

7/21/08

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843



SEP 8

August 19, 2009

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WAYNE M. HASHIRO, P.E.
Manager and Chief Engineer

DEAN A. NAKANO
Deputy Manager and Chief Engineer

SEP 21 10 20

Ms. Katherine Puana Kealoha, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Kealoha:

Subject: Final Environmental Assessment (EA)/Finding of No Significant Impact
(FONSI) for Kapolei 215 Reservoir No. 2, Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083

The Board of Water Supply has reviewed the comments received during the 30-day public comment period, which began on July 8, 2008. This project will not have significant environmental effects and we have issued a FONSI. Please publish notice of this determination in the next edition of *The Environmental Notice*.

We have enclosed a completed OEQC Publication Form and two print copies of the Final EA. Electronic (pdf) files of the Final EA and project summary will be transmitted separately, via email.

Should you have any questions, please call Mr. Robert Chun at 748-5443, or our consultant, Kenneth Ishizaki of Engineering Concepts, Incorporated, at 591-8820.

Very truly yours,

KEITH S. SHIDA
Program Administrator
Customer Care Division

cc: Mr. Brad Myers, Kapolei Property Development LLC
Mr. Kenneth Ishizaki, Engineering Concepts, Inc.

Enclosures

**Final Environmental Assessment
and Finding of No Significant Impact (FONSI)**

~

**KAPOLEI 215 RESERVOIR NO. 2
Kapolei, Oahu, Hawaii**

TMK: 9-2-003:083

Applicant:

**KAPOLEI PROPERTY DEVELOPMENT LLC
1001 Kamokila Boulevard
Kapolei, Hawaii 96707**

Approving Agency:

**BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 South Beretania Street
Honolulu, Hawaii 96843**

Prepared by:

**ENGINEERING CONCEPTS, INC.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814**

AUGUST 2009

**Final Environmental Assessment
and Finding of No Significant Impact (FONSI)**

~

**KAPOLEI 215 RESERVOIR NO. 2
Kapolei, Oahu, Hawaii**

TMK: 9-2-003:083

*This environmental document has been prepared pursuant to
Chapter 343, Hawaii Revised Statutes*

Approving Agency:

**BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 South Beretania Street
Honolulu, Hawaii 96843**

Responsible Official:



Wayne Hashiro, Manager and Chief Engineer


Date

Prepared by:

**ENGINEERING CONCEPTS, INC.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814**

AUGUST 2009

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DEVELOPMENT SUMMARY

APPLICANT: Kapolei Property Development LLC
1001 Kamokila Boulevard
Kapolei, Hawaii 96707

Contact: Mr. Brad Myers, President
Phone: (808) 674-6674
Fax: (808) 674-3111

APPROVING AGENCY: Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Responsible Official: Mr. Wayne Hashiro
Manager and Chief Engineer

PROJECT NAME: Kapolei 215 Reservoir No. 2

PROPOSED ACTION: Construction of a second 4.0 million gallon potable water reservoir at the BWS Kapolei 215 Reservoir site

PROJECT LOCATION: 92-449 Makakilo Drive
Kapolei, Ewa District, Island of Oahu, Hawaii

TAX MAP KEY: (1) 9-2-003:083

LAND OWNER: City and County of Honolulu

PROJECT AREA: 3.864 acres

STATE LAND USE DESIGNATION: Urban and Agricultural

ZONING: Ag-2 (General Agriculture)
R-5 (Residential)

EXISTING USE: municipal potable water reservoir

CHAPTER 1 INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

The purpose of this Final Environmental Assessment (EA) is to disclose potential environmental impacts that may result from development of the proposed project, and to identify measures to mitigate these potential impacts. This document was prepared after public review of a Draft EA. Public comments and responses have been incorporated into this document.

1.2 BACKGROUND

The potable water storage requirements for the Board of Water Supply (BWS) 215 water service zone serving the City of Kapolei, Villages of Kapolei, and adjoining areas are documented in the *Ewa Water Master Plan* (revised August 1987). The report calls for the construction of potable water storage facilities to support the growth of the above-mentioned communities. The report states a potable water storage capacity of approximately 7.8 million gallons is required for the service area. To this end, the 4.0 million gallon (MG) Kapolei 215 Reservoir No. 1 was constructed in 1995.

1.3 OBJECTIVE

The general objective of the proposed project is to improve the municipal potable water storage capacity for the City of Kapolei and surrounding areas within the BWS 215 water service zone.

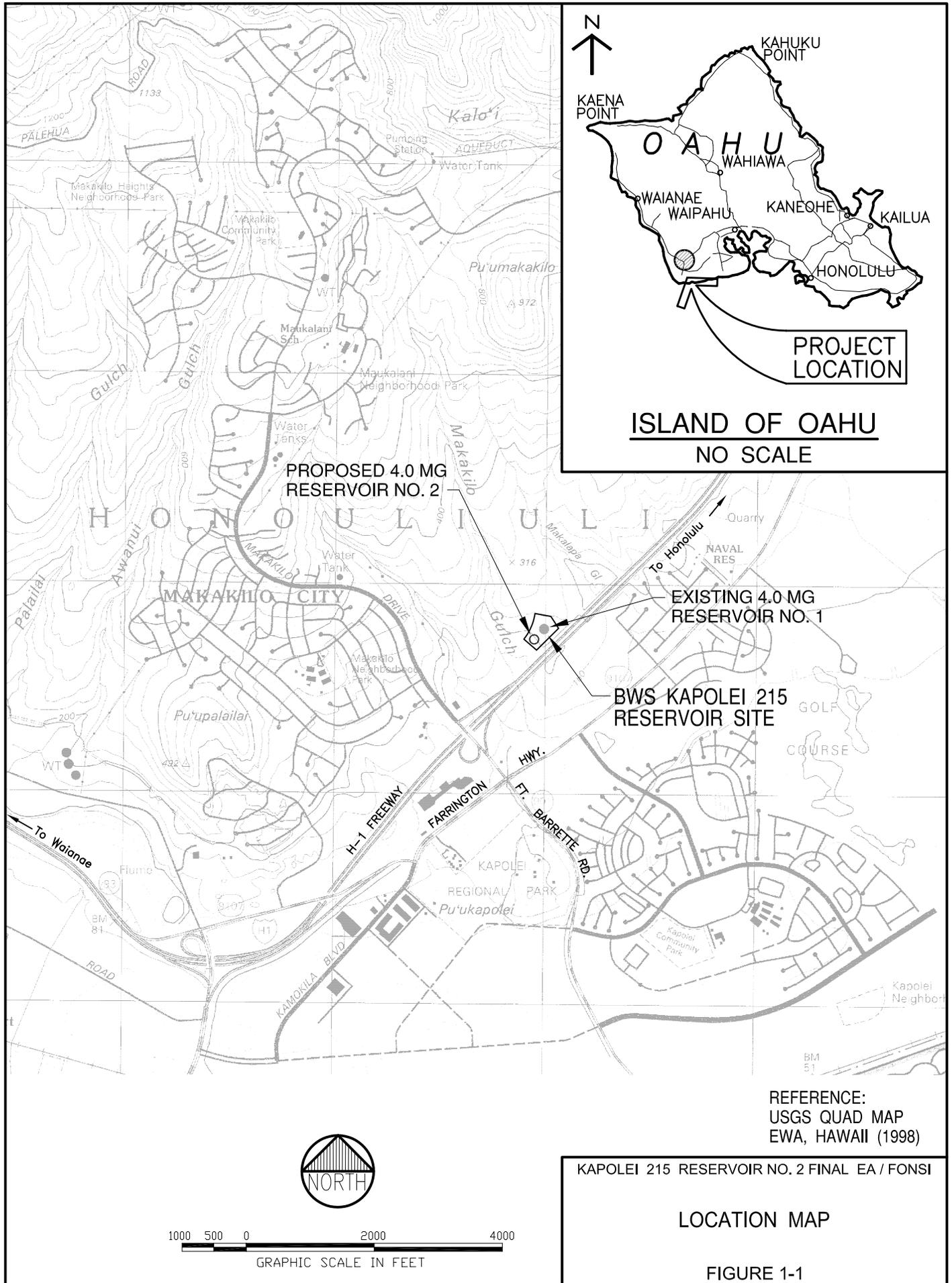
1.4 PROJECT LOCATION

The project site is located north of Kapolei and east of Makakilo, mauka of the Interstate Route H-1 (I-H1) freeway near the Makakilo off-ramp (see **Figure 1-1**). The project site is located within a parcel owned by the City and County of Honolulu (TMK: 9-2-003:083) and presently houses the 4.0 MG Kapolei 215 Reservoir No. 1.

1.5 ALTERNATIVES CONSIDERED

The project site was originally mass graded during construction of the Kapolei 215 Reservoir No. 1. Alternatives considered prior to construction of the first reservoir included: (1) higher spillway elevation; (2) single, larger capacity tank; and (3) additional, smaller capacity tanks. Presently, the only alternatives to the proposed action are: (1) "no action"; and (2) construction at an alternative site. These present alternatives were rejected due to their inability to meet the project objective or attainment of the objective at a higher financial and environmental cost.

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1.6 SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES

Topography and Soils

The site was previously mass graded for a second reservoir during construction of the first reservoir; therefore, additional impacts to site topography will be minimal. The design will incorporate recommendations of a geotechnical engineer to ensure slope stability of graded areas. A short term increase in soil erosion may occur during construction due to removal of existing vegetation and grading activities. Implementation of best management practices such as grassing or mulching slopes after establishment of finish grades and installation of debris barriers at drain inlets will minimize erosion and offsite sediment transport. No long-term impacts are anticipated since the entire area of disturbance will be paved or landscaped upon completion of construction.

Biological Resources

There was no indication of any rare or endangered plant or animal species, or habitat, present at the project site during field surveys.

Natural Hazards

Design of the reservoir structure will meet current building codes for earthquake forces and wind loads. The project site is not located in a flood zone or tsunami inundation area. Further, the reservoir will not cause flooding of surrounding areas. A tank washout / overflow line will safely convey drainage from the tank to the existing onsite drainage system for offsite conveyance and disposal.

Archaeological, Historic and Cultural Resources

According to the archaeological assessment and cultural impact evaluation, the project is not likely to affect significant historic properties and will have minimal impact on native Hawaiian cultural resources, beliefs and practices. The State Historic Preservation Division (SHPD) concurs with the archaeological assessment findings that “no historic properties will be affected”. Work will be halted and direction will be requested from the SHPD if inadvertent discoveries are made during construction.

Land Use and Zoning

Development of the proposed project is permitted under the current State Land Use and City and County Zoning designations. However, an application for Land Use Ordinance (LUO) waiver will be submitted to the Department of Design and Construction because the tank will exceed the height limit (25 feet) and maximum building area (10 percent of the lot) for Ag-2 zoning. Further, a request for revision of the Public Infrastructure Maps will be submitted to Department of Planning and Permitting as required for water reservoirs.

Land Ownership and Neighboring Lands

The project site is owned by the City and County of Honolulu and presently houses a 4.0 MG potable water reservoir maintained by the BWS. No land acquisition is required. Neighboring lands are owned by the James Campbell Company LLC (undeveloped parcel); and, D.R. Horton - Schuler Homes (ongoing residential subdivision construction).

Traffic

Short-term construction-related impacts will be mitigated by designation of work times to avoid peak traffic conditions. Upon completion of construction, the project will not generate additional traffic. Maintenance personnel will continue to secure the reservoir site gate to discourage trespassing, and operational visits will occur at the same frequency as at present.

Air Quality

Short term impacts to air quality include generation of fugitive dust and exhaust emissions during construction. The contractor will be required to implement an effective dust control plan and minimize vehicle exhaust emissions in compliance with the State Department of Health (DOH) regulations. No long term air quality impacts are anticipated.

Noise

The contractor will be required to comply with DOH regulations to minimize short-term noise impacts associated with construction, including obtaining a Community Noise Permit for Construction Activities and a Community Noise Variance (if work extends beyond the normal construction hours) Upon completion of construction, no long term noise impacts are anticipated.

Visual Resources

The proposed reservoir will be of similar size and appearance as the existing tank. Construction of a second reservoir will not significantly impact the view plane from those vantage points where the existing tank is presently visible. These vantage point are primarily from the west (Makakilo Drive) and south (makai of the freeway). The reservoir will be visible from the neighboring subdivision presently under construction; however, the lots immediately adjacent to the reservoir parcel are situated at a higher elevation and makai views from these lots should not be obstructed by either tank.

1.7 PERMITS AND APPROVALS REQUIRED

Permits and approvals that may be required for construction of the proposed project are listed in **Table 1-1**. The applicability of these permits and approvals will be coordinated with the respective agencies, and required permit applications will be prepared as planning and design of the project proceeds.

The project site is not located within the Special Management Area or Conservation District, and is therefore not subject to those respective permits.

Correspondence with the U.S. Army Engineer District, Honolulu, confirms that a Department of the Army permit will not be required for the project.

**TABLE 1-1
PERMITS AND APPROVALS**

AGENCY	PERMIT / APPROVAL
State of Hawaii Department of Health	<ul style="list-style-type: none">• NPDES Permit for Construction Storm Water• NPDES Permit for Hydrotesting• Community Noise Permit for Construction Activities• Community Noise Variance
State of Hawaii Department of Land & Natural Resources Historic Preservation Division	<ul style="list-style-type: none">• Chapter 6E-8 Historic Preservation Review
City and County of Honolulu Department of Planning and Permitting	<ul style="list-style-type: none">• Revision of the Public Infrastructure Maps• Waiver of height limit and maximum building area• Grubbing, Grading and Stockpiling Permit• Sign Permit• Construction Plan Approval
City and County of Honolulu Board of Water Supply	<ul style="list-style-type: none">• Construction Plan Approval

CHAPTER 2 PROJECT DESCRIPTION

2.1 NEED FOR THE PROJECT

The purpose of the proposed action is to ensure adequate potable water storage for domestic consumption and fire protection in the Honolulu Board of Water Supply (BWS) Kapolei 215 service zone. The "215" designation refers to the reservoir spillway elevation measured from mean sea level (MSL). In general, the Kapolei 215 service zone serves those developments located below (makai of) Farrington Highway, including the City of Kapolei, the Villages of Kapolei, and James Campbell Industrial Park.

Presently, potable water storage for the Kapolei 215 water system is provided by the Barbers Point 215 Reservoirs No. 1, 2 and 3 (4.0 MG, 5.0 MG, and 3.0 MG, respectively) and the Kapolei 215 Reservoir No. 1 (4.0 MG). Existing and proposed potable water reservoirs serving the BWS 215 water system in the Kapolei area are depicted on **Figure 2-1**. Development of a second 4.0 MG storage tank at the Kapolei 215 Reservoir site will increase the municipal water system storage capacity to meet the existing and future demands of the Kapolei area. According to the *Final Report for the Kapolei Water Master Plan, Ewa, Oahu, Hawaii* (revised March 1990), the Kapolei 215-foot tanks will provide the necessary system capacity for the Kapolei developments.

2.2 PROJECT SITE

The Kapolei 215 Reservoir site is located on the southern facing slope of Puu Makakilo, mauka of the Interstate Route H-1 (I-H1) freeway near Exit 2 (West) Kapolei/Makakilo/Kalaeloa. The project site, identified as Tax Map Key (TMK) 9-2-003:083, is a 3.864-acre parcel owned by the City and County of Honolulu and utilized by the BWS. The entire BWS parcel was originally graded in 1994 during construction of the Kapolei 215 Reservoir No. 1.

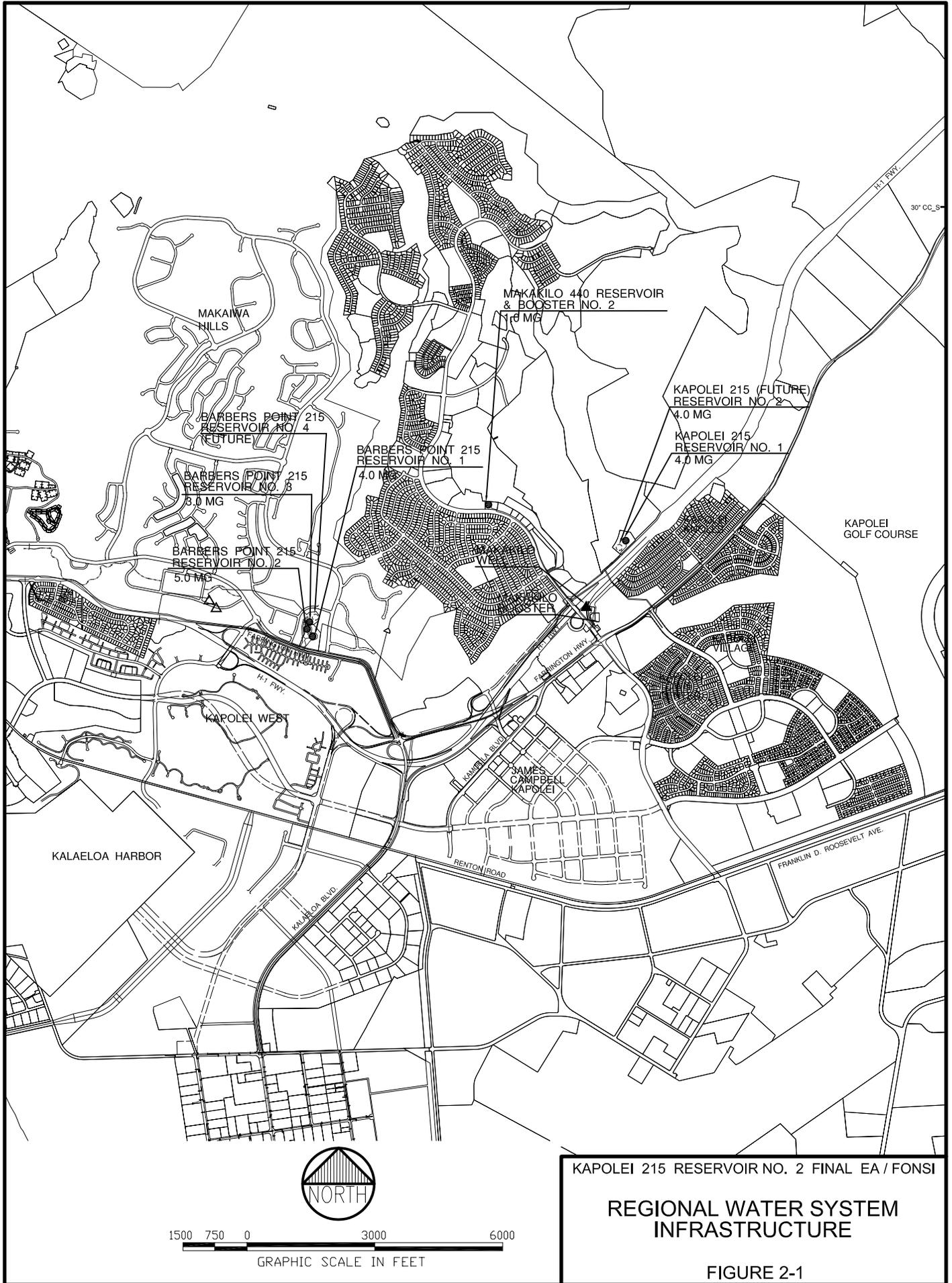
2.2.1 Relationship to Applicable Land Use Plans and Policies

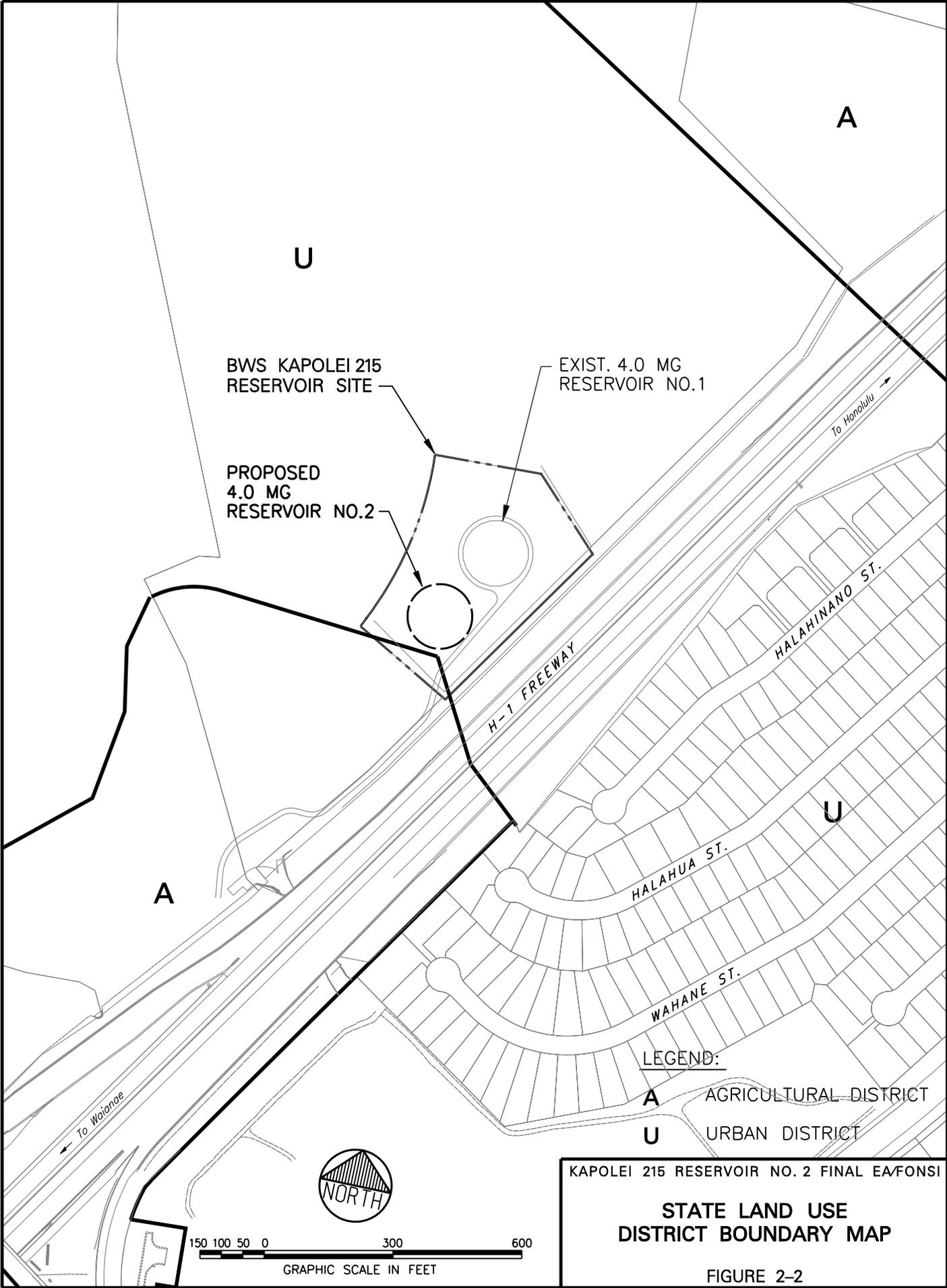
Land Use and Zoning

The State Land Use Law (Chapter 205, Hawaii Revised Statutes), adopted in 1961, establishes the framework of land use management in Hawaii. All lands in the state are classified into one of four land use districts: Urban, Rural, Agricultural, or Conservation. District boundary amendments may be obtained by petition to the State Land Use Commission (LUC).

According to the State Land Use District boundary map for the area, the project site is primarily situated within the Urban District, with a small portion along the southwestern side of the site located within the Agricultural District (see **Figure 2-2**). Public use facilities (including potable water reservoirs) are a permitted use under both the Urban and Agricultural state land use designations.

Most of the site is zoned R-5 (Residential); however, the southwestern side of the site is zoned Ag-2 (General Agriculture). Refer to **Figure 2-3** for the City and County zoning designations in the project vicinity. A potable water reservoir is a permitted use under both R-5 and Ag-2





BWS KAPOLEI 215
RESERVOIR SITE

EXIST. 4.0 MG
RESERVOIR NO.1

PROPOSED
4.0 MG
RESERVOIR NO.2

H-1 FREEWAY

To Honolulu →

HALAHINANO ST.

A

U

HALAHUA ST.

WAHANE ST.

