimānalo is located within the Kailua-Kalaheo Complex. The Waimānalo community is served by two public elementary schools, Pope Elementary and Waimānalo Elementary and Intermediate. High school students from Waimānalo are within the service area of Kailua High School. The official enrollment count for the 2010-2011 school year was 229 students at Pope Elementary; 490 students at Waimānalo Elementary and Intermediate; and 866 students at Kailua High School.

Potential Impacts and Mitigation Measures
The proposed Master Plan improvements are not expected to draw more students into Waimānalo Schools. No mitigation measures are proposed.

5.7.4 Health Care Services

Existing Conditions
The community of Waimānalo is served by the Waimānalo Health Center (41-1347 Kalaniana‘ole Highway), a community-based non-profit that provides primary health services. Emergency Room and hospital facilities are provided by Castle Medical Center (640 ‘Ulukahiki Street) in Kailua, approximately four miles from the project site.

Potential Impacts and Mitigation Measures
The addition of sports fields, walking and fitness trails among the Master Plan improvements are intended to contribute opportunities for healthy recreation for the public. With increased park use, there is the possibility of an increase in the need for occasional medical services for recreation-related injury. However, a significant increase in demand for medical services is not expected with the proposed Park Master Plan improvements; therefore, no mitigation is proposed.

5.7.5 Recreational Facilities

Existing Conditions
Waimānalo Bay Beach Park is one of five County owned/operated parks in Waimānalo, which also include Waimānalo Beach Park, Waimānalo District Park, Kaupō Beach Park and Makapu‘u Beach Park (see Figure 19, Recreational Facilities). Additionally, Bellows Field

Beach Park, while owned by the military is accessible to the public on weekends and holidays. Elsewhere in Koʻolaupoko, there are scattered neighborhood parks, beach parks and opportunities for outdoor recreation at nature preserves and State Parks.

Each park in Waimānalo has its own character. Bellows Field Park is known for its informally arranged drive-up campsites. The District Park is oriented toward organized sports and activities, complete with ball fields, gym and meeting rooms. The soils at the District Park do not drain well, and rainwater tends to puddle on the fields. Waimānalo Beach Park is also an active park, with lighted baseball fields, camping, as well as beach activities and a canoe hale. Waimānalo Beach Park's camping area is located adjacent to the Highway and not secured at night, thus it is often utilized by transient campers rather than recreational campers. Southward, Kaiona and Kaupō Beach Parks are located along the narrow strip of land between Kalanianaʻole Highway and the Bay. Kaiona Beach Park provides an open picnic area and easy access to parking and is often used for family picnicking. Kaupō Beach Park is a rocky strip of land, primarily used for ocean access by fishermen and surfers. Makapuʻu Beach Park is known for its consistent waves and is popular among island body surfers.

Potential Impacts and Mitigation Measures

The Master Plan for Waimānalo Bay Beach Park aims to increase recreational activities within the Park while maintaining its unique character of rural and forested attributes. The expansion of activities is expected to relieve demand on surrounding parks for sports fields, picnicking and recreational camping. Preserving stands of large trees, avoiding disturbance to sand dunes, discouraging drive-up camping and maintaining nighttime security are techniques to sustain the Park's character while increasing outdoor recreational use. The proposed Master Plan improvements are not expected to negatively impact recreational facilities in Waimānalo or greater Koʻolaupoko.

Figure 19, Recreational Facilities

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6.0 DESCRIPTION OF ALTERNATIVES

6.1 NO ACTION ALTERNATIVE

The No Action alternative would essentially leave the Park as is with no improvements planned for the foreseeable future. No action would continue the project goal of maintaining security and rural character of the Park, but it would not meet the City and County's objectives to:

- Improve existing park services including repair of comfort stations and supporting infrastructure
- Add park services including camping, picnicking and sports fields

6.2 COMMUNITY CENTER ALTERNATIVES

Initial conceptual plans for the Park included a community center. A community center was identified early in the planning process as highly desired by individuals and Waimānalo community organizations. The community was able to provide a "blueprint" for a community center based on a highly participatory endeavor by the Waimānalo Youth and Family Collaborative. The "blueprint" identified the demand for a central place where community organizations could operate from and included conceptual building layouts and programs. The concept of a community center was adopted early in the design alternatives and incorporated into concept plan alternatives (described in the following sub-sections).

Ultimately, the alternatives that included a community center were rejected for three reasons. 1) In addition to the strong community desire for a community center, there was also a strong desire for maintaining the rural, forested character of the Park. The addition of enclosed structures for programmed, indoor use was incongruous to this goal. 2) The Park is subject to protections under the Land and Water Conservation Fund (LWCF), which was used for development of the outdoor recreational use in 1978 and 1987. These protections require that the Park is accessible and facilities within the Park are available to local residents and visiting general public. There are specific provisions to ensure that visitors are not excluded from the site or charged excessive fees so as to discourage their use. Thus, from the standpoint of the LWCF, a community center with non-profit offices and programming primarily directed toward Waimānalo or Windward residents would restrict access to the general public. The protections also prohibit the "conversion" of use from public outdoor recreation to other types of uses. Therefore, construction of enclosed building that would provide the needed administrative, instruction and meeting space for non-profits such as those associated with the Waimānalo Youth and Family Collaborative would be considered such a conversion. 3) From a City and County Parks and Recreation perspective, a community center is more appropriate as a District Park element as opposed to a Beach Park. For these reasons, the community center was deemed infeasible and was eliminated from consideration.

6.2.1 Passive-Recreation/Community Center Alternative

An alternative to add sports fields, but minimize their number was considered. This plan involved two field areas that were flexible in size and design so that one could be used for softball/little league and the other for baseball. Both field areas would be convertible to soccer/football/rugby use. This plan also involved a community center comprised of several

buildings and modeled after the Waimānalo Youth and Family Collaborative planning effort. The plan included one large group camping area, camping cabins, the addition of 30 individual camp sites, picnic pavilions, walking trails and a fitness course. The alternative included a baseyard and new caretaker's residence on the Bellows side of the Park entry road. This alternative was considered to be beneficial in that it oriented the community center to Kalaniana'ole Highway, allowing the remainder of the Park to be used for outdoor recreation. One difficulty with this alternative was the inclusion of a sports field at the center of the Park which was deemed to be in conflict with the project goal of maintaining the rural character of the Park. Further, camping cabins are not standard in any City and County parks. Their inclusion would necessitate new, ongoing operational and maintenance costs Thus, this alternative was rejected in favor of park designs that located sports fields adjacent to Kalaniana'ole Highway and reduced the number of structures overall.

6.2.2 Sports Field/Community Center Alternative

An alternative to maximize the Park for sports fields was also considered. This alternative would involve the addition of three softball/little league fields, plus two multi-play fields that could be used for baseball or football/soccer/rugby. Additionally, this alternative included the community center located at the center of the Park, modeled after the Waimānalo Youth and Family Collaborative plan. This plan also included one large group camping area, the addition of 30 individual camp sites, and camping cabins and beach-side pavilions for picnicking. The alternative included a baseyard and new caretaker's residence on the Bellows side of the Park entry road.

When presented to the Community Advisory Group, this alternative was generally considered to be more activity than desired. Community concerns included proximity of the community center to residential uses, effects of night use on security of campers as well as effects of lighting on seabirds. The alternative also included non-standard camping cabins which would incur new and ongoing operational and maintenance costs for the City and County. This alternative was rejected because it did not meet the project goal to maintain the rural character of the Park.

6.3 PREFERRED ALTERNATIVE

The preferred alternative is a refinement of the alternatives described in section 6.2.1 and 6.2.2 based on project goals, City and County standards, community input and acceptability to the administration of the Department of Parks and Recreation. In order to respond to the community's strong desire for gathering spaces while preserving the character of the Park, the preferred alternative adds an additional group camping/gathering area at the center of the Park in lieu of an enclosed, programmed community center. As originally envisioned, the center group camping/gathering area included an imu and hula mound. However, the maintenance and liability costs associated with these elements required their removal from the final plan. The preferred alternative also adds sports fields along Kalaniana'ole Highway. Individual or "family" camp sites, desired by the community and a known demand by the Department of Parks and Recreation are proposed to be increased in number (10 additional). The Preferred Alternative included a baseyard and new caretaker's residence on the Bellows side of the Park entry road. However, the new caretaker's residence was eliminated from the maintenance area on the final plan. Forested and intact dunes are proposed to be left essentially undeveloped with the inclusion of walking trails and fitness course. Beach comfort stations are proposed to be rehabilitated in place and low impact development techniques are recommended for

parking areas. Trees, beach vistas, and perimeter security, valued attributes of the Park are proposed to be maintained. This alternative was selected as it satisfies all project objectives:

- Improve existing park services including repair of comfort stations and supporting infrastructure
- Add park services including camping, picnicking and sports fields
- To minimize operational and maintenance costs, utilize Low Impact Development (LID) and green building techniques for new improvements
- Maintain the security and rural character of the Park

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7.0 ANTICIPATED DETERMINATION, FINDINGS, & REASONS FOR SUPPORTING THE DETERMINATION

To determine whether the proposed action may have a significant impact on the environment, including all phases of the project, expected consequences, both primary and secondary, cumulative as well as short- and long-term effects have been evaluated. Based on the research performed and studies evaluated, the Approving Authority, the Department of Design and Construction, is anticipating a Finding of No Significant Impact (FONSI) as detailed in this section.

7.1 SIGNIFICANCE CRITERIA

According to the Department of Health Environmental Assessment Rules Section 11-200-12 HAR, an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects and its short and long-term effects. In making the determination, the rules establish "significance criteria" to be used as a basis for identifying whether significant environmental impact will occur. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;

The Master Plan does not involve an irrevocable commitment to loss or destruction of any natural or cultural resources. The Master Plan improvements have been designed to avoid natural and cultural resources. The likelihood of encountering burials in the beach dunes has prompted the recommendation that the beach comfort stations be constructed at their current locations. Areas proposed for earth disturbance and increased activity are those which have been previously disturbed, however, Archaeological Impact Assessment will be required prior to construction. Areas of known burials are planned to be avoided. New construction is recommended to use "green" materials that can also withstand the harsh coastal conditions of the site. New parking areas are proposed to be surfaced with pervious materials and new landscaping is proposed to include native plants that are adapted to the local environment.

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

The Master Plan does not curtail the range of beneficial uses of the environment. The purpose of master planning a park is to ensure the beneficial use of the environment for the foreseeable future. Park elements that reduced opportunities for outdoor recreation, such as the community center, were eliminated through the concept development process.

(3) Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders;

The proposed Master Plan is consistent with the Environmental Policies established in Chapter 344-3, HRS:

- The Park Master Plan conserves public open space in a manner that promotes the general welfare of the people of Hawai‘i [344-3(1)].
- The Park Master Plan enhances quality of life by contributing to Waimānalo’s sense of identity, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian [344-3(2)(C)].

Further, the Park Master Plan does not conflict with the goals and guidelines enumerated in Chapter 344-4, HRS that support the Environmental Policies.

- The plan elements support the guidelines relating to land, water, mineral, visual, air and other natural resources through use of low impact development techniques for stormwater and by utilizing reuse water for irrigation [344-4(2)(A),(B),(C)].
- The plan elements support the guidelines relating to flora and fauna by fostering the planting of native as well as other trees, shrubs and flowering plants compatible to the enhancement of our environment [344-4(3)(B)].
- The Park supports the guidelines relating to parks, recreation and open space by maintaining the park use and shoreline; by not proposing artificial improvements along the shoreline and maintaining view planes for their natural beauty and as an ennobling, living environment for its people [344-4(4)(A-C)]
- The Master Plan process was supportive of the guidelines relating to citizen participation by encouraging all individuals to fulfill the responsibility as trustees of the environment for the present and succeeding generations; and providing for citizen participation in the decision making process [344-4(10)(A),(B)].

(4) Substantially affects the economic or social welfare and cultural practices of the community or State;

The Park Master Plan does not substantially affect the economic or social welfare or the cultural practices of the community or State. The site is currently a park and the land has not been intended for uses other than public open space. Through careful consideration of the Park’s valuable assets, the Park Master Plan elements contribute to the social fabric of Waimānalo and the State as a whole.

(5) Substantially affects public health;

The Park Master Plan does not substantially affect public health. Consideration of the Park features into the future allow for an orderly progression of phased improvements that are intended to benefit public health in the long term.

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

The Park Master Plan does not involve substantial secondary impacts. It will not contribute to a change in the local demographics, nor will it place a significant burden on public facilities.

(7) Involves a substantial degradation of environmental quality;

The Park Master Plan improvements do not involve a substantial degradation of environmental quality. Proposed elements that involve constructed facilities such as a pavilion and comfort stations are recommended to be constructed of "green materials" that can also withstand the coastal environment. Community members have encouraged minimization of pervious surfaces so as to minimize the amount of stormwater that runs into drainages and the nearshore marine environment. Thus, pervious parking areas and landscaped swales are proposed. Reuse water will be used for ballfield irrigation so as to reduce the Park's dependence on potable water for non-drinking water uses.

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

The Park Master Plan does not contribute to a larger cumulative negative effect on the environment. The act of master planning a park contributes to the viability of the site for outdoor recreation for both the near term and into the future.

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

With exception of ball field lighting, the proposed park improvements are not of a nature to affect animal species. Ball field lighting, if installed, will be oriented downward and shielded so that it does not create a hazard for fledgling seabirds.

(10) Detrimentally affects air or water quality or ambient noise levels;

The Master Plan improvements will not detrimentally affect air, water or ambient noise quality in the long term. During construction, best management practices to control erosion, fugitive dust and equipment noise will be employed.

(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, freshwater, or coastal waters.

The proposed Park facilities are not expected to suffer damage by being located in a hazardous area. Portions of the Park are in the floodplain and the entire Park is located in the tsunami evacuation zone. Open space in the floodplain provides a valuable function in the form of flood water storage. Of the new structures proposed within the Park, none are proposed to be constructed in the floodplain.

(12) Substantially affects scenic vistas and view planes identified in County or State plans or studies;

The Master Plan improvements will not conflict with scenic viewplanes identified by the County in the Koʻolaupoko Sustainable Community Plan.

(13) Requires substantial energy consumption.

The Master Plan improvements will not require substantial energy consumption.

7.2 ANTICIPATED DETERMINATION

On the basis of the above criteria, the discussion of impacts and mitigation measures contained in this document, it is anticipated that the Approving Authority, the Department of Design and Construction, will find that the Waimānalo Bay Beach Park Master Plan will not have a significant effect on the environment. Pursuant to Chapter 343, Hawai‘i Revised Statutes, the Accepting Agency is anticipated to issue a Finding of No Significant Impact (FONSI) for the proposed project.

8.0 CONSULTED PARTIES

8.1 COMMUNITY ADVISORY GROUP & PUBLIC MEETINGS

A Community Advisory Group was convened at the onset of the master planning process. The group membership was initially comprised of known active community members, elected officials, non-profit organizations and sports interests. As knowledge of the Master Plan activities spread through the community, additional individuals expressed interest in participating as advisory group members. Membership was not limited and the group operated on an informal basis, engaging in discussion and encouraging contributions from anyone who expressed interest. Three Community Advisory Group meetings were held. The first two meetings were designed to understand the community's desires for the Park and to review concept park plans. After the first two Advisory Group meetings, one open community meeting was held to further refine the Master Plan and ensure that the ideas developed in the Community Advisory Group meetings were favorable to the greater community. The third and final Advisory Group meeting was in preparation for the issuance of the Environmental Assessment to ensure that issues raised by the community were adequately addressed as best as possible by the Master Plan that is included in this document. Advisory Group meeting notes are included in Appendix A.

8.2 PRE-CONSULTATION

As part of the Environmental Assessment process, agencies were also consulted in preparation for the Master Plan. Consulted agencies are identified in the following table.

Table 9, Consulted Parties

AGENCY	COMMENT DATED
County	
Fire Department	5/26/10
Police Department	5/27/10
Department of Planning and Permitting	7/7/10
Department of Parks and Recreation	7/21/10
Board of Water Supply	5/27/10
Department of Design and Construction	6/4/10
Department of Facility Maintenance	6/8/10
Department of Transportation Services	6/9/10
Department of Business Economic Development and Tourism, Office of Planning	
Councilmember Ikaika Anderson	
Department of Environmental Services	
Waimānalo Neighborhood Board, Chair	
State	
Department of Transportation	phone conversations 11/5/10; letter 12/9/10
DLNR Land Division State Parks Division of Boating & Ocean Recreation Division of Aquatic Resources Engineering Division	6/14/10
DLNR Historic Preservation Division	
Department of Health	5/28/10
Department of Education	5/28/10
Department of Hawaiian Home Lands	6/9/10
Representative Chris Lee	
Office of Hawaiian Affairs	
Federal	
US Fish and Wildlife Service	6/14/10
U.S. Army Engineer District, Honolulu	5/21/10
US Air Force, Bellows Air Force Station	
Organizations	
Waimanalo Civic Club	
Hui o Koʻolaupoko	
Waimānalo Hawaiian Homesteads Association	

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Appendix A:

Community Meeting Notes & Comments

WAIMANALO NEIGHBORHOOD BOARD NO. 32

41-696 KALANIANAOLE • WAIMANALO, HAWAII 96795 - 1757
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: http://www.honolulu.gov

DRAFT REGULAR MEETING MINUTES
MONDAY, APRIL 12, 2010
WAIMANALO ELEMENTARY SCHOOL LIBRARY

CALL TO ORDER: Chair Wilson Kekoa Ho called the meeting to order at 7:30 p.m. **with a quorum of eight (8) members present.** Note—This 13-member Board requires seven (7) members for a quorum and to take official Board action.

Members Present: Nani Akeo, Shannon Alivado, Michael Buck, Kahikino Dettwiler, Rosina Ho, Wilson 'Kekoa' Ho, Andrew Jamila Jr., Marvelle 'Kuulei' Laughlin, Rufino Dan Magliba (appointed this meeting).

Members Absent: David 'Kawika' Eckart, Solomon Spencer and Cynthia Wahinekapu.

Vacancies: There was one vacancy in sub-district 2, and one in sub-district 4.

Guests: Jean Brokish (Oahu Resource and Development Council), Sharon Basmayor (Councilmember Ikaiki Anderson's office), Kuulei Naniho (Board of Water Supply), Acting Captain Keith Kanno (Honolulu Fire Department), John and Lorraine Hoapili, Ofelia Carag (Blanche Pope Elementary), Keoni Wilhelm (Waimanalo Elementary and Intermediate School), Julie Dugan (Job Corps), Sandra Clarke, Renwick Tassil, Michael Kahumoku, Daniel Kamahao Jr., Becky Paul, Scott Nelson, Stan and Aaron Kodama (Waimanalo Feed), Cyndy Aylett (Mayor's Representative), James Burke (Department of Transportation Services), Keoni Aylett (Waimanalo Health Center), Al Lewis (Relay for Life), Major Alan Crouch (U.S. Marines), Captain Rick Pelzl and Craig Gorsuch (Bellows Air Force Base), Dawn Chang (Sandwich Isle Communications), Leland S.M. Ribac and Marie Richardson (Neighborhood Commission Office staff).

PULE: Chair Ho welcomed everyone to the meeting and noted the meetings usually begin with an open prayer; if prayer offends you, now is the time to leave. Brother Mike Kahumoku provided the pule.

FILLING OF VACANCIES: Chair Ho explained there are a total of 11 sub-districts on this Board and that there are two (2) vacancies at this time;

1. Sub-District 2: **Jamila nominated Rufino Dan Magliba to fill the vacancy in sub-district two.** Magliba provided a written resume to Chair Ho and noted he is a resident of Waimanalo and a student of the University of Hawaii. Magliba noted he has worked with community leaders in the past and is eager to be part of the Board. **Magliba was APPOINTED BY ACCLAMATION, 8-0-0, (Aye:** Akeo, Alivado, Buck, Dettweiler, R. Ho, W. Ho, Jamila Jr. and Laughlin**.)**

2. Sub-District 4: Seeing no volunteers, the vacancy was not filled.

CITY MONTHLY REPORTS:

Honolulu Fire Department (HFD): Acting Captain Keith Kanno reported;

1. Fire Statistics for March 2010: Included 1 structure, 1 rubbish, 26 medical emergencies, 5 search and rescues and 11 miscellaneous calls.

2. Fire Safety Tip: The time for picnics and outdoor events will soon be here. Fire departments nationwide respond to an average of 7,900 home fires involving outdoor cooking and /or barbecue grills each year. Thirty-three percent of cooking grill fires start on an exterior balcony or enclosed porch.

Honolulu Police Department (HPD): No report or representative available.

Mayor's Representative: Cyndy Aylett and James Burke of the City Department of Transportation Services (DTS) reported;

1. Waimanalo Beach Park: The Department of Parks and Recreation (DPR) is discussing with the Department of Design and Construction (DDC) the request of moving the park boundary chain to provide addequate parking, more information to be given next month.

2. Kaupo Parking Lot: It was questioned and clarified that the closure of Kaupo should be by signage and not by gate. The request will concur with HPD's request to better enforce illegal trespassers.

3. Sidewalk Overgrowths: Due to a request for investigation, the Residential Code Enforcement Branch (RCEB) inspected the sidewalks on Kaulukanu Street, and violation notices were issued to several property owners to cut back their plants.

4. Kumuhau Street Construction: The problem regarding the construction on Kumuhau Street was resolved after paving was completed. Board members thanked Aylett for following-up.

5. Abandoned Boats and Vehicles: Officers checked the area along Hihimanu Street near Waimanalo District Park and did not observe any abandoned boats or vehicles; HPD will continue to monitor the area.

6. TheBus Route 77: Due to budgetary constraints it was reiterated that at this time no additional services can be provided without adversely affecting another bus route or service. A three-week demonstration period, which was requested by residents, will cost in upwards of $10,000. The Department of Transportation Services (DTS) is looking at a Short Range Transit Orientation Plan including a Windward service plan and a Human Services Transportation Coordination Plan. These plans are designed to look at how to improve bus routes and services in a fiscally and educated manner. DTS is looking for community input and encourages everyone to submit input.

Questions, comments and concerns followed:

1. Makapu'u Gates: The community would like to have gates placed at Makapu'u Beach Park.

2. Kaupo Beach Park: Concerns were raised with the amount of trash being left behind at the Beach Park following large gatherings. The park is a non-camping site, however during the weekend's trash bags are piled in upwards of 30 bags for the groundskeeper to remove. The community does not wish to stop families from using the park but would like some sort of solution to the issue. It was suggested that possible picnic sites be created and numbered for accountability.

3. Signage Down: The Waimanalo Beach Park sign is down Hawaii Kai bound on Kalanianaole Highway; and requested to repair the sign.

4. Graduation Season: Concerns were raised regarding possible permits for Kaupo Beach Park as it nears graduation season and many families may hold parties at that location. It is understood that trash left behind is properly and neatly placed and not strewn around.

5. TheBus Route 77: A community member explained that approximately 100 seniors 65 years or older have been surveyed regarding route 77, and would like to share that information. Another community member suggested three options; 1) Route 77 for seven days a week. 2) Route 77 extended at least once a weekend with regular service on weekdays. 3) Route 77 extended once a weekend by taking away one weekday service route. Burke looks forward to working with the community.

Board of Water Supply (BWS): Kuulei Naniho reported;

1. Water Main Breaks: No water main breaks reported were in March 2010.

2. General Water Announcements: Many Oahu communities were first established more than a century ago. As communities age, many portions of the infrastructure are also aging and nearing the end of their useful life spans. The BWS system includes nearly 2,000 miles of pipeline, with more than 40% between 30 and 60 years old. In an ongoing effort to provide a safe and reliable water supply, BWS carefully manages and plans for the renewal and replacement of its infrastructure.

3. Further Information: For more information residents can contact BWS directly at 7 opf68-5000 or visit www.boardofwatersupply.com.

Councilmember Ikaika Anderson: Chair Ho noted that the Council member is currently in a Council Budget hearing and sends his regrets for not being here tonight.

RESIDENTS'/COMMUNITY CONCERNS: Several concerns were noted at this time;

1. Community Respect: Concern was raised regarding residents from outside of the district disrespecting Waimanalo by littering and defacing personal property. Residents were reminded to respect the land of other districts as well as their own.

2. Department of Transportation (DOT): A Board member requested that the State DOT be invited to the next Board meeting to discuss their proposed traffic calming measures in Waimanalo. It was also suggested that DOT present information regarding their two projects in Waimanalo.

3. Makapu'u Beach Park: Chair Ho noted that through a collaborative effort of community and government members, Makapu'u Beach Park has been cleaned and is now clear enough for residents to enjoy themselves. The community wishes to provide a picnic park at the Beach Park and has received donated lumber for picnic tables. It was noted that Job Corps students will be assisting in assembly of the tables.

APPROVAL OF FEBRUARY 8, 2010 AND MARCH 8, 2010 MINUTES: Chair Ho explained that Board members that were not present at the last meeting may still approve the minutes.

Jamila Moved and Akeo seconded to approve the February 8, 2010 regular meeting minutes as circulated. The motion was ADOPTED UNANIMOUSLY, 9-0-0, (Aye: Akeo, Alivado, Buck, Dettweiler, R. Ho, W. Ho, Jamila Jr., Laughlin and Magliba**.)**

Dettweiler moved and Jamila seconded to approve the March 8, 2010 regular meeting agenda minutes as circulated. The motion was ADOPTED UNANIMOUSLY, 9-0-0, (Aye: Akeo, Alivado, Buck, Dettweiler, R. Ho, W. Ho, Jamila Jr., Laughlin and Magliba**.)**

BOARD BUSINESS:

Waimanalo Bay Beach Park Master Plan: Chair Ho explained that PBR Hawaii & Associates has been selected by the City and County to complete the Waimanalo Bay Beach Park Master Plan. The plan is aimed to provide facilities for Waimanalo residents and youth. Residents are welcomed to participate in the planning meetings. Chair Ho has submitted 15 community members to be included in the planning.

Questions, comments and concerns followed:

Border/Volunteer: It was questioned and clarified that the boundaries include 77 acres from the 7-Eleven Store in Waimanalo to Aloiloi Street, to what is better known as Sherwood Forrest.

Cancer Relay for Life: Al Lewis welcomed community members to the upcoming Waimanalo Relay for Life on May 14-15, 2010 at the Waimanalo Beach Park. Relay for Life Teams will be in the community on Saturday May 1, 2010 asking for donations, residents were asked to 'be nice'.

REPORTS:

Education Report:

Blanche Pope Elementary: Principal Ofelia Carag reported;

1. Hawaii State Assessment (HSA): Students have completed the four (4) hour testing course and celebrated with a field day including relay games and dancing. Parents were thanked for preparing their children for the testing course.

2. Important Dates: 1) Students and parents are invited to the Third-Quarter Awards Assembly on Thursday, April 15, 2010. 2) Spring Dance-Athon will be held on Friday, April 16, 2010. 3) Residents were welcomed to partake in the school's Ho'ike on Thursday, May 6, 2010. 4) Last day of school is on Wednesday, May

26, 2010 Parents were encouraged to enroll their children for Kindergarten and summer programs such as Keiki Steps and the Math Enrichment Program.

Waimanalo Elementary and Intermediate School: Vice Principal Keoni Wilhelm reported;

1. Malama Aina: The school has experienced excess litter and vandalism over the past few weeks. Janitors are finding broken beer bottles and human feces left by overnight trespassers. Residents were asked to stay vigilant and call HPD of any suspicious activity or people. The janitors were thanked and recognized for their hard work.

2. HAS Testing: Students will be completing the HSA testing within the next few days. Students will also be taking an online pilot test.

3. Important Dates: 1) School Community Council (SCC) meeting will be held on Wednesday, April 14, 2010. 2) Residents can continue to pickup their chicken fundraisers until Saturday, April 24, 2010. 3) A book fair will be held on Tuesday, May 4, 2010.

4. Donation Requests: Students of the Leadership Class are asking for plant and supply donations for the school's Ho'ike. A list of plants were provided to residents and Board members.

Hawaii Job Corps: Julie Dugan announced that students have been able to raise $17,500 and almost 400 pounds in canned good for the Hawaii Foodbank. Culinary students will also be preparing breakfast and lunch for the Senior Fair on Tuesday, April 20, 2010.

Waimanalo Health Center: Keoni Aylett, for May Akamine, reported;

1. Important Legislation: Residents were encouraged to support the Waimanalo Health Center by writing legislators in opposition to House Bill (HB) 2542 relating to general funds which will adversely affect the amount of funds provide to the Health Center.

2. Ready to Learn Program: For more information on this program call 259-7948.

3. Senior Fair: Residents of all ages were invited to attend the Senior Fair on Thursday, April 20, 2010 at Waimanalo Beach Park.

4. Eola Nei: The program aimed to provide information and health tips to better control diabetes, has received a new kitchen where the program's dietician demonstrates healthy cooking classes.

Military Report: Bellows Air Force Base (AFB): Captain Rick Pelzl and Craig Gorsuch reported;

1. Available Jobs: Positions include a full-time groundskeeper and part-time housekeepers. For more information and a complete list of positions available visit www.nafjobs.com.

2. Final Environmental Assessment (EA): hard copies of the Final Civil Engineering EA was made available to residents and Board members.

3. Future Discussion Items: Bellows AFB would like to present several topics of discussion at future meetings including restoration plans, Bellows five (5) year plan, and Kadena Air Base.

4. Kahili Making: Residents are welcomed to participate in kahili making on Thursday, April 29, 2010. Hui Malama students will also be participating.

5. Meeting Location: The base may be able to hold Board meetings in future months. The military will also look into whether residents and Board members can tour the facilities prior to the Board meeting.

Questions, comments and concerns followed:

Final EA: It was questioned and clarified that the Final EA does not include community concerns as there were none submitted, however does include updated information from both City and State agencies.

Marine Corps Base Hawaii (MCBH): Major Alan Crouch reported;

1. Hours of Operation: No change in the hours; Monday through Thursday, 7:00 a.m.-12:00 midnight; Friday, 7:00 a.m.-10:00 p.m.; Saturday, 8:00 a.m.-5:00 p.m.; Sundays and Holidays closed.

2. News and Events: 1) 'Days of Remembrance' a holocaust observance at the Chapel will be held on Friday, April 16, 2010, for more information call 257-7769. 2) Earth Day Exposition to include a recycling competition, entertainment, vendor booths, education opportunities and free prizes will be held on Saturday, April 17, 2010. 3) A volunteer recognition ceremony will be held on Thursday, April 22, 2010. 4) The Headquarters Battalion Spirit Triathlon is open to the public on Saturday, May 8, 2010.

3. Coming Attractions: The Kaneohe Bay Air Show featuring the Navy's Blue Angels aerial demonstration and many other games and entertainment is open to the public on September 25 and 26, 2010.

4. Rim of the Pacific (RIMPAC): RIMPAC will be held between the month of June and August of this year. Occasional weekend operations are expected, which will prevent some access to the public. Residents will remember that an increase of military personnel is also expected.

5. Deployments: Deployed are Heavy Marine Helicopter (HMH) 363, 1st Battalion, 3rd Marine Regiment and other detachments and augmentees. Recently welcomed home HMH-463, a detachment from 3rd Radio Battalion and a detachment from HSL-37.

Questions, comments and concerns followed:

Condolences: The Board would like to offer their condolences to the family and friends of the Marine that had lost his life while on duty. Appreciation was noted for all military personnel as 'freedom is not free'.

Elected Officials: Representative Chris Lee: A written report was provided.

ANNOUNCEMENTS: Several announcements were made;

1. Helping Hands: It was noted that members of the Church of Latter Day Saints will be in communities around the island to provide service to all parks on the island on Saturday, May 8, 2010. Residents were encouraged to provide aide if willing and participate in their lunch.

2. Oahu Resource Conservation & Development Council: Jean Brokish provided flyers welcoming residents to a Field Day to highlight erosion control on Thursday, April 15, 2010 at 10:0 a.m. at Glad's Landscaping.

3. Kalanianaole Highway Rockfall: Chair Ho encouraged residents to be aware of the proposed solutions being considered by the State Department of Transportation (DOT). A community member voiced concern with several of the proposed solutions as it could close the Makapu'u section of Kalanianaole Highway for several months to several years.

4. Sandwich Isle Connection (SIC): Dawn Chang reported the project is in its final phase as workers will now pull the cables that have been placed. The work should not close any lanes of traffic. Mediation measures have already been taken regarding the broken fence and sidewalk issues reported last month.

5. Waimanalo Country Fair: Residents were reminded that this years Country Fair will be held on August 13, 14 and 15, 2010. Mayor Mufi Hannemann has agreed to have it during the summer rather than the rainy season as last year.

ADJOURNMENT: The meeting adjourned at 9:00 p.m.

Submitted By:

Leland S.M. Ribac
Neighborhood Assistant

PBR HAWAII
& ASSOCIATES, INC.

PRINCIPALS

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President

R. STAN DUNCAN, ASLA
Executive Vice-President

RUSSELL Y. J. CHUNG, FASLA, LEED® AP
Executive Vice-President

VINCENT SHIGEKUNI
Vice-President

GRANT T. MURAKAMI, AICP, LEED® AP
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ASSOCIATES

TOM SCHNELL, AICP
Senior Associate

RAYMOND T. HIGA, ASLA
Senior Associate

KEVIN K. NISHIKAWA, ASLA
Associate

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MEETING NOTES

DATE: June 04, 2010

MEETING DATE: May 21, 2010

PRESENT: Stan Duncan, Catie Fernandez, Kai Fishman, Terry Hildebrand, Wilfred Ho, Chris Lee, Gay Minton, Gordon Mattos, Kehaulani Padilla, Kristen Mailheu, Alfred 'Sonny' Kanoho Jr., Wilson Kekoa Ho, Andrew Kamai, Lavina Ainis (Sp?), Mariko Mahaulu, Bobby Longstaff, Solomon Perry, Gail Myers, Healani Chang, Sandra Clark, Roslyn Sorgent, Ipo Kepa, Ilima Ho-Lastimosa, Eric Bunyan, Renee Silberski, Susan Tanaka

NOT PRESENT: Julie Dugan, Karen Umemoto, Roy Takekawa, Patrick Dumlao, Bob Loy, Jody Green, Lisa Ferentinos, Mary Alice Evans

DISTRIBUTION: All those listed above with a valid email address

FROM: Kai Fishman, PBR Hawaii

SUBJECT: **COMMUNITY ADVISORY GROUP MEETING #1 WAIMANALO BAY BEACH PARK MASTER PLAN AND ENVIRONMENTAL ASSESSMENT**

The following is a summary of discussion points from the first Community Advisory Group Meeting on May 21, 2010 at 6:00 pm.

Welcome – Kekoa Ho, Waimänalo Neighborhood Board Chair, welcomed those assembled.

Project Overview – Stan Duncan, PBR Hawaii, introduced the project and project team; described the existing site, expected project timeline and the Advisory Group's role.

Potential Park Elements – Kai Fishman, PBR Hawaii walked the group through a varied list of potential park elements. The group discussed various potential park uses along with management issues, summarized in the table below.

Next CAG Meeting – Late July during the week, evening, same place.

General Observations Made from the Discussion –

- The CAG wants a park for community events, education and gathering with more camping, picnicking, trails, and covered pavilions. They are concerned about maintenance and safety. They also want a park where they can participate in the building and maintenance, a place where they can feel a sense of ownership and connectedness with the land.
- From the attendee list, it was noticed that of all the sport organization representatives that were invited, only a few attended the meeting.
- Refer to the following chart summarizing comments related to specific uses, amenities, etc.

Park Element/Issue	Discussion
Field Sports	
Adult Leagues	Not enough fields for adult leagues (need to be larger size and lit at night)
Field Types Desired	Baseball & softball. Soccer, rugby and football can utilize same field configurations. Multi-use fields good. Mixed opinions on more football fields.
Others	Lawn Bowling not desired. Bocce, possibly. LaCrosse tournaments happen across at the polo grounds twice a year. Can share multi-purpose fields if the desire surfaces.
Court Sports	
Generally	General consensus was that there is more local need for field sports rather than court sports such as basketball and tennis.
Basketball, volleyball, tennis, shuffleboard	Not desired. They don't want large paved and fenced courts. The consensus is that they rust and aren't maintained. Basketball/volleyball is in the gym.
Volleyball	Sand volleyball was desired.
Horseshoes	Desired
Skate Park	There is a need in Waimanalo, but this is not the appropriate location.
Other Sports	
Disc Golf	Not desired.
Inline skating/ Hockey Rink	Not desired. Too much paving and fencing. Too large of a paved area.
Shooting/ Archery Range	Shooting is not desired. Kekoa Ho stated that there was a group who tried to start an archery range in the park along Aloiloi St but the community thought it was too dangerous and had them take it down. (This shows that there is a desire for and a concern by different community members for this use.)
Dog Parks/ Dog Beach	Not desired.
Trails	
Fitness/ Exercise Course	Desired
Walking & Biking Trails	Unpaved trails desired. Paved trails are not desired.
Horseback riding trails	Mixed opinions. Some people said it would be good because there's no place to do this. Other's said no. Possible conflicts with other uses.
Camping	
Generally	More camping desired for daily and sport tournament groups.
Permits	General concerns about the requirement for and difficulty in obtaining permits.
Camping Pavilions	Suggested that camping pavilions be provided to allow larger groups to camp together when there's tournaments, etc.

Cabins	Suggested providing cabins for youth and education groups. Also for hosting tournament groups.
Community Gathering Spaces	
Open pavilions	• Large long house/hale desired for gathering, teaching, conferences for use by Waimanalo community, groups and visitors. • Imu and appropriate plantings in close proximity were suggested. • Place for luaus.
Youth & Family Center	Utilize community planning effort completed by DURP students. This may be an appropriate site.
Co-op Farmer's Market	There has been previous efforts to establish a place for a market for local farmers; ideas for location included: along highway, as a temporary use in the parking lot or in hale. (Parking along highway is not allowed.)
Picnic & BBQ Areas	More desired with BBQ facilities. Also need hot coal drops.
Canoe Halau	More canoe storage is desired, but this is not a good location for a launch because of beach conditions.
Playgrounds	Naturalistic children's play areas that show a "connection to place" should be located in close proximity to picnic areas and hales.
Interpretive/Educational Signage	• Signage desired to share Waimanalo's history with local families and visitors alike. • PBR will bring examples of interpretive signage to next CAG meeting.
Community Gardens	Desired
Concessions	
Generally	No permanent concessions desired; mobile designated areas ok.
Adjacent Properties	
Polo Grounds	Used at times for LaCrosse tournaments (2 times a year).
Agricultural land adjacent to Polo Grounds	Owned by the State. Could it also be developed to accommodate league sports and allow Waimanalo Bay Beach Park to remain more outdoor, passive park? Not in scope of this project but brought to the attention of County, City & Representatives at attendance at meeting.
Along Hihimanu St	Suggested as one place to provide relief for residential campers with no place to go Wed-Friday when not allowed to camp in park.
Park Management	
New Management Model for the Park	Community manage park? Non-profit? Joint community/County partnership? Liability and many other issues would need to be worked out.
Keiki involvement	Have keiki help with public art.
Gate & Hours	On-going discussion.
Residential Campers	Homeless currently have no place to go Wed-Friday when

	campgrounds are closed. There is a need for a place for these people to legally go. Could work parties be set up so that folks can trade maintenance work with a place to stay?
Parking & Traffic	
Number of spaces	Will need to add more parking, dependent on proposed uses.
Location	Need to consider edges of park – at Waimanalo and Kailua Beach parks, people park along the edge of the park adjacent to the roads and it is dangerous for pedestrians and vehicles maneuvering in and out of these areas slow traffic flow on the roadway (discourage parking along Aloiloi Street and not allowed along Kalanianaole).
Pedestrian Access	Safe pedestrian access is needed through and around parking.
Traffic	• Terry Hildebrand mentioned that state DOT needs to be contacted regarding traffic impacts to the highway. This will be done once a schematic plan is developed. No parking is allowed along the highway. • Chris Lee raised a concern about impacts to residences along Aloiloi regarding any additional vehicular access from park onto the street. This needs to be studied along with any secondary access along that street that may be necessary.
Caretakers House & Maintenance Baseyard	
Generally	Desired, continue discussion about if a caretaker's house is needed, what uses a similar structure might contain.
Storage	Storage definitely desired for park maintenance and sport items. This needs to be a secured area.
Meeting/ Office Space	Possibly need for meeting & office space for volunteer or maintenance groups.
Park Planning	
Jurisdictional Boundaries	Delineate State ownership of beach on plans to help with planning and permitting of uses.
Tree Preservation	• Most trees in park are Ironwoods. Consider saving trees for shade. Preserving of large groupings of trees desired. • PBR mentioned the desire to save trees and natural areas along Aloiloi and the highway park boundaries.
Traffic	Will need to consider traffic impacts dependant on proposed uses and access.
Concrete Surfaces	Less concrete surfaces/paving the better.
Bicycle Route	Potentially pull bike route into the park along park's Kalanianaole frontage to make it safer.
Burials	• Consideration of known burial areas in planning; re-use previously disturbed areas rather than new excavations when possible. • PBR mentioned that there is an archaeologist on the project

	who is looking into any burial or culturally significant areas in the park. Will take into consideration with the planning.
Beach Lots	• Need to begin reaching out to park's residential neighbors. • Gay Minton mentioned contacting Bob Loy regarding participating on the CAG as a beach lots representative. He is also an Outdoor Circle member who could act as an organization representative.
Cultural Significance	PBR requested the committee member's help in finding out if there is/ was any cultural significance or sacred areas within the project boundary.

The following are project related comments received from members that were not present at the first meeting:

- Summary of phone comments received from Lisa Ferentinos (on June 01, 2010):
  - Recognizes the need for more organized field space however the current character of the park needs to be maintained.
  - More unpaved trails for running & walking.
  - Suggestion of separation of trails from the camping and picnic areas so people are not strolling through someone's camp or picnic party.
  - Recommended planting native plants and trees throughout the park.
  - Mentioned issue with people living in the woods (overgrown Koa Haole area). Worries about her children going through the road to the park on their own.
  - Maintenance of existing facilities needed:
    - Roof repair on comfort stations.
    - More garbage cans that are spread throughout the park and not clustered together as much.
    - Need lids on garbage cans to keep trash from blowing out.
    - Removal of weeds and sand burs is desired.

- From email received from Bob Loy on behalf of The Outdoor Circle (on June 01, 2010), (reformatted into bulleted points):
  - In general, The Outdoor Circle's interest in the project is to ensure that this park—popularly known as Sherwood Forest—keeps the trees implied in its moniker. Inasmuch as this is one of the larger, most rural of our County beach parks, we believe it is important that it retain its distinctly non-urban ambience and wild-like physical appearance.
  - This park best serves all of its users as a place of respite, a place where by turning off the main highway one can drive through the forest and emerge at one of the most beautiful tree-lined beaches in all of Hawaii—it is literally the centerpiece of the longest continuous stretch of white sand beach on all of Oahu. Having said this, we believe there are still opportunities for improvements and enhancements that will make WBRA a better park for more people to enjoy without altering the overall rural park experience it offers to visitors.

- From the list of "Potential Park Elements" presented at the first CAG meeting, here's are TOC's comments:
  - **Field Sports/Court Sports:** We oppose creation of organized sports facilities of all types at this park. There are ample facilities for most of these activities at Waimanalo School, Waimanalo Beach Park and the Waimanalo Community Center. None of these activities fits the rural, non-urban setting of WBRA.
  - **Other Sports:** Of the items under this heading, we believe that personal recreation/fitness related improvements such as fitness/exercise course and unpaved walking and jogging trails are appropriate for this setting. There could possibly be a separate horseback riding trail completely away from the beach. However, inviting horses into the park and expecting them to remain on approved trails is naïve. It also is naïve to believe that such a trail would not be used by bicycles and motorized vehicles which already invade the park on a regular basis. We oppose all other suggestions in this category as they would all serve to reduce open park land and remove trees and vegetation.
  - **Amenities:** There is an overwhelming need for additional "hot coal disposal" pits in the campground and the picnic/general use area at the east end of the park. It is completely inappropriate for any commercial activities of any kind to be allowed in this park. No concessions stands or recreational concessions.
  - **Final Thoughts:** Not commenting on other items on the list of Potential Park Elements provided by PBR does not indicate approval by TOC. It simply means that we take no position on those matters because they are outside of our core mission and are issues that should be decided by input from those who live in the Waimanalo community.

- From email received from Bob Loy as a resident of Waimanalo Beach Lots and as the President of the Waimanalo Beach Lots Associations (on June 01, 2010), (reformatted into bulleted points):
  - **Comments on the WBRA Planning Process:** In general, I believe that this park best serves all of its users as a place of respite, a place where by turning off the main highway one can drive through the forest and emerge at one of the most beautiful tree-lined beaches in all of Hawaii—it is literally the centerpiece of the longest continuous stretch of white sand beach on all of Oahu. It also serves as a highly valuable resource for the Beach Lots neighborhood and Waimanalo community specifically, as well as residents from all over O'ahu. It also is heavily used by visitors, including numerous tour groups that stop daily at the park. Having said this, we believe there are still opportunities for improvements and enhancements that will make WBRA a better park for more people to enjoy without altering the overall rural park experience it offers to visitors.
  - The following are my comments on the Potential Park Elements presented at the first CAG meeting:
    - **Field Sports:** Waimanalo has ample sports fields at Waimanalo Beach Park, Waimanalo School and the Waimanalo Community Center. Adding sports fields would destroy the non-urban, rural ambience of this park and turn it into the same type of park that can be found anyplace in urban Honolulu. That would be a tragic and irreversible mistake.
    - **Court Sports:** With the possible exception of an unlighted beach volleyball court, all court sports require either hardscape and/or buildings that will help destroy the rural nature of this park.
    - **Other Sports:** In this category, only fitness/exercise course and walking/jogging trails are acceptable and only if they are unpaved. The last thing this area needs is to replace sand and forest floor with cement. Not only does it destroy the rural ambience, it will create the potential for storm runoff into Waimanalo Bay, which

already is frequently polluted by storm water runoff. A horseback riding trail would benefit the community if it were situated far away from the beach side of the park. But this would also attract off-road bikes, motorcycles and ATVs. These destructive toys already are brought into the park with extremely negative impacts on visitors as well as natural resources.

- **Amenities:** There should be absolutely no commercial activity of any type allowed in the WBRA including food/drink and/or recreational equipment concessions. WBRA campsites are used only on the weekend when there are not enough campsites to go around. The campground area has sufficient space to add additional campsites but camping should not be allowed anyplace except the area on the Bellows side of the lifeguard stand where the current campsites exist.

  On the east end of the park there is a pressing need for additional hot charcoal disposal pits as well as picnic tables.

  The community would greatly benefit from a pavilion/covered gathering space. This should not be constructed on the makai side of the parking lots, however. It should be mauka of the parking lots and should be carefully designed to blend into the forest surroundings.

  There already is a canoe/kayak storage facility at Waimanalo Beach Park. No such additional facility should be allowed in the WBRA.

  The possibility of a fenced dog park and signed “dog beach” might work at the campground end of the park, but not near homes on the east end.
- **Functional:** The comfort stations are in dire need of repair and an assessment of whether expansion of these facilities is needed. There is adequate parking in the main WBRA parking lot and campground lot.
- **Final Thoughts:** Mysteriously left out of the PBR list of activities is anything to do with the Hawaiian culture. I believe there is a pressing need for an assessment of the archeological resources of the WBRA and for the inclusion of some type of interpretive/educational amenity for park visitors. This could be a kiosk, an interpretive trail or any similar treatment that would enable visitors to enjoy, understand and appreciate the influence of the Native Hawaiian culture on the area and the role the general WBRA area played in that culture.

  Also it is extremely important to always keep in mind that this unique park also is uniquely situated immediately adjacent to the Beach Lots community which is home to hundreds of families. The park is our asset. It also is what brings many problems to the community such as parking, litter, crime, etc. Future uses of the park must be respectful of those who live nearby. There should be no work done in association with his plan that will bring additional traffic into the neighborhood or uses inside the park that will be disruptive to those who live across the street.

PBR HAWAII
& ASSOCIATES, INC.

MEETING NOTES

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DACHENG DONG, LEED® AP
Associate

DATE: August 11, 2010

MEETING DATE: July 29, 2010

PRESENT: Stan Duncan, Catie Fernandez, Micah McMillen, Terry Hildebrand, Chris Lee, Gay Minton, Stephen Foster, David Kanaui, Mary Alice Evans, Todd Cullison, Healani Chang, Roy Takekawa, Mike Hikalea, Bob Loy, Rosina Ho, Gail Myers, John Knox, Julie Dugan, Moana DeMello, Lisa Ferentinos, Gordon Mattos, Wilson Kekoa Ho, Marvelle K. Laughlin, Sandra Clarke, Ilima Ho Lastimosa, Oriana Coleman

DISTRIBUTION: All those listed above, CAG Members not in attendance & interested parties by request

FROM: Catie Fernandez, PBR Hawaii

SUBJECT: **COMMUNITY ADVISORY GROUP MEETING #2 WAIMĀNALO BAY BEACH PARK MASTER PLAN AND ENVIRONMENTAL ASSESSMENT**

The following is a summary of discussion points from the first Community Advisory Group Meeting on July 29, 2010 at 6:00 pm.

Welcome – Kekoa Ho, Waimānalo Neighborhood Board Chair, welcomed those assembled.

Project Overview – Catie Fernandez, PBR Hawaii, reviewed the planning process, including opportunities for future meetings and public input.

Review of Previous Meeting/CAG Suggestions: Catie summarized the park elements that the CAG members suggested at the first CAG meeting and in subsequent comments. The main themes: maintain the rural forested character of the park; provide more community gathering areas; increase recreational activities; and, consider maintenance and management issues associated with new development.

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Presentation of Two Master Plan Concepts – Stan Duncan, PBR Hawaii, walked the group through the site's existing conditions, indicating that the two schemes were prepared to minimize impacts to existing resources such as the dunes, trees and archaeology, while respecting residential uses to the south and bringing more activity to the Kalaniana'ole frontage. Stan walked through the individual elements that comprised the two schemes (see attached).

CAG Open Discussion/Comments – The floor was then turned over to the CAG and other attendees to ask questions and share comments or concerns. Discussion points are detailed below:

- Maintenance – any plan for more development should consider how it will be maintained. The group also discussed adopt-a-park programs and the need for local non-profits to take ownership responsibility of the park.
- Community Organizations – community non-profits are highly interested in having a place to call home in Waimānalo. Please include these organizations in the planning process. The community center shown in the plan could be such a place.
- Lighting of sports fields – location and hours must be considered. Lighting at the Waimānalo Beach Park is left on at night, often with no users. This is a concern for neighbors and for wildlife (seabirds are attracted to the lights, become disoriented and downed). Lighting will be considered as part of the plan for a field or fields farthest away from residential uses (closer to highway/polo grounds). Terry Hildebrand, City and County of Honolulu, Department of Design and Construction indicated that the expense of lighting is prohibitive and that it is not likely to be immediately or automatically installed unless it is shown that there is a strong demand by the community.
- Community Center –
    - A request was made that the plan quantify the distance the community center is away from the Beach Lots and also to assess the impacts of a community center at this site.
    - A question was raised about the square footage of the buildings. Building sizes have not been determined at this stage, however, the buildings were adapted from the Youth and Family Collaborative plan.
    - It was clarified that the collaborative of non-profits that worked on the Youth and Family Plan development was born out of strong community needs expressed by many of the community's non-profits, kūpuna and children in an extensive, collaborative planning process. was a community process and not the product of one person's ideas or agenda.
    - Cultural gardens and pā hula were discussed as desired at the community center
    - A member of the Hawaiian Civics club expressed that the community center would be a good place for interpretive signage.

- Traffic – It was noted that traffic impacts should be evaluated with this intensification of uses.
- Cabins – A question was raised about an area on the plan designated for cabins. Stan reported that at the previous CAG meeting, that there was a desire for a place for visiting teams to stay over nights when there are sports tournaments. Others suggested that the cabins could be used for retreats. Discussion followed about the appropriateness of this type of use at the park. The group also discussed the pros and cons of enclosed cabins vs. open hale-style pavilions.
- Remnant concrete - A question was asked about the existing concrete pads that are located throughout the park, the remnants of military use if they were planned for removal? Stan indicated that the plan tried to place new facilities on areas of previous disturbance. To minimize ground disturbing activities, the plan does not anticipate a park-wide removal of concrete remnants. One option would be to cover and landscape over pads, where warranted.
- Archaeological features - Stan reported that archaeological reports have identified burials on site as well as a re-internment area. The park design schemes were developed so as to avoid any new disturbance in known burial areas as well as in the dune complex/ironwood strand area.
- Interpretive signage – At the previous meeting, CAG members indicated a desire for interpretive signage. During the presentation, a couple of examples of interpretive devices were shown. Stan indicated that interpretive signage could be included in the Master Plan, however, input from the community will be needed to identify the "story" that will be conveyed (i.e. natural/ocean resources, history of site, other site or Waimānalo-specific themes?)
- Generally, the group indicated that the separation of uses (camping and picnicking vs. sports fields and community center) was a positive design feature.
- Fences/Security –
    - The group consensus was to maintain perimeter fencing and locking the park at night. The gate location within the park was acceptable, provided that some measure of security via additional fencing could be provided to the camping/beach area.
    - Police representatives indicated that it would be helpful to have visible signage indicating the camping area and sites so that first responders can reach those in need efficiently.
- Sustainability –
    - Impervious surfaces – a request was made to be mindful of impervious surfaces for new parking areas. It was indicated that pervious concrete could be used for new parking areas.
    - Other sustainable practices were suggested including use of sustainable materials in building construction.
    - A suggestion was made to consider more sustainable practices when treating the wastewater from the comfort stations. Terry Hildebrand

indicated that the City is currently working on upgrading the wastewater treatment systems for the existing comfort stations.
    - Stan also indicated that there is the potential to use re-use water from the Waimānalo Wastewater Treatment Plant for field irrigation and the potential to incorporate photovoltaic panels for night-time electrical needs at comfort stations.
    - Recycling bins will also be recommended in the plan.
- Landscaping – The group expressed a desire for attractive landscaping along Kalaniana'ole Highway, balancing the need for a buffer and visibility for security. Stan presented design ideas on creating barriers like hedging, hidden fencing, and "haha" type trench & fence combo
- An informal hand vote was taken and more individuals present preferred Scheme 2 for various reasons including the central location of the Community Center. However, others felt strongly that the community center would be better located near the highway.

<u>Follow Up & Next Steps</u> –

- PBR Hawaii will follow up with the following tasks:
    - Refine the two schematics into a preliminary Master Site Plan.
    - Consider how proposed park improvements will be phased
    - Define/quantify measurements of proposed buildings
    - Continue development of background materials and inter-agency coordination
- The next steps in the process:
    - Open Community Meeting – tentatively planned for November, 2010. The purpose of the meeting is to share a draft master plan that incorporates the CAG suggestions with the greater Waimānalo community and seek community response, suggestions and questions.
    - Final CAG Meeting – tentatively planned for January, 2011. The purpose of the meeting will be to share a master plan that incorporates the community comments with the CAG prior to submitting the Draft Environmental Assessment for public review.

This is our understanding of the topics discussed and the conclusions reached. Please give PBR HAWAII written notification of any errors or omissions within seven calendar days. Otherwise, this report will be deemed an accurate record and directive.

Catie Cullison

From: rc@kailuaayso.com
Sent: Friday, July 30, 2010 11:15 AM
To: Catie Fernandez
Subject: Waimanalo Bay Beach Park

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Red Category

Aloha Catie:

I found last night's meeting very informative. If we can get this built, it will be a great addition for everyone!

I have a few question / comments:

1. Can you give me the approximate dimensions (length and width) of the open space allocated for the sports fields (for both concepts).

2. I had a brief conversation with Micah regarding how the field space would be laid out, i.e. marked / allocated sizes or just one big open field. For us, since we have different size fields for the different age groups, it would work out better if it was just one big open field.

3. We would be in favor of having some lighted field space for night time use, if all the other factors can be worked out. Maybe we could have one field with lights...

4. Would it be possible to provide storage units (of some kind) near the fields to allow the different user groups to store equipment (goals, etc). At the current fields we use we have made wooden boxes (which the City does not like) or have space in the comfort station.

5. I am also very concerned about the traffic impact that this park would have. There are Saturdays at the present time when it takes our participants a long time (45 minutes?) to get from Kailua to Azevedo field. I'm sure this will be addressed in the EIS.

6. Would it be possible to get a set of the drawings that were passed out last night? I wasn't able to grab a set. I could pick them up from Stan - I understand he lives in Maunawili also... We are having our next Board meeting on August 12 and would like to brief them on this project.

Thanks!! Let me know if you have any questions for us...

roy
Roy Takekawa, Volunteer
Regional Commissioner
Kailua / Waimanalo AYSO
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DRAFT MEETING NOTES

DATE: September 7, 2011

MEETING DATE: August 31, 2011

PRESENT: Stan Duncan, Catie Cullison, Micah McMillen, Terry Hildebrand, Susan Tanaka, Sharon Basmayor, Eric Bunyan, Sandra Clarke, Kekoa Ho, Roy Takekawa, Gay Minton, Todd Cullison

DISTRIBUTION: All those listed above, CAG Members not in attendance & interested parties by request

FROM: Catie Cullison, PBR Hawaii

SUBJECT: **COMMUNITY ADVISORY GROUP MEETING #3 WAIMĀNALO BAY BEACH PARK MASTER PLAN AND ENVIRONMENTAL ASSESSMENT**

The following is a summary of discussion points from the first Community Advisory Group Meeting on August 31st, 2011 at 6:00 pm.

Welcome – Kekoa Ho, Waimānalo Neighborhood Board Chair, welcomed those assembled.

Project Overview – Catie Cullison, PBR Hawaii, reviewed the planning process and upcoming Environmental Assessment process.

Review of Previous Input: Catie summarized input received previously from the Advisory Group, the public meeting held in November, 2010 and direction from the new Department of Parks and Recreation Administration in 2011.

Review of Reports: Catie briefly summarized the findings of the Traffic Impact Assessment Report (TIAR) and the archaeological literature review. The recommendation of the TIAR is for separate outbound right and left turn lanes for the park driveway. According to traffic projections, the projected volume of vehicles does not meet threshold "warrants" to necessitate a traffic signal light at this location. The archaeological literature review mapped all previously documented studies on the park site. The primary recommendation of the report is to conduct Archaeological Surveys prior to earth disturbing activities.

Both the TIAR and the archaeological review report will be included with the Environmental Assessment.

Presentation of the Master Plan – Stan Duncan, PBR Hawaii, described the specific changes to the master plan that have come from the public meeting, the new administration and as a result of the traffic study. Those in attendance asked questions and participated in the discussion. Following is a summary of the specific park elements that were discussed:

Main Park Entry
-Lane widening at entry met with approval. It was noted that turning LEFT out of the park is most difficult, due to traffic volume on Kalaniana'ole and also in part due to the location of the chain link fence.
-Cost associated with adding traffic signals at the park entry would impact the available funding for proposed park elements and prohibit or delay construction.

Security at Aloiloi St. Bike/Pedestrian access
- Access for Bikes/Pedestrians appreciated; vehicular entry not advised.
-Vehicular barriers such as bollards or staggered fencing proposed.
-Easily visible pedestrian access points are a good safety feature for emergencies.
-Concerns were brought up that the gating and locking of pedestrian access points after park hours could cause safety issues in the event of emergencies; open access was agreed upon for the new pedestrian access. No change proposed to the current management arrangement at the Aloiloi beach access.

Comfort Stations
-Renovations currently in progress; completed renovation at Makapu'u side comfort station looks great.
-Middle comfort station suffering from rot due to leaky roof
-Concern was raised that the amount of restroom stalls proposed near the ball fields may not be adequate. Existing District Park facilities are constantly overloaded when the park is busy.

Storage
-Storage areas/rooms needed for sports equipment
-Suggestions made to incorporate storage rooms into comfort stations near athletic fields
-Maintenance Area corner identified as possible alternative location for consolidated sports equipment storage, although the location is relatively far for carrying necessary equipment.
-Kailua High School soccer equip. storage was cited as an example of a smart and aesthetically pleasing way to incorporate pre-fab storage structures

Vehicular Barriers around Parking Lots
-Vehicles driving off of parking areas onto park grounds is not desired
-Suggestions were made for different types of barriers: Fencing, bollards, Wheel-stops.

Phasing
-Per Terry Hildebrand, the City typically phasing by one-year increments as identified on the 6-year Capital Improvement Project (CIP) plan.
-Terry indicated that phasing of construction for park elements is ultimately decided by the current administration at the time and what they feel is feasible and most beneficial.
-Comfort station renovation and sewer system upgrades were seen as highest priority
-Construction of the additional parking was seen as important to support the increase in camping activities.

Camping Specialist
-It was felt that the new Camping Specialist (Keoni) on staff should review the plan and provide his feedback
-Sandra Clarke was willing to get a copy of the plan to Keoni.

Neighborhood Board Meeting on Sept 12th
-Catie to present the plan to the neighborhood board at the next meeting, September 12th.

Environmental Assessment
-Roy Takekawa suggested that PBR Hawaii advise the Advisory Group when the Environmental Assessment is published.

PBR HAWAII
& ASSOCIATES, INC.

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MEETING NOTES

DATE: December 14, 2010

MEETING DATE: November 18, 2010

PRESENT: Stan Duncan, Catie Fernandez, Micah McMillen, Terry Hildebrand, Wilfred Ho, Mary Alice Evans, Gay Minton, Dale Evans, George Kipapa, Stephanie Pintz, Sam Pintz, Jana Fraser, Barbara Mayer, Karen Umemoto, Karen Ipson, Blair Maloney, Sandra Clarke, Marc Ericksen, Jolyn Kipapa, Clifford Clarke, Todd Cullison

DISTRIBUTION: All those listed above who provided email addresses, CAG Members not in attendance & any interested parties by request

FROM: Catie Fernandez, PBR Hawaii

SUBJECT: **PUBLIC MEETING: WAIMĀNALO BAY BEACH PARK MASTER PLAN AND ENVIRONMENTAL ASSESSMENT**

The following is a summary of discussion points from a public meeting held November 18, 2010, 7:00-9:00 pm at the Waimānalo District Park.

Welcome – Stan Duncan, PBR Hawaii, welcomed those in attendance.

Project Overview – Catie Fernandez, PBR Hawaii, reviewed the planning process, including opportunities for future meetings and public input.

Concept Plan Presentation - Stan described the site conditions, including the park's treasured resources (i.e. beach, forest, rural character) as well as challenges (i.e. deteriorating comfort stations and infrastructure). He summarized the suggestions as well as issues that the Community Advisory Group identified. Stan also briefly shared the two concept schemes that the Advisory Group reviewed at their last meeting.

One significant change between the early schemes and the preliminary concept plan is that a multi-functional group gathering area was added in lieu of a closed walled and highly programmed "community center". Catie explained that this change was made for two reasons. First, a community center that includes closed spaces and that may be restrictive in access would be out of compliance with requirements of the National Parks Service Land and Water Conservation Fund. Monies from this fund were used for development of the park when it was state owned. A condition of this funding is a requirement that all of the park area remain in use for outdoor recreation and that it is accessible to all. Even though the park has changed hands from State to County, the County must abide by the condition. She added that the community center concept conflicted with the other theme that has constantly been discussed, which is to maintain the rural, beach park feel of the place. From the County Parks and Recreation perspective, the addition of a community center at this location is in conflict with the Department's objective to provide recreational opportunities for Waimānalo residents as well as greater O'ahu. Terry Hildebrand (Department of Design and Construction) added that the District Park is a facility more suited to "community center" type buildings that include meeting space and programed uses.