LEGEND:

A AGRICULTURAL DISTRICT

U URBAN DISTRICT

← To Waianae



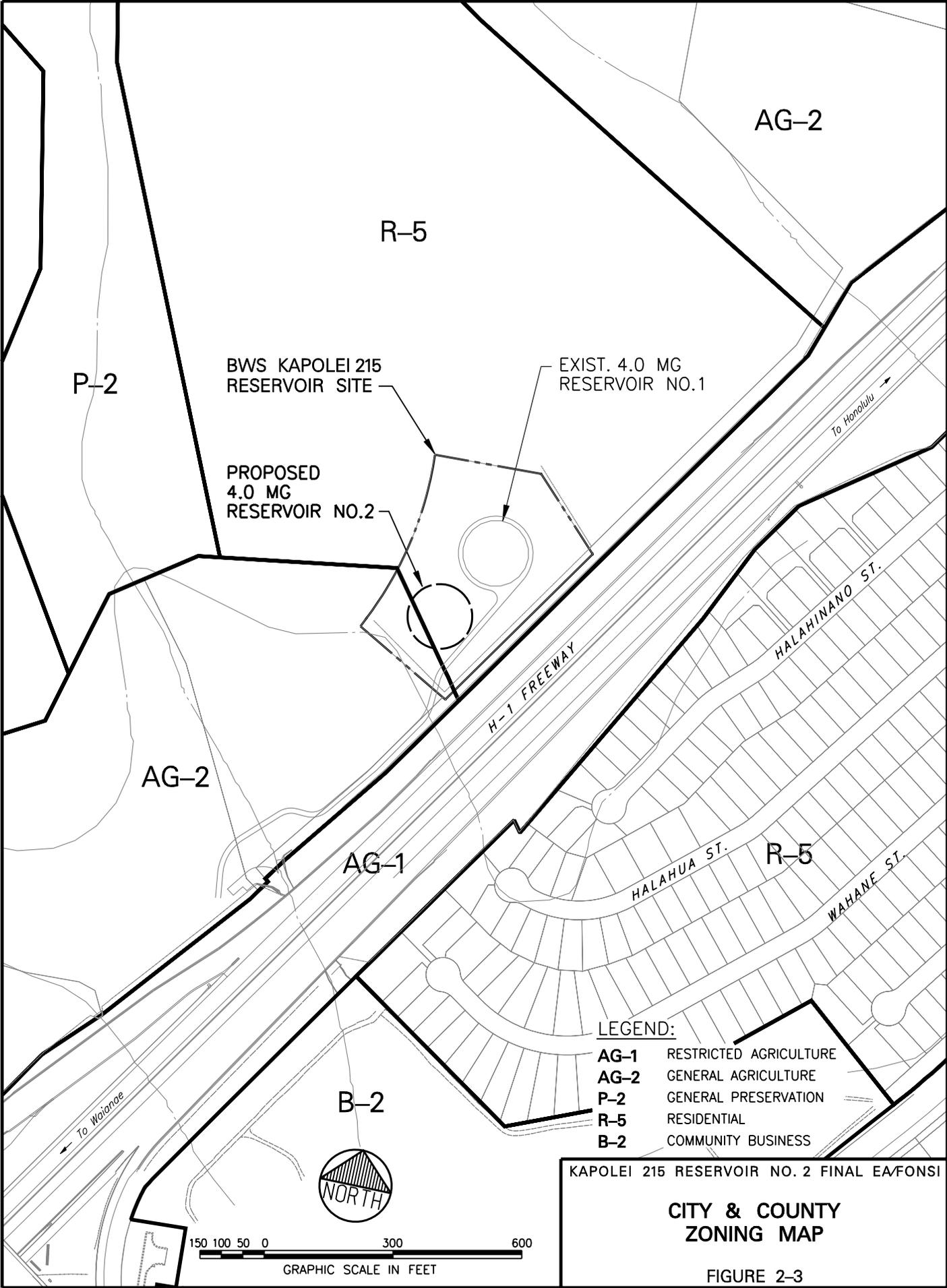
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GRAPHIC SCALE IN FEET

KAPOLEI 215 RESERVOIR NO. 2 FINAL EAFONSI

**STATE LAND USE
DISTRICT BOUNDARY MAP**

FIGURE 2-2



AG-2

R-5

P-2

BWS KAPOLEI 215
RESERVOIR SITE

EXIST. 4.0 MG
RESERVOIR NO.1

PROPOSED
4.0 MG
RESERVOIR NO.2

To Honolulu →

H-1 FREEWAY

HALAHINANO ST.

AG-2

AG-1

HALAHUA ST.

R-5

WAHANE ST.

LEGEND:

- AG-1 RESTRICTED AGRICULTURE
- AG-2 GENERAL AGRICULTURE
- P-2 GENERAL PRESERVATION
- R-5 RESIDENTIAL
- B-2 COMMUNITY BUSINESS



KAPOLEI 215 RESERVOIR NO. 2 FINAL EAFONSI

**CITY & COUNTY
ZONING MAP**

FIGURE 2-3

zoning designations. However, it will be necessary to apply to the City and County of Honolulu Department of Planning and Permitting for a Land Use Ordinance (LUO) waiver since the tank structure will exceed the 25-foot height limit and maximum building area (10 percent of the lot for Ag-2).

Oahu General Plan

The General Plan for the City and County of Honolulu is a statement of long-range social, economic, environmental, and design objectives for Oahu. It addresses (1) population; (2) economic activity; (3) natural environment; (4) housing; (5) transportation and utilities; (6) energy; (7) physical development and urban design; (8) public safety; (9) health and education; (10) culture and recreation; and (11) government operations and fiscal management.

The following policies of the Oahu General Plan are applicable to the proposed construction of the Kapolei 215 Reservoir No. 2.

I. Population

Objective C: "To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony."

- ▶ *Policy 2: "Encourage development within the secondary urban center at Kapolei and the Ewa and Central Oahu urban-fringe areas to relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center."*

II. Economic Activity

Objective G: "To bring about orderly economic growth on Oahu."

- ▶ *Policy 1: "Direct major economic activity and government services to the primary urban center and the secondary urban center at Kapolei."*

The proposed Kapolei 215 Reservoir No. 2 is needed to provide the necessary potable water system capacity to support the existing and future developments in the Kapolei area as previously indicated in section 2.1. Therefore, this project is required to facilitate future development within the Secondary Urban Center, which is consistent with the policies above.

III. Natural Environment

Objective A: "To protect and preserve the natural environment."

- ▶ *Policy 4: "Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water-recharge areas, distinctive land forms, and existing vegetation."*

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

- ▶ *Policy 3: "Locate roads, highways, and other public facilities and utilities in areas where they will least obstruct important views of the mountains and the sea."*

Flood, erosion hazards, and drainage will be considered in the design of the second reservoir. These issues are addressed in Chapter 3.

The Kapolei 215 Reservoir No. 2 will be located adjacent to the existing Kapolei 215 Reservoir No. 1; which is situated in an amphitheater-like excavation designed to accommodate the construction of the proposed second reservoir alongside the first. The design of the Kapolei

215 Reservoir No. 2 will take into consideration measures to blend the second structure with its natural environment. These mitigative measures are presented in Chapter 3.

V. Transportation & Utilities

Objective B: "To meet the needs of the people of Oahu for an adequate supply of water and for environmentally sound systems of waste disposal."

- ▶ *Policy 1: "Develop and maintain an adequate supply of water for both residents and visitors."*
- ▶ *Policy 2: "Develop and maintain an adequate supply of water for agricultural and industrial needs."*

Objective C: "To maintain a high level of service for all utilities."

- ▶ *Policy 2: "Provide improvements to utilities in existing neighborhoods to reduce substandard conditions."*
- ▶ *Policy 3: "Plan for the timely and orderly expansion of utility systems."*

VII. Physical Development and Urban Design

Objective A: "To coordinate changes in the physical environment of Oahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located."

- ▶ *Policy 1: "Plan for the construction of new public facilities and utilities in the various parts of the Island according to the following order of priority: first, in the primary urban center; second, in the secondary urban center at Kapolei; and third, in the urban- fringe and rural areas."*
- ▶ *Policy 2: "Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities."*
- ▶ *Policy 4: "Require new developments to provide or pay the cost of all essential community services, including roads, utilities, schools, parks, and emergency facilities that are intended to directly serve the development."*

Objective C: "To develop a secondary urban center in Ewa with its nucleus in the Kapolei area."

- ▶ *Policy 2: "Encourage the development of a major residential, commercial, and employment center within the secondary urban center at Kapolei."*

As previously indicated, the proposed Kapolei 215 Reservoir No. 2 is needed to provide the necessary potable water system capacity to support the existing and future developments in the Kapolei area. Therefore, this project will meet the objectives of the above policies pertaining to provisions for adequate and reliable utility services to support the existing developments in the area as well as support the development of future residential, commercial, and public facilities within the Secondary Urban Center. The construction of the second reservoir will be funded by Kapolei Property Development LLC.

VIII. Public Safety

Objective B: "To protect the people of Oahu and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions."

- ▶ *Policy 7: "Provide adequate fire protection and effective fire prevention programs."*

In compliance with the policy above, the construction of the Kapolei 215 Reservoir No. 2 will ensure adequate potable water storage for domestic consumption and fire protection within the BWS Kapolei 215 service zone.

Ewa Development Plan

The City and County of Honolulu Development Plans provides a framework for implementing the Oahu General Plan objectives. The desired sequence, pattern, and characteristics of development are set forth in public facilities maps for each development plan area. The Kapolei 215 Reservoir No. 2 will be located within the Ewa Development Plan area.

As identified in numerous objectives and policies in the Oahu General Plan, Ewa has been designated as the Secondary Urban Center for Oahu. The Ewa Development Plan supports these objectives by establishing policies and principals to guide the planning and construction of public facilities and infrastructure to foster the development of this region. The *Ewa Water Master Plan* (revised August 1987) calls for the construction of potable water storage facilities to support the growth of various communities in the Kapolei region. The report states a potable water storage capacity of approximately 7.8 million gallons is required for the service area. To this end, the 4.0 MG Kapolei 215 Reservoir No. 1 was constructed in 1995. The construction of the 4.0 MG Kapolei 215 Reservoir No. 2 is necessary to satisfy the remaining 3.8 million gallon storage requirement for development to continue in this Secondary Urban Center for Oahu.

To retain Ewa's unique history and culture, policies are provided in the Ewa Development Plan to protect and maintain visual landmarks, views, and vistas significant to the region. The Ewa Development Plan identifies public views to include "*views along streets and highways, mauka-makai view corridors, panoramic and significant landmark views from public places, views of natural features, heritage resources, and other landmarks, and view corridors between significant landmarks.*" The following views and vistas are identified in section 3.4 of the Ewa Development Plan as significant:

- Distant vistas of the shoreline from the H-1 Freeway above the Ewa Plain;
- Views of the ocean from Farrington Highway between Kahe Point and the boundary of the Waianae Development Plan Area;
- Views of the Waianae Range from H-1 Freeway between Kunia Road and Kaloi Gulch and from Kunia Road;
- Views of na pu'u at Kapolei, Palailai, and Makakilo;
- Mauka and makai views; and
- Views of central Honolulu and Diamond Head.

The design of the Kapolei 215 Reservoir No. 2 will take into consideration measures to blend the second structure with its natural environment. Consultation with individuals and organizations with knowledge of traditional cultural practices related to the project area indicate no strong cultural concerns about the proposed project. A detailed view analysis, mitigative measures and discussions on the archaeological, historic and cultural resources of the project area are presented in Chapter 3.

Public Infrastructure Map

To ensure consistency with the Oahu General Plan and the City and County of Honolulu Development Plans, major public infrastructures, such as roads, wastewater and potable water facilities, are to be identified on the Public Infrastructure Map (PIM). In accordance with section 4-8.3(10) of the Revised Ordinances of Honolulu (ROH), a water reservoir is a type of public infrastructure that must be shown on the PIM. Coordination has been initiated with the City's Department of Planning and Permitting to incorporate the Kapolei 215 Reservoir No. 2 into the Ewa PIM (Resolution 2000-37).

2.2.2 Neighboring Properties

The project site is surrounded on three sides by TMK 9-2-003:081, a 128-acre parcel owned by D.R. Horton - Schuler Homes LLC. Construction of a single-family residential subdivision is ongoing within this parcel. A long, narrow, undeveloped portion of TMK 9-2-003:082, owned by James Campbell Company LLC, is situated along the southeastern side of the project site, parallel to the I-H1 freeway right-of-way. Refer to **Figure 2-4** for the land ownership map. The proposed action does not require acquisition of neighboring lands, as there is adequate space within the BWS parcel for construction of a second 4.0 MG reservoir.

At present, the nearest occupied homes are located on the makai side of the freeway (approximately 400 feet southeast) in the Malanai Iki subdivision of Kapolei. On the mauka side of the freeway, the closest development is St. Jude Catholic Church on Makakilo Drive, situated approximately one quarter mile southwest of the BWS parcel.

2.3 DESCRIPTION OF THE PROPOSED ACTION

The proposed action involves expansion of the BWS 215 water system storage capacity in the Kapolei area by constructing a second 4.0 MG tank and associated appurtenances at the Kapolei 215 reservoir site. The new 4.0 MG reservoir (Kapolei 215 Reservoir No. 2) would be located within the existing fenced BWS parcel as depicted in **Figure 2-5**.

Major elements of the proposed project are listed below:

- 4.0 MG capacity reinforced concrete reservoir or tank
- 10-foot wide, asphalt concrete-paved perimeter road encircling the reservoir
- Onsite drainage system improvements, including 3-ft wide concrete swale, graveled cut-off swale, and grated drain inlets
- 24-inch diameter reservoir overflow/washout line
- onsite instrumentation piping improvements for operation of the new reservoir
- chlorination system piping
- temporary erosion control measures, including installation of silt fencing around existing drain inlets

The major components of the proposed project are described in greater detail in the following sections. Design of the proposed project will be in accordance with BWS standards.

2.3.1 Reservoir

The proposed reservoir will be a circular reinforced concrete tank, about 160 feet in diameter and 32 feet in overall height (see **Figure 2-6**). A concrete roof will be installed to protect the water from contamination and deterioration by algal growth stimulated by sunlight. Water depth within the tank will be 30 feet, extending from the finished floor elevation at 185 feet to the spillway elevation of 215 feet above MSL. The tank will be structurally designed to meet current codes for earthquake forces and wind loads.

A 10-foot wide perimeter road will encircle the reservoir to allow operations personnel to inspect, maintain and repair the structure and ancillary equipment. The perimeter road will be paved with asphalt concrete, providing an all-weather surface. The pavement will slope away from the tank, for conveyance of storm runoff to the onsite drainage system.

TMK:9-2-003:082
JAMES CAMPBELL
COMPANY LLC

TMK:9-2-003:081
D.R. HORTON-SCHULER HOMES LLC

BWS KAPOLEI 215
RESERVOIR SITE
TMK:9-2-003:083
CITY & COUNTY
OF HONOLULU

EXIST. 4.0 MG
RESERVOIR NO.1

PROPOSED
4.0 MG
RESERVOIR NO.2

TMK:9-2-019:072
D.R. HORTON-SCHULER
HOMES LLC

TMK: 9-2-019:055
ROMAN CATHOLIC CHURCH

H-1 FREEWAY

HALAHINANO ST.

HALAHUA ST.

MALANAI IKI
SUBDIVISION

WAHANE ST.

To Honolulu

To Waianae

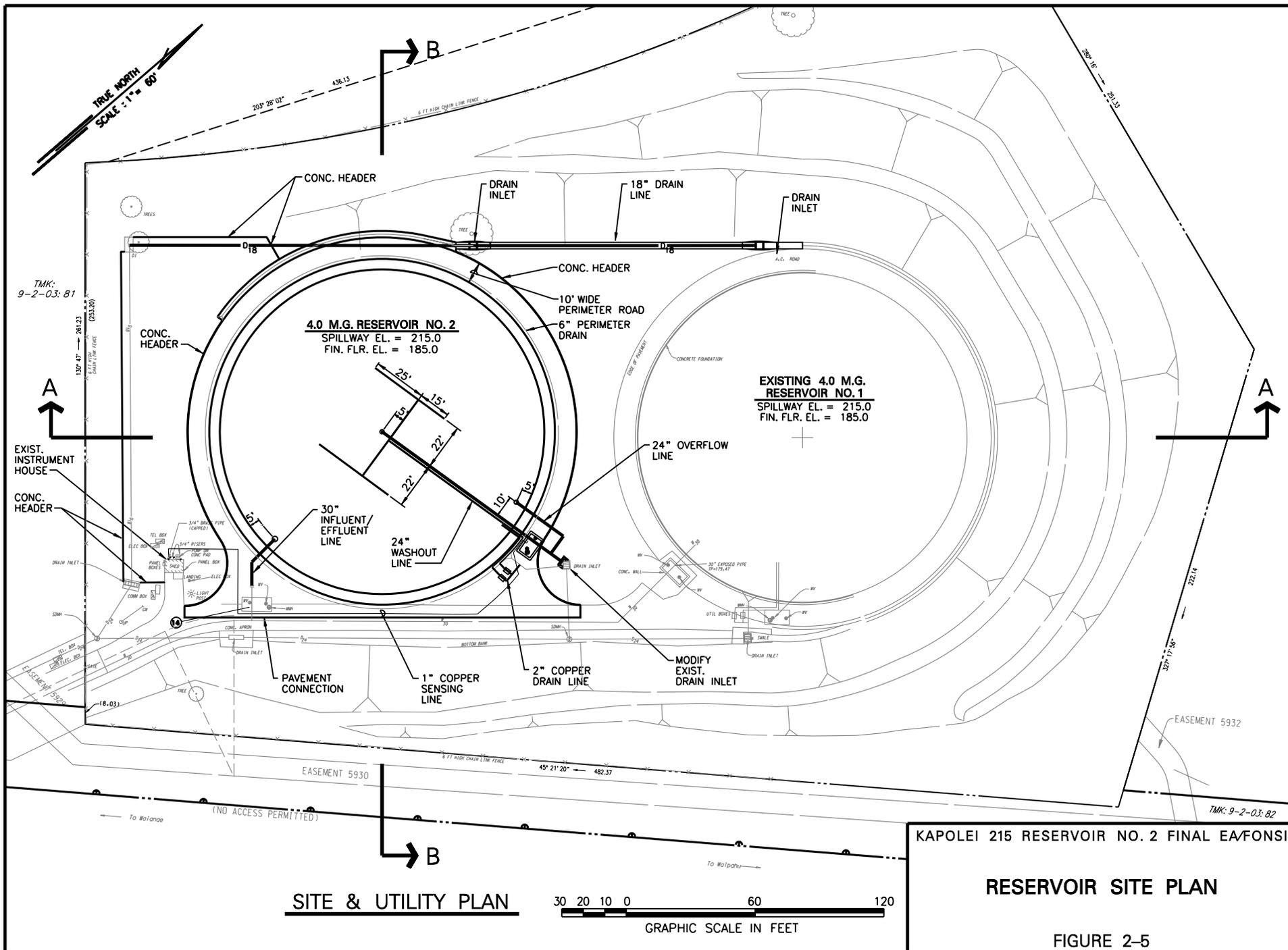


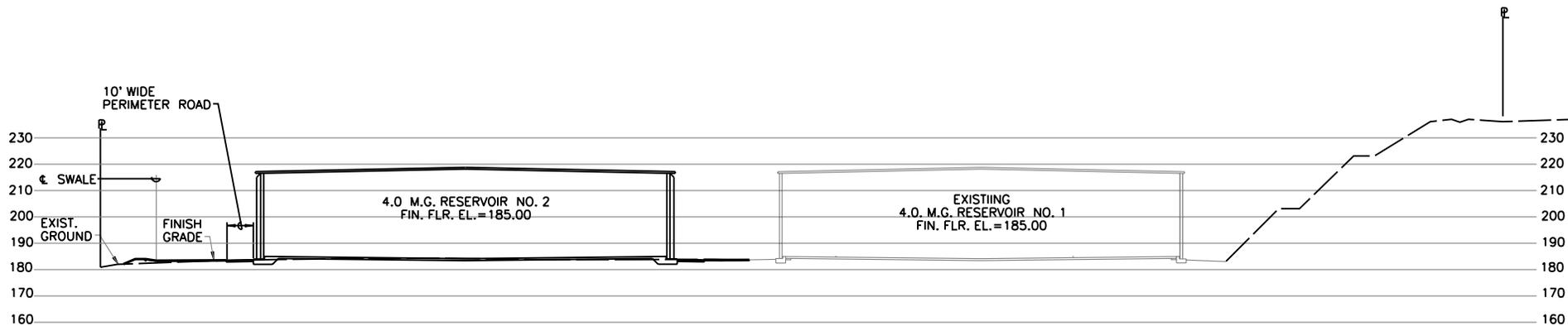
GRAPHIC SCALE IN FEET

KAPOLEI 215 RESERVOIR NO. 2 FINAL EAFONSI

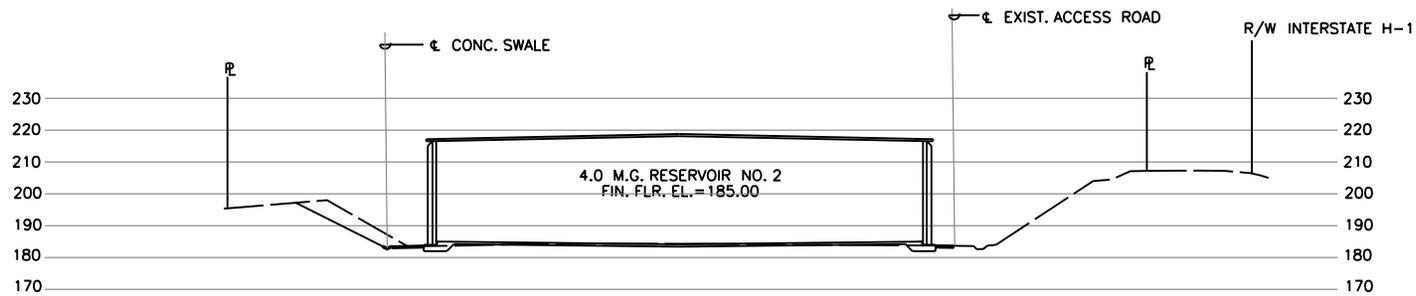
LAND OWNERSHIP MAP

FIGURE 2-4





SECTION A-A



SECTION B-B

KAPOLEI 215 RESERVOIR NO. 2 FINAL EAFONSI

RESERVOIR SECTIONS

FIGURE 2-6

The reservoir piping will include a 24-inch diameter overflow/washout line to permit tank drainage during cleaning.

2.3.2 Onsite Drainage Improvements

Modification of the existing onsite drainage system is required to accommodate the a second tank. The drainage system will safely convey both storm water runoff and tank overflow/washout drainage to the existing 24-inch diameter storm drain for offsite disposal. Storm water runoff will be collected in grated drain inlets, a graveled cut-off swale, and concrete swale for conveyance to the existing drainage system.

2.4 PROJECT SCHEDULE AND CONSTRUCTION COST

Construction is anticipated to begin in late 2009; however, the actual start date will be dependent on obtaining the required permits and approvals. It is anticipated that construction will be completed in 18 months. The estimated construction cost is \$7 million, to be funded by Kapolei Property Development LLC.

CHAPTER 3 DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

The intent of this chapter is to describe the existing physical and social environment which is affected by the proposed action; to disclose potential impacts to the environment that may result from construction and operation of the proposed action; and to identify proposed mitigation measures to be employed to minimize negative impacts. Impacts on the environment may be classified as “short term” or “long term”. Short term impacts are generally associated with construction activities and cease after completion of construction. Long term impacts are those which are lasting, resulting from the presence or operation of the project after it is constructed.

3.1 CLIMATE

Climatic norms, means and extremes for Honolulu are presented in **Table 3-1**. Northeast trade winds are prevalent, with low velocities (less than 10 mph) occurring frequently. From the fall to early spring, more light, variable wind conditions persist.

The proposed project is not anticipated to impact climatic conditions; therefore, no mitigation measures are warranted.

3.2 TOPOGRAPHY AND SOILS

3.2.1 Existing Conditions

According to the *Geotechnical Engineering Exploration, Kapolei 4.0-MG Reservoir, Kapolei, Oahu, Hawaii*, prepared by Geolabs, Inc. (November 16, 2006), the project site is located on the southern facing slope of Puu Makakilo, a composite cinder and lava cone formed along the southerly rift zone of the Waianae volcano. Lava in this cone is typically very dense with a platy structure resulting from horizontal jointing. In-situ chemical weathering of the cinder and lava formed a mantle of residual soils that grade to saprolite and then rapidly to weathered basalt rock formation with depth. However, most of the residual soils have been stripped or eroded from Puu Makakilo, possibly due to deforestation or agriculture. Geolabs reported that subsurface conditions in the western portion of the site generally consisted of very stiff to hard clayey silt residual soils, with saprolite in the central portion grading to highly weathered basalt formation on the eastern side.

The soil classifications in the project vicinity are indicated on **Figure 3-1** and are described below. These soil classification locations and descriptions are referenced from the *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai*.

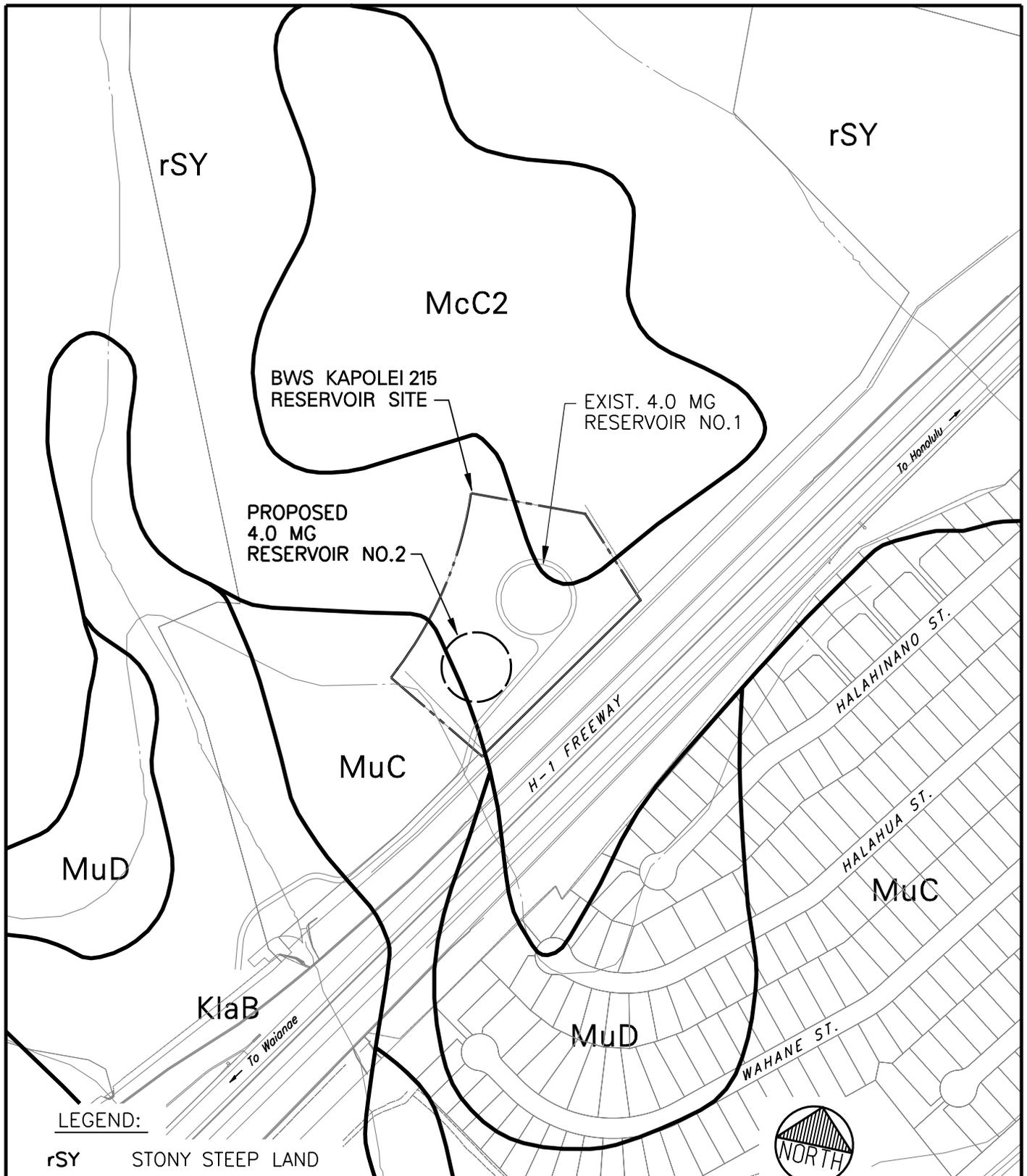
**TABLE 3-1
 CLIMATIC NORMALS, MEANS AND EXTREMES**

Parameter	Descriptor	Value ⁽¹⁾
Temperature (degrees F)	Daily maximum	84.4
	Daily minimum	70.0
	Annual mean	77.2
Precipitation (inches)	Maximum monthly	20.91
	Minimum monthly	trace
	Annual mean	22.02
Humidity (%)	Normal	68
Wind Speed (mph)	Mean	11.4
Sunshine	Percent of possible	71
Sky Cover (mean no. of days)	Clear	90.0
	Partly cloudy	179.8
	Cloudy	92.0

Reference: J.W. Morrow (5/2/06) from National Climatic Data Center

Note:

⁽¹⁾ Measurements taken at Honolulu International Airport



LEGEND:

- rSY STONY STEEP LAND
- MuC MOLOKAI SILTY CLAY LOAM, 7-15% SLOPES
- MuD MOLOKAI SILTY CLAY LOAM, 15-25% SLOPES
- McC2 MAHANA SILTY CLAY LOAM, 6-12% SLOPES
- K1aB KAWAIHAPAI STONY CLAY LOAM, 2-6% SLOPES

REFERENCE: USDA NATURAL RESOURCES CONSERVATION SERVICE



KAPOLEI 215 RESERVOIR NO. 2 FINAL EAFONSI
SOILS MAP
FIGURE 3-1

Stony steep land (rSY). This soil type consists of a mass of boulders and stones deposited by water and gravity on side slopes of drainageways. Stones and boulders cover 50 to 90 percent of the surface and rock outcrops occur in many places. There is a small amount of soil among the stones that provides a foothold for plants. Slopes range from 40 to 70 percent, and elevations range from 100 to 1,500 feet.

Molokai silty clay loam, 7 to 15 percent slopes (MuC). The Molokai series consists of well-drained upland soils, developed in material weathered from basic igneous rock. Conditions may be nearly level to moderately steep, with elevations ranging from near sea level to 1,000 feet. The MuC soil type occurs on knolls and sharp slope breaks. Runoff is medium and the erosion hazard is moderate.

The project site was previously graded to create a level pad area for a second reservoir during construction of first reservoir tank. According to Geolabs, Inc., the pad is relatively level, at an elevation of approximately 184 feet above MSL, and was constructed by cutting into a westerly facing slope. Cut slopes ranging from 15 to 50 feet in height are present along three sides of the project site.

3.2.2 Potential Impacts and Mitigation Measures

Impacts on the site topography are anticipated to be minimal since the area was previously mass graded for a second reservoir. However, a portion of the slope along the northwestern (mauka) side of the parcel will be graded to accommodate the footprint of the second tank and perimeter road. The design will incorporate recommendations by the geotechnical engineer to ensure slope stability.

A short term increase in soil erosion is anticipated to occur during construction of the project. Removal of existing vegetation and grading activities will result in bare soil which is subject to erosion. The sloped areas of the site are particularly vulnerable. Mitigative measures will be implemented during construction to minimize soil erosion and offsite sediment transport. The contractor will be required to implement sediment and erosion control measures indicated on the construction drawings, including installation of temporary silt fencing around existing and newly constructed onsite drainage inlets to minimize deposition of construction-related debris and sediment to the drainage system. Further, the graded slope will be grassed or mulched after establishment of finish grades.

3.3 BIOLOGICAL RESOURCES

The project site is located within a previously disturbed, fenced area under jurisdiction of the BWS. The proposed pad area for the second tank is presently vacant, covered with a surface layer of 4 to 6 inches of coarse gravel and sparse, weedy vegetation.

According to Cultural Surveys Hawaii, vegetation within the project site consists primarily of exotic weeds and grasses, with scattered kiawe (*Prosopis pallida*), koa haole (*Leucaena leucocephala*), and the Hawaiian native plant, 'ilima (*Sida fallax*).

The project site is not known to harbor any rare, threatened or endangered species, or other species of significance. No mitigation measures are proposed.

3.4 NATURAL HAZARDS

3.4.1 Existing Conditions

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the project site is located within Zone D, an area in which flood hazards are undetermined. According to the Oahu Civil Defense Agency Tsunami Evacuation Map 17 (Kahe Point to Ewa Beach), the project site is not located within a tsunami evacuation area. However, the project site will unavoidably be subject to natural occurrences of both earthquakes and hurricanes.

3.4.2 Potential Impacts and Mitigation Measures

The reservoir tank structure will be designed in conformance with applicable building codes to adequately address seismic forces and wind loads to minimize damage in the event of an earthquake or hurricane.

The project site is not located within a flood zone or tsunami inundation area. Further, development of the project is not anticipated to contribute to the occurrence of any natural hazard.

A washout / overflow drain line will safely convey tank drainage to the existing onsite drainage system for offsite conveyance and disposal.

3.5 ARCHAEOLOGICAL, HISTORIC AND CULTURAL RESOURCES

An archaeological assessment and cultural impact evaluation for the proposed project was prepared by Cultural Surveys Hawaii, Inc. (CSH). Their findings were based on a pedestrian inspection of the project area on October 19, 2005 and literature research. Descriptions herein are excerpted from the CSH report. Refer to **Appendix B** for the complete report.

3.5.1 Existing Conditions

The project site is located in the historical Honouliuli ahupua'a. This ahupua'a contains a 12-mile coastline with shallow fringing reef; four miles of frontage on the waters of West Loch; rich, level, alluvial soil with abundant water for irrigation from streams and springs in the lower portion of Honouliuli Valley; a broad limestone plain providing nesting habitat for a variety of avifauna; and an extensive upland forest zone extending as much as 12 miles inland. Based on a 1913 Fire Control Map, the project site is located near the boundary between the mauka ranch lands and the makai sugar plantation fields.

A field inspection of the project area took place as part of the archaeological and cultural impact evaluation. Field observations focused on the non-graded perimeter areas of the parcel. No surface historic properties were observed within or in the immediate vicinity of the project area. Due to the heavily graded nature of the project site and the observed relatively thin soil layer overlying basalt bedrock, the likelihood of encountering subsurface cultural material is low.

The cultural impact evaluation focused on consultation with individuals and organizations with knowledge of traditional cultural practices related to the project area. Comments on cultural practices in the project area were requested from seven individuals and groups. None of the

community contacts queried by CSH identified any strong cultural concerns about the proposed project. Further, no on-going cultural practices were noted the vicinity. Much of the discussion related to the significance of the larger area, the Honouliuli ahupua'a.

3.5.2 Potential Impacts and Mitigation Measures

Based on this cultural impact evaluation, CSH finds that the proposed project will have minimal impact on native Hawaiian cultural resources, beliefs and practices. Although none of the community contacts queried for this evaluation identified any strong cultural concerns about the proposed project, and no on-going cultural practices were noted in the vicinity of the current proposed project area, minimal impact can occur in the transformation of the natural landscape which as one community contact pointed out, may result in the loss of the visual plains referred to in *mo'olelo* or chants and other Hawaiian folklore. Due to the associated ground disturbance of the construction of the second reservoir, native plants commonly gathered by Hawaiian cultural practitioners such as *'uhaloa (Waltheria indica)* and *'ilima (Sida fallax)* found adjacent to the existing reservoir may be impacted. However, these plants are found in abundance throughout the region. In addition, due to the heavily graded nature of the project area, and the observed relatively thin soil layer overlying basalt bedrock, the likelihood of encountering intact subsurface cultural material within the project area seems exceedingly low. No surface historic properties were observed within or in the immediate vicinity of the project area. Therefore, the proposed project will likely have "no effect" on significant historic properties, and minimal impact on cultural resources, beliefs and practices. The State Historic Preservation Division (SHPD) concurs with the archeological assessment findings that "no historic properties will be affected."

In the unlikely event that human remains or other significant subsurface deposits are encountered during the course of development activities, work within the immediate area will cease and the SHPD will be promptly notified.

Minimal impacts upon native Hawaiian cultural resources, beliefs and practices associated with the transformation of the natural landscape will be mitigated with measures to blend the second structure with its natural environment. These mitigative measures are presented in section 3.9.2.

3.6 ROADS AND TRAFFIC

3.6.1 Existing Conditions

Vehicular access to the project site is gained through the BWS Makakilo Booster Pump Station facility at 92-405 Makakilo Drive above Farrington Highway. The booster pump station entrance road is locked and requires pre-arranged security clearance to enter. Access to the Kapolei 215 site from the booster pump station is via a paved road that crosses under I-H1 and continues as a dirt road to the secured reservoir site. Due to the security measures in place, only authorized maintenance personnel would be expected to enter the project site on a regular basis.

3.6.2 Potential Impacts and Mitigation Measures

There will be a short term increase in traffic to and from the project site during construction. This additional traffic will cease upon completion of the project. Truck queues along Makakilo

Drive may occur during delivery of construction materials as drivers gain access at the Makakilo booster pump station gate. Construction-related traffic impacts will be mitigated by scheduling work to avoid peak traffic hours.

No long term increase in traffic to and from the site is anticipated. Maintenance personnel will continue to secure the access gate leading to the site to discourage trespassing and operational visits will occur at the same frequency as the present.

3.7 AIR QUALITY

3.7.1 Existing Conditions

The State Department of Health (DOH) maintains a network of air monitoring stations around the state to gather data on the following regulated pollutants: particulate matter ≤ 10 microns (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), and ozone (O_3). The nearest air monitoring station to the project site is located in the Kapolei Business Park at 2052 Lauwiliwili Street, near the entrance to Campbell Industrial Park. Pollutants monitored at the Kapolei station include CO, SO_2 , NO_2 , PM_{10} , and $PM_{2.5}$. Other nearby monitoring stations (and pollutants monitored) are: Makaiwa (SO_2) located at 92-670 Farrington Highway, across from the Honokai Hale subdivision; and West Beach (SO_2 , NO_2 , PM_{10}) located within the Ko Olina Golf Course. According to the DOH *Annual Summary 2006 Hawaii Air Quality Data*:

Air quality in the State of Hawaii continues to be one of the best in the nation, and criteria pollutant levels remain well below state and federal ambient air quality standards.

3.7.2 Potential Impacts and Mitigation Measures

No long term air quality impacts are expected from operation of the proposed reservoir. Short term impacts are construction-related and will terminate once construction activities have been completed. Site preparation, earth moving, and perimeter road construction may generate fugitive dust and exhaust emissions from operation of construction vehicles and equipment. The contractor will be required to implement an effective dust control plan to address these disturbances. Dust control measures may include frequent watering of the work area; erecting wind screens; keeping the construction access road and adjacent roads clean; stabilizing slopes and exposed areas with grass or mulch after establishment of finish grades; and covering truck beds while hauling material to/from the site. In addition, the contractor will be required to implement measures to minimize air quality degradation by other sources, including vehicle exhaust emissions. Exhaust emissions may be mitigated by inspecting construction vehicles and moving construction vehicles and equipment during off-peak traffic hours.

3.8 NOISE

3.8.1 Existing Conditions

The project site is presently surrounded by noise-generating activities. Construction of a residential subdivision is ongoing on three sides of the site, and the I-H1 freeway is located along the remaining side. Until construction of the surrounding subdivision is completed and

the new homes occupied, the nearest affected residences are located across the freeway, about 400 feet away from the project site.

3.8.2 Potential Impacts and Mitigation Measures

The project site was mass graded during construction of the first reservoir; therefore, minimal earthwork remains. Blasting will be prohibited.

According to Hawaii Administrative Rules (HAR) Chapter 11-46 "Community Noise Control", the maximum permissible day time (7:00 AM to 10:00 PM) sound level for residential zoning districts is 55 dBA. The contractor will be required to obtain a Community Noise Permit from the DOH to exceed the maximum permissible sound level. Currently, noisy construction activities are restricted to hours between 7:00 AM and 6:00 PM (Monday through Friday) and 9:00 AM to 6:00 PM on Saturday. Construction activity noise in excess of the maximum permissible sound levels are not permitted on Sundays or holidays. These restrictions minimize construction noise impacts on noise sensitive receptors such as residences. Further, use of best available noise control technology is a factor in granting permit requests.

In the unlikely event that construction activities need to extend beyond the permitted hours, the contractor will be required to obtain a Community Noise Variance from DOH. The noise variance process includes public notification and the opportunity for public input and comment.

3.9 VISUAL RESOURCES

3.9.1 Existing Conditions

The Kapolei 215 reservoir site is excavated into the hillside of Makakilo Gulch (see **Figure 3-2**). The floor of the existing reservoir is situated at an elevation of 185 feet above MSL with a top of tank elevation of 217 feet. The 32-foot high existing reservoir is nestled into an amphitheater-like excavation up to 50 feet high and constructed on a virtually flat pad that will accommodate construction of the proposed second reservoir alongside the first. This feature restricts view of the existing tank from the surrounding area to the east (specifically views extending from the northeast to the southeast directions). Further, the existing reservoir is not visible from distant residential neighborhoods along the hillsides of Makakilo to the northwest due to the gulch topography (see **Photo 1**).

The existing reservoir is primarily visible from the west (lower Makakilo Drive) and south (makai of I-H1).

3.9.2 Potential Impacts and Mitigation Measures

The proposed second reservoir will be of similar size and appearance as the existing tank. An overhead aerial depiction of the project site after construction of the second tank is presented in **Figure 3-3**. Although the lands surrounding the project site appear undeveloped in the image, construction of a residential subdivision is presently ongoing.

Construction of the second reservoir at the site will not significantly impact the view plane from those vantage points where the existing tank is presently visible.



Reference:
Google Earth 2007

Photograph
locations are
indicated in
yellow

Kapolei 215 Reservoir No. 2 Final EA / FONSI

VIEW ORIENTATION MAP

FIGURE 3-2

8/09



Photo 1 - Kapolei 215 Reservoir No. 1 (see red arrow) is not visible from the future Kahiwelo residential development located at the end of Welo Street in the Maukalani Subdivision to the northwest.

Kapolei 215 Reservoir No. 2 Final EA / FONSI

**EXISTING VIEW FROM NORTHWEST
(WELO STREET)**

PHOTO 1

Reference:
Google Earth
2007



Pointer 21°20'43.54" N 158°04'35.67" W

© 2008 Europa Technologies

Streaming ||||| 100%

Kapolei 215 Reservoir No. 2 Final EA / FONSI

**EXPECTED AERIAL VIEW OF
SECOND RESERVOIR**

FIGURE 3-3 8/09

Easterly views along lower Makakilo Drive. The existing reservoir is clearly visible from the St. Jude Catholic Church grounds on Makakilo Drive. The church is the closest community facility to the project site. Construction of the second reservoir will not have a significant impact on the existing view plane from the church grounds since it will be situated directly in front of the first tank (see **Photos 2 & 3**).

Mauka views from areas makai of I-H1. The existing reservoir is presently visible from the eastbound freeway on-ramp at Makakilo Drive. The proposed second reservoir would also be visible from this vantage point; however, drivers would not be expected to focus their attention on this view due to the high speed of freeway through traffic and merging lanes along the on-ramp. The existing reservoir is also visible from the second floor of homes in the Malanai Iki subdivision, immediately makai of the freeway. Refer to **Photos 4 & 5** for existing and expected views of the reservoir site from makai of the freeway before and after construction of the second tank. Construction of the second tank should not have an appreciable impact on views from these locations.

The proposed reservoir will be visible from the surrounding residential subdivision presently under construction by D.R. Horton - Schuler Homes, specifically Makakilo subdivisions "C" and "D". The house lots located immediately adjacent to the reservoir site (to the northwest) are situated at a higher elevation so makai views from these lots should not be obstructed by the tanks (see **Photo 6**). The proposed reservoir will also be visible from the roadway serving both of these subdivisions (see **Photo 7**). The existing Kapolei 215 Reservoir No. 1 is currently visible from this roadway. The proposed Kapolei 215 Reservoir No. 2 will be constructed adjacent to the existing reservoir, closer to the roadway. Therefore, the second reservoir may be more prominent from this view plane. To mitigate this visual impact, landscaping will be provided to screen the view of the proposed reservoir along this roadway (see **Figure 3-4**).



Photo 2 - Existing view of Kapolei 215 Reservoir No. 1 from the southwest at St. Jude Catholic Church on Makakilo Drive



Photo 3 - The expected view after construction of Kapolei 215 Reservoir No. 2 is virtually the same as the existing view since the second tank will be constructed directly in front of the first

Kapolei 215 Reservoir No. 2 Final EA / FONSI

**EXISTING AND EXPECTED VIEWS
FROM LOWER MAKAKILO DRIVE**

PHOTOS 2 & 3

8/09



Photo 4 - Existing view of Kapolei 215 Reservoir No. 1 from south, makai of Interstate Route H-1 freeway



Photo 5 - Expected view of Kapolei 215 Reservoirs No. 1 and No. 2 from south, makai of Interstate Route H-1 freeway

Kapolei 215 Reservoir No. 2 Final EA / FONSI

**EXISTING AND EXPECTED VIEWS
FROM SOUTH (BELOW I-H1)**

PHOTOS 4 & 5

8/09



Photo 6 - View of neighboring subdivision house lots immediately adjacent to the Kapolei 215 Reservoir site. Makai views from these lots will not be obstructed by the reservoirs since the mass graded elevation of the lots is higher than the top of tank elevation.

Kapolei 215 Reservoir No. 2 Final EA / FONSI

**ADJACENT HOUSE LOTS MAUKA OF
PROPOSED RESERVOIR**

PHOTO 6

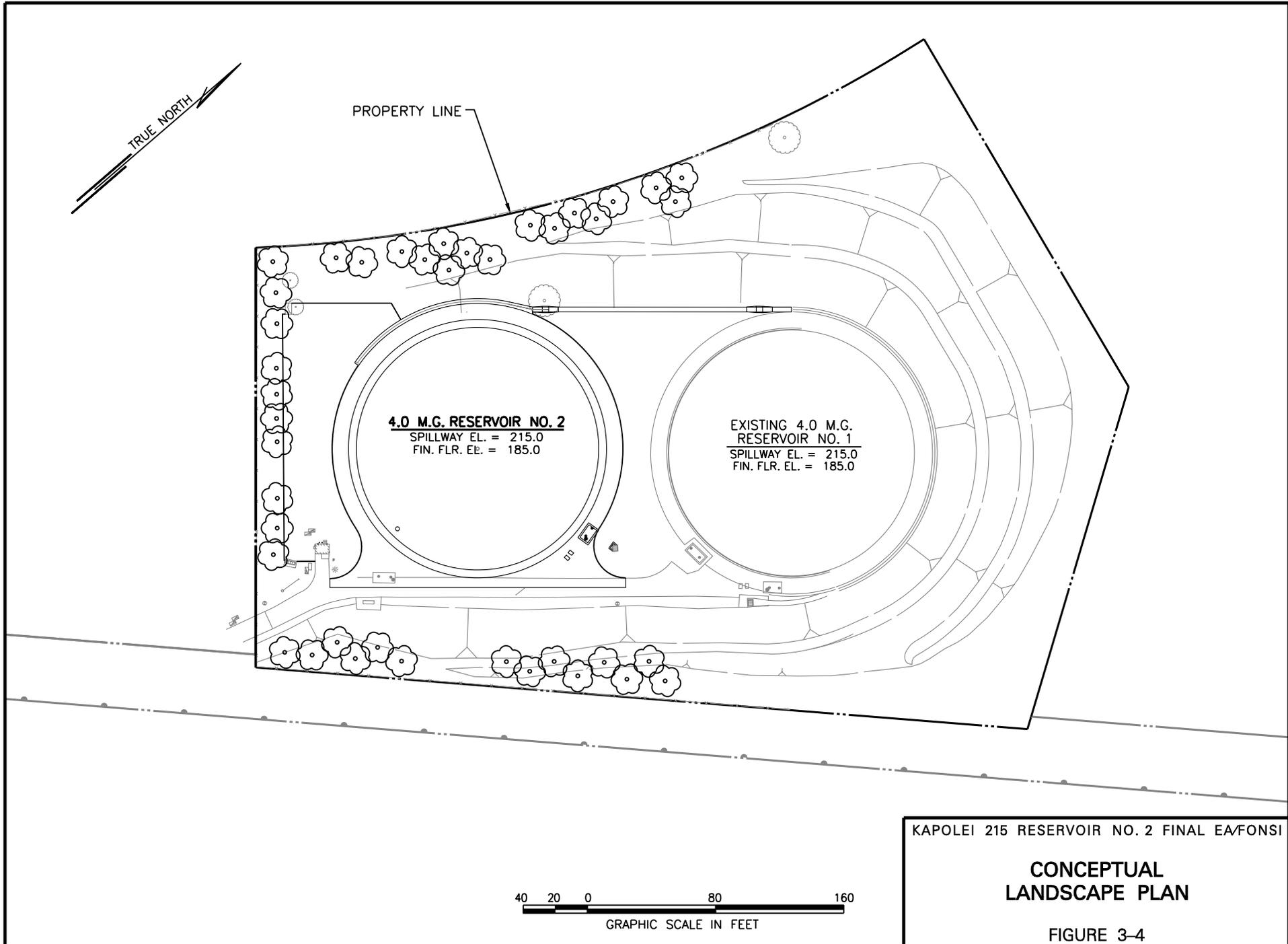


Photo 7 - View of the roadway serving the neighboring subdivision currently under construction. Existing Kapolei 215 Reservoir No. 1 located on the right is visible from the roadway.

Kapolei 215 Reservoir No. 2 Final EA / FONSI

**ADJACENT ROADWAY WEST OF
PROPOSED RESERVOIR**

PHOTO 7



KAPOLEI 215 RESERVOIR NO. 2 FINAL EAFONSI

**CONCEPTUAL
 LANDSCAPE PLAN**

FIGURE 3-4

CHAPTER 4 ALTERNATIVES TO THE PROPOSED ACTION

Previous alternatives considered prior to construction of the existing 4.0 MG Kapolei 215 Reservoir No. 1 included: (1) setting a higher spillway elevation; (2) construction of a single, larger capacity tank; and (3) construction of additional, smaller capacity tanks. Due to construction of the first tank, these alternatives are no longer viable.

This chapter discusses present alternatives to the proposed action, which include: (1) “no action”; and (2) construction at an alternative site. The present alternatives were rejected for their inability to meet the project objective or attainment of the objective at a higher cost (financially and environmentally). To restate, the objective of the proposed project is to improve the municipal potable water storage capacity for the City of Kapolei and surrounding areas within the BWS 215 service zone. The two present alternatives are discussed in this chapter.

4.1 NO ACTION

Under the “no action” scenario, there would be no increase to the existing potable water storage capacity for the Kapolei 215 service zone. This alternative fails to meet the objective of improving the municipal potable water storage capacity for the Kapolei 215 service zone. The alternative fails to provide adequate potable water storage facilities for domestic and commercial users, and fire protection (as identified in the BWS Water System Standards) for the growing community of Kapolei. Further, the resulting limited potable water storage capacity within the Kapolei 215 service zone may impact delivery of water to other neighboring service zones.

4.2 ALTERNATE SITE

The Kapolei 215 Reservoir site was selected after extensive engineering investigations. The first reservoir was constructed at the present site as a result of these studies. Water transmission and distribution mains were also constructed to accommodate two 4.0 MG reservoirs at the present reservoir site. In the event an alternative site is required, extensive retrofitting of the offsite piping network would be required to provide the proper hydraulic conditions within the water service area. While this alternative could meet the objective of providing the required water storage capacity for the Kapolei 215 service zone, the objective would be achieved at a higher financial and environmental cost due to probable site grading and associated offsite piping requirements.

CHAPTER 5 FINDINGS AND DETERMINATION

5.1 DETERMINATION

The City and County of Honolulu Board of Water Supply (BWS) has concluded that the proposed project does not have the potential to generate significant environmental impacts and the need to prepare an environmental impact statement is not evident. Therefore, this Final EA has been submitted with a Finding of No Significant Impact (FONSI) determination.

5.2 FINDINGS AND REASONS SUPPORTING DETERMINATION

The overall and cumulative impacts of the proposed action were evaluated with respect to HAR Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-12 "Significance Criteria". The following findings and conclusions can be made in support of the FONSI determination:

- (1) *The proposed action will not involve an irrevocable commitment to loss or destruction of any natural or cultural resource.*

The proposed reservoir will be situated within a fenced BWS property housing an existing municipal potable water reservoir. The proposed reservoir site was previously graded during construction of the first tank in anticipation of the future construction of this second tank. No natural or cultural resources have been identified within the project site or in the immediate vicinity of the project site.

- (2) *The proposed action will not curtail the range of beneficial uses of the environment.*

The proposed reservoir will be situated within a fenced BWS property housing an existing municipal potable water reservoir. There are no other beneficial uses for the site other than those associated with the municipal water system. The land surrounding the BWS parcel are currently under construction by a private developer for a residential subdivision.

- (3) *The proposed action will not conflict 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 State's environmental policy under §344-3, HRS, is to (1) conserve the natural resources and (2) enhance the quality of life. Impacts to the existing environment have been examined and disclosed, and no significant negative impacts to natural, cultural or historic resources are anticipated. The proposed project will enhance the quality of life in the Kapolei area by improving municipal potable water service.

- (4) *The proposed action will not have a substantial negative effect on the economic or social welfare of the community or state.*

The proposed project will have a positive effect on the economic and social welfare of the residents and businesses in the Kapolei area by improving the municipal potable water service.

- (5) *The proposed action will not have a substantial negative effect on public health.*

While temporary increases in noise, dust, and vehicular air emissions are likely to result from construction of the proposed project, no long term negative impact on public health is foreseen. Instead, improvement of the municipal potable water system is a positive impact on public health.