Stan then walked through the plan elements, beginning with the park entry, sports field area, group camping areas and finally the beach activities area.

Park Entry – The park edge and entry are hoped to be evocative of rural Waimānalo, including a bike path along Kalaniana'ole Highway, berms and a pasture fence similar to that of the polo grounds across the road.

Sports and Fitness Areas - Near the entry of the park is a softball/little league-sized diamond (north side of the entry road) and a full-size baseball field on the south side of the entry road. Two additional fields that could be used for soccer, rugby or football are included in this area. Near the sports fields would be open pavilions for after game picnics. A children's play structure is also proposed in this area. The remnants of the forested area (nearest Aloiloi Street) would be thinned and walking/jogging/exercise course would be added. A pedestrian/bicycle connection to Aloiloi Street is also suggested to allow the park's neighbors to easily walk to sporting events and access the play structure and fitness trail.

Caretakers Residence – The caretaker's residence would be relocated from the center of the park and a new residence would be constructed near the entrance road closer to Bellows. The purpose of this move is to allow the caretakers to be able to provide passive surveillance of the baseyard (which replaces the current equipment storage that currently occurs near the center of the park) as well as the group camping areas and the nighttime gate.

Group Camping Areas – Two large group camping areas are proposed. Both are designed to be multi-functional areas that could serve group gatherings as well as overnight camping. The group camping area at the center of the park would be defined by a low wall (with breaks for access) and include a large multi-purpose pavilion with cooking areas. This area would also include a hula mound as well as imu.

The second group camping area is situated closer to the beach and includes two smaller, open pavilions.

Beach Recreation Area – The area that parallels the beach would continue to offer beach park activities. Additional camp sites are proposed as well as pavilions and picnicking facilities. Open spaces in this area allow for volleyball and horseshoes. A naturalistic children's play area is also proposed in close proximity to the beach as well as group camping area.

Comfort Stations – In order to minimize ground disturbance in a park that contains known burials, the three beach comfort stations are proposed to be rebuilt at their present location. An additional comfort station is proposed with the large cooking pavilion in the multi-function group camping area and two additional comfort stations are proposed in conjunction with the sports field area.

"Open House" Comment Opportunities

Those in attendance were then invited to gather around tables that displayed the preliminary concept plan and discuss issues with the consultant team one-on-one. Comment forms were provided for those who wished to provide written input. As the conversations wound down, the group came together again and the consultant team reported the issues that were discussed. A time for questions and discussion was set aside for the last half hour of the meeting. The issues that were discussed included:

- The physical design of the sports fields – if they are overlapping will there be use conflicts? Can the fields be oriented such that balls will not be hit/directed toward the highway?
- Access from Aloiloi Street – both positive comments and concerns – good to have access to the fitness trail, but will it attract more parking on the road at this location?
- Emergency Access – a suggestion was made to add another vehicle emergency exit to Aloiloi Road in the event of an accident blocking Kalaniana'ole Highway.
- Comfort station – when they are rebuilt, will they be connected to sewer?
- Reforestation plan – as the ironwoods age, will they be replaced? The group discussed the need for a native tree reforestation plan.
- Charcoal dumped at base of ironwood trees – there is a need for more fire pits/bbqs as well as charcoal disposal bins. The bins must be emptied so that people do not dump the coals at the base of trees.
- Sea level rise. How does the plan account for this inevitability?

- Lighting of sports fields – Suggestions given to orient sports fields such that light is cast away from highway/residential areas. Is the Dark Sky initiative being taken into consideration? A concern was expressed over potential night lighting conflicts/dangers to seabirds.
- Security – Theft incidences: The location of the current caretaker's residence is in a prime location for monitoring suspect parking lot activity, i.e. drug use, burglary. A comment was brought up about including a guard station in the shoreline area and increase security staffing. Existing chainlink fencing along Aloiloi St. helps deter/retard burglars victimizing Beach Lots homes from hiding in the overgrowth at that end of the park.
- Vandalism – Concerns were raised about vehicles hitting and theft of the proposed Kalaniana'ole pasture fence which has been occurring across the street at the polo fields.
- Drainage – The highway acts as a river after severe rain. Berming at the park frontage may act as a barrier to the water and trap it on the park property. Drainage should be studied.
- Sports field types – Is a full-sized baseball field really needed at this park? Maybe three softball fields and/or three soccer fields would be good for holding tournaments, and the group camping facilities could house participating teams on-site.
- Sports field orientation – a suggestion was made to orient the outfields toward the ocean so balls don't roll/enter highway corridor.
- Parking for campsites – Existing parking is maximized for the 10 campsites currently provided. New parking added at the shoreline could accommodate the increase to 22 campsites, but how will parking be accommodated for the added large group campsites?
- Large group campsites – The plan shows the large group sites separated by the existing roadway. Can the roadway be diverted around the proposed large group gathering space to unite the two large group areas?
- Public feedback process – Is there a way to view the plans and give feedback after tonight's meeting and for those who were unable to make it? Can there be a site visit scheduled to walk through the plan on-site?
- Bike path – Positive responses to meandering along Highway frontage.
- Walking/jogging trails – a suggestion was made to include more trails around the perimeter of the park.

Written comments that were submitted at the meeting are attached.

This is our understanding of the topics discussed and the conclusions reached. Please give PBR HAWAII written notification of any errors or omissions within seven calendar days. Otherwise, this report will be deemed an accurate record and directive.

COMMENT FORM

Please provide your comments on the Concept Master Plan.

- **What elements do you like?**
- **Based on your knowledge of the area and the community, do you have any suggestions for improving the plan?**

Mahalo for contributing your thoughts!
Comments can be emailed to: cfernandez@pbrhawaii.com **Or sent by mail:**
PBR HAWAII
1001 Bishop St., Suite 650
Honolulu, HI 96813-3484
Attn: Catie Fernandez

- More walking/jogging/biking paths - one (continous path) around entire perimeter
- Suggest site walk through some weekend day
- no routine park entry at Alo'ilo'i St; emergency exit OK.
- Will there be fees charged for camping (small-family or large group) and/or pavillions? If so, would like to see us follow a Hanauma Bay model & keep the revenue for use in the WB Beach Park, or Waimānalo as a whole.

Name (optional):

Contact info (optional):

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Attn: Catie Fernandez

— Good having the camping areas on the makai half of the park. Hope to see camping area gated @ 8:00pm as it is now.

Name (optional):

Contact info (optional):

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-Limit the # of people allowed to camp in the family camping area – I.e. 5 people to camp site
☺

Name (optional):

Contact info (optional):

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"Open Pavilions" ~~are~~ nearest Residential area might pose A problem by inviting large groups. Yes that is the point – but it will necessitate strict enforcement of closing time – locking gates. If not – large groups might be inclined to have noisy parties Deep into the night.

Name (optional):

Contact info (optional):

My name is Barbara Mayer (bamayer@gmail.com); I've lived near Mel's Market since 1978, and now I'm a retired schoolteacher. Thank you for the opportunity to contribute a suggestion for the community master plan for Waimānalo Bay Beach Park.

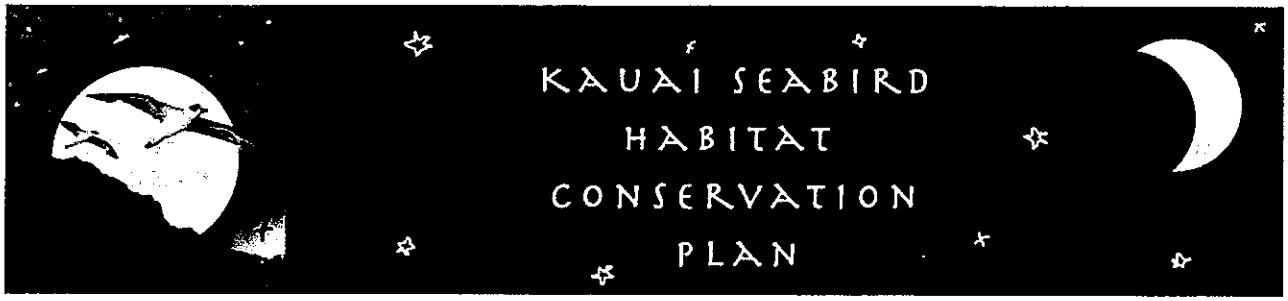
I think all of us that live in Waimānalo love it's country quality, and part of that for me has always been the dark night skies, and being able to see the stars.

I also like the dark night skies because I know it's what will benefit the Shearwaters, oceanic birds that nest on our Manana and Kaohikaipu offshore islands. At this time of year, as we all know, the young Shearwaters leave their nests and sometimes get disoriented by our lights. These birds come ashore in Waimānalo, and I know that many of you, like me, have picked up these birds and taken them to Sea Life Park for rehabilitation.

Therefore, as we consider changing Waimānalo Bay Beach Park, or Sherwood's, let's make sure that we include the best kind of practices as to lighting the Park. I'd like to submit some information on lights and lighting procedures from websites that friends on Kaua`i have shared with me.

Again, thank you for this opportunity to contribute.

http://www.kauai-seabirdhcp.info/minimization/save/index.html



Save Our Shearwaters-Kauai *(808) 632-0610*

Click here to visit the SOS website at the Kaua'i Humane Society!

Contacts for Neighbor Islands added below

Shearwaters & Petrels Fledge
May need help
September 15-December 15

From early October through mid December, multiple agencies are collaborating to help save the threatened Newell's Shearwater and endangered Hawaiian Petrels during their fledging period. It's a time when the birds are finding their way out to sea and may collide with manmade structures or become exhausted, disoriented and land, becoming targets for predators.

You can do your part by reducing light pollution, managing pets (keeping them inside or in enclosures at night) and by following *three simple steps* outlined by the SOS program if you find a downed bird.

If you find a downed bird on Kauai, do the following:

1. **Pick up the bird** as safely and quickly as possible. Using a towel, jacket, t-shirt or other cloth is helpful to gently wrap the bird. Approach the bird from behind if possible and gently fold the wings closed with your hands. Place the bird in a ventilated box for transport to the aid station. Though shearwaters have a long, pointed bill, they are usually docile and easy to handle. Gently covering the head (like a tent) and keeping voices down will help the bird remain calm and less stressed.

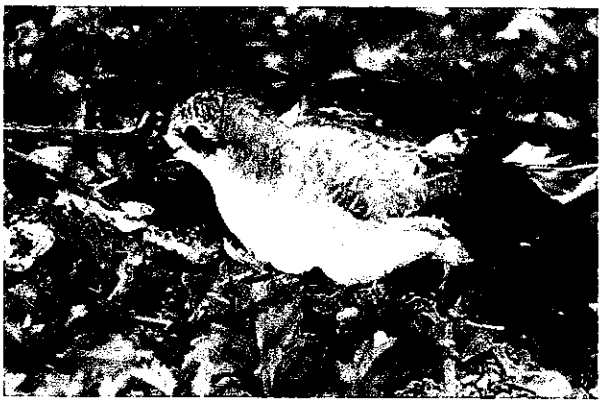


Photo to the right: Cook's petrel, by Sharon Reilly.

2. **Take the bird to the nearest shearwater aid station**--each of the Fire Stations on the island, as well as the,

Hanalei Liquors, Northshore Pharmacy in Kilauea. See more contact information for Oahu and Maui below

3. **Record the location and time where you found the bird** as precisely as possible.

If you must keep the bird overnight, keep it in a ventilated cardboard box with a secure lid in an area that is neither too hot or too cold. Please keep the bird in a quiet, dark area and **do not** attempt to feed, handle, or release the bird.

On Kauai, SOS staff and/or a veterinarian evaluate the health of each seabird. When each bird is ready to be released, they are brought to release boxes during the daytime, at coastal locations around Kaua'i. The seabirds acclimate and fly out to sea when they are ready.

To help reduce the light pollution that attracts these rare, native birds, businesses and residents can turn out as many lights as possible, close your curtains at night, and install "seabird safe" lights and motion detectors. We'll all save energy, save money, and save Kaua'i's native species.

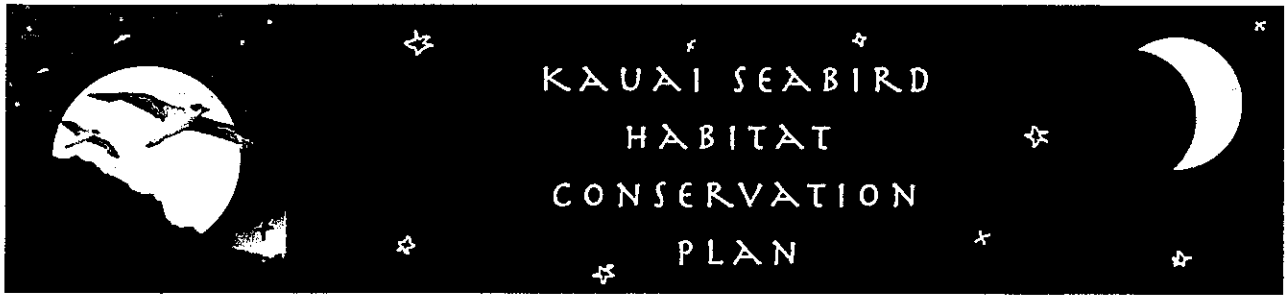
Anyone finding a fallen or injured seabird on Neighbor Islands is asked to do the following:

- Carefully and calmly pick the bird up by placing a towel or t-shirt over it, being mindful of traffand other hazards to your safety; keep the bird at waist level, away from your face.
- Gently place it in a cardboard box that has ventilation holes and a lid, and keep the box in a cool, safe, quiet place.
- Do not feed, attempt to treat, or release the bird.
- If on O'ahu call or take the bird to Sea Life Park (561-8641)
- If on Maui call Save Our Seabirds at: (877) 428-6911 or Jay Penniman at 808 280-4114/269-6751 or 573-4987- click here for the Maui SOS brochure

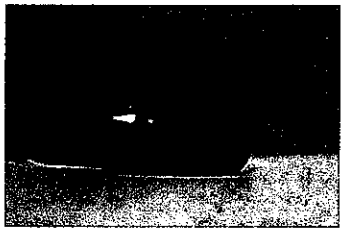
Or call your local DOFAW office for instruction:

O'ahu Branch (808) 973-9778 or 721-0698
Kaua'i Branch (808) 274-3433
Maui Branch (808) 984-8100
Moloka'i (808) 553-1745
Lana'i (808) 565-7916
Hawai'i Branch (808) 974-4221

http://www.kauai-seabirdhcp.info/minimization/best_practices_index.html



Best Practices & Guidelines for Seabird Friendly Outdoor Lights



Ake'ake or Band-rumped Storm Petrel
Federal Candidate, State Endangered

A'o or Newell's Shearwater
Threatened species

Ua'u or Hawaiian petrel
Endangered species

Regulatory Status

Unauthorized "take" of these species is a violation of the Endangered Species Act (ESA; 16 USC 1538), the Migratory Bird Treaty Act (MBTA; 16 USC 703) and State Revised Statutes (HRS) 195D. Penalties for violations may include fines ($25,000-$50,000/bird) and potential criminal prosecution.

Related State Laws and Other Policies

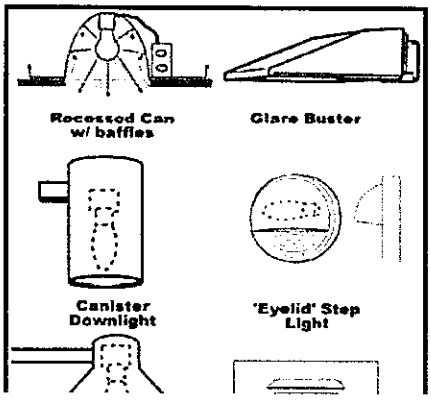
Act 224 - This State law prohibits the shining of floodlights and spotlights on coastal areas. Passed in July 2005.

Lights of Concern

- Floodlights
- Sports facilities
- Landscaping
- Aesthetic lighting/sign lighting
- Water features

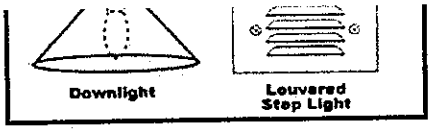
Lighting to Use (shown in the green box to the right)

- Fully shielded lights - May 2010 lighting manufacturers will be moving to the BUG system - http://www.iesna.org/PDF/Erratas



/TM-15-07BUGRatingsAddendum.pdf

- Full cutoff luminaries
- Motion detectors
- Back-lit signs
- Overhangs
- Low profile lights
- Light signs from above



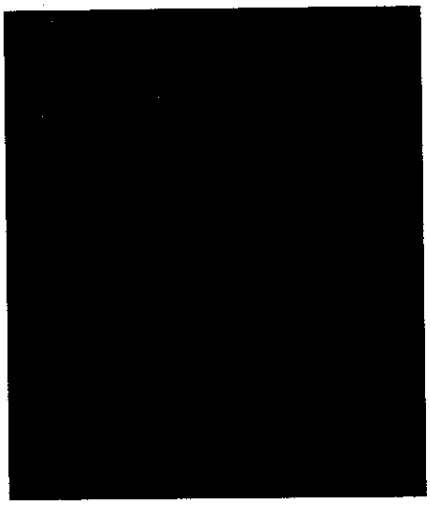
Technical information on lights and sources

good source

www.darksky.org
www.flap.org

Lighting to Avoid (shown in red box to the right)

- Unshielded lights and exposed bulbs
- Partially shielded floodlights (two examples shown in box the right)
- Uplighting of signs, tree canopies, building facades
- Lighting on cliffs and coastal bluffs
- Lighting off of rooftops and trees



Take Minimization and Avoidance Practices

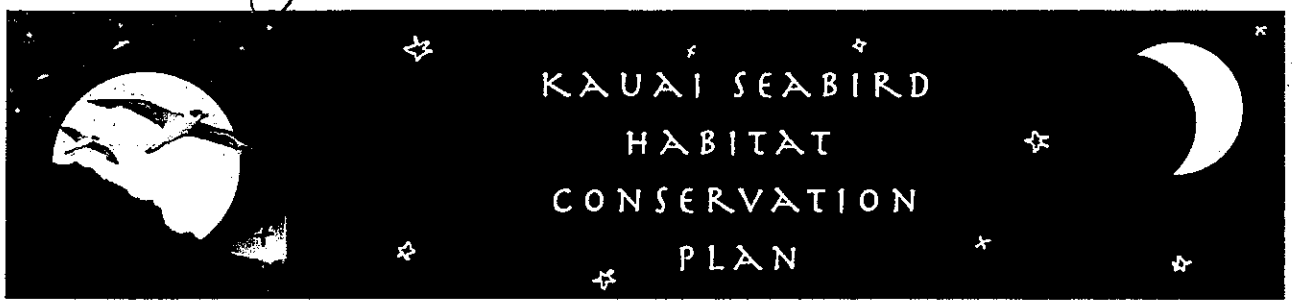
Seabird Friendly Lights

The purpose of the following guidelines is to enable businesses, agencies, and private households to avoid and minimize risk of "take" (i.e. mortality and injury) caused by outdoor lights to Federal and State Threatened and Endangered seabirds:

- Avoid use of outdoor spotlights or floodlights lights mounted on rooftops and/or shining out on a coast line or beach;
- Avoid the use of spotlights that shining upward or outward;
- All outdoor lights should be fully shielded, full cut-off luminaries, or indirect lighting;
- Spotlights and floodlights, in particular, should be fully shielded and angled within a 90 degree angle from the ground;
- All signs should be back lit or lit from above pointing down toward the sign. Lights shining up toward signs and other structures (i.e. trees and building facades) increase risk to seabirds;
- Motion detectors are recommended to minimize and control duration of light use;
- Use of amber, or other non-white bulbs or filters is preferred to bright white lights depending on the application and lighting requirements;
- Construction floodlights and spotlights must be fully shielded.

It is recommended that project owners or applicants for new projects, existing facilities, or facility renovations consult with the Division of Forestry and Wildlife (DOFAW) and U.S. Fish and Wildlife Service (USFWS) prior to finalization of the outdoor lighting plan.

../lights/index.html



Avoidance and Minimization Policies under the KSHCP (updated 5/24/10 new weblink)

KSHCP Applicants and Participants are required to implement avoidance practices to the maximum extent practicable. Avoidance measures reduce the risk of seabird light attraction due to the lights and related activities. Avoidance measures are those which cease or suspend lighting activities posing threats to the covered species.

KSHCP - Avoidance Strategies

- Turning off all outside lights from dusk through dawn during the fledgling fallout period (Sept. 15-Dec. 15).
- Permanently removing roof lights or other lights that direct light upward and horizontally.

KSHCP - Minimization Strategies

KSHCP participants are required to implement minimization measures to the maximum extent practicable to obtain an Incidental Take Permit. Minimization practices are used in conjunction with avoidance measures to decrease the risk of seabird take due to lights and associated activities. Minimization measures are those which modify lighting (that cannot be turned off or replaced) to eliminate upward lighting and reduce spill light. These measures also include the training of staff and outreach conducted to raise awareness and preparedness for seabird interactions.

The types of minimization practices applied will be dependent on the types of existing facility lighting, planned lighting, and the purpose of the lights. KSHCP staff are available to visit each facility as requested to assist with HCP lighting assessments, to discuss options, and to provide guidance and criteria related to acceptable minimization measures. In some cases, it may not be practicable to alter lights to the recommended extent due to operational requirements set forth by state or federal agencies. In these instances, the Applicant and/or Participating facility shall explain the limiting requirements in relation to the changes that are / are not being made to explain how they are implementing avoidance and minimization measures to the maximum extent practicable. If recommended or acceptable modifications to lights are not administered due to cost or some other reason, the facility manager must include as part of the application an explanation of the failure to meet the minimization standards in a report detailing their minimization practices. Applicants/Participants area required to implement minimization within a reasonable timeframe.

There are several options regarding how a facility manager can accomplish the minimization outlined in the assessment. Facility staff or maintenance can install the necessary shields or change the angle of the facility lighting. For more complicated changes, the manager may choose to hire local electricians or contractors to provide needed lighting modifications. In regards to outreach and training materials, KSHCP provides basic materials that can be modified easily for the individual facility or business of the HCP Applicant.

Various minimization strategies are listed below, but there may be others that may apply. These avoidance measures can be implemented together. KSHCP Applicants will be encouraged to implement permanent changes. However, seasonal changes would be approved with sufficient justification and verification of completion each year. All strategies will be based on outdoor lighting standards readily available through the IESNA, IDA, and NLPIP unless otherwise inappropriate to the local setting or KSHCP goals and objectives:

Install full cut-off lights, down lights. This is considered the best strategy to obtain minimization and increase light efficiency.
UPDATE May 2010Lighting manufacturers will be moving away from the cutoff rating system to the BUG system - http://www.iesna.org/PDF/Erratas/TM-15-07BUGRatingsAddendum.pdf . This system is very restrictive with high angle glare. A rating of U0 (no uplight in Up-High and Up-Low, UH UL) and U1 (slight uplight, some post top full-cutoff looking luminaire would fit here).(source: Robert Wagner-IDA)

Shielding existing lights. Lights that are not full cut-off models should be retrofitted with shields or shrouds to enable a full cut-off lighting style. Reed et al. (1985) suggest that in areas where other light sources are rare, the shielding of principal lights would likely result in an even larger effect in decreasing light attraction.

Decrease lighting levels. Outside lighting sometimes follow Illuminating Engineering Society of North America (IESNA) including those related to setting maximum light levels for parking lots, walkways, roads, etc. Security lighting often should be set to lower light levels for maximum effectiveness in concert with closed-circuit security cameras. Bright lights produce high amounts of glare which can temporarily blind customers from seeing moving objects. Bright lights also create deep dark pockets where criminals can hide (see IDA information sheet on security lighting link below).

Angle Lights Downward. Angling and repositioning lights may present an alternative to shielding or replacing light fixtures and may be sufficient to make lights full cut-off and eliminate light shining horizontally and vertically. Light fixtures may be adjusted so that light fixtures point down to the ground as far as possible, to obtain a 90 degree angle between the light fixture and the mounting surface/pole.

Installation Motion Sensors. If a sensor light is required for security purposes, the light equipped with the sensor should be at low light levels. Light sensors should be used with full cut-off or shielded lights or as a minimum to decrease risk of unshielded floodlights pending replacement or shielding.

Alteration of light color: In some places installation of amber, blue lights may be appropriate in decreasing risk of attraction. There have been recent studies on the use of a green light however, experimental data are lacking with reference to seabirds. In 2007, NAM (Nederlandse Aardolie Maatschappij) and Philips UK jointly conducted studies in the north Sea to evaluate the effects of green color lights on oil platforms on birds migrating across the north Sea. Off the island of Vlieland along the Dutch Coast, almost all the floodlights on the NAM platform L15 were replaced with newly designed 36W TLD and 400W HPI lamps for a period of 3 nights. According to the study (Van De Lar 2007), a 50-90% reduction of impact can be achieved: fewer birds displayed circling behavior than could reasonably have been expected based on migration and weather conditions and the number birds landing on the platform was markedly smaller than under normal lighting conditions. Philips is performing an onshore pilot project using the green light to test the effects on habitat at a small harbor.

Alter Light Structure: An interim measure for globe lights may include painting the top half of the globe or light cover to make it opaque and thus decrease the amount of light being emitted from the top and sides of the fixture.

Additional components of Avoidance Strategies that do not involve changing lights are worker training and outreach. These strategies will be strongly encouraged as appropriate for all KSHCP Applicants.

Worker Seabird Awareness Training (WSAT). Applicants would benefit from training their employees in seabird awareness. The WSAT would cover the regulations pertinent to seabirds and the HCP, biological information and identification of covered seabirds, and staff responsibilities and procedures for avoiding and minimizing light attraction and responding safely to downed seabirds. The format utilized for training by KSHCP staff is often a Microsoft PowerPoint presentation module and demonstrations as needed. Annual verification of WSAT will be required to verify completion of this measure.

Outreach. Outreach materials are recommended and can provide a public relations and publicity benefit to Applicants. The outreach material may include a brochure on the problems of light attraction, how the Applicant is addressing the problem, biological information and photographs, and ways in which guests and customers can help minimize seabird fallout at the facility and respond to downed seabirds. KSHCP staff can help provide electronic files for the printing use of outreach materials.

Hosting a Save Our Shearwaters Aid Station. Some facilities may elect to host a Save Our Shearwaters Aid Station to facilitate seabird rescue, particularly if they are located in a relatively remote area or have the potential to find many birds.

Recommended Lights

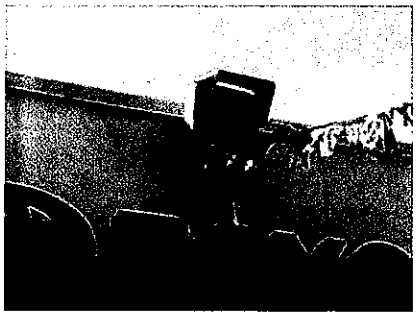
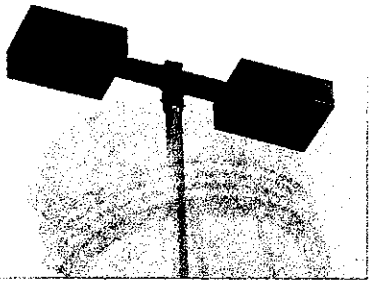
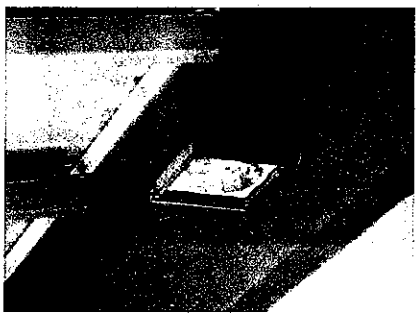
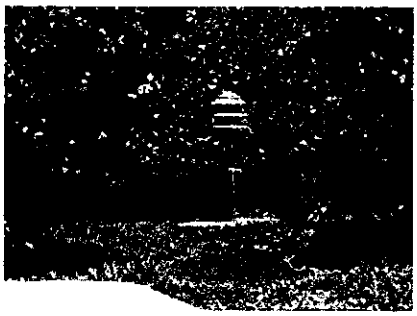
NEW! **The 2009 KSHCP Seabird-Friendly Lighting Guide**

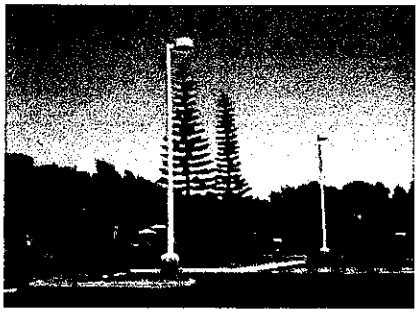
See the new BUGS rating system for light cutoff ratings: http://www.iesna.org/PDF/Erratas/TM-15-07BUGRatingsAddendum.pdf

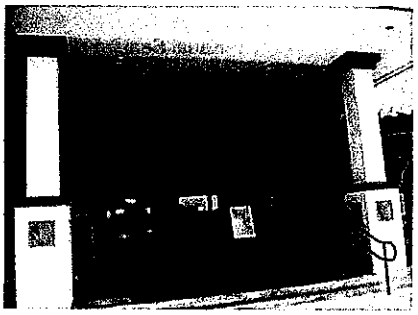
° **What is a *true* "Full Cutoff" outdoor lighting fixture?**

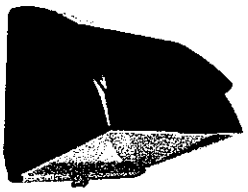
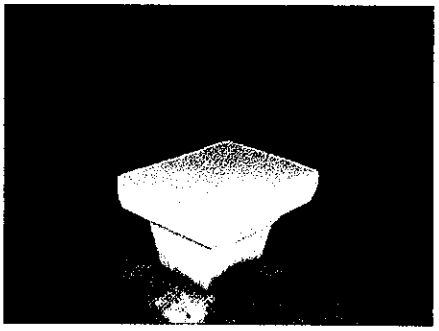
° **Guidence Notes for the Reduction of Obtrusive light - by the Institution of Lighting Engineers**

° **Security Lighting: Let's Have Real Security, Not Just Bad Lighting**





Catie Fernandez

From: waimanalobay@hawaii.rr.com
Sent: Thursday, November 25, 2010 3:09 PM
To: Catie Fernandez
Cc: snowagirl@aol.com
Subject: comment re 11/18 public meeting

Follow Up Flag: Follow up
Flag Status: Flagged

I attended the master plan meeting regarding Waimanalo Bay Beach Park. The comment form asks about elements liked and suggestions for improvement. I don't have much in either of those areas.

I do like the idea of limited expansion of camping facilities, and of the plan to do away with the cesspool violations. More camping facilities does little for me as a Beach Lots resident, but when I lived further back in the valley we occasionally camped in the park. I question whether the greater Waimanalo community actually wants or needs camping expansion; is there any data on that? It seems to me that those who will benefit most will be from other parts of the island, or possibly visitors. Add expanded camping at the park to what we already have at Bellows and the traffic situation on weekends will worsen. The consensus in the community seems to be that the highway improvements planned by DOT will do little to mitigate this problem. Furthermore, has the cost of security (i.e., keeping the lid on campers' behavior) been considered? Last summer we saw that the military had to go to great lengths to bolster security and regulation at Bellows campgrounds.

The general idea of opening up the Sherwoods area to greater public enjoyment and thus limiting furtive activity is a good one, but turning it into a virtual Public Use theme park goes a bit too far. Clearing out undergrowth and maintaining some walking/jogging/bicycling trails and picnic areas would be sufficient.

I don't think athletic fields should be constructed without a cost-benefit study considering the possible improvement of fields at the Rec Park.

I saw nothing in the plan to acknowledge the history of the park area. To create such an elaborate Master Plan BEFORE the EIS process that will take into account ancient Hawaiian sites and artifacts seems a bass-akward way of doing things.

Thank you for the opportunity to comment on the plan.

Dale Evans

Catie Fernandez

From: pintz@juno.com
Sent: Sunday, December 19, 2010 8:11 PM
To: Catie Fernandez
Subject: Development of Bellows Park

Dear Waimanalo Park Consultants,

We wanted to follow up with comments on your proposed concepts for development of Waimanalo Bay (Sherwood) Park. We were favorably impressed by your thoughtful use of the Sherwood property. In particularly we believe that the athletic fields and central community use areas represent major amenities that can be enjoyed by park users. Also we found the separation of the active use (ball field, community and camping areas) areas from the quieter more passive uses of the forested parcel abutting Aloiloi Street an attractive feature of your plan. Overall, you seem to have achieved a very reasonable balance between the various proposed use of the Bellows land.

One proposed use where we would like to see more detail is the camping area. Focusing this area near the beach seems like a worthwhile idea but we believe that fewer and larger campsites might be preferable to more numerous and smaller campsites. We believe that many local families use camping for family reunions and and other large group events and having larger campsites would make it possible for more family members to stay over night. Also, we are concerned about the adequacy of the shower and bathroom areas in both the camping and athletic field areas. Finally, as we voiced at the 18 November public meeting we have some concern with park access via a gate on Aloiloi street. While we feel that a second park entry place is an excellent idea, having this entry into the jogging/ forest area seems to be somewhat inconsistent... and it may put pressure on resident street parking

Overall we commend you for a thoughtful plan that will be a major amenity for Waimanalo (and other) users.

Thank You,

Sam and Stephanie Pintz

Oki and Jana Fraser

41024 Manana Street

Waimanalo

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& ASSOCIATES, INC.

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MEETING NOTES

DATE: September 7, 2011

MEETING DATE: August 31, 2011

PRESENT: Stan Duncan, Catie Cullison, Micah McMillen, Terry Hildebrand, Susan Tanaka, Sharon Basmayor, Eric Bunyan, Sandra Clarke, Kekoa Ho, Roy Takekawa, Gay Minton, Todd Cullison

DISTRIBUTION: All those listed above, CAG Members not in attendance & interested parties by request

FROM: Catie Cullison, PBR Hawaii

SUBJECT: **COMMUNITY ADVISORY GROUP MEETING #3 WAIMĀNALO BAY BEACH PARK MASTER PLAN AND ENVIRONMENTAL ASSESSMENT**

The following is a summary of discussion points from the first Community Advisory Group Meeting on August 31st, 2011 at 6:00 pm.

Welcome – Kekoa Ho, Waimānalo Neighborhood Board Chair, welcomed those assembled.

Project Overview – Catie Cullison, PBR Hawaii, reviewed the planning process and upcoming Environmental Assessment process.

Review of Previous Input: Catie summarized input received previously from the Advisory Group, the public meeting held in November, 2010 and direction from the new Department of Parks and Recreation Administration in 2011.

Review of Reports: Catie briefly summarized the findings of the Traffic Impact Assessment Report (TIAR) and the archaeological literature review. The recommendation of the TIAR is for separate outbound right and left turn lanes for the park driveway. According to traffic projections, the projected volume of vehicles does not meet threshold "warrants" to necessitate a traffic signal light at this location. The archaeological literature review mapped all previously documented studies on the park site. The primary recommendation of the report is to conduct Archaeological Surveys prior to earth disturbing activities.

Both the TIAR and the archaeological review report will be included with the Environmental Assessment.

Presentation of the Master Plan – Stan Duncan, PBR Hawaii, described the specific changes to the master plan that have come from the public meeting, the new administration and as a result of the traffic study. Those in attendance asked questions and participated in the discussion. Following is a summary of the specific park elements that were discussed:

Main Park Entry
-Lane widening at entry met with approval. It was noted that turning LEFT out of the park is most difficult, due to traffic volume on Kalaniana'ole and also in part due to the location of the chain link fence.
-Cost associated with adding traffic signals at the park entry would impact the available funding for proposed park elements and prohibit or delay construction.

Security at Aloiloi St. Bike/Pedestrian access
- Access for Bikes/Pedestrians appreciated; vehicular entry not advised.
-Vehicular barriers such as bollards or staggered fencing proposed.
-Easily visible pedestrian access points are a good safety feature for emergencies.
-Concerns were brought up that the gating and locking of pedestrian access points after park hours could cause safety issues in the event of emergencies; open access was agreed upon for the new pedestrian access. No change proposed to the current management arrangement at the Aloiloi beach access.

Comfort Stations
-Renovations currently in progress; completed renovation at Makapu'u side comfort station looks great.
-Middle comfort station suffering from rot due to leaky roof
-Concern was raised that the amount of restroom stalls proposed near the ball fields may not be adequate. Existing District Park facilities are constantly overloaded when the park is busy.

Storage
-Storage areas/rooms needed for sports equipment
-Suggestions made to incorporate storage rooms into comfort stations near athletic fields
-Maintenance Area corner identified as possible alternative location for consolidated sports equipment storage, although the location is relatively far for carrying necessary equipment.
-Kailua High School soccer equip. storage was cited as an example of a smart and aesthetically pleasing way to incorporate pre-fab storage structures

Vehicular Barriers around Parking Lots
-Vehicles driving off of parking areas onto park grounds is not desired
-Suggestions were made for different types of barriers: Fencing, bollards, Wheel-stops.

Phasing
-Per Terry Hildebrand, the City typically phasing by one-year increments as identified on the 6-year Capital Improvement Project (CIP) plan.
-Terry indicated that phasing of construction for park elements is ultimately decided by the current administration at the time and what they feel is feasible and most beneficial.
-Comfort station renovation and sewer system upgrades were seen as highest priority
-Construction of the additional parking was seen as important to support the increase in camping activities.

Camping Specialist
-It was felt that the new Camping Specialist (Keoni) on staff should review the plan and provide his feedback
-Sandra Clarke was willing to get a copy of the plan to Keoni.

Neighborhood Board Meeting on Sept 12th
-Catie to present the plan to the neighborhood board at the next meeting, September 12th.

Environmental Assessment
-Roy Takekawa suggested that PBR Hawaii advise the Advisory Group when the Environmental Assessment is published.

WAIMANALO NEIGHBORHOOD BOARD NO. 32

41-696 KALANIANAOLE • WAIMANALO, HAWAII 96795 - 1757
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DRAFT REGULAR MEETING MINUTES
MONDAY, SEPTEMBER 12, 2011
WAIMANALO PUBLIC AND SCHOOL LIBRARY

CALL TO ORDER: Chair Wilson Kekoa Ho called the meeting to order at 7:30 p.m. with a quorum of **seven (7) members present.** Note – This 13-member Board requires seven (7) members to establish quorum and to take official Board action.

Members Present: Shannon Alivado, Rosina Ho, Wilson Kekoa Ho, Andrew Jamila Jr., Ryan Kalama, Maynard Beany Koa, and Marvelle Kuulei Laughlin.

Members Absent: Nani Akeo and Bob Lastimosa.

Vacancies: There are three vacancies. One vacancy in each subdistricts 2, 2, and 6.

Guests: Councilmember Ikaika Anderson, Sharon Basmayor (Councilmember Anderson's Office staff); Cyndy Aylette (Mayor's Representative), Chief Investigator Keoni Vaughn and Bonnie Osaki (Hawaiian Humane Society); (Representative Chris Lee, Senator Pohai Ryan, Major Allan Crouch (Kaneohe Marine Base Hawaii); Gorsuch and Nhut Dao (Bellows Air Force Base); Kanui G. Bell, Shannon Kala-Wilsey, Tami Pasa, Vicky Faloao, and Raymond Mahelona (Youth 2 Youth); Bruce Tsuchida (Townscape Consultant), Renwick and June Y. Toguchi Tassill, Carolyn Donohoe Mather (Healthy Hawaii Initiative), Julie Dugan (Hawaii Job Corps); Capt. Dagan Tsuchida and Lt. John Vines (Honolulu Police Department); Acting Captain Randall Lindsey and Fire Fighter Barney Hanson (Honolulu Fire Department); Catie Cullison (PBR Hawaii), Terry Hildebrand (City Department of Design and Construction), Paul Richards; Dave Amodo and Dayton Oshiro (Videographers); and Gloria J. P. Gaines (Neighborhood Commission Office staff).

Pule: Chair Ho welcomed everyone to the meeting and noted the meeting usually begins with an open prayer. Chair Ho also stated if prayer offends anyone that they should leave at this time. Mr. Ray Mahelona offered pule.

Refreshments: Chair Ho announced that refreshments were provided by Senator Pohai Ryan and Mrs. Rosina Ho.

FILLING OF VACANCY: There were no volunteers or nominations for Subdistrict 1, 2, 5, or 6.

PUBLIC SAFETY INPUT:

Honolulu Fire Department (HFD) – Acting Captain Randall Lindsey introduce Fire Fighter Barney Hanson who reported the following:

- Statistics for August 2011 – Included 3 structure, 4 rubbish, 1 vehicle, and 1 equipment fire; 20 medical emergencies, 2 search and rescues, and 8 miscellaneous calls for service. There were three major incidents that involved multiple fire companies. No unusual incidents were reported.
- Fire Safety Tips – In a fire, medical, or other emergency, it is critical that emergency responders quickly identify the correct location. Fire, building, and U.S. postal codes and City ordinances state that property owners shall place their house numbers so it is legible and readily visible from the street. This will assist first responders in quickly locating your house in the event of an emergency. If your property is difficult to locate and/or access, provide 911 dispatchers with additional information to assist them in locating your property during an emergency.

Honolulu Police Department (HPD) – Lt. John Vines provided members with a report and highlighted the following:

- Statistics for August 2011 – Included 4 assaults, 6 burglaries, 1 drug/narcotic offense, 20 thefts, and 25 unauthorized entries into motor vehicles.

- Burglary Suspect – Lt. Vines informed that a suspect was arrested and may be the person responsible for the increase of burglaries in Waimanalo. His bail was set at $75,000.
- Introduction of Captain – Lt. Vines introduced the new District Capt. Dagan Tsuchida. Capt Tsuchida looks forward working with the community.

Questions, comments, and concerns followed:

- Acknowledgement – Member Shannon Alivado expressed her appreciation to the officers of the Community Policing Team that helped with the community clean up on Sunday, September 11, 2011 in Waimanalo.
- Emergency Road Closure – A resident who was personally affected by the five-hour emergency road closure that occurred in Waimanalo raised the issue again. Although Lt. Vines reminded the resident that HPD will notify the media and DTS which is the method used to getting the word out to the community as soon as possible, the resident was not satisfied. The resident stated he will follow up with either Mayor Carlisle's or Governor Neil Abercrombie's office.

Mayor's Representative – Cyndy Aylette reported the following:

- School Bus – Police Officers monitored the student school buses and did not observe any violations. However, officers will continue to monitor motorists when school buses stop along the highway and will cite motorists if violations occur.
- National Make A Difference Day – Saturday, October 22, 2011 is "National Make A Difference Day". This is a national day to help others. Further details will be provided at next month's meeting.

Councilmember Ikaika Anderson – Councilmember Anderson provided members with a report and highlighted the following:

- Bill Development Workshop – The bill development workshop held in Waimanalo allowed the community to learn about the legislative bill process from draft to final form. Senator Pohai Ryan added that her office is available for assistance with drafting legislative bills.
- 3-Talk Community Meeting – The next 3-Talk meeting was rescheduled to Tuesday, September 20, 2011 due to the Mayor's Sister City Summit held the same evening.
- Emergency Road Closure – Chair Kekoa requested the Councilmember Anderson's office see what can be done to address traffic concerns during emergency road closures.

Board of Water Supply (BWS) – Danielle Ornellas reported the following:

- Main Break – There were no main breaks to report for the month of August 2011.
- Water Rates Increase – The public hearing for the proposed water rate schedule was well attended. BWS Directors will review the public comments received and will notify the public of BWS' decision.

Questions, comments, and concerns followed:

1. Water Bill – It was explained one of the columns on the water bill is for waste water charges which also increased at four percent
2. Agricultural Water Rates – Member Alivado raised a concern from the farmers about the increase agricultural lot water rates. Also, farmers are using City water instead of the agricultural water. According the farmers, the agriculture water system is not a reliable source. Ms. Ornellas will provide a response at next month's meeting.

ANNOUNCEMENTS:

Hawaiian Humane Society – Bonnie Osaki and Director Keoni Vaughn reported on the following:

- Teen Advisory Panel (TAP) – Ms. Osaki provided members with a Hawaiian Humane Society (HHS) packet which included information and an application for TAP. Applications for the Windward TAP are being accepted for teens between the ages of 14 and 19 years of age. The select group of teens will develop ways to reach other teens, organize community and school events, and promote animal

programs and the HHS. This is a way for teens to develop leadership and teamwork skills, as well as earn community service hours. For more information call Rhonda at 356-2247.

- Dogs from Puppy Mill – Director Vaughn recapped on the investigation of the Waimanalo puppy mill which started three years ago. The investigations are currently with HPD to enforce animal-related laws. One hundred fifty-three dogs were rescued. The owners are no longer operating a puppy mill on that property. Director Vaughn expressed his appreciation to the community for their vigilant efforts.

Clean Up Day – Member Alivado expressed her appreciation to all the volunteers who participated in the Sunday, September 11, 2011 community clean up starting from Ahiki and Humuniki Street; to Kalanianaole Highway to the Waimanalo District Park Gymnasium; then up Ahiki Street and onto Waikapunaha Road. Volunteers were from the Hawaii Bicycling League, Hawaii Job Corps, Representative Chris Lee, HPD, and community members. Also thanks to Councilmember Anderson and his staff Sharon Basmayor for coordinating a truck to haul the trash away.

Evans Memorial Bike Race – Member Alivado shared concerns about the Evans Memorial Bike Race held on Sunday, September 4, 2011. Residents stated they were inconvenienced and were unable to get in and out of their driveways during the bike race. Also, bike riders should not ride three abreast when cars are coming. This is not safe for the riders.

Kaupo Beach Park Clean Up – Chair Ho announced a beach park clean up event on Sunday September 25, 2011 from 9:00 a.m. to 12 p.m. at Baby Makapuu (Kaupo Beach Park). For more information call Blanche at 259-5687.

Conference of Chairs – Besides Vice Chair Alivado member Ku`ulei Laughlin will also be attending the Conference of Chairs on Saturday, September 24, 2011 at Pau`oa Elementary.

Master Regional Plan – Residents were encouraged to attend the Tuesday, September 13, 2011 public hearing of the Master Regional Plan offered by the Department of Hawaiian Home Lands. This is the second of three public hearings. The last hearing will be October 2011. The meeting will be held at the Community Center at 41-253 Ilauhoe Street from 6:00 p.m. to 8:00 p.m.

BOARD BUSINESS:

Youth-2-Youth (Y2Y) Expanding Services – Program Coordinator Raymond Mahelona reported the following:

- Back Yard Jam – The Back Yard Jam held last month was a success. Twenty organizations participated in the event.
- Juvenile Justice System – Mr. Mahelona stated Y2Y is in the process of becoming the first Juvenile Justice System check-in office on the windward side.
- Awards – A $10,000 grant from the Harry and Jeanette Weinberg Foundation will launch an outreach program for homeless youths and adults as a way to provide a safe environment for homeless kids. A clinical team will be available onsite. **Laughlin moved and Kalama seconded that the Waimanalo Neighborhood Board No. 32 accept the Youth-2-Youth Outreach Program expansion of services for the youth. The motion WAS ADOPTED UNANIMOUSLY, 7-0-0, (AYES:** Alivado, R. Ho, W. Ho, Jamilla, Kalama, Koa, and Laughlin; **NAYS:** None; **ABSTENTIONS:** None).
- Learning Culture Center – Learning Center Coordinator Vicky Faloao introduced herself and provided a brief background.

Ko`olaupoko Watershed Management Plan (KWMP) – Bruce Tsuchida provided members with a copy of the KWMP summary of the major changes made to the public review draft of September 12, 2011. The changes made were in response to the comments received. A copy of the Executive Summary was also provided to members on compact disc. Mr. Tsuchida recommended the Board review Chapter Five of the Executive Summary which identified the Waimanalo and Kahawai Stream watersheds as a critical watershed because of the important farm lands of Waimanalo located within these two watersheds.

Questions, comments, and concerns followed:

1. Landfill in Waimanalo – Member Alivado was concerned about the watershed affecting the landfill in Waimanalo. According to Mr. Tsuchida Waimanalo is no longer being considered as a landfill site. If

Waimanalo was selected as a landfill site, then a review of how the landfill affects the water resources would have been done.

2. Comment Period – Residents will have the opportunity to submit comments or testimony at either the State's Commission on Water Resource Management or at City Council.
3. Maunawili Water – The Maunawili water and water ditch system is included in the KWMP.

T
Members are to review the KWMP and Chair Ho stated that KWMP be on next month's agenda for an endorsement.

Waimanalo Regional Park* – Consultants Catie Cullison and Stan Duncan provided a map of the Waimanalo Regional Park and "walked" everyone through the 75-acre park. Included multi-purpose football/soccer field, a baseball and softball/little league fields; a large gathering area with a pavilion, a children's play area, a new comfort station, increased campsites, a pedestrian access gate on Aloiloi Street near McDonald's Restaurant, etc.

Questions, comments and concerns followed:

1. Cost for Planning – Member R. Ho raised a concern as to the City's cost for planning so far. About $150,000 pays for the planning consultant. Mr. Duncan stated that as the project progresses monies will have to be appropriated.
2. Time Line of Project – The project will be done in phases and may be 20 years before completion.
3. Camp Sites – Large group camping would be popular.
4. Plants – Near the camping would be Hawaiian plants like hala and kou trees. Ti plants will also be used in landscape.
5. Comment – Don't want the Waimanalo Regional Park to end up looking like Sand Island Park.
6. Comfort Stations – Camping Specialist John Aylette reminded that the City has a Consent decree when renovating comfort stations at the beach.

APPROVAL OF MINUTES: **Koa moved and Kalama seconded that the Waimanalo Neighborhood Board No. 32 approved the August 8, 2011 regular meeting minutes as corrected. The motion WAS ADOPTED UNANIMOUSLY, 7-0-0, (AYES:** Alivado, R. Ho, W. Ho, Jamilla, Kalama, Koa, and Laughlin; **NAYS:** None; **ABSTENTIONS:** None). The correction is as follows:

- Page 1, under Guests; insert **"Maj. Allan Crouch (Kaneohe Marine Base Hawaii)"**.

COMMUNITY REPORTS:

Education Report:

Waimanalo Elementary and Intermediate School – Keoni ____ reported the following:

- Partnership Program – Appreciation was expressed to the volunteer partnerships with Big Brothers/Big Sisters, Hui Kamana, Hui Malama, and Hawaii Job Corps with helping students with their academic growth as well emotional and social interaction with others.
- Donation – Mr. Roger Messner of the Honolulu Disc Golf Association donated $600.00. Monies were used to purchase school supplies.
- Office Referrals – A decline in the number office referrals may be attributed to the student/adult relationships program where a student finds an adult on campus that they can connect with. School staff is looking at how to support students with current issues such as cell phone usage or public display of affection**.**

Blanche Pope Elementary School – A representative or report was not available.

Hawaii Job Corps – Julie Dugan reported Hawaii Job Corps students participated in the clean up on Sunday, September 11, 2011 in Waimanalo. Hawaii Job Corps' goal is to prepare 16 to 24 year olds for the work force. There are seven different career tracks. Those graduating have the option to continue school through college. There are 20 students currently in college. For those interested in a tour of the Hawaii Job Corps contact Ms. Dugan at 259-6051.

*Note that the correct name for the park discussed is Waimanalo Bay Beach Park

Hawaii Health Initiative – Nutritionist Carolyn Mather reported the following:

- Bus for Children – After making numerous phone calls, a bus was not been located to transport children to visit an active farm. This idea was tabled.
- Bucket Garden – Bucket garden classes are held every Saturday during the month of September, 2011 from 1:00 p.m. to 4:00 p.m. A Food Systems film will be viewed followed by a mini bucket garden workshop. Bucket garden workshop will also be held on Sundays, October 9th and 23rd 2011.
- Aquaponics – The aquaponics contract is completed. Notices will be posted. Twenty families will be chosen to receive aquaponics training. The applicant would then be committed to teach another family about aquaponics.
- Next Meeting – The next HHI meeting will be Thursday, September 29, 2011 at 6:30 p.m. at Waimanalo District Park.

Hui Malama O Ke Kai – A report was submitted.

Military Report:

Marine Corps Base (MCB) Hawaii – Major Allan Crouch reported the following:

- September 23rd to 24th – Marines hosting Kalaheo High School JROTC aboard the base for training and leadership camp.
- September 24th – Marines supporting the Aloha Festival Floral Parade with color guard and marching unit.
- Deployments – Include 1st Battalion, 3rd Marine Regiment; 1st Battalion, 12th Marine Regiment; and Heavy Helicopter Squadron 363; HMH-463 is expected to return home this week from Afghanistan.
- Career Opportunities – For more information about career opportunities at MCB Hawaii, visit the MCCS website at www.mccshawaii.com or call 254-7632.
- Pegasus – HMH-463 "Pegasus" welcomed four new CH-53E Super Stallions last week to replace their CH-53D Sea Stallions.
- Training Facility – The MCTAB MOUT enhancements are nearly complete; the training facility is expected to open for training next month.
- Noise Complaints – For noise complaints call the PAO at 257-8832 as soon as possible with the date and time of the incident. If leaving a message, please consider leaving your name and phone number for a reply.
- Year 2012 – RIMPAC; next fall is the Kaneohe Bay Air Show will include the U.S. Navy's Blue Angels.

Bellows Air Force Station – Environmental Program Manager Craig Gorshe reported the next Makahiki Meeting is Thursday, September 15, 2011 at 6:30 p.m. at the Waimanalo District Park. Topics for discussion include the Royal Order of Kamehameha; youth group participation, detailing keiki games, and activities for the disabled.

- Makahiki – Member Kalama stated a fundraiser event is needed to cover the cost of equipment and food for the three-day event. The cost was estimated at $25.00 per child.

Elected Officials:

Senator Pohai Ryan – Senator Ryan provided members with a report and highlighted the following:

- Trade Show – Senator Ryan attended the vendor trade show of the Asian Pacific Region.
- MOUT – Senator Ryan toured the MOUT training facility on Bellows Air Force Base.
- Bill Development Workshop – Encouraged residents to contact Senator Ryan's office for assistance with drafting a bill.
- Loan Recipients – Senator Ryan visited two recipients of the Office of Hawaiian Affairs loan: The Lavender Farm and Maui Paddlers.
- Lahainaluna School – Lahainaluna's historical value was almost shut down by the Department of Education. The school would be a good site for an agriculture curriculum
- Moku`ula Historic Site – The Moku`ula site is located in the middle of Lahaina. Efforts from private funders are working to preserve Moku`ula.
- Nu`u Reserve – Nu`u Reserve is a legacy land awardee located near Kipahulu, Maui. Senator Ryan was concerned about the public access to that site.

- Acknowledgements – Senator Ryan recognized Alika Winchester and Aunty Kanoe Crowell who recently passed.

Representative Chris Lee – Representative Lee provided members with a report and highlighted the following:

- Waimanalo Regional Park* – Rep. Lee commented that there will be many discussions during the planning phase. Also, that the community should ask for more and then end up with a fraction of what you asked for.
- Bill Drafting Workshop – Rep. Lee expressed his appreciation to Senator Ryan for the Bill Drafting Workshop.
- Community Clean Up – Also expressed appreciation to all the volunteers who participated in the community clean up which included furniture and automobile parts. Volunteers included Board member Shannon Alivado, Hawaii Job Corps, Hawaii Bicycle League, and others.
- Women Issues – Rep. Lee is working on gender inequity in the work force community. Editorials regarding gender inequity were provided.

ADJOURNMENT: The meeting adjourned at 9:25 p.m.

Submitted By: Gloria J.P. Gaines, Neighborhood Assistant

Reviewed By: Wilson Kekoa Ho, Chair

*Note that the correct name for the park discussed is Waimanalo Bay Beach Park

Catie Cullison

From: John M Knox <jmk@lava.net>
Sent: Monday, September 12, 2011 10:31 AM
To: Catie Cullison
Subject: Re: Waimanalo Bay Beach Park - Draft Advisory Group Notes

Catie, looks like you guys have been doing a great job. I wonder about one small thing, though I'm sure it must have been discussed: Right by the highway seems a bit of an odd place for a "picnic area." Is there some intended linkage with the adjacent softball field? Thanks, JMK

On Wed, Sep 7, 2011 at 3:34 PM, Catie Cullison <ccullison@pbrhawaii.com> wrote:

Aloha Waimanalo Community Representatives,

Attached please find draft notes and an updated concept plan from the Waimanalo Bay Beach Park Community Advisory Group Meeting #3. We are sending the draft notes out to the Advisory Group and those who have expressed interest in the project so that we can also inform you that the project will be presented at the next Waimanalo Neighborhood Board meeting, Monday, September 12th, 7:30 PM at the Waimanalo Library.

If you have any questions or concerns, please feel free to contact me (contact info below) or Stan Duncan at PBR Hawaii.

Thank you for your ongoing dedication to the community,

Catie

Catie Cullison, AICP

Project Manager/Planner

PBR HAWAII

Land Planning | Landscape Architecture

Environmental Planning | Land Use Entitlements

Catie Cullison

From: Aylett, John <jaylett@honolulu.gov>
Sent: Monday, September 19, 2011 10:05 AM
To: Catie Cullison
Subject: Waimanalo Bay Beach Park Master Plan comment
Attachments: Waimanalo Bay Beach Park Master Plan IBID.pdf

Good Morning Catie,

I sit on the Board of Directors of the Waimanalo Health Center where I attended a meeting this weekend. A resident Kupuna of Waimanalo asked to see the plan and I had one in my brief case. Attached please find the PDF of her markup.

The unifying comment was the lack of sufficient parking. One question was whether or not the large group gathering/ camping area could hold the Waimanalo Fair. Another was about staging and starting the Christmas Parade here and ending it in the Beach Park. But I think that the real pregnant idea here is the Dog Park adjacent to the softball field. It's an opportunity to partner with a local non-profit to create and maintain the dog park and just another way to get the community to take ownership of this project.

Thank You,

Keoni Aylett
Camping Specialist
City & County of Honolulu
Department of Parks & Recreation
808-768-3440


SITE AREA SUMMARY
Beach Recreation: ± 24 Acres
Sports Recreation: ± 17 Acres
Fitness Recreation: ± 16 Acres
Large Group Gathering: ± 2 Acres
Maintenance Area: ± 2 Acre
Roads / Parking & Misc: ± 14 Acres
Total Site: ± 75 Acres
PARKING SUMMARY
Existing Parking: 182 Stalls
New Parking: 288 Stalls
Total Parking: 470 Stalls
Campground
MULTI PURPOSE FIELD
FAMILY CAMPSITE (30'x60')
CAMPING (122 CAMPSITES)
PICNIC ACTIVITIES, ie. - VOLLEYBALL - HORSESHOES
NEW COMFORT STATION #1 W/ SHOWERS
NEW COMFORT STATION #3
NEW COMFORT STATION #2
OPEN PLAY AREA
NATURAL PLAY STRUCTURE
EXISTING CARETAKER'S RESIDENCE
PICNIC ACTIVITIES
OPEN PLAY AREA
EXIST. BEACH ACCESS
LARGE GROUP CAMPSITE (90'x100')
PICNIC AREA
LARGE GROUP CAMPING
FITNESS STATION (TYP. SYMBOL)
LARGE GROUP GATHERING / CAMPING
PAVILION
CAMPSITE
PARK MAINTENANCE AREA
EXISTING TREES TO REMAIN
COMFORT STATION
WALKING TRAILS - JOGGING - FITNESS COURSE
NEW PARKING
GATE
ALOLO ST.
COMFORT STATION
CHILDREN'S PLAY STRUCTURE
GRAVEL ROAD
MULTI PURPOSE FIELDS - SOFTBALL - SOCCER - OPEN SPACE
SOCCER
FOOTBALL
EMERGENCY EXIT ONLY TO TINKER ROAD
SOFTBALL / LITTLE LEAGUE (WITH POSSIBLE FIELD LIGHTING)
BASEBALL
PARK ENTRY / SIGN WALL PEDESTRIAN & BIKE ACCESS ONLY
PARKING IN ORIGINAL OPEN PICNIC AREA
SECURITY FENCE, TYP.
TINKER ROAD
KALANIANAOLE HIGHWAY
EXISTING BUS STOP
PASTURE FENCE
PEDESTRIAN / BIKE PATH
EXISTING BUS STOP
PARK ENTRY GATE & SIGNAGE WALLS
PEDESTRIAN / BIKE PATH
WAIMANALO WASTEWATER TREATMENT PLANT
BELLOWS ENTRY / EXIT
Waimānalo Bay Beach Park
Park Master Plan August 31, 2011
NORTH
0 40 160
20 80
PBR HAWAII

Appendix B:

Communications with Environmental Services

Catie Cullison

From: Sheldon T. Yamasato <sty@akinaka.com>
Sent: Thursday, July 15, 2010 3:13 PM
To: Stan Duncan; Catie Fernandez
Cc: CLJ
Subject: FW: Waimanalo Wastewater Treatment Plant Re-use Water
Attachments: Revisions: RE: Waimanalo WWTP Reuse 2010 Status

Stan/Catie:

For your information.

Sheldon

From: Nagamine, David [mailto:dnagamine@honolulu.gov]
Sent: Thursday, July 15, 2010 2:51 PM
To: Sheldon T. Yamasato
Subject: RE: Waimanalo Wastewater Treatment Plant Re-use Water

Sheldon, please see the attached Email to BWS. It gives the latest information on this project. Dave

---

From: Sheldon T. Yamasato [mailto:sty@akinaka.com]
Sent: Wednesday, July 14, 2010 8:59 AM
To: Nagamine, David
Cc: CLJ; JCT; Stan Duncan; 'Catie Fernandez'; 'KCK'
Subject: Waimanalo Wastewater Treatment Plant Re-use Water

David:

Akinaka & Associates, Ltd. is the civil sub-consultant to PBR Hawaii for the City Dept. of Parks & Recreation's Master Plan of Waimanalo Bay Beach Park.

We were recently made aware of the possibility of using re-use water from the Waimanalo Wastewater Treatment Plant and seek more information to determine the feasibility of its use. It is estimated that roughly 180,000 to 240,000 gallons per day could be needed at full build-out (40 acres @ 4500 to 6000 gallons/acre-day).

Please let me know if you have pertinent information that could be share with our planning team at this time. Thank you for your help.

Sheldon Yamasato
President
Akinaka & Associates, Ltd.

Catie Cullison

From: Nagamine, David <dnagamine@honolulu.gov>
Sent: Friday, July 02, 2010 8:27 AM
To: GEORGE KUO; Neal.D.Fujii@hawaii.gov; Bruce Tsuchida; Andrew Choy; Bruce Tsuchida; BARRY USAGAWA; Silva, Dennis C Jr; Jeremy.L.Kimura@hawaii.gov; Lenore.N.Ohye@hawaii.gov; Rosalyn; brian.k.kau@hawaii.gov; Yoshimoto, Milton POH
Cc: Houghton, Tim; Pobuk, Jack; Ng, Earl; Adachi, Athan K
Subject: Revisions: RE: Waimanalo WWTP Reuse 2010 Status

All, I've added some details. I'm also sending this Email to Milton Yoshimoto at COE. Dave

---

From: GEORGE KUO [mailto:GKUO@hbws.org]
Sent: Thursday, July 01, 2010 3:22 PM
To: 'Neal.D.Fujii@hawaii.gov'; Bruce Tsuchida; Andrew Choy; Bruce Tsuchida; BARRY USAGAWA; Silva, Dennis C Jr; Jeremy.L.Kimura@hawaii.gov; Lenore.N.Ohye@hawaii.gov; Rosalyn; brian.k.kau@hawaii.gov
Cc: Nagamine, David
Subject: RE: Waimanalo WWTP Reuse 2010 Status

Aloha Kakou,

FYI – David Nagamine's corrected new telephone no. is 768-3472.
I talked today with Dave on the latest status of this.

Dave Nagamine, ENV, ph. 768-3472
Waimanalo WWTP Reuse Project Coordinator

July 2010 status:

- Plant ownership still in the process of being transferred to City ENV from State DLNR – this is almost done.
- Army COE planning study ($300 k - $150,000 Federal + $150,000 City) is being scoped to address full R-1 compliance – probably just need UV disinfection, and maybe more storage and EIS update. Study NTP Dec. 2010, 1 yr study length.
- Study also to do a market use survey for customer acceptance.
- Previous 2006 ENV survey indicated most customers were willing to accept R-1 within reasonable price - DOA was contacted and was favorable to R-1, but the survey did not contact the farmers served by DOA. Brian Kau, DOA at our June 29, 2010 meeting indicated these food crop farmers do not want R-1 because of unsanitary perception from their crop's customers, causing loss of business . Also as an alternative, a separate R-1 system was proposed only for serving landscaping and ornamental plant nurseries, not for food crop farms.

Current WWTP Capacity - 1.1 mgd avg day, Existing Average flow – 0.7 mgd

Mahalo nui loa,
George Kuo
ph. 748 - 5941

-----Original Message-----
From: Neal.D.Fujii@hawaii.gov [mailto:Neal.D.Fujii@hawaii.gov]
Sent: Wednesday, June 30, 2010 3:51 PM
To: Bruce Tsuchida

Cc: Andrew Choy; Bruce Tsuchida; BARRY USAGAWA; dsilva3@honolulu.gov; GEORGE KUO; Jeremy.L.Kimura@hawaii.gov; Lenore.N.Ohye@hawaii.gov; Rosalyn; brian.k.kau@hawaii.gov
Subject: Waimanalo WWTP contact info

The person I talked to regarding the Waimanalo WWTP and any reuse opportunities is David Nagamine. He is an engineer with C&C Honolulu Department of Environmental Services. ENV phone number is 692-5206.

Mr. Nagamine is working on a project with the U.S. Army Corps of Engineers to investigate opportunities to reuse the effluent from the Waimanalo WWTP. The project was still in the scoping stage when I spoke to him about a month or two ago.

Thanks,
Neal Fujii
State Drought and Water Conservation Coordinator
Commission on Water Resource Management
Hawaii Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809
(808) 587-0264
(808) 587-0219 fax
neal.d.fujii@hawaii.gov
http://hawaii.gov/dlnr/drought/

Appendix C:

Communications with USAF Real Estate

Catie Cullison

From: Livingston, Kelly P YC02 USAF PACAF 718 CES/CEA <kelly.livingston@kadena.af.mil>
Sent: Sunday, November 07, 2010 3:43 PM
To: Catie Fernandez
Cc: Dao, Nhut L Civ USAF PACAF 18 FSS, Det 2/CD; Stan Duncan; Osborne, Jimi R GS12 USAF PACAF 718 CES/CEAO; Hildebrand, Terry
Subject: RE: Waimanalo Bay Beach Park - Emergency Access - Tinker Road

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Red Category

Catie,

After review of the proposal, we believe the access can be granted for the emergency access road. However, we do have some concerns that will need to be addressed.

1) The road must be fenced off completely, to include foot traffic, when not in use. We have very limited lighting in that area and if people use that as a footpath at night the chances of an accident will drastically increase.

2) That road is also the primary evacuation route for Bellows. In the event of a Tsunami warning, we must be able to evacuate 200 vehicles through that intersection. We ask that the planners evaluate that requirement, in conjunctions with the estimated traffic coming from WBBP, to ensure the area can be safely evacuated.

Prior to actual construction (at least 8 months, if possible), the County will need to formally request a Real Estate permit for access to the area. As the planning process moves forward, we are available to assist with that permit.

Please let us know if you have any questions.

Thanks,
Kelly

Kelly Livingston
718 CES/CEA
634-0057

-----Original Message-----
From: Catie Fernandez [mailto:cfernandez@pbrhawaii.com]
Sent: Tuesday, October 26, 2010 3:35 AM
To: Osborne, Jimi R GS12 USAF PACAF 718 CES/CEAO

Cc: Livingston, Kelly P YC02 USAF PACAF 718 CES/CEA; Dao, Nhut L Civ USAF PACAF 18 FSS, Det 2/CD; Stan Duncan; Hildebrand, Terry
Subject: Waimanalo Bay Beach Park - Emergency Access - Tinker Road

Aloha,

I attempted to email the following request to Mr. Jimi Osborne on Friday. The email was returned undeliverable. I'm resending and copying other Air Force staff who have been copied on email exchanges related to this project. Any help to ensure that our request is considered and by Mr. Osborne or other appropriate staff is appreciated.

Included with this email is the City and County's authorization to proceed on their behalf. Attached are additional background emails.

Thank you for any assistance that can be provided in ensuring that these two neighboring facilities are well coordinated with each other.

~Catie

Mr. Osborne,

The purpose of this email is to follow up on previous communications from myself and my client, the City and County of Honolulu with regard to access for Waimänalo Bay Beach Park. We are preparing for a public meeting mid-November and it would be helpful to have a better understanding of whether or not an emergency access to Tinker Road is a possibility. No pressure for an on-the-spot decision, but if someone from your office could communicate with us to discuss access it would be most appreciated. Please feel free to call or email me any time for more information or if I can answer any questions.

Many thanks for your consideration,

Catie

Catie Fernandez

Planner/Project Manager

PBR HAWAII & Associates, Inc.

1001 Bishop Street, Suite 650

Honolulu, HI 96813

Phone: (808) 521-5631

Fax: (808)523-1402

www.pbrhawaii.com

P Please consider the environment before printing this email.

_____

From: Hildebrand, Terry [mailto:thildebrand@honolulu.gov]
Sent: Tuesday, September 14, 2010 3:05 PM
To: jimi.osborne@kadena.af.mil
Cc: Lau, Clifford; Catie Fernandez; Stan Duncan
Subject: re: Waimanalo Bay Beach Park - Emergency Access - Tinker Road
Importance: Low

Thank you for your earlier communication regarding the Waimanalo Bay Beach

Park Master Plan with Catie Fernandez who works for our Planning consultant, PBR Hawaii. This email is sent to confirm PBR Hawaii represents the City & County of Honolulu regarding the Waimanalo Bay Beach Park.

As you know, the park is immediately adjacent to the

Bellows Air Force Station in Waimanalo, Island of O'ahu, Hawai'i.

PBR Hawai'i is under contract with the City and County of Honolulu to prepare a Master Plan and Environmental Assessment for the park. An important component to the Master Plan is consideration of ingress and egress to the park. Presently, the 77-acre park is serviced by one vehicular access point at Kalaniana'ole Highway, south of the Bellows Main (south) Gate on Tinker Road. As we look at the long-term use and development of the site, we would like to ensure adequate ingress and egress for the park, particularly in the event of an emergency, such as tsunami evacuation, fire or vehicle accident on the highway. Therefore, we would like to propose that the Master Plan include an emergency access via Tinker Road, outside the Air Force Station gate. In reviewing the Bellows Station's Master Plan, it appears that the Air Force intends to move the gate farther up (away from the highway), thus easing potential conflicts should the emergency access be needed.

Please see the attached park concept plans, both of which show the proposed emergency access. We would like to propose that this access be granted by easement and again, be used in event of emergency only. In order to limit unauthorized access, design considerations could include surfacing with grass-crete or other non-paved surface capable of supporting fire apparatus and installation of a gate.

If you require any additional information in order to forward this request on, please feel free to call or email me at the contact information below.

Many thanks for your consideration,

Terry L. Hildebrand, Planner

City & County of Honolulu
Department of Design and Construction
Facilities Division, Planning Branch
650 S. King Street, 9th Floor
Honolulu, Hawaii 96813

Ph. (808) 768-8401
Fax. (808) 768-4767

e-mail: thildebrand@honolulu.gov

Appendix D:

Pre-Consultation Comments and Responses

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF:

May 21, 2010

Regulatory Branch

File No. POH-2010-00117

PBR Hawaii
ASB Tower, Suite 650
1001 Bishop Street
Attn: Ms. Catie Fernandez
Honolulu, HI 96813

Dear Ms. Fernandez:

We have received your request for the Department of the Army to review and comment on the proposed Waimānalo Bay Beach Park Master Plan, Island of O'ahu, Hawai'i. We have assigned the project the reference number POH-2010-00117. Please cite the reference number in any correspondence with us concerning this project. We completed our review of the submitted document and have the following comments:

Section 10 of the Rivers and Harbors Act (Section 10) of 1899 requires that a Department of the Army (DA) permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to undertaking any construction, dredging, and other activities occurring in, over, or under navigable waters of the U.S. The line of jurisdiction extends to the Mean High Water Mark for tidal waters. Section 404 of the Clean Water Act (Section 404) of 1972 requires that a DA permit be obtained for the discharge (placement) of dredge and/or fill material into waters of the U.S., including wetlands. The line of jurisdiction extends to the Mean Higher High Water Mark for tidal waters, the Ordinary High Water Mark for non-tidal waters, and the approved delineated boundary for wetlands.

We recommend you conduct an aquatic resource inventory of the project site prior to designing any new facilities. The inventory should record any drainage features, streams, ditches, gulches, wetlands, etc., since these features may be jurisdictional waterbodies subject to Section 10 and/or Section 404 regulations, (Waimānalo Bay is a jurisdictional waterbody subject to both Section 10 and 404). Wetland delineations must be conducted in accordance with the Corps of Engineers 1987 Wetland Delineation Manual. Information regarding the physical, chemical, and biological characteristics of each aquatic resource should also be documented.

Once an aquatic resource inventory is conducted, the landowner should submit a request to our office for a jurisdictional determination. Note that regulated waterbodies may be permanent, temporary, or ephemeral and may be natural, human-altered, or human-made. Only the Corps has authority to determine if a waterbody is jurisdictional. The Corps can then determine what, if any, regulations may apply to potential work within jurisdictional waterbodies. This information can greatly assist in the design phase of the project as well as any pre-application meetings with our agency if impacts to jurisdictional waters are proposed.

Any regulated impacts to jurisdictional aquatic resources will require authorization from our office prior to commencement of the activity(ies). The applicant will need to submit an application and drawings as outlined on our website (www.poh.usace.army.mil). IN accordance with our regulations, impacts to aquatic resources must be avoided and minimized to the maximum extent practicable. Further, any unavoidable impacts that result in lost functions and services of jurisdictional aquatic resources may require compensatory mitigation. You may want to include in your EA a discussion of lost aquatic resource functions and services as well as proposed mitigation measures if applicable.

Any regulated project activity will also need to comply with Section 7 of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and Section 106 of the National Historic Preservation Act. Additional information may be required from the applicant to ensure compliance with these laws. The applicant will also need to apply for and receive Section 401 Water Quality Certification and/or Coastal Zone Management Consistency Determination from the State of Hawai'i prior to the Corps authorizing any work regulated under Section 10 and/or Section 404.

Thank you for contacting us regarding this project and providing us with the opportunity to comment. Should you have any questions regarding our Regulatory Program or the application process, please contact Ms. Amy Klein at (808) 438-7023 or via email at Amy.S.Klein@usace.army.mil.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

PBR HAWAII
& ASSOCIATES, INC.

March 13, 2012

George P. Young, P.E.
Chief, Regulatory Branch
US Army Corps of Engineers, Honolulu District
Ft. Shafter, HI 96858-5440

SUBJECT: FILE NO. POH-2010-00117 - ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Young,

Thank you for your letter dated May 21, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Army Corps Regulatory Branch, describing the requirements of Section 10 of the Rivers and Harbors Act prior to construction, dredging and other activities occurring in, over or under navigable waters of the U.S., as well as the requirements for a Department of the Army permit for discharge of dredge or fill material into waters of the U.S., including wetlands.

Additionally we acknowledge your recommendation for an aquatic resource inventory to document drainages, streams, ditches, gulches, and wetlands. A review of the National Wetlands Inventory as well as the National Hydrography Dataset and the Hawai'i Department of Land and Natural Resources, Division of Aquatic Resources (DAR) streams layers as well as a review of the publication, "Atlas of Hawaiian Watersheds and Their Aquatic Resources", indicates that no wetlands, streams or gulches are present on the site. No aquatic resources are known to be on site and no impacts to aquatic resources are proposed.

We also acknowledge the information your letter provides regarding Section 7 of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, Section 106 of the National Historic Preservation Act, as well as information regarding Section 401 Water Quality Certification and/or Coastal Zone Management Consistency Determination should the Corps need to authorize any work regulated under Section 10 and/or Section 104. No work requiring Corps authorization is proposed with this master plan.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

O:\Job27\2780.01 Waimanalo Bay Beach Park MP\Draft EA\PreConsultation\PreConsultation Comments\Response Letters\USACOE response.doc

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
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KAPOLEI OFFICE
1001 Kamokila Boulevard
Kapolei Building, Suite 313
Kapolei, Hawai'i 96707-2005
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Fax: (808) 535-3163

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
2010-TA-0309

JUN 14 2010

Ms. Catie Fernandez
PBR Hawaii and Associates, Incorporated
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Subject: Preparation of an Environmental Assessment for Waimanalo Beach Park Master Plan, Oahu

Dear Ms. Fernandez:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) receipt of your letter dated May 13, 2010, in which you requested assistance regarding the preparation of a draft Environmental Assessment (DEA) for the proposed Master Plan for Waimanalo Beach Park on the island of Oahu. The purpose of the proposed plan is to identify and propose upgrades to the beach park to meet the needs of local residents. The park is approximately 75 acres adjacent to Waimanalo Bay [TMK (1) 4-1-015:015]. We received your request on May 18, 2010.

We have reviewed the information you provided and pertinent information in our files pursuant to the Endangered Species Act of 1973 [16 U.S.C. 1531 *et seq.*; 87 Stat. 884], as amended (ESA); and the Migratory Bird Treaty Act of 1918 [16 U.S.C. 703 *et seq.*; 40 Stat. 755] as amended (MBTA), including data compiled by the Hawaii Biodiversity and Mapping Program. The federally endangered Hawaiian coot (*Fulica alai*), Hawaiian duck (*Anas wyvilliana*), Hawaiian moorhen (*Gallinula chloropus sandvicensis*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian hoary bat (*Lasiurus cinereus semotus*), endangered hawksbill turtle (*Eretmochelys imbricata*), and threatened green turtle (*Chelonia mydas*) have been observed near the proposed project area. The federally threatened Newell's shearwater (*Puffinus auricularis newelli*) and MBTA-protected wedge-tailed shearwater (*P. pacificus*), are known to fly through the area. The DEA should address all potential impacts to these federally-protected species.

More specifically, the DEA should address potential impacts to sensitive and listed species and native ecosystems discussed below and include measures to minimize project impacts to these resources.

- Preventing wetland loss, managing existing wetland habitat, and predator control at primary nesting sites are necessary actions to increase Hawaiian waterbird populations.

Any wetlands within the beach park need to be identified, protected and managed. Protection of a wetland implies that the wetland is secure from development and habitat degradation. To accomplish these tasks we recommend the following: a written management plan; address and secure any fresh water sources; vegetation management; predator control; waterbird population monitoring; signage precluding feeding of feral and hybrid ducks; minimized human disturbance; and monitoring and control of environmental contaminants.

- Hawaiian hoary bats roost in both exotic and native woody vegetation and leave their young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the bat breeding season (April to August) there is a risk that young bats could inadvertently be harmed or killed. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 4.6 meters (15 feet) tall should not be removed or trimmed during the bat birthing and pup rearing season (April 15 through August 15).

- The proposed project includes Waimanalo Bay which has documented nesting habitat for the endangered hawksbill turtle and threatened green turtle, collectively referred to as sea turtles. Sea turtles are susceptible to artificial lighting that can disorient turtles away from the ocean. Sea turtles come ashore to nest on beaches from May through September, peaking in June and July. Optimal nesting habitat is a dark beach free of barriers that restrict their movement. Turtle nests and hatchlings are susceptible to human disturbance and predation by feral mammals such as small Indian mongoose (*Herpestes auropunctatus*), cats (*Felis catus*), dogs (*Canis familiaris*), and pigs (*Sus scrofa*). We recommend installation of shielded lighting around the shoreline development. This will reduce the direct and ambient lighting of the beach habitats within and adjacent to the project site. Effective light shields should be completely opaque, sufficiently large, and positioned so that light from the shielded source does not reach the beach. The DEA should indentify other avoidance and minimization measures for nesting sea turtles in the vicinity of your project, particularly those related to human disturbance.

- Outdoor lighting, such as street lights, can adversely impact listed and migratory seabird species found in the vicinity of the Waimanalo Beach Park. Seabirds fly at night and are attracted to artificially-lighted areas which can result in disorientation and subsequent fallout due to exhaustion or collision with objects such as utility lines, guy wires, and towers that protrude above the vegetation layer. Once grounded, they are vulnerable to predators or often struck by vehicles along roadways. Wedge-tailed shearwater nesting colonies are located nearby on offshore islets and every year many young shearwaters are downed and killed along Kalanianaole Highway in Waimanalo. Any increase in the use of night-time lighting such as ball fields or parking lot lights, particularly during each year's peak fallout period (September 15 through December 15), could result in additional seabird injury or mortality. Impacts to seabirds can be minimized by shielding outdoor lights associated with the project to the maximum extent possible, eliminating night-time construction, and providing all project staff and residents with information about seabird fallout. All lights, including street lights, should be shielded so the bulb can only be seen from below and use the lowest wattage bulbs possible. We

recommend adding signage or a kiosk to educate park-goers regarding the seabird fallout issue and to let people know that downed birds can be taken to Sea Life Park for rehabilitation. The DEA should address all potential impacts to seabirds and outline conservation measures to minimize these impacts.

- We recommend that Master Plan develop a "shoreline access management plan" and should include: prohibiting free movement of pets in beach park; feral animal and predator control; and signs should be posted that discourage feeding feral animals in or near beach habitats. In addition, we recommend a litter control program provide sturdy animal-proof garbage containers to prevent the invasion of house mice, rats, mongoose, and feral cats to the beach parks and shoreline development areas.

We hope this information assists you in your development of a DEA. If you have questions, please contact Aaron Nadig, Fish and Wildlife Biologist (phone: 808-792-9400; fax: 808-792-9581).

Sincerely,

for Loyal Mehrhoff
Field Supervisor

PBR HAWAII
& ASSOCIATES, INC.

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Fax: (808) 535-3163

March 13, 2012

Dr. Loyal Mehrhoff
Field Supervisor
USFWS-Pacific Islands Office
300 Ala Moana Blvd., Room 3-122, Box 50088
Honolulu, HI 96850

SUBJECT: 2010-TA-0309 - ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Dr. Mehrhoff,

Thank you for your letter dated June 14, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the US Fish and Wildlife Service, identifying the federally-protected species that are known to use the Waimānalo area.

Additionally we acknowledge the measures described in your letter to minimize project impacts to these resources. All minimization measures proposed in your letter have been recommended by the master plan and are described in the Draft Environmental Assessment.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

O:\Job27\2780.01 Waimanalo Bay Beach Park MP\Draft EA\PreConsultation\PreConsultation Comments\Response Letters\USFWS response.doc

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 14, 2010

PBR Hawaii & Associates, Inc.
1001 Bishop Street Suite 650
Honolulu, Hawaii 96813

Attention: Ms. Catie Fernandez, Planner

Ladies and Gentlemen:

Subject: Pre-Consultation for an Environmental Assessment for Waimanalo Bay Beach Park Master Plan

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Division of Aquatic Resources, Division of Boating & Ocean Recreation, Land Division-Oahu District, Division of State Parks, Engineering Division, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Historic Preservation will be submitting comments through a separate letter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Morris M. Atta
Acting Administrator

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 19, 2010

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
x Div. of Boating & Ocean Recreation
x Engineering Division
___Div. of Forestry & Wildlife
x Div. of State Parks
___Commission on Water Resource Management
x ~~Office of Conservation~~ & Coastal Lands
x Land Division –Oahu District

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Consultation for an Environmental Assessment for Waimanalo Bay Beach Park Master Plan
LOCATION: Island of Oahu
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the City & County of Honolulu

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by June 11, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: T Choo
Date: MAY 21ST, 2010

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

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STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 18, 2010

Ms. Catie Fernandez, Planner
PBR Hawaii and Associates
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Fernandez:

SUBJECT: Master Planning for Waimanalo Bay Beach Park, O'ahu

Thank you for your letter of May 13, 2010 regarding the preparation of a master plan for Waimānalo Bay Beach Park. As you may be aware, this park was under the jurisdiction of State Parks until being transferred to the City and County of Honolulu in 1992. All of our files for this park were transferred to the City and the archaeological reports prepared by State Parks for this park were shared with PBR about a year ago. Of special concern are the documented burial sites and the designated reinterment site within the park boundaries.

The other consideration is that a Land and Water Conservation Fund (LWCF) grant was used by State Parks in 1978 for park development. The entire park is under 6(f) protection and dedicated to outdoor recreation. The 6(f) requirements of this federal grant program administered by the National Park Service should be addressed in your planning.

Please contact Martha Yent at 587-0287 or Martha.E.Yent@hawaii.gov if you need us to provide further information regarding the cultural resources of the park or if you have any questions regarding the LWCF Program.

Very truly yours,

DANIEL S. QUINN
State Parks Administrator

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 19, 2010

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
x Div. of Boating & Ocean Recreation
x Engineering Division
___Div. of Forestry & Wildlife
x Div. of State Parks
___Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division –Oahu District

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LAND DIVISION
2010 MAY 28 P 3:11
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Consultation for an Environmental Assessment for Waimanalo Bay Beach Park Master Plan
LOCATION: Island of Oahu
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the City & County of Honolulu

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by June 11, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

(X) We have no objections.
( ) We have no comments.
( ) Comments are attached.

Signed: Edward R. Underwood
Date: 5/27/10

MAY28'10AM10:38BOR DLU

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
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STATE OF HAWAII
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HONOLULU, HAWAII 96809

May 19, 2010

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MAY 19 2010
AQUATIC RESOURCES

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
x Div. of Boating & Ocean Recreation
x Engineering Division
__ Div. of Forestry & Wildlife
x Div. of State Parks
__ Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division –Oahu District

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Consultation for an Environmental Assessment for Waimanalo Bay Beach Park Master Plan
LOCATION: Island of Oahu
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the City & County of Honolulu

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by June 11, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: Francis Oshiro
Date: 6-2-10

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

May 19, 2010

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
x Div. of Boating & Ocean Recreation
x Engineering Division
__ Div. of Forestry & Wildlife
x Div. of State Parks
__ Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division –Oahu District

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Consultation for an Environmental Assessment for Waimanalo Bay Beach Park Master Plan
LOCATION: Island of Oahu
APPLICANT: PBR Hawaii & Associates, Inc. on behalf of the City & County of Honolulu

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by June 11, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(X) Comments are attached.

Signed:
Date: 6/8/10

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

\

LD/CharleneUnoki
Ref.: PreConsultEAWaimanaloBeachParkMP
Oahu.773

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

(X) Please note that based on the map that you have provided the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zones X, XS, AE and VE. The Flood Insurance Program does not have any regulations for developments within Flood Zone X and XS, however, it does regulate developments within Zones AE and VE as indicated in bold letters below.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

(X) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

(X) Mr. Robert Sumitomo at (808) 768-8097 or Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.

( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

_____

( ) Other: _____

_____

Should you have any questions, please call Ms. Suzie S. Agraan of the Planning Branch at 587-0258.

Signed: _____
CARTY S. CHANG, ACTING CHIEF ENGINEER

Date: 6/8/10

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& ASSOCIATES, INC.

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March 13, 2012

Russell Tsuji, Administrator
Department of Land and Natural Resources
Land Division
PO Box 621
Honolulu, HI 96809

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Tsuji,

Thank you for your department's letter dated June 14, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from various divisions of the Department of Land and Natural Resources provided in your letter. We recognize that the Land Division-O'ahu District, Division of Boating & Ocean Recreation and Division of Aquatic Resources have no comment at this time.

Additionally we acknowledge the comments of the Division of State Parks that included: information pertaining to the transfer of the park in 1992; transfer of files to the City and transfer of archaeological reports to our office. We also acknowledge your comment that the park was developed with monies from the Land and Water Conservation Fund and that the entire park is under 6(f) protection dedicated to outdoor recreation. As such, the 6(f) protection requirements are discussed in the Draft Environmental Assessment.

We also acknowledge the comments from the Engineering Division identifying portions of the park are located within areas of Special Flood Hazard. To avoid hazards associated with flooding, no structural improvements are proposed within these areas.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

O:\Job27\2780.01 Waimanalo Bay Beach Park MP\Draft EA\PreConsultation\PreConsultation Comments\Response Letters\DLNR response.doc

NEIL ABERCROMBIE
GOVERNOR

JEFFREY CHANG
ACTING DIRECTOR

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

IN REPLY REFER TO:

STP 8.0304

December 9, 2010

Ms. Catie Fernandez
Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Fernandez:

Subject: Waimanalo Bay Beach Park Master Plan
Pre-Consultation for Draft Environmental Assessment (DEA)

Thank you for requesting the State Department of Transportation's (DOT) review of the subject City and County of Honolulu Project. DOT understands PBR Hawaii is in the process of preparing a master plan and DEA for the Waimanalo Bay Beach. The project involves upgrading the 74.76 acre park with additional facilities. Access to the park is from Kalanianaole Highway.

Given the project's location, the State highway facility, Kalanianaole Highway will be impacted. DOT offers the following comments:

1. A Traffic Assessment/Traffic Impact Analysis Report (TIAR) should be prepared in conjunction with the DEA and submitted for review and approval by the DOT Highways Division.

2. The TIAR should address existing and projected traffic including required mitigation measures as the existing park evolves to its full build out.

3. The DEA & TIAR should address pedestrian and bicycle use along Kalanianaole Highway.

DOT appreciates the opportunity to provide comments and requests four copies of the DEA when available for further review and comment. If there are any other questions, including the need to meet with DOT Highways Division staff, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at (808) 831-7976.

Very truly yours,

JEFFREY CHANG
Acting Director of Transportation

PBR HAWAII
& ASSOCIATES, INC.

March 13, 2012

Glenn Okimoto, Director
State of Hawai'i, Department of Transportation
869 Punchbowl St.
Honolulu, HI 96813-5097

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Okimoto,

Thank you for your department's letter dated December 9, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Department of Transportation, indicating that a Traffic Assessment/Traffic Impact Analysis Report (TIAR) should be prepared in conjunction with the Environmental Assessment and approval by DOT Highways Division. Additionally we acknowledge that the TIAR should address existing and projected traffic including mitigation measures as the park evolves to its full build out as well as pedestrian and bicycle use along Kalaniana'ole Highway.

In response to your comment letter, the City and County of Honolulu prepared a TIAR to assess the potential traffic impacts of the proposed master plan. Preparation of the TIAR included discussions with DOT staff to ascertain current traffic data. The data was incorporated into a model to estimate Level of Service and Delay for both existing and future traffic with full build-out of the project. Based on the analysis, the TIAR recommends additional turn lanes within the park access road to relieve egress congestion during the peak hour of traffic for this area. The TIAR is included as an appendix to the Draft Environmental Assessment, for your department's review.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

O:\Job27\2780.01 Waimanalo Bay Beach Park MP\Draft EA\PreConsultation\PreConsultation Comments\Response Letters\DOT response.doc

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LINDA LINGLE
GOVERNOR
STATE OF HAWAI'I

KAULANA H. R. PARK
CHAIRMAN
HAWAIIAN HOMES COMMISSION

ANITA S. WONG
DEPUTY TO THE CHAIRMAN

ROBERT J. HALL
EXECUTIVE ASSISTANT

STATE OF HAWAI'I
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAI'I 96805

June 9, 2010

PBR HAWAII & ASSOCIATES, INC.
Attn: Catie Fernandez, Planner
Honolulu Office
Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813-3484

Re: PRE-CONSULTATION FOR AN ENVIRONMENTAL ASSESSMENT
WAIAMANALO BAY BEACH PARK MASTER PLAN

Dear Ms. Fernandez:

Mahalo for the opportunity to provide comments on the subject Pre-Consultation for the Environmental Assessment for Waimanalo Bay Beach Park, located in the ahupua'a of Waimanalo, Ko'olaupoko Judicial District, O'ahu.

The Department of Hawaiian Home Lands (DHHL) administers beach land between Waimanalo Bay Beach Park and the Ka Iwi Shoreline Reserve. This includes Waimanalo Beach Park, Ka'inoa Beach Park, Kaupo Beach Park and Makapu'u Beach Park under management agreements with the City and County of Honolulu. Further, pursuant to Act 14 SpLH 1995, DHHL has first right to select properties designated as surplus to federal needs at the adjacent Bellows Air Force Station. DHHL's Waimanalo homestead community consists of 800 families who frequent the beach parks.

DHHL requests that notices of public meetings and draft documents be provided so that we can participate in this planning process.

If you have any questions, please contact Darrell Yagodich, Planning Program Manager, at (808) 620-9481.

Aloha and Mahalo,

Kaulana H.R. Park, Chairman
Hawaiian Homes Commission

Cc: Paul Richards, Waimanalo Hawaiian Homestead Association

PBR HAWAII
& ASSOCIATES, INC.

March 13, 2012

Mr. Darrell Yagodich
Administrator, Planning Office
State of Hawai'i, Department of Hawaiian Home Lands
PO Box 1879
Honolulu, HI 96805

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Yagodich,

Thank you for your letter dated June 9, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Department of Hawaiian Home Lands, identifying DHHL's administrative responsibilities for beach lands between Waimānalo Beach Park and the Ka Iwi Shoreline Reserve as well as DHHL's first rights to select surplus lands at the adjacent Bellows Air Force Station.

Additionally we acknowledge the many native Hawaiian families who live in DHHL's Waimānalo homesteads and hope that the master plan will provide greater recreational opportunities and experiences for the Waimānalo community as well as the population of greater O'ahu.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

HONOLULU OFFICE
1001 Bishop Street, Suite 650
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LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

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

In reply, please refer to:
DOH/CWB

05075CEC.10

May 28, 2010

Ms. Catie Fernandez
Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Ferdandez:

SUBJECT: PRE-CONSULTATION FOR AN ENVIRONMENTAL ASSESSMENT WAIMANALO BAY BEACH PARK MASTER PLAN

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated May 13, 2010, requesting early consultation comments for the subject project We have determined that the proposed Waimanalo Bay Beach Park Master Plan is a common plan of development. Therefore, for preparing a DEA, we recommend that you read our standard comments on our website at:
http://hawaii.gov/health/environmental/env-planning/landuse/landuse.html/CWB-standardcomment.pdf.

Please note that all discharges related to the project construction or operation activities, whether or not National Pollutant Discharge Elimination System permit coverage and/or Section 401 Water Quality Certification are required, must comply with the Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

Should you have any questions, please also visit our website at http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

ALEC WONG, P.E., CHIEF
Clean Water Branch

EC:ml

c: EPO #I-3189 [via email only]

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& ASSOCIATES, INC.

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March 13, 2012

Alec Wong
Chief, Clean Water Branch
State of Hawai'i, Department of Health
PO Box 3378
Honolulu, HI 96801-3378

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Wong,

Thank you for your department's letter dated May 28, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Department of Health, Clean Water Branch, indicating that all discharges related to the project construction or operation activities must comply with the department's Water Quality Standards. No discharges to the ocean or freshwater resources are proposed with the master plan.

Additionally we acknowledge the Clean Water Branch standard comments found on the Department of Health website. The City and County of Honolulu is prepared to implement best management practices for erosion control and sediment during construction activities at this site.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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LINDA LINGLE
GOVERNOR

KATHRYN S. MATAYOSHI
INTERIM SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

May 28, 2010

Ms. Catie Fernandez, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Fernandez:

Subject: Pre-Consultation for the Waimanalo Bay Beach Park Master Plan and Environmental Assessment, TMK (1) 4-1-15:015, Waimanalo, Koolaupoko, Oahu

The Department of Education (DOE) has reviewed your pre-consultation request for the Waimanalo Bay Beach Park Master Plan and Environmental Assessment (EA).

The DOE would like to see information in the EA regarding the proposed facilities that will be added to the park.

If you have any questions, please contact Jeremy Kwock of the Facilities Development Branch at 377-8301.

Sincerely,

Randolph G. Moore
Assistant Superintendent

RGM:jmb

PBR HAWAII
& ASSOCIATES, INC.

March 13, 2012

Randolph Moore
Asst. Superintendent, Office of School Facilities
PO Box 2360
Honolulu, HI 96804

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Moore,

Thank you for your department's letter dated May 28, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Department of Education, indicating that the department would like to see information in the Environmental Assessment regarding the proposed facilities that will be added to the park. The Draft Environmental Assessment will include a master plan map as well as a detailed description of the proposed park elements for your review and comment.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

May 27, 2010

Ms. Catie Fernandez, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Ms. Fernandez:

Subject: You Letter Dated May 13, 2010 Requesting Pre-Consultation Comments on the Draft Environmental Assessment for the Waimanalo Bay Beach Park Master Plan, TMK: 4-1-15: 15

Thank you for the opportunity to provide Pre-Consultation comments for the proposed Waimanalo Bay Beach Park Master Plan, TMK: 4-1-15: 15.

The existing water system is presently adequate to accommodate the domestic water requirements of the proposed development. However, please be advised that this information is based upon current data and, therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of your building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The developer should investigate the availability and use of non-potable water for irrigation requirements of the proposed Waimanalo Beach Park improvements. If non-potable 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 on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The proposed project is subject to Board of Water Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

PAUL S. KIKUCHI
Chief Financial Officer
Customer Care Division

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& ASSOCIATES, INC.

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March 13, 2012

Paul Kikuchi
CFO, Customer Care
Honolulu Board of Water Supply
630 S. Beretania Street
Honolulu, HI 96843

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Kikuchi,

Thank you for your letter dated May 27, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from The Board of Water Supply, indicating that at the time of the letter, the existing water system was adequate to accommodate the domestic water requirements of the park. As recommended in your letter, we have investigated the availability and use of non-potable water for irrigation of the park. The Master Plan recommends utilizing R-1 recycled water resource from the nearby Waimānalo Wastewater Treatment Plant when available for irrigation purposes. The project team has made initial contact with the Department of Environmental Services to make use of this resource as the master plan improvements are implemented.

Additionally we acknowledge the BWS Water System Facilities Charges and the requirements for Cross-Connection Control and Backflow Prevention devices.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
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Web site: www.honolulu.gov

MUFI HANNEMANN
MAYOR

CRAIG I. NISHIMURA, P.E.
DIRECTOR

COLLINS D. LAM, P.E.
DEPUTY DIRECTOR

June 4, 2010

Ms. Catie Fernandez
PBR Hawaii &Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Ms. Fernandez:

Subject: Pre- Consultation for an Environmental Assessment
Waimanalo Bay Beach Park Master Plan

Thank you for inviting us to review the Pre- Consultation Environmental Assessment Plan. The Department of Design and Construction does not have any comments to offer at this time.

Should you have any questions, please contact me at 768-8480.

Very truly yours,

Craig I. Nishimura, P.E.
Director

CN:pg(366639)

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March 13, 2012

Lori M.K. Kahikina, P.E., Director
City and County of Honolulu
Department of Design and Construction
650 S. King Street, 11th floor
Honolulu, HI 96813

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Ms. Kahikina,

Thank you for your Department's letter dated June 4, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge that the department had no comments at the time of Environmental Assessment pre-consultation request.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

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MAYOR

JEOFFREY S. CUDIAMAT, P.E.
DIRECTOR AND CHIEF ENGINEER

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 10-456

June 8, 2010

Ms. Catie Fernandez
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Fernandez:

Subject: Pre-Consultation for Environmental Assessment
Waimanalo Bay Beach Park Master Plan

Thank you for the opportunity to provide comments on the pre-consultation for the Master Plan and Environmental Assessment for proposed improvements within Waimanalo Bay Beach Park.

We have no comments to offer as the proposed improvements will be within property under the jurisdiction of the Department of Parks and Recreation and will have negligible impact on our facilities and operations.

For your information, Kalanianole Highway fronting the park property is under the maintenance jurisdiction of the State of Hawaii, Department of Transportation.

Since the proposed improvements will not affect our facilities or operations, we request the Department of Facility Maintenance be removed from the environmental assessment process for this project.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

Sincerely,

Jeoffrey Cudiamat

Jeoffrey S. Cudiamat, P.E.
Director and Chief Engineer

PBR HAWAII
& ASSOCIATES, INC.

March 13, 2012

Westley K.C. Chun, Director
1000 Uluohia St., Suite 215
Kapolei, HI 96707

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Dr. Chun,

Thank you for your department's letter dated June 8, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Department of Facility Maintenance, requesting that the Department be removed from the environmental assessment process for this project.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment and the document will be made available on line.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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CITY AND COUNTY OF HONOLULU
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MUFI HANNEMANN
MAYOR

DAVID K. TANOUE
DIRECTOR

ROBERT M. SUMITOMO
DEPUTY DIRECTOR

2010/ELOG-987(MH)

July 7, 2010

Ms. Catie Fernandez, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Fernandez:

Subject: Pre-Consultation for an Environmental Assessment – Waimanalo Bay Beach Park Master Plan

In response to your request for comments of May 13, 2010 regarding the preparation of the Draft Environmental Assessment (DEA) for the subject project, we have the following comments:

1. Our records show that the site has Land Water Conservation Fund (LWCF) Grant restrictions. Therefore, please consult with John Reid of the Department of Parks and Recreation for details.

2. The DEA should include a discussion of how the proposed project is consistent with the policies and objectives of the City and County of Honolulu's General Plan.

3. The DEA should also discuss how the proposed project is consistent with the Koolaupoko Sustainable Communities Plan (August 2000).

4. The DEA should further discuss the proposed project's relationship with the surrounding zoning.

5. The DEA should discuss the need for a Public Infrastructure Map amendment.

6. The DEA should include a complete listing of required permits and approvals.

7. The DEA should clarify the trigger for an Environmental Assessment under Chapter 343, Hawaii Revised Statutes. The DEA should discuss what is being proposed and what are the potential environmental impacts and mitigation of those impacts.

We look forward to reviewing and commenting on the DEA. Should you have any questions, please contact Matt Higashida of our staff at 768-8045.

Very truly yours,

David K. Tanoue, Director
Department of Planning and Permitting

DKT:js

cc: Office of Environmental Quality Control
Department of Parks and Recreation

WaimanaloBay BP MP.doc

PBR HAWAII
& ASSOCIATES, INC.

March 13, 2012

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David Tanoue, Director
City and County of Honolulu
Department of Planning & Permitting
650 S. King Street, 7th Floor
Honolulu, HI 96813

SUBJECT: (2010/ELOG-987(MH)) ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Tanoue,

Thank you for your department's letter dated July 7, 2010 regarding the Draft Environmental Assessment (EA) for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Department of Planning and Permitting, indicating Land and Water Conservation Fund restrictions. Protections under 6(f) for public outdoor recreation are discussed in the EA.

Additionally we acknowledge the City and County's General Plan, the Ko'olaupoko Sustainable Communities Plan and the surrounding zoning. The project's relationship and consistency with these documents is discussed in the EA. Additionally, along with a list of required permits and approvals the EA discusses the need for a Public Infrastructure Map Amendment. Last, the EA identifies the trigger for an Environmental Assessment under HRS 343 and potential impacts and proposed mitigation measures are discussed.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
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MUFI HANNEMANN
MAYOR

LESTER K. C. CHANG
DIRECTOR

RICHARD HARU
DEPUTY DIRECTOR

June 21, 2010

Ms. Catie Fernandez, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Ms. Fernandez:

Subject: PRE-CONSULTATION FOR AN ENVIRONMENTAL ASSESSMENT
WAIMANALO BAY BEACH PARK MASTER PLAN

Thank you for the opportunity to review and comment at the pre-consultation stage of the Draft Environmental Assessment for the Waimanalo Bay Beach Park Master Plan.

Department of Parks and Recreation staff participated in the May 21, 2010, Waimanalo Bay Beach Park Master Plan Community Advisory Group meeting #1 and have no additional comments to make at this time.

We are in receipt of PBR's summary of discussion points of this meeting however; we request a presentation by PBR to the Department of Parks and Recreation and the Department of Design and Construction of what potential park elements discussed at this meeting PBR intends to include in the master plan.

Should you have any questions, please contact Mr. John Reid, Planner, at 768-3017.

Sincerely,

LESTER K. C. CHANG
Director

LKCC:jr
(366645)

cc: Wilfred Ho, Department of Parks and Recreation
Terry Hildebrand, Department of Design and Construction

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March 13, 2012

Mr. Gary Cabato, Director
City and County of Honolulu
Department of Parks and Recreation
1000 Uluohia Street, Suite 309
Kapolei, HI 96707

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Cabato,

Thank you for the Department of Parks and Recreation (DPR) letter dated June 21, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from DPR, indicating a request for a presentation of the potential park elements to DPR staff. Presentations of park elements were provided to DPR management on July 21 and November 15, 2010. Upon change in administration, additional meetings with DPR occurred on May 12, 2011 and August 4, 2011. Additionally, DPR staff members have been in attendance at all Community Advisory Group and public meetings throughout the planning process. We appreciate the collaborative approach the Department of Parks and Recreation has taken with respect to project elements.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
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DIRECTOR

SHARON ANN THOM
DEPUTY DIRECTOR

KENNETH TORU HAMAYASU
DEPUTY DIRECTOR

TP5/10-366712R

June 9, 2010

Ms. Catie Fernandez
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Fernandez:

Subject: Pre-Consultation for Waimanalo Bay Beach Park Master Plan

This responds to your May 13, 2010, letter requesting consultation and comments on the preparation of an Environmental Assessment (EA) for the subject project.

We request that the EA include a Traffic Impact Assessment Report (TIAR). The TIAR should discuss the impacts of the proposed project, including short-term construction impacts on surrounding City streets and prescribe appropriate mitigation measures to alleviate project traffic impacts.

Your EA should include a description of Public Transit that serves the area, as well as the impact of your project on Public Transit during construction and as a result of the completed project. Basic information is available on our websites: www.thebus.org and www.honolulu.gov/dts. For more details, you may contact our staff at 768-8370.

This project may affect bus routes, bus stops, and paratransit operations. Construction notes should include a paragraph that states: "The Contractor will notify the Department of Transportation Services, Public Transit Division at 768-8396 and Oahu Transit Services, Inc. (bus operations: 848-4578 or 848-6016 and paratransit operations: 454-5041 or 454-5020) of the scope of work, location, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two weeks prior to construction."

Thank you for the opportunity to review this matter. Our department reserves further comment pending our review of the TIAR. Should you have any further questions on the matter, you may contact Mr. Brian Suzuki of my staff at 768-8349.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

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March 13, 2012

Wayne Yoshioka, Director
City and County of Honolulu, Dept. of Transportation
650 S. King St., 3rd Floor
Honolulu, HI 96813

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Yoshioka,

Thank you for your department's letter dated June 9, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Department of Transportation Services, indicating a request for a Traffic Impact Assessment Report (TIAR). As a result of your comments, a TIAR was prepared by the Department of Design and Construction. It is included as an appendix to the Draft Environmental Assessment and its recommendations are incorporated into the Master Plan.

Additionally we acknowledge the recommended construction notes relating to public transit provided in your letter.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

MUFI HANNEMANN
MAYOR

KENNETH G. SILVA
FIRE CHIEF

ROLLAND J. HARVEST
DEPUTY FIRE CHIEF

May 26, 2010

Ms. Catie Fernandez, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Fernandez:

Subject: Preconsultation for an Environmental Assessment
Waimanalo Bay Beach Park Master Plan
Waimanalo, Oahu
Tax Map Key: 4-1-015: 015 Portion

In response to your letter of May 13, 2010, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and requires that the following be complied with:

1. Provide a fire apparatus access road for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction when any portion of the facility or any portion of an exterior wall of the first story of the building is located more than 150 feet (45 720 mm) from a fire apparatus access road as measured by an approved route around the exterior of the building or facility. (1997 Uniform Fire Code, Section 902.2.1.)

2. Provide a water supply, approved by the county, capable of supplying the required fire flow for fire protection to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed or moved into or within the county.

   On-site fire hydrants and mains capable of supplying the required fire flow shall be provided when any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the

exterior of the facility or building. (1997 Uniform Fire Code, Section 903.2, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have any questions, please call Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151.

Sincerely,

KENNETH G. SILVA
Fire Chief

KGS/SY:bh

PBR HAWAII
& ASSOCIATES, INC.

March 13, 2012

Chief Kenneth G. Silva
Honolulu Fire Department
636 South Street
Honolulu, HI 96813-5007

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Chief Silva,

Thank you for your department's letter dated May 26, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments from the Honolulu Fire Department, indicating that a fire apparatus access roads must be located 150 feet from exterior walls of every facility, building or portion of a building hereafter constructed or moved into or within the park. We further acknowledge the requirement that adequate fire supply be provided and that on-site hydrants capable of supplying the required fire flow should be provided; and that civil engineering drawings should be submitted to HFD for review and approval.

The master plan proposed improvements include structures that are served by fire access roads. Additionally, eight hydrants are proposed within the park to improve fire fighting capability. A copy of the master plan drawing is included in the Draft Environmental Assessment, for your review and comment. Please note that the master plan also includes a proposed emergency egress road.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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CITY AND COUNTY OF HONOLULU

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MAYOR

LOUIS M. KEALOHA
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DELBERT T. TATSUYAMA
RANDAL K. MACADANGDANG
DEPUTY CHIEFS

OUR REFERENCE DMK-DK

May 27, 2010

Ms. Catie Fernandez, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Ms. Fernandez:

This is in response to your letter of May 13, 2010, requesting comments on a Pre-Consultation, Environmental Assessment, for the Waimanalo Bay Beach Park Master Plan.

This project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Major Susan Ballard of District 4 at 247-2166.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By
DAVE M. KAJIHIRO
Acting Assistant Chief of Police
Support Services Bureau

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& ASSOCIATES, INC.

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Associate

March 13, 2012

Chief Louis M. Kealoha
Honolulu Police Department
801 S. Beretania Street
Honolulu, HI 96813

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Chief Kealoha,

Thank you for your department's letter dated May 27, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge your comments indicating that the project should have no significant impacts on facilities or operations of the department.

Thank you for contributing to the development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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Catie Cullison

From: Bob Loy <bobloy@outdoorcircle.org>
Sent: Tuesday, June 01, 2010 3:13 PM
To: Catie Fernandez
Cc: Stan Duncan
Subject: Waimanalo Bay Recreation Area

Aloha Catie,

Since we last communicated I have spoken at length with Terry Hildebrand at Honolulu County DDC and more briefly with Stan Duncan from your office about the County's planning project for Waimanalo Bay Recreation Area (WBRA).

As I mentioned to you on the telephone, I am not only interested in this project from the perspective of my role as the president of the Waimanalo Beach Lots Association, but also as the Director of Environmental Programs at The Outdoor Circle. To keep those two entities the comments in this email represent the comments of only The Outdoor Circle. I will respond from my personal email with comments from the Beach Lots Association. Keep in mind that TOC will not be commenting on matters outside its core mission of keeping Hawaii "clean, green and beautiful."

In general, The Outdoor Circle's interest in the project is to ensure that this park—popularly known as Sherwood Forest—keeps the trees implied in its moniker. Inasmuch as this is one of the larger, most rural of our County beach parks, we believe it is important that it retain its distinctly non-urban ambience and wild-like physical appearance.

This park best serves all of its users as a place of respite, a place where by turning off the main highway one can drive through the forest and emerge at one of the most beautiful tree-lined beaches in all of Hawaii—it is literally the centerpiece of the longest continuous stretch of white sand beach on all of Oahu. Having said this, we believe there are still opportunities for improvements and enhancements that will make WBRA a better park for more people to enjoy without altering the overall rural park experience it offers to visitors.

From the list of "Potential Park Elements" presented at the first CAG meeting, here's are TOC's comments:

Field Sports/Court Sports
We oppose creation of organized sports facilities of all types at this park. There are ample facilities for most of these activities at Waimanalo School, Waimanalo Beach Park and the Waimanalo Community Center. None of these activities fits the rural, non-urban setting of WBRA.

Other Sports
Of the items under this heading, we believe that personal recreation/fitness related improvements such as fitness/exercise course and unpaved walking and jogging trails are appropriate for this setting. There could possibly be a separate horseback riding trail completely away from the beach. However, inviting horses into the park and expecting them to remain on approved trails is naïve. It also is naïve to believe that such a trail would not be used by bicycles and motorized vehicles which already invade the park on a regular basis We oppose all other suggestions in this category as they would all serve to reduce open park land and remove trees and vegetation.

Amenities
There is an overwhelming need for additional "hot coal disposal" pits in the campground and the picnic/general use area at the east end of the park.
It is completely inappropriate for any commercial activities of any kind to be allowed in this park. No concessions stands or recreational concessions.

Final Thoughts
Not commenting on other items on the list of Potential Park Elements provided by PBR does not indicate approval by TOC. It simply means that we take no position on those matters because they are outside of our core mission and are issues that should be decided by input from those who live in the Waimanalo community.

Thank you for this opportunity. We look forward to future meetings and discussion.

Bob Loy
Director of Environmental Programs

The Outdoor Circle
1314 South King Street, Suite 306
Honolulu, Hawaii 96814
(808) 593-0300

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March 13, 2012

Bob Loy, Director of Environmental Programs
The Outdoor Circle
1314 S. King Street, Suite 306
Honolulu, HI 96814

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Loy,

Thank you for your email dated June 1, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park. As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge comments from The Outdoor Circle.

The message communicated in your email regarding maintenance of the park's rural character resonated with those involved with the planning process. We acknowledge The Outdoor Circle's opposition to creation of any organized sports facilities and support instead, for trails at the park. We believe that the plan has evolved through participation of community organizations such as The Outdoor Circle to one which balances an increase in recreational facilities with preservation of the park's rural character.

We acknowledge your recommendation for more hot coal disposal pits and have included this recommendation in the master plan. We also acknowledge The Outdoor Circle's comments regarding concessions. No commercial activity is proposed in the Master Plan.

Thank you for your participation in the master plan process and development of the Environmental Assessment. Your comments will be included in the Draft Environmental Assessment.

Sincerely,
PBR HAWAII

Catie Cullison
Project Manager/Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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Catie Cullison

From: snowagirl@aol.com
Sent: Tuesday, July 06, 2010 6:42 PM
To: Catie Fernandez
Subject: Final Draft

Follow Up Flag: Follow up
Flag Status: Completed

Aloha Catie,

My apologies for how long this has taken to prepare.

More than 25 members of the Waimanalo Beach Lots Association met on Tuesday June 15 to discuss the Master Planning project for Waimanalo Bay. This was the first opportunity for the WBLA to meet since learning that PBR and the County began this planning process without inviting anyone from the Beach Lots community to attend and participate. While we appreciate your apologies for this oversight, we remain deeply concerned that we were not included in your initial community consultations and that there was no representation from the people who live closest to the park and who will be most impacted by what happens there. We trust we will not be slighted again as this process moves forward.

Although these comments are very similar to the previous comments submitted by me as a resident and as President of the WBLA, what follows is the official initial input from the Waimanalo Beach Lots Association based upon the June 15 meeting plus input received from residents during the drafting of these comments over the past couple of weeks.

Comments on the WBRA Planning Process

WBLA residents cherish and are extremely protective of their neighborhood and Waimanalo Bay Park, AKA as Sherwood Forest, or Sherwoods.

Sherwoods serves as a highly valuable resource for the Beach Lots neighborhood and Waimanalo community specifically, as well as residents from all over O‘ahu. It also is heavily used by visitors, including numerous tour groups that stop daily at the park. Having said this, we believe there are still opportunities for improvements and enhancements that will make Sherwoods a better park for more people to enjoy without altering the overall rural park experience enjoyed by so many people.

In general it is our consensus that Sherwoods' nearly 75 acres is large enough and the landscape is varied enough to accommodate many community needs while retaining the rural, isolated, forested character of the park. There is strong support for preserving and perpetuating the Ironwood trees and other quality trees within the park. There also are a lot of "scrub" trees that might be cleared for appropropriate landscaping and park amenities.
The following are our comments on the Potential Park Elements presented at the first CAG meeting:

Field Sports
There is a need for additional sports fields in our community. Existing fields at Waimanalo Beach Park and Waimanalo School do not meet the demand and the fields at Waimanalo District Park are perceived to be in poor condition. Also there are no lights for night play at the school or the District Park. A few individuals at our meeting are involved in youth sports leagues that serve the keiki of Waimanalo. It is their hope that a part of the less forested portion of the park might be suitable for field sports. However a much greater number of residents have espressed a strong view that theSherwoods should not be sacrificed for facilities that can be developed in areas that do not have the unique qualities of Sherwoods. It was noted that Waimanalo District Park and Waimanalo Elementary School could be improved to help fill this community need without clearing areas of Sherwoods.

Court Sports
No support

Other Sports

In this category, unpaved fitness/exercise course and walking/jogging trails are encouraged. No hardscape or cement infrastructure. Not only does it destroy the rural ambience, it would create the potential for storm runoff into Waimanalo Bay, which already is frequently polluted by storm water runoff.

Amenities

There should be absolutely no commercial activity of any type allowed in the WBRA including food/drink and/or recreational equipment concessions. Existing commercial activity (tours and weddings) should be curtailed and carefully controlled.

Sherwoods campsites are used almost exclusively on the weekend when there often are not enough campsites to go around. The campground area has sufficient space to add additional campsites but camping should only be allowed on the Bellows side of the lifeguard stand where the current campsites exist.

On the Makapu`u of the park there is a pressing need for additional hot charcoal disposal pits as well as picnic tables.

The community would greatly benefit from a gathering space. A pavillion, or smaller pavillions such as in Kailua Beach Park were suggested. These should not be constructed on the makai side of the parking lots, however. It should be mauka of the parking lots and should be carefully designed to blend into the forest surroundings. There are concerns that such structures could become a magnet for the homeless--again stressing the need to keep the park closed at night behind locked gates.

Functional

It is absolutely essential that the park continue to be closed and locked at night. This is one of the main things that keeps Sherwoods from becoming like so many other O'ahu parks--especially rural parks. Park security is especially important due to the close proximity of homes on the East end of the park. It also is imperative that the campsites be closed two days each week. This too has prevented problems experienced at many other parks. I tightly controlled camping permit system must be maintained. After hours there needs to be a better system for quick entry by HPD and other emergency responders when trouble arises as it does with some frequency.

The comfort stations are in constant need of repair and an assessment of whether expansion of these facilities is needed. A possibly serious impediement to expanding park services might be sewage treatment as there is a history of problelms with the rest rooms. These issues must be explored and resolved.

There are several issues relaing to the "caretakers house" that need to be assessed and dealt with: structural integrity, general appearance, improper location as a central object in the park, etc. There generally is adequate parking in the main Sherwoods parking lot and campground lot but there might be space for additional parking mauka of current areas if needed, if it can be done without sacrificing the forest.

Based on the track record of poor maintenance and repairs at Sherwoods there is great concern in the WBLA that the County will be able to maintain additonal infrastructure and amenities.

Final Thoughts

Conspicuously left out of the PBR list of activities is anything to do with the Hawaiian culture. We believe there is a pressing need for an assessment of the archeological resources of the WBRA and for the inclusion of some type of interpretive/educational amenity for park visitors. This could be a kiosk, an interpretive trail or any similar treatment that would enable visitors to enjoy, understand and appreciate the influence of the Native Hawaiian culture on the area and the role the general Sherwoods area played in that culture.

Also it is extremely important to always keep in mind that this unique park also is situated immediately adjacent to the Beach Lots community which is home to hundreds of families. The park is our asset. It also is what brings many problems to the community such as illegal parking, litter, noise, crime, fires, etc. That is why park security is stressed in these comments. Future uses of the park must be respectful of those who live nearby. There should be no work done in association with his plan that will bring additional traffic into the neighborhood or activities inside the park that will be disruptive to those who live near the park.

Thank you for the opportunity to provide this initial input. We look forward to full participation in the planning process in the future.

Respectfully,

Bob Loy, President
Waimanalo Beach Lots Association

PBR HAWAII
& ASSOCIATES, INC.

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March 13, 2012

Bob Loy, President
Waimanalo Beach Lots Association
c/o The Outdoor Circle
1314 S. King Street, Suite 306
Honolulu, HI 96814

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. Loy,

Thank you for your email dated July 6, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the official initial comments from the Waimānalo Beach Lots Association.

We acknowledge the suggestion that the park's size of 75 acres is large enough to accommodate the many community needs while retaining the rural, isolated, forested character of the park. We also acknowledge the strong support for perpetuating the ironwood trees and other quality trees in the park. As such, park elements have been designed to preserve large stands of trees and no ironwoods are proposed for removal to accommodate proposed park elements. Please note that the aging ironwood trees are a public safety concern and as such, selective removal has occurred and may occur in the future at the recommendation of the City and County's arborist.

We acknowledge the Association's support for additional sports fields, tempered with a desire to maintain forested areas of the park. Sports fields are proposed, however, their number and area dedicated to fields has been limited in hopes of retaining large stands of trees and the forested area near Aloiloi Street. We also acknowledge that the Association does not support court sports. No courts are proposed in the master plan. With regard to trails, the master plan anticipates soft-surface jogging and fitness trails in lieu of impervious surfaces as suggested by the Association.

We acknowledge the Association's suggestions with regard to park amenities. None of the proposed park elements require commercial uses and additional camping facilities are proposed on the Bellows side of the park, over 1,000-feet from Aloiloi Street. A pavilion, in group camping area mauka of current parking lots are also recommended in the master plan. The Association also stresses the need to keep the park closed at night. Security fencing and nighttime closure are recommended master plan management strategies.

We acknowledge the Association's suggestions under the heading of "Functional". To address security, the park's visual appearance and the need for structurally safe caretaker's housing, the caretaker's residence is proposed to be phased out of its current location. With regard to comfort stations, the three beachside comfort stations are proposed to be reconstructed at their current locations. Construction materials are proposed to be both environmentally sensitive as well as those that can weather their coastal environment, reducing the structures' environmental footprint and need for continual maintenance. The Association also mentions ongoing difficulties with the park's wastewater disposal. This issue is currently being addressed under a separate project and improvements to the system are anticipated prior to master plan improvements.

We also acknowledge the Association's final thoughts with regard to Hawaiian culture and the need for interpretive or educational amenities for park visitors. As part of the EA process, archaeological resources identified in many previous studies at this site have been compiled and documented. Additionally, the idea of including interpretive signage at the park has been included in the master plan. However, the master plan does not presume to set the interpretive message that the Waimānalo community wishes to deliver. Interpretive signage regarding the area's biological resources is proposed as recommended by the US Fish and Wildlife Service to educate the public about how they can contribute to the preservation of protected species such as sea turtles and sea birds.

We recognize the Association's comments that the park is immediately adjacent to the Beach Lots community and hope that by maintaining the intact dune area and remnant forest adjacent to Aloiloi Street; focusing sports field development near the highway; and expansion of camping facilities on the Bellows side of the park is found to be respectful of the adjacent residential use.

Thank you for contributing to the master plan and development of this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

C. Cullison

Catie Cullison
Project Manager/Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

Catie Cullison

From: pintz@juno.com
Sent: Thursday, July 29, 2010 11:59 AM
To: Catie Fernandez
Cc: snowagirl@aol.com
Subject: Waimanalo Bay Park

Dear Ms. Fernandez,

We are writing to express our views on the possible future development of an athletic field at Waimanalo Bay Park. We have seen the submission of Mr. Bob Loy on behalf of the Waimanalo Beach Lots Association. There is much that we agree with in Mr. Loy's letter but we take exception to his comments regarding the potential adequacy of existing athletic facilities in Waimanalo, and his conclusion that the Beach Lots community in general is against using the park as a site for a sports field.

We believe that there is a critical need for additional facilities to supplement the fully utilized field at the city's Waimanalo Beach Park. Everyone who attended the Beach Lots meeting on June 15 agreed that additional baseball/softball facilities are greatly needed in our community. However, more than just "a few" of us disagreed that this need can be met by more intensive use of the District Park and the fields at Waimanalo School. In fact, these facilities are not well suited for community athletic teams due to poor soil conditions that often result in uneven and broken playing surfaces that can be hazardous to players. It seems only a matter of time before someone is seriously injured. This is well known by all who use, or whose children use these fields. And, contrary to Mr. Loy's statement regarding concurrence that existing fields can be successfully upgraded, there is evidence (clearly pointed out by a credible meeting attendee) that this is not a feasible proposition. In short, it appears clear that existing facilities should be used less intensively-rather than more intensively.

We see no inherent conflict between a three-acre athletic field for community sports, and other community uses of this 75 acre Bay Park parcel - including the preservation of cultural sites. The basic issue here is whether the Bay Park will remain virtually undeveloped in the face of pressing community needs, or be developed in a manner which is compatible with additional uses and the community's desire to preserve the natural beauty of the park.

Finally, a particularly important point: We feel that Waimanalo Bay Park's future most definitely should not be determined solely by the views - "official" or not - of the Beach Lots Association, which comprises only a fraction of community members who enjoy the park. Therefore, we have solicited the views of some additional Beach Lots residents, and a few residents from the Waimanalo Homesteads. We believe that with additional effort, many more Waimanalo community members could be found, who would also support our views. Our impression is that an open public hearing would overwhelmingly show that the broader Waimanalo community supports athletic field development as part of a multi-use strategy for Waimanalo Bay Park.

Yours Sincerely,
Sam and Stephanie Pintz (Beach Lots)

Other Residents
Keoki and Jana Fraser (Beach Lots)
Geoff and Page Chang (Beach Lots)
Jim and Tina Winquist (Beach Lots)
Pam and Pete Bunn (Beach Lots)
Norman and Janielle Fraser (Homesteads)

Jamie Naeole (Homesteads)
Maile Kalima (Homesteads)
John Naeole (Homesteads)
Reece Naeole (Homesteads)
Kelly Almeida (Beach Lots)
David Shimabukuro (Beach Lots)
Dawn Shimabukuro (Beach Lots)
Mike Forbes (Beach Lots)
Joyce Almeida (Beach Lots)

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Fax: (808) 535-3163

March 13, 2012

BY EMAIL:
pintz@juno.com

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Mr. & Mrs. Pintz,

Thank you for your email dated July 29, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge the comments on behalf of yourselves and other Waimānalo residents who are undersigned. We acknowledge the concern of Waimānalo residents that soil conditions at the Waimānalo District Park are not favorable for expansion of sports field facilities. We also acknowledge your letter's sentiment that the park may be developed in a manner which is compatible with additional uses and the community's desire to preserve the natural beauty of the park.