- (6) *The proposed action will not involve substantial secondary impacts, such as population changes or effects on public facilities.*

The proposed project is not anticipated to incite population growth or changes. Rather, the need for the project is a result of growth in the Kapolei area. The project will have a positive impact on the municipal potable water system by increasing the service zone storage capacity.

- (7) *The proposed action does not involve substantial degradation of environmental quality.*

Construction activities may temporarily increase dust, noise and traffic in the vicinity. Mitigation measures will be implemented as discussed in Chapter 3. Upon completion of construction, these impacts will cease.

- (8) *The proposed action will not have a considerable cumulative effect upon the environment or involve a commitment for larger actions.*

The proposed project is construction of the planned second and final phase of the Kapolei 215 reservoir system and does not involve a commitment for larger actions.

- (9) *The proposed action will not substantially affect a rare, threatened, or endangered species or its habitat.*

There were no indications of rare, threatened or endangered species of flora or fauna present at the project site. Due to the location of the project site within an existing developed parcel, suitable habitat conditions would not be expected.

- (10) *The proposed action will not affect air or water quality or ambient noise levels.*

Construction activities may have a short-term negative impact on air quality, water quality and ambient noise levels. No long-term negative impacts to air or water quality or ambient noise levels are anticipated due to operation of the reservoir.

- (11) *The proposed action will not affect, nor is it likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal water.*

The project site is not located in an environmentally sensitive area, nor is its presence expected to significantly affect the environment. Upon completion of construction, the entire project site will be paved, or stabilized with gravel, grass or mulch to minimize the soil erosion potential.

- (12) *The proposed action will not substantially affect scenic vistas or viewplanes identified in county or state plans or studies.*

The project site is located along the I-H1 freeway corridor and was previously excavated for construction of the first reservoir. Both the existing and proposed tanks will be visible from the surrounding residential subdivision (currently under construction), roadways, and areas to the south and west of the site. However, the project site is not located in or along a scenic vista or view plane. Views of the existing tank have not prompted complaints or concerns. However, to mitigate the modified view of the second tank at the site, landscaping will be provided to screen this structure.

- (13) *The proposed action will not require substantial energy consumption.*

No significant impact on existing electrical service is foreseen during construction or operation of the reservoir. Substantial energy consumption is not required for operation of the reservoir controls and alarms.

CHAPTER 6 CONSULTATION

6.1 PARTICIPANTS

This EA was prepared for Kapolei Property Development LLC by Engineering Concepts, Inc. The following consultants also contributed to the preparation of this document:

<u>Consultant</u>	<u>Area of Expertise</u>
Cultural Surveys Hawaii, Inc.	Archaeological, Historical & Cultural Impacts
Geolabs, Inc.	Geotechnical Engineering

6.2 PARTIES CONSULTED DURING PREPARATION OF THE DRAFT EA

Preliminary consultation with agencies and other interested parties was conducted during project planning and preparation of the Draft EA. Selected correspondence is included in **Appendix A**. The following parties were consulted:

U.S. Fish & Wildlife Service
State Department of Health, Environmental Planning Office
State Department of Transportation
State Historic Preservation Division
City and County of Honolulu, Board of Water Supply
City and County of Honolulu, Department of Planning & Permitting
Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34
D.R. Horton - Schuler Homes LLC

6.3 PARTIES CONSULTED DURING PREPARATION OF THE FINAL EA

Forty-eight (48) copies of the Draft EA were distributed to agencies, organizations, public libraries and other interested parties. A complete list of these consulted parties is presented in **Table 6-1**.

Availability of the Draft EA was published in the July 8, 2008 edition of *The Environmental Notice* by the Office of Environmental Quality Control. A total of 20 comment letters were received as of December 22, 2008 (the 30-day public comment period officially ended on August 7, 2008). Agencies, organizations and individuals responding to the request for comments are indicated with a "C" in **Table 6-1**. Those parties responding with "no comments" are labeled with a "NC".

6.4 COMMENTS ON THE DRAFT EA

Comment letters received as a result of public review of the Draft EA and responses to those comments are included in **Appendix C**.

**TABLE 6-1
DRAFT EA DISTRIBUTION LIST**

No. of Copies	FEDERAL GOVERNMENT	Comments
1	U.S. Army Engineer District, Honolulu	C
1	U.S. Fish and Wildlife Service, Pacific Islands Ecoregion	
1	U.S. Natural Resources Conservation Service	NC
	STATE GOVERNMENT	
1	Senator Mike Gabbard, 19 th District	
1	Representative Sharon E. Har, 40 th District	
1	Dept. of Accounting & General Services	C
1	Dept. of Agriculture	
1	Dept. of Business, Economic Development & Tourism	
1	Dept. of Defense	C
1	Dept. of Education	NC
1	Dept. of Hawaiian Homes Lands	
3	Dept. of Health, Environmental Planning Office	C
5	Dept. of Land and Natural Resources	
	- Engineering Division	C*
1	- Commission on Water Resource Management	C*
1	Dept. of Transportation	C
1	State Historic Preservation Division	C
2	Office of Environmental Quality Control	
1	Office of Hawaiian Affairs	C
1	Office of Planning	
1	Hawaii Housing Finance and Development Corporation	C
	CITY AND COUNTY GOVERNMENT	
1	Councilmember Todd K. Apo, District 1	
1	Councilmember Nestor R. Garcia, District 9	
1	Board of Water Supply	
1	Dept. of Environmental Services	
1	Dept. of Facility Maintenance	NC
1	Dept. of Parks and Recreation	NC
5	Dept. of Planning and Permitting	C
1	Dept. of Transportation Services	NC
1	Honolulu Fire Department	C
1	Honolulu Police Department	C
1	Dept. Of Emergency Management	NC
	OTHER INTERESTED PARTIES	
1	Hawaiian Electric Company, Inc.	C
1	Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34	
1	D.R. Horton - Schuler Homes LLC	C
1	St. Jude Catholic Church	
	LIBRARIES	
1	State Main Library	
1	Kapolei Public Library	

*Combined in one comment letter from the Dept. of Land and Natural Resources, Land Division, dated August 1, 2008

REFERENCES

Belt Collins & Associates, prepared for the Ewa Plain Water Development Corporation, *Ewa Water Master Plan (Revised)*, August 1987.

Geolabs, Inc., *Geotechnical Engineering Exploration Kapolei 4.0-MG Reservoir*, prepared for Kapolei Property Development LLC, November 16, 2006.

Hawaii State, Department of Health, Title 11, *Department of Health Administrative Rules*, "Chapter 200 - Environmental Impact Statement Rules", August 31, 1996.

Hawaii State, Department of Health, Title 11, *Department of Health Administrative Rules*, "Chapter 46 - Community Noise Control", September 23, 1996.

Hawaii State, Department of Health, Title 11, *Department of Health Administrative Rules*, "Chapter 60.1 - Air Pollution Control", September 16, 2003.

Hawaii State, Department of Health, Clean Air Branch, *Hawaii Air Quality Data Annual Summary*, 2006.

Helber, Hastert & Kimura, Planners, prepared for The Estate of James Campbell, *Kapolei Town Center Final Environmental Impact Statement*, August 1988.

Honolulu, City and County of, Department of Planning and Permitting, *Land Use Ordinance*, April 2003.

Honolulu, City and County of, Department of Planning and Permitting, (<http://gis.hicentral.com/>), 2008.

Honolulu, City and County of, Oahu Civil Defense Agency, Tsunami Evacuation Map 17 (Kahe Point to Ewa Beach).

R.M. Towill Corporation, prepared for The Estate of James Campbell and Housing Finance and Development Corporation, *Final Report for the Kapolei Water Master Plan, Ewa, Oahu, Hawaii*, revised March 1990.

U.S. Department of Agriculture Soil Conservation Service, *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*, August 1972, (<http://www.ctahr.hawaii.edu/soilsurvey/5is/oahu.htm>).

University of Hawaii at Hilo, Department of Geology, *Atlas of Hawaii*, Third Edition, 1998.

APPENDIX A

MISCELLANEOUS CORRESPONDENCE



ENGINEERING CONCEPTS, INC.

Consulting Engineers

May 31, 2007

Mr. Calvin Sunada
Environmental Planning Office
State Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Subject: Pre-Assessment Consultation for Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii
TMK: 9-2-003:083

Kapolei Property Development LLC is proposing to construct a second potable water reservoir within the grounds of the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu located mauka of Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and extension/modification of existing onsite utility infrastructure and appurtenances for connection to and service of the second reservoir. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.

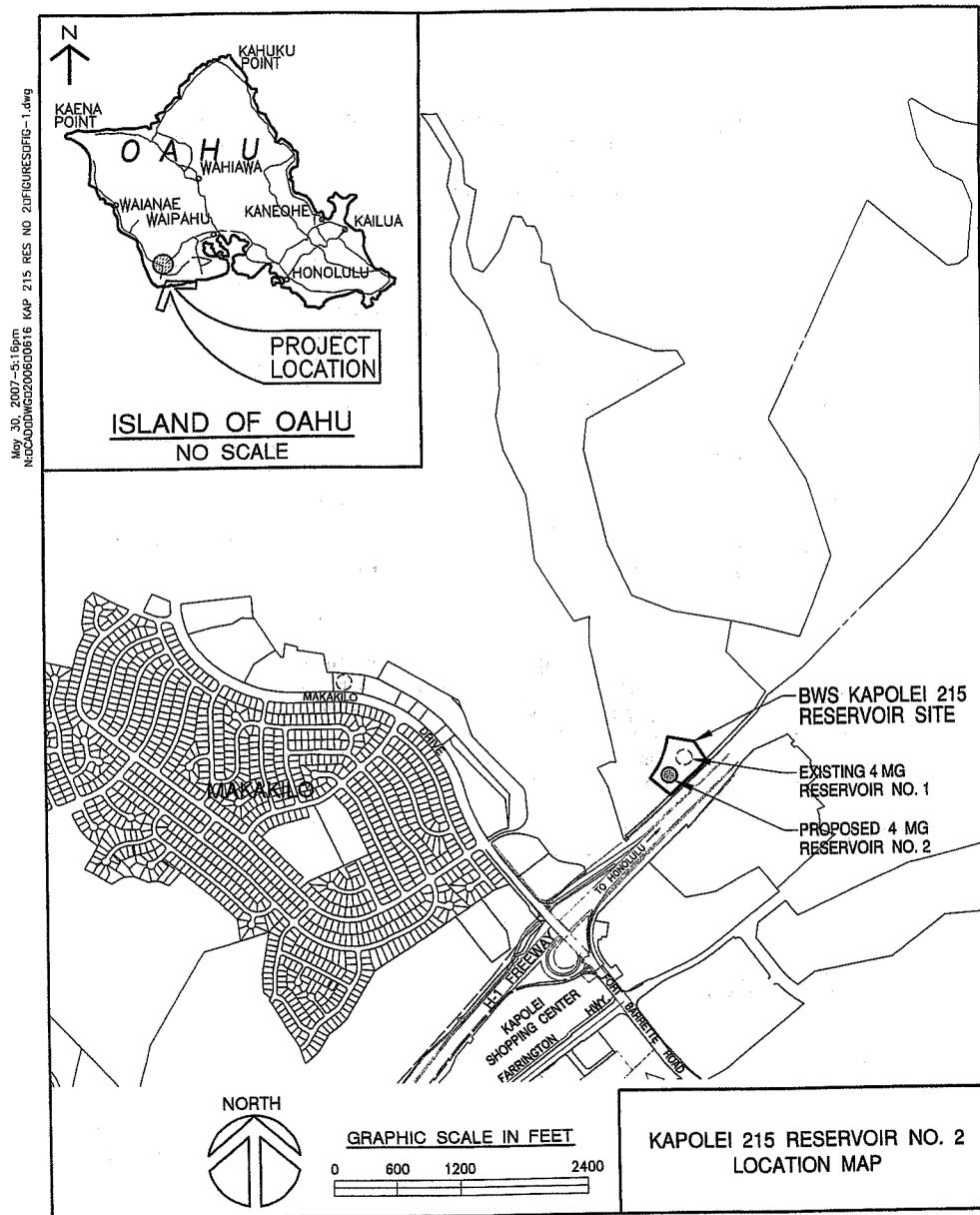
Engineering Concepts, Inc. has been contracted by Kapolei Property Development LLC to prepare an environmental assessment (EA) for the project, pursuant to Chapter 343, Hawaii Revised Statutes. A copy of the draft EA will be furnished for your review and comment. If you have any specific concerns that should be addressed in the draft EA, please advise us in writing within 30 days of receipt of this letter. Should you have any questions, please call me or Dana Arakaki at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

encl:

cc: Brad Myers - Kapolei Property Development LLC





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

July 6, 2007

RECEIVED

JUL 11 2007

ENGINEERING CONCEPTS

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
EPO-07-121

Mr. Ishizaki
July 6, 2007
Page 2

Mr. Kenneth Ishizaki,
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

SUBJECT: Pre-Assessment Consultation for Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii
TMK: (1) 9-2-003: 083

Thank you for allowing us to review and comment on the subject application. The document was routed to the various branches of the Department of Health (DOH) Environmental Health Administration. We have the following Clean Water Branch, Wastewater Branch and General comments.

Clean Water Branch

Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at <http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>.

1. Any project and its potential impacts to State waters must meet the following criteria:
 - a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
 - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
 - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. Please call the Army Corps of Engineers at (808) 438-9258 to see if this project requires a Department of the Army (DA) permit. Permits may be required for work performed in, over,

and under navigable waters of the United States. Projects requiring a DA permit also require a Section 401 Water Quality Certification (WQC) from our office.

3. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:
 - a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi)
 - b. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the start of the construction activities.**
 - c. Hydro-testing water.

Kapolei Property Development LLC must submit a separate NOI form for each type of discharge at least 30 days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at: <http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.

4. Kapolei Property Development LLC must also submit a copy of the NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the CWB that SHPD has or is in the process of evaluating Kapolei Property Development LLC project. Please submit a copy of Kapolei Property Development LLC request for review by SHPD or SHPD's determination letter for the project along with Kapolei Property Development LLC NOI or NPDES permit application, as applicable.
5. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's 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.

Mr. Ishizaki
July 6, 2007
Page 3

If you have any questions, please visit our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering Section, CWB, at 586-4309.

Wastewater Branch

The project proposes construction of a second potable water reservoir within the grounds of the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir.

Our primary concern is any potential contamination to the wells via improper wastewater treatment and disposal from any nearby source. The surrounding area is sewered by the City and County of Honolulu. Therefore, we have no objections to the project.

All wastewater plans must meet Department's Rules, HAR Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. If you have any questions, please contact the Planning & Design Section of the Wastewater Branch at 586-4294

General

We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiakai Liu with the Environmental Planning Office at 586-4346.

Sincerely,



KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
CWB
WWB



ENGINEERING CONCEPTS, INC.

Consulting Engineers

May 31, 2007

Mr. Barry Fukunaga, Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Subject: Pre-Assessment Consultation for Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii
TMK: 9-2-003:083

Kapolei Property Development LLC is proposing to construct a second potable water reservoir within the grounds of the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu located mauka of Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and extension/modification of existing onsite utility infrastructure and appurtenances for connection to and service of the second reservoir. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.

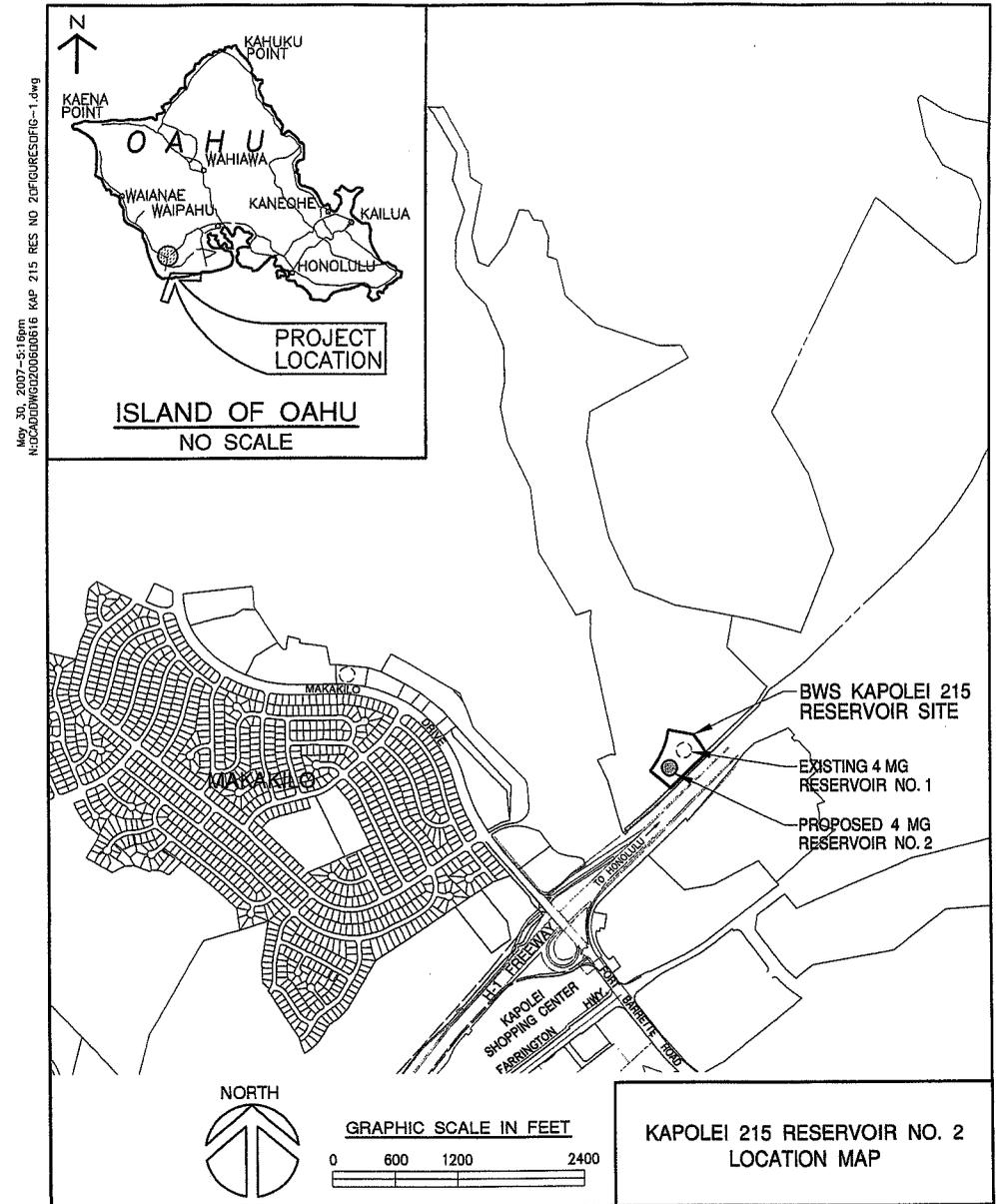
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Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

encl:

cc: Brad Myers - Kapolei Property Development LLC



LINDA LINGLE
GOVERNOR



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

June 13, 2007

RECEIVED

JUN 16 2007

ENGINEERING CONCEPTS

BARRY FUKUNAGA
DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.2515

Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

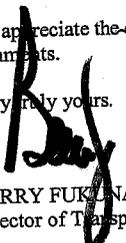
Subject: Pre-Assessment Consultation
Kapolei 215 Reservoir No. 2
TMK: 9-2-003: 083, Oahu

Thank you for your advance notification letter of May 31, 2007 on a proposed second water reservoir tank at the subject Kapolei site.

We anticipate no traffic impact from the reservoir project but have forwarded your letter to our Highways Division for its attention and action on any detailed and further checks that may be necessary since the reservoir site is near the H-1 Freeway right-of-way.

We appreciate the courtesy of your consultation and for the opportunity to provide our initial comments.

Very truly yours,


BARRY FUKUNAGA
Director of Transportation



ENGINEERING CONCEPTS, INC.

Consulting Engineers

May 31, 2007

Mr. Patrick Leonard, Field Supervisor
Pacific Islands Office
U.S. Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

Subject: Pre-Assessment Consultation for Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii
TMK: 9-2-003:083

Kapolei Property Development LLC is proposing to construct a second potable water reservoir within the grounds of the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu located mauka of Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and extension/modification of existing onsite utility infrastructure and appurtenances for connection to and service of the second reservoir. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.

Engineering Concepts, Inc. has been contracted by Kapolei Property Development LLC to prepare an environmental assessment (EA) for the project, pursuant to Chapter 343, Hawaii Revised Statutes. A copy of the draft EA will be furnished for your review and comment. If there are any species of concern in the project vicinity, or if you have any specific concerns that should be addressed in the draft EA, please advise us in writing within 30 days of receipt of this letter. Should you have any questions, please call me or Dana Arakaki at 591-8820.

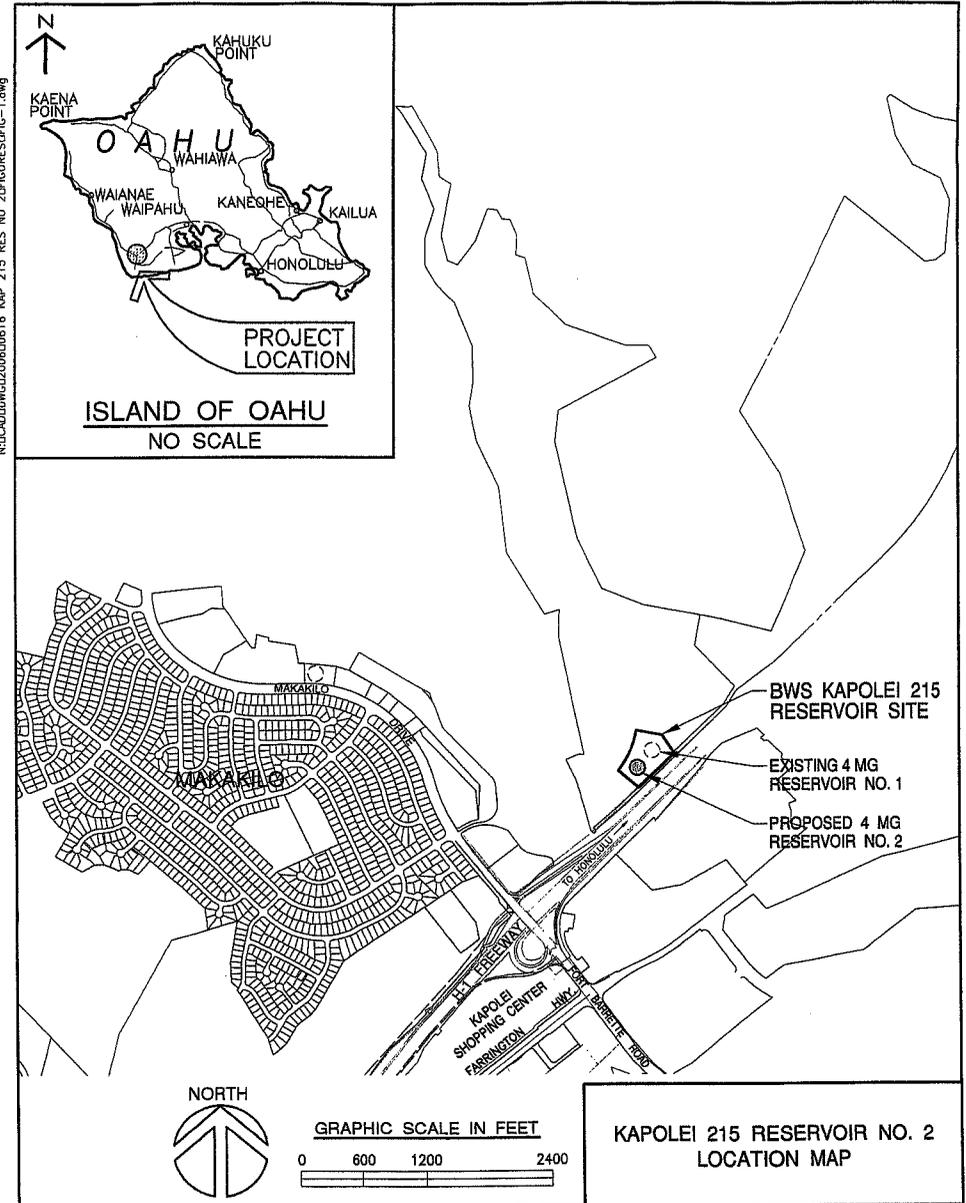
Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

encl:

cc: Brad Myers - Kapolei Property Development LLC

May 30, 2007-5:16pm
N:\c\ad\w\z\00000000\9_KAP 215 RES NO 2\FIGURES\FIG-1.dwg





ENGINEERING CONCEPTS, INC.
Consulting Engineers

May 31, 2007

Mr. Henry Eng, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Subject: Pre-Assessment Consultation for Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii
TMK: 9-2-003:083

Kapolei Property Development LLC is proposing to construct a second potable water reservoir within the grounds of the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu located mauka of Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and extension/modification of existing onsite utility infrastructure and appurtenances for connection to and service of the second reservoir. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.