We hope that through the master planning process we have heard the diverse community views and have suggested a suite of active and passive park elements that can satisfy a variety of park users.

Thank you for contributing to the development of the master plan and this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Project Manager/Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

O:\Job27\2780.01 Waimanalo Bay Beach Park MP\Draft EA\PreConsultation\PreConsultation Comments\Response Letters\Pintz Et Al response.doc

Catie Fernandez

From: Jody Green [jmelanigreen@hotmail.com]
Sent: Thursday, June 24, 2010 10:54 AM
To: Catie Fernandez; snowagirl@aol.com
Subject: Waimanlo Bay Beachpark
Follow Up Flag: Follow up
Flag Status: Red

June 24, 2010

Dear Katie Fernandez,

The Waimanalo community was fortunate to be invited to a tour of the Waimanalo Wastewater Treatment Facility last year, and we toured the plant to see the new upgrades. The engineers and plant workers very proudly showed us how sewage was treated well, the end result looked as clear as the water from our kitchen taps. They spent a lot of money to upgrade the plant after a series of disastrous spills into Waimanalo Bay.

The plant operators also wanted to assure concerned residents that future housing projects planned for Waimanalo would be able to hook up to the system without worry of future damage to our fragile environment. We were all impressed in the treatment facility's "state of the art" new equipment upgrades.

My concern regarding the plans for public use of Waimanalo Bay Beachpark is the water use that will be required to keep the park maintained. This problem presents an innovative and exciting opportunity to recycle the water that has been treated right across the street from the park.

Instead of paying companies to remove this treated water, we can use this water to water the park. That would save everyone much expense and conserve our precious resources. Waimanalo is one of the driest spots on Oahu and we are presently experiencing a serious drought.

I urge you to consider this abundant supply of treated water that we were assured was "drinking quality" for irrigation purposes. If we utilize this opportunity we can lead the way for other recycling opportunities to help conserve our water and save money.

I hope you will look into the possibilities for the benefit of our community, our limited precious resources, and the feasibility of existing and future projects.

Please feel free to contact regarding any help or questions: Jody Green 259-3445, or you can e-mail mejmelanigreen@hotmail.com

Mahalo nui loa,
Jody Green
Waimanalo Beachlots Association

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SCOTT ALIKA ABRIGO, LEED® AP
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SCOTT MURAKAMI, ASLA, LEED® AP
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March 13, 2012

BY EMAIL:
jmelanigreen@hotmail.com

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR WAIMĀNALO BAY BEACH PARK MASTER PLAN – AHUPUA'A OF WAIMĀNALO, KO'OLAUPOKO JUDICIAL DISTRICT, O'AHU, HAWAI'I (TMK: 4-1-015: 015)

Dear Ms. Green,

Thank you for your letter dated June 24, 2010 regarding the Draft Environmental Assessment for the Master Plan of Waimānalo Bay Beach Park.

As the planning consultant for the applicant, the City and County of Honolulu, Department of Design and Construction, we acknowledge your comments and concerns about water usage and your suggestion that treated water from the Waimānalo Waste Water Treatment Plant be used at the park. The Master Plan proposes use of R-1 recycled water when it is available from the wastewater treatment plant for park irrigation needs.

Thank you for your suggestion and contributing to the development of the master plan and this document. Your comments will be included in the Draft Environmental Assessment.

Sincerely,

PBR HAWAII

Catie Cullison
Planner

cc: Terry Hildebrand, City & County of Honolulu, Department of Design and Construction

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Appendix E:

Archaeological Literature Review

SCS Project Number 1134-Final

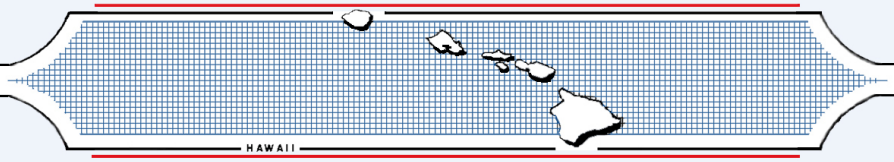
A SUMMARY OF PREVIOUS ARCHAEOLOGICAL STUDIES CONDUCTED IN WAIMĀNALO BAY BEACH PARK, WAIMĀNALO AHUPUA`A, KO`OLAUPOKO DISTRICT, ISLAND OF O`AHU, HAWAI`I [TMK 4-1-15:15]

Prepared by:
Leann McGerty, B.A.
and
Robert L. Spear, Ph.D.

August 2010
FINAL Report

Prepared for:
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawai`i 96813

SCIENTIFIC CONSULTANT SERVICES Inc.



711 Kapiolani Blvd. Suite 975 Honolulu, Hawai`i 96813

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INTRODUCTION

Scientific Consultant Services (SCS), Inc. has been contracted by PBR Hawaii & Associates, Inc. to compile a summary of past archaeological activities conducted in the Waimānalo Bay Beach Park (formerly Waimānalo Bay Recreation Area), Waimānalo, Ko`olaupoko District, Island of O`ahu [TMK: 4-1-15-15] (Figures 1 and 2). The purpose of this summary is to determine the extent of previous archaeological research in the project, review the results of that research, and make recommendations concerning future archaeological work as the Waimānalo Bay Beach Park Master Plan is put into place.

The Waimānalo Bay Beach Park is a region of extensive coastal and inland sand dunes of approximately 30 hectares. It is situated between Bellows Air Force Station to the north, a housing development to the southeast and Kalaniana`ole Highway to the west. According to Davis (1977), The Waimānalo Bay Beach Park was originally developed for U.S. Military warehousing and recreational facilities. Construction activities included grading for coral-surfaced and black-top roads, the construction of concrete foundations and masonry walls, as well as the dumping of clay fill for landscaping. Figure 3 shows the extent of the pre-1959 military development. The property was turned over to the State of Hawai`i in 1966, by which time the original facilities had been dismantled leaving ground level features *in situ*.

Sixteen memos, letters, and reports were located that referred to information concerning identified cultural remains in Waimānalo Bay Beach Park. Table 1 lists these documents.

ARCHAEOLOGICAL REVIEW SUMMARY

All 16 documents were perused for information concerning archaeological remains and their location in the project area.

In 1971, R.J. Pearson conducted a University of Hawai`i archaeological Field School at Waimānalo Bay Beach Park. Two sites were identified during the study, consisting of Site 50-80-15-512, a cultural deposit and Site 50-80-15-513, a cultural deposit and two burials which were left in place (Figure 4).

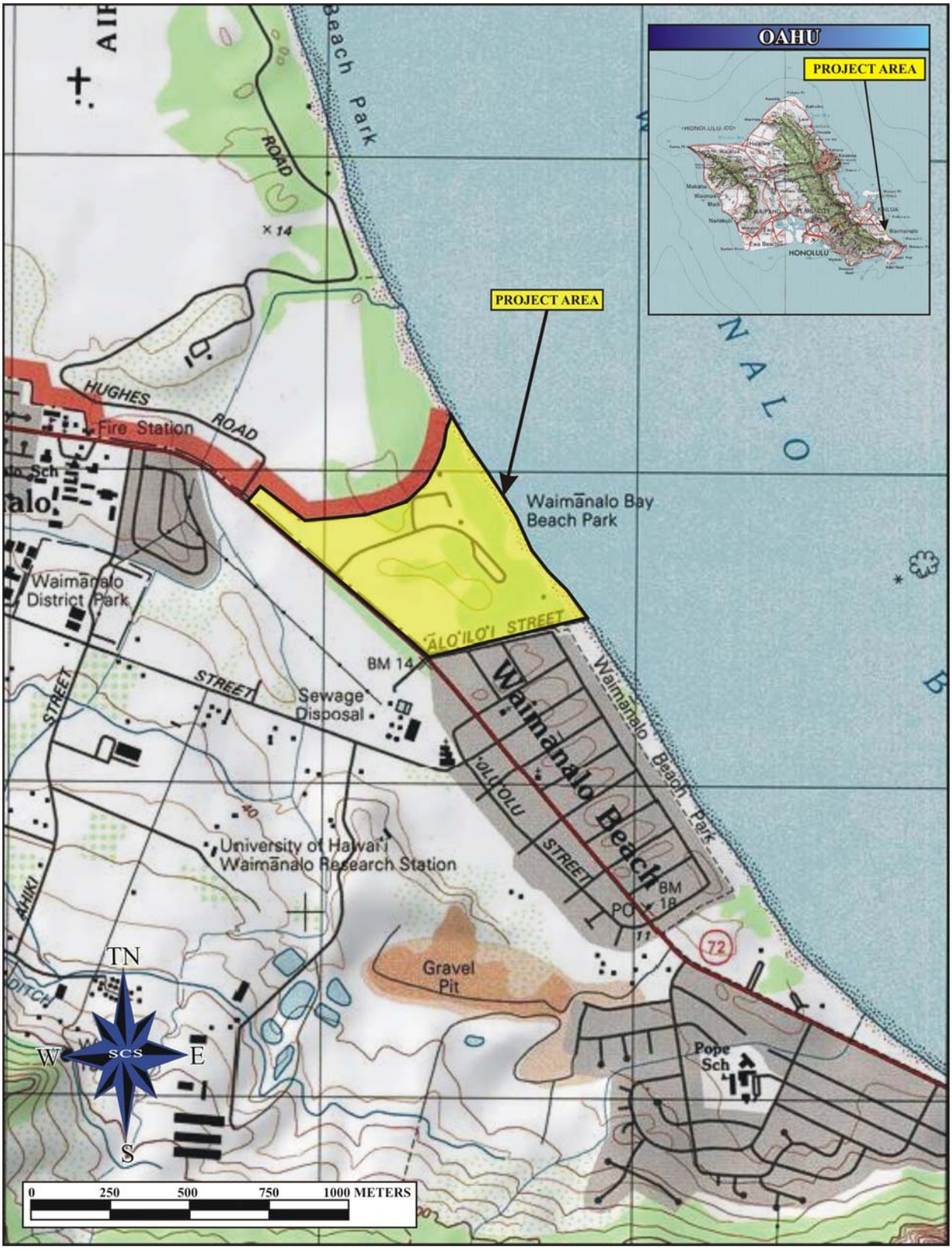

Figure 1: USGS Quadrangle Map Showing Project Area.

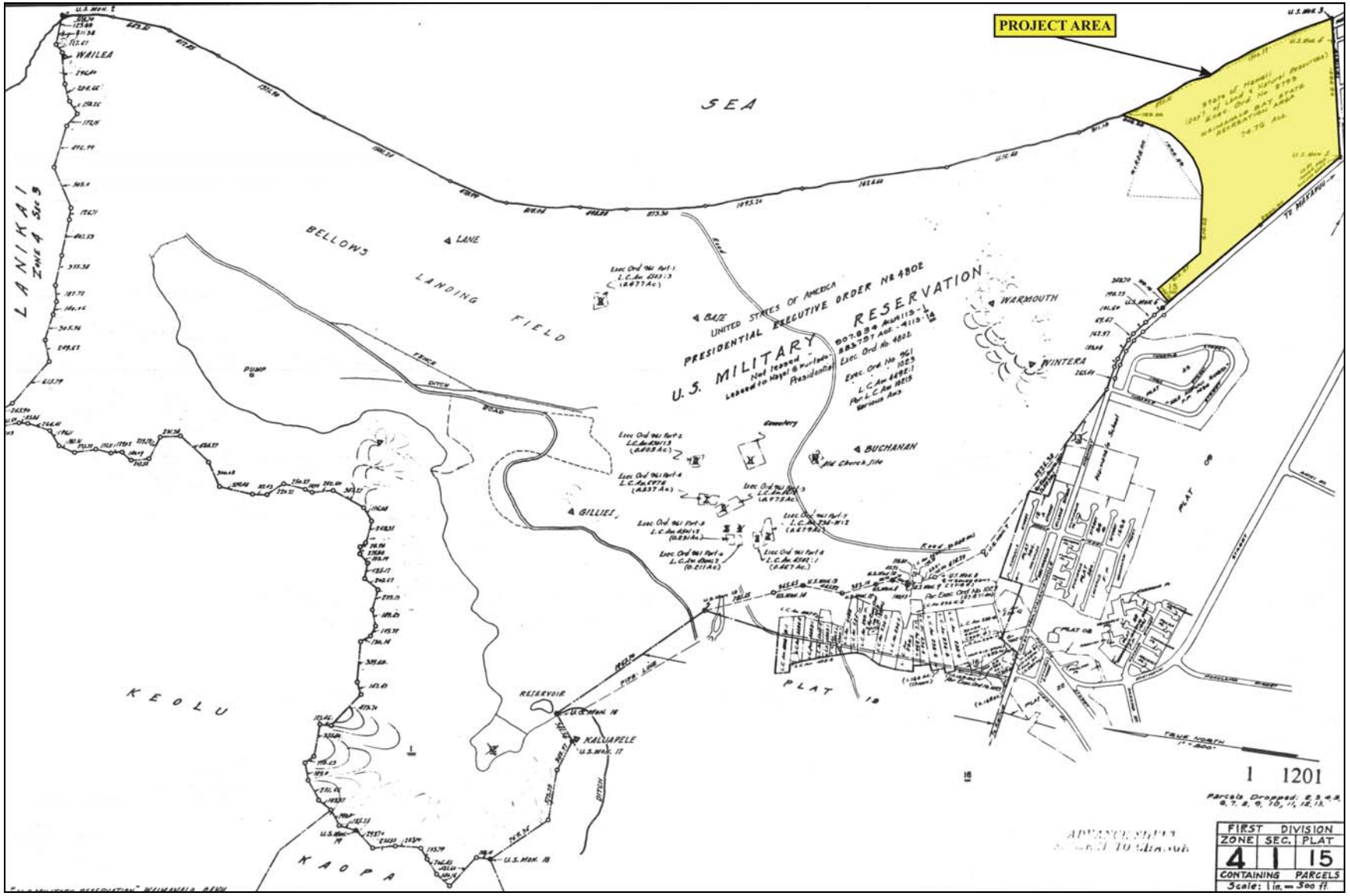

Figure 2: TMK: 4-1-15: 15 Showing Project Area.

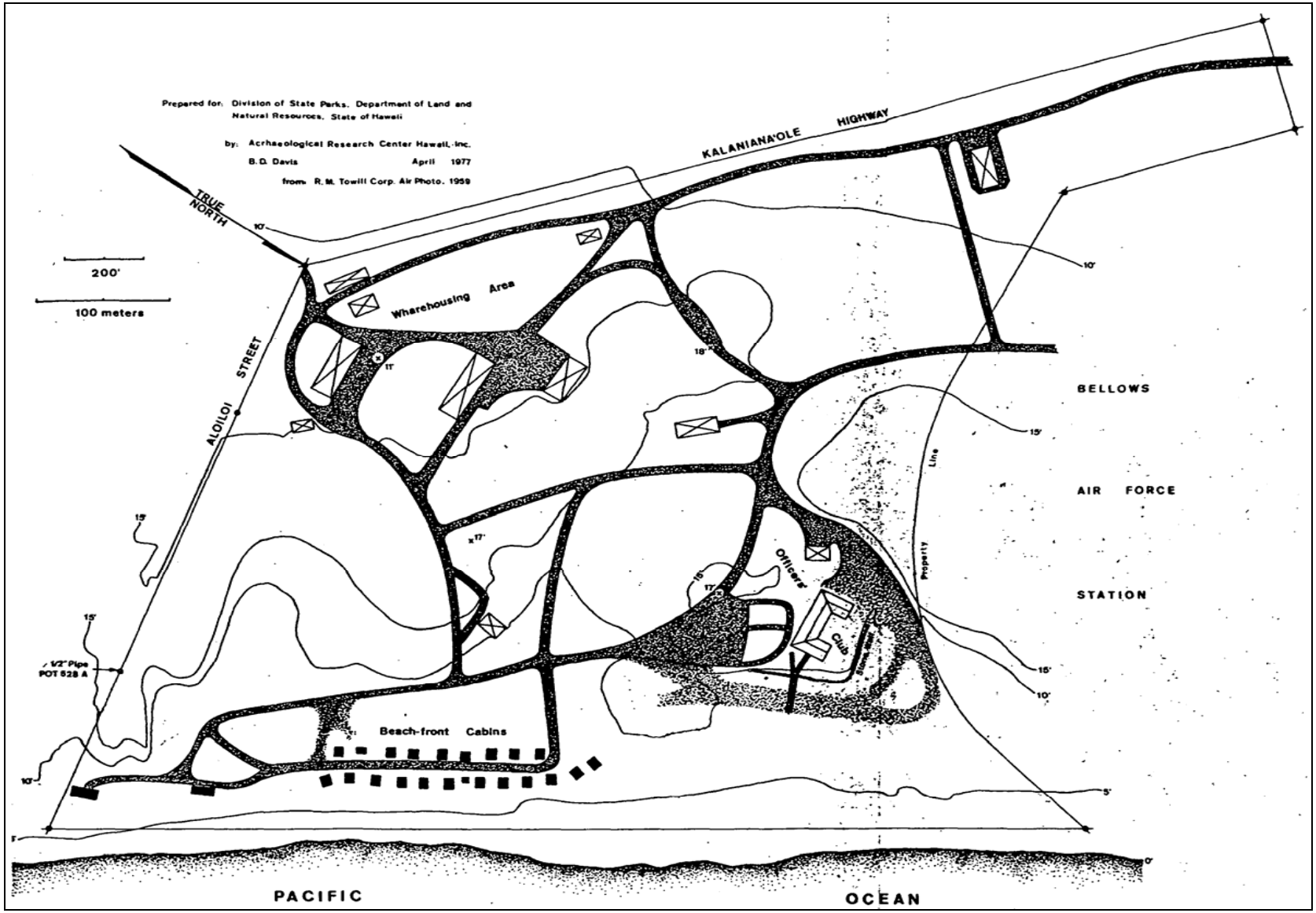

Figure 3: Map Showing The Extent of Military Construction as of 1959 (Davis 1977:14).

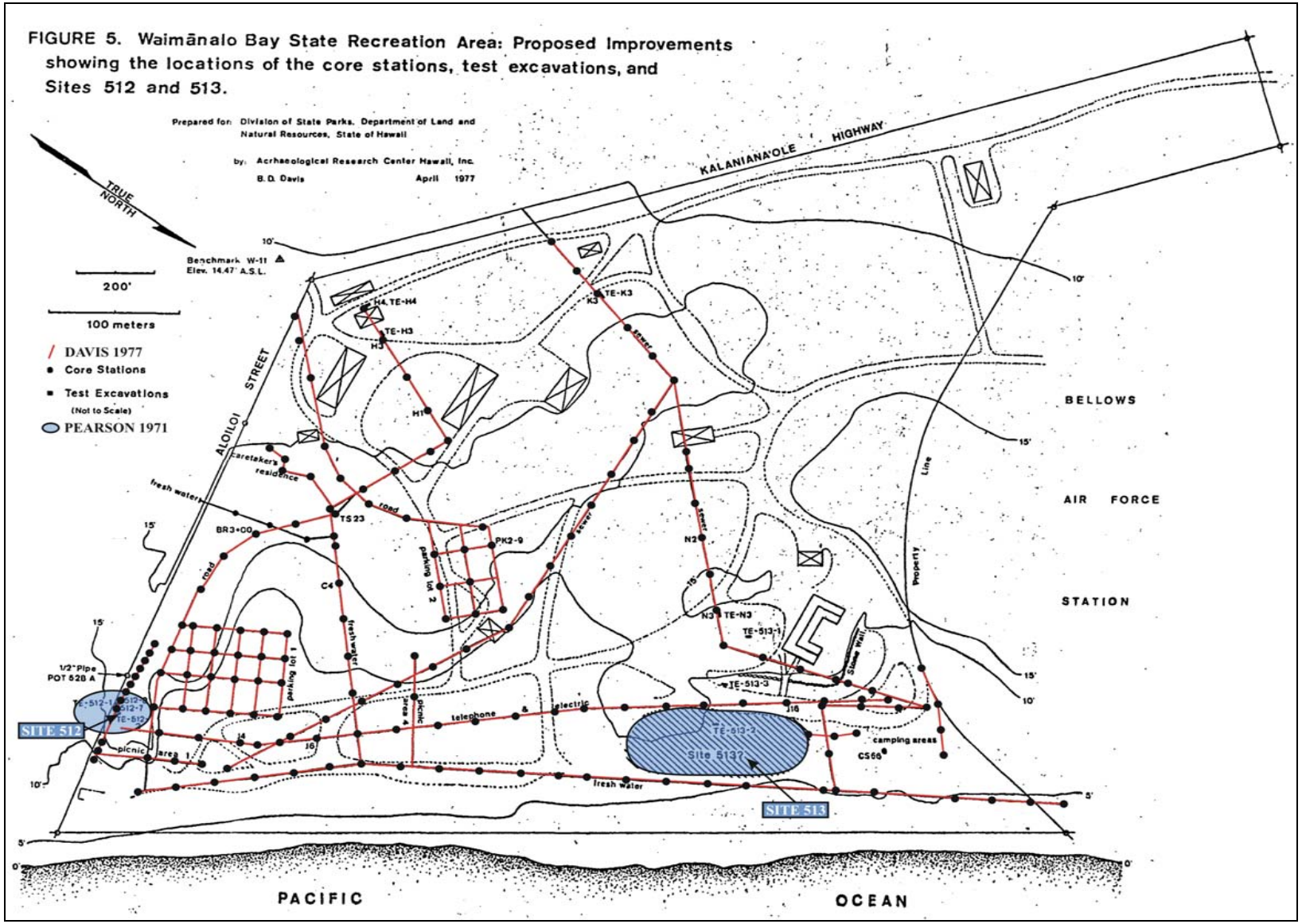

Figure 4: Map Showing Recorded Sites 512 and 513 and Core Stations and Test Excavations Completed by Davis 1977.

Table 1: Documents Describing Waimānalo Bay Beach Park

YEAR	AUTHOR	TYPE OF RESEARCH	CULTURAL REMAINS
1971	R.J. Pearson	U. of Hawai`i Field Exercise	Site 512: a cultural deposit Site 513: two burials
1977	Div. of State Parks	Environmental Impact Statement	N/A
1977	Bertell Davis	Phase I Sub-surface testing Report	None
1978	David Cox	Monitoring report	One burial, human bone
1979	Griffin and Yent	Memo: Monitoring, sub-surface testing	None
1979	M. Yent	Memo: Specifying location and container for reburial of 60 sets of human remains	
1979	Yent and Griffin	Memo: Reporting unauthorized bulldozing	N/A
1979	M. Yent	Memo: Concerning reburial of 60 sets of human remains	N/A
1979	State Parks	Monitoring and testing report	Two small pit features
1980	Lovelace	Memo: Sub-surface testing	None
1980	J. Ota	Memo: Monitoring	None
1991	Hibbard	Memo: Concerning reburial of 30 sets of human remains	N/A
1991	Nagata	Memo: Requesting reburial info.	N/A
1991	M. Yent	Memo: Concerning reburial of 60 sets of human remains	N/A
2000	M. Dega	Monitoring and sampling report	None
2002	Ogg and Dega	Testing and sampling report	None

N/A: non-applicable

In 1974, the Bellows Field Archaeological Area (BFAA) (Site 50-80-15-11) was determined eligible for inclusion and formally listed in the National Register of Historic Places (NRHP). The arbitrarily set boundaries of the BFAA included Sites 512 and 513, located in the remains of the Bellows Sand Dune in Waimānalo Bay Beach Park, along with Site 018, located within Bellows Air Force Station to the north. Once sites are placed in NRHP listing, they must be preserved and managed (Eidsness 1993).

Phase I subsurface survey was completed in 1977 by Bertell Davis in which he excavated almost 200 cores throughout the beach park, as well as several hand excavated test units (see Figure 4). All the cores proved to be culturally sterile. Attempts to relocate Site 513, by surface and test excavations were not successful. Site 512 was re-identified, tested, and recommended for additional work.

An Environment Impact Statement (EIS) followed Davis's survey in 1977. At that time, the document stated: ". . . mitigation of effects upon archaeological values has been agreed to with the Advisory Council on Historic Preservation." The EIS made reference to one site that would be completely excavated. They re-identify a "confirmed archaeological site" (Site 512) located along Aloiloi Street, or the northeastern side of the Beach Park but were unable to re-identify Site 513 (Figure 5).

In 1978, David Cox monitored the installation of a fence line, waterline, electrical line, and sewer line (Cox 1977). Site 512 was not impacted by his work and was protected by the installation of the fence line. Site 513 was not re-identified. During monitoring a human burial was identified approximately 150 m *mauka* of the presumed area of Site 513. In addition, a human mandible was located along the beachfront (Figure 6). Both of these newly identified sets of human remains were left in place.

An August 1979 memorandum concerning archaeological subsurface investigation at Waimānalo Bay State Beach Park was sent from Agnes Griffin and Martha Yent to James Yamashiro. The coring site area was adjacent to Kalaniana`ole Highway, extending 762 meters east-west by 92 meters north-south (Figure 7). Subsurface investigation was conducted to determine the presence or absence of cultural deposits. All 48 cores contained negative results for any cultural deposits.

In October of 1979, a memo was sent from Martha Yent and Agnes Griffin reporting unauthorized bulldozing having taken place in the Waimānalo Bay Beach Park by the Air Force (Figure 8).

In a memo sent in November of 1979, State Archaeologist Martha Yent discussed the reburial of 60 sets of human remains in the Waimānalo Bay Beach Park and specifying the site location and description of the burial container that would be used (see Figure 6).

Also in 1979, the State Parks In-House Archaeological Team conducted monitoring and sub-surface testing in certain portions of the recreational area that were being cleared by the U.S. Marine Corps. Two small pit features were identified during the monitoring and sub-surface excavations (Trench 2). Figure 9 shows the trenches bulldozed by the U.S. Marine Corps during this study and Figure 10 delineates the total area bulldozed by both the Air force in October of 1979 and the Marines in December 1979.

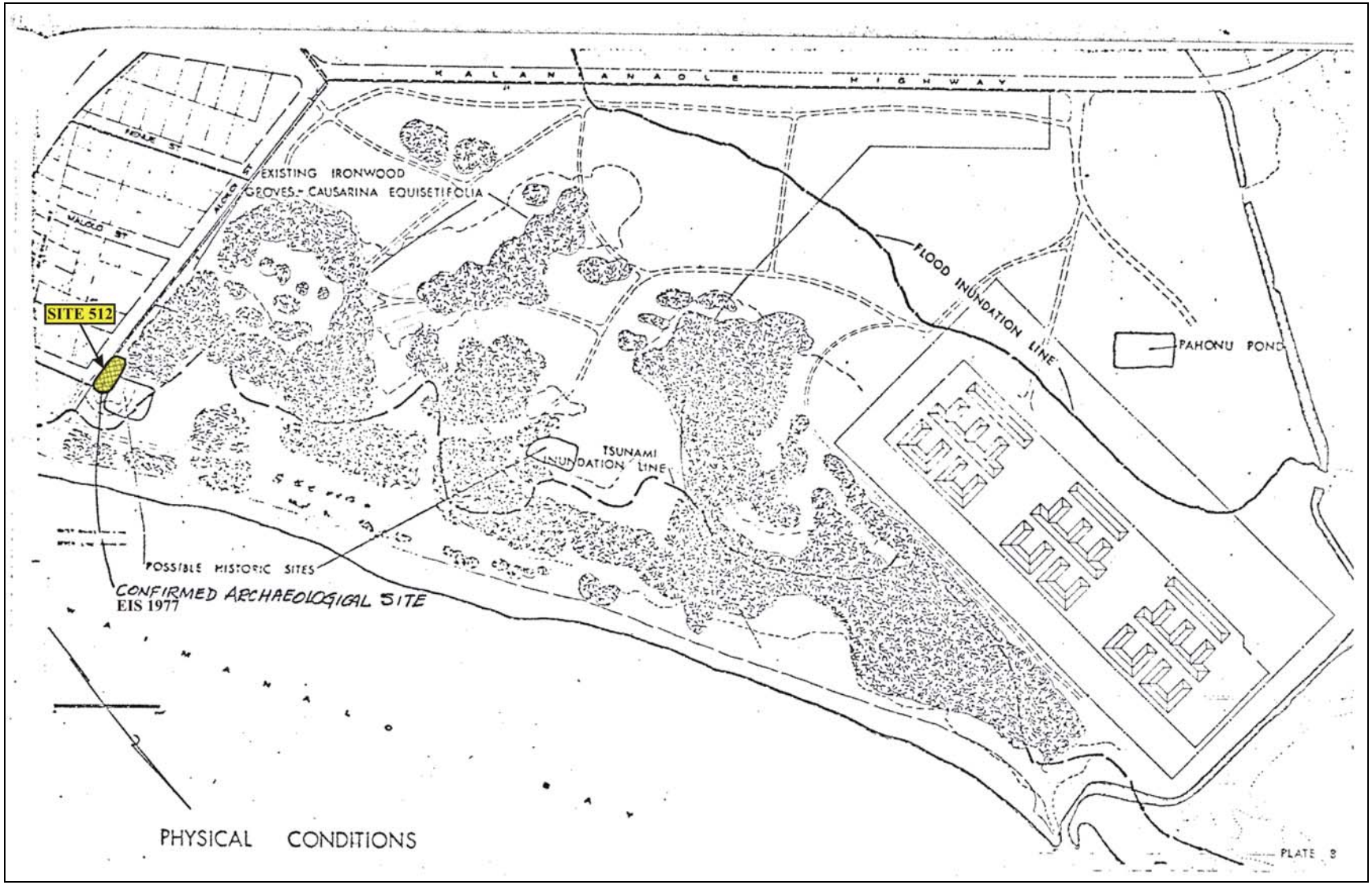

Figure 5: EIS Map Showing Location of Site 512 and Surface Features, 1977.

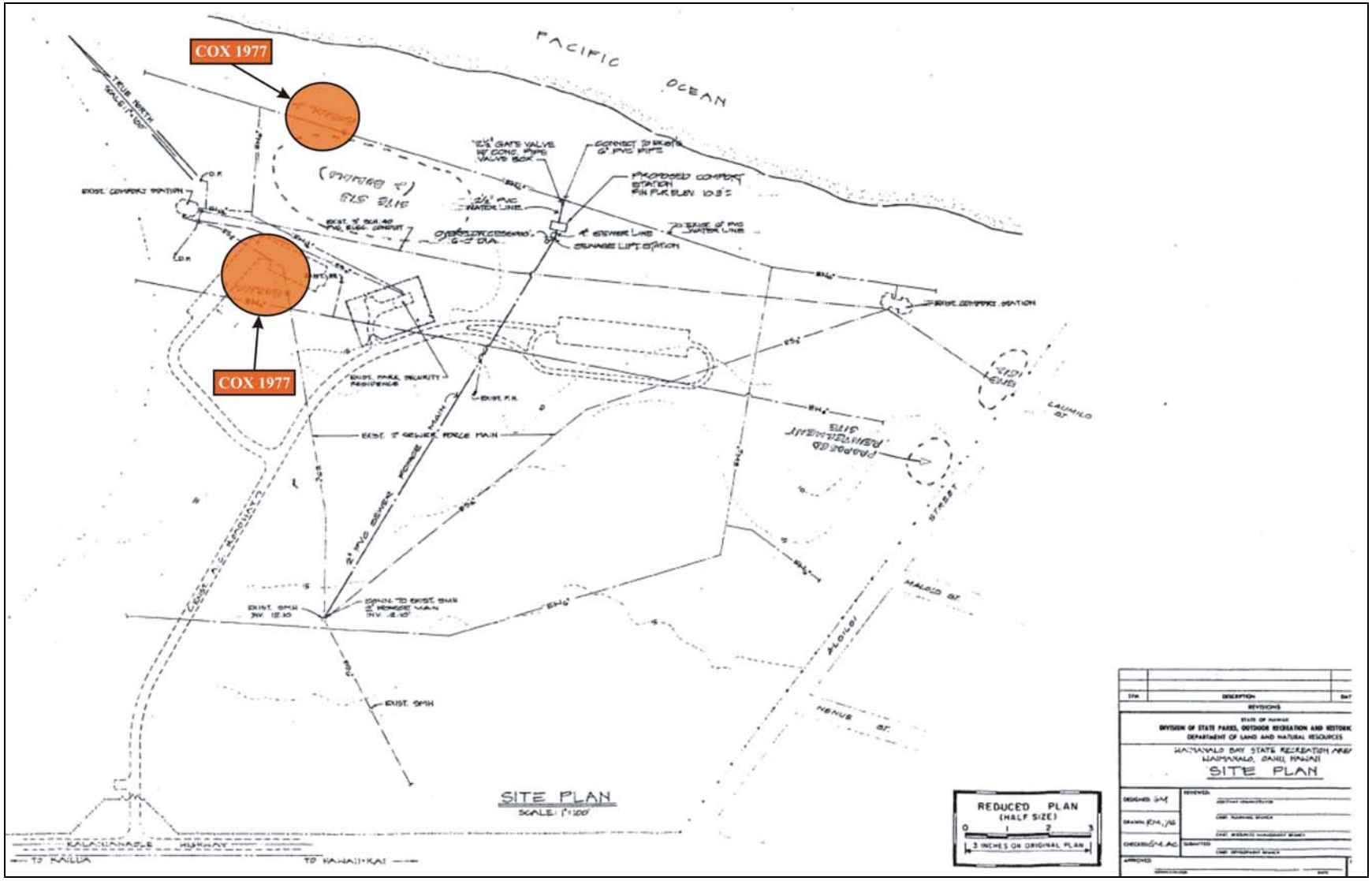

Figure 6: Map Showing Approximate Location of Two Burials Identified by Cox, 1977.

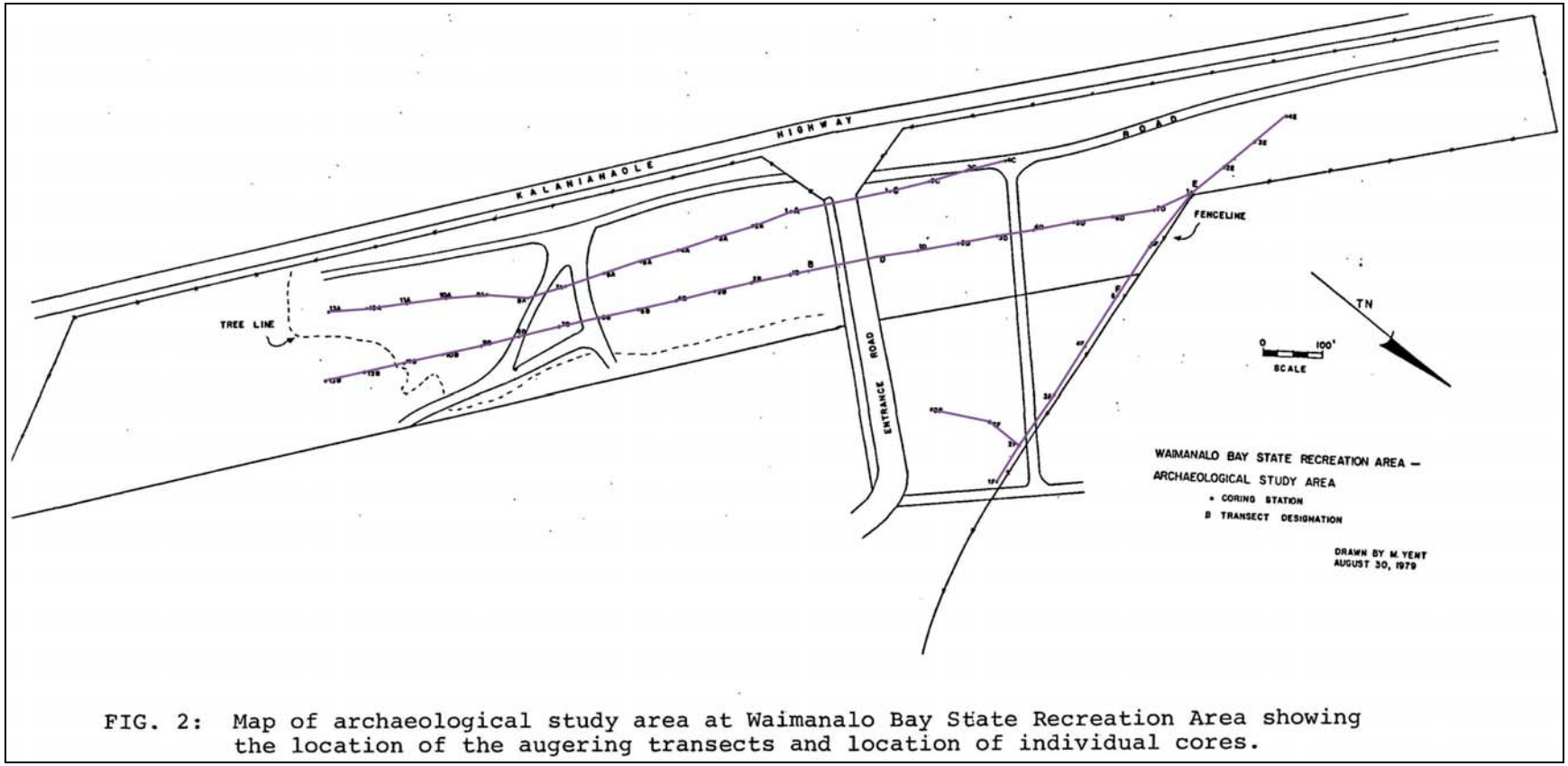

FIG. 2: Map of archaeological study area at Waimanalo Bay State Recreation Area showing the location of the augering transects and location of individual cores.

Figure 7: Map Adapted From August 1979 Memo, Griffin and Yent, Showing Coring Locations.

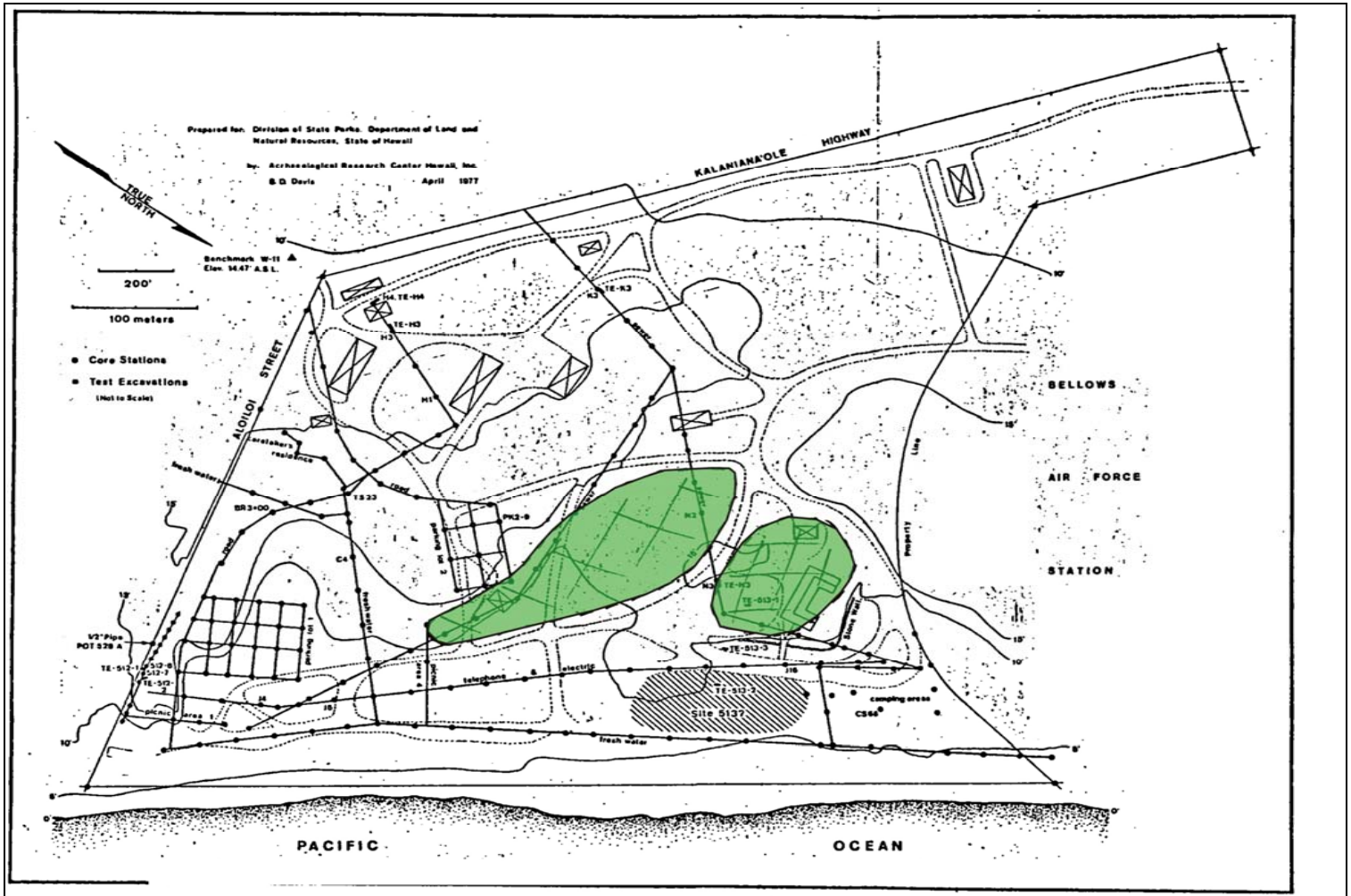

FIG. 1: THE STUDY AREA. WAIMANALO BAY STATE RECREATION AREA, KO'LAU-POKO, O'AHU.

Taken from Davis 1977:13.

Figure 8: Map from October 1979 Memo, Griffin and Yent, Showing Area of Unauthorized Bulldozing.

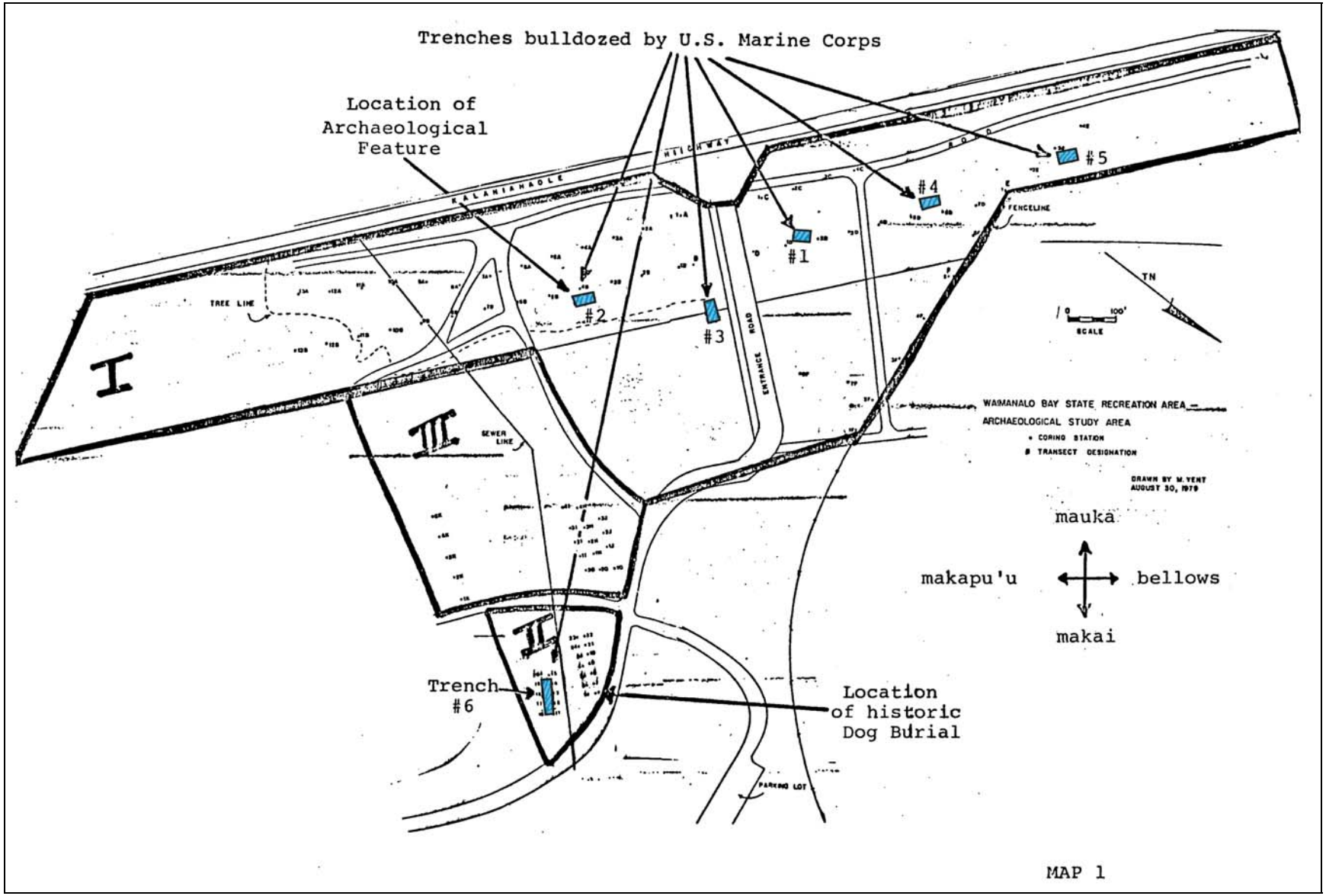

Figure 9: Map From December 1979 Memo, State Park Archaeologist, Showing Location of Marine Corps Trenches and Archaeological Pit Features.

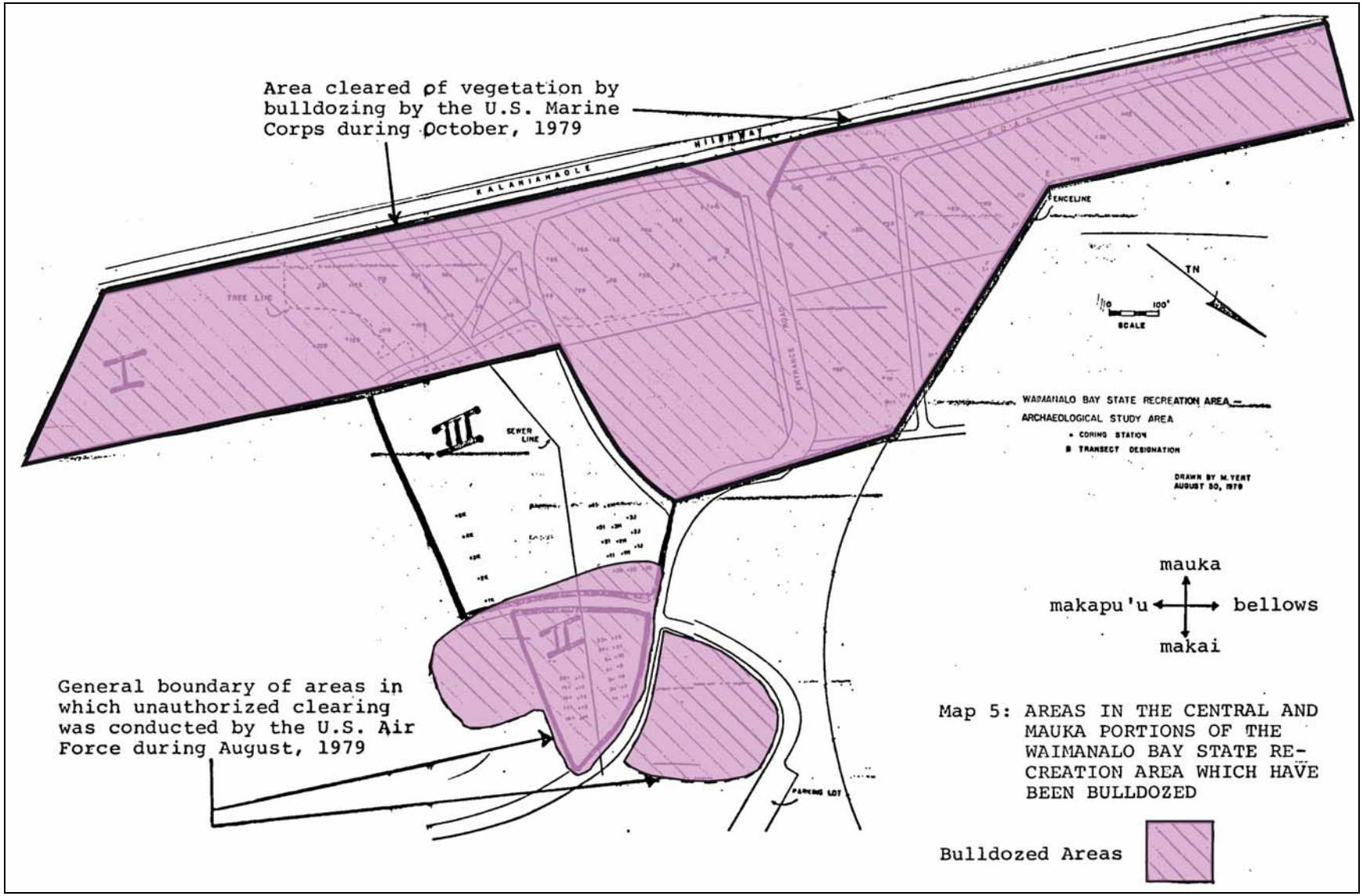

Figure 10: Map From December 1979 Memo, Stat Park Archaeologist, Showing Location of Bulldozed Areas in Park.

A memo that concerned test coring in a limited portion of the Beach Park for a new parking lot was sent by G. Lovelace and J. Ota to James Yamashiro in July of 1980. The testing resulted in no findings. A memo from J. Ota to James Yamashiro in December of 1980 reported on the monitoring conducted on a previously tested area and that was proposed for a future parking lot. Its exact location is unknown.

On July 15, 1991, a memo was sent by R. Nagata to D. Hibbard requesting that a site be set aside for the reburial of 28 sets of human remains originally excavated from the Bellows Sand Dune area, which was now under the jurisdiction of the Department of Parks. In response, a memo was sent from Hibbard to Nagata later that month requesting more information concerning the origin of these remains. No further information concerning these 28 sets of human remains were located.

In November of the same year, Martha Yent, State Parks Archaeologist, sent a memo to R. Nagata on the status of burials at Waimānalo Bay Beach Park. The memo stated that the reburial of 60+ sets of human remains within the Beach Park was tentatively scheduled for December, 1991. The re-interment was to be located within the only intact portion of the Bellows Sand Dune, along the fence line and paralleling Aloiloi Street (Figure 11). Yent stated that the military construction in the area resulted in the leveling of the sand dune that paralleled the shoreline, and monitoring of trenching activities in the park between 1977 and 1980, suggested that most of these construction activities had destroyed the majority of the archaeological deposits associated with the Bellows Sand Dune site in the park area. Although documentation relating to the reburial could not be located, Martha Yent confirmed that the re-interment took place, as planned in December of 1991 (personal communication, June 2010).

Two reports were written describing testing, sampling, and monitoring conducted during the removal of two underground storage tanks within the beach park (Dega 2000; Ogg and Dega 2002; Figure 12). Both investigations resulted in no cultural materials, or deposits, being identified. Figure 13 is an approximate composite of the various archaeological sub-surface investigations, as well as the other ground disturbances impacting the Waimānalo Bay Beach Park.

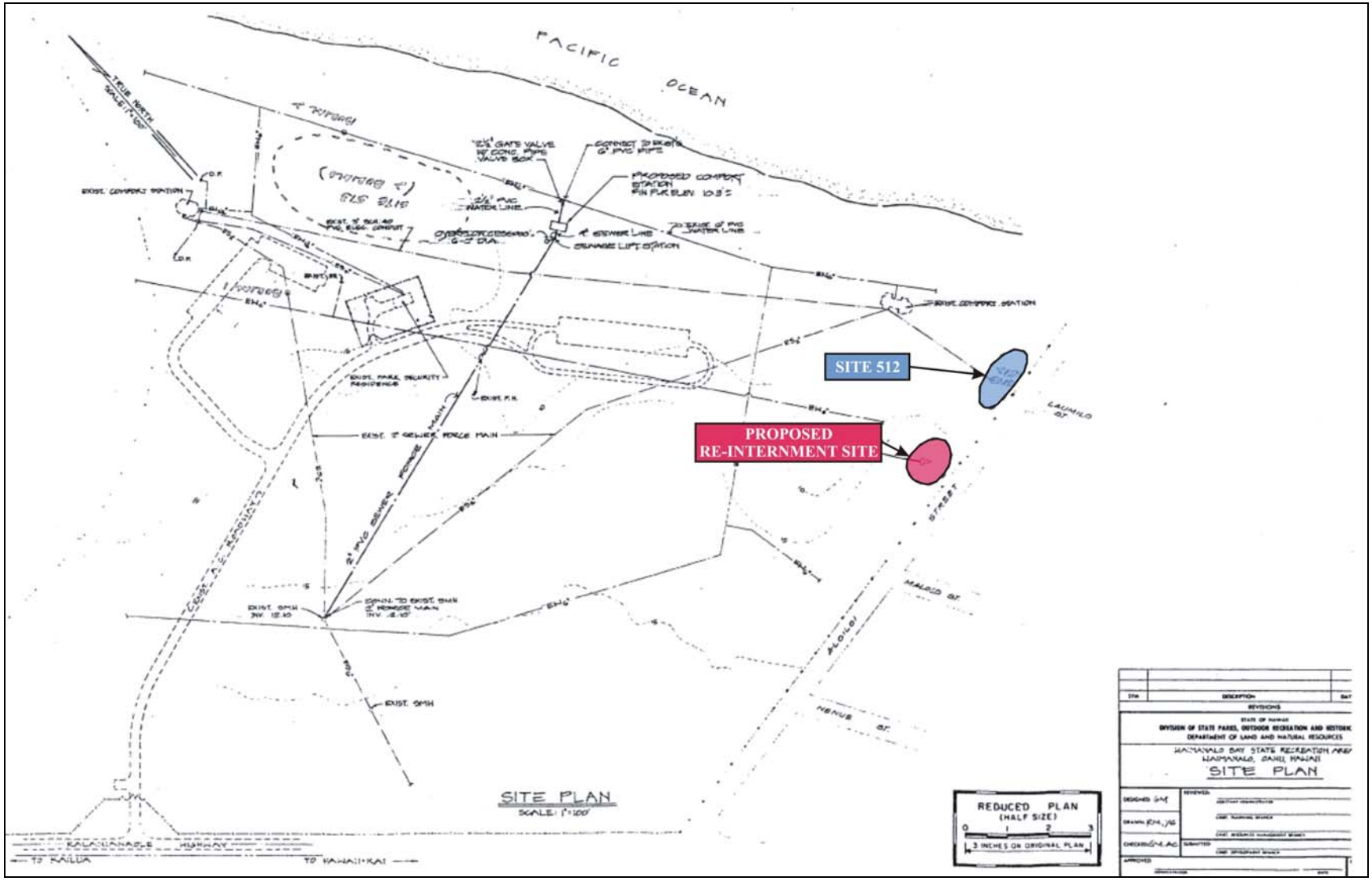

Figure 11: Map of Waimānalo Bay Beach Park Showing Re-interment Site.

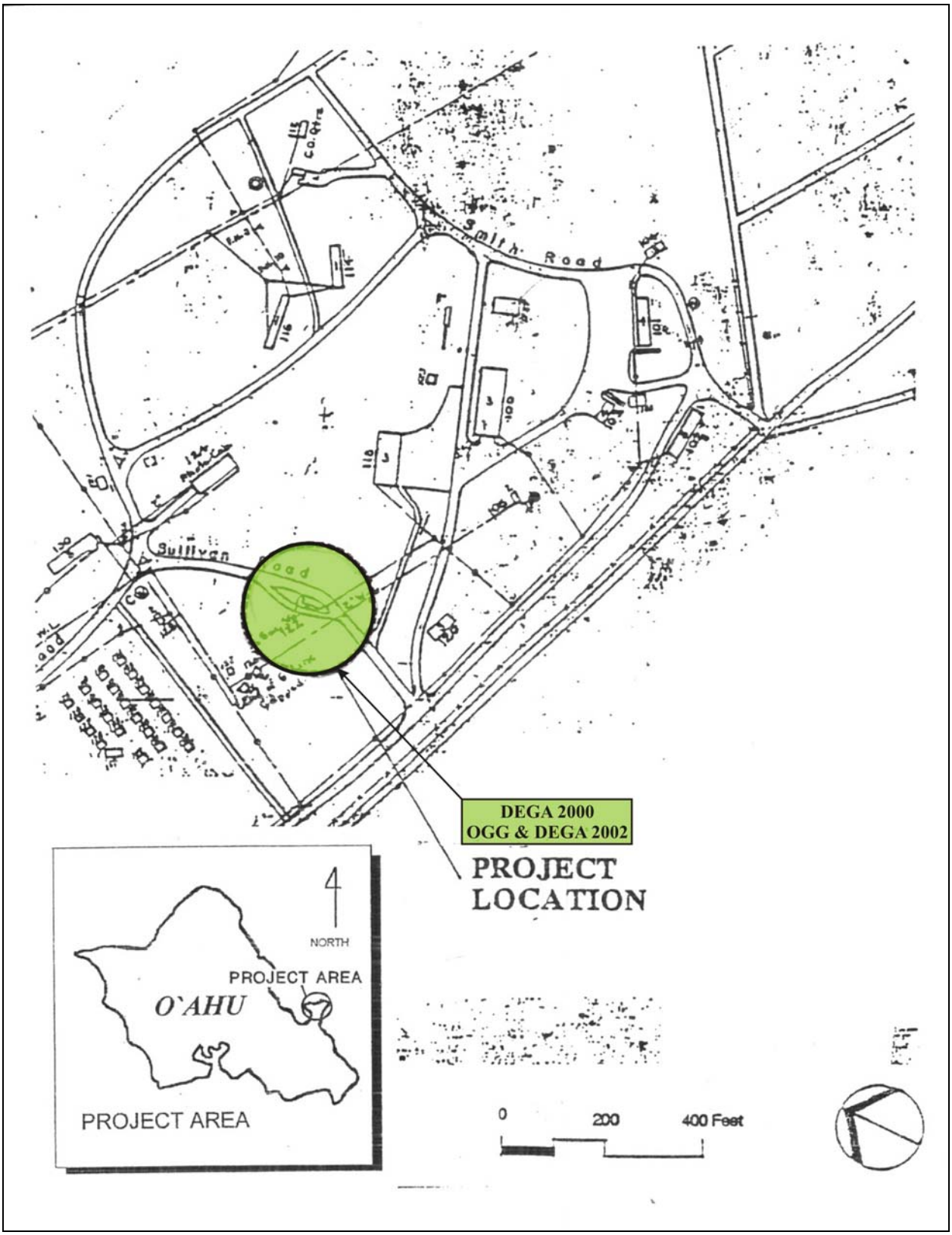

Figure 12: Map Showing Project Area in 2000 and 2002, Ogg and Dega 2002:3.

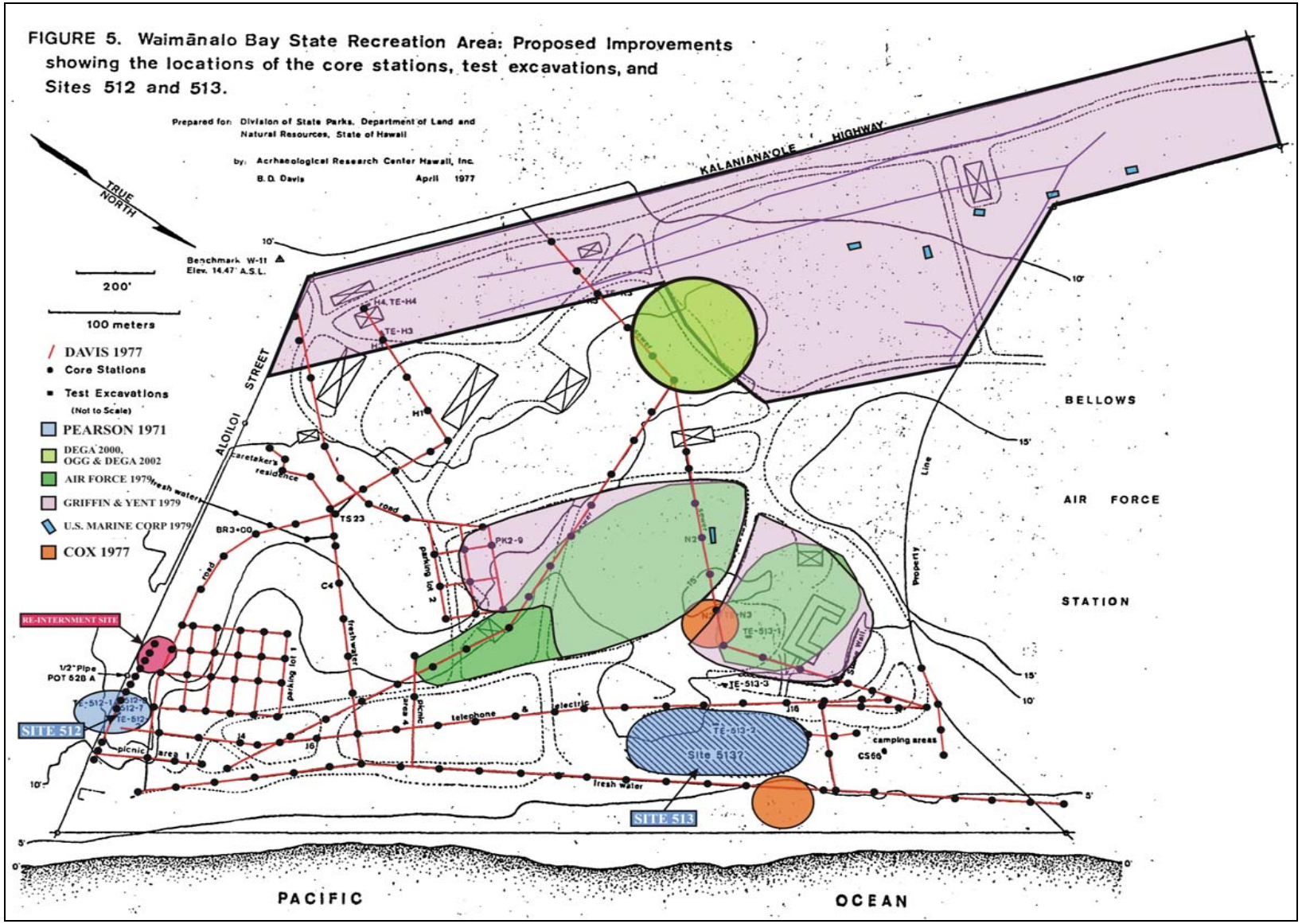

Figure 13: Map Showing Approximate Areas Impacted Within the Waimānalo Bay Beach Park.