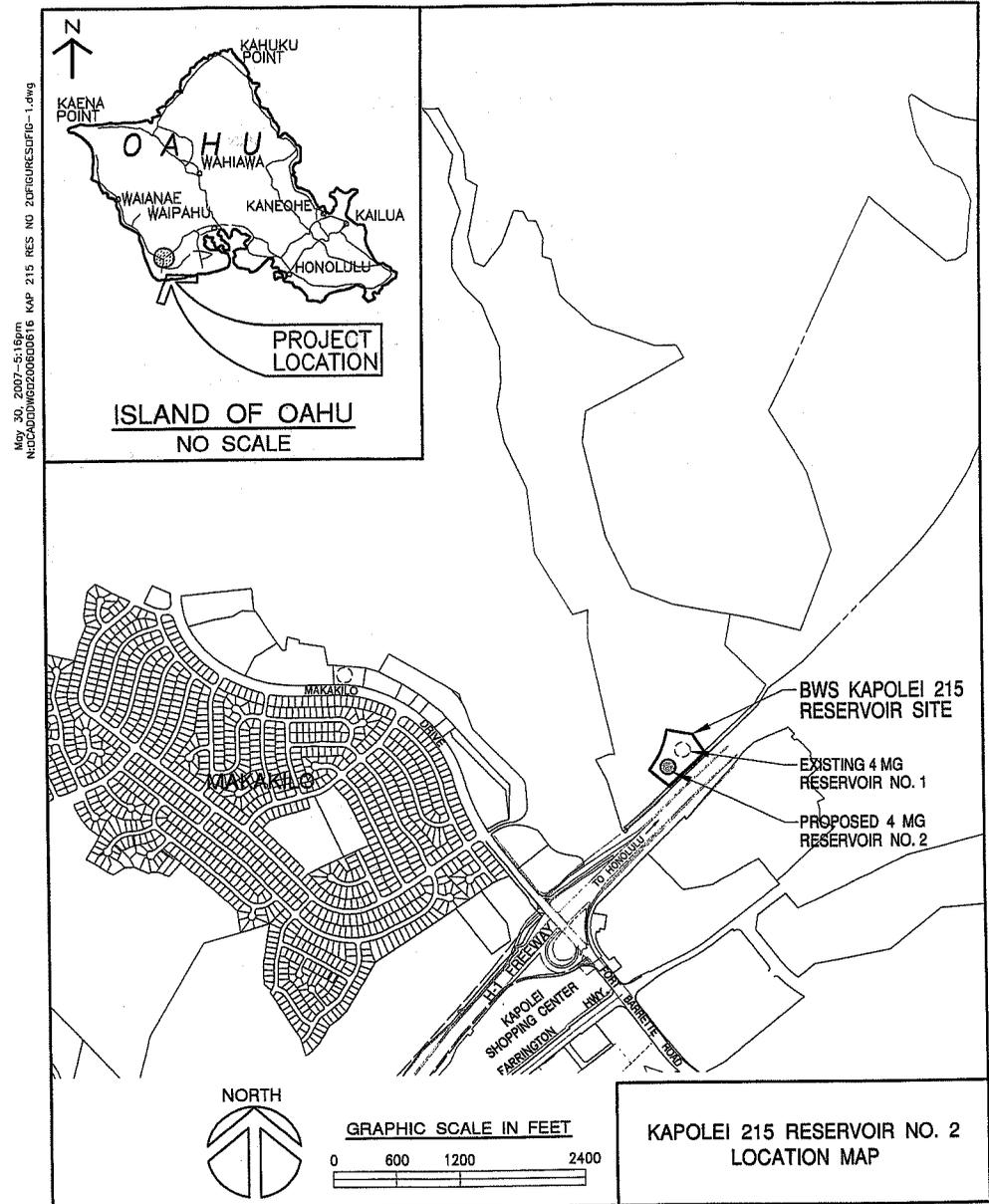
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Very truly yours,


Kenneth Ishizaki, P.E.
Executive Vice President

encl:

cc: Brad Myers - Kapolei Property Development LLC





ENGINEERING CONCEPTS, INC.

Consulting Engineers

May 31, 2007

Mr. Michael Jones, President
D.R. Horton - Schuler Homes LLC
828 Fort Street Mall, 4th Floor
Honolulu, Hawaii 96813

Subject: Pre-Assessment Consultation for Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii
TMK: 9-2-003:083

Kapolei Property Development LLC is proposing to construct a second potable water reservoir within the grounds of the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu located mauka of Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and extension/modification of existing onsite utility infrastructure and appurtenances for connection to and service of the second reservoir. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.

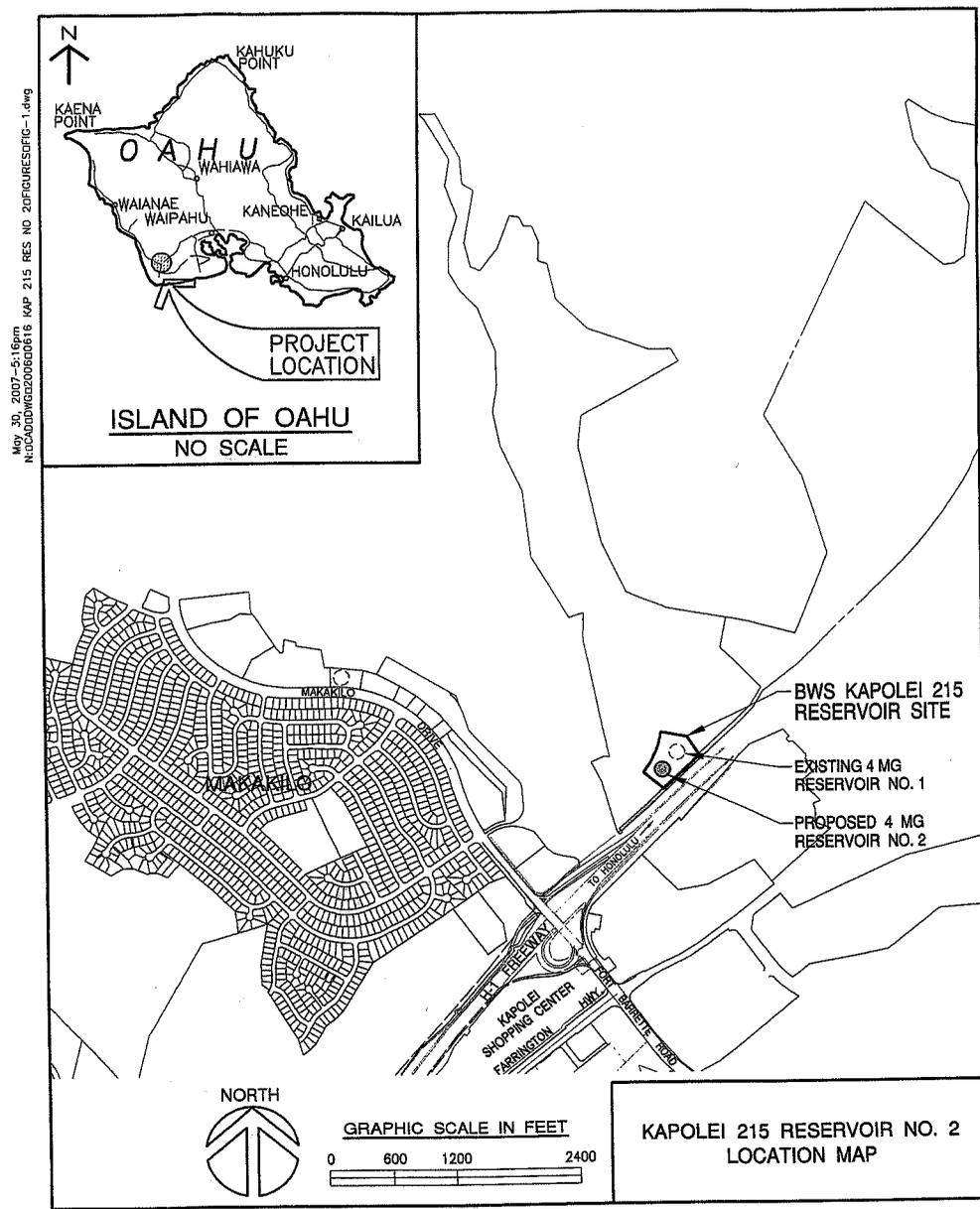
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Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

encl:

cc: Brad Myers - Kapolei Property Development LLC





ENGINEERING CONCEPTS, INC.

Consulting Engineers

May 31, 2007

Ms. Maeda Timson, Chairperson
Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34
c/o Neighborhood Commission Office
City Hall, Room 400
Honolulu, Hawaii 96813

Subject: Pre-Assessment Consultation for Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii
TMK: 9-2-003:083

Kapolei Property Development LLC is proposing to construct a second potable water reservoir within the grounds of the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu located mauka of Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and extension/modification of existing onsite utility infrastructure and appurtenances for connection to and service of the second reservoir. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.

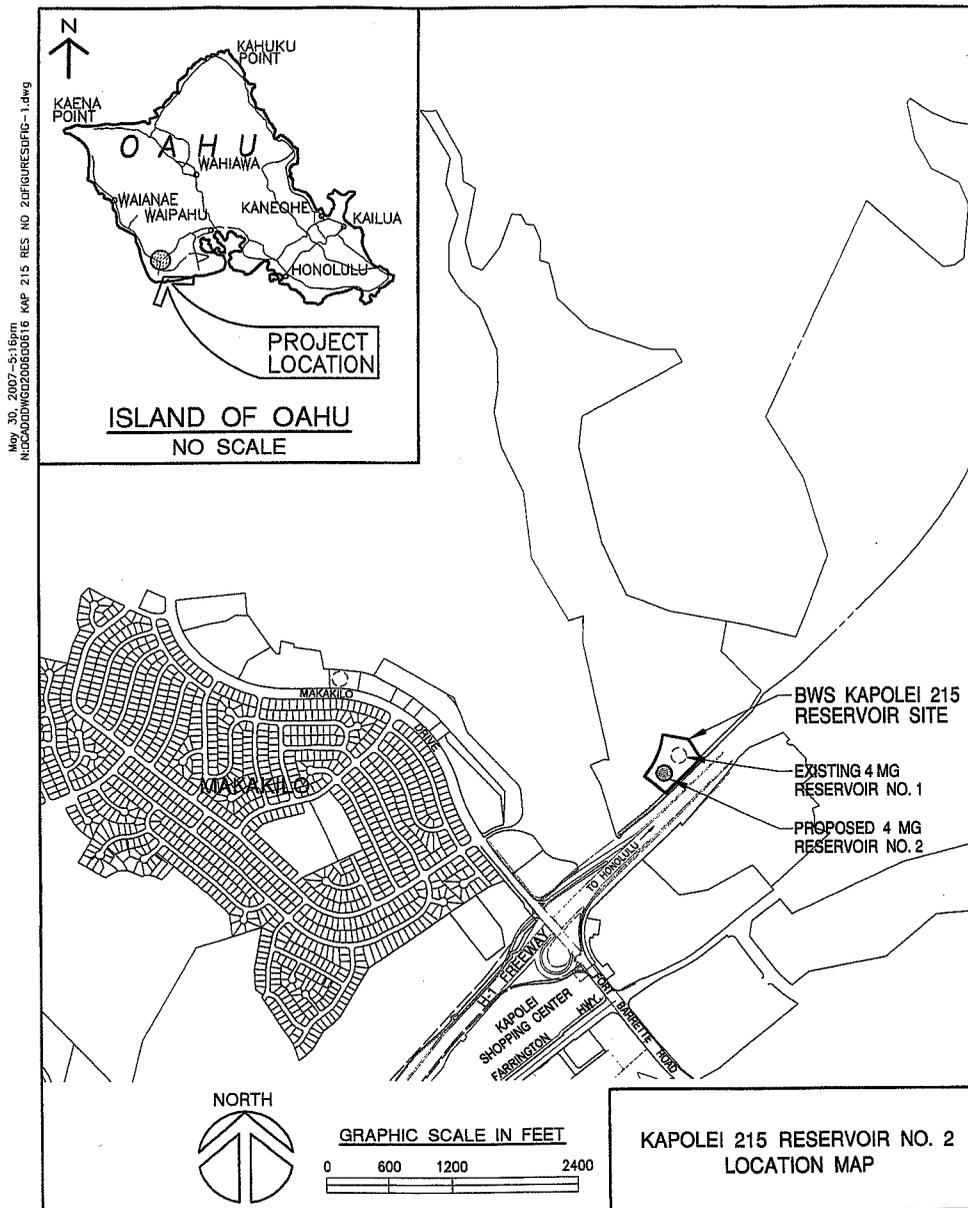
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Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

encl:

cc: Brad Myers - Kapolei Property Development LLC



APPENDIX B

**ARCHAEOLOGICAL ASSESSMENT AND CULTURAL IMPACT EVALUATION
by Cultural Surveys Hawaii**

**Archaeological Field Inspection, Literature Review,
and Cultural Impact Evaluation for the
Proposed Kapolei 215 Reservoir No. 2 Project
Honouliuli Ahupua'a, 'Ewa District, Island of O'ahu
TMK: [1] 9-2-003: 83**

Prepared for
Engineering Concepts, Inc.

Prepared by
Todd Tulchin, B.S.,
Margaret Magat, Ph.D.,
and
Hallett H. Hammatt, Ph.D.

Cultural Surveys Hawai'i, Inc.
Kailua, Hawai'i
(Job Code: HONOU 10)

August 2007

O'ahu Office
P.O. Box 1114
Kailua, Hawai'i 96734
Ph.: (808) 262-9972
Fax: (808) 262-4950

www.culturalsurveys.com

Maui Office
16 S. Market Street, Suite 2N
Wailuku, Hawai'i 96793
Ph: (808) 242-9882
Fax: (808) 244-1994

Management Summary

Reference	Archaeological Field Inspection, Literature Review, and Cultural Impact Evaluation for the Proposed Kapolei 215 Reservoir No. 2 Project, Honouliuli Ahupua'a, 'Ewa District, Island of O'ahu (TMK: [1] 9-2-003: 83) (Tulchin et al. 2007)
Date	August 2007
Project Number (s)	Cultural Surveys Hawai'i Inc. (CSH) Job Code: HONOU 10
Investigation Permit Number	CSH completed the archaeological field inspection under Hawai'i State Historic Preservation Division (SHPD) archaeological permit No. 0605 issued by SHPD, per Hawai'i Administrative Rules (HAR) Chapter 13-13-282.
Project Location	The Kapolei 215 Reservoir Site is located immediately <i>mauka</i> (northwest) of the westbound lanes of the H-1 Interstate Highway, approximately 0.3 mi. (0.5 km) northeast of the Makakilo/Kapolei interchange, and opposite the Kapolei Knolls residential subdivision. This area is depicted on the USGS 7.5-minute Topographic Map, 'Ewa Quadrangle (1998) (Figure 1).
Land Jurisdiction	The Kapolei 215 Reservoir Site is owned by the City and County of Honolulu (C&C), under the jurisdiction of the Board of Water Supply (BWS).
Agencies	State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR)

Project Description	The proposed Kapolei 215 Reservoir No. 2 project consists of the construction of a second 4.0 million gallon potable water reservoir within the existing Kapolei 215 Reservoir site. This second potable water reservoir will be constructed next to the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu that is adjacent to Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and modification of existing onsite utility infrastructure. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.
Project Acreage	Approximately 3.9-acres
Area of Potential Effect (APE) and Survey Acreage	The project's APE is defined as the entire 3.9-acre project area. The proposed reservoir construction is evaluated as posing no additional auditory or visual impact to any surrounding potential historic properties. While the archaeological field inspection focused on the project APE, the study area for the cultural impact evaluation included the entire <i>ahupua'a</i> of Honouliuli.

Historic Preservation Regulatory Context	At the request of Engineering Concepts, Inc., Cultural Surveys Hawai'i (CSH) conducted this archaeological field inspection, literature review, and cultural impact evaluation. The study was conducted to identify any surface archaeological features and to assess the potential for impact to significant historic properties. The study was also made to identify any sensitive areas and potential impacts to cultural practices that may require further investigation or mitigation before the project proceeds. The archaeological field inspection, literature review, and cultural impact evaluation study was conducted as part of an environmental assessment to address the construction of the Kapolei 215 Reservoir No. 2. The archaeological field inspection and literature review investigation does not meet the requirements of an inventory-level survey per the rules and regulations of SHPD/DLNR (HAR Chapter 13-13-276). The cultural impact evaluation does not meet the standards set up by the State of Hawai'i Office of Environmental Quality Control (OEQC) for cultural impact assessments. The scope of work for these studies was suggested as appropriate for a small project acreage in an area generally regarded as of lower cultural sensitivity that has been massively disturbed by prior land modification.
Fieldwork Effort	The field inspection of the project area was accomplished on October 2, 2006 by one Cultural Surveys Hawai'i archaeologist, Todd Tulchin, B.S., under the overall supervision of Hallett H. Hammatt, Ph.D. The fieldwork required one person-day to complete.
Number of Historic Properties Identified	None

<p>Results of Cultural Impact Evaluation</p>	<p>Based on the findings of this evaluation, no cultural impact mitigation measures are warranted. None of the community contacts queried for this evaluation identified any strong cultural concerns about the proposed project. A study participant mentioned that there are native plants such as 'ilima (<i>Sida fallax</i>) and 'uhaloa (<i>Waltheria indica</i>) adjacent to the existing reservoir, but these can be found in abundance throughout the entire region. Another participant expressed the need for critical sustainability in developing Honouliuli, which is mentioned in ancient lore as an important spiritual place that provides a cultural foundation for many Hawaiian beliefs. Another participant discussed Honouliuli as the site of a largely unknown historic World War II internment camp. Based on the above study results, Cultural Surveys Hawai'i finds that the proposed project will have minimal impact upon native Hawaiian cultural resources, beliefs and practices.</p>
<p>Discussion of Project Effect and Recommendations</p>	<p>No surface historic properties were observed within or in the immediate vicinity of the project area. In addition, due to the heavily graded nature of the project area, and the observed relatively thin soil layer overlying basalt bedrock, the likelihood of encountering intact subsurface cultural material within the project area seems exceedingly low. Therefore, the proposed will likely have "no effect" on significant historic properties.</p> <p>No further work is recommended for the proposed Kapolei 215 Reservoir No. 2 project.</p>

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Section 1 Introduction

1.1 Project Background

At the request of Engineering Concepts, Inc., Cultural Surveys Hawai'i (CSH) conducted an archaeological field inspection, literature review, and cultural impact evaluation for the proposed Kapolei 215 Reservoir No. 2 project, Honouliuli Ahupua'a, 'Ewa District, Island of O'ahu (TMK: [1] 9-2-003: 83). The Kapolei 215 Reservoir Site is located immediately mauka (northwest) of the westbound lanes of the H-1 Interstate Highway, approximately 0.3 mi. (0.5 km) northeast of the Makakilo/Kapolei interchange, and opposite the Kapolei Knolls residential subdivision (Figures 1-3).

The approximately 3.9-acre Kapolei 215 Reservoir Site is owned by the City and County of Honolulu (C&C), under the jurisdiction of the Board of Water Supply (BWS).

The proposed Kapolei 215 Reservoir No. 2 project consists of the construction of a second 4.0 million gallon potable water reservoir within the existing Kapolei 215 Reservoir site. This second potable water reservoir will be constructed next to the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu that is adjacent to Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and modification of existing onsite utility infrastructure. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.

The project's APE is defined as the entire 3.9-acre project area. The proposed reservoir construction is evaluated as posing no additional auditory or visual impact to any surrounding potential historic properties.

The current archaeological field inspection, literature review, and cultural impact evaluation study was conducted as part of an environmental assessment to address the construction of the Kapolei 215 Reservoir No. 2. The study was conducted to identify any surface archaeological features and to assess the potential for impact to significant historic properties. The study was also made to identify any sensitive areas and potential impacts to cultural practices that may require further investigation or mitigation before the project proceeds.

1.2 Scope of Work

The scope of work for the archaeological field inspection, literature review, and cultural impact evaluation included:

1. Historical and previous archaeological background research, including study of archival sources, historic maps, Land Commission Awards and previous

archaeological reports to construct a history of land use and to determine if archaeological sites have been recorded on or near this property.

2. Field inspection of the project area to identify any surface archaeological features and to investigate and assess the potential for impact to such sites. The assessment identified any sensitive areas that may require further investigation or mitigation before the project proceeds.
3. Limited consultation with knowledgeable parties regarding traditional cultural practices in the vicinity.

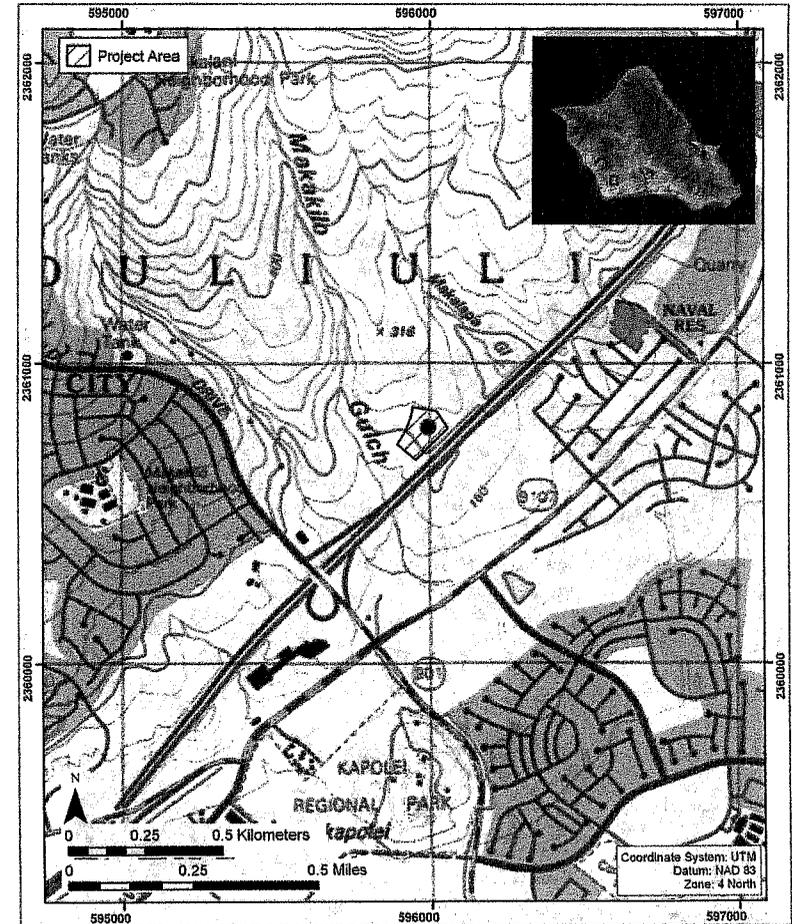


Figure 1. U.S. Geological Survey 7.5 minute series topographic map, 'Ewa Quadrangle (1998), showing the location of the project area

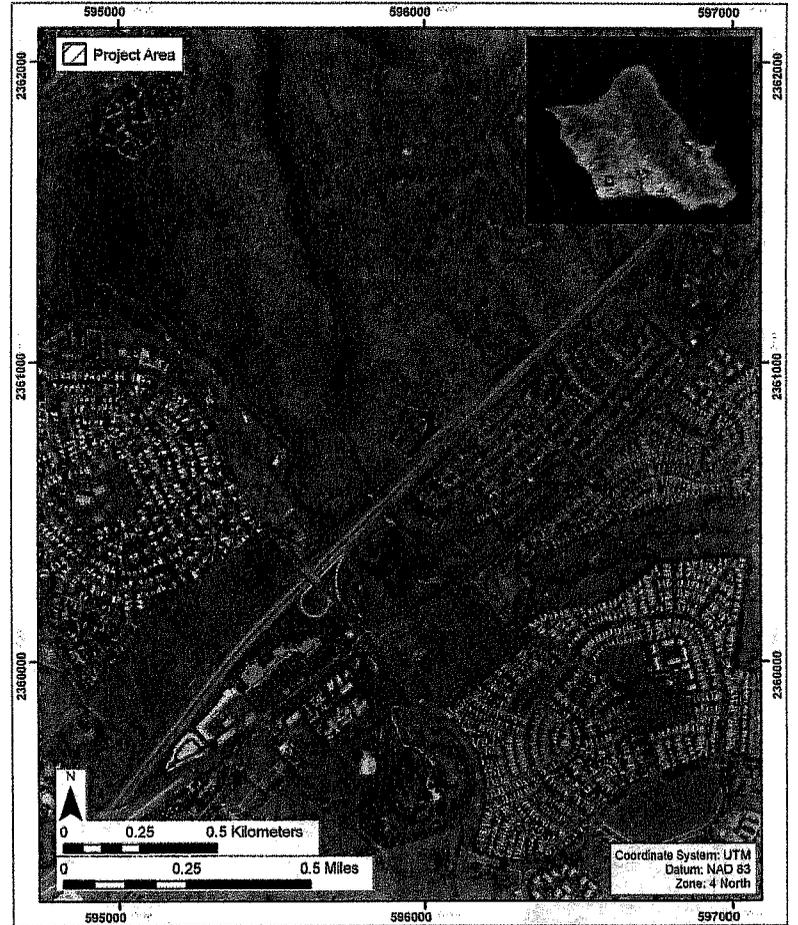


Figure 3. Aerial photograph showing the location of the project area (source: USGS Orthoimagery 2005)

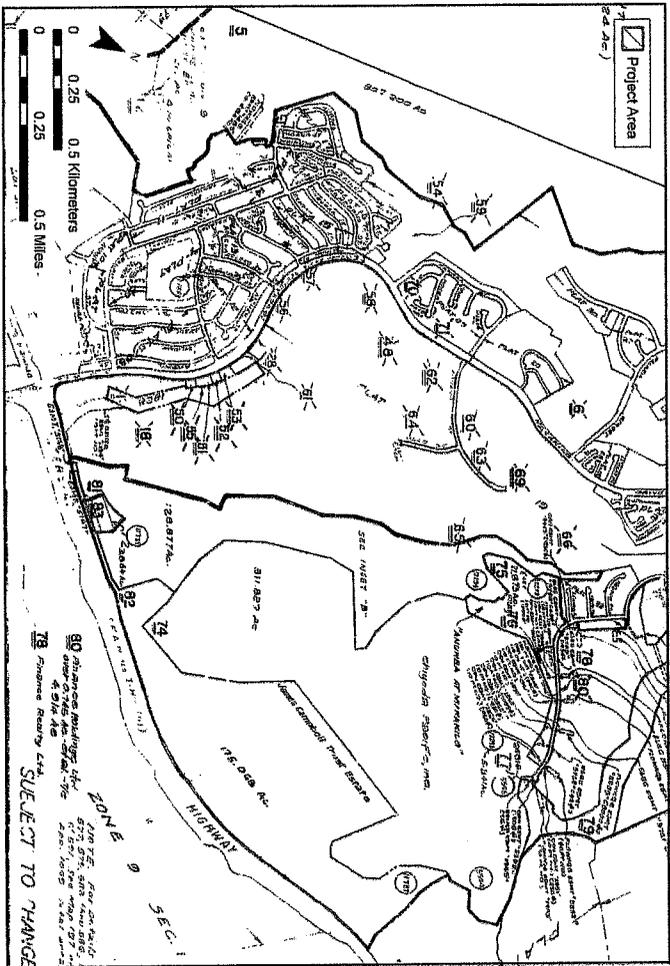


Figure 2. Portion of Tax Map Key 9-2-03, showing the location of the project area

4. Preparation of a report including the results of the historical research and the fieldwork with an assessment of archaeological potential based on that research, with recommendations for further archaeological work, if appropriate. Mitigation recommendations were also to be provided for any archaeologically sensitive areas that need to be taken into consideration.
5. The report also is to assess the likelihood that the proposed project will impact cultural practices. The assessment is based on the background research, the review of land use within the vicinity of the project area and the results of the limited consultation.