CONCLUSIONS AND RECOMMENDATIONS

Sixteen documents were reviewed for information concerning sub-surface testing and archaeological remains within the boundaries of the Waimānalo Bay Beach Park. Two sites (State Site 512 and 513) were identified in 1971. A re-internment site, located in the original Bellows Dune was procured for the reburial of 60+ human remains in 1991. Two other burials (Cox 1978) were left in place and their approximate location is known. Extensive areas of Waimānalo Bay Beach Park have been impacted by construction activities and archaeological testing throughout the years leaving very little, if any; of the original surface intact (see Figure 13). Still in 1979, two pit features were uncovered next to a coring row that had been completed earlier that year. This suggests the possibility of other sub-surface intact cultural deposits in the park. Therefore, it is recommended that an Archaeological Inventory Survey be conducted in areas proposed for ground disturbance during development.

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Appendix F:

Traffic Impact Analysis Report

WAIMĀNALO BAY BEACH PARK MASTER PLAN

TRAFFIC IMPACT ANALYSIS (TIA) - REPORT

May 10, 2011

Prepared by:

City and County of Honolulu
Department of Design & Construction
Facilities Division, Planning Branch
650-South King Street
Honolulu, HI 96813

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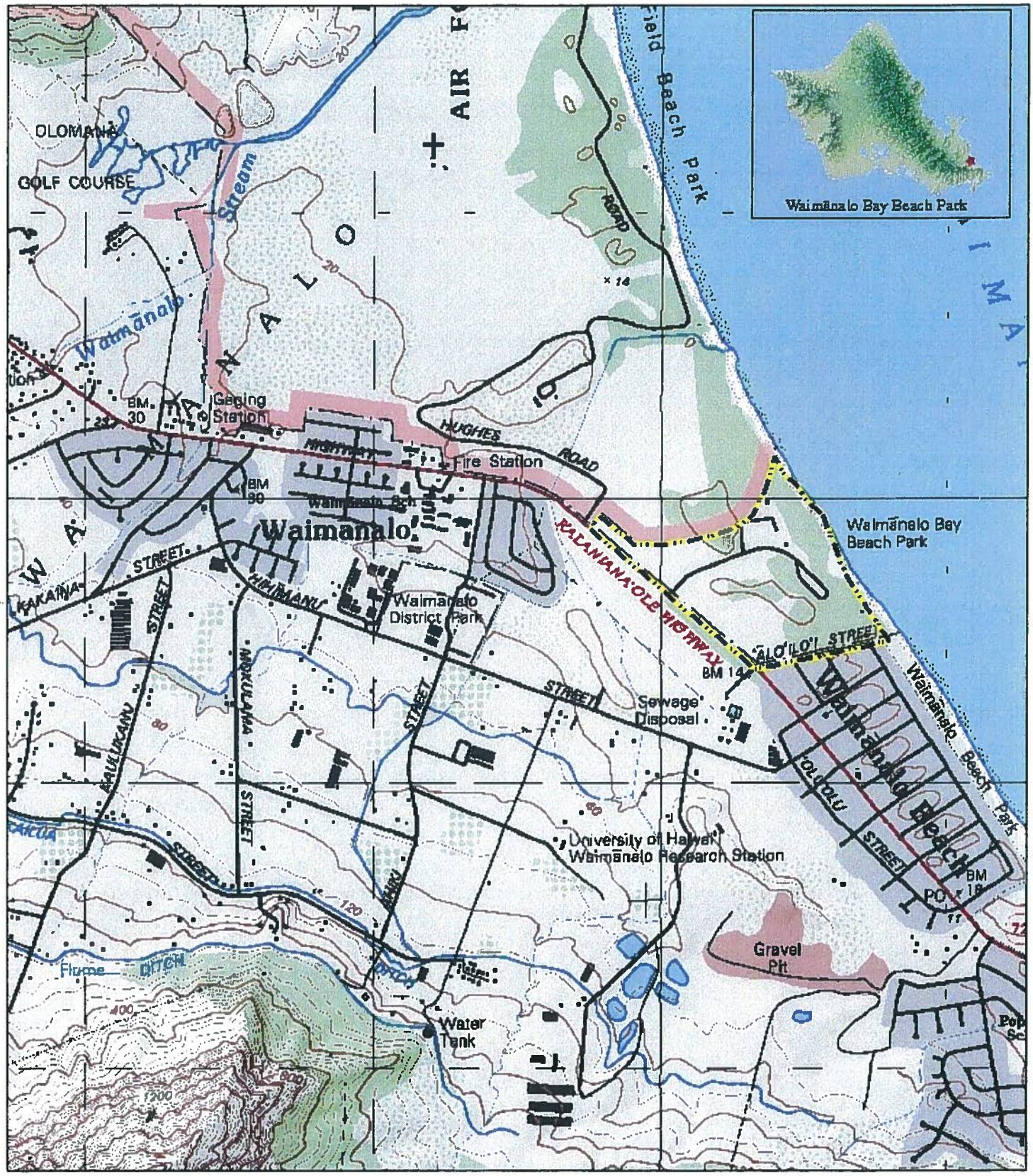


LEGEND

Waimānalo Bay Beach Park

Waimanalo Bay Beach Park

City and County of Honolulu — ISLAND OF O'AHU

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

Source: U.S. Geological Survey (2003)
Disclaimer: This graphic has been prepared for general planning purposes only.

Figure 1

Vicinity Map

FIGURE 2 SITE MAP EXISTING

EXISTING CONDITIONS:

Waimānalo Bay Beach Park is a City and County of Honolulu Beach Park located in the town of Waimānalo on the southeast side of the island of O'ahu. The park is bounded by the Pacific Ocean on the *makai* side and semi-rural residential areas below volcanic hillsides on the *mauka* side of the park (see Figure 1, Vicinity Map).

In addition to the beach frontage, the park currently contains vacant areas used for baseball, restrooms, a clothes changing area, outdoor showers, picnic tables, and 185 parking stalls at the end of an access road coming from the Kalaniana'ole Highway (see Figure 2, Site Map Existing). The town of Waimānalo is comprised of predominantly single-family residences, with a few businesses along Kalaniana'ole Highway, the main arterial in town.

To the west (*mauka)* side of the park is a hilly, mountainous area, and to the east (*makai*) is the ocean. To the south of the park is a McDonald's Restaurant and the Naturally Hawaiian Gallery. A mile or so to the south is Waimānalo Beach Park which provides approximately 15 small camp sites, a baseball field, a basketball court, and a canoe *halau*. To the north is the Waimānalo Fire Station, the Waimānalo Elementary and Intermediate School, and Bellows Air Force Base.

The Kalaniana'ole Highway (State Route-SR 72) is a two or three lane highway with a posted speed limit of 35 mph in the vicinity of the site. Bus routes #57, #77 and the #89 Express run along the highway with bus stops close to the park. There are bus acceleration lanes along the highway near the park. At the access road to the park, vehicles enter a left turn pocket to turn left going southbound into the park. However, traffic along the highway immediately in front of the park entrance is relatively light most of the day.

Kalaniana'ole Highway traffic is heaviest during the weekday PM peak hour. Based upon examination of 24-hour tube counts supplied by the Hawai'i Department of Transportation (HDOT), traffic is most heavy along Kalaniana'ole Highway from 3:30 PM to 7:30 PM on weekdays.

Because this report must examine the most critical traffic for the park access and the Kalaniana'ole Highway intersection, and for the Kalaniana'ole Highway roadway, weekday, PM peak hour is analyzed. Weekday, PM peak hour, traffic was considered to be the most critical traffic for the purposes of this traffic impact analysis. This report focuses on this time period for levels of service, delay, queuing, and other measures of traffic congestion.

Based on the two days of weekday continuous traffic counts done in 2007, the most heavy peak hour traffic on Kalaniana'ole Highway is from 4:15 PM to 5:15 PM. This also is the time of day during which participants using the ball fields are

expected to begin arriving at the park. Therefore this is the time of day that this traffic analysis is focused on. For a listing of traffic data from the 24-hour tube counts used in this study, please see Appendix A.

PROPOSED MASTER PLAN DEVELOPMENT:

The Waimānalo Bay Beach Park Master Plan proposes the construction of one baseball field, one softball field, two overlaid multi-purpose soccer/football fields, expanded parking, landscaping, camping and gathering areas, a new pavilion, a children's play apparatus area, walking and jogging trails, and improved restroom facilities. To accommodate this, parking will be expanded from 182 stalls to 470 stalls.

The Waimānalo Bay Beach Park Master Plan has undergone revisions and modifications since its inception. The Master Plan has gone through public meeting review and review by various agencies and by various stakeholders in the project. It is possible that construction of all components of the Master Plan may take 20 years to complete (see Figure 3, Site Map Proposed Master Plan).

The three proposed facilities with the potential for the greatest traffic impacts are the softball field, the baseball field, and two overlaid soccer/football combined fields. Based upon the experience of parks and recreation managers in the area, baseball fields are primarily used most during the spring, football during the fall, and soccer year around. Athletic fields also have the greatest usage from 3:30 PM to dusk, which also coincides with the evening peak hour traffic on weekdays. On weekends, the athletic fields tend to be used from 8 AM until dusk, but weekend traffic on Kalaniana'ole Highway tends to be less than on weekdays. The athletic fields have the potential to attract participants from not only Waimānalo, but Kailua and Kāne'ohe, as well as possibly from as far away as Hawai'i Kai, according to park officials.

FIGURE 3 SITE MAP PROPOSED MASTER PLAN

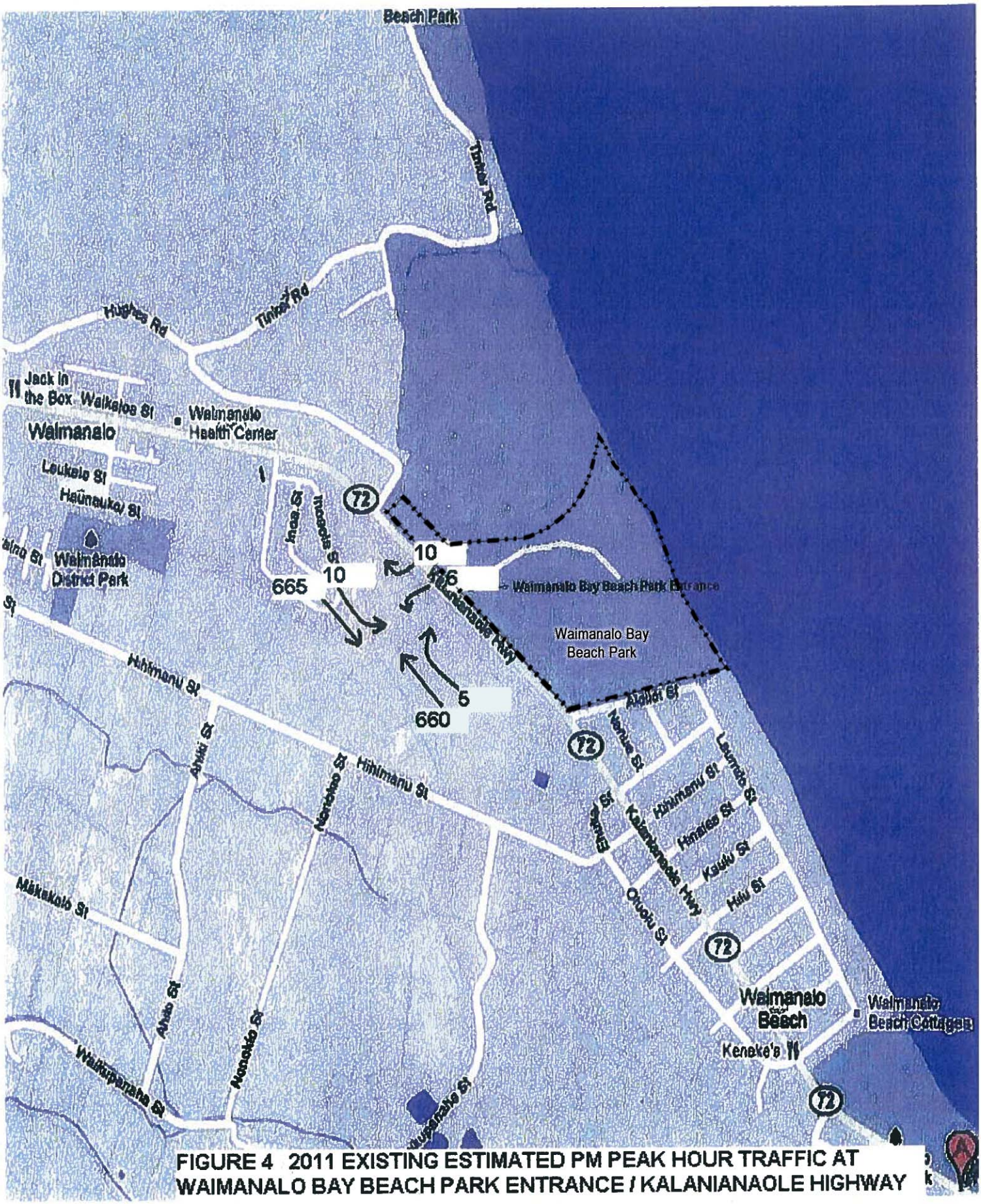


FIGURE 4 2011 EXISTING ESTIMATED PM PEAK HOUR TRAFFIC AT WAIMANALO BAY BEACH PARK ENTRANCE / KALANIANAOLE HIGHWAY

METHODOLOGY USING TRAFFIC MODELING:

Arrangements were made for the Department of Design and Construction (DDC) to use the Department of Transportation Services (DTS) Synchro Software Traffic Model which is maintained on a computer in the City and County of Honolulu Traffic Management Center. DDC engineers inputted roadway and intersection geometry and existing traffic estimates into the Synchro model.

Since no recent turning movement counts were available, an estimate of the existing in-out traffic to the access road of the Waimānalo Bay Beach Park was calculated by looking at mainline volumes along Kalaniana'ole Highway at locations before and after the access road. These two HDOT traffic stations, one just north of Aloiloi Street / Kalaniana'ole Highway and another just north of the Hughes Road intersection with Kalaniana'ole Highway (see Appendix A). The traffic data from these stations have tabulated 24-hour tube counts. These turning volumes were then compared to in-out volumes as estimated by the ITE Trip Generation Manual (see Figure 4).

The latest traffic data close to the site available from HDOT was for weekday counts in 2007. Subsequent talks with HDOT planning personnel revealed that there has been a decrease in traffic along Kalaniana'ole Highway since 2007, so usage of the 2007 counts could be considered to be conservative.

The model was then calibrated and the model was run for existing conditions. The results of the model runs were then tabulated for Level of Service, Average Delay, and other measures of effectiveness. An existing level of service/delay was calculated by the model (see Appendix C).

Projected turning movement volumes at the intersection of Kalaniana'ole Highway and the access road were estimated based on trip generation rates from the ITE Trip Generation Manual and from 24-hour counts taken before and after the park entrance. These traffic volumes were then inputted into the model and the model run for the most critical days of the week and times of day (see Figure 5).

Levels of Service and Delay were then calculated by the model for both existing and future traffic with full build-out of the project. Level of Service (LOS) is defined as "a qualitative measure describing operational conditions within a traffic stream". Several factors are included in determining LOS such as: speed, delay, vehicle density, freedom to maneuver, traffic interruptions, driver comfort, and safety. LOS "A", "B", and "C" are considered satisfactory levels of service. LOS "D" is generally considered a "desirable minimum" operating

level of service. LOS "E" is an undesirable condition where the facility is generally operating at capacity, and LOS "F" is an unacceptable condition.

EXISTING LEVELS OF SERVICE:

According to the Synchro Traffic Model, alone existing 2011 PM peak hour traffic has an acceptable level of service (LOS). Based upon the model alone, the level of service for the intersection is LOS A, although the westbound (WB) movement has an LOS D with 26.1 seconds of average vehicle delay (see Appendix C).

The model shows that the existing arterial northbound (NB) / southbound (SB) LOS to be level A in the vicinity of Waimānalo Bay Beach Park.

TABLE 1 2011 PM Peak Hour Existing Level of Service / Delay

Intersection or Road Section	Level of Service	Avg. Delay per Vehicle
Waimānalo Bay Beach Park Entrance & Kalaniana'ole Highway (SR 72)	LOS A- I.S. LOS D- WB LOS A - SBLT	0.4 sec. I.S. 26.1 sec.-WB 9.7 sec.-SBLT
Kalaniana'ole Highway (SR 72) north of Waimānalo Bay Beach Park Entrance	LOS A	0.0 sec.
Kalaniana'ole Highway (SR 72) south of Waimānalo Bay Beach Park Entrance	LOS A	0.0 sec.

I.S. – Intersection
WB – Westbound Traffic
SBLT – Southbound Left Turn Traffic

TRIP GENERATION OF PROPOSED DEVELOPMENT:

Based upon a breakdown of the proposed land use activities for the proposed master plan, here are the proposed activity usages by acreage:

- Beach Recreation - 24 Acres
- Sports Recreation - 17 Acres
- Fitness Recreation - 16 Acres
- Large Group Gathering - 2 Acres
- Baseyard - 1 Acre
- Caretaker's Residence - 1 Acre
- Roads / Parking & Misc. - 14 Acres

Total Acreage 75 Acres

Based upon review of the Institute of Transportation Engineers (ITE) Trip Generation Manual, 6th Edition[1], there were no land use categories for Baseyard, Large Group Gatherings, Caretaker's Residences, or Roads/Parking that fit these land uses precisely. For Fitness Recreation and Sports Recreation, there was a category for Fitness Club, but it was based upon square footage of the building which is not relevant in this case, since these activities occur outdoors. Therefore, we looked at the categories for Parks that were relevant. These included City Park (411), County Park (412), Beach Park (415), and Regional Park (417).

Table 2 shows the trip generations for the entire park development (75 acres) for each of these land uses. It is noted that Beach Park (415) creates by far the greatest trip generation of all the park land uses. And this category also fits the description of this park the best.

From the ITE Trip Generation Manual a Beach Park is described as consisting of a beach and possibly other facilities such as changing rooms, rest rooms, picnic facilities, and hiking, fishing and camping facilities. Often, in season, lifeguards are provided. Seasonal use of the individual sites differs widely as the result of the varying facilities and local conditions.

Even though this description is not perfect either, Beach Park (415) trip generations were used to be on the conservative side and possibly to account for the highly variable traffic coming from baseball and/or soccer/football field activity. This type of ball field activity could potentially occur during the PM peak

[1] The ITE Trip Generation Manual, 6th Edition, by the Institute of Transportation Engineers is the most widely accepted reference guide for determining trip generations by different types of development in the United States of America. It is widely used and accepted by cities, counties, and state governments in determining traffic impacts of proposed developments.

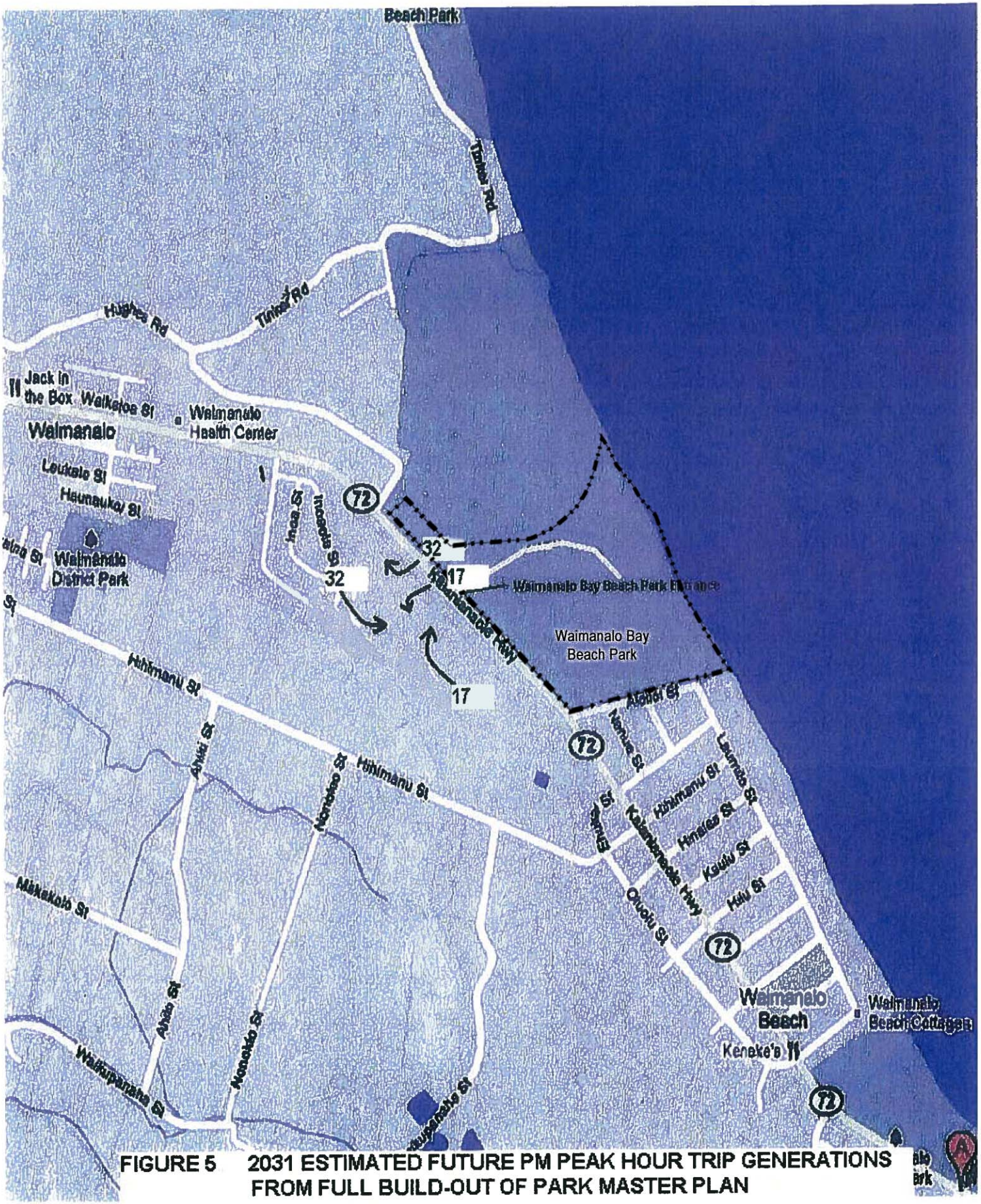


FIGURE 5 2031 ESTIMATED FUTURE PM PEAK HOUR TRIP GENERATIONS FROM FULL BUILD-OUT OF PARK MASTER PLAN

hour traffic. Though it is possible that both baseball fields and the soccer/football field could have events at the same time there is a large picnic, the City and County of Honolulu Department of Parks and Recreation permitting section has the ability to schedule large events to avoid this type of situation.

See Appendix B for Trip Generation tables taken from the ITE Trip Generation Manual.

TABLE 2 Trip Generations from Full Build-Out of Plan

Total # Acres	Land Use Type	Total Weekday Trips	Total PM Peak Hr. Trips	PM Peak Hr. Trips Into Park	PM Peak Hr. Trips Out of Park
75 Acres	City Park (411)	1.59x75= 119	No Data	No Data	No Data
75 Acres	County Park (412)	2.28x75= 171	0.06x75= 5	2	3
75 Acres	**Beach Park (415)**	**29.81x75= 2,236**	**1.30x75= 98**	**49**	**49**
75 Acres	Regional Park (417)	4.57x75= 343	0.20x75= 15	7	8

Review of the above table shows that 2,236 trips per day would be generated from a beach park of 75 acres. The same beach park would also generate 98 PM peak hour trips, with 49 entering and 49 exiting the park. This amount of traffic could account for all the traffic from an amateur baseball field or from an amateur soccer/football field if all vehicles left or arrived within a 1 hour period.
This peak hour traffic, along with the peak hour traffic from the HDOT counts, from 4:15-5:15 PM were inputted into the Synchro software to develop a realistic traffic model. To account for ball field arrivals/departures occurring within less than a 1 hour period, an appropriate peak hour factor was inputted into the model. A peak hour factor is the peak 15 minute period traffic times four divided into the peak hour volume. It is a measure of the intensity of the peak 15 minute traffic within the peak hour.

TRIP DISTRIBUTION OF DEVELOPMENT TRAFFIC:

The resulting trips above were assigned to the traffic circulation system in a logical manner based upon existing and future expected travel patterns. Since more traffic is expected to come from and go to the north where the central part of Waimānalo is located as well as Kailua, and Kāne'ohe, 65 percent of the traffic was assigned to Kalaniana'ole Highway making a right turn exiting the park, and 35 percent of the traffic was assumed to make a left turn exiting from the park. Similarly, 65 percent of the inbound traffic was assumed to make a left turn coming from the north, and 35 percent of the inbound traffic was assumed to make a right turn coming into the park from the south.

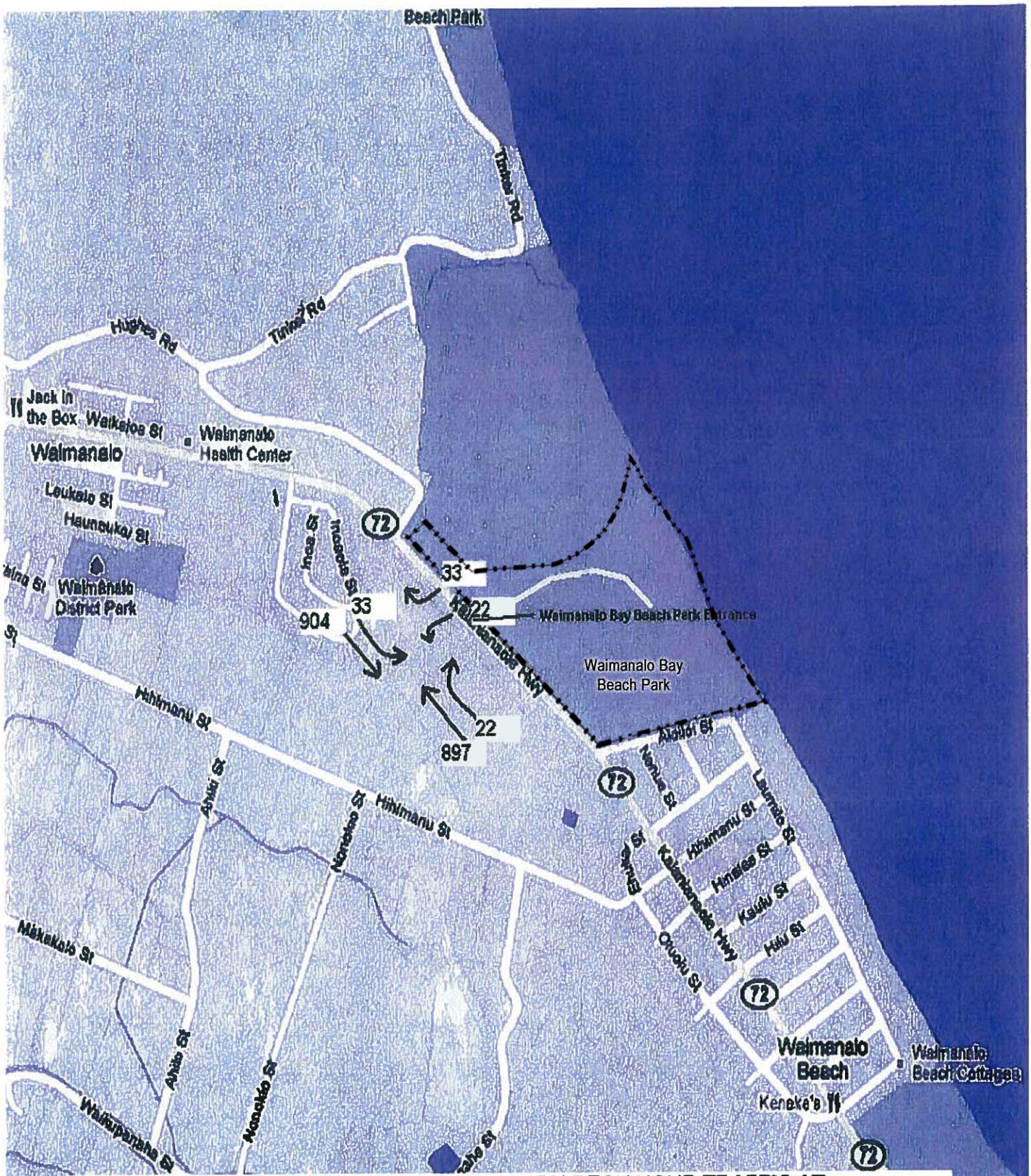


FIGURE 6 2031 ESTIMATED FUTURE TOTAL PM PEAK HOUR TRAFFIC AT WAIMANALO BAY BEACH PARK ENTRANCE / KALANIANAOLE HIGHWAY WITH FULL BUILD OUT OF PARK MASTER PLAN

TRAFFIC SIGNAL WARRANT ANALYSIS:

Traffic signal warrants as outlined in the Manual of Uniform Traffic Control Devices (MUTCD) were used as a guideline in determining whether the increased traffic that is projected to come as a result of full build-out of the master plan improvements would trigger the need for a traffic signal.

Eight (8) Traffic Signal Warrants as shown in the MUTCD were examined to see if the Kalaniana'ole Highway / Waimānalo Bay Beach Park entrance would meet them in the year 2031 (See Appendix D Traffic Signal Warrant Analysis). Since the signal is on a state route (Kalaniana'ole Highway-State Route 72), concurrence of the Hawai'i Department of Transportation is necessary before a traffic signal can be installed at the Waimānalo Bay Beach Park entrance. Signals like other street improvements also depend on the availability of funding to design and construct them.

Signal warrant #1 is based upon eight hour vehicular volumes, warrant #2 is based upon four hour vehicular volumes, warrant #3 is based upon peak hour volumes, and warrant #4 is based upon pedestrian volumes. These four warrants need to have vehicular or pedestrian volume thresholds met based upon graphs which are shown in Appendix D. Warrant #5 is based upon the presence of a school crossing (not applicable here), warrant #6 is based upon having a coordinated signal system (not applicable), warrant #7 is based upon accident history (5 or more accidents in a one year period correctable by a traffic signal), and warrant #8 is based upon the roadway network characteristics.

Analysis of all eight traffic signal warrants shows that none of them is met currently, though exact pedestrian counts and complete accident data was not available at the time of this writing. None of the signal warrants are expected to be fully met in the year 2031 based upon our traffic impact analysis. However, HDOT and City and County of Honolulu should continue monitoring the intersection of the entrance to the park and Kalaniana'ole Highway. Based upon future development in the area and the park development, traffic may grow at a faster rate than the predicted 1.2 percent per year. This number is based upon a regression of past counts on Kalaniana'ole Highway in the area and upon past traffic growth trends, and may not take into account all land-use change factors.

FUTURE LEVELS OF SERVICE:

Based upon the latest planning data from the HDOT (see Appendix A), traffic along this section of Kalaniana'ole Highway is expected to grow approximately 25 percent in the next 20 years. We used this growth rate, about 1.2 percent per year, to determine background traffic growth in the next 20 years to the year 2031.

Assuming that traffic grows at 1.2 percent per year along the Kalaniana'ole Highway (SR 72) and that the Master Plan is fully built in 20 years, the levels of service (LOS) of both the intersection and the Kalaniana'ole Highway are expected to deteriorate to lower levels of service by 2031.

The real problem will be for vehicles leaving or entering the park during the PM peak hour. This situation will occur before and after baseball and soccer/football games, or during other large gatherings such as large picnics or outdoors meetings.

TABLE 3 2031 Level of Service/Delay with Master Plan Development Traffic & Traffic Growth 0f 1.2 percent per Year

Intersection or Road Section	Level of Service	Avg. Delay per Vehicle
Waimānalo Bay Beach Park Entrance & Kalaniana'ole Highway (SR 72)	LOS C – I.S. LOS F – WB LOS B - SBLT	3.1 sec. 103.3 sec. 11.2 sec.
Kalaniana'ole Highway (SR 72) north of Waimānalo Bay Beach Park Entrance	LOS A	0.0 sec.
Kalaniana'ole Highway (SR 72) south of Waimānalo Bay Beach Park Entrance	LOS A	0.0 sec.

I.S. – Intersection
WB – Westbound
SBLT – Southbound Left Turn

CONCLUSIONS AND RECOMMENDED ROADWAY OR INTERSECTION IMPROVEMENTS:

No road widening to increase the number of lanes on Kalaniana'ole Highway is recommended as the result of this traffic impact analysis. However, delineation of the westbound park access road to include a separate left turn and right turn lane would be beneficial to traffic flow coming from the park after large events.

Also at this time, a traffic signal is not warranted, though the traffic congestion around the entrance to Waimānalo Bay Beach Park should continue to be monitored. It is possible that in the future, a traffic signal may be warranted here.

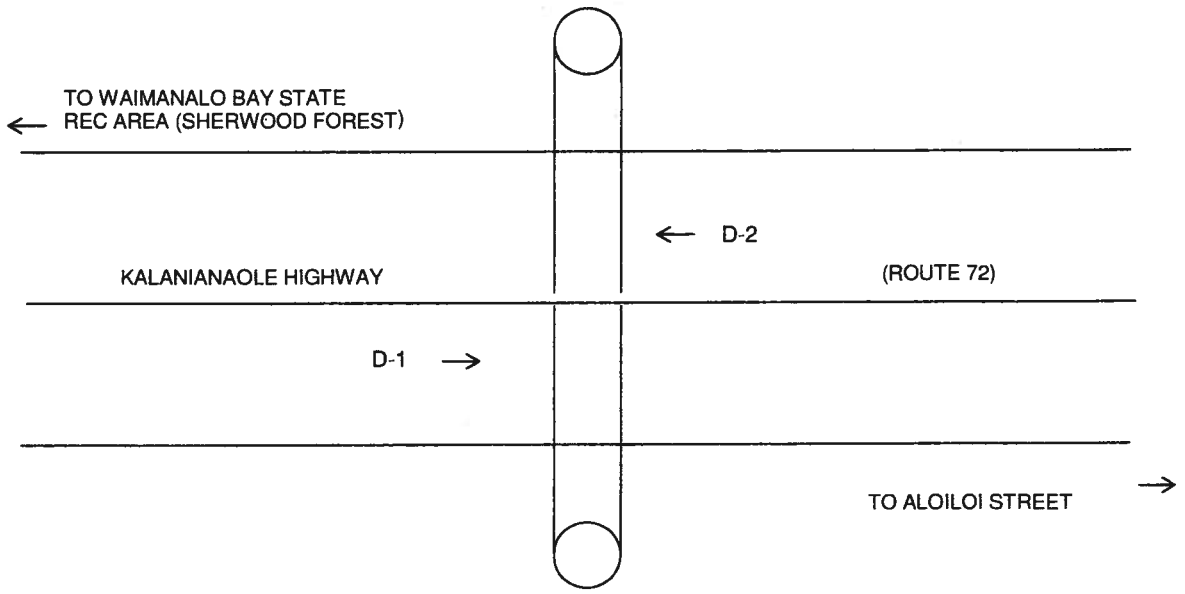
Both the City and County of Honolulu and the Hawai'i Department of Transportation (HDOT) should continue to monitor traffic and complaints about traffic in the area around Waimānalo Bay Beach Park as traffic grows and as the park develops. Also accident records should be followed as the park is developed in the future.

It is possible that, in the future, as traffic traveling northbound and turning right into the park grows, that a right turn pocket may be beneficial to traffic flow and traffic safety at sometime in the future. Traffic at the park entrance involving northbound right turns should continue to be monitored.

APPENDIX A
TRAFFIC COUNT DATA

ISLAND: OAHU
AREA: WAIMANALO

WAIMANALO BAY STATE
REC AREA (SHERWOOD FOREST)



HONOLULU POLO CLUB

Station No:	B72 0072 00408

Station Location:			
Kalanianaole Highway between Waimanalo Bay Park and Aloiloi Street			
Station Mileage:	4.49	GPS Coord (Latitude):	
		GPS Coord (Longitude):	
Begin Survey (Date/Time):		End Survey (Date/Time):	
Survey Method: LOOP HOSE OTHER		Survey Type: VOL CLASS SPEED OTHER	
Survey Crew:		Module No.:	

HPMS DATA

Segment Description:

KALANIANAOLE HIGHWAY - ROAD TO BELLOWS AFB TO BEGINNING OF 10' COMBINATION RIGHT SHOULDER

Segment Begin LRS	4.08	Segment End LRS	4.61	Length	0.53

Facility Name	Juris	Func Class	Area Type	Route No.	Route Mile	D-1 = Direction to End of Route D-2 = Direction to Beginning of Route	
KALANIANAOLE HIGHWAY	S	14	3	72	4.49	D-1	TO AINAKOA AVENUE
						D-2	TO KAILUA ROAD

Sketch By: GN Date: 2/3/2005 SLD: 2003

Run Date: 2008/06/05

Hawaii Department of Transportation
Highways Division — Highways Planning Survey Section
2007 Program Count - Summary

Site ID: B72007200408 **Town:** Oahu **Final AADT:** 0
Functional Class: URBAN:PRINCIPAL ARTERIAL - OTHER **Count Type:** CLASS **Route No:** 72
Location: KALANIANAOLE HWY - RD. TO BELLOWS AFB TO **Counter Type:** Tube **DIR 1:** +MP **DIR 2:** -MP

TIME-AM	DIR 1	DIR 2	TOTAL	TIME-AM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL
DATE : 06/20/2007															
12:00-12:15	16	25	41	06:00-06:15	48	112	160	12:00-12:15	96	131	227	06:00-06:15	141	142	283
12:15-12:30	16	14	30	06:15-06:30	72	108	180	12:15-12:30	132	130	262	06:15-06:30	144	129	273
12:30-12:45	13	21	34	06:30-06:45	74	116	190	12:30-12:45	132	140	272	06:30-06:45	152	149	301
12:45-01:00	20	11	31	06:45-07:00	73	106	179	12:45-01:00	112	128	240	06:45-07:00	119	152	271
01:00-01:15	16	10	26	07:00-07:15	96	109	205	01:00-01:15	123	130	253	07:00-07:15	135	131	266
01:15-01:30	17	17	34	07:15-07:30	93	112	205	01:15-01:30	112	131	243	07:15-07:30	110	107	217
01:30-01:45	8	12	20	07:30-07:45	111	144	255	01:30-01:45	139	151	290	07:30-07:45	102	107	209
01:45-02:00	9	7	16	07:45-08:00	116	148	264	01:45-02:00	127	133	260	07:45-08:00	100	103	203
02:00-02:15	6	8	14	08:00-08:15	139	158	297	02:00-02:15	134	144	278	08:00-08:15	84	76	160
02:15-02:30	7	6	13	08:15-08:30	130	135	265	02:15-02:30	122	145	267	08:15-08:30	76	71	147
02:30-02:45	6	8	14	08:30-08:45	108	125	233	02:30-02:45	143	142	285	08:30-08:45	74	66	140
02:45-03:00	4	3	7	08:45-09:00	90	106	196	02:45-03:00	124	154	278	08:45-09:00	67	62	129
03:00-03:15	8	7	15	09:00-09:15	94	115	209	03:00-03:15	134	143	277	09:00-09:15	71	65	136
03:15-03:30	5	8	13	09:15-09:30	101	104	205	03:15-03:30	162	152	314	09:15-09:30	81	81	162
03:30-03:45	10	8	18	09:30-09:45	101	118	219	03:30-03:45	143	150	293	09:30-09:45	59	59	118
03:45-04:00	10	12	22	09:45-10:00	109	117	226	03:45-04:00	133	147	280	09:45-10:00	89	52	141
04:00-04:15	7	14	21	10:00-10:15	103	127	230	04:00-04:15	164	156	320	10:00-10:15	64	57	121
04:15-04:30	6	17	23	10:15-10:30	113	142	255	04:15-04:30	164	172	336	10:15-10:30	63	48	111
04:30-04:45	5	9	14	10:30-10:45	121	118	239	04:30-04:45	162	175	337	10:30-10:45	49	45	94
04:45-05:00	18	41	59	10:45-11:00	122	121	243	04:45-05:00	159	166	325	10:45-11:00	53	38	91
05:00-05:15	20	37	57	11:00-11:15	113	128	241	05:00-05:15	190	185	375	11:00-11:15	32	41	73
05:15-05:30	11	41	52	11:15-11:30	118	153	271	05:15-05:30	180	142	322	11:15-11:30	25	20	45
05:30-05:45	38	73	111	11:30-11:45	111	135	246	05:30-05:45	179	147	326	11:30-11:45	30	22	52
05:45-06:00	34	82	116	11:45-12:00	105	147	252	05:45-06:00	143	140	283	11:45-12:00	20	23	43

AM COMMUTER PERIOD (05:00-09:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:30 AM to 08:30 AM		
AM - PEAK HR VOLUME	496	585	1081
AM - K FACTOR (%)			6.36
AM - D (%)	45.88	54.12	100.00
DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:30 AM to 08:30 AM	07:30 AM to 08:30 AM	
AM - PEAK HR VOLUME	496	585	

PM COMMUTER PERIOD (15:00-19:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	04:15 PM to 05:15 PM		
PM - PEAK HR VOLUME	675	698	1373
PM - K FACTOR (%)			8.08
PM - D (%)	49.16	50.84	100.00
DIRECTIONAL PEAK			
PM - PEAK HR TIME	04:45 PM to 05:45 PM	04:15 PM to 05:15 PM	
PM - PEAK HR VOLUME	708	698	

AM PERIOD (00:00-12:00)			
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:30 AM to 08:30 AM		
AM - PEAK HR VOLUME	496	585	1081
AM - K FACTOR (%)			6.36
AM - D (%)	45.88	54.12	100.00

PM PERIOD (12:00-24:00)			
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	04:15 PM to 05:15 PM		
PM - PEAK HR VOLUME	675	698	1373
PM - K FACTOR (%)			8.08
PM - D (%)	49.16	50.84	100.00

NON-COMMUTER PERIOD (09:00-15:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
PEAK HR TIME	02:00 PM to 03:00 PM		
PEAK HR VOLUME	523	585	1108
DIRECTIONAL PEAK			
PEAK HR TIME	01:45 PM to 02:45 PM	02:00 PM to 03:00 PM	
PEAK HR VOLUME	526	585	

6-HR, 12-HR, 24-HR PERIODS	DIR 1	DIR 2	Total
AM 6-HR PERIOD (06:00-12:00)	2,461	3,004	5,465
AM 12-HR PERIOD (00:00-12:00)	2,771	3,495	6,266
PM 6-HR PERIOD (12:00-18:00)	3,409	3,534	6,943
PM 12-HR PERIOD (12:00-24:00)	5,349	5,380	10,729
24 HOUR PERIOD	8,120	8,875	16,995
D (%)	47.78	52.22	100.00

Run Date: 2008/06/05

Hawaii Department of Transportation

Highways Division — Highways Planning Survey Section

2007 Program Count - Summary

Site ID: B72007200408 **Town:** Oahu **Final AADT:** 0

Functional Class: URBAN:PRINCIPAL ARTERIAL - OTHER **Count Type:** CLASS **Route No:** 72

Location: KALANIANAOLE HWY - RD. TO BELLOWS AFB TO **Counter Type:** Tube **DIR 1:** +MP **DIR 2:** -MP

TIME-AM	DIR 1	DIR 2	TOTAL	TIME-AM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL
DATE : 06/21/2007															
12:00-12:15	20	22	42	06:00-06:15	53	111	164	12:00-12:15	102	117	219	06:00-06:15	123	132	255
12:15-12:30	15	13	28	06:15-06:30	68	104	172	12:15-12:30	133	130	263	06:15-06:30	136	141	277
12:30-12:45	14	19	33	06:30-06:45	74	105	179	12:30-12:45	139	136	275	06:30-06:45	143	137	280
12:45-01:00	18	13	31	06:45-07:00	86	99	185	12:45-01:00	120	136	256	06:45-07:00	102	132	234
01:00-01:15	20	9	29	07:00-07:15	84	97	181	01:00-01:15	115	140	255	07:00-07:15	107	97	204
01:15-01:30	10	12	22	07:15-07:30	70	116	186	01:15-01:30	108	134	242	07:15-07:30	102	82	184
01:30-01:45	10	6	16	07:30-07:45	118	135	253	01:30-01:45	133	143	276	07:30-07:45	106	99	205
01:45-02:00	9	10	19	07:45-08:00	120	134	254	01:45-02:00	141	136	277	07:45-08:00	87	92	179
02:00-02:15	6	7	13	08:00-08:15	138	122	260	02:00-02:15	132	147	279	08:00-08:15	71	82	153
02:15-02:30	4	5	9	08:15-08:30	138	139	277	02:15-02:30	125	166	291	08:15-08:30	61	69	130
02:30-02:45	7	9	16	08:30-08:45	115	130	245	02:30-02:45	141	157	298	08:30-08:45	81	70	151
02:45-03:00	4	6	10	08:45-09:00	127	105	232	02:45-03:00	130	157	287	08:45-09:00	81	60	141
03:00-03:15	2	8	10	09:00-09:15	99	118	217	03:00-03:15	145	133	278	09:00-09:15	69	73	142
03:15-03:30	6	7	13	09:15-09:30	96	110	206	03:15-03:30	144	155	299	09:15-09:30	80	90	170
03:30-03:45	14	7	21	09:30-09:45	104	86	190	03:30-03:45	133	170	303	09:30-09:45	82	62	144
03:45-04:00	11	14	25	09:45-10:00	87	132	219	03:45-04:00	172	171	343	09:45-10:00	68	69	137
04:00-04:15	4	9	13	10:00-10:15	100	132	232	04:00-04:15	168	132	300	10:00-10:15	74	57	131
04:15-04:30	3	14	17	10:15-10:30	102	135	237	04:15-04:30	159	179	338	10:15-10:30	67	32	99
04:30-04:45	9	14	23	10:30-10:45	106	133	239	04:30-04:45	171	156	327	10:30-10:45	46	33	79
04:45-05:00	13	36	49	10:45-11:00	116	117	233	04:45-05:00	175	145	320	10:45-11:00	39	46	85
05:00-05:15	18	36	54	11:00-11:15	104	131	235	05:00-05:15	151	166	317	11:00-11:15	29	22	51
05:15-05:30	21	45	66	11:15-11:30	106	122	228	05:15-05:30	173	166	339	11:15-11:30	37	29	66
05:30-05:45	33	70	103	11:30-11:45	117	132	249	05:30-05:45	197	134	331	11:30-11:45	35	23	58
05:45-06:00	40	68	108	11:45-12:00	108	152	260	05:45-06:00	149	131	280				

AM COMMUTER PERIOD (05:00-09:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:30 AM to 08:30 AM		
AM - PEAK HR VOLUME	514	530	1044
AM - K FACTOR (%)			6.27
AM - D (%)	49.23	50.77	100.00
DIRECTIONAL PEAK			
AM - PEAK HR TIME	08:00 AM to 09:00 AM	07:30 AM to 08:30 AM	
AM - PEAK HR VOLUME	518	530	

PM COMMUTER PERIOD (15:00-19:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	03:45 PM to 04:45 PM		
PM - PEAK HR VOLUME	670	638	1308
PM - K FACTOR (%)			7.86
PM - D (%)	51.22	48.78	100.00
DIRECTIONAL PEAK			
PM - PEAK HR TIME	04:45 PM to 05:45 PM	03:30 PM to 04:30 PM	
PM - PEAK HR VOLUME	696	652	

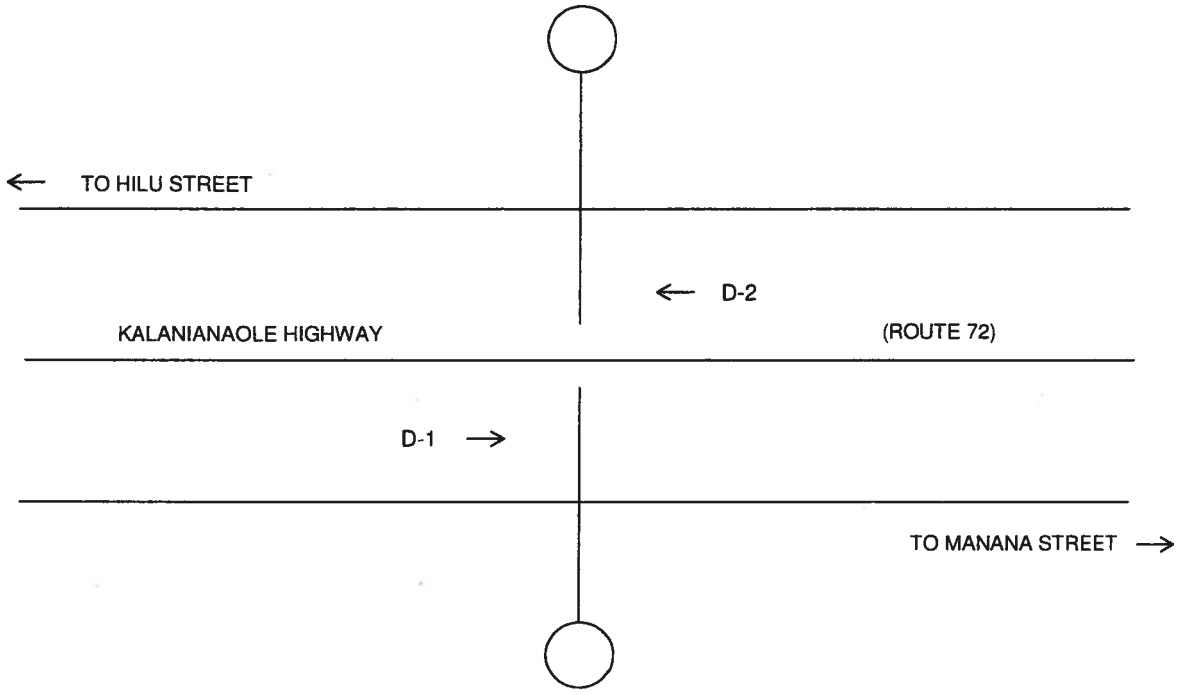
AM PERIOD (00:00-12:00)			
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:30 AM to 08:30 AM		
AM - PEAK HR VOLUME	514	530	1044
AM - K FACTOR (%)			6.27
AM - D (%)	49.23	50.77	100.00

PM PERIOD (12:00-24:00)			
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	03:45 PM to 04:45 PM		
PM - PEAK HR VOLUME	670	638	1308
PM - K FACTOR (%)			7.86
PM - D (%)	51.22	48.78	100.00

NON-COMMUTER PERIOD (09:00-15:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
PEAK HR TIME	02:00 PM to 03:00 PM		
PEAK HR VOLUME	528	627	1155
DIRECTIONAL PEAK			
PEAK HR TIME	01:45 PM to 02:45 PM	02:00 PM to 03:00 PM	
PEAK HR VOLUME	539	627	

6-HR, 12-HR, 24-HR PERIODS	DIR 1	DIR 2	Total
AM 6-HR PERIOD (06:00-12:00)	2,436	2,897	5,333
AM 12-HR PERIOD (00:00-12:00)	2,747	3,356	6,103
PM 6-HR PERIOD (12:00-18:00)	3,456	3,537	6,993
PM 12-HR PERIOD (12:00-24:00)	5,282	5,266	10,548
24 HOUR PERIOD	8,029	8,622	16,651
D (%)	48.22	51.78	100.00

ISLAND: OAHU
AREA: WAIMANALO



Station No:	B72 0072 00461

Station Location:			
Kalanianaole Highway between Hilu Street and Manana Street			
Station Mileage:	5.01	GPS Coord (Latitude):	
		GPS Coord (Longitude):	
Begin Survey (Date/Time):		End Survey (Date/Time):	
Survey Method: LOOP HOSE OTHER		Survey Type: VOL CLASS SPEED OTHER	
Survey Crew:		Module No.:	

HPMS DATA

Segment Description:

KALANIANAOLE HIGHWAY - BEGINNING OF 10' COMBINATION RIGHT SHOULDER TO WAILEA STREET (ADT CHANGE)

Segment Begin LRS	4.61	Segment End LRS	5.26	Length	0.65

Facility Name	Juris	Func Class	Area Type	Route No.	Route Mile	D-1 = Direction to End of Route D-2 = Direction to Beginning of Route	
KALANIANAOLE HIGHWAY	S	14	3	72	5.01	D-1	TO AINAKOA AVENUE
						D-2	TO KAILUA ROAD

Sketch By: GN Date: 2/3/2005 SLD: 2003

Run Date: 2008/06/05

Hawaii Department of Transportation

Highways Division — Highways Planning Survey Section

2007 Program Count - Summary

Site ID: B72007200461 **Town:** Oahu **Final AADT:** 0
Functional Class: URBAN:PRINCIPAL ARTERIAL - OTHER **Count Type:** VOLUME **Route No:** 72
Location: KALANIANAOLE HWY - BEG. OF 10' COMBINATI **Counter Type:** Tube **DIR 1:** +MP **DIR 2:** -MP

TIME-AM	DIR 1	DIR 2	TOTAL	TIME-AM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL
DATE : 06/26/2007															
12:00-12:15	23	18	41	06:00-06:15	53	97	150	12:00-12:15	117	142	259	06:00-06:15	147	141	288
12:15-12:30	13	18	31	06:15-06:30	57	104	161	12:15-12:30	131	101	232	06:15-06:30	129	121	250
12:30-12:45	14	15	29	06:30-06:45	81	108	189	12:30-12:45	148	130	278	06:30-06:45	125	124	249
12:45-01:00	7	16	23	06:45-07:00	94	97	191	12:45-01:00	127	130	257	06:45-07:00	111	110	221
01:00-01:15	15	8	23	07:00-07:15	93	107	200	01:00-01:15	123	145	268	07:00-07:15	80	85	165
01:15-01:30	11	10	21	07:15-07:30	94	88	182	01:15-01:30	130	104	234	07:15-07:30	91	104	195
01:30-01:45	9	12	21	07:30-07:45	115	101	216	01:30-01:45	125	154	279	07:30-07:45	87	78	165
01:45-02:00	6	12	18	07:45-08:00	152	140	292	01:45-02:00	120	131	251	07:45-08:00	85	71	156
02:00-02:15	12	6	18	08:00-08:15	133	126	259	02:00-02:15	116	120	236	08:00-08:15	75	67	142
02:15-02:30	4	3	7	08:15-08:30	124	101	225	02:15-02:30	139	171	310	08:15-08:30	74	70	144
02:30-02:45	9	5	14	08:30-08:45	115	128	243	02:30-02:45	108	161	269	08:30-08:45	62	57	119
02:45-03:00	4	4	8	08:45-09:00	110	138	248	02:45-03:00	123	156	279	08:45-09:00	69	63	132
03:00-03:15	7	6	13	09:00-09:15	89	113	202	03:00-03:15	127	123	250	09:00-09:15	66	79	145
03:15-03:30	6	6	12	09:15-09:30	98	136	234	03:15-03:30	146	153	299	09:15-09:30	58	60	118
03:30-03:45	14	7	21	09:30-09:45	94	104	198	03:30-03:45	131	166	297	09:30-09:45	68	57	125
03:45-04:00	12	12	24	09:45-10:00	90	127	217	03:45-04:00	164	136	300	09:45-10:00	46	55	101
04:00-04:15	5	11	16	10:00-10:15	100	151	251	04:00-04:15	160	166	326	10:00-10:15	45	39	84
04:15-04:30	6	10	16	10:15-10:30	99	121	220	04:15-04:30	155	162	317	10:15-10:30	51	44	95
04:30-04:45	16	25	41	10:30-10:45	112	130	242	04:30-04:45	150	156	306	10:30-10:45	38	31	69
04:45-05:00	15	27	42	10:45-11:00	121	129	250	04:45-05:00	142	139	281	10:45-11:00	25	38	63
05:00-05:15	23	33	56	11:00-11:15	107	115	222	05:00-05:15	153	155	308	11:00-11:15	27	20	47
05:15-05:30	25	42	67	11:15-11:30	134	145	279	05:15-05:30	163	166	329	11:15-11:30	23	35	58
05:30-05:45	25	53	78	11:30-11:45	128	141	269	05:30-05:45	171	163	334	11:30-11:45	38	33	71
05:45-06:00	46	63	109	11:45-12:00	95	133	228	05:45-06:00	160	156	316	11:45-12:00	36	18	54

AM COMMUTER PERIOD (05:00-09:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:45 AM to 08:45 AM		
AM - PEAK HR VOLUME	524	495	1019
AM - K FACTOR (%)			6.29
AM - D (%)	51.42	48.58	100.00
DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:45 AM to 08:45 AM	07:45 AM to 08:45 AM	
AM - PEAK HR VOLUME	524	495	

PM COMMUTER PERIOD (15:00-19:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	05:00 PM to 06:00 PM		
PM - PEAK HR VOLUME	647	640	1287
PM - K FACTOR (%)			7.95
PM - D (%)	50.27	49.73	100.00
DIRECTIONAL PEAK			
PM - PEAK HR TIME	05:00 PM to 06:00 PM	05:00 PM to 06:00 PM	
PM - PEAK HR VOLUME	647	640	

AM PERIOD (00:00-12:00)			
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	10:45 AM to 11:45 AM		
AM - PEAK HR VOLUME	490	530	1020
AM - K FACTOR (%)			6.30
AM - D (%)	48.04	51.96	100.00

PM PERIOD (12:00-24:00)			
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	05:00 PM to 06:00 PM		
PM - PEAK HR VOLUME	647	640	1287
PM - K FACTOR (%)			7.95
PM - D (%)	50.27	49.73	100.00

NON-COMMUTER PERIOD (09:00-15:00)			
TWO DIRECTIONAL PEAK			
PEAK HR TIME	02:00 PM to 03:00 PM		
PEAK HR VOLUME	486	608	1094
DIRECTIONAL PEAK			
PEAK HR TIME	12:15 PM to 01:15 PM	02:00 PM to 03:00 PM	
PEAK HR VOLUME	529	608	

6-HR, 12-HR, 24-HR PERIODS	DIR 1	DIR 2	Total
AM 6-HR PERIOD (06:00-12:00)	2,488	2,880	5,368
AM 12-HR PERIOD (00:00-12:00)	2,815	3,302	6,117
PM 6-HR PERIOD (12:00-18:00)	3,329	3,486	6,815
PM 12-HR PERIOD (12:00-24:00)	4,985	5,086	10,071
24 HOUR PERIOD	7,800	8,388	16,188
D (%)	48.18	51.82	100.00

Run Date: 2008/06/05

Hawaii Department of Transportation

Highways Division — Highways Planning Survey Section

2007 Program Count - Summary

Site ID: B72007200461 **Town:** Oahu **Final AADT:** 0
Functional Class: URBAN:PRINCIPAL ARTERIAL - OTHER **Count Type:** VOLUME **Route No:** 72
Location: KALANIANAOLE HWY - BEG. OF 10' COMBINATI **Counter Type:** Tube **DIR 1:** +MP **DIR 2:** -MP

TIME-AM	DIR 1	DIR 2	TOTAL	TIME-AM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL
DATE : 06/27/2007															
12:00-12:15	12	16	28	06:00-06:15	64	85	149	12:00-12:15	118	122	240	06:00-06:15	170	128	298
12:15-12:30	20	17	37	06:15-06:30	75	99	174	12:15-12:30	129	105	234	06:15-06:30	162	133	295
12:30-12:45	11	11	22	06:30-06:45	79	87	166	12:30-12:45	146	127	273	06:30-06:45	126	131	257
12:45-01:00	14	18	32	06:45-07:00	101	93	194	12:45-01:00	129	147	276	06:45-07:00	128	131	259
01:00-01:15	14	11	25	07:00-07:15	77	102	179	01:00-01:15	127	121	248	07:00-07:15	115	113	228
01:15-01:30	11	13	24	07:15-07:30	87	103	190	01:15-01:30	107	125	232	07:15-07:30	100	107	207
01:30-01:45	9	9	18	07:30-07:45	112	125	237	01:30-01:45	133	125	258	07:30-07:45	109	116	225
01:45-02:00	8	8	16	07:45-08:00	142	145	287	01:45-02:00	127	150	277	07:45-08:00	85	93	178
02:00-02:15	5	7	12	08:00-08:15	119	123	242	02:00-02:15	135	127	262	08:00-08:15	79	88	167
02:15-02:30	6	9	15	08:15-08:30	129	131	260	02:15-02:30	161	157	318	08:15-08:30	78	73	151
02:30-02:45	4	4	8	08:30-08:45	112	110	222	02:30-02:45	148	156	304	08:30-08:45	87	71	158
02:45-03:00	7	8	15	08:45-09:00	109	117	226	02:45-03:00	144	147	291	08:45-09:00	58	80	138
03:00-03:15	3	4	7	09:00-09:15	116	117	233	03:00-03:15	150	144	294	09:00-09:15	63	72	135
03:15-03:30	13	6	19	09:15-09:30	107	99	206	03:15-03:30	138	145	283	09:15-09:30	65	78	143
03:30-03:45	7	8	15	09:30-09:45	102	105	207	03:30-03:45	151	146	297	09:30-09:45	73	65	138
03:45-04:00	2	9	11	09:45-10:00	97	118	215	03:45-04:00	154	177	331	09:45-10:00	60	55	115
04:00-04:15	12	12	24	10:00-10:15	102	116	218	04:00-04:15	149	190	339	10:00-10:15	68	51	119
04:15-04:30	8	9	17	10:15-10:30	113	134	247	04:15-04:30	179	166	345	10:15-10:30	58	55	113
04:30-04:45	14	21	35	10:30-10:45	129	135	264	04:30-04:45	169	168	337	10:30-10:45	43	36	79
04:45-05:00	8	34	42	10:45-11:00	102	142	244	04:45-05:00	158	175	333	10:45-11:00	45	37	82
05:00-05:15	15	32	47	11:00-11:15	123	118	241	05:00-05:15	185	202	387	11:00-11:15	56	28	84
05:15-05:30	23	39	62	11:15-11:30	114	137	251	05:15-05:30	171	176	347	11:15-11:30	45	25	70
05:30-05:45	31	48	79	11:30-11:45	115	128	243	05:30-05:45	177	178	355	11:30-11:45	31	22	53
05:45-06:00	41	78	119	11:45-12:00	130	141	271	05:45-06:00	155	122	277				

AM COMMUTER PERIOD (05:00-09:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:30 AM to 08:30 AM		
AM - PEAK HR VOLUME	502	524	1026
AM - K FACTOR (%)			6.06
AM - D (%)	48.93	51.07	100.00
DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:45 AM to 08:45 AM	07:30 AM to 08:30 AM	
AM - PEAK HR VOLUME	502	524	

PM COMMUTER PERIOD (15:00-19:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	04:45 PM to 05:45 PM		
PM - PEAK HR VOLUME	691	731	1422
PM - K FACTOR (%)			8.40
PM - D (%)	48.59	51.41	100.00
DIRECTIONAL PEAK			
PM - PEAK HR TIME	04:15 PM to 05:15 PM	04:45 PM to 05:45 PM	
PM - PEAK HR VOLUME	691	731	

AM PERIOD (00:00-12:00)			
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:30 AM to 08:30 AM		
AM - PEAK HR VOLUME	502	524	1026
AM - K FACTOR (%)			6.06
AM - D (%)	48.93	51.07	100.00

PM PERIOD (12:00-24:00)			
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	04:45 PM to 05:45 PM		
PM - PEAK HR VOLUME	691	731	1422
PM - K FACTOR (%)			8.40
PM - D (%)	48.59	51.41	100.00

NON-COMMUTER PERIOD (09:00-15:00)			
TWO DIRECTIONAL PEAK			
PEAK HR TIME	02:00 PM to 03:00 PM		
PEAK HR VOLUME	588	587	1175
DIRECTIONAL PEAK			
PEAK HR TIME	02:00 PM to 03:00 PM	01:45 PM to 02:45 PM	
PEAK HR VOLUME	588	590	

6-HR, 12-HR, 24-HR PERIODS	DIR 1	DIR 2	Total
AM 6-HR PERIOD (06:00-12:00)	2,556	2,810	5,366
AM 12-HR PERIOD (00:00-12:00)	2,854	3,241	6,095
PM 6-HR PERIOD (12:00-18:00)	3,540	3,598	7,138
PM 12-HR PERIOD (12:00-24:00)	5,444	5,386	10,830
24 HOUR PERIOD	8,298	8,627	16,925
D (%)	49.03	50.97	100.00

November 3, 2008
Date

MEMORANDUM

TO: HWY-DD

ATTN: R. Jordan

FROM: HWY-PH

The following data are submitted for your information:

NAME OF PROJECT: Kalanianaole Highway Bicycle Improvements,
Vicinity of Waimanalo Beach Park to Makapuu

PROJECT NO.: NH-072-1(54)

SECTION:	Kalanianaole Hwy, Puuone St to Bell St (MP 5.19 to 6.16)	Kalanianaole Hwy, Bell St to Makapuu (MP 6.16 to 8.80)
2008 ADT	16,700	10,600
2028 ADT	20,100	12,800
DHV	1,710	1,150
Design K	8.5	9.0
Design D	55/45	55/45
Design T	3.0	5.0
T24	4.0	5.5
	24-HOUR TRUCK COMPOSITION	
CLASSIFICATION	PERCENT	PERCENT
BUS	24.07	34.06
2D	51.59	47.72
3X	9.70	6.85
4X	0.31	0.18
2S1, 3S1, 2S2	3.18	5.60
3S2, 3-2, 2-3	10.68	4.77
6/6+X S-TLR	0.20	0.39
5X M-TLR	0.06	0.00
6X M-TLR	0.00	0.00
7X M-TLR	0.21	0.43

REF. NO. TA 08-15

March 31, 2011
Date

MEMORANDUM

TO: HWY-DD

ATTN: Kwok Ng

FROM: HWY-PH

The following data are submitted for your information:

NAME OF PROJECT: Kalanianaole Hwy Safety Improvements

Blow Hole to Lunalilo Home Road (Route 72 - MP 11.1 - 13.5)

PROJECT NO.: HSIP-072-1(55)

SECTION:	Route 72 - Kalanianaole Highway (MP 11.1 - 13.5)		
	MP 11.04 - 12.49 Blow Hole Exit to Hanauma Bay Rd	MP 12.49 - 13.26 Hanauma Bay Rd to Lunalilo Home Rd	MP 13.26 - 14.08 Lunalilo Home Rd to Keahole St
2009 ADT	10,680	12,180	36,060
2029 ADT	12,160	15,950	56,540
DHV	1,030	1,350	4,240
Design K	8.5	8.5	7.5
Design D	60/40	55/45	55/45
Design T	4.0	4.5	3.0
T24	4.5	5.0	3.0
	24 Hour Truck Composition		
CLASSIFICATION	PERCENT	PERCENT	PERCENT
BUS	21.87	24.91	24.36
2D	54.61	60.17	60.65
3X	12.52	7.11	5.50
4X	1.19	0.09	0.27
2S1, 3S1, 2S2	4.83	3.84	1.51
3S2, 3-2, 2-3	3.77	3.07	6.12
6/6+X S-TLR	0.30	0.33	0.62
5X M-TLR	0.00	0.00	0.00
6X M-TLR	0.00	0.00	0.44
7X M-TLR	0.91	0.48	0.53

REF. NO. TA 09-26

August 18, 2009
Date

MEMORANDUM

TO: HWY-DS

ATTN: Vincent Llorin

FROM: HWY-PH

The following data are submitted for your information:

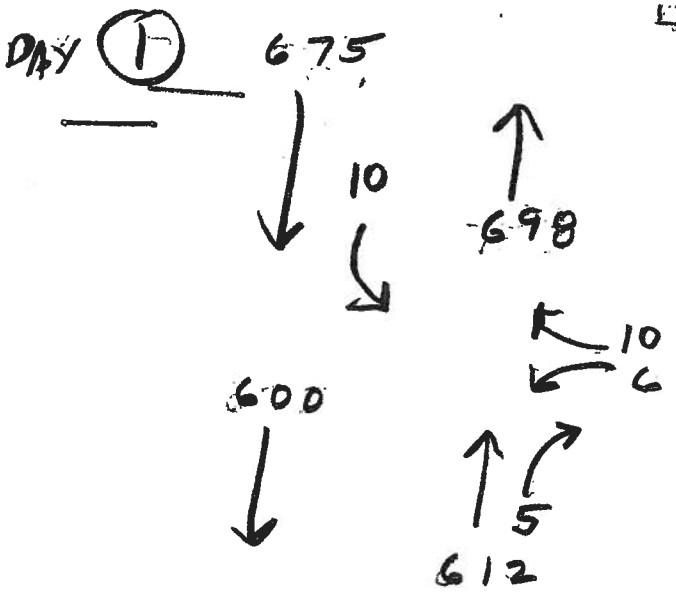
NAME OF PROJECT: Kalanianaole Highway Improvements in Waimanalo, Phase 1, Olomana Golf Course to Poalima Street, District of Koolaupoko, Island of Oahu, Route 72 (2.51 to 3.35 mp)

PROJECT NO.: NH-072-1(53)

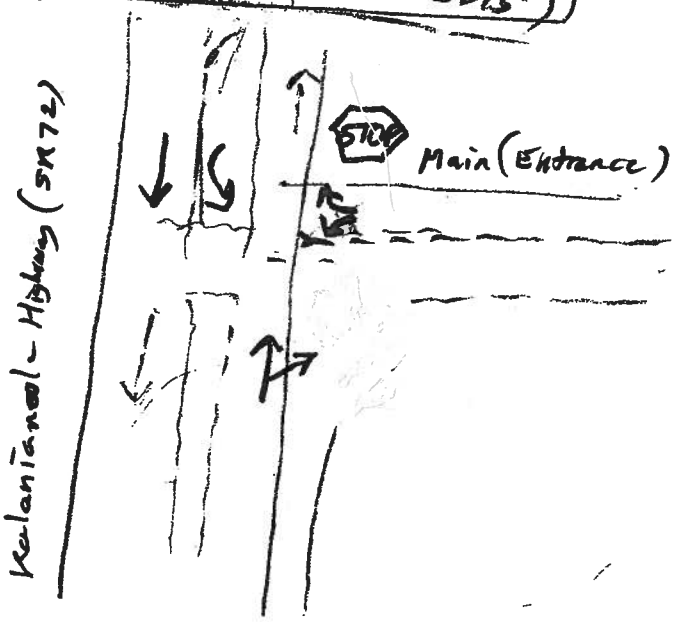
SECTION:	**Kalanianaole Highway,** Olomana Golf Course to Poalima Street Route 72 (2.51 to 3.35 mp)
TRAFFIC DATA:	
2009 ADT	23,600
2019 ADT	27,200
DHV	2,200
Design K	8.0
Design D	55/45
Design T	3.0
T24	4.0
	24-HOUR TRUCK COMPOSITION
CLASSIFICATION	PERCENT
BUS	21.17
2D	37.96
3X	17.68
4X	1.20
2S1, 3S1, 2S2	8.41
3S2, 3-2, 2-3	10.05
6/6+X S-TLR	1.99
5X M-TLR	0.06
6X M-TLR	0.02
7X M-TLR	1.47

REF. NO. TA 09-34

DAY (1)



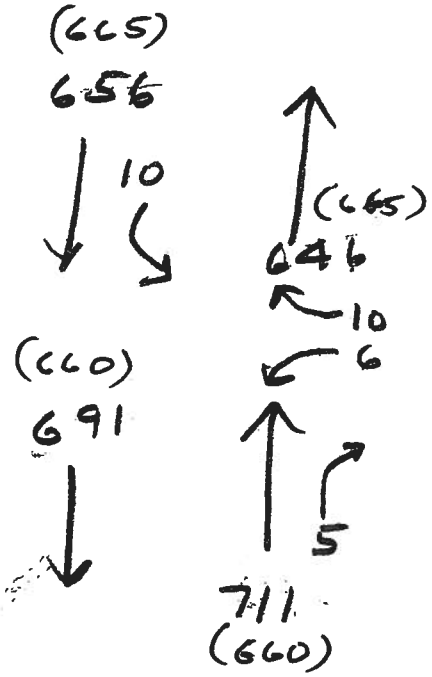
EXISTING PM PEAK (4:15-5:15)



(AVERAGES)
(BALANCED)

2011
EXISTING PM PK (4:15-5:15)

DAY (2)



(PM PK. HR. AVERAGES BALANCED)

Need: 1.25x GF Synchro & Signal Warrant Analysis

(Based on HDOT Projections)

EXISTING:

24 Ac x 1.3 = 31.2 trips, 15 in, 16 out
ASSUMED

TRIP DISTRIBUTION: 65% TO/FROM NORTH
35% TO/FROM SOUTH

APPENDIX B
TRIP GENERATION DATA

Land Use: 411
City Park

Description

City parks are owned and operated by a city. The city parks surveyed varied widely as to location, type, and number of facilities, including boating or swimming facilities, ball fields, camp sites, and picnic facilities. Seasonal use of the individual sites differs widely as a result of the varying facilities and local conditions (i.e., weather). For example, some of the sites are used primarily for boating or swimming, while others are used for softball games.

Additional Data

The sites were surveyed in the 1970s, primarily in San Francisco and San Diego, California.

The percentage of the park area that is used most intensively varies considerably within the studies contained in this land use; therefore, caution should be used when using acres as an independent variable.

Source Numbers

13, 18, 214

Land Use: 411
City Park
Independent Variables with One Observation

The following trip generation data are for independent variables with only one observation. This information is shown in this table only; there are no related plots for these data.

Users are cautioned to use these data with care because of the small sample size.

Independent Variable	Trip Generation Rate	Size of Independent Variable	Number of Studies	Directional Distribution
Acres				
Sunday	16.00	15	1	50% entering, 50% exiting

City Park
(411)

Average Vehicle Trip Ends vs: Acres
On a: Weekday

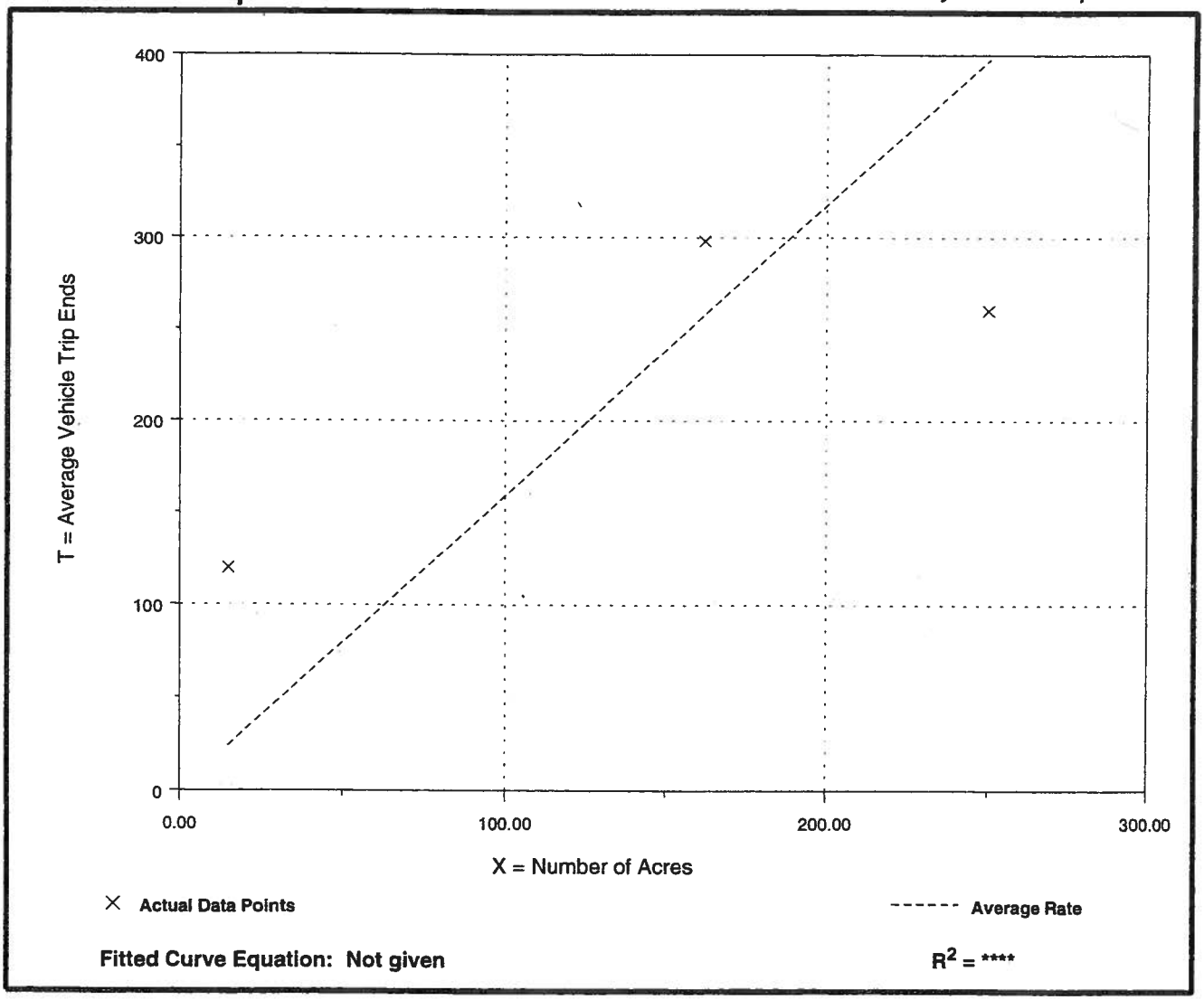
Number of Studies: 3
Average Number of Acres: 142
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
1.59	1.04 - 8.00	1.79

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

City Park
(411)

Average Vehicle Trip Ends vs: Picnic Sites
On a: Weekday

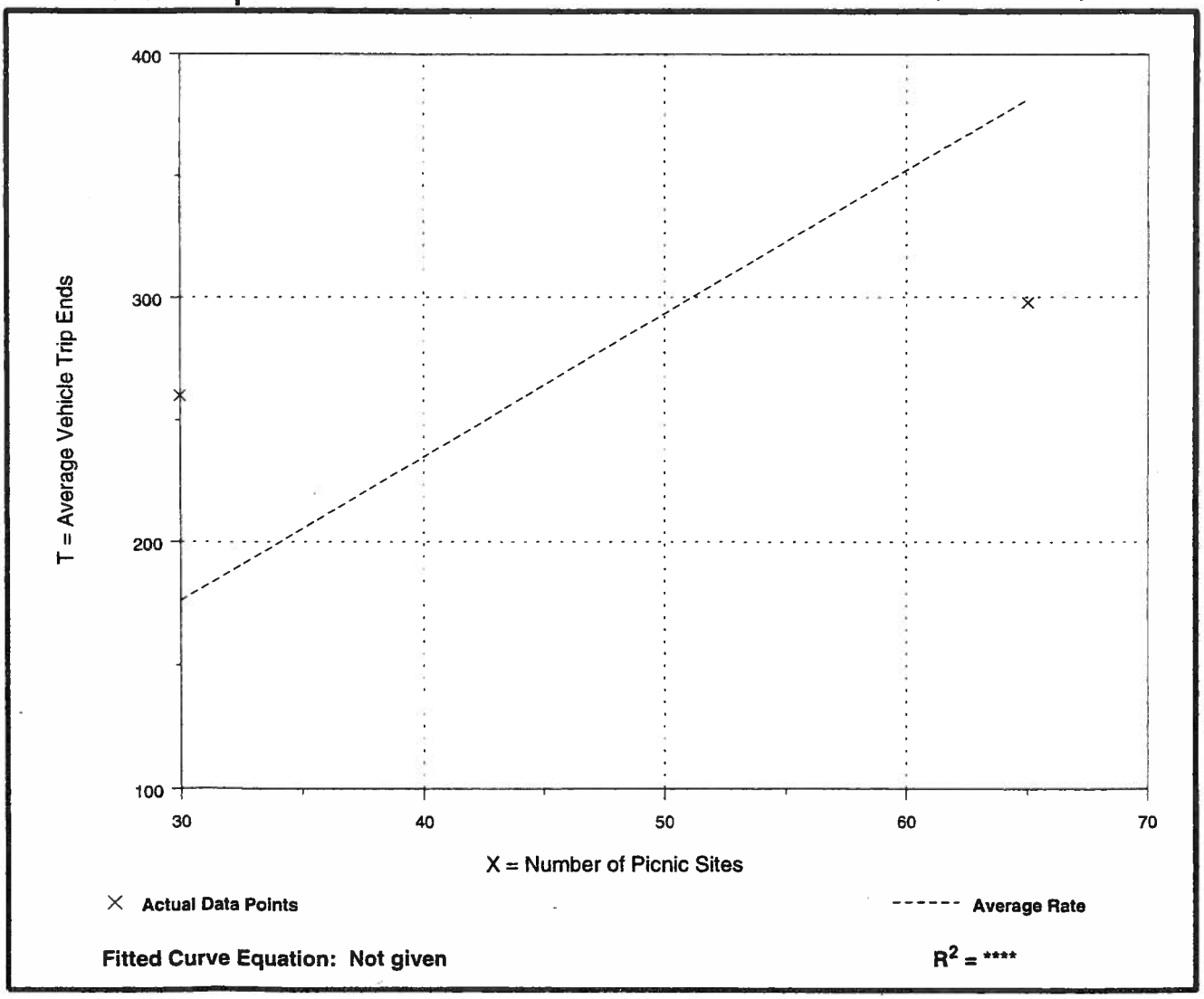
Number of Studies: 2
Average Number of Picnic Sites: 48
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Picnic Site

Average Rate	Range of Rates	Standard Deviation
5.87	4.58 - 8.67	*

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Land Use: 412
County Park

Description

County parks are owned and operated by a county. The county parks surveyed varied widely as to location, type, and number of facilities, including boating or swimming facilities, ball fields, camp sites, picnic facilities, and general open space. Seasonal use of the individual sites differs widely as a result of the varying facilities and local conditions (i.e., weather). For example, some of the sites are used primarily for boating or swimming, while others are used for softball games.

Additional Data

The sites were surveyed from the 1970s to the 1990s primarily in New Jersey and the San Francisco and San Diego, California metropolitan areas.

The percentage of the park area that is used most intensively varies considerably among the studies contained in this land use; therefore, caution should be used when using acres as an independent variable.

Source Numbers

13, 18, 186, 213, 407

County Park
(412)

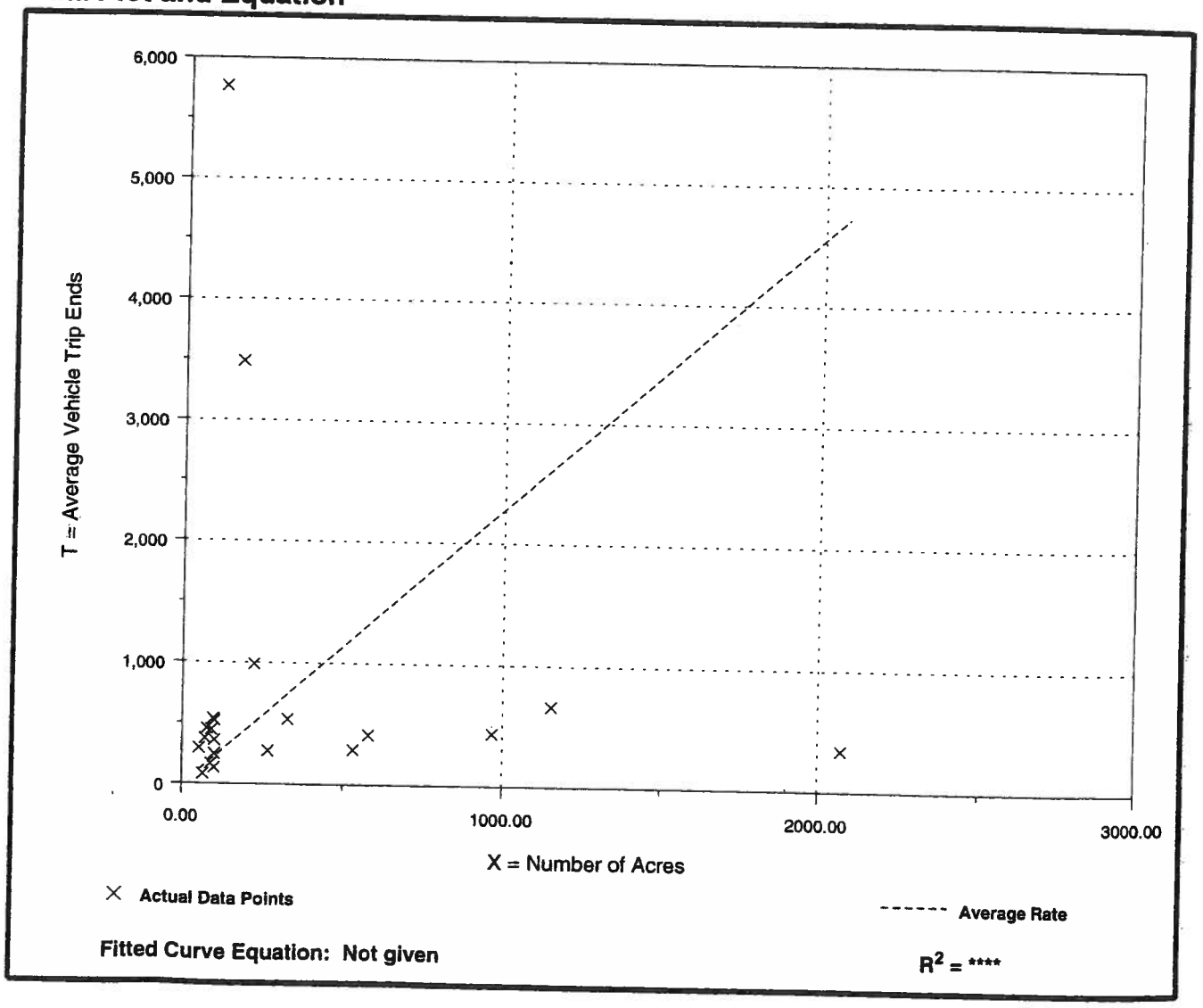
Average Vehicle Trip Ends vs: Acres
On a: Weekday

Number of Studies: 22
Average Number of Acres: 349
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
2.28	0.17 - 53.41	7.04

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

County Park
(412)

Average Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

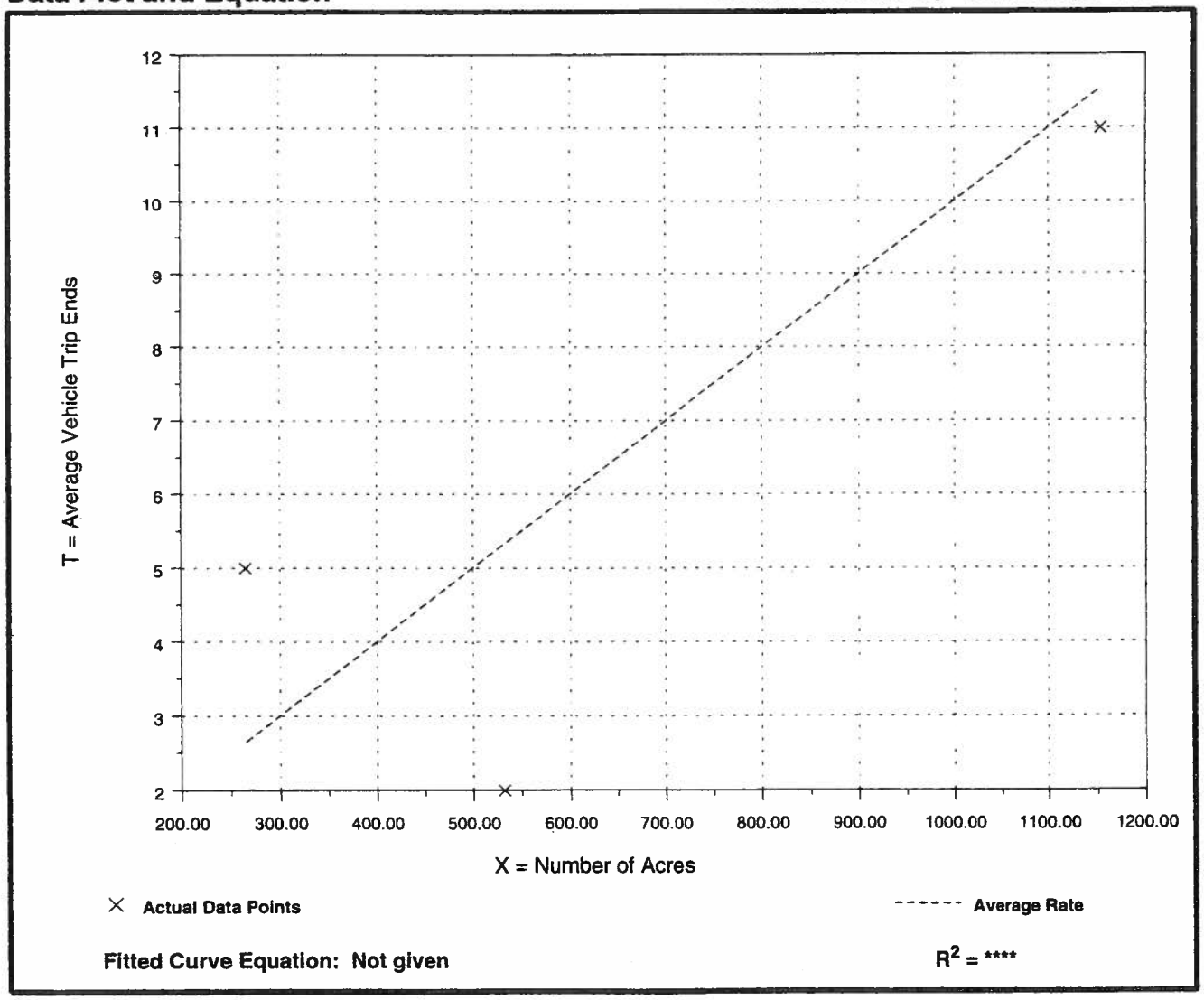
Number of Studies: 3
Average Number of Acres: 650
Directional Distribution: 80% entering, 20% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.01	0.00 - 0.02	0.10

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

County Park
(412)

Average Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

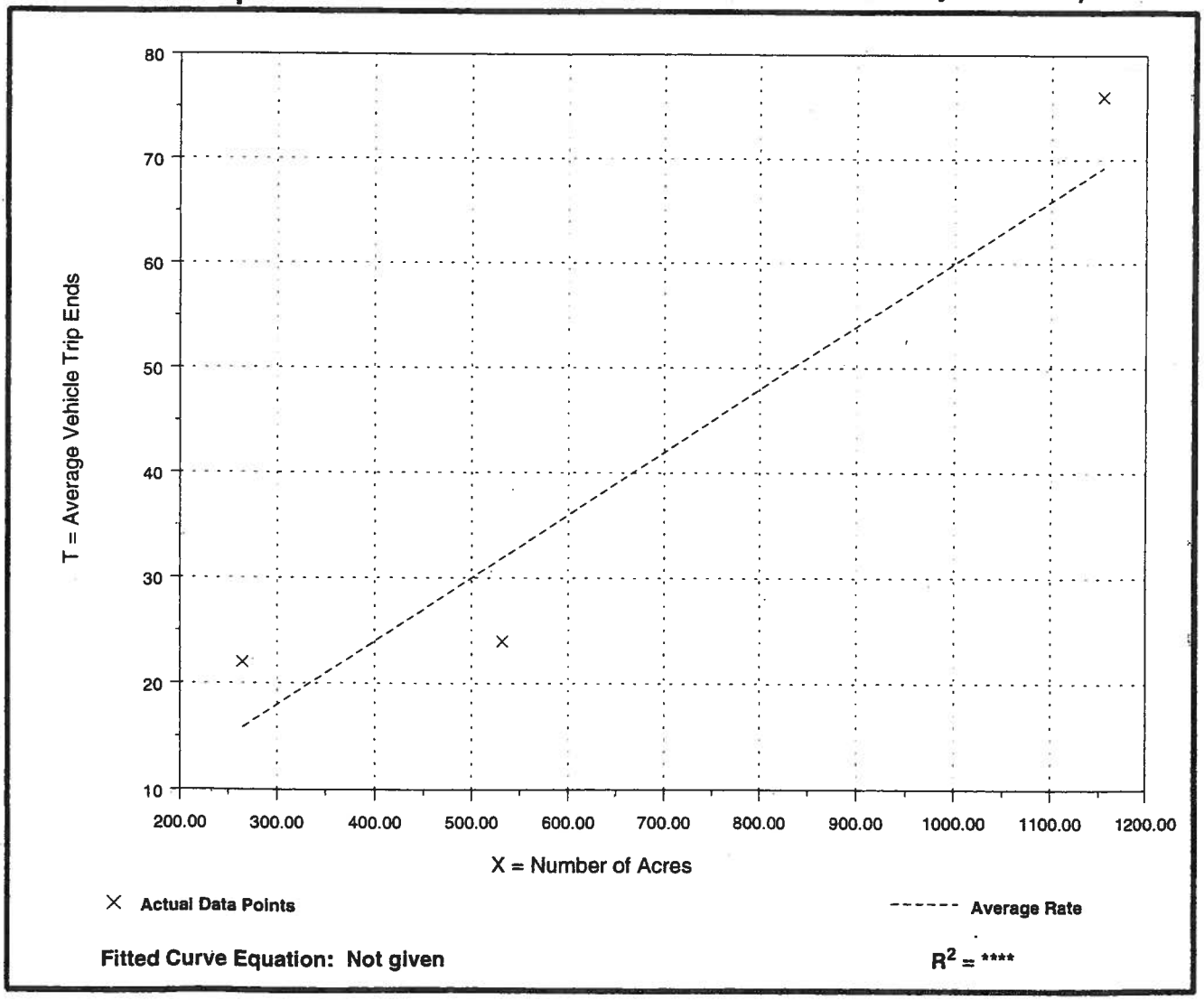
Number of Studies: 3
Average Number of Acres: 650
Directional Distribution: 41% entering, 59% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.06	0.05 - 0.08	0.25

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

County Park
(412)

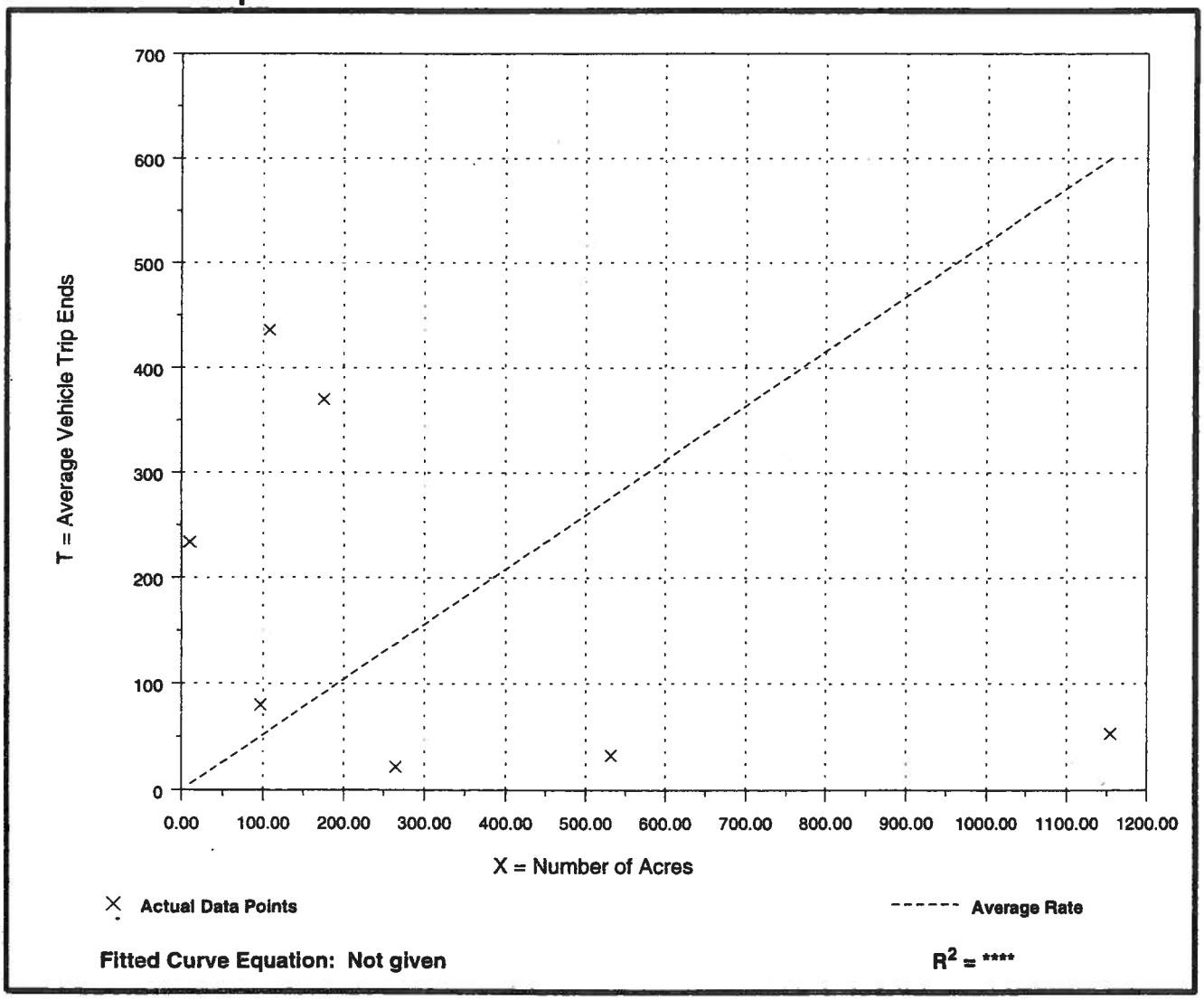
Average Vehicle Trip Ends vs: Acres
On a: Weekday,
A.M. Peak Hour of Generator

Number of Studies: 7
Average Number of Acres: 335
Directional Distribution: 71% entering, 29% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.52	0.05 - 22.29	1.89

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

County Park
(412)

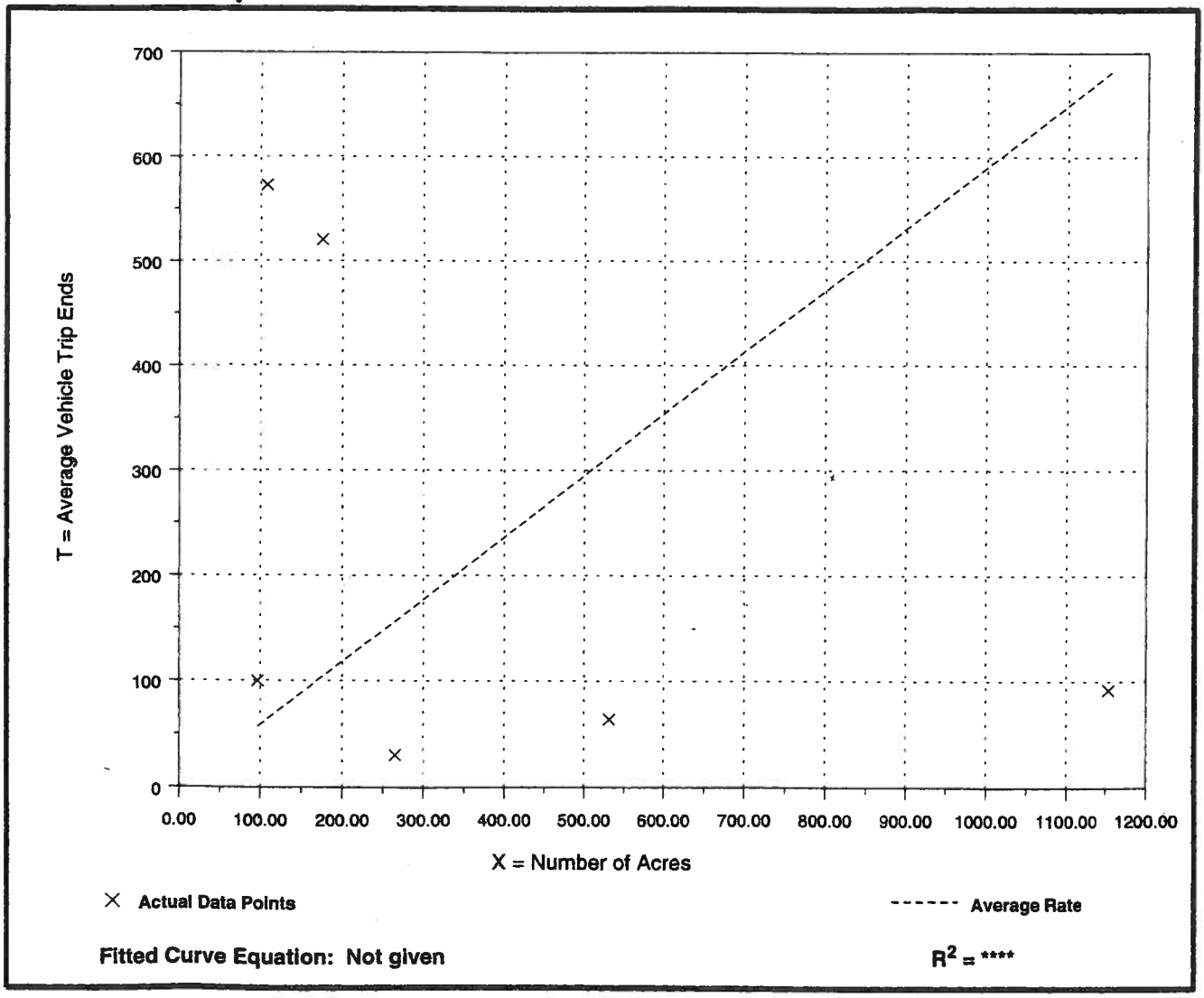
Average Vehicle Trip Ends vs: Acres
On a: Weekday,
P.M. Peak Hour of Generator

Number of Studies: 6
Average Number of Acres: 389
Directional Distribution: 35% entering, 65% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.59	0.08 - 5.30	1.50

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

County Park
(412)

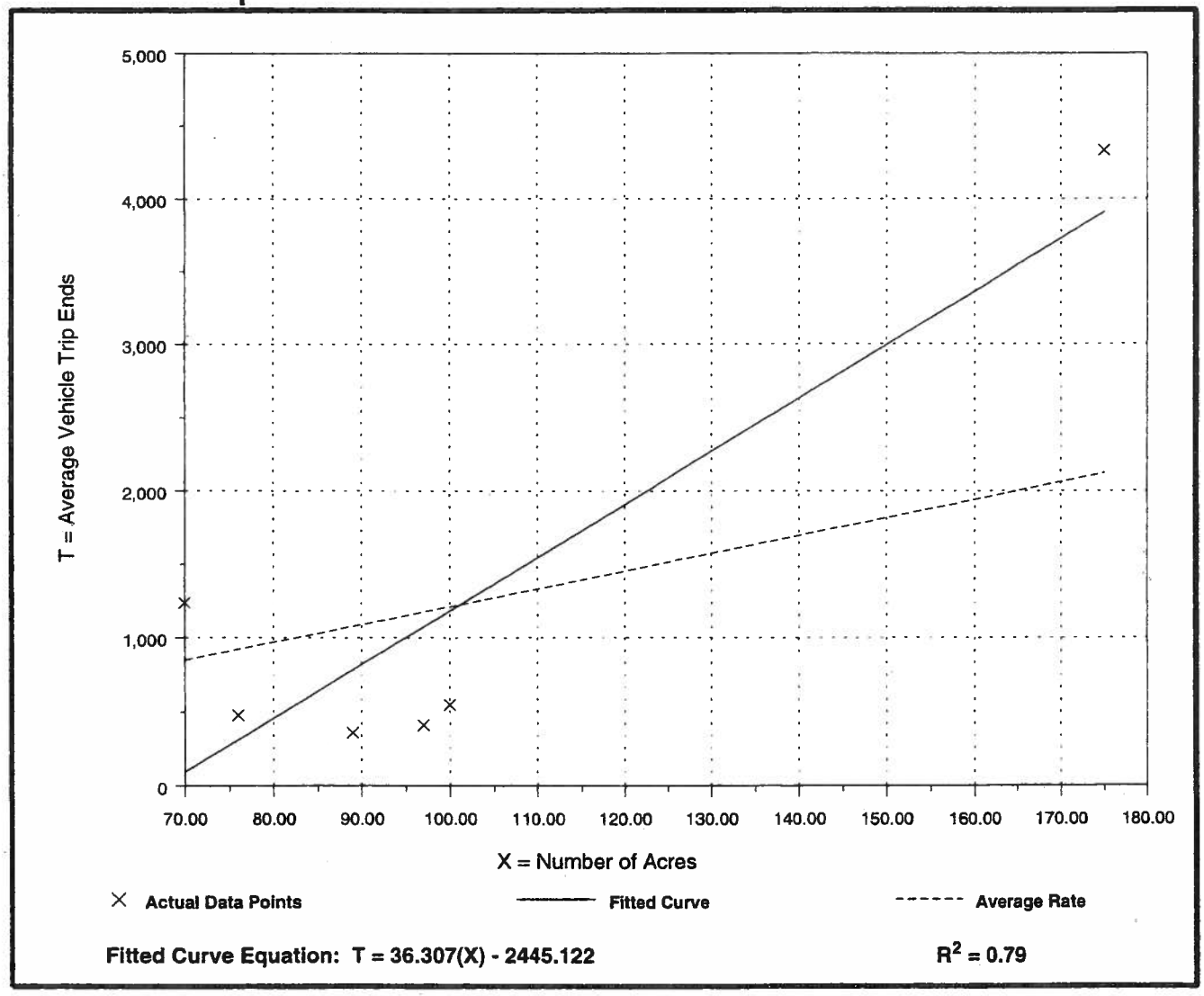
Average Vehicle Trip Ends vs: Acres
On a: Saturday

Number of Studies: 6
Average Number of Acres: 101
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
12.14	4.04 - 24.74	9.63

Data Plot and Equation



Fitted Curve Equation: T = 36.307(X) - 2445.122

R^2 = 0.79

County Park
(412)

Average Vehicle Trip Ends vs: **Acres**
On a: **Saturday,**
Peak Hour of Generator

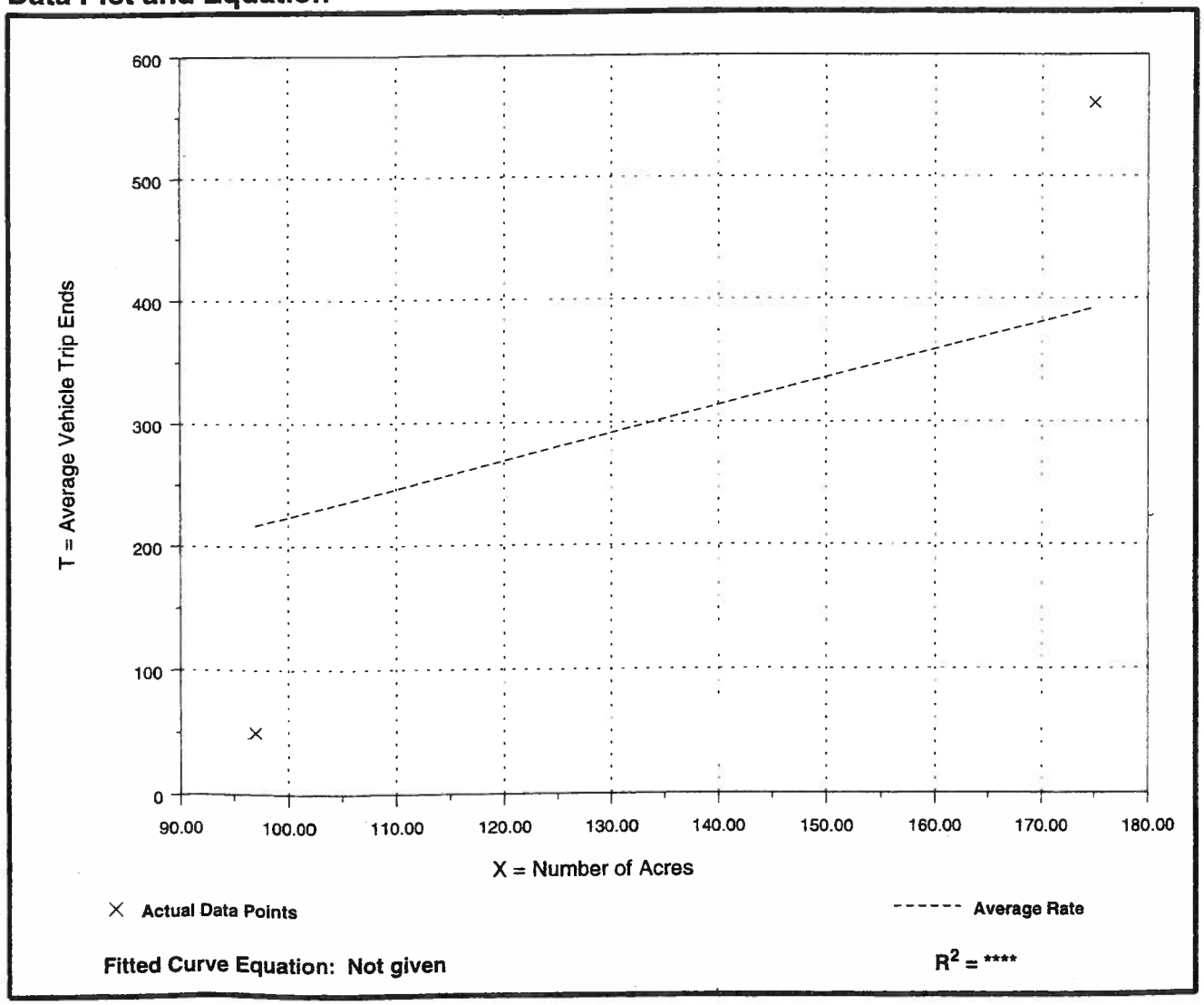
Number of Studies: 2
Average Number of Acres: 136
Directional Distribution: 59% entering, 41% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
2.24	0.52 - 3.20	*

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

County Park
(412)

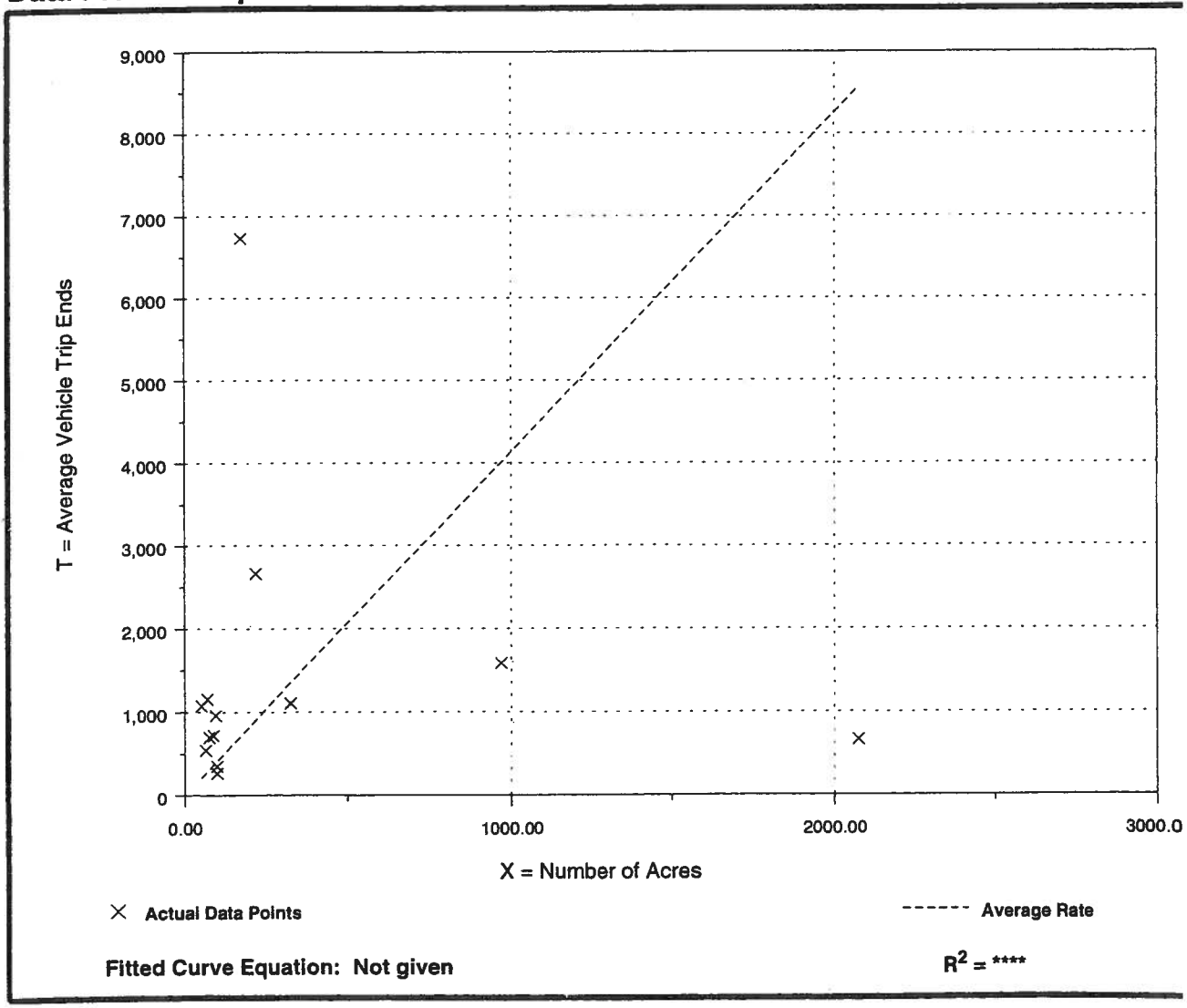
Average Vehicle Trip Ends vs: Acres
On a: Sunday

Number of Studies: 14
Average Number of Acres: 339
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
4.13	0.32 - 38.46	8.07

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

County Park
(412)

Average Vehicle Trip Ends vs: Acres
On a: Sunday,
Peak Hour of Generator

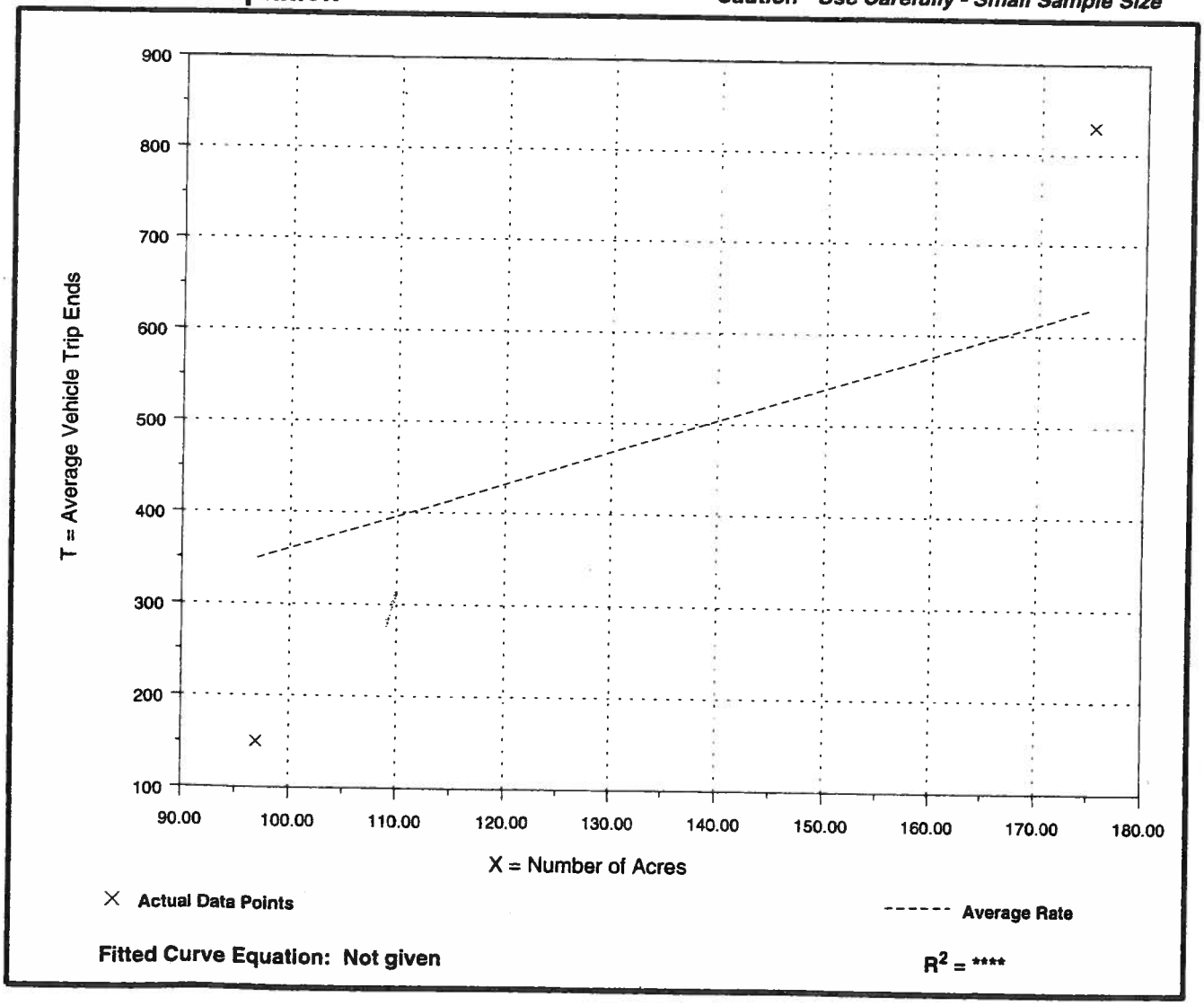
Number of Studies: 2
Average Number of Acres: 136
Directional Distribution: 47% entering, 53% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
3.60	1.55 - 4.74	*

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Land Use: 415
Beach Park

Description

Beach parks consist of a beach and possibly other facilities such as changing rooms, rest rooms, picnic facilities, and hiking, fishing and camping facilities. Often, in season, lifeguards are provided. Seasonal use of the individual sites differs widely as a result of the varying facilities and local conditions (i.e., weather).

Additional Data

The sites were surveyed in the 1970s in San Francisco and San Diego, California.