This scope of work also includes full coordination with the State Historic Preservation Division relating to archaeological matters. This coordination takes place after consent of the landowner or representatives. The archaeological field inspection and literature review investigation does not meet the requirements of an inventory-level survey per the rules and regulations of SHPD/DLNR (HAR Chapter 13-13-276). However, the level of work is sufficient to address potential site types, locations, and to formulate future work recommendations. The cultural impact evaluation does not meet the standards set up by the State of Hawai'i Office of Environmental Quality Control (OEQC) for cultural impact assessments, but the level of work is sufficient to address the potential of cultural practices specific to the project area. The scope of work for these studies was suggested as appropriate for a small project acreage in an area generally regarded as of lower cultural sensitivity that has been massively disturbed by prior land modification.

1.3 Environmental Setting

1.3.1 Natural Environment

The project area is located near the base of the foothills of the southern Wai'anae Mountain Range. Elevations within the project area range from approximately 180-245 ft. (55-75 m) a.m.s.l. Located in the dry, leeward area of O'ahu, the project area receives on average less than 28 in. (600 mm) of annual rainfall (Giambelluca et al. 1986).

Soils within the project area are listed as primarily Stony Steep Land (rSY), with portions of Manana Silty Clay Loam (McC2) and Molokai Silty Clay Loam (MuC) (Figure 5). Stony steep land is described as consisting of "a mass of boulders and stones deposited by water and gravity on side slopes of drainage-ways...stones and boulders cover 50 to 90 percent of the surface...rock outcrops occur in many places" (Foote et al. 1972). Soils of both the Manana Series and Molokai Series are described as consisting of "well-drained soils on uplands...developed in material weathered from basic igneous rock" (Foote et al. 1972). Vegetation within the project area consists primarily of exotic weeds and grasses, with scattered *kiawe* (*Prosopis pallida*) *koa haole* (*Leucaena leucocephala*), and the Hawaiian native plant, *'ilima* (*Sida fallax*).

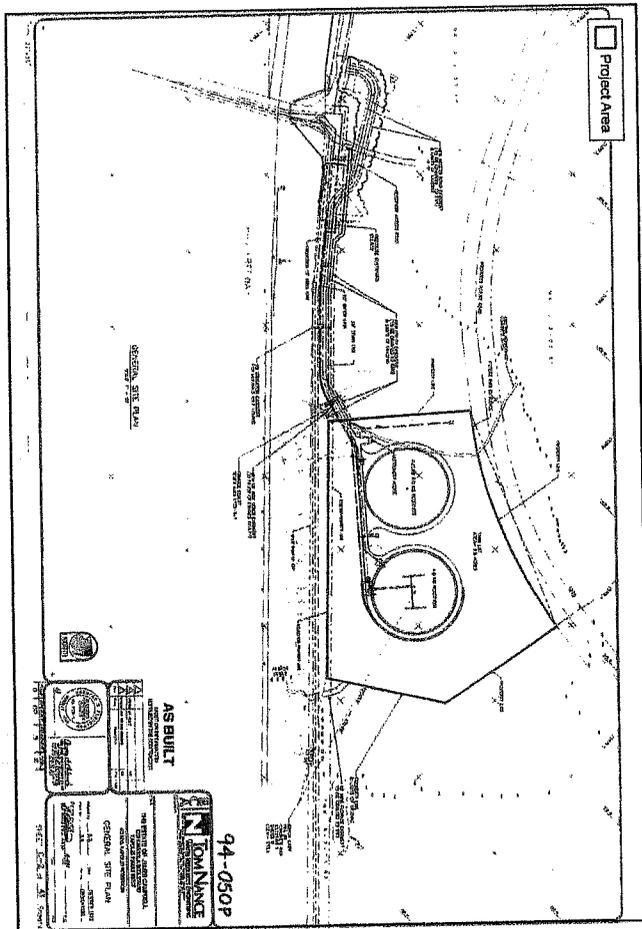


Figure 4. General Site Plan for the proposed Kapolei 215 Reservoir No. 2 project (existing reservoir at right, proposed reservoir adjacent to west)

1.3.2 Built Environment

The Kapolei 215 Reservoir Site contains the existing 4.0 million gallon Kapolei 215 Reservoir No.1, and associated infrastructure. Much of the approximately 3.9-acre property was heavily graded to level the sloping land prior to the construction of the existing reservoir.

According to supplied construction plans, the foundation area for the two reservoirs was graded down to an elevation of approximately 184 ft. (56 m), with the upslope portion of the property cut down a maximum of approximately 60 ft (18 m).

The area in the vicinity of the Kapolei 215 Reservoir Site, *mauka* of the H-1 Interstate Highway, is currently undeveloped. The Kapolei Knolls residential subdivision is located across the H-1 Freeway to the south (*makai*).

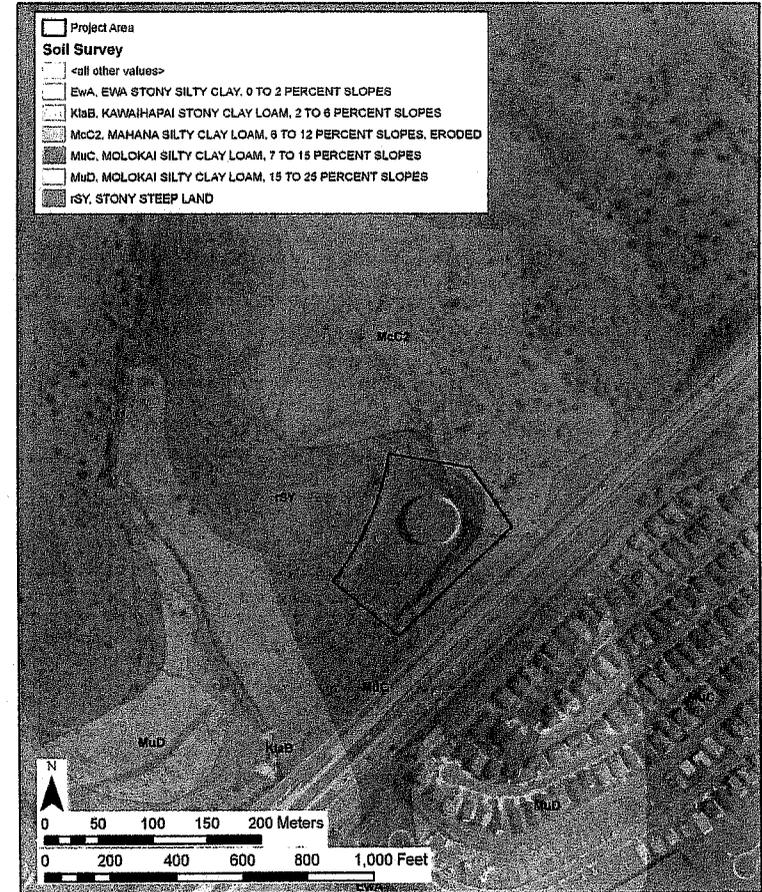


Figure 5. Overlay of Soil Survey of the State of Hawai'i (Foote et al. 1972), indicating soil types within the project area

Section 2 Methods

2.1 Field Methods

The field inspection of the project area was accomplished on October 2, 2006 by one Cultural Surveys Hawai'i archaeologist, Todd Tulchin, B.S., under the overall supervision of Hallett H. Hammatt, Ph.D. The fieldwork required one person-day to complete. The field inspection of the project area consisted of a complete pedestrian inspection of the Kapolei 215 Reservoir Site.

2.2 Document Review

Historic and archival research included information obtained from the UH Hamilton Library, the State Historic Preservation Division Library, the Hawai'i State Archives, the State Survey Office, and the Archives of the Bishop Museum. Previous archaeological reports for the area were reviewed, as were historic maps and primary and secondary historical sources. Information on Land Commission Awards was accessed through Waihona Aina Corporation's Māhele Data Base (<www.waihona.com>).

2.3 Consultation

Methods employed during the cultural impact evaluation component are described in Section 5.

Section 3 Background Research

3.1 Traditional and Historical Background

3.1.1 Historical Setting

Honouliuli Ahupua'a, as a traditional land unit, had tremendous and varied resources available for exploitation by early Hawaiians. The "karstic desert" and marginal characterization of the limestone plain, which is the most readily visible terrain, does not characterize the *ahupua'a* as a whole. The richness of this land unit is marked by the following available resources:

1. 12 miles of coastline with continuous shallow fringing reef, which offered rich marine resources.
2. Four miles of frontage on the waters of West Loch that offered extensive fisheries (mullet, *awa*, shellfish) as well as frontage suitable for development of fishponds (for example, Lailaunui).
3. The lower portion of Honouliuli Valley in the 'Ewa plain offered rich level alluvial soils with plentiful water for irrigation from the stream as well as abundant springs. This irrigable land would have stretched well up the valley.
4. A broad limestone plain which, because of innumerable limestone sinkholes, offered a nesting home for a large population of avifauna. This resource may have been one of the early attractions to human settlement.
5. An extensive upland forest zone extending as much as 12 miles inland from the edge of the coastal plain. As Handy and Handy (1972:469) have pointed out, the forest was much more distant from the lowlands here than on the windward coast, but it was much more extensive. Much of the upper reaches of the *ahupua'a* would have had species-diverse forest with *kukui*, *'ōhia*, *'iīahi* (sandalwood), *hau*, *ti*, banana, etc.

The political and cultural center of the *ahupua'a* is understood to have been the relatively dense settlement and rich lands for irrigated taro cultivation at the *'ili* of Honouliuli located where Honouliuli Stream empties into the north portion of West Loch (east of the present project area). The name of the *ahupua'a*, translated as "dark bay" (Pukui et al. 1974:51), may refer to the nature of the waters of West Loch at the mouth of Honouliuli Stream. Early accounts and maps indicate a large settlement at the *'ili* of Honouliuli and it may well be that the political power of this village was so great that it was able to extend its jurisdiction well to the northwest, into an area which would otherwise have fallen under the dominion of the Wai'anae ruling chiefs.

3.1.2 Mythological and Traditional Accounts

The traditions of Honouliuli Ahupua'a have been compiled and summarized numerous times, in studies by Sterling and Summers (1978), Hammatt and Folk (1981), Kelly (1991), Charvet-Pond and Davis (1992), Maly et al. (1993), and Tuggle and Tomonari-Tuggle (1997). Some of

the themes of these traditions include connections with Kahiki (the traditional homeland of Hawaiians, probably in reference to central Polynesia) and the special character and relationship of the places known as Pu'uokapolei and Kualaka'i.

Connections with Kahiki are found in numerous place names, traditional events, and with the beings associated with Honouliuli. There are several versions of Kaha'i leaving from Kalaeloa for a trip to Kahiki to bring breadfruit back to 'Ewa (e.g. Kamakau 1991:110). There are several stories that associate places in the region with Kamapua'a and the Hina family, as well as with Pele's sisters, all of whom have strong connections with Kahiki (cf. Kamakau 1961:111; Pukui et al. 1974:200).

Pu'uokapolei, located approximately 0.6 mi. (1 km) south of the current project area, was perhaps one of the most sacred places in Honouliuli (cf. Sterling and Summers 1978:33). In a July 25, 2004 editorial for the *Honolulu Star-Bulletin*, Shad Kane, president of the 'Ahahui Siwila Hawai'i O Kapolei, described the 2,000 year old cultural history of the area. He emphasized its importance from being the location of the most revered *heiau* in the Honouliuli *ahupua'a* to its role as a residence for Kamapua'a's grandmother, Kamaunuanoho, the Kahiki ancestor to the people of O'ahu (see Kane 2004; Fornander 1916-20, V:318; Kahiolo 1978:81, 107). By name, Kapolei is associated with the goddess Kapo, another connection with the Pele and Kamapua'a stories (Kamakau 1976:14).

McAllister (1933:108) records that a *heiau*, or temple, was located on Pu'uokapolei, but was destroyed before his survey of the early 1930s. The *heiau* may have been associated with the sun (Fornander 1916-20, III:292). The hill was used as a point of solar reference or as a place where such observations were made. Pu'uokapolei might have been understood as the gate of the setting sun. It is notable that the rising sun at the eastern gate of Kumukahi in Puna is associated with the Hawaiian goddess Kapo (Emerson 1915:41). As a "marker of seasons," the hill was also recognized as the "O'ahu Calendar" (see Kane 2004). There is little specific information for Pu'uokapolei, but the place name itself ("hill of beloved Kapo") is hard to ignore. It is mentioned in some cosmologies that Kū was the god of the rising sun, and Hina should be associated with the setting sun (Hina is the mother of Kamapua'a). Fornander (1916-20, III; 292) notes that Pu'uokapolei is linked to the setting sun and is believed to be a jumping off place connected with the dead who wandered about the adjacent Plain of Kaupe'a.

In a *kanikau* (lament) written in 1784 by Kekuapo'i to honor her husband Kahahana, Pu'uokapolei is documented as a "Leina Ka Uhane" or "conduit to the afterlife" (Kane 2004). O'ahu Island Burial Council member Kawika McKeague, who grew up in Honouliuli and who was interviewed as a community contact for this evaluation, describes the plain as an "*ao aiwana*," an area where the *kūpuna* (elders) who have passed on are not ready to cross over into the *ao 'aumakua*, so they dwell and reside in this middle state afterlife." McKeague states that "some sources have tried to ascribe to something along the means of purgatory but I feel that is just an attempt to Christianize our spiritual beliefs. Within this *ao 'aiwana*, they are wandering spirits. This understanding of the cultural landscape of this area along with some of the others...show...that this area of Honouliuli is a place that ties the transfiguration with physical and mental states of being."

Pu'uokapolei was also the primary landmark for travelers between Pearl Harbor and the west O'ahu coast, with a main trail running just inland of it ('I'i 1959:27, 29; Figure 6). The trail is thought to generally follow the alignment of the present Farrington Highway. Pu'uokapolei was probably the most common name used as a reference for the area of the 'Ewa Plain in traditional Hawai'i (cf. Nakuina 1992:54; Fornander 1916-20, II: 318; E.M. Nakuina 1904, in Sterling and Summers 1978:34).

3.1.3 Pre-Contact and Early Historic Period

A reconstruction of Hawaiian political history (Cordy 2002) indicates that in the early 1300s, 'Ewa was a dominant political entity that was joined with Wai'anae and Waialua under a king named Keaunui, son of Māweke and part of the Māweke-Kumuhonua line. O'ahu unification is understood as having occurred by A.D. 1400 under the King La'akona, also identified with 'Ewa (Cordy 2002). Cordy suggests that at least one royal center for 'Ewa was at Lihu'e in upland Honouliuli, but this is not well-documented. There were several shifts of power from the 1500s until the early 1700s when Kūali'i achieved control of all of O'ahu, a process, which included defeating 'Ewa chiefs in at least two battles. Peleihōlani, a son of Kūali'i, took control

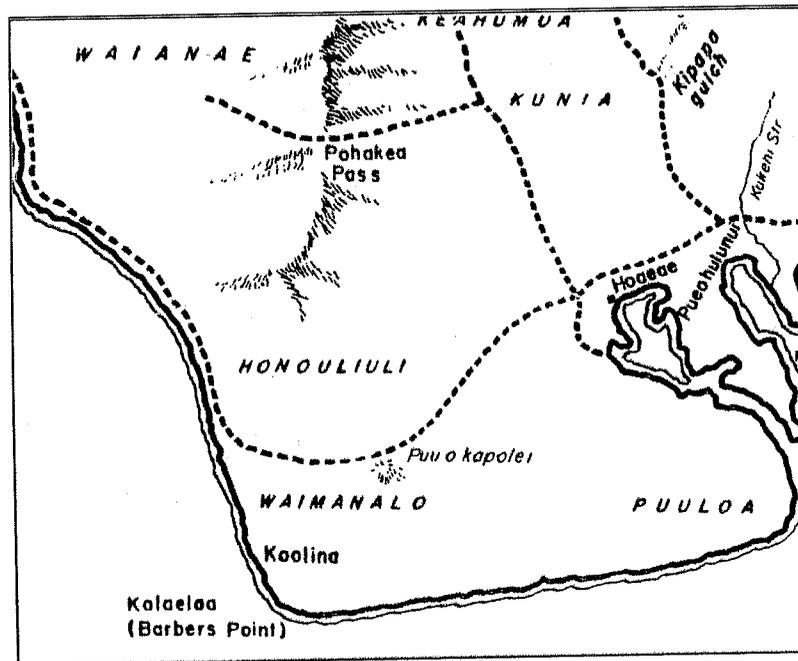


Figure 6. Trails of Leeward O'ahu as Described by John Papa 'Ī'ī; Map by Paul Rockwood ('Ī'ī 1983:96)

of O'ahu as regent circa 1740, and remained ruler of O'ahu until after 1778 when Kahahana (from the 'Ewa line of chiefs but raised in Kahekili's Maui court) took control of O'ahu.

After Kamehameha's O'ahu victory, he gave the *ahupua'a* of Honouliuli to Kalanimōkū as part of *panalā'au*, or conquered lands, with the right to pass the land on to his heirs rather than having it revert to Kamehameha (Kame'elehiwa 1992:58, 112). Kalanimōkū subsequently gave the *ahupua'a* to his sister, Wahinepi'o.

Various Hawaiian legends and early historical accounts indicate that the *ahupua'a* of Honouliuli was once widely inhabited by pre-contact Hawaiian populations, including the Hawaiian *ali'i*. This substantial population is attributable for the most part to the plentiful marine and estuarine resources available at the coast, along which several sites interpreted as permanent habitations were located. Other attractive subsistence-related features of the *ahupua'a* included irrigated lowlands suitable for wet land taro cultivation, as well as the lower forest area of the mountain slopes for the procurement of forest goods.

Exploitation of the forest resources along the slopes of the Wai'anae Range - as suggested by E. S. and E.G. Handy - probably acted as a viable subsistence alternative during times of famine:

...The length or depth of the valleys and the gradual slope of the ridges made the inhabited lowlands much more distant from the 'wao, or upland jungle, than was the case on the windward coast. Yet the 'wao here was more extensive, giving greater opportunity to forage for wild foods during famine time. (Handy and Handy 1972:469-470)

These upper valley slopes may have also been a significant resource for opportunistic quarrying of basalt for the manufacturing of stone tools. This is evidenced in part by the existence of a probable quarrying site (50-80-12-4322) in Makaiwa Gulch at 152 m. (500 ft.) A.M.S.L., west of the current project area (Hammatt et al. 1991).

The Hawaiian *ali'i* were also attracted to the region. One historical account of particular interest refers to an *ali'i* residing in Ko Olina, southwest of the current project area:

Ko Olina is in Waimānalo near the boundary of 'Ewa and Wai'anae. This was a vacationing place for chief Kākuhihewa and the priest Napuaikamao was the caretaker of the place. Remember reader, this Ko Olina is not situated in the Waimānalo on the Ko'olau side of the island but the Waimānalo in 'Ewa. It is a lovely and delightful place and the chief, Kākuhihewa loved this home of his. (Sterling and Summers 1978:41)

John Papa 'Ī'ī describes a network of Leeward O'ahu trails (see Figure 6) which in later historic times encircled and crossed the Wai'anae Range, allowing passage from West Loch to the Honouliuli lowlands, past Pu'u Kapolei and Waimānalo Gulch to the Wai'anae coast and onward circumscribing the shoreline of O'ahu ('Ī'ī 1959:96-98).

Other early historical accounts of the general region typically refer to the more populated areas of the 'Ewa district, where missions and schools were established and subsistence resources were perceived to be greater. However, the presence of archaeological sites along the

coral plains and coast of southwest Honouliuli Ahupua'a, indicate that prehistoric and early historic populations also adapted to less inviting areas, despite the environmental hardships.

Subsequent to western contact in the area, the landscape of the 'Ewa plains and Wai'anae slopes was adversely affected by the removal of the sandalwood forest, and the introduction of domesticated animals and new vegetation species. Domesticated animals including goats, sheep and cattle were brought to the Hawaiian Islands by Vancouver in the early 1790s, and allowed to graze freely about the land for some time after. L.A. Henke reports the existence of a longhorn cattle ranch in Wai'anae by at least 1840 (in Frierson 1972:10). During this same time, perhaps as early as 1790, exotic vegetation species were introduced to the area. These typically included vegetation best suited to a terrain disturbed by the logging of sandalwood forest and eroded by animal grazing. The following dates of specific vegetation introduced to Hawai'i are given by R. Smith and outlined by Frierson (1972:10-11):

1. "early," c. 1790:
Prickly pear cactus, *Opuntia tuna*
Haole koa, *Leucaena leucocephala*
Guava, *Psidium guajava*
2. 1835-1840:
Burmuda [sic] grass, *Cynodon dactylon*
Wire grass, *Eleusine indica*
3. 1858:
Lantana, *Lantana camara*

The *kiawe* tree (*Prosopis pallida*) was also introduced during this period, either in 1828 or 1837 (Frierson 1972:11).

3.1.4 Mid- to late-1800s

At contact, the most populous *ahupua'a* on the island of O'ahu was Honouliuli, with the majority of the population centered near Pearl Harbor. In 1832, a missionary census of Honouliuli recorded the population as 1,026. Within four years the population was down to 870 (Schmitt 1973:19, 22). In 1835, there were eight to ten deaths for every birth (Kelly 1991: 157-158). Between 1848 and 1853, there was a series of epidemics of measles, influenza, and whooping cough that often wiped out whole villages. In 1853, the population of 'Ewa and Wai'anae combined was 2,451 people. In 1872, it was 1,671 (Schmitt 1968:71). The inland area of 'Ewa was probably abandoned by the mid-nineteenth century due to population decline and consolidation of the remaining people in town. A detailed discussion of the historic population counts in the 'Ewa District has been presented by Charvet-Pond and Davis (1992).

During the Māhele of 1848, 99 individual land claims in the *ahupua'a* of Honouliuli were registered and awarded by King Kamehameha III. No claims were made for land within the current project area or vicinity. The vast majority of the Land Commission Awards (LCA) were located near the Pu'uloa Salt Works and the taro lands of the *'ili* of Honouliuli. The largest award (Royal Patent 6071, LCA 11216, 'Apana 8) granted in Honouliuli Ahupua'a was to

Miriam Ke'ahi-Kuni Kekau'onohi on January 1848 (Native Register). Kekau'onohi acquired a deed to all unclaimed land within the *ahupua'a*, a total of 43,250 acres.

Samuel Kamakau relates the following about Kekau'onohi as a child:

Kamehameha's granddaughter, Ke-ahi-Kuni Kekau'onohi...was also a tabu chiefess in whose presence the other chiefesses had to prostrate and uncover themselves, and Kamehameha would lie face upward while she sat on his chest. (Kamakau 1961:208-209).

Kekau'onohi was one of Liholiho's (Kamehameha II's) wives, and after his death she lived with her half-brother, Luanu'u Kahala'i'a, who was governor of Kaua'i (Kamakau 1961:20). Subsequently, Kekau'onohi ran away with Queen Ka'ahumanu's stepson, Keli'i-ahonui, and then became the wife of Chief Levi Ha'alelea. Upon her death on June 2, 1851, all her property was passed on to her husband and his heirs. In 1863, the owners of the *kuleana* lands deeded their lands back to Ha'alelea to pay off debts owed to him (Frierson 1972:12). In 1864, Ha'alelea died, and his second wife, Anadelia Amoe, transferred ownership of the land to her sister's husband John Coney (Yoklavich et al 1995:16). Coney subsequently leased the land to James Dowsett and John Meek in 1871 for stock running and grazing.

In 1877, James Campbell purchased most of Honouliuli Ahupua'a for a total of \$95,000. He then drove off 32,347 head of cattle belonging to Dowsett, Meek, and James Robinson, and constructed a fence around the outer boundary of his property (Bordner and Silva 1983:C-12). He let the land rest for one year and then began to restock the ranch, so that he had 5,500 head of cattle after a few years (Dillingham 1885, cited in Frierson 1972:14). Campbell set up several other enterprises in the *ahupua'a*, including a rice farm, a lime quarry, and commercial *kiawe* cutting. Some sugar cane was grown in the area above the main pasturelands.

Most of Campbell's lands in Honouliuli were used exclusively for cattle ranching. At that time, one planter remarked "the country was so dry and full of bottomless cracks and fissures that water would all be lost and irrigation impracticable" (Ewa Plantation Co. 1923:6-7). In 1879, Campbell brought in a well-driller from California to search the 'Ewa plains for water, and a "vast pure water reserve" was discovered (Armstrong 1983). Following this discovery, plantation developers and ranchers drilled numerous wells in search of the valuable resource. By 1881, the Campbell property of Honouliuli prospered as a cattle ranch with "abundant pasturage of various kinds" (Briggs in Haun and Kelly 1984:45). Within 10 years of the first drilled well in 'Ewa, the addition of a series of artesian wells throughout the island was supplying most of Honolulu's water needs (Armstrong 1983).

In 1886, Campbell and B.F. Dillingham put together the "Great Land Colonization Scheme," which was an attempt to sell Honouliuli land to homesteaders (Thrum 1886:74). This homestead idea failed, but with the water problem solved by the drilling of artesian wells, Dillingham decided that the area could be used instead for large-scale cultivation (Pagliaro 1987:4).

In 1889, Campbell leased his property to Benjamin Dillingham, who subsequently formed the O'ahu Railway & Land Co. (O.R. & L) in 1890. The railroad would reach from Honolulu to Pearl City in 1890, to Wai'anae in 1895, to Waialua Plantation in 1898, and to Kahuku in 1899 (Kuykendall 1967:100). To attract business to his new railroad system, Dillingham subleased all land below 200 feet elevation to William Castle who in turn sublet the area to the Ewa Plantation

Company for sugar cane cultivation (Frierson 1972:15). Dillingham's Honouliuli lands above 200 feet elevation that were suitable for sugar cane cultivation were sublet to the Oahu Sugar Co.

Ewa Plantation Co. was incorporated in 1890 and continued in full operation up into modern times. The plantation grew quickly with the abundant artesian water. As a means to generate soil deposition on the coral plain and increase arable land in the lowlands, the Ewa Plantation Co. installed ditches running from the lower slopes of the mountain range to the lowlands, and then plowed the slopes vertically just before the rainy season to induce erosion (Frierson 1972:17). A plantation map showing the extent of the Ewa Plantation field system (Figure 7) indicates the current project area is located near the *mauka* (northern) extent of the cultivated lands. The project area is not indicated to have been cultivated in cane, though an associated irrigation ditch is indicated within the southwestern portion of the project area.

The Oahu Sugar Co. was incorporated in 1897, and included lands in the foothills above the 'Ewa Plain and Pearl Harbor. Prior to commercial sugar cultivation, the lands occupied by the Oahu Sugar Co. were described as being "of near desert proportion until water was supplied from drilled artesian wells and the Waiahole Water project" (Conde and Best 1973:313). The Oahu Sugar Co. took control over the Ewa Plantation lands in 1970 and continued operations into the 1990s.

Dillingham's *mauka* lands in western Honouliuli unsuitable for commercial sugar production remained pasture for grazing livestock. From 1890 to 1892 the Ranch Department of the O.R. & L. Co. desperately sought water for their herds of cattle by tapping plantation flumes and searching for alternative sources of water. Ida von Holt leaves this account of her husband Harry's (Superintendent of the O.R. & L Ranch Dept.) search for water in the foothills of the Wai'anae Range:

...much was done in the way of new troughs, getting water from the plantation flumes, and digging out wet places that showed any prospects of water. One of those places is on the old trail to Palehua, and had evidently been a place of which the Hawaiians had known, for its name is Kaloi (the taro patch), and even in dry weather water would be standing in the holes made by the cattle, as they tried to get a drop or two. (Von Holt 1985:136)

3.1.5 1900s to Present

By 1920, the lands of Honouliuli were used primarily for sugar cane cultivation and ranching (Frierson 1972:18). Much of the *mauka* lands in western Honouliuli were unsuitable for commercial sugar cultivation and remained pasture land for grazing livestock. Historic maps of the Makakilo/Kapolei area indicate a lack of any significant development in the area into the 1940s (Figures 8-10). The 1913 Fire Control Map (Figure 8) indicates a fence line running near the *makai* (south and west) edges of the current project area. This fence line delineates the boundary between the *mauka* (upland) ranch lands and the *makai* (lowland) plantation fields.

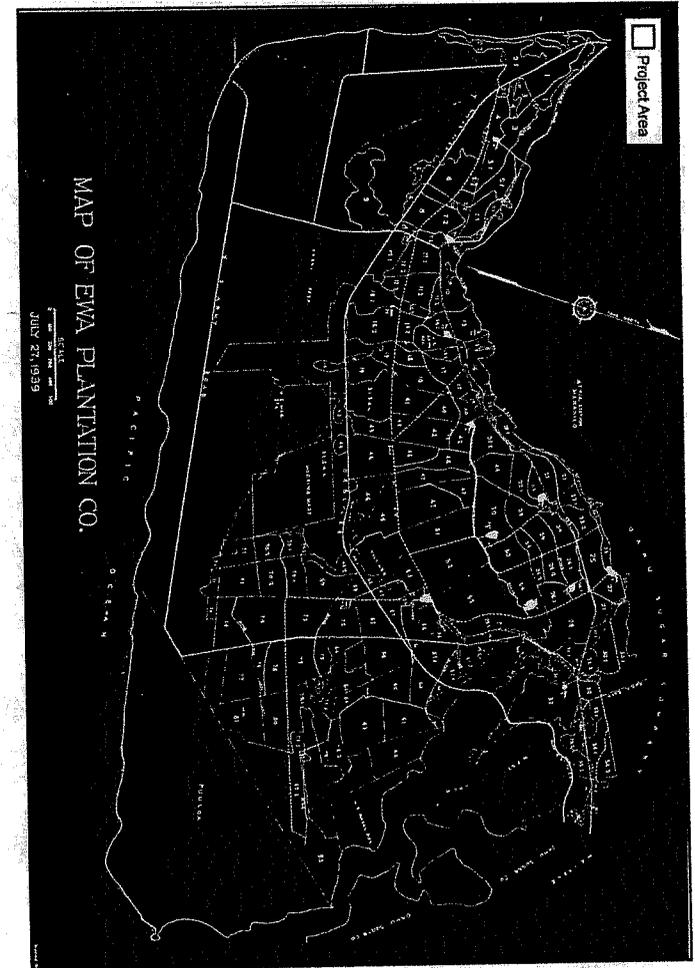


Figure 7. Map Showing the Extent of the Ewa Plantation Co. Field System (Conde and Best 1973:285)

Field Inspection, Literature Review, and Cultural Impact Evaluation, Kapolei 215 Reservoir No. 2

TMK: [1] 9-2-003: 83



Figure 8. Portions of 1913 Fire Control Maps, 'Ewa and Barbers Point Quads., showing the location of the project area

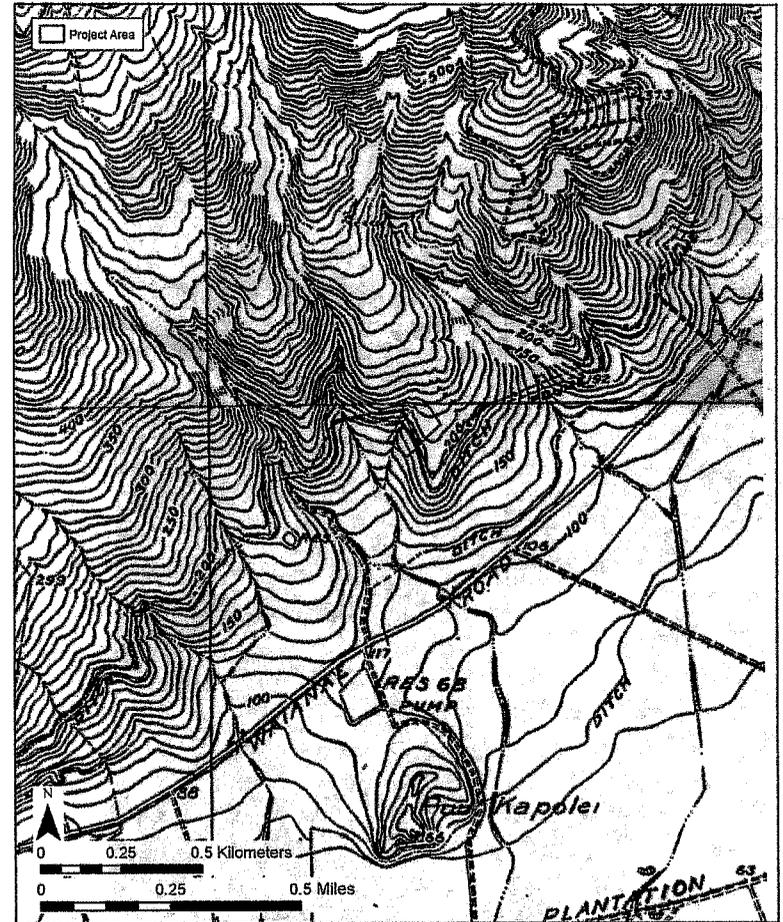


Figure 9. Portions of 1929 U.S.G.S. Topographic Maps, Barbers Point and Wai'anae Quads., showing the location of the project area

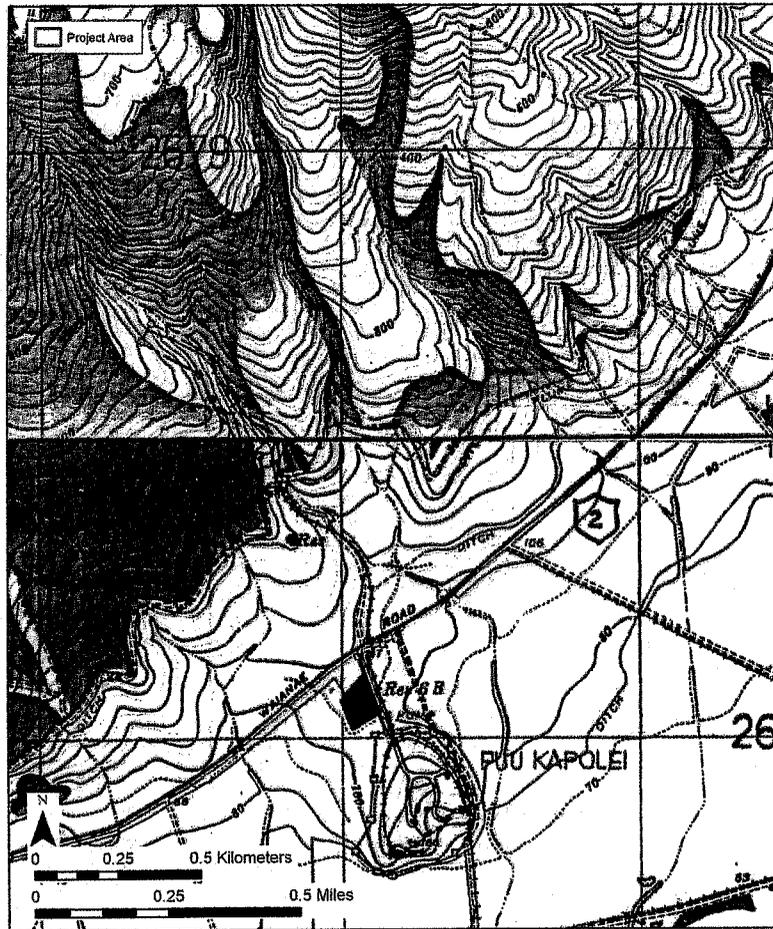


Figure 10. Portions of 1943 War Department Maps, Barbers Point and Waipahu Quads., showing the location of the project area

Subsequent 1929 U.S.G.S. (see Figure 9) and 1943 War Department (see Figure 10) maps indicate a plantation irrigation ditch constructed along the approximately 200 ft. elevation contour, which passes through the southwestern portion of the project area.

In the late 1920s, the main residential communities were at the northeast edge of the 'Ewa Plain. The largest community was still at Honouliuli village, where Honouliuli Stream reaches the west loch of Pearl Harbor. 'Ewa was primarily a plantation town, focused around the sugar mill, with a public school as well as a Japanese School. Additional settlement was in Waipahu, centered around the Waipahu sugar mill, operated by the Oahu Sugar Company.

Major land use changes came to western Honouliuli when the U.S. military began development in the area. Military installations were constructed both near the coast, as well as in the foothills and upland areas. Barbers Point Military Reservation (a.k.a. Battery Barbers Point from 1937-1944), located at Barbers Point Beach, was used beginning in 1921 as a training area for firing 155 mm guns (Payette 2003). Also in the vicinity were Camp Malakole Military Reservation (a.k.a. Honouliuli Military Reservation), used from 1939, and Gilbert Military Reservation, used from 1922-1944. Barbers Point NAS, in operation from 1942 into the 1990s, was the largest and most significant base built in the area. It housed numerous naval and defense organizations, including maritime surveillance and anti-submarine warfare aircraft squadrons, a U.S. Coast Guard Air Station, and components of the U.S. Pacific Fleet.

Fort Barrette (a.k.a. Kapolei Military Reservation and Battery Hatch), located atop Pu'u Kapolei, was in use from 1931 to 1948 for housing four 3-inch anti-aircraft batteries (Payette 2003). In the 1950s, the site was used as a NIKÉ missile base. Palailai Military Reservation, located atop Pu'u Palailai in Makakilo, was in service from 1921, housing Battery Palailai and Fire Control Station B (Payette 2003). Fire Control Station A, was located atop Pu'u Makakilo. From 1942 to 1945 the Pu'u Makakilo Training Area, including lands in and around Pu'u Makakilo, was used for military training during WWII (Anon. 1992).

During World War II, the Honouliuli Gulch served as the largest of five internment camps in the state of Hawai'i. The 160-acre camp was located by Oahu Sugar Co. fields in an area that is now west of Kunia Road and *mauka* of H-1 freeway (Whitney 2005). Complete with barbed wires and armed guards, the Honouliuli internment camp housed Japanese nationals, Japanese Americans and Italian as well as German POWs. An estimated 1,440 people were detained in Hawai'i's internment camps by the war's conclusion in 1945 (Gordon 2005).

Dr. Ishmael Stagner, a noted hula expert, genealogist and Hawaiian historian who was interviewed as one of the community contacts for this project, grew up fully aware of the existence of the Honouliuli internment camp, thanks to his father who was the area mail superintendent and eventual assistant postmaster for the entire island of O'ahu. Dr. Stagner remembers riding the Oahu Railway and Land Company, or OR&L trains which stopped at Honolulu and passed by Honouliuli, among other places. The OR & L trains would serve an essential task during World War II, carrying freight and passengers as well as military-related traffic. "After Pearl Harbor was attacked, Honouliuli became a relocation camp. Honouliuli was supposed to be secret, along with Fort Barrette and Fort Weaver. It was part of the secrecy of that area...only people with the highest security clearance could come in," said Dr. Stagner. Although Sand Island was bigger than the Honouliuli camp, the Honouliuli camp was more

difficult to find in part because of its location between Fort Barrette and Fort Weaver on the approach to Barber's Point.

Dr. Stagner confirmed that the Honouliuli internment camp originally housed local residents of Japanese American descent before POWs arrived. "First, they put in locals. They eventually had to release them because they had no people to do the civilian tasks. Other local people were sent to the mainland to camps like Manzanar...Eventually, Italians and German POWs were put in the Honouliuli camp. The Italians were very artistic. Some made pottery and other art forms, and even sold them while in camp. Some decided to stay in Hawai'i rather than go back."

By 1943, a number of local residents were able to leave the camp, with a few being released a year earlier, said Dr. Stagner. However, many were sent to the mainland to camps like Manzanar. In 2006, Congress voted to preserve the Honouliuli camp and nine other War Relocation camps, with \$38 million set aside to restore the camps (Anon. 2006).

The 1953 U.S.G.S. map (Figure 11) indicates the extent of military development in the vicinity of the current project area. Military reservations are located in the lower Makakilo and Pu'u Kapolei areas, with a landing field located approximately 100 m north of the current project area. Unpaved roads are also indicated running across the northeast and southwest portions of the project area.

In response to increased demand for housing, spurred by the increased development at Barbers Point NAS, the Estate of James Campbell set aside land in the foothills of the southern Wai'anae Range in 1960 for the development of the residential community of Makakilo. Development began in the lower foothills and continued *mauka*, with ranch lands being incrementally replaced by subdivision construction. The 1962 U.S.G.S. map (Figure 12) shows the initial roads of the subdivision. By 1968, the H-1 Interstate Highway was completed through the area, along the southeastern boundary of the current project area, and the Makakilo subdivision had expanded considerably (Figure 13).

Along with the military installations, the *ahupua'a* of Honouliuli is home to a nature preserve. In 1990, the Nature Conservancy signed a 50-year conservation lease agreement with the James Campbell Estate. This created a 3,582 acre preserve across the southern slopes of the Wai'anae range. According to Lynette Williams, program coordinator for the Oahu program of the Nature Conservancy, the preserve's boundaries start at the summit of Mauna Kapu and stretches to Pu'u hapapa, with one side extending to the central plains just above the pineapple fields. There are trails and guided hikes available within the preserve, which includes at least "six native natural communities" (Morse 2000). Over 90 rare and endangered plants and animals are protected, including the O'ahu tree snail or Hawaiian *Pupu kani oe* (*Achatinella apexfulva*) and the Happy Faced Spider, or the *Nananana makaki'i* (*Theridion grillator*). Easily recognized for its vivid patterns of yellow, red and black forming a happy face on the back of its abdomen, the spider is well-known throughout the world. But it is perhaps the '*elepaio* (*Chasiempis spp.*), not the Happy Faced spider, that is more prominent in Hawaiian folklore. In ancient lore, the '*elepaio* is the guardian spirit of canoe makers. Hawaiian canoe makers carefully watched the bird's actions to see if it pecked on certain koa trees. Since the '*elepaio* eats insects, whatever tree the bird chooses to peck at would likely be perforated with numerous insects, making it unsuitable to use as a canoe (<http://www.state.hi.us/dlnr/consrvhi/forestbirds/elepaio.html>). As further evidence of the '*elepaio*'s important role in Hawaiian culture, there exists a Hawaiian

proverb, "*Uā 'elepaio 'ia ka wa'a*" ("The canoe is marked out by the '*elepaio*") (Pukui and Elbert 1986).

An aerial photograph of the vicinity of the project area shows the extent of residential development in the *mauka* lands and commercial sugar cane cultivation in the lowlands *circa* early 1980s (Figure 14). The southwest portion of the present study area (proposed for further development) appears to be in sugar cane cultivation. *Circa* the late 1980s to early 1990s, with the demise of the sugar industry in Hawai'i, the development of the planned "Second City" of Kapolei commenced. Former plantation fields *makai* (downslope) of the H-1 Interstate Highway began to be replaced with commercial, government, and residential developments. The current potable water reservoir project will serve the continually developing City of Kapolei.

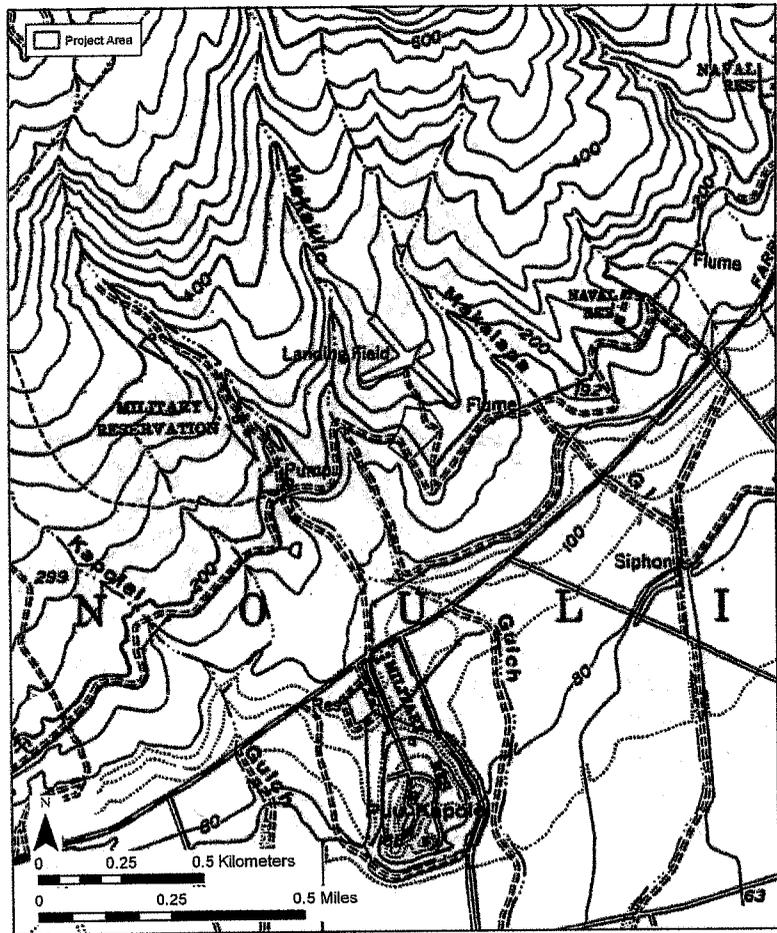


Figure 11. Portion of 1953 U.S.G.S. Topographic Map, 'Ewa Quad., showing the location of the project area

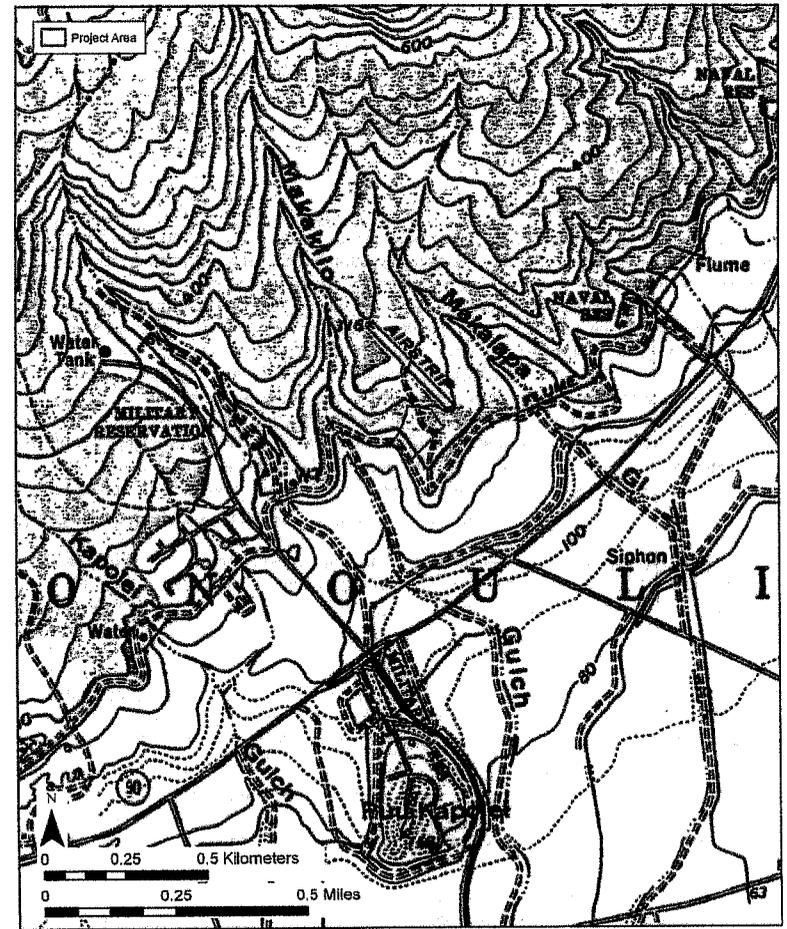


Figure 12. Portion of 1962 U.S.G.S. Topographic Map, 'Ewa Quad., showing the location of the project area

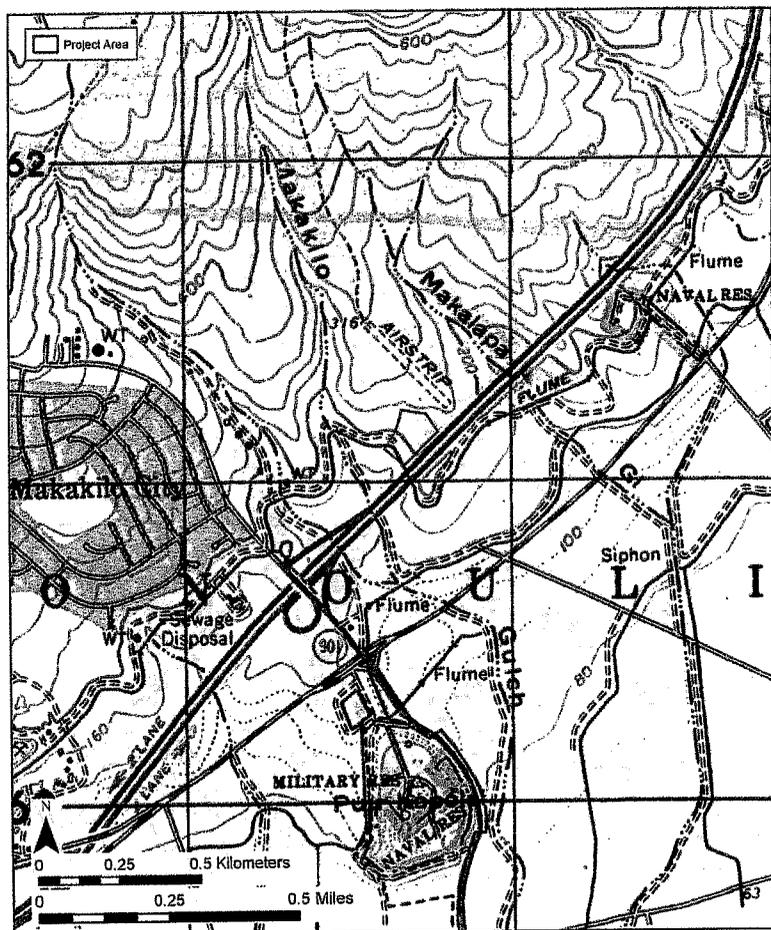


Figure 13. Portion of 1968 U.S.G.S. Topographic Map, 'Ewa Quad., showing the location of the project area

3.2 Previous Archaeological Research

The coral plains of 'Ewa have been the focus of more than 50 archaeological studies over the last two decades, largely as the result of required compliance with county, state, and federal legislation. The Kalaeloa (Barber's Point) area is one of the most studied places in Polynesia. However, relatively little research has been conducted along the southern slopes of the Wai'ananae Range.

The earliest attempt to record archaeological remains in Honouliuli Ahupua'a was made by Thrum (1906). He reports the existence of a *heiau* located on Pu'u Kapolei, approximately 0.6 miles (1 km) south of the current project area. Pu'u Kapolei Heiau is described as "Ewa-size and class unknown. Its walls thrown down for fencing" (Thrum 1906:46).

In his surface survey of 1930, archaeologist J. Gilbert McAllister recorded the specific locations of important sites, and the general locations of less important sites (at least at Honouliuli). In the vicinity of the current project area, McAllister documents Pu'u Kapolei Heiau as Site 138 and notes:

The stones from the heiau supplied the rock crusher which was located on the side of this elevation, which is about 100 feet away on the sea side. There was formerly a large rock shelter on the sea side where Kamapua'a (the pig-god) is said to have lived with his grandmother (Kamaunuaniho). (McAllister 1933:108)

3.2.1 Previous Research in the Vicinity of the Project Area

An archaeological reconnaissance survey was conducted for the 'Ewa (Kapolei) Town Center/Secondary Urban Center (Haun 1986). The study covered a petition area of approximately 1,400 acres in the Makakilo/Kapolei area, including a small portion of the current project area (Figure 15). Haun noted the extensive modification for sugarcane cultivation and noted that only two sites had been previously reported in the vicinity: the O.R. & L. railroad alignment (SIHP # 50-80-12-9714) and the *heiau* and large rock shelter recorded by McAllister (1933) on Pu'u Kapolei (Site 138). Two new sites were identified by the study, including an plantation-era irrigation ditch *mauka* (upslope) of the H-1 Interstate Highway and a WWII military structure on Pu'u Pālailai. The irrigation ditch was described as being primarily constructed of stone and concrete, with elevated flume sections constructed of timbers and galvanized steel spanning gulch areas. The ditch was located along the approximately 200 ft. contour and was indicated to pass through the southwestern portion of the current project area, as depicted on historic maps (see Section 3.1 Traditional and Historical Background).