Source Numbers

11, 13, 214

Beach Park
(415)

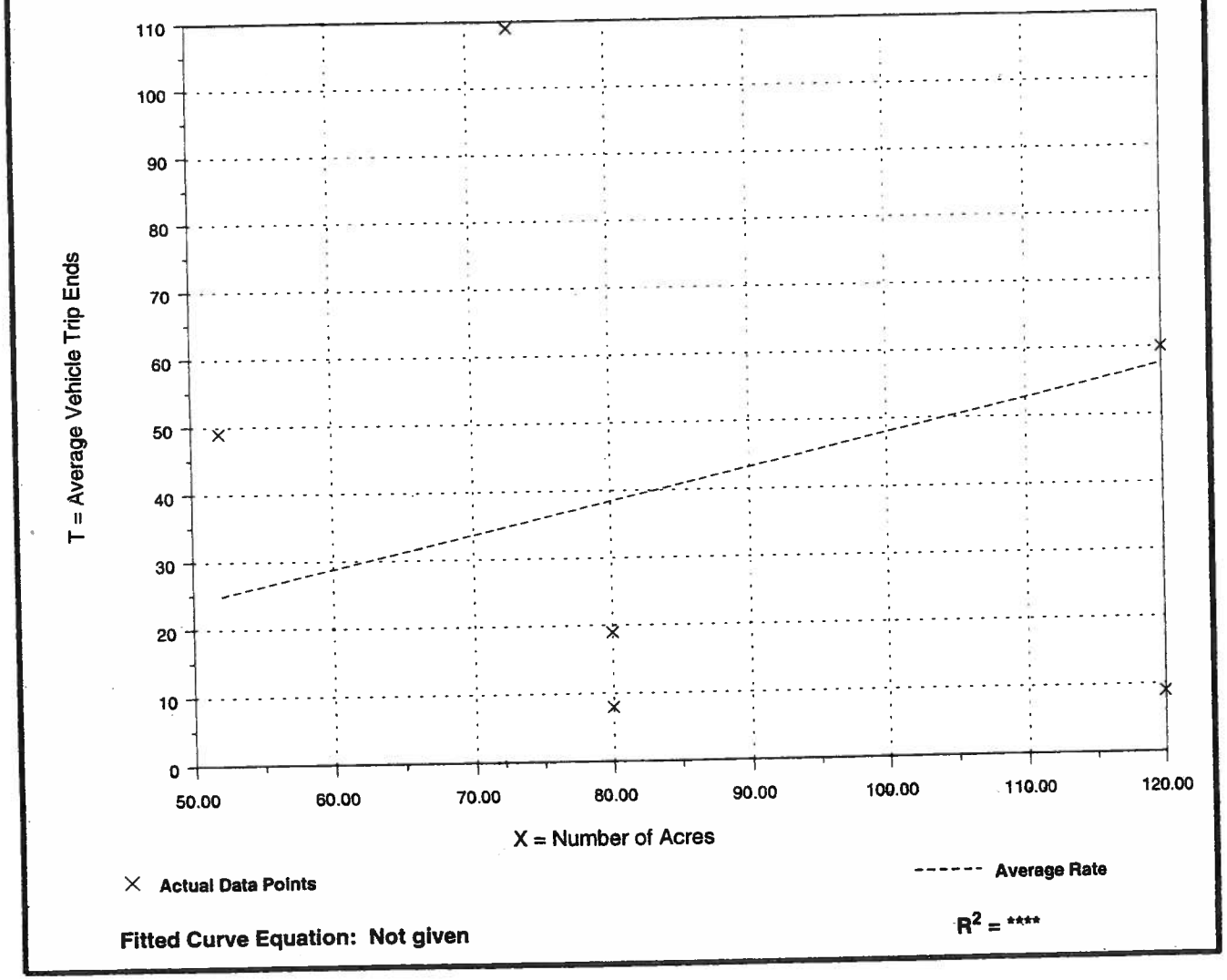
Average Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
A.M. Peak Hour of Generator

Number of Studies: 6
Average Number of Acres: 88
Directional Distribution: 59% entering, 41% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.48	0.08 - 1.49	0.84

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Beach Park
(415)

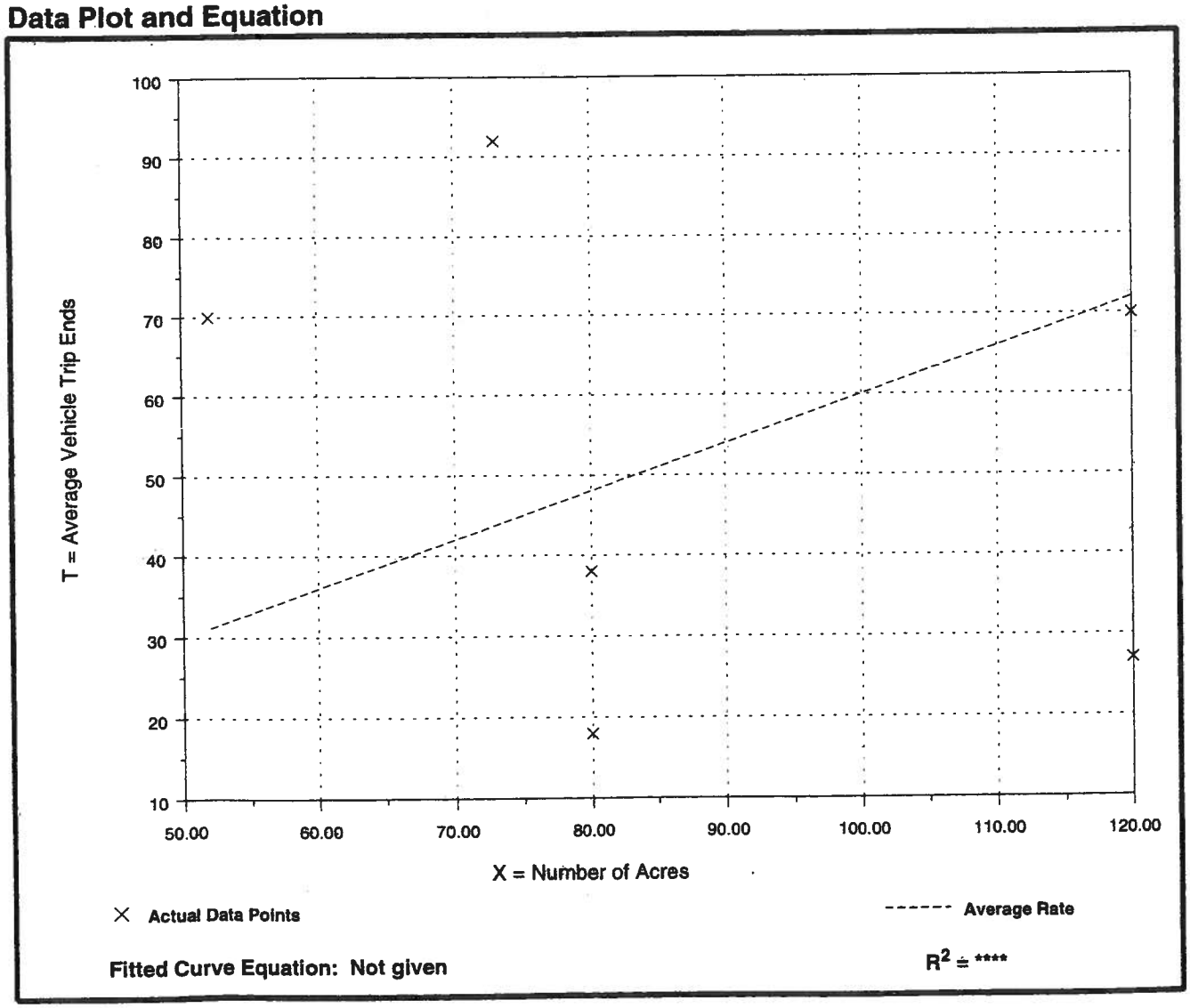
Average Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
P.M. Peak Hour of Generator

Number of Studies: 6
Average Number of Acres: 88
Directional Distribution: 34% entering, 66% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.60	0.23 - 1.35	0.87

Data Plot and Equation



Beach Park
(415)

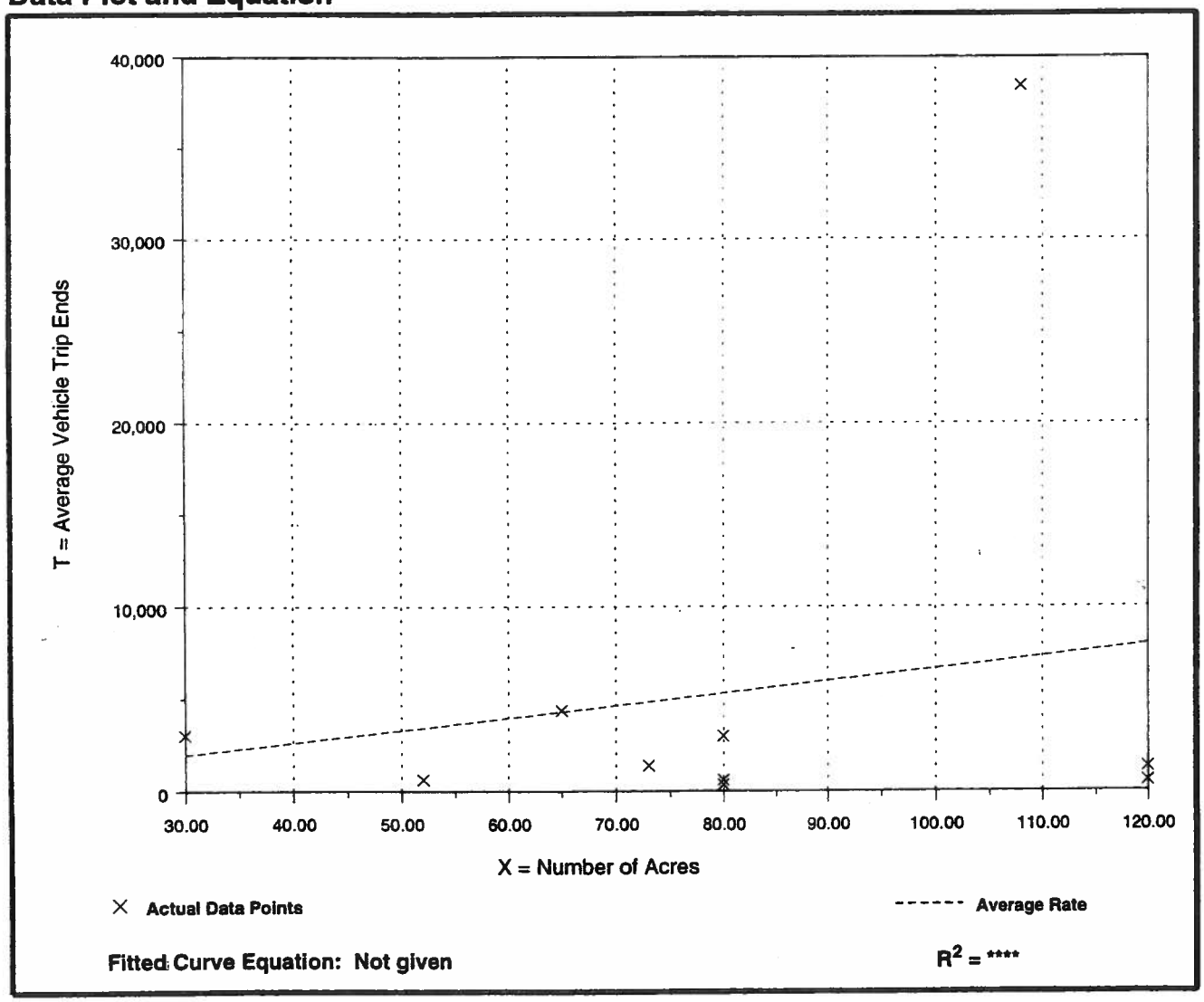
Average Vehicle Trip Ends vs: Acres
On a: Saturday

Number of Studies: 10
Average Number of Acres: 81
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
66.47	4.13 - 355.74	116.34

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Beach Park
(415)

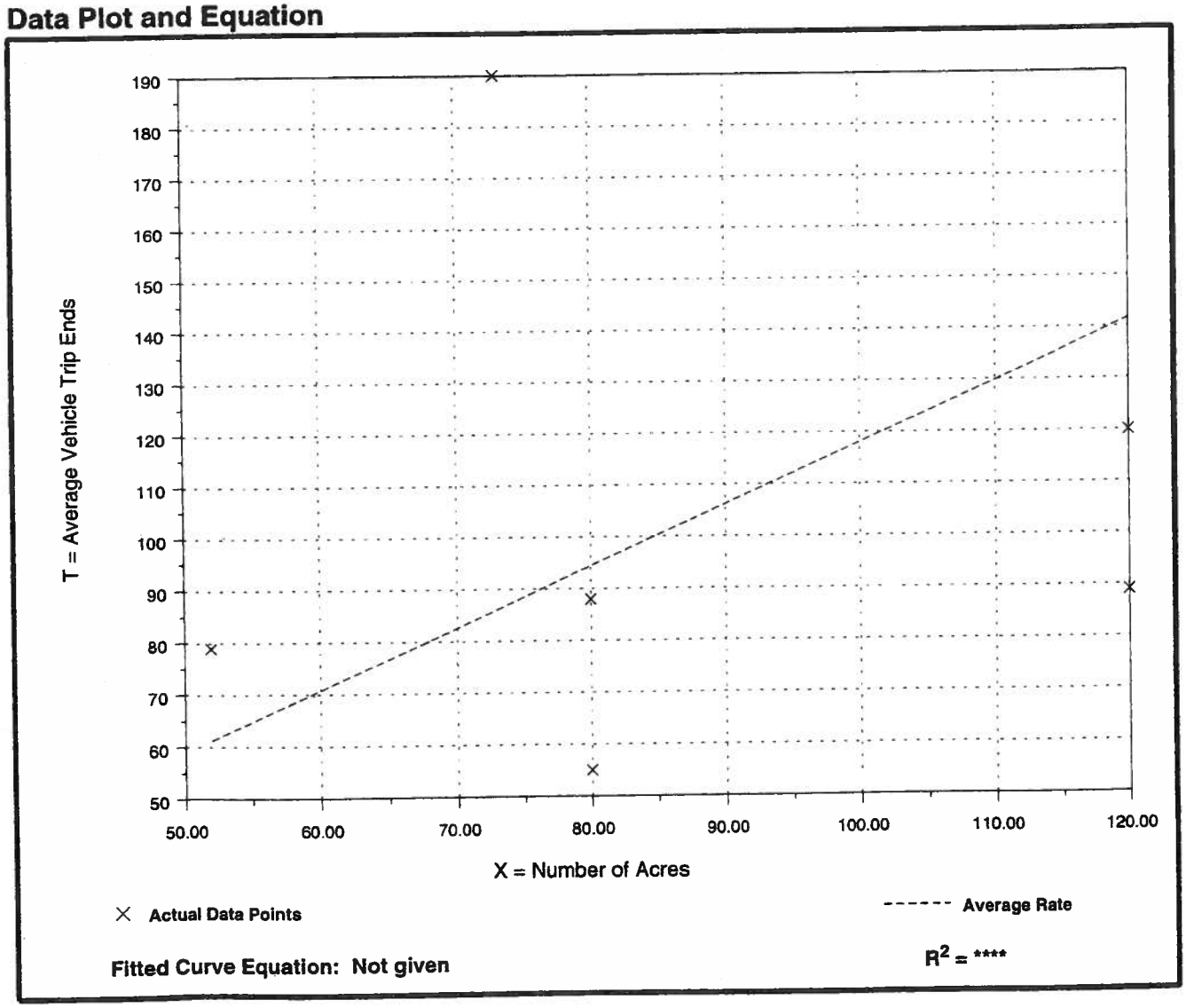
Average Vehicle Trip Ends vs: **Acres**
On a: **Saturday,**
Peak Hour of Generator

Number of Studies: 6
Average Number of Acres: 88
Directional Distribution: 46% entering, 54% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
1.18	0.69 - 2.60	1.25

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Beach Park
(415)

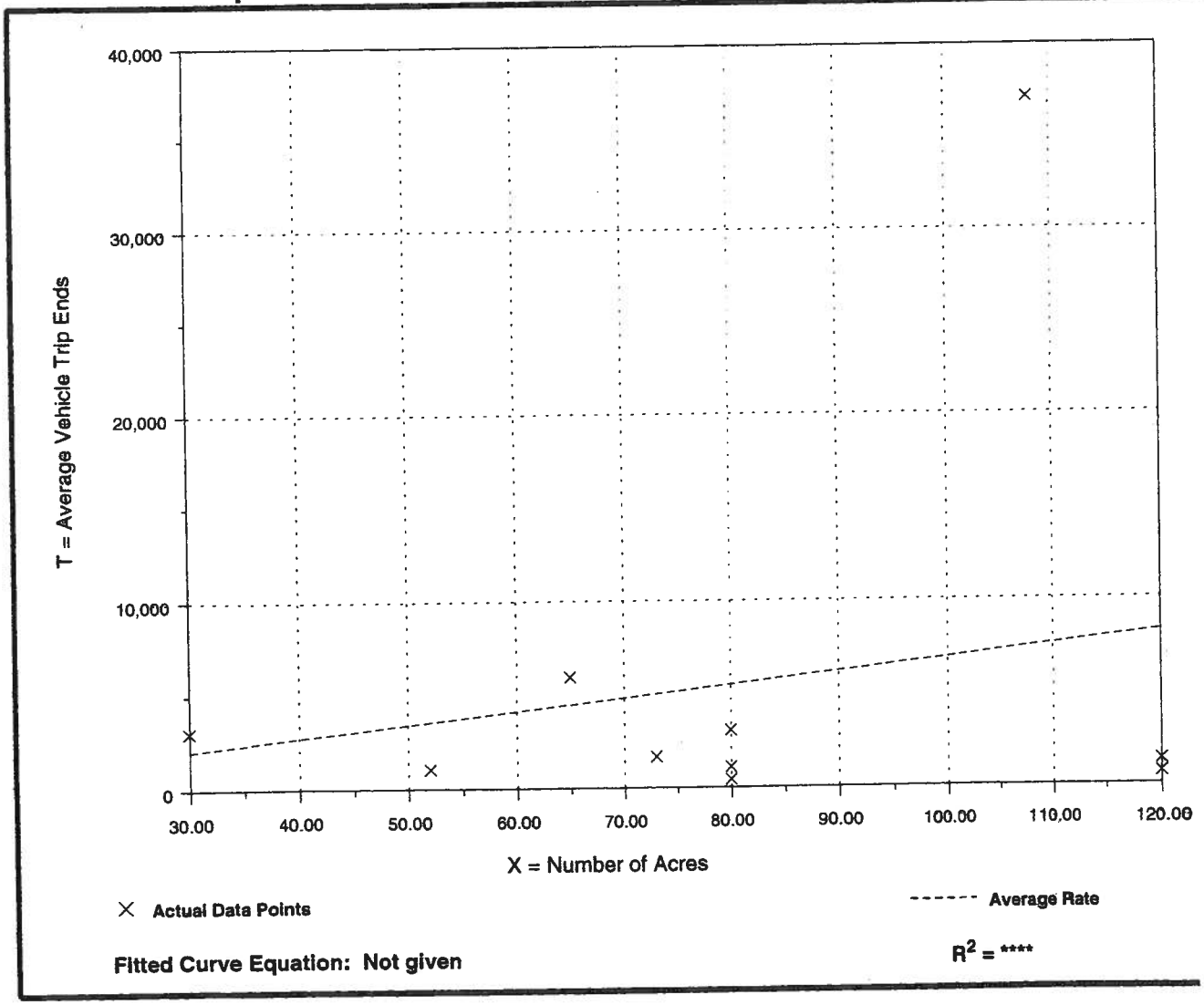
Average Vehicle Trip Ends vs: **Acres**
On a: **Sunday**

Number of Studies: 10
Average Number of Acres: 81
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
68.52	5.50 - 343.57	111.72

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Beach Park
(415)

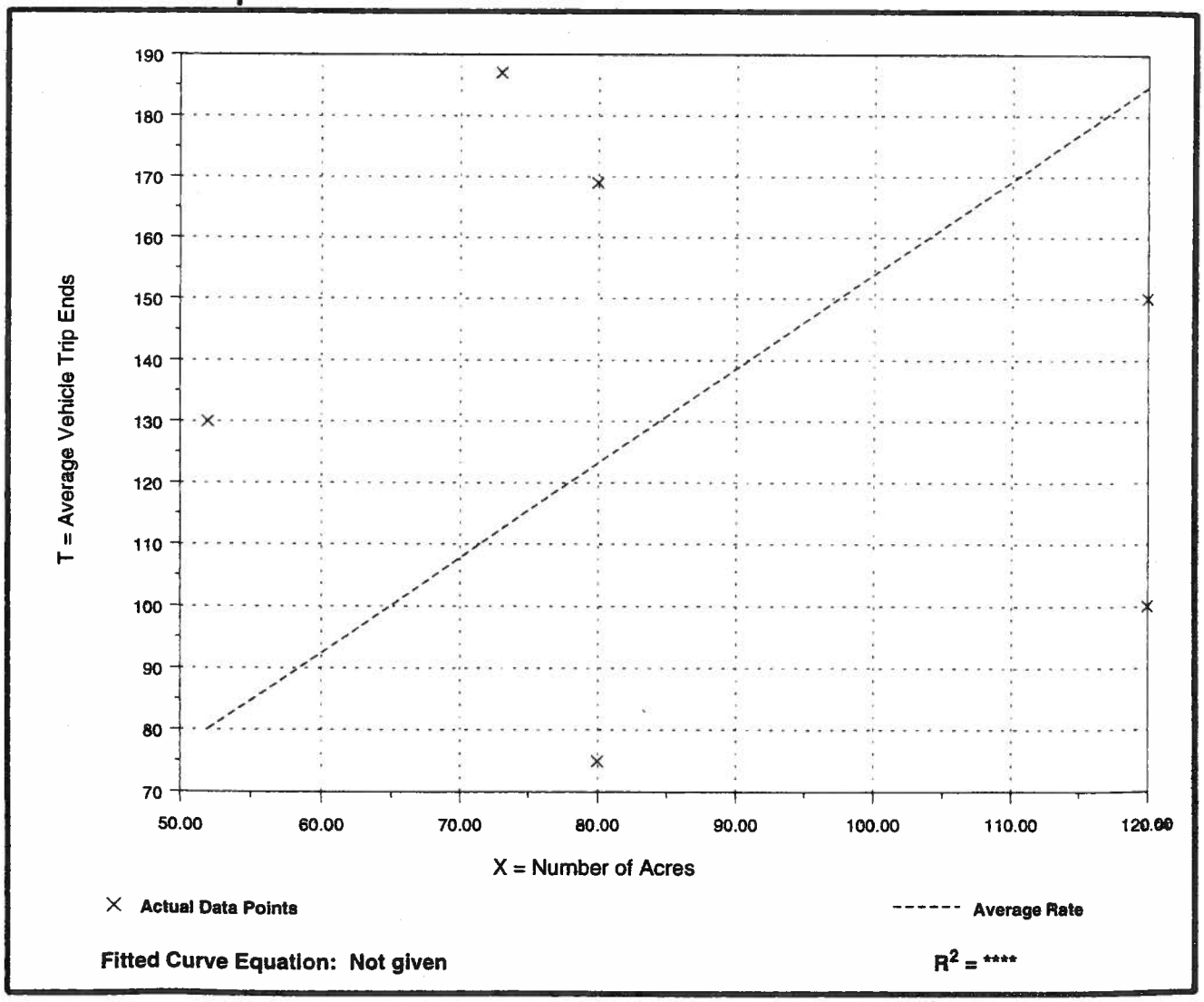
Average Vehicle Trip Ends vs: Acres
On a: Sunday,
Peak Hour of Generator

Number of Studies: 6
Average Number of Acres: 88
Directional Distribution: 51% entering, 49% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
1.54	0.83 - 2.56	1.42

Data Plot and Equation



Fitted Curve Equation: Not given

R^2 = ****

Land Use: 417
Regional Park

Description

Regional parks are owned and operated by a regional park authority. The regional parks surveyed varied widely as to location, type, and number of facilities, including hiking trails, lakes, pools, ball fields, camp sites, picnic facilities, and general office space. Seasonal use of the individual sites differs widely as a result of the varying facilities and local conditions (i.e., weather). For example, some of the sites are used primarily for boating or swimming, while others are used for hiking or camping, etc.

Additional Data

The sites were surveyed in the 1970s and the 1990s in California.

The percentage of the park area that is used most intensively varies considerably within the studies contained in this land use; therefore, caution should be used when using acres as an independent variable.

Source Numbers

12, 13, 214, 392

Land Use: 417
Regional Park
Independent Variables with One Observation

The following trip generation data are for independent variables with only one observation. This information is shown in this table only; there are no related plots for these data.

Users are cautioned to use these data with care because of the small sample size.

Independent Variable	Trip Generation Rate	Size of Independent Variable	Number of Studies	Directional Distribution
Picnic Sites				
Weekday A.M. Peak Hour of Generator	4.00	10	1	75% entering, 25% exiting
Weekday P.M. Peak Hour of Generator	9.60	10	1	41% entering, 59% exiting
Saturday Peak Hour of Generator	12.10	10	1	35% entering, 65% exiting
Sunday Peak Hour of Generator	16.70	10	1	47% entering, 53% exiting
Employees				
Weekday A.M. Peak Hour of Adjacent Street Traffic	4.59	17	1	65% entering, 35% exiting

Regional Park
(417)

Average Vehicle Trip Ends vs: Acres
On a: Weekday

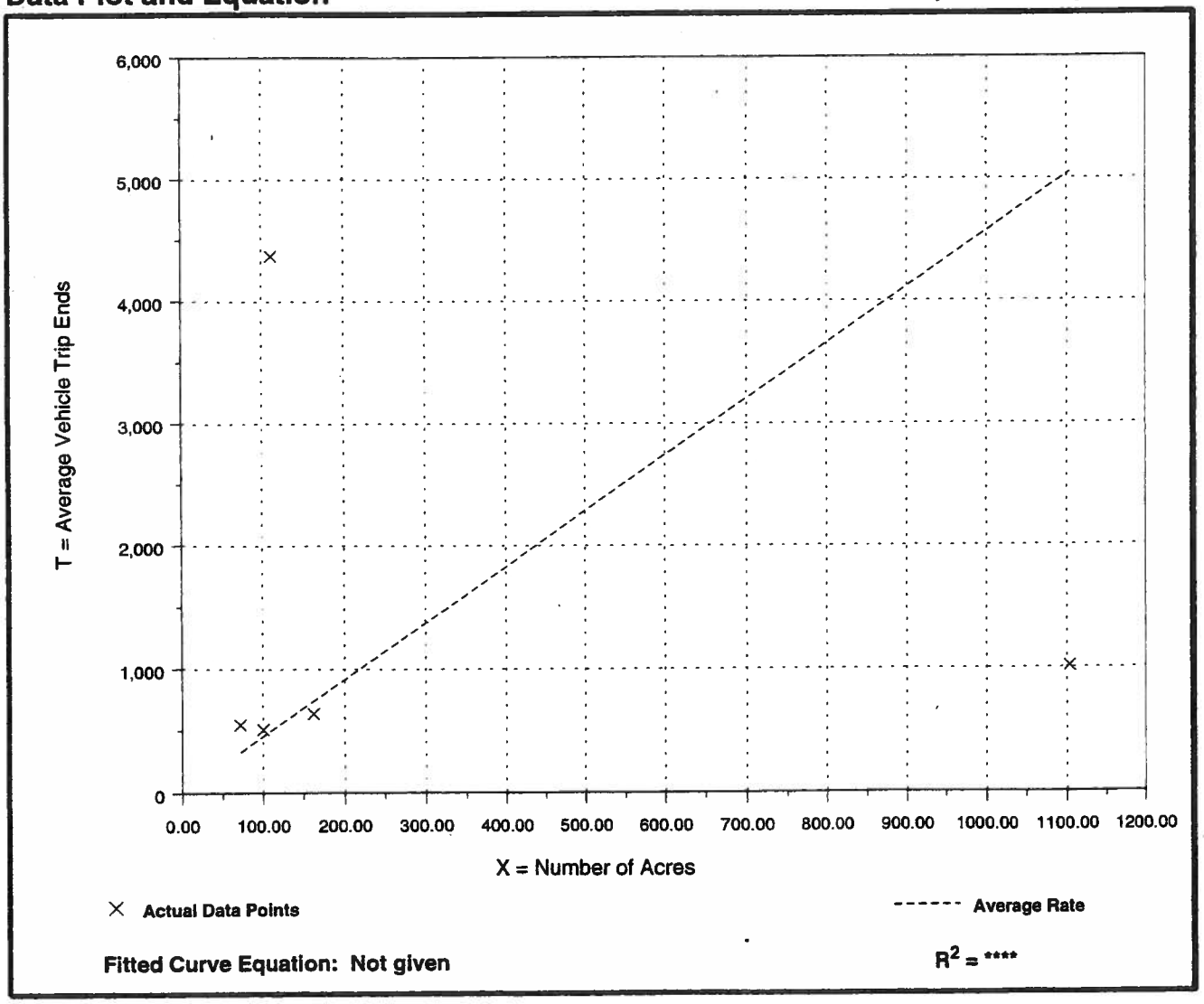
Number of Studies: 5
Average Number of Acres: 310
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
4.57	0.92 - 39.07	10.03

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

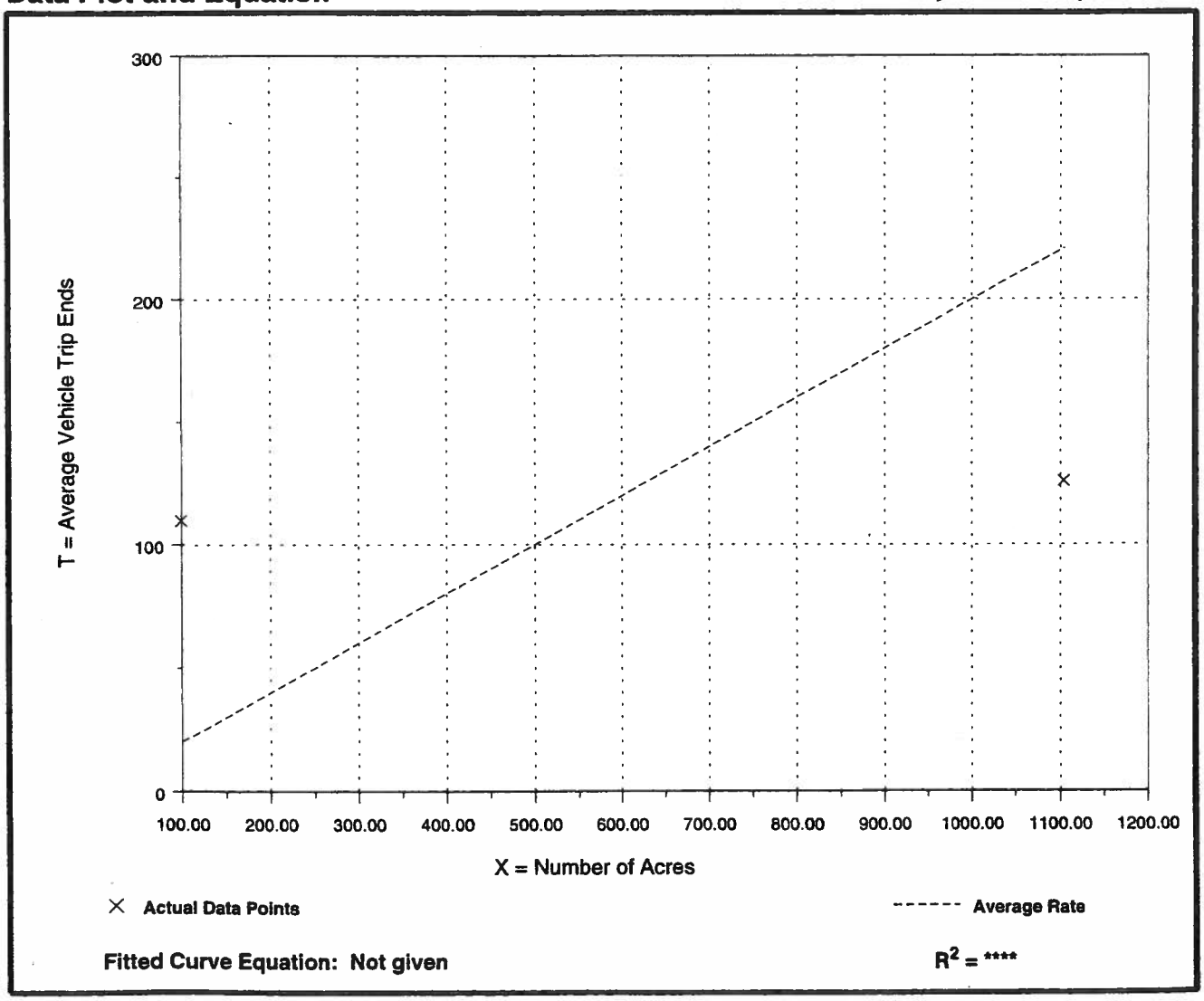
Number of Studies: 2
Average Number of Acres: 602
Directional Distribution: 45% entering, 55% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.20	0.11 - 1.10	*

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
A.M. Peak Hour of Generator

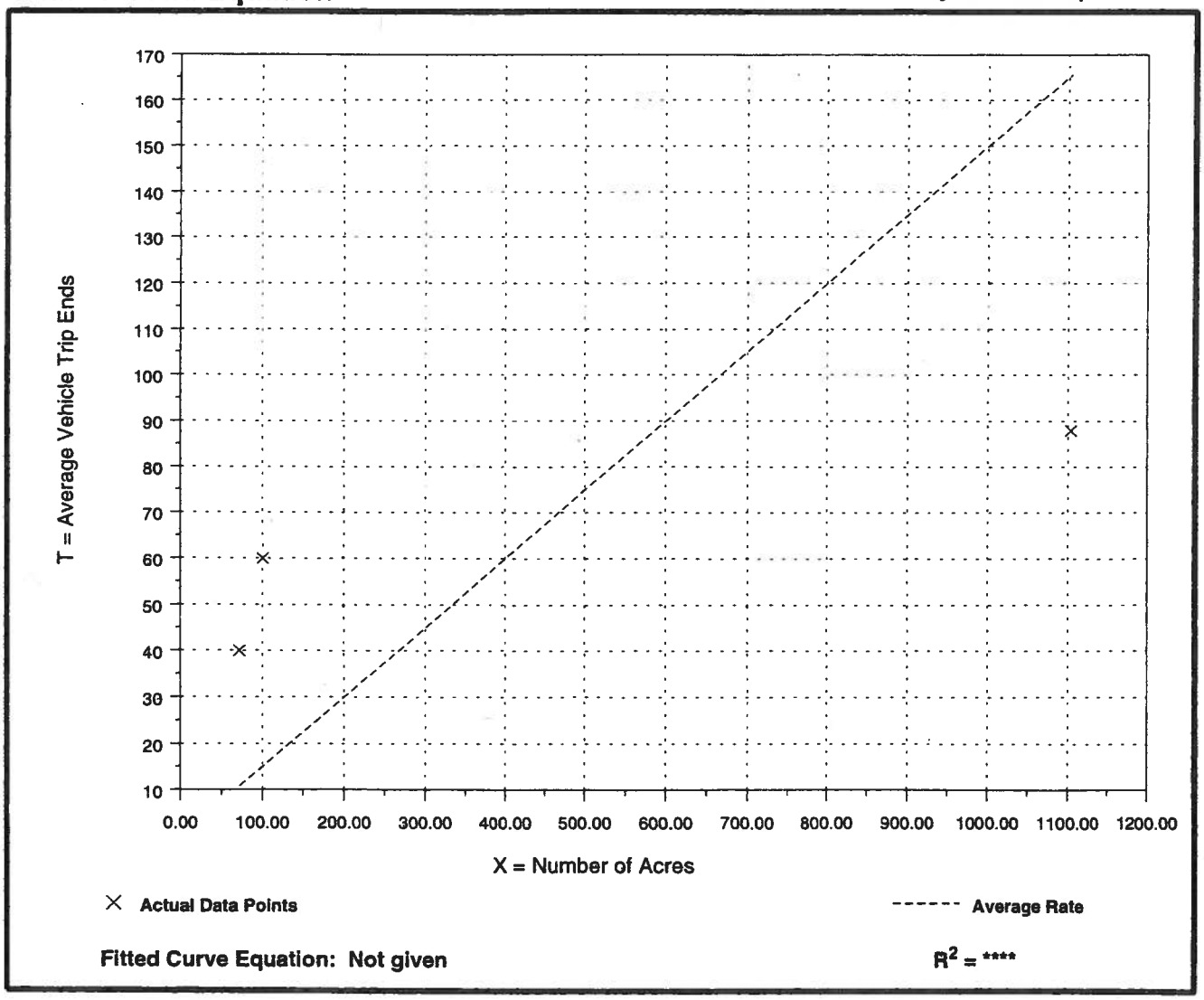
Number of Studies: 3
Average Number of Acres: 425
Directional Distribution: 57% entering, 43% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.15	0.08 - 0.60	0.42

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: **Acres**
On a: **Weekday,**
P.M. Peak Hour of Generator

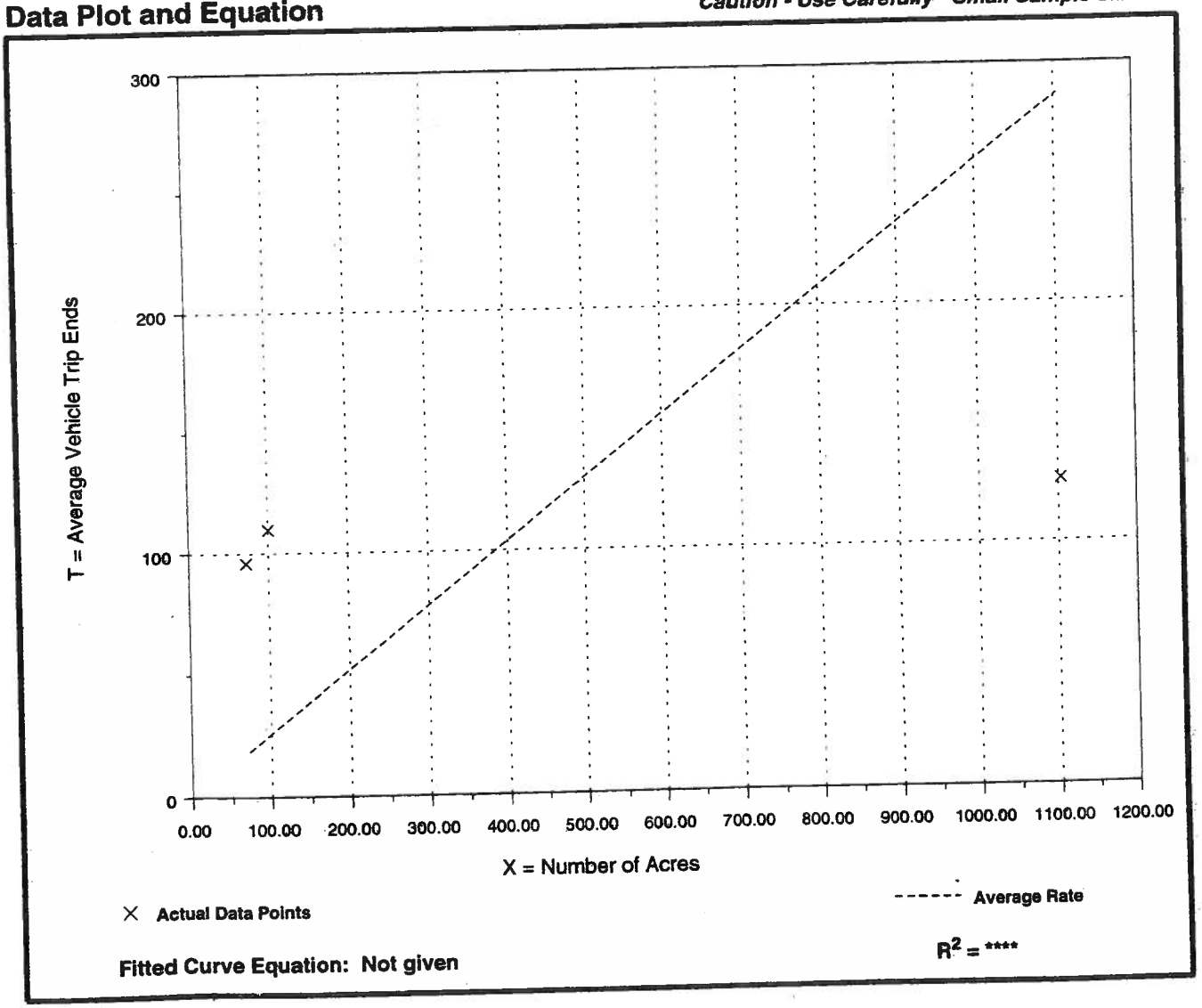
Number of Studies: 3
Average Number of Acres: 425
Directional Distribution: 44% entering, 56% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.26	0.11 - 1.33	0.63

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Regional Park
(417)

Average Vehicle Trip Ends vs: Acres
On a: Saturday

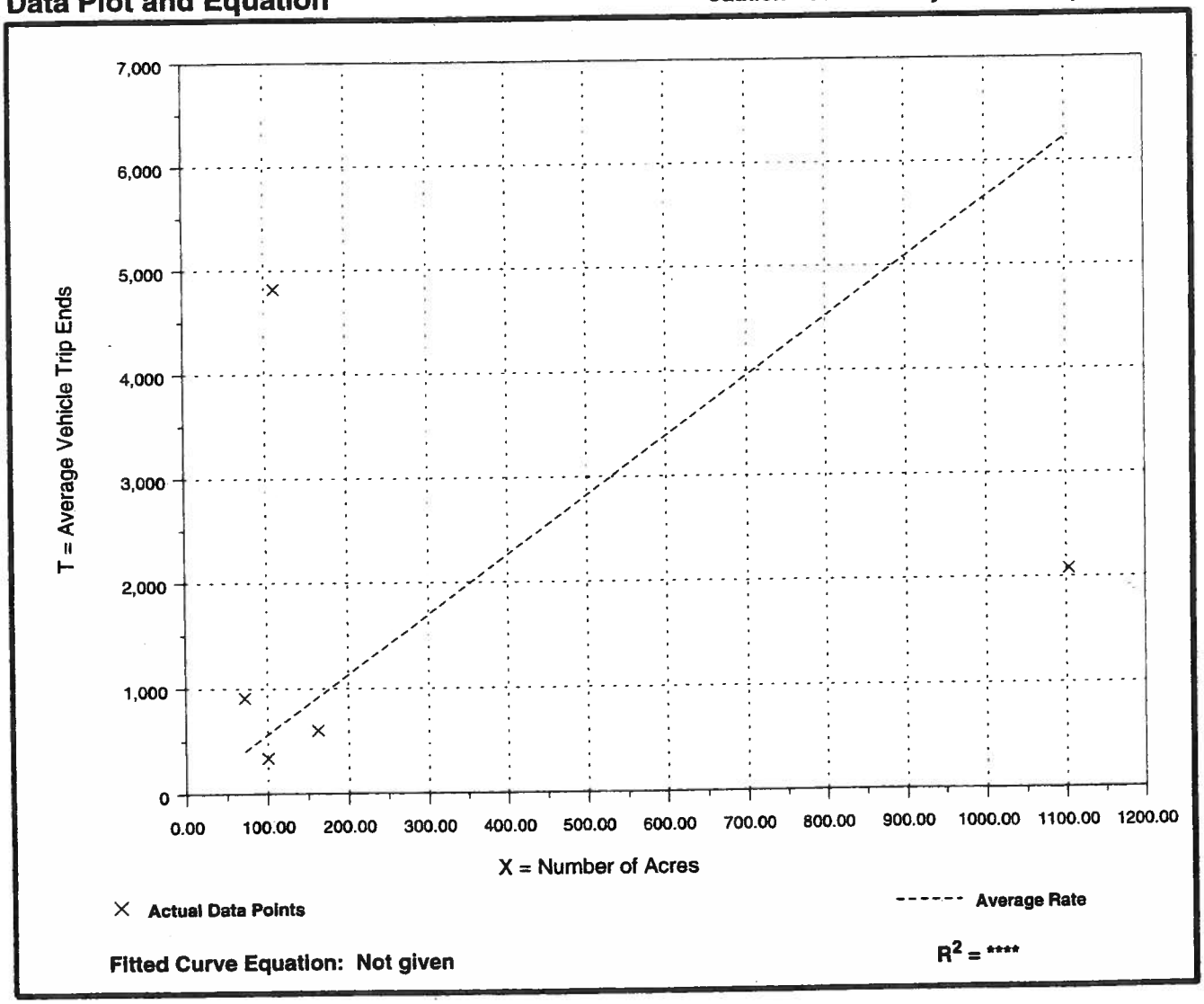
Number of Studies: 5
Average Number of Acres: 310
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
5.65	1.88 - 43.04	10.94

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: **Acres**
On a: **Saturday,**
Peak Hour of Generator

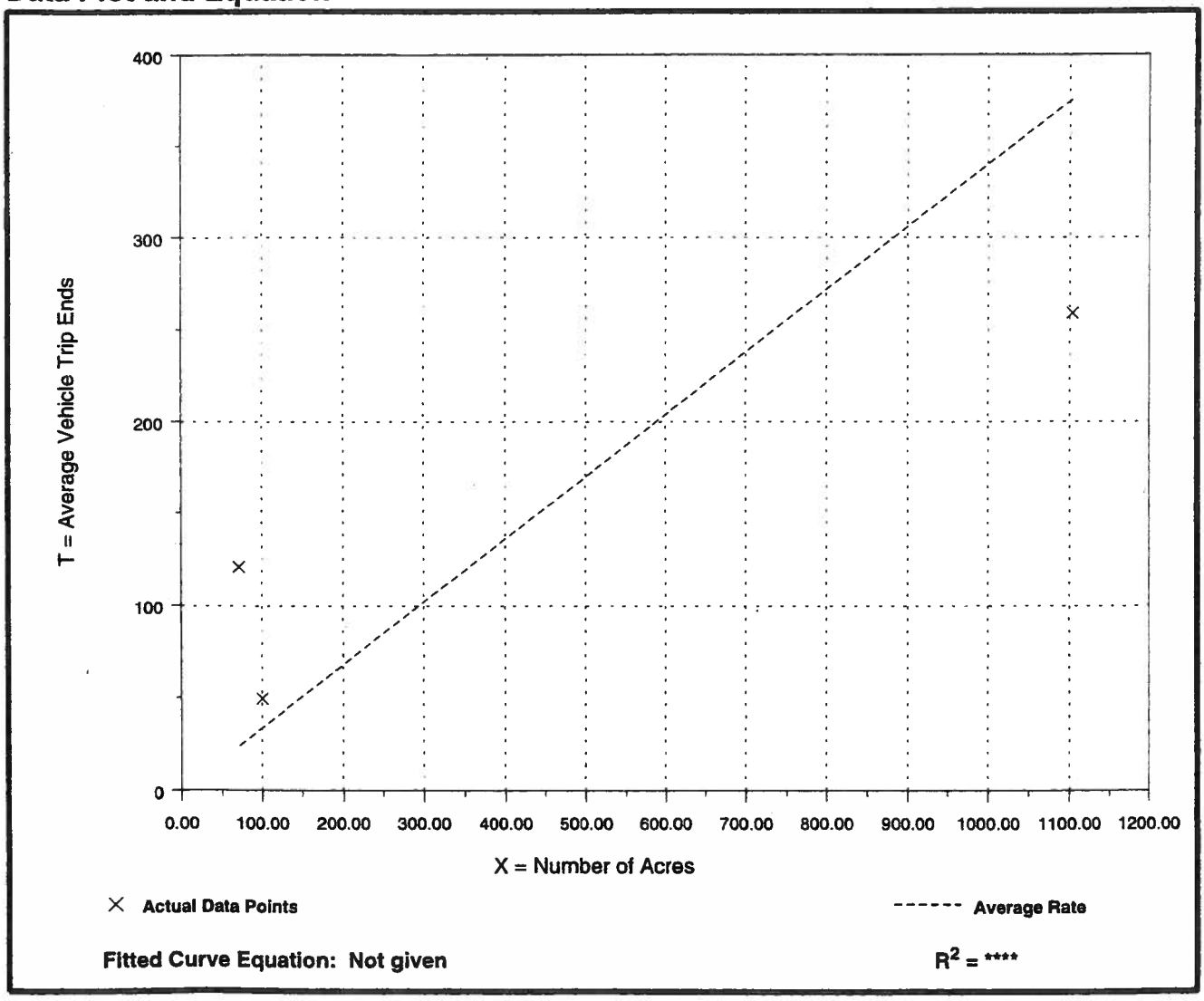
Number of Studies: 3
Average Number of Acres: 425
Directional Distribution: 48% entering, 52% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.34	0.23 - 1.68	0.67

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: Acres
On a: Sunday

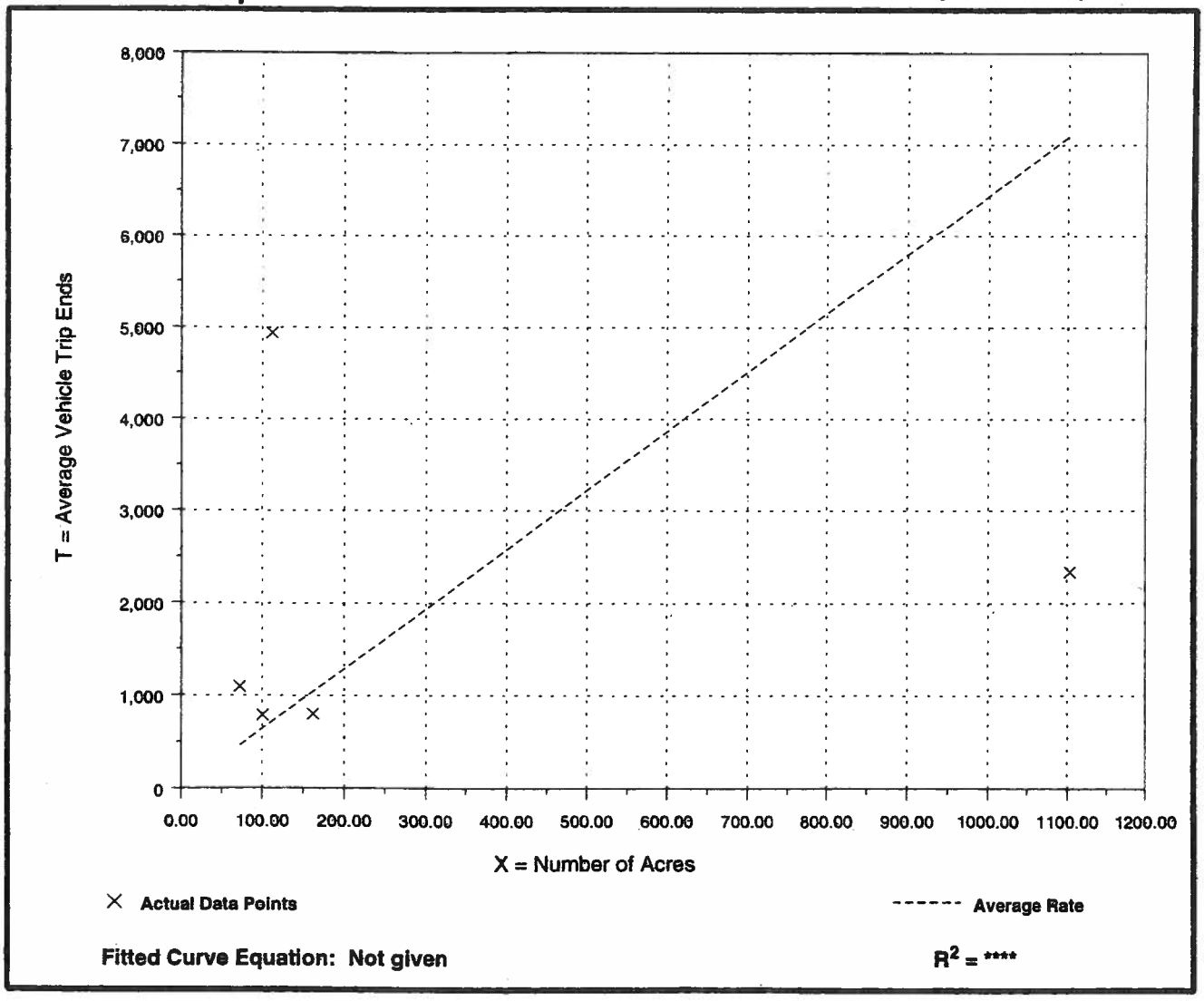
Number of Studies: 5
Average Number of Acres: 310
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
6.44	2.12 - 44.11	11.24

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: **Acres**
On a: **Sunday,**
Peak Hour of Generator

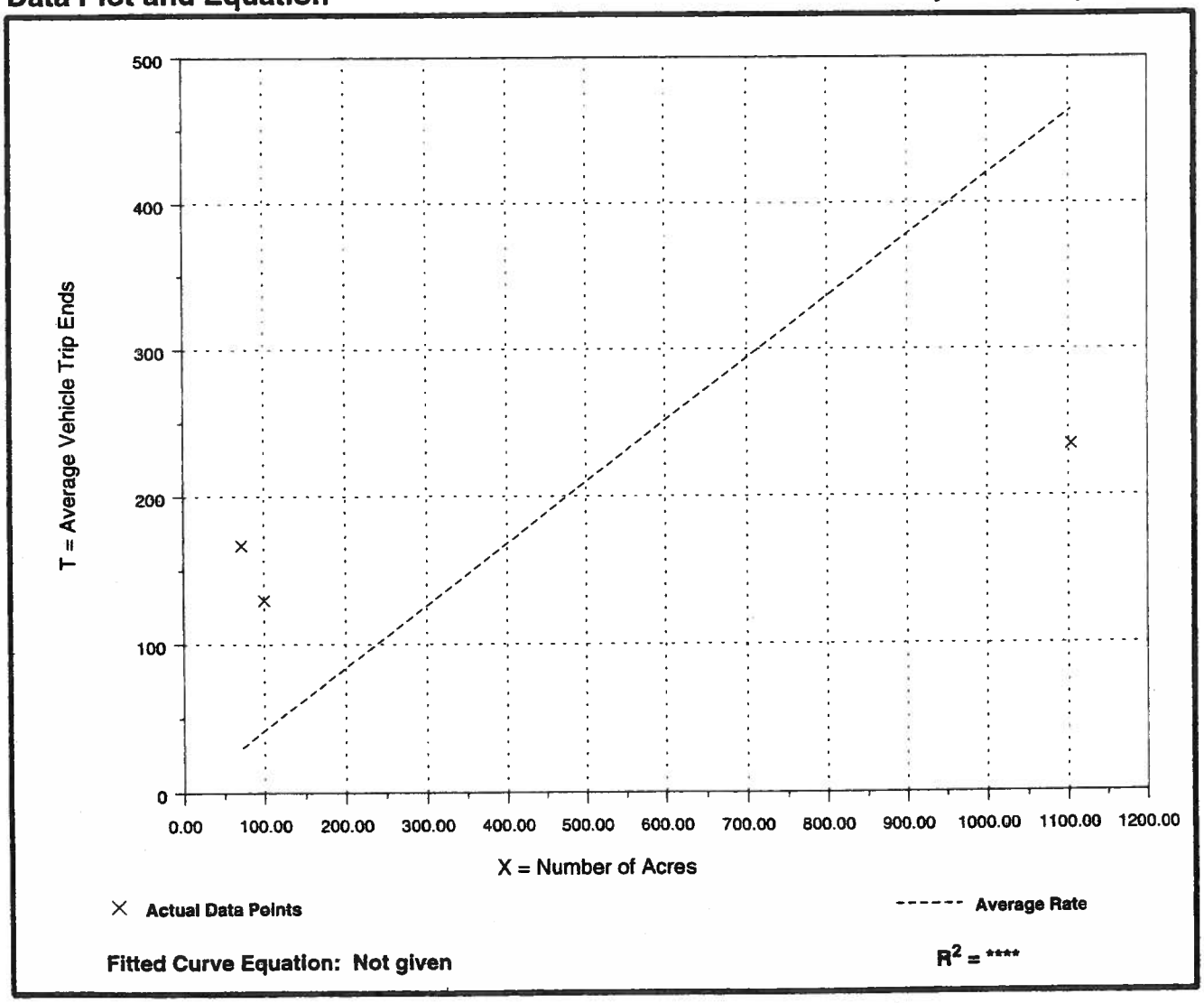
Number of Studies: 3
Average Number of Acres: 425
Directional Distribution: 34% entering, 66% exiting

Trip Generation per Acre

Average Rate	Range of Rates	Standard Deviation
0.42	0.21 - 2.32	0.85

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: Picnic Sites
On a: Weekday

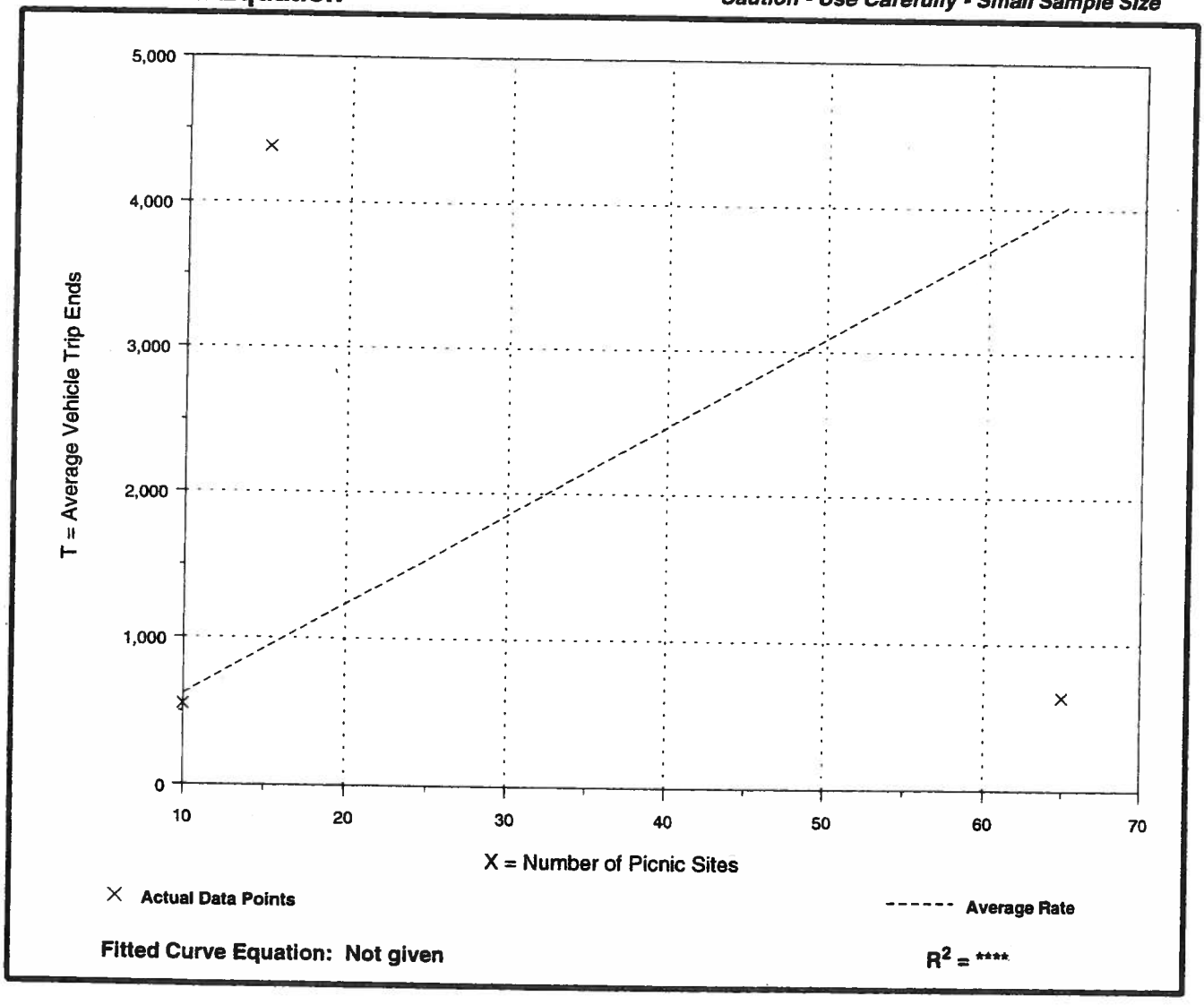
Number of Studies: 3
Average Number of Picnic Sites: 30
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Picnic Site

Average Rate	Range of Rates	Standard Deviation
61.82	9.82 - 291.73	104.63

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: Picnic Sites
On a: Saturday

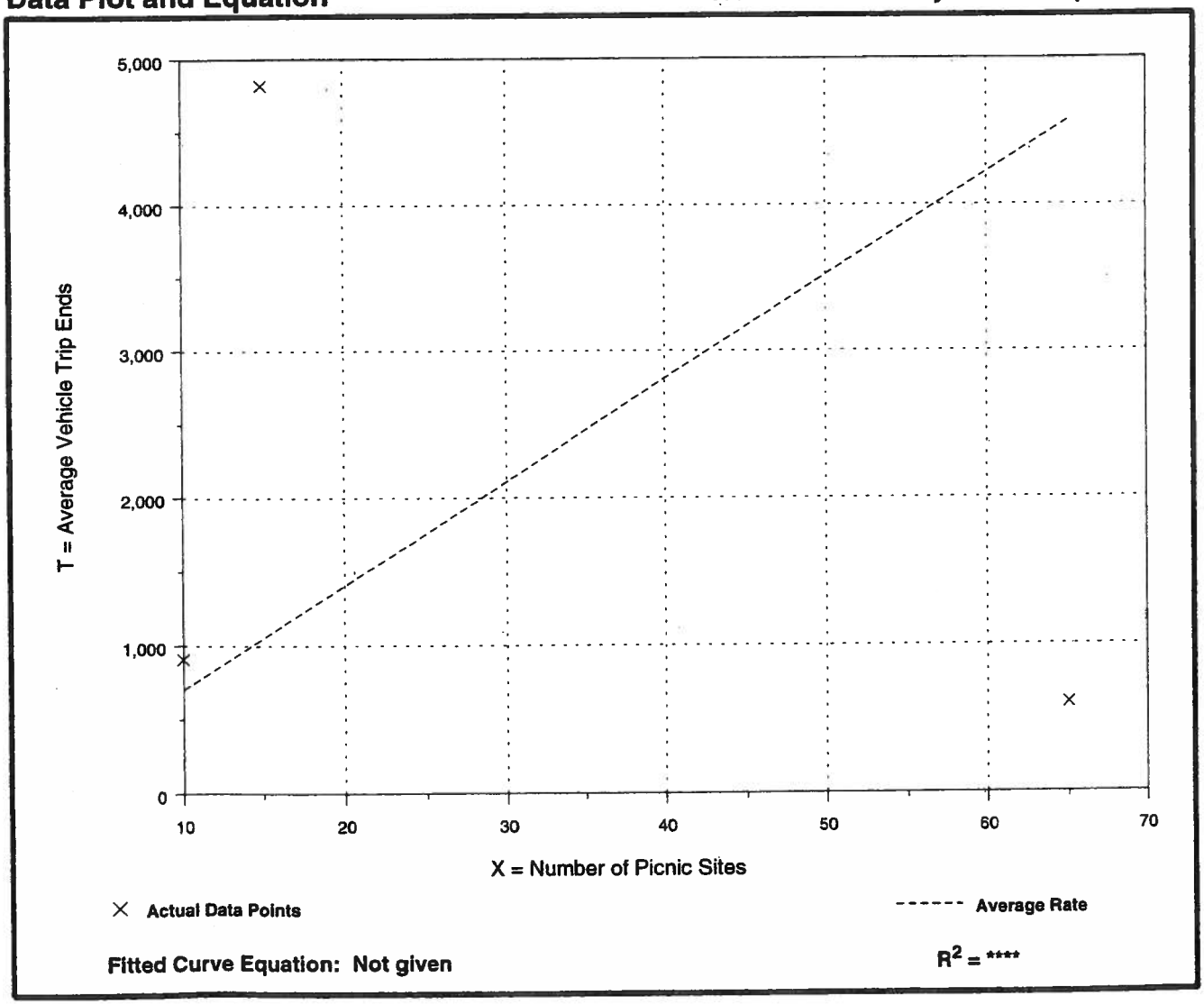
Number of Studies: 3
Average Number of Picnic Sites: 30
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Picnic Site

Average Rate	Range of Rates	Standard Deviation
70.39	9.31 - 321.33	115.98

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

Regional Park
(417)

Average Vehicle Trip Ends vs: Picnic Sites
On a: Sunday

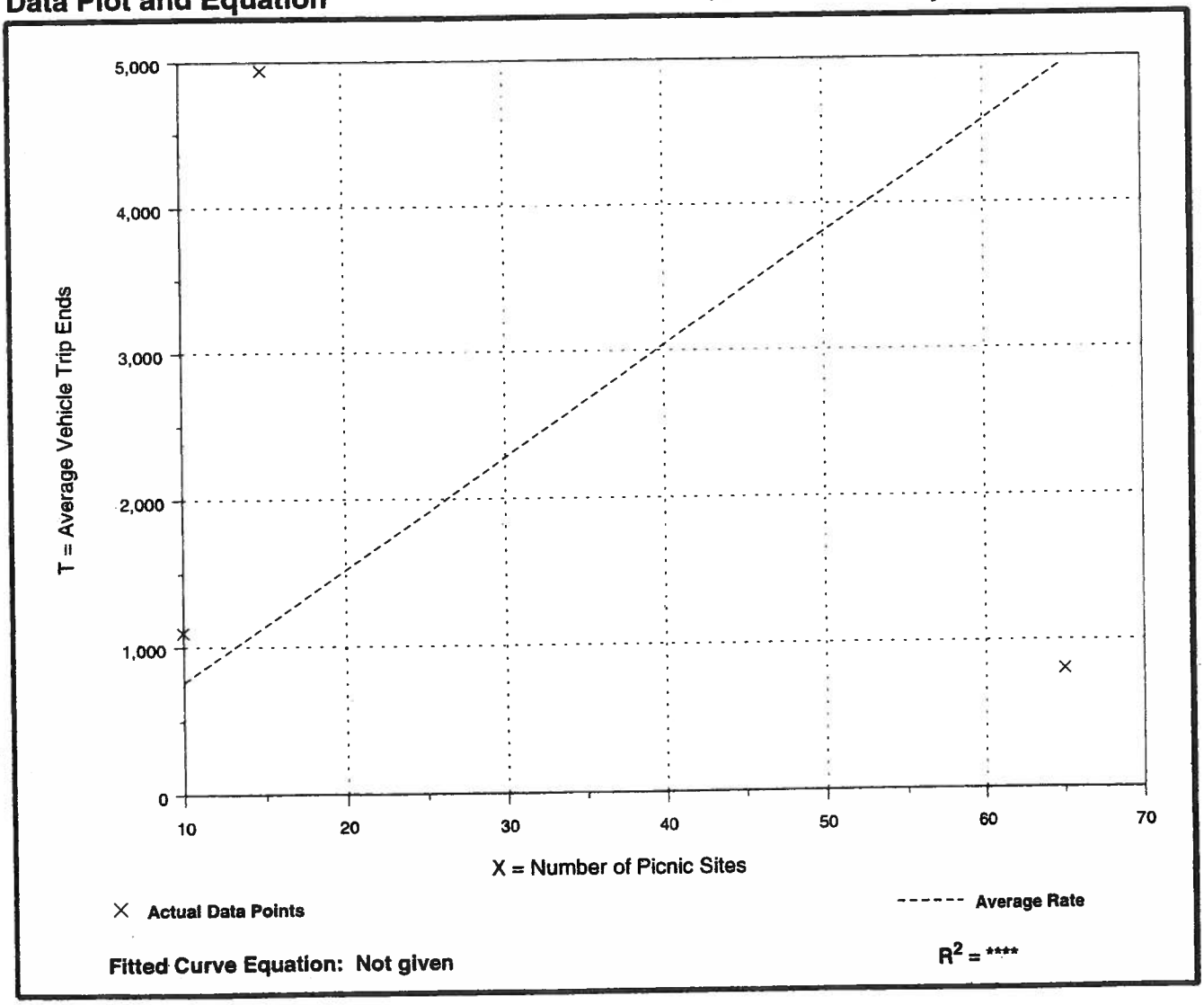
Number of Studies: 3
Average Number of Picnic Sites: 30
Directional Distribution: 50% entering, 50% exiting

Trip Generation per Picnic Site

Average Rate	Range of Rates	Standard Deviation
76.06	12.38 - 329.33	118.21

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

R^2 = ****

APPENDIX C
EXISTING 2011 SYNCHRO TRAFFIC MODEL OUTPUT

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	6	10	660	5	10	665
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	11	717	5	11	723
Pedestrians	60		60			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	6		6			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1585	780			783	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1585	780			783	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	97			99	
cM capacity (veh/h)	103	370			779	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	17	723	11	723
Volume Left	7	0	11	0
Volume Right	11	5	0	0
cSH	188	1700	779	1700
Volume to Capacity	0.09	0.43	0.01	0.43
Queue Length 95th (ft)	8	0	1	0
Control Delay (s)	26.1	0.0	9.7	0.0
Lane LOS	D		A	
Approach Delay (s)	26.1	0.0	0.1	
Approach LOS	D			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intvls	1
Vehs Entered	224
Vehs Exited	235
Starting Vehs	25
Ending Vehs	14
Denied Entry Before	3
Denied Entry After	1
Travel Distance (mi)	94
Travel Time (hr)	3.5
Total Delay (hr)	0.3
Total Stops	16
Fuel Used (gal)	2.9

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	224
Vehs Exited	235
Starting Vehs	25
Ending Vehs	14
Denied Entry Before	3
Denied Entry After	1
Travel Distance (mi)	94
Travel Time (hr)	3.5
Total Delay (hr)	0.3
Total Stops	16
Fuel Used (gal)	2.9

3: Main Park Access & Kalanianaole Hwy (SR 72) Performance by movement

Movement	WBL	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.2
Delay / Veh (s)	25.1	2.5	0.1	14.8	2.9	3.0
Total Stops	1	10	0	1	4	16
Stop/Veh	1.00	0.11	0.00	0.33	0.03	0.07
Travel Dist (mi)	0.1	17.8	0.2	0.6	27.1	45.9
Travel Time (hr)	0.0	0.7	0.0	0.0	1.0	1.7
Avg Speed (mph)	11	27	24	19	27	27
Fuel Used (gal)	0.0	0.5	0.0	0.0	0.8	1.3
HC Emissions (g)	0	9	0	0	6	15
CO Emissions (g)	0	179	0	2	123	304
NOx Emissions (g)	0	24	0	0	16	41
Vehicles Entered	1	92	1	3	127	224
Vehicles Exited	1	95	1	3	132	232
Hourly Exit Rate	6	570	6	18	792	1392
Input Volume	6	660	5	10	665	1356
% of Volume	100	86	120	180	119	103
Denied Entry Before	0	1	0	0	2	3
Denied Entry After	0	1	0	0	0	1

Total Network Performance

Total Delay (hr)	0.3
Delay / Veh (s)	4.8
Total Stops	16
Stop/Veh	0.07
Travel Dist (mi)	94.4
Travel Time (hr)	3.5
Avg Speed (mph)	27
Fuel Used (gal)	2.9
HC Emissions (g)	35
CO Emissions (g)	743
NOx Emissions (g)	97
Vehicles Entered	224
Vehicles Exited	235
Hourly Exit Rate	1410
Input Volume	2712
% of Volume	52
Denied Entry Before	3
Denied Entry After	1

Intersection: 3: Main Park Access & Kalanianaole Hwy (SR 72)

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	31	87	31	75
Average Queue (ft)	6	45	10	21
95th Queue (ft)	26	92	31	70
Link Distance (ft)	666	1011		1102
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

APPENDIX D
TRAFFIC SIGNAL WARRANT ANALYSIS

TRAFFIC SIGNAL WARRANTS REVIEW

Traffic Signal Warrant	2011 Met – Yes/No	2031 Met – Yes/No
1A Minimum Vehicular Volume	NO	NO
1B Interruption of Continuous Flow	NO	NO
2. Four Hour Volume	NO	NO
3. Peak Hour Warrant	NO	NO
4. Pedestrian Volumes	NO DATA	NO DATA
5. School Crossings	NO School Xings	NO School Xings
6.Coordinated Signal System	NO	NO
7. Crash Experience	NO	NO
8. Roadway Network Warrant	NO	NO

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
JAN S. GOUVEIA
RANDY GRUNE
JADINE URASAKI

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

IN REPLY REFER TO:
HWY-TS
2.8340

APR 28 2011

Mr. Lester Iwana, P.E.
City & County of Honolulu
Department of Design & Construction
Facilities Division – Planning
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Iwana:

Thank you for your request regarding major traffic accidents at the intersection of Kalanianaole Highway and Waimanalo Bay Beach Park entrance to conduct a traffic signal warrant analysis.