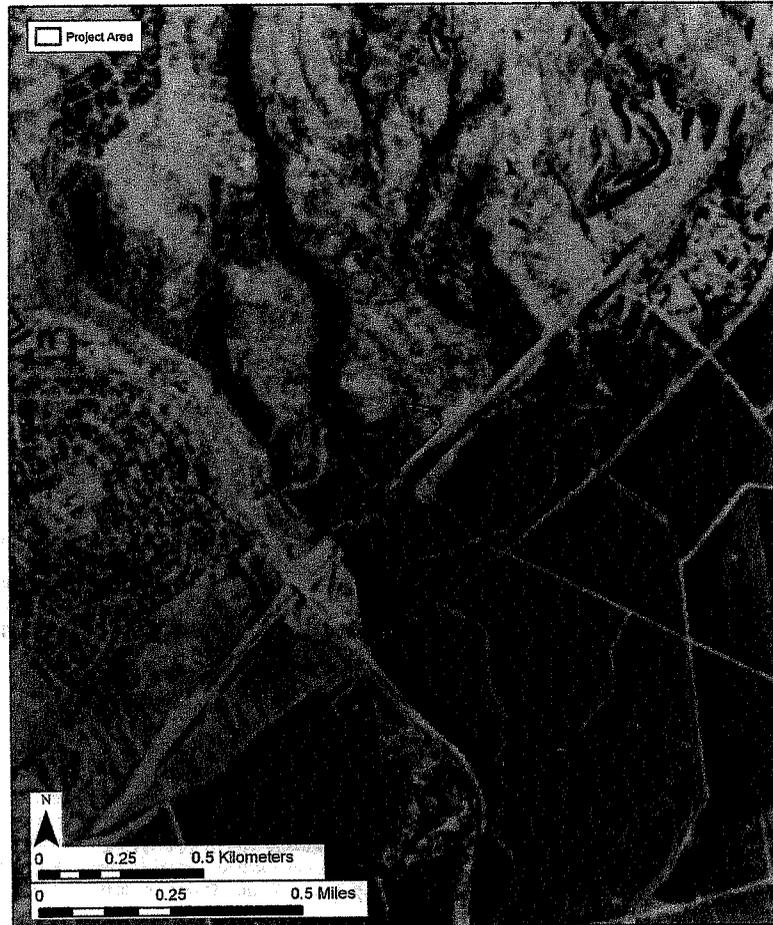


Figure 14. Aerial Photograph, circa early 1980s, showing the extent of agricultural and residential development in the vicinity of the project area

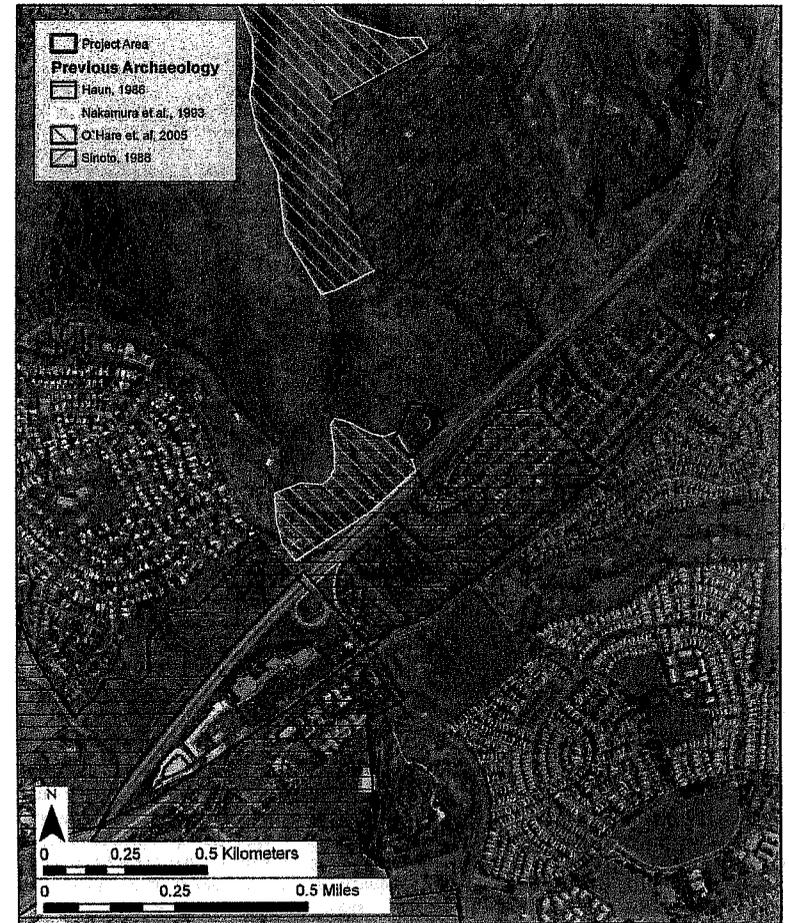


Figure 15. Aerial photograph showing the locations of previous archaeological studies in the vicinity of the project area (source: USGS Orthoimagery 2005)

Archaeological reconnaissance of the proposed Makakilo Golf Course property included lands along the southern and eastern slopes of Pu'u Makakilo (Sinoto 1988) (Figure 15). Severe erosion was noted throughout the property. A single archaeological feature, a low stacked basalt boulder wall (SIHP # 50-80-12-1975), was identified within the Pu'u Makakilo crater area. The wall was oriented cross-slope and was posited to function as an historic erosion control feature.

Archaeological inventory survey of the Makakilo D and D-1 development parcels included two discreet parcels on the southern and western slopes of Pu'u Makakilo (Nakamura et al. 1993) (Figure 15). The Makakilo D development parcel consisted of a 72-acre parcel, adjacent to the proposed Makakilo Golf Course property. No sites were identified in the Makakilo D development parcel. The Makakilo D-1 development parcel consisted of a 15-acre parcel located immediately *mauka* (upslope) of the H-1 Interstate Highway, which was previously covered by the Haun (1986) study. The irrigation ditch previously identified by Haun was relocated and designated SIHP # 50-80-12-4664. Dates of 1941 and 1963 were observed inscribed in the ditch wall and an elevated flume section respectively.

A literature review and field inspection was conducted for an approximately 25-acre parcel located between the H-1 Interstate Highway and Farrington Highway, immediately east of Makakilo Drive (O'Hare et al. 2005) (Figure 15). A total of four historic properties were located within the project area, including two plantation-era irrigation ditches, an irrigation pipe, and an improved drainage channel. Each of the historic properties was determined to be plantation infrastructure features, most associated with sugar cane irrigation. The features were therefore included with similar plantation infrastructure that were previously recorded in a parcel (TMK [1] 9-1-015:004) (O'Hare et al. 2004) to the west of the study area, and designated as features of the previously identified SIHP # 50-80-12-6678 plantation infrastructure.

Section 4 Results of Field Inspection

The field inspection of the project area consisted of a complete pedestrian inspection of the Kapolei 215 Reservoir Site. Much of the land within the subject parcel was observed to have been graded, associated with the prior construction of the existing Kapolei 215 Reservoir No. 1 (Figure 16). The *mauka* (upslope, northeast) portion of the parcel was the most substantially graded, with the slope cut a maximum of approximately 60 ft. (18 m) below the natural land surface (Figure 17). The exposed profile of the cut-slope was observed to have a relatively thin soil layer overlying basalt bedrock. The *makai* (downslope, southwest) portion of the parcel including the proposed Reservoir No. 2 location, was less substantially graded, with the southwestern edge of the parcel nearly level with the natural land surface. The proposed Reservoir No. 2 location was level and filled with a layer of construction-grade basalt gravel.

Due to the heavily graded nature of the project area, the pedestrian inspection focused on the non-graded perimeter of the parcel (Figure 18). The perimeter area appeared to have been grubbed, based on the smoothness of the terrain and general lack of surface stones. Background research, including historic maps and previous archaeological research indicated a plantation irrigation ditch once crossed through the southwestern portion of the project area. This area was thoroughly inspected, and no evidence of the irrigation ditch was observed. The portion of the ditch within the project area was apparently destroyed during the grubbing and grading of the parcel. No historic properties were observed within the project area.

In addition to the complete pedestrian inspection of the Kapolei 215 Reservoir Site, a brief inspection of the exterior perimeter of the parcel was completed. No historic properties were observed in the immediate vicinity of the Kapolei 215 Reservoir Site.

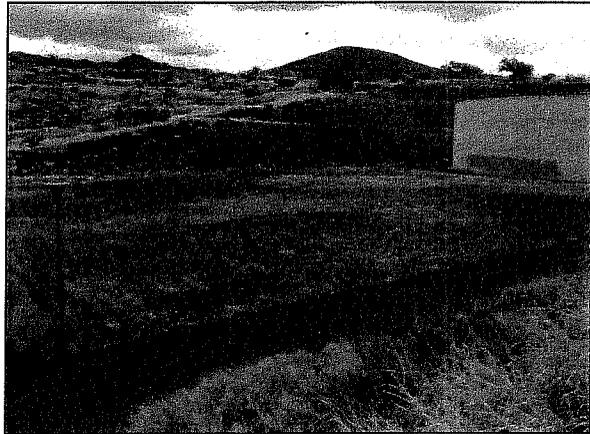


Figure 16. Photograph of the proposed location of the Kapolei 215 Reservoir No. 2, view to north. Note the existing Reservoir No. 1 and the substantial grading within the parcel

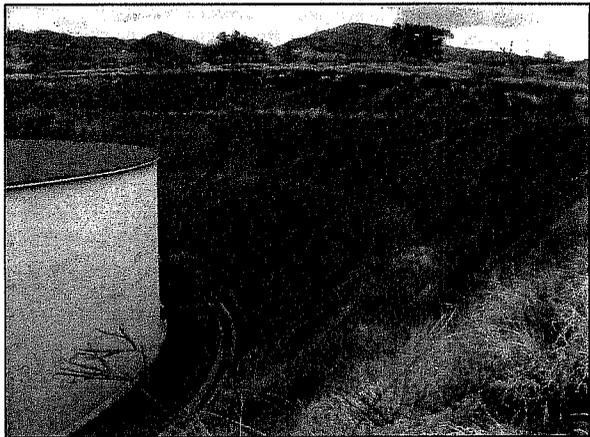


Figure 17. Photograph of the cut slope northeast of the existing Kapolei 215 Reservoir No. 1, view to northeast. Note the thin soil layer overlying basalt bedrock

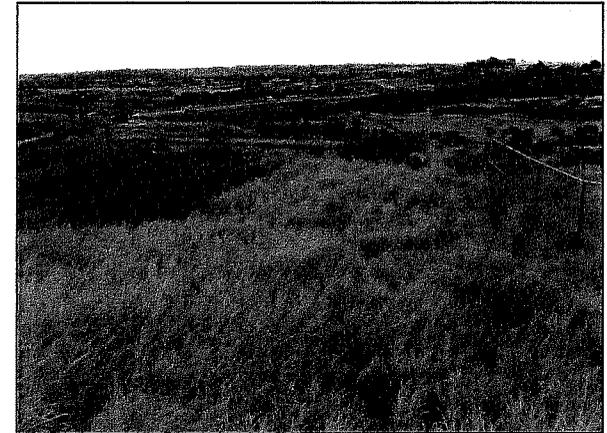


Figure 18. Photograph showing the non-graded perimeter of the Kapolei 215 Reservoir Site, view to south

Section 5 Results of Cultural Impact Evaluation

5.1 Community Contact Effort

Throughout the course of this evaluation, an effort was made to contact and consult with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge of and/or concerns about traditional cultural practices specifically related to the project area. However, due to the little likelihood that the undertaking will impact any ongoing cultural practices, this cultural impact evaluation includes some consultation but no formal interviews. The community consultation effort was made by letter, email, and telephone. Letters along with a map and aerial photograph of the project area were mailed with the following text:

At the request of Kapolei Property Development LLC, Cultural Surveys Hawai'i (CSH) is conducting a cultural impact evaluation for the proposed 4.0 M.G. Kapolei 215 Reservoir No. 2 in Kapolei Ahupua'a, Ewa District, Island of O'ahu (TMK 9-2-003: 083). This second potable water reservoir will be constructed next to the existing Honolulu Board of Water Supply's Kapolei 215 Reservoir. The project site is a fenced parcel owned by the City and County of Honolulu that is adjacent to Interstate Route H-1 near the Makakilo off-ramp. The site was mass graded for eventual construction of a second tank during construction of the first reservoir. The new reservoir will have a capacity of 4.0 million gallons (M.G.) and a spillway elevation of 215 feet, essentially doubling the potable water storage capacity of the existing facility. The reservoir will be constructed of reinforced concrete, approximately 160 feet in diameter and 30 feet in height. A 10-foot wide perimeter road will encircle the tank for maintenance. Construction will also entail limited grading, and modification of existing onsite utility infrastructure. Upon completion of construction, the reservoir will be dedicated to the Honolulu Board of Water Supply for operation and maintenance.

The purpose of this cultural study is to assess potential impacts to cultural practices as a result of future development in the Kapolei 215 Reservoir parcel. We are seeking your kōkua and guidance regarding the following aspects of our study:

- General history and present and past land use of the project area.
- Knowledge of cultural sites which may be impacted by future development of the project area - for example, historic sites, archaeological sites, and burials.
- Knowledge of traditional gathering practices in the project both past and ongoing.
- Cultural associations of the project area, such as legends and traditional uses.
- Referrals of *kūpuna* or elders and *kama'āina* who might be willing to share their cultural knowledge of the project area and the surrounding *ahupua'a* lands.
- Any other cultural concerns the community might have related to Hawaiian cultural practices within or in the vicinity of the project area.

Several (3-5) attempts were made to contact individuals, organizations, and agencies apposite to the cultural impact evaluation for Honouliuli. The results of any community consultations are presented in the table below.

Table 1. Community Contacts

Name	Background, Affiliation	Comments
Chinen, Melanie	Administrator, State Historic Preservation Division	CSH sent a letter on May 9, 2007.
Kane, Shad	'Ahahui Sīwila Hawai'i O Kapolei	CSH mailed a letter on May 9, 2007. Mr. Kane sent the following information about the project site in an email to CSH on May 16: "On behalf of the 'Ahahui Sīwila Hawai'i O Kapolei (Kapolei Hawaiian Civic Club) and myself, we support the construction of the additional potable reservoir. There are no cultural sites in the immediate proposed area. The only plants that are generally gathered by practitioners that exist in this area are the <i>'uhaloa</i> and <i>'ilima</i> , however, they can be found in abundance throughout the entire region. It is our understanding that it is adjacent to the existing reservoir. There is a cultural history associated with the area; however, it is preserved in song, dance, chants and <i>mo'olelo</i> (legends, myths, stories)..."
McKeague, Kawika	O'ahu Island Burial Council	CSH emailed a letter on May 19, 2007. Mr. McKeague replied back on May 21. See Section 5.2.1 below.

Name	Background, Affiliation	Comments
McQuivey, Jace	Vice President and General Legal Council – Hawai'i Reserves, Inc (Chair, O'ahu Island Burial Council)	CSH mailed a letter on May 9, 2007, and an email reminder on June 28. Mr. McQuivey replied on July 6 and stated he has no comments.
Nāmu'o, Clyde	Administrator, Office of Hawaiian Affairs	See OHA letter below table.
Stagner, Ishmael Dr.	Genealogist, Hula author and Historian	See Section 5.2.2 below.
Tiffany, Nettie (Lynette Pualani Tiffany)	<i>Kahu</i> , Caretaker of Campbell Estates, O'ahu Island Burial Council	Nettie Tiffany's <i>ōhana</i> has a long connection to Honouliuli. As a child, she frequently visited with her grandmother. Ms. Tiffany shared the following in a telephone interview on June 23: "I think it is going to be fine. I don't have a problem with that (area)...I know about the mountain area and ocean area, and I don't know this to be a pathway. I know the area by the water park was a pathway, but not this area."

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HONOLULU, HAWAII 96813

June 7, 2007

HRD07_3052

Margaret Magat, Researcher
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P.O. Box 1114
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Dear Ms. Magat:

Re: Cultural Impact Assessment for the proposed 4.0 MG Kapolei 215 Reservoir No. 2 Kapolei Ahupua'a, Ewa District, Island of Oahu, TMK 9-2-003:083

The Office of Hawaiian Affairs (OHA) is in receipt of your May 9, 2007 letter seeking comments on the above mentioned cultural impact assessment.

Based on the information contained within your letter, the proposed project area was mass graded during construction of a first reservoir. While this earlier ground disturbance may make future native Hawaiian traditional, cultural and burial finds unlikely, at times these resources can still exist subsurface. Offices of Environmental Quality Control guidelines recommend preparers of assessments "identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua'a". Thus, the larger traditional and cultural landscape of Kapolei Ahupua'a bears consideration.

Mo'olelo are associated with the region and its unique history. Ancient place names such as Kaupea, Kaupe'e, Kanchili, Pukaua, Po'ohilo, Kaupuaikaula, etc. describe the history and people of this land. Pu'uokapolei, site of a heiau and burial site requires respect and acknowledgment, as it continues to serve as the piko of this region, as it did during ancient times. Further information may be obtained from Mr. Shud Kane of the Kapolei Hawaiian Civic Club.

OHA seeks your assurance that if this project moves forward, proper mitigation and consultation will occur pursuant to applicable laws should any unanticipated or unidentified cultural, historic, or burial sites and items be encountered during any phase of this project.

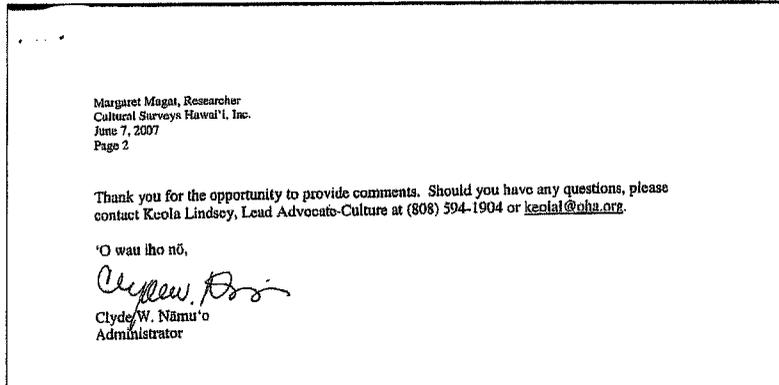


Figure 16: Review letter from the Office of Hawaiian Affairs (OHA)

5.2 Kama'āina Interviews

5.2.1 Kawika McKeague

Cultural Surveys Hawai'i conducted a telephone interview with Mr. McKeague on June 6, 2007. He grew up in Honouliuli, and is a strong community advocate. Mr. McKeague is also a District Representative on the O'ahu Island Burial Council. He generously shared his *mana'o* (thoughts, ideas, theories) about the etymological significance of the names and the cultural and sensory definitions of the places near or around the Honouliuli project area, and the critical need for sustainability:

For me, what I was taught by my *kūpuna*, and what I experienced as a *kanaka*, hiking to and learning from these places... Barber's Point was the place where we go ocean, to gather our *limu* (seaweed, algae) and fish, and then we go up *mauka*....Really it was a spiritual invocation to connect to what we interpret as our *akua* (God, Goddess, spirit) in the solace that was provided by that forested area...What I find as unique and inherent to Honouliuli, and to this particular part of Honouliuli, is there are two main cultural interpretations that are there for someone who is open to experience and to learn from them, to be learned. And the first one is, if you look at the *mo'olelo* (legends, myths, stories) that is ascribed to Makakilo to Kapolei to Honouliuli, what you find is that this is an area where you have this kind of ethereal quality to those physical landscapes...It is an area where in a lot of different stories, whether you are talking about Hi'iaka-i-kapoli-o-Pele having her vision of *lehua* groves in Hilo being burned by Pele in a jealous rage and those portents are revealed to her, to Kamapua'a, where his portent of his death...It's almost like a transfiguration ability to go between worlds of knowing and worlds of understanding. Spiritual transcendence imbued into physical landscape- there is a fine line of existence and being within the worlds of the ethereal and "reality" within the entire Honouliuli *ahupua'a*. This fine line between two worlds of knowing, perceiving, and attaining life essence creates a cultural/spiritual foundation for this area to provide the means for moments of revelation through various sensories. These moments are all over the place in this landscape. I mean it's everywhere. Even in the name Honouliuli, this is something of my *mana'o*. "*Hono*" can reflect the idea or concept of a bay. But for me, it is also something deep, something intrinsic. We speak of "*uliuli*" as that idea of *uli* being 'darkness'; it's often a reference to something like being in a state of ignorance, because of being in the *pō*, or the depth of darkness. But for me, it's quite the opposite. It's a body of ancestral knowledge that goes back to a time of antiquity but we are ignorant of its existence until we find the ways and means to connect to that body of knowledge; it's knowledge that comes from a means beyond our own cognizant understanding...Although we weren't raised to be religious practitioners in the art of worship, we do recognize and appreciate that our *kūpuna* used to invoke such religious practices in that they would invoke the presence of Kapo-ula-kina'u of which Pu'uokapolei is named after. She is mystified as the goddess of sorcery and '*anā'anā*' (black magic, sorcery) but the

cultural understanding that I have been taught is that she is attributed to a body of knowledge linked to hula. But she is also the essence of ethereal knowledge that lies in the darkness, in the night, in one's dreams. So if you prepare yourself as a *kanaka*, to open yourself to have dreams and do the right protocol, she will come to you in your dreams and provide whatever it is you are asking for. Of course, provided that she gave something to you, there is a mutual understanding that you have to reciprocate something back to her in service and therein lies the perpetuated fear that those that *pule* (pray) to Kapo-ula-kina'u are forever bonded to her. However, I feel that if we call upon our ancestral sources of understanding and ask for the *mana* (supernatural or divine power), we should be ready to accept the *kuleana* to *mālama* (take care of, preserve, protect) the knowledge, respect the source, and use it in a manner that is honorific and helps our current generation...

There are places from which I can say I have a secondary sense...*hihi'o* where in the dream state something is revealed to you that is meant for you to apply. ...There is the area of the *ao 'auwana*. It's referenced in Kamakau but Kaupe'a was described by my *kūpuna* as the plain area that extends all the way across the eastern corridor of Pu'uokapolei all the way to Hō'ae'ae, a little *ahupua'a* just north of Honouliuli that fronts *Ka Awalao o Pu'uloa*, or what we know today as Pearl Harbor. The plain is called an *ao auwana*, an area where the *kūpuna* who have passed on are not ready to cross over into the *ao aumakua*, so they dwell and reside in this middle state afterlife. Some sources have tried to ascribe to something along the means of purgatory but I feel that is just an attempt to Christianize our spiritual beliefs. Within this *ao auwana*, they are wandering spirits. This understanding of the cultural landscape of this area along with some of the others that I've referenced show, but more so here, that this area of Honouliuli is a place that ties the transfiguration with physical and mental states of being...

This takes me to my second point, which is what you find in the place names. You look at the natural landscape and you begin to understand some of the place names are related to physical, emotional, and spiritual cycles that are a natural part of a *wahine*(s) passage through and during childbirth. Obviously, the place names are tied in to the cultural interpretations of the landscape, because we are in the Wai'anae range where the volcanic eruption occurred, there is a connective force between all the *pu'u* (hill, peak)...*Pu'u* signifies the budding of life, the life force...they symbolize, to a certain degree and cultural perception, the ability of a woman to give birth. What the *kūpuna* told me, the *pu'u* is like a pregnant woman. You respect the *pu'u* in the sense that within their essence, there's life. There's some cultural translation that you can do there, in terms of understanding best management practices as it applies to natural and cultural resource management. The *pu'u* are actually incubators for certain flora and fauna species to exist, to thrive, to rejuvenate because they provide protective means against strong elements like the wind. Specific to this area, once you see these *pu'u* aligned in the landscape, you will find there are all kinds of sensory definitions

linked to these *pu'u* that tie like the *aho* (lit., line, cord, lashing, eg., fishing line) to *'aha* (lit., sennit of eg., coconut fibers, hair), the elements of the female persona when a woman is going through the pangs of being pregnant, going into labor, and then giving birth. Look at the place names for each *pu'u* and perhaps you will understand what I'm sharing. What a *kupuna* once said to me was that these elements of the female persona are all over the landscape, for she is Papahānaumoku until you get into the high point of Pōhākea. Pōhākea is the highest point of the Wai'anae mountain range... You can see it from the Makakilo side, you can see it from the Wai'anae side. That is where Hi'iaka-i-ka-poli-o-Pele receives her portent of what is happening to her lehua groves in Hilo. Another story there is about Kauhī and Kahaloopuna. Kahaloopuna is killed by Kauhī at Pōhākea, and she is revived there by her *'aumākua* (ancestors, family gods), a *pueo* (owl). But at Pōhākea, what I was taught is the name is actually, "Poha a kea," and the translation is supposed to mean "a bursting forth of rain and thunder." In my mind, it would be the male persona of procreation, so it's the bursting forth of *kea*. Similar to Mauna Kea being Mauna a Wakea, the mountain belong to Wakea...it is the highest point on earth...the physical endpoint that connects the heavens with the earth. To me, Pōhākea has a similar meaning. So Pōhākea, you have the male element of Wakea. It is where Wakea, our "sky father" embraced Papahānaumoku. Everything else below the peak of Pōhākea---and I don't mean below in a denigrating way, but Wakea is of the heavens and firmament ---and so Pōhākea is the place upon which he laid his seed. Then the rest of the *'āina* and what's in the place names are embracing and celebrating all those elements of childbirth, that empower Papahānaumoku and her relationship with Haumea to be able to give birth to the land...

What I wanted to expand upon is Makalapa Gulch... "*Lapa*" can mean a ridge, a slope, a ravine...I think in the definition too, there is also that extra quality of connecting that to eruptive forces of volcanic activity which is the geological history of that area...The idea of the Makalapa, to reiterate everything that I feel is connecting all those place names, Makalapa then...is like the orifice of the womb. Everything else as you head up, makes sense. You have "Pu'umanawahua," which