The Traffic Branch has conducted a traffic safety study for the request mentioned above under its Highway Safety Improvement Program (HSIP) of Title 23, United States Code, Section 148. This traffic safety study is protected under Title 23, U.S.C., Sections 402(k) and 409, and is intended for highway safety and educational purposes only.

We have studied the intersection at Kalanianaole Highway and Waimanalo Bay Beach Park entrance and have found two major accidents utilizing accident data from the 3 most recent years of data available.

If there are any questions, please feel free to contact my Traffic Safety staff at 692-7684.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

CHAPTER 4C. TRAFFIC CONTROL SIGNAL NEEDS STUDIES

Section 4C.01 Studies and Factors for Justifying Traffic Control Signals

Standard:

An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location.

The investigation of the need for a traffic control signal shall include an analysis of the applicable factors contained in the following traffic signal warrants and other factors related to existing operation and safety at the study location:

Warrant 1, Eight-Hour Vehicular Volume.
Warrant 2, Four-Hour Vehicular Volume.
Warrant 3, Peak Hour.
Warrant 4, Pedestrian Volume.
Warrant 5, School Crossing.
Warrant 6, Coordinated Signal System.
Warrant 7, Crash Experience.
Warrant 8, Roadway Network.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Support:

Sections 8D.07 and 10D.05 contain information regarding the use of traffic control signals instead of gates and/or flashing light signals at highway-railroad grade crossings and highway-light rail transit grade crossings, respectively.

Guidance:

A traffic control signal should not be installed unless one or more of the factors described in this Chapter are met.

A traffic control signal should not be installed unless an engineering study indicates that installing a traffic control signal will improve the overall safety and/or operation of the intersection.

A traffic control signal should not be installed if it will seriously disrupt progressive traffic flow.

The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count when evaluating the count against the above signal warrants.

Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. The site-specific traffic characteristics dictate whether an approach should be considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, engineering judgment could indicate that it should be considered a one-lane approach if the traffic using the left-turn lane is minor. In such a case, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles.

Similar engineering judgment and rationale should be applied to a street approach with one lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.

At a location that is under development or construction and where it is not possible to obtain a traffic count that would represent future traffic conditions, hourly volumes should be estimated as part of an engineering study for comparison with traffic signal warrants. Except for locations where the engineering study uses the satisfaction of Warrant 8 to justify a signal, a traffic control signal installed under projected conditions should have an engineering study done within 1 year of putting the signal into stop-and-go operation to determine if the signal is justified. If not justified, the signal should be taken out of stop-and-go operation or removed.

For signal warrant analysis, a location with a wide median, even if the median width is greater than 9 m (30 ft), should be considered as one intersection.

Option:

At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher of the major-street left-turn volumes as the "minor-street" volume and the corresponding single direction of opposing traffic on the major street as the "major-street" volume.

For signal warrant analysis, bicyclists may be counted as either vehicles or pedestrians.

Support:

When performing a signal warrant analysis, bicyclists riding in the street with other vehicular traffic are usually counted as vehicles and bicyclists who are clearly using pedestrian facilities are usually counted as pedestrians.

Option:

Engineering study data may include the following:

A. The number of vehicles entering the intersection in each hour from each approach during 12 hours of an average day. It is desirable that the hours selected contain the greatest percentage of the 24-hour traffic volume.
B. Vehicular volumes for each traffic movement from each approach, classified by vehicle type (heavy trucks, passenger cars and light trucks, public-transit vehicles, and, in some locations, bicycles), during each 15-minute period of the 2 hours in the morning and 2 hours in the afternoon during which total traffic entering the intersection is greatest.
C. Pedestrian volume counts on each crosswalk during the same periods as the vehicular counts in Item B above and during hours of highest pedestrian volume. Where young, elderly, and/or persons with physical or visual disabilities need special consideration, the pedestrians and their crossing times may be classified by general observation.
D. Information about nearby facilities and activity centers that serve the young, elderly, and/or persons with disabilities, including requests from persons with disabilities for accessible crossing improvements at the location under study. These persons might not be adequately reflected in the pedestrian volume count if the absence of a signal restrains their mobility.
E. The posted or statutory speed limit or the 85th-percentile speed on the uncontrolled approaches to the location.
F. A condition diagram showing details of the physical layout, including such features as intersection geometrics, channelization, grades, sight-distance restrictions, transit stops and routes, parking conditions, pavement markings, roadway lighting, driveways, nearby railroad crossings, distance to nearest traffic control signals, utility poles and fixtures, and adjacent land use.
G. A collision diagram showing crash experience by type, location, direction of movement, severity, weather, time of day, date, and day of week for at least 1 year.

The following data, which are desirable for a more precise understanding of the operation of the intersection, may be obtained during the periods specified in Item B of the preceding paragraph:

A. Vehicle-hours of stopped time delay determined separately for each approach.
B. The number and distribution of acceptable gaps in vehicular traffic on the major street for entrance from the minor street.
C. The posted or statutory speed limit or the 85th-percentile speed on controlled approaches at a point near to the intersection but unaffected by the control.
D. Pedestrian delay time for at least two 30-minute peak pedestrian delay periods of an average weekday or like periods of a Saturday or Sunday.
E. Queue length on stop-controlled approaches.

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Support:

The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then the criteria for Warrant 1 is satisfied and Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then the criteria for Warrant 1 is satisfied and the combination of Conditions A and B is not needed.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume.
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures.
[c] May be used when the major-street speed exceeds 70 km/h or exceeds 40 mph or in an isolated community with a population of less than 10,000.
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70 km/h or exceeds 40 mph or in an isolated community with a population of less than 10,000.

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Option:

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 70 percent columns in Table 4C-1 may be used in place of the 100 percent columns.

Guidance:

The combination of Conditions A and B is intended for application at locations where Condition A is not satisfied and Condition B is not satisfied and should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems.

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. **The vehicles per hour given in both of the 80 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and**
B. **The vehicles per hour given in both of the 80 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.**

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Option:

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.03 Warrant 2, Four-Hour Vehicular Volume

Support:

The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Option:

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-2 may be used in place of Figure 4C-1.

Section 4C.04 Warrant 3, Peak Hour

Support:

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

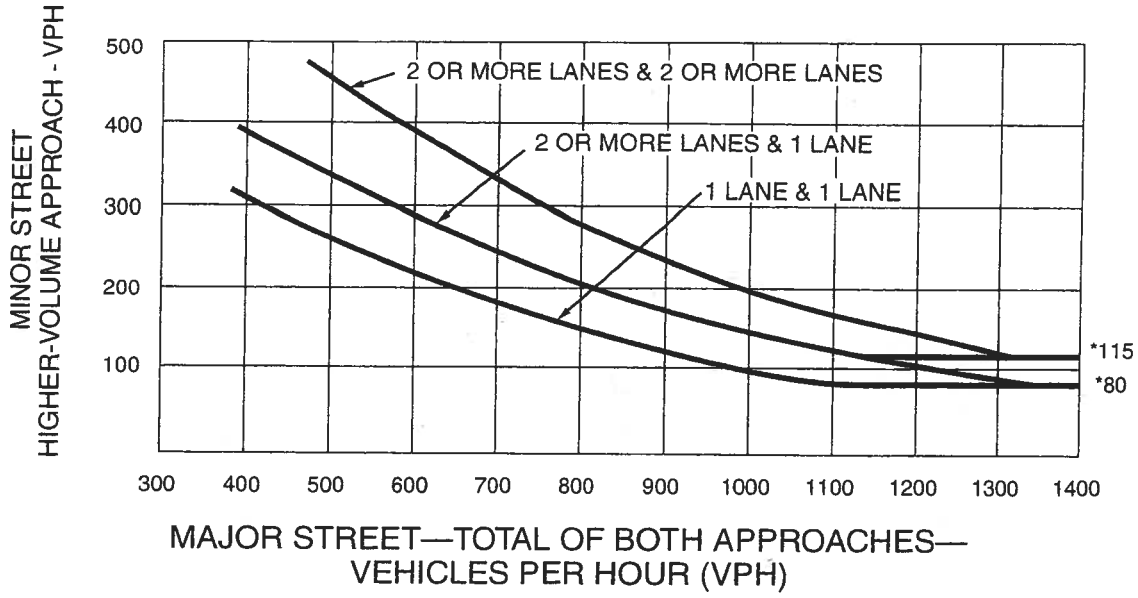
Standard:

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. **If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:**
    1. **The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and**

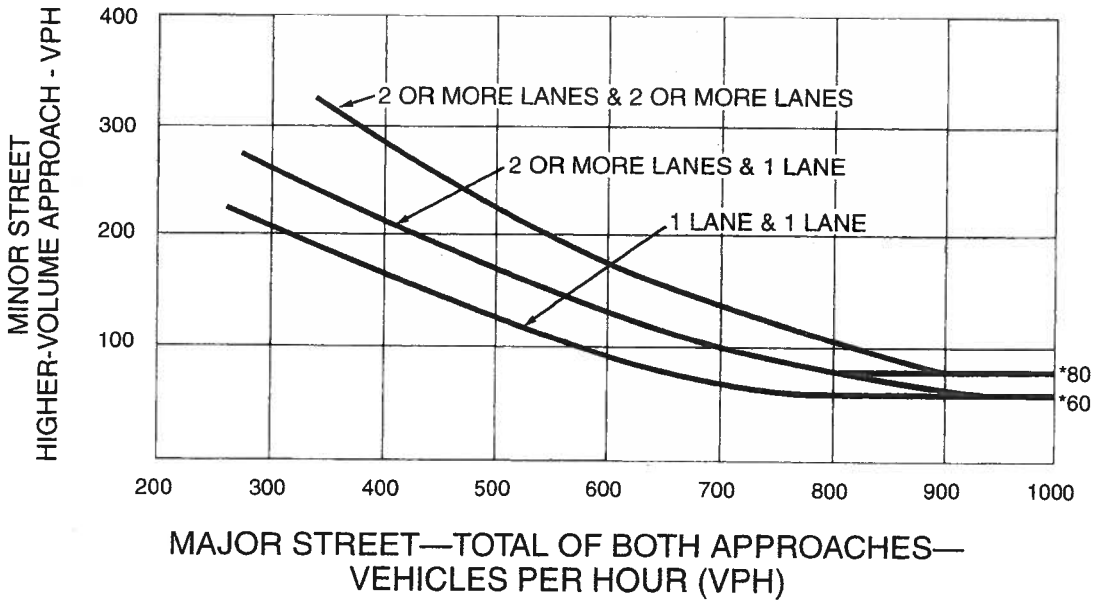
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

2. **The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and**
3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.**

B. **The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.**

Option:

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-4 may be used in place of Figure 4C-3 to satisfy the criteria in the second category of the Standard.

Section 4C.05 Warrant 4, Pedestrian Volume

Support:

The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Standard:

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that both of the following criteria are met:

A. **The pedestrian volume crossing the major street at an intersection or midblock location during an average day is 100 or more for each of any 4 hours or 190 or more during any 1 hour; and**
B. **There are fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Where there is a divided street having a median of sufficient width for pedestrians to wait, the requirement applies separately to each direction of vehicular traffic.**

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic.

If this warrant is met and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads conforming to requirements set forth in Chapter 4E.

Guidance:

If this warrant is met and a traffic control signal is justified by an engineering study, then:

A. If at an intersection, the traffic control signal should be traffic-actuated and should include pedestrian detectors.
B. If at a nonintersection crossing, the traffic control signal should be pedestrian-actuated, parking and other sight obstructions should be prohibited for at least 30 m (100 ft) in advance of and at least 6.1 m (20 ft) beyond the crosswalk, and the installation should include suitable standard signs and pavement markings.
C. Furthermore, if installed within a signal system, the traffic control signal should be coordinated.

Option:

The criterion for the pedestrian volume crossing the major roadway may be reduced as much as 50 percent if the average crossing speed of pedestrians is less than 1.2 m/sec (4 ft/sec).

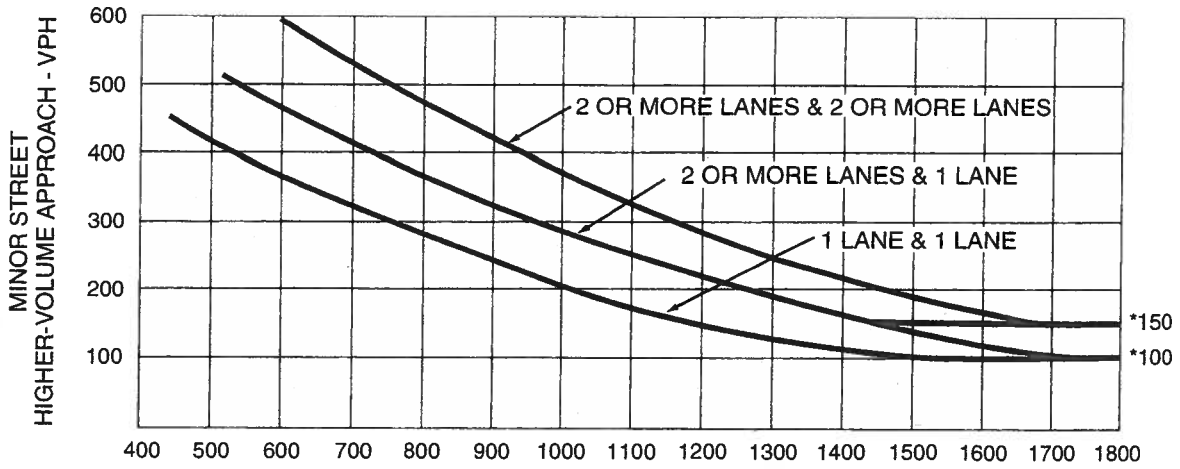
A traffic control signal may not be needed at the study location if adjacent coordinated traffic control signals consistently provide gaps of adequate length for pedestrians to cross the street, even if the rate of gap occurrence is less than one per minute.

Section 4C.06 Warrant 5, School Crossing

Support:

The School Crossing signal warrant is intended for application where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal.

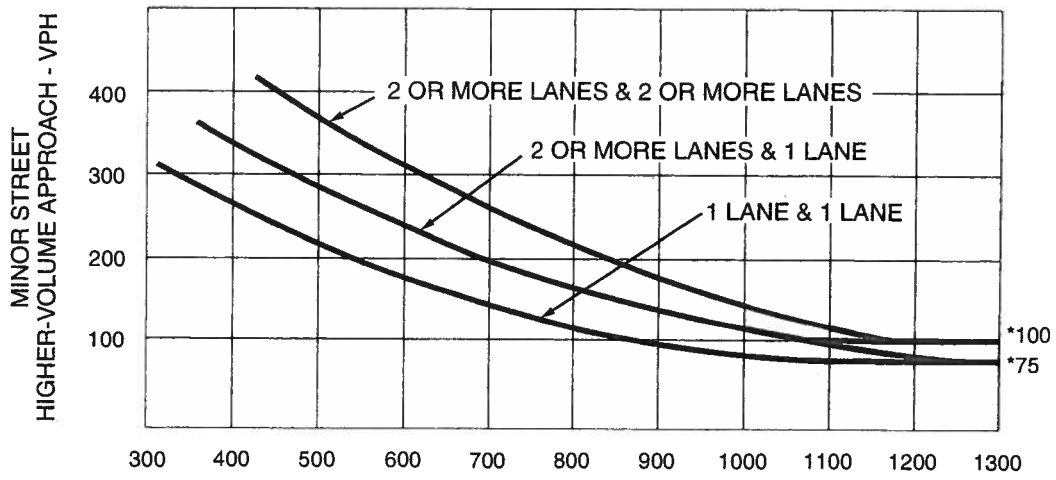
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Standard:

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the children are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 students during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Guidance:

If this warrant is met and a traffic control signal is justified by an engineering study, then:

A. If at an intersection, the traffic control signal should be traffic-actuated and should include pedestrian detectors.
B. If at a nonintersection crossing, the traffic control signal should be pedestrian-actuated, parking and other sight obstructions should be prohibited for at least 30 m (100 ft) in advance of and at least 6.1 m (20 ft) beyond the crosswalk, and the installation should include suitable standard signs and pavement markings.
C. Furthermore, if installed within a signal system, the traffic control signal should be coordinated.

Section 4C.07 Warrant 6, Coordinated Signal System

Support:

Progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.
B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Guidance:

The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 300 m (1,000 ft).

Section 4C.08 Warrant 7, Crash Experience

Support:

The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and
B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and
C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not

less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Option:

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.09 Warrant 8, Roadway Network

Support:

Installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway network.

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

A. **The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or**
B. **The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a nonnormal business day (Saturday or Sunday).**

A major route as used in this signal warrant shall have one or more of the following characteristics:

A. **It is part of the street or highway system that serves as the principal roadway network for through traffic flow; or**
B. **It includes rural or suburban highways outside, entering, or traversing a City; or**
C. **It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.**

APPENDIX E
2031 FUTURE FULL BUILD-OUT TRAFFIC SYNCHRO OUTPUT

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	20	30	660	20	30	665
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	33	897	22	33	904
Pedestrians	100		100			100
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	10		10			10
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2076	1108			1018	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2076	1108			1018	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	52	84			95	
cM capacity (veh/h)	45	207			609	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	54	918	33	904
Volume Left	22	0	33	0
Volume Right	33	22	0	0
cSH	85	1700	609	1700
Volume to Capacity	0.64	0.54	0.05	0.53
Queue Length 95th (ft)	75	0	4	0
Control Delay (s)	103.3	0.0	11.2	0.0
Lane LOS	F		B	
Approach Delay (s)	103.3	0.0	0.4	
Approach LOS	F			

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

Summary of All Intervals

Start Time	6:57
End Time	7:10
Total Time (min)	13
Time Recorded (min)	10
# of Intervals	2
# of Recorded Intvls	1
Vehs Entered	312
Vehs Exited	312
Starting Vehs	34
Ending Vehs	34
Denied Entry Before	1
Denied Entry After	0
Travel Distance (mi)	130
Travel Time (hr)	6.0
Total Delay (hr)	1.6
Total Stops	146
Fuel Used (gal)	4.4

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10

Volumes adjusted by Growth Factors.

Vehs Entered	312
Vehs Exited	312
Starting Vehs	34
Ending Vehs	34
Denied Entry Before	1
Denied Entry After	0
Travel Distance (mi)	130
Travel Time (hr)	6.0
Total Delay (hr)	1.6
Total Stops	146
Fuel Used (gal)	4.4

3: Main Park Access & Kalanianaole Hwy (SR 72) Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.1	0.1	0.3	0.0	0.1	0.7	1.3
Delay / Veh (s)	122.6	58.9	8.6	6.8	51.0	15.7	15.0
Total Stops	1	5	44	1	9	86	146
Stop/Veh	0.50	0.83	0.30	0.33	1.00	0.55	0.46
Travel Dist (mi)	0.1	0.6	27.6	0.6	1.7	32.8	63.5
Travel Time (hr)	0.1	0.1	1.3	0.0	0.2	1.8	3.5
Avg Speed (mph)	2	5	22	23	10	19	19
Fuel Used (gal)	0.0	0.0	0.8	0.0	0.1	1.0	1.9
HC Emissions (g)	0	3	8	0	0	5	16
CO Emissions (g)	1	55	163	3	9	142	374
NOx Emissions (g)	0	7	22	0	1	17	46
Vehicles Entered	1	5	141	3	8	154	312
Vehicles Exited	2	6	148	3	9	157	325
Hourly Exit Rate	12	36	888	18	54	942	1950
Input Volume	20	30	825	20	30	831	1756
% of Volume	60	120	108	90	180	113	111
Denied Entry Before	0	0	0	0	0	1	1
Denied Entry After	0	0	0	0	0	0	0

Total Network Performance

Total Delay (hr)	1.6
Delay / Veh (s)	18.4
Total Stops	146
Stop/Veh	0.47
Travel Dist (mi)	129.9
Travel Time (hr)	6.0
Avg Speed (mph)	22
Fuel Used (gal)	4.4
HC Emissions (g)	44
CO Emissions (g)	1099
NOx Emissions (g)	138
Vehicles Entered	312
Vehicles Exited	312
Hourly Exit Rate	1872
Input Volume	3512
% of Volume	53
Denied Entry Before	1
Denied Entry After	0

Intersection: 3: Main Park Access & Kalanianaole Hwy (SR 72)

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	116	201	174	404
Average Queue (ft)	48	120	74	217
95th Queue (ft)	121	216	167	429
Link Distance (ft)	666	1011		1102
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				10
Queuing Penalty (veh)				3

Network Summary

Network wide Queuing Penalty: 3

Appendix G:

Civil Engineering Report

EXISTING WATER SYSTEM

Two water systems are located within Waimanalo Bay Beach Park (WBBP). Exhibit 1 shows the locations of Water System "A" and Water System "B", per As-Built plans. Water System "A", owned by the City, are various sizes of polyvinyl chloride (PVC) pipe metered off Aloiloi Street which services Comfort Stations #1, #2, #3 and the Caretaker's Residence. Water System "B" is a 6" galvanized iron (GI) backup waterline, owned by the Federal Government, and crosses through WBBP from Aloiloi Street to Bellows Air Force Station. Water System "B" services a single fire hydrant within WBBP near the Caretaker's Residence. Since Water System "B" is not owned by the City, no improvements will be included in this Master Plan and hereon the term "existing water system" will refer to only Water System "A" unless otherwise specified.

New waterlines will be required to service the proposed improvements to WBBP. With the addition of new waterlines, the existing water system was analyzed as to whether the existing waterlines should also be replaced. The followings characteristics were taken into consideration:

- Ownership
- Material
- Age/Service Life
- Location
- Performance History

Ownership

Only waterlines owned by the City were candidates for replacement, therefore Water System "B" was determined to remain without improvement.

Material & Age/Service Life

The existing water system material is PVC and the oldest waterlines are approximately 34-35 years old based on As-Built plans dated 1977. The American Water Works Association Research Foundation conducted a study to examine performance of PVC pipe and develop a long-term performance model (Walker 2007, *in* Burn et al 2005). "Their model projects that water utilities should expect a minimum service life of 100 years from PVC pipe when properly designed and installed (Burn et al 2005)". Based on the findings of the Walker report and the age of the existing water system, replacement is not recommended based on age.

Location

The locations of existing waterlines were also considered to determine if any waterlines should be replaced. Portions of the existing water system are located within an area of dense tree cover and another portion is located in the area designated for multi-purpose fields. PVC pipe located in an open field may be difficult to locate in the future because reference plans do not indicate the installation of electronic markers. Also, future trench work could disrupt the use of the fields. Portions of the existing waterlines located under dense tree cover could also be difficult

to locate, pose accessibility problems and large tree roots could cause future main breaks. It is recommended that pipes in locations described above be replaced and abandoned.

Along with Water System "B", other waterlines that will remain, include water laterals servicing Comfort Stations #1, #2, #3 and the Caretaker's Residence. Additionally the existing 6" waterline near the shoreline, which services Comfort Stations #2 and #3 and several drinking fountains, will remain in place. See Exhibit 2 – Proposed Utilities.

Performance History

Performance History was also considered when determining which waterlines should be replaced. The park caretaker reported a water main break to Water System "B" due to road repaving, however no reports of breaks to Water System "A" were reported and therefore there is no indication that the waterlines should be replaced due to poor performance.

Fire Protection

WBBP currently has one (1) fire hydrant located in the vicinity of the Caretaker's Residence. Though the existing fire hydrant provides some fire protection, it does not provide adequate protection for all facilities, existing and proposed, in the park. Additionally the fire hydrant is connected to Water System "B" and therefore not owned by the City. Since the City does not own the existing fire hydrant, it will not be included in determining the placement of the proposed fire hydrants.

Existing Water Demands

Existing water demands were calculated using existing fixture counts and fixture unit demands based on the 1997 Edition of the Uniform Plumbing Code. See Appendix A Chart A-1 for a summary. The following assumptions were factored into fixture unit demands:

- Park Hours 7am – 8pm
    - Comfort Station #2 is not in the vicinity of the campsites and assumed to be in use only during park hours.
- Camping allowed 5 days a week, 8am Friday to 8am Wednesday
    - Comfort Stations #1 and #3 are assumed to operate 24 hours for 5 days a week and only during park hours the other 2 days.
- Showers are assumed to be continuous during park hours
    - Intermittent otherwise.

Appendix A Chart A-2 is a tabulation of actual water meter readings for a 16 month period. The estimated water demand based on fixture units in Chart A-1 yield 57 gallons per minute, which equates to approximately 2.5 million gallons per month. Actual readings from Chart A-2 yield an average monthly usage of approximately 342,000 gallons per month, with a maximum monthly usage of 722,000 gallons in August 2010. Despite the discrepancy, the estimate provided by existing fixture units will provide a comparative analysis with proposed water demands determined using fixture units with similar assumptions.

Easements

No easements for existing Water System "B", owned by the Federal Government, have been located in the research involved as part of this Master Plan. No recommendations are being made on whether the City should grant a utility easement for Water System "B", however for discussion purposes, such an easement would provide a means of accurately locating the waterline in the future. Additionally, ownership of the waterline would be clearly stated for future reference. One difficulty in generating such an easement would be accurately locating the existing Water System "B" to correctly depict easement locations and boundaries.

PROPOSED WATER SYSTEM

Material

The proposed water system, as shown in Exhibit 2 – Proposed Utilities, consists of 6" PVC pipe. PVC was selected for its various properties such as long term performance (Walker, 2007), corrosion resistance, permeation resistance, and chemical resistance. The chemical resistance of PVC pipe also includes resistance to salt water (AWWA, 2002).

Buoyancy

Due to the close proximity to the shoreline, installation below groundwater or sea water is a possibility and the potential for flotation or buoyancy exists. Further investigation of the groundwater level is required, however if the pipe is found to be buoyant, proper anchoring of the pipe will be required during installation.

Location

The proposed waterline will be located within paved areas whenever possible. For pipe lengths that are located outside of paved areas, the pipes should be located away from areas of dense tree cover and proposed fields, where possible. Electronic markers should be installed along with the proposed waterlines to help locate the waterlines in the future. Electronic markers will be especially helpful in locating waterlines not installed under pavement.

Fire Protection

To provide adequate fire protection, eight (8) fire hydrants have been proposed throughout the park. A preconsultation for the Environmental Assessment (EA) was provided to the City and County of Honolulu Fire Department and a response letter dated May 26, 2010 states that every facility, measured from any portion of the first floor exterior wall, should be no more than 150 feet from a fire apparatus access road as measured by an approved route. Based on this criteria each facility, existing and proposed, will have a proposed fire hydrant as shown in Exhibit 2. Existing Comfort Stations #2 and #3 are more than 150 feet away from paved parking areas, therefore a fire lane must be provided for proper fire protection. To avoid installing additional pavement, products such as GravelPave should be considered to stabilize the path as well as allow the fire lane to remain pervious. A product such as GravelPave will also provide a "more natural" visual look to the fire lanes.

Proposed Water Demands

Proposed water demands were calculated using the same method as the existing water demands. See Appendix A, Chart A-3 for a summary. The following assumptions were factored into fixture unit demands:

- Park Hours 7am – 8pm
    - Comfort Stations #2, #4, #5 and Maintenance Area assumed to be in use only during park hours.
- Camping allowed 5 days a week, 8am Friday to 8am Wednesday
    - Comfort Stations #1, #3 and #6 are assumed to operate 24 hours for 5 days a week and only during park hours the other 2 days.
- Showers are assumed to be continuous during park hours
    - Intermittent otherwise.

Two different types of Comfort Stations are being considered for Comfort Stations #4 and #5, one being a "small" type and the other a "medium" type. Water demands for each type are included in Appendix A, Chart A-3 and three possible water demand scenarios, for the entire park, are summarized as follows:

- Option 1 – Comfort Stations #4 & #5, both medium type
- Option 2 – Comfort Stations #4 & #5, one medium type and one small type
- Option 3 – Comfort Stations #4 & #5, both small type

Fixture count demands varied between each option from 90 gallons per minute (gpm) to 94 gpm, or approximately 4.0 million gallons per month. Compared to the estimated existing water demand of 2.5, the result is an increase of 60% water demand. However, as discussed earlier in the existing water demands section, there is a discrepancy between the estimated existing water demand and historic meter readings. Therefore existing facilities may be underutilized and the proposed improvements may result in usage closer to estimated quantities and an increase greater than 60% of historic readings is feasible.

A preconsultation letter in preparation for a Draft Environmental Assessment was provided to the City and County of Honolulu Board of Water Supply (BWS) on May 13, 2010 and a response letter dated May 27, 2010 was provided by the BWS where it states, "the existing water system is presently adequate to accommodate the domestic water requirements of the proposed development". The BWS also states in this letter that "the final decision on the availability of water will be confirmed when the building permit application is submitted for approval".

EXISTING SEWER SYSTEM

The existing sewer system consists of sewer force mains (SFM) and gravity sewers, see Exhibit 1 – Existing Utilities. Comfort Stations #1 and #2 were originally serviced by 2" SFM's that discharged directly to sewer manhole (SMH) #3. These SFM's were replaced and abandoned in place in 1990 with sewage pump stations that pump, through a 4" SFM, to a main duplex pump station. Comfort Station #3 and the Caretaker's Residence gravity sewer, through a 4" vitrified clay pipe (VCP), to the main duplex pump station. The main duplex pump station then pumps the sewage, through a 4" SFM, to SMH #3, from that point the sewage gravity flows, through 6" VCP pipe, and exits the site to Kalanianaole Highway at SMH #5.

SFM Repairs

Currently the SFM system is not working and sewage is pumped using a vacuum truck and taken offsite. The City currently has a consultant contracted to design repairs for the damaged system. At the time of this Master Plan, the SFM repairs were in the planning phase and the improvements were not available to be included in this report.

Location

The gravity flow portion of the existing sewer system is located in an undesirable location as they are located within the proposed multipurpose fields. Existing manholes in this location would pose safety concerns for users of these fields, therefore the existing gravity mains will be realigned and existing mains and manholes abandoned in place. As part of the abandonment, SMH's should have cones and covers removed and the structure backfilled to finish grade to provide a smooth playing surface.

Existing Showers

Comfort Station #1 currently has 10 showers located inside, where as Comfort Stations #2 & #3 have 4 detached showers each. None of the existing showers are connected to the existing sewer system. Comfort Station #1 has 5 showers in the men's restroom and 5 showers in the women's restroom, each restroom drains shower water to a drop intake box which then drains through an 8-inch PVC pipe to a perforated corrugated metal pipe (CMP) that percolates the shower water back into the ground. There is a 12-inch clearance between the bottom of the drop intake box and the invert of the 8-inch PVC pipe, which appears to be intended to prevent sand and other debris from entering the perforated CMP. A site investigation revealed that these boxes are filled with sand and require cleaning and maintenance. Detached showers at Comfort Stations #2 and #3 flow onto the adjacent sand and percolate into the ground.

PROPOSED SEWER SYSTEM

The proposed sewer system, as shown in Exhibit 2 – Proposed Utilities, services the new facilities with gravity sewer mains. Exhibit 1 – Existing Utilities, shows that there is a vertical difference of 11.61 feet between inverts of SMH #1 and SMH #5, per As-Built plans. Based on this information it appears the proposed facilities can be serviced using gravity mains by lowering the segment between SMH #1 and #5 to the bottom of the SMH #5 and flattening the pipe slope. The longest run of sewer main services Comfort Station #5, near the Softball field, with an approximate run of 1,750 linear feet. Assuming a minimum slope of 0.60%, per C&C Honolulu Wastewater Standards for 6" sewer pipe, the resulting invert at Comfort Station #5, as tabulated in Appendix A Chart A-5, would be 5.16.

Work within Highway Right-of-way

Installation of the new gravity sewer system will require a new connection to existing SMH #5, which is located within Kalanianaole Highways right-of-way and would require coordination with applicable agencies. The new sewer main would cross Kalanianaole Highway to connect to SMH #5 and therefore traffic control and pavement restoration would also be required. Additional coordination would be needed to determine whether the existing 6-inch sewer main can remain in place and abandoned or whether full removal within the right-of-way would be required.

Finish Grades at Facilities

Finish grades at the proposed facilities are difficult to determine, however assumptions have been made based on the best available information. United States Geological Survey (USGS) information is available, however topographic information is only available at 20 foot contour intervals, which does not provide detailed enough information to estimate future finish grades. The only topographic information at the time of this report was As-Built plans dated 1977. According to these plans the site is relatively flat and it is assumed that finish floor elevations would be an elevation between 10 and 15 feet. With the highest invert of the proposed sewer system at 5.16 feet and the lowest assumed finish floor at 10 feet, at least 4 feet of cover would be present assuming 6-inch diameter pipe. Therefore, based on this information assumptions that sewage can be serviced through gravity flow is reasonable a shown accordingly in Exhibit 2.

Location

The proposed sewer lines have been relocated away from the multipurpose fields and aligned within the paved areas whenever possible. The improvements to the existing SFM's are currently in the planning phase and not enough information is available to incorporate into this plan, therefore this plan assumes connection to the existing system. The proposed system intercepts the 4-inch SFM leading to SMH #3 in the proposed parking area near the multipurpose fields. A discharge manhole is proposed at the point of connection. The discharge manhole would then gravity flow to an adjacent manhole and continue offsite to Kalanianole Highway.

Demands

Proposed sewer flow demands have been estimated based on the assumptions shown in Appendix A, Chart A-4 and information shown in Figure 1. In addition to these demands, due to the vicinity to the ocean, the calculations assume the proposed gravity system is below groundwater and infiltration has been factored into the proposed sewer demands. The proposed demands are calculated in Appendix A, Chart A-5 and results in no increase to pipe size.

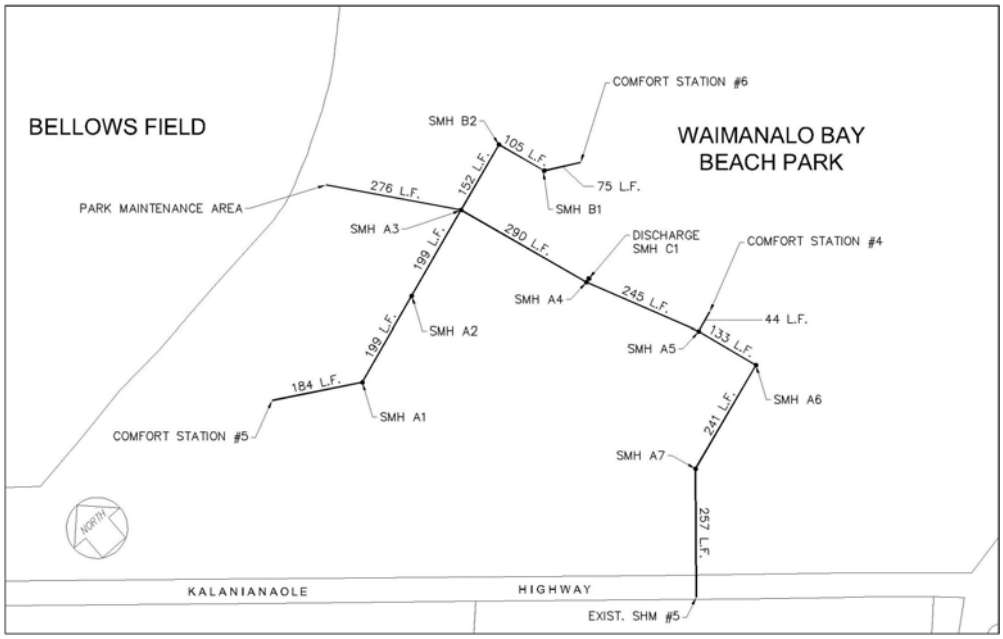


FIGURE 1 – WASTEWATER SYSTEM PROPERTIES

Proposed Showers

Proposed Comfort Stations #4 and #5 are intended to service the multipurpose fields and softball field, therefore these Comfort Stations will not have showers. Comfort Station #6, within the Large Group Camping Pavilion, and the Park Maintenance Area will have showers available. Similar to the existing showers located at Comfort Stations #1, #2 and #3, the shower water will not be introduced to the sanitary sewer system and instead should be collected and allowed to percolate into the ground using an underground system or simply allowed to sheet flow above ground.

Through correspondence with an engineer at the State of Hawaii Department of Health, Wastewater Branch, it was determined that the beach shower runoff is not required to be collecting in the sewer system, however shower runoff may not discharge directly into the ocean. The location of the proposed showers suggests runoff shall not reach the ocean. Recognizing the potential of park users introducing pollutants to the shower runoff, direct connection to the sanitary sewer system was considered, however due to the possible introduction of sand into the existing sewer system, additional correspondence with the City would be required to ensure proper measures are taken to mitigate the sand. Any measures taken, if any acceptable ones exist, would require diligent maintenance to ensure proper functioning.

Considering the possible pollutants and challenges involved in connecting to the City sewer system, additional measures may be taken to help treat the water prior to discharging back into the ground. Several stormwater filtering systems are available, which are designed to filter debris and specific pollutants. Coordination with a manufacturer of this type of system may yield a product that can be used to initially filter sand and pollutants prior to allowing discharge into the existing ground. It is important to note that sand, which is heavily present around the site, has filtering properties of its own.

EXISTING IRRIGATION SYSTEM

Currently no irrigation system is in use at WBBP. Plans for irrigation systems were included in As-Builts dated 1977, however the irrigation systems were part of an additive to the standard bid items. It is unknown whether these irrigation systems were ever installed but nonetheless no system is currently in use.

PROPOSED IRRIGATION SYSTEM

Irrigation systems are proposed for the active play/sporting fields and the large group camping areas. In the BWS letter responding to the review of the preconsultation request, the BWS states that "the developer should investigate the availability and use of non-potable water for irrigation requirements".

Waimanalo Wastewater Treatment Plant

As of July 2010, a study was being scoped to address improvements required to bring the Waimanalo Wastewater Treatment Plant (WWTP) to full R-1 water compliance. Through correspondence with the City, the capacity of the WWTP is 1.1 million gallons per day (mgd). As part of this study, a market use survey will be conducted to determine customer acceptance. Coordination and correspondence for the purposes of this Master Plan was intended to explore the viability of this source as an alternative to potable water. Further coordination, as each project progresses, will be required if R-1 water is available at the time of construction.

Demands

Approximately 31.5 acres of the proposed WBBP will require irrigation. Assuming 5,000 gallons per acre per day, a demand of approximately 157,500 gallons per day will be required to fulfill the proposed irrigation improvements.

Infrastructure

Utilizing R-1 water from the WWTP will require installation of infrastructure to pipe the water from the WWTP to WBBP. As shown in Figure 2, the WWTP has access points along Kalanianaole Highway as well as Hihimanu Street; however the WWTP does not have direct access to Kalanianaole Highway. Tax maps for the property show that the access from Kalanianaole Highway is through an access easement on the adjoining property to the north.

Therefore an R-1 waterline would not be able to be installed along this access without revising the easement to include utilities. For the purpose of this report and estimating, the longest route will be assumed. The R-1 water would exit the WWTP along Hihimanu Street and follow the roadway right-of-way to Kalanianaole Highway and eventually end at the access to WBBP. An estimated length of approximately 4,000 linear feet of waterline would need to be installed to utilize R-1 water from the WWTP. Alternatively, if the existing access easement from Kalanianaole Highway were revised to allow utility installation, approximately 1,900 linear feet of waterline would be required.

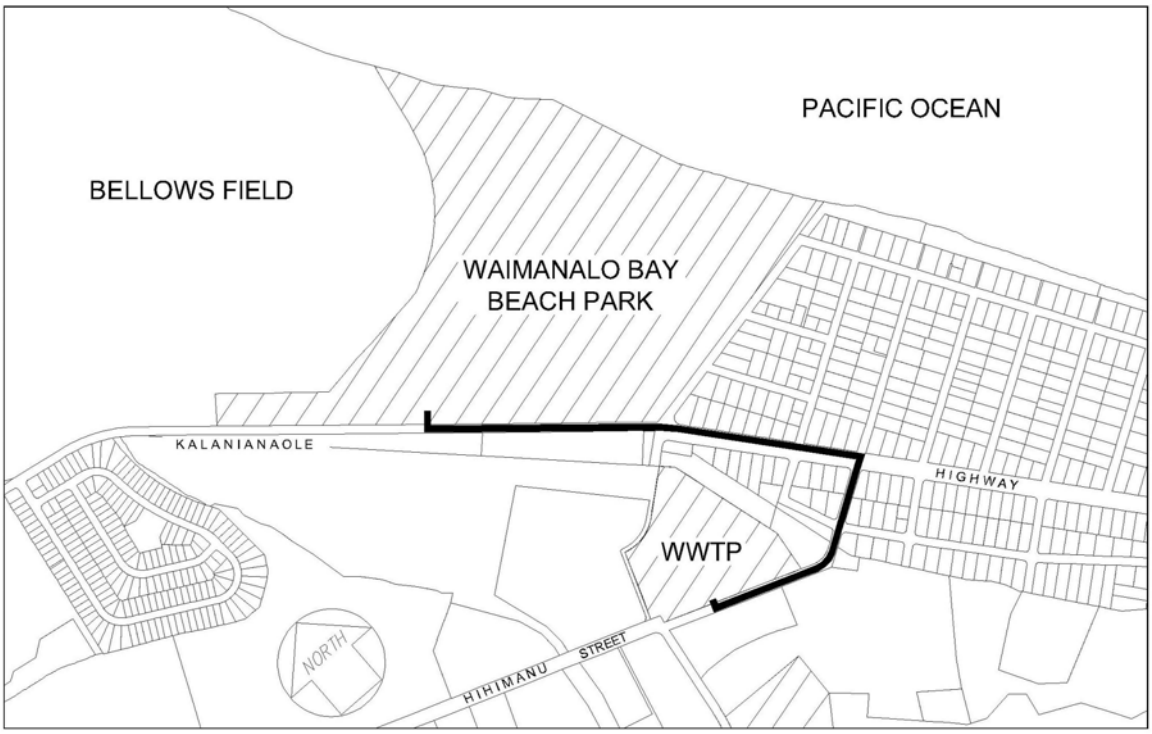


FIGURE 1 – R-1 WATER INFRASTRUCTURE

EXISTING ROADWAY SYSTEM

The existing roadway system within WBBP consists of a two-lane asphalt concrete (AC) paved road without curbing. The main roadway begins at Kalanianaole Highway and ends near Comfort Station #2 where two parking areas exist. An additional road also branches off the main roadway, near the mid-point, and leads to another parking area near Comfort Station #1. The existing roadway section along Kalanianaole Highway, fronting WBBP, consists of three lanes, one lane in each direction and a left turn lane into WBBP.

PROPOSED ROADWAY SYSTEM

Roadway Improvements

The proposed roadway system within WBBP includes additional parking areas for the proposed improvements. The roadway section will mimic that of the existing roadway as well as surrounding streets in the area. Storm water runoff will not be collected, instead the roadway section will not include curbs and runoff will be allowed to drain off and percolate through surrounding pervious areas. A Geotechnical Subsurface Report will be needed to provide recommendations on the proposed roadway pavement section.

Along with the roadway improvements, five security gates will also be installed. A main security gate will be installed at the entrance to the park from Kalanianaole Highway. Also, gates will be installed at the entrance and exit of the emergency road leading to Tinker Road. A fourth gate will be installed at the entrance to the Park Maintenance Area for security purposes. The final gate will be installed along the main entrance just beyond the entrance to the parking area for the Softball fields. This gate would be used to allow users access to the Softball field, if in use during evening hours, and limit access to the remainder of the park, if after park hours.

In addition to the security gates proposed along the roadway, 2 security gates for pedestrian access are also included along Aloiloi Street. One gate is proposed to be installed at the existing park access at the end of Aloiloi Street and the second at a new access across Nenue Street.

Emergency Exit

In addition to the roadway improvements described in the previous section, an emergency exit to Tinker Road, in the adjoining property, is proposed. This exit would be used during occasions when large amounts of users would need to leave the property due to an emergency. Since the emergency exit will be exposed to limited vehicle traffic, it is recommended that the road be constructed using gravel to maintain a pervious surface and also provide a more natural appearance.

Alternatives

In an effort to provide a low-impact design (LID), alternatives to standard AC pavement should be considered during the design process. Pervious products such as pervious concrete, pervious pavement and pervious pavers are alternatives that can be considered to minimize the amount of additional impervious areas. Pavement sections for any alternative product should be determined based on geotechnical and manufacturer recommendations.

TIAR Recommendations

A Traffic Impact Assessment Report (TIAR) was conducted by the City and County of Honolulu Department of Design and Construction (DDC). Results of the TIAR recommend turning lanes along the roadway within WBBP at the intersection with Kalanianaole Highway. Improvements to the existing Kalanianaole Highway were not recommended as part of the TIAR and therefore none are included as part of this report.

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WAIMANALO BAY BEACH PARK
MASTER PLAN

CIVIL COST ESTIMATE

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		Engineer's Estimate UNIT PRICE	TOTAL
1.	Removal and Disposal of Miscellaneous Concrete.	Lump	Sum		$ 20,000
2.	Miscellaneous Clearing, Grubbing and Grading (31.5 Acres).	Lump	Sum		$ 200,000
3.	Erosion and Dust Control	Lump	Sum		$ 50,000
4.	Traffic Control	Lump	Sum		$ 20,000
5.	Replacement of Chain Link Fence, including security gates.	7,050	Lin. Ft.	$ 35.50	$ 250,275
6.	New Roadway and Parking Areas (assume: 2" AC on 6" aggregate base course), including emergency exit, fire lanes, signing & striping and connections (3.2 Acres).	15,500	Sq. Yds.	$ 100	$ 1,550,000
7.	Installation of New Water System, including trenching, backfill, PVC pipe, appurtenances, connections and abandonment of existing system, in place complete.	5,500	Lin. Ft.	$ 350	$ 1,925,000
8.	Installation of New Sewer System, including trenching, backfill, PVC pipes and manholes and abandonment of existing system, in place complete.	2,400	Lin. Ft.	$ 250	$ 600,000
9.	Installation of New Irrigation Main from Wastewater Treatment Plant, starting along Hihimanu Street, not including irrigation system within Waimanalo Bay Beach Park.	4,000	Lin. Ft.	$ 450	$ 1,800,000
9a.	Alternative - Installation of New Irrigation Main from Wastewater Treatment Plant, starting along Kalanianaole Highway, not including irrigation system within Waimanalo Bay Beach Park.	1,900	Lin. Ft.	$ 450	$ 855,000

TOTAL CIVIL ITEMS (Items 1-9)		**$**	**6,415,275**
	contingency (10%)	**$**	**641,528**
	TOTAL	**$**	**7,056,803**
TOTAL CIVIL ALT. ITEMS (Items 1-8, 9a)		**$**	**5,470,275**
	contingency (10%)	**$**	**547,028**
	TOTAL	**$**	**6,017,303**

Exclusions:

1. Design consultant fees
2. Applicable permit fees
3. Construction Manager
4. Subdivision/easement mapping

Appendix H:

Electrical Preliminary Engineering Report

PRELIMINARY ENGINEERING REPORT
FOR
WAIMANALO BAY BEACH PARK
KOOLAUPOKO, OAHU, HAWAII

Existing Conditions

Hawaiian Electric Company's (HECO), Hawaiian Telecom's (HTCO), and Oceanic Time Warner Cable's (OTWC) existing facilities serving this area consist of aerial cables attached to a joint overhead pole line running along the north side of Kalanianaole Highway. Presently, HECO provides secondary service to the existing comfort stations and the caretaker's cottage from an underground feeder off Aloiloi Street on the eastern boundary of the park parcel. A preliminary check with HTCO indicates that there are no telephone lines presently serving the parcel.

Proposed Electrical and Telecommunications Improvements

The proposed electric and communications systems would be developed in accordance with the specifications and standards of HECO, HTCO and OTWC. As State Public Utility Commission (PUC) regulated public utilities, HECO and HTCO are responsible for the development of off-site facilities that meet island-wide needs, such as power generating plants and power and signal transmission lines, and facilities that serve regional needs of the Waimanalo area. Presently, the existing off-site facilities that would serve this development are HECO's Waimanalo Beach Substation, located adjacent to Hihimanu Street and HTCO's Waimanalo central office located near the intersection of Kalanianaole Highway and Aloiloi Street. OTWC is a State Department of Commerce and Consumer Affairs cable television franchisee. Recently, HTCO was also granted a cable television franchise. Although not a PUC regulated utility, Oceanic's off-site facility construction policy is to provide such facilities where the anticipated revenue from the prospective service connections warrants the expenditure. Both HTCO and Oceanic offer video, broadband and telephone services. The design and construction of the proposed onsite electric and communications systems would meet the respective utility company's standards. It is not presently anticipated that service to the park parcel would be requested from OTWC.

The projected electrical demand and telephone line requirements are summarized in a table on the next page.

Electrical Demand and Telephone Line Requirements

Electric and Comm. Master Plan	Electric Demand (kiloVolt-Amperes kVA)	Telephone Lines
Maintenance Facility and Park	100	15
Future Softball Field	150	5

Off Site Electrical and Communications

HECO and HTCO have indicated that electric service to the site will be extended from the overhead lines on Kalanianaole Highway.

On Site Electrical and Communications

The onsite electric and communications systems would consist of concrete encased, PVC conduits, typically installed within a common trench and located, where feasible, outside of the access roadway in the grass shoulder. Manholes and handholes would be placed periodically to serve as pulling points for the utilities and as facility service points. The anticipated duct complement for the main infrastructure would consist of 2-4" conduits for HECO and a 4" conduit for HTCO. Near the proposed park maintenance yard and at a another central location transformer pads would be placed for HECO transformers. The latter would be provided for the park access road, restroom and parking lot lighting systems. A stainless steel metering and electrical equipment cabinet would be provided for the utility meter socket, panelboard and lighting controls. Metering and service equipment for the maintenance yard would be placed on one of the buildings in the yard. In providing the new electric service to the park parcel, the existing secondary electric service off Aloiloi Street would be terminated and the electric service to the restrooms consolidated onto the same meter feeding the park access road and parking lot lighting.

Because of the proximity to the ocean breezes and with good sun exposure, consideration should be given to providing alternate energy systems for the remote park facilities like the restrooms. The two technologies that should be considered are wind turbines and photovoltaics. These alternate energy facilities would provide power for the interior building lighting and night security lighting and would probably require the installation of inverters and batteries to ensure that power for the lighting systems is available throughout the night.

Access Road and Area Lighting

Illumination for at-grade roadways and parking lots will be designed to meet Illuminating Engineering Society (IES) RP-8 criteria. The luminaires and poles pre-approved for parks use by the Department of Design and Construction would be used for the lighting systems.

Future Softball Field Lighting

The lighting system for the softball field should be designed in conformance with City Parks and Recreation design standards and should utilize1000W metal halide sports lighting fixtures and poles that are acceptable to the Department of Design and Construction. It should be noted that due to the proximity of the field to the Koolau Mountain Range consideration should be given to minimizing the effects of the field lighting system on migratory birds.

Electrical Budget Costs

Underground utility infrastructure -	$545,000
HECO Line Extension Charge -	$65,000
Park Access Road Lighting System* -	$1,100,000
Parking Lot 1 Lighting System -	$205,000
Parking Lot 2 Lighting System -	$110,000
Parking Lot 3 Lighting System -	$92,000
Parking Lot 4 Lighting System -	$250,000
Parking Lot 5 Lighting System** -	$110,000
Parking Lot 6 Lighting System -	$75,000
Parking Lot 7 Lighting System** -	$450,000
Parking Lot 8 Lighting System** -	$265,000
Softball Field Lighting Infrastructure -	$30,000
Softball Field Lighting System*** -	$700,000
1000 W Photovoltaic System -	$6,000

***** - Includes cost for spare conduits and circuits for the parking lot and comfort station connections

****** - Includes cost for reconnection of service and security lighting at the comfort station(s) nearest the respective parking lot.

******* - Includes service equipment, electrical distribution equipment, lighting control equipment, field lights, poles pole foundations, trenching/backfilling, conduits, handholes, cables and HECO transformer and service charge.

Appendix I:

Order of Magnitude Construction Cost Estimate

DRAFT ORDER OF MAGNITUDE ESTIMATE OF PROBABLE LANDSCAPE CONSTRUCTION COSTS (IN 2012 DOLLARS)

ITEM	COST	UNIT	SUBTOTAL
DEMOLITION			
Selective demolition and/or removal of existing site features such as: drinking fountains, damaged site furnishings, vehicle/pedestrian barriers.	$ 50,000.00	LS	$ 50,000.00
Subtotal Demolition			$ 50,000.00
NEW PLANTING			
Roadways and Parking Lots (+/- 128,700 SF) - Native and/or Drought Tolerant Plantings, Such as: 25 Gallon Trees, Hydroseeded Grass, Root Barriers, Topsoil.	$ 10.00	/ SF	$ 1,287,000.00
Feature Planting at Main Entry and Aloiloi St. Entry (+/- 20,900 SF) - Native and/or Drought Tolerant Plantings, Such as: 25 GallonTrees, Field Stock Palms, 3 Gallon Shrubs, 6" Pot Groundcovers, Hydroseeded Grass, Topsoil.	$ 15.00	/ SF	$ 313,500.00
Multi-purpose Fields and Open Areas (+/- 909,900 SF) - Native and/or Drought Tolerant Plantings, Such as: 25 Gallon Trees, Hydroseeded Grass, Topsoil.	$ 5.00	/ SF	$ 4,549,500.00
Large Group Camping/Gathering Areas (+/- 319,400 SF) - Native and/or Drought Tolerant Plantings, Such as: 25 GallonTrees, Field Stock Palms, 3 Gallon Shrubs, Hydroseeded Grass, Topsoil.	$ 12.00	/ SF	$ 3,832,800.00
Subtotal New Planting			$ 9,982,800.00
NEW SPORTS FIELDS			
Softball/Little League Field - Includes Backstop, Dugouts, Bases, Dirt Infield, Grassing.	$ 500,000.00	EA	$ 500,000.00
Baseball Field - Includes Backstop, Dugouts, Bases, Dirt Infield, Grassing.	$ 500,000.00	EA	$ 500,000.00
Subtotal New Sports Fields			$ 1,000,000.00
NEW HARDSCAPE			
Concrete Walkways & Bikepath - 5,000 LF @ 6' Wide (+/- 30,000 SF)	$ 12.00	/ SF	$ 360,000.00
Main Entry Feature & Secondary Gate Walls (+/- 90 LF)	$ 50,000.00	LS	$ 50,000.00
Seat Walls - 100 LF @ 18" High (+/- 11 CY)	$ 650.00	/ CY	$ 7,150.00
Perimeter Walls at Large Group Gathering/Camping - 1,235 LF @ 24" High (+/- 183 CY)	$ 650.00	/ CY	$ 118,950.00
Subtotal New Hardscape			$ 536,100.00
NEW IRRIGATION SYSTEM			
R-1 Water Compatible Automatic irrigation System (+/- 1,373,800 SF)	$ 1.75	/ SF	$ 2,404,150.00
Subtotal New Irrigation System			$ 2,404,150.00
NEW MISCELLANEOUS LANDSCAPE ITEMS			
Non-paved Pedestrian Paths & Bikeways - 4,900 LF @ 6' width (+/- 29,400 SF)	$ 5.00	/ SF	$ 147,000.00

DRAFT ORDER OF MAGNITUDE ESTIMATE OF PROBABLE LANDSCAPE CONSTRUCTION COSTS (IN 2012 DOLLARS)

ITEM		COST	UNIT	SUBTOTAL
Pasture Fencing (+/- 4,400 LF)		$ 30.00	/ LF	$ 132,000.00
Subtotal New Miscellaneous Landscape Items				$ 279,000.00
NEW SITE FURNISHINGS				
Bike Racks (4 racks, capacity for 9 bikes ea, at various locations in park)		$ 1,000.00	EA	$ 4,000.00
Bleachers (2 ea., @ Softball/Little League & Multi-purpose Fields)		$ 15,000.00	EA	$ 60,000.00
Picnic Tables (15 @ Campsites and Shoreline Area)		$ 2,500.00	EA	$ 37,500.00
Trash & Recycling Receptacles (16 @ various park locations)		$ 100.00	EA	$ 1,600.00
Bollards (10 ea., @ Aloiloi St. Entry & Payphone)		$ 1,500.00	EA	$ 15,000.00
Charcoal Pits (8 @ Campsites)		$ 300.00	EA	$ 2,400.00
Park Directional and Interpretive Signage		$ 40,000.00	LS	$ 40,000.00
Subtotal New Site Furnishings				$ 160,500.00
NEW RECREATIONAL EQUIPMENT				
Exercise/Fitness Stations (7 ea. @ Fitness Course)		$ 30,000.00	LS	$ 30,000.00
Natural Themed Play Structure (1 ea. @ Family Campsites & 1 ea. @ Multi-purpose Fields)		$ 75,000.00	EA	$ 150,000.00
Subtotal New Recreational Equipment				$ 180,000.00
NEW STRUCTURES				
Rehabilitation of 3 existing shoreline Comfort Stations		$ 500,000.00	/ EA	$ 1,500,000.00
Medium Prototype Comfort Station (at Softball/Little League Field & Multi-Purpose Fields)		$ 600,000.00	/ EA	$ 1,200,000.00
Large Group Pavilion with Men's/Women's Restroom Facilites, Showers, Two Dishwashing Sinks with Grease Traps		$ 1,350,000.00	/ EA	$ 1,350,000.00
Maintenance Facility Building		$ 750,000.00	/ EA	$ 750,000.00
Subtotal New Structures				$ 4,800,000.00
CIVIL ENGINEERING				
Removal and Disposal of Miscellaneous Concrete.		$ 20,000.00	LS	$ 20,000.00
Miscellaneous Clearing, Grubbing and Grading (31.5 Acres).		$ 200,000.00	LS	$ 200,000.00
Erosion and Dust Control		$ 50,000.00	LS	$ 50,000.00
Traffic Control		$ 20,000.00	LS	$ 20,000.00
Replacement of Chain Link Fence, including security gates	7050	$ 35.50	LF	$ 250,275.00

DRAFT ORDER OF MAGNITUDE ESTIMATE OF PROBABLE LANDSCAPE CONSTRUCTION COSTS (IN 2012 DOLLARS)

ITEM		COST	UNIT	SUBTOTAL
New Roadway and Parking Areas (assume: 2" AC on 6" aggregate base course), including emergency exit, fire lanes, signing & striping and connections (3.2 Acres).	15,500	$ 100.00	SQ YDS	$ 1,550,000.00
Installation of New Water System, including trenching, backfill, PVC pipe, appurtenances, connections and	5500	$ 350.00	LF	$ 1,925,000.00
Installation of New Sewer System, including trenching, backfill, PVC pipes and manholes and abandonment of	2400	$ 250.00	LF	$ 600,000.00
Off-site Irrigation Line Alternative A: *Installation of New Irrigation Main from Wastewater Treatment Plant, starting along Hihimanu Street, not including irrigation system within Waimanalo Bay Beach Park.*	*4000*	*$ 450.00*	*LF*	*$ 1,800,000.00*
Subtotal Civil Engineering Option A				**$ 6,415,275.00**
Off-site Irrigation Line Alternative B: *Installation of New Irrigation Main from Wastewater Treatment Plant, starting along Kalanianaole Highway, not including irrigation system within Waimanalo Bay Beach Park.*	*1900*	*$ 450.00*	*LF*	*$ 855,000.00*
Subtotal Civil Engineering Option B				**$ 5,470,275.00**
ELECTRICAL ENGINEERING				
Underground Utility Infrastructure				$ 545,000.00
HECO Line Extension Charge				$ 65,000.00
Park Access Road Lighting System (incl. spare conduits and circuits for parking lot				$ 1,100,000.00
Parking Lot 1 Lighting				$ 205,000.00
Parking Lot 2 Lighting				$ 110,000.00
Parking Lot 3 Lighting				$ 92,000.00
Parking Lot 4 Lighting				$ 250,000.00
Parking Lot 5 Lighting (incl. cost for reconnection of service and security lighting at the nearest parking lot)				$ 110,000.00
Parking Lot 6 Lighting				$ 75,000.00
Parking Lot 7 Lighting (incl. cost for reconnection of service and security lighting at the nearest parking lot)				$ 450,000.00
Parking Lot 8 Lighting (incl. cost for reconnection of service and security lighting at the nearest parking lot)				$ 265,000.00
Softball Field Lighting Infrastructure				$ 30,000.00
Softball Field Lighting System (incl. service,electrical distribution, lighting control equipment; field lights, poles and foundations, trenching/backfilling, conduits, handholes, cables and HECO transformer/service chg.				$ 700,000.00
1000 W Photovoltaic System				$ 6,000.00
Subtotal Electrical Engineering				**$ 4,003,000.00**

DRAFT ORDER OF MAGNITUDE ESTIMATE OF PROBABLE LANDSCAPE CONSTRUCTION COSTS (IN 2012 DOLLARS)

ITEM	COST	UNIT	SUBTOTAL
Subtotal New Improvements w/Civil Alt. A			**$ 29,810,825.00**
10% Contingency			$ 2,981,082.50
ALT A GRAND TOTAL ESTIMATE			**$ 32,791,907.50**
Subtotal New Improvements w/Civil Alt. B			**$ 28,685,825.00**
10% Contingency			$ 2,868,582.50
ALT B GRAND TOTAL ESTIMATE			**$ 31,554,407.50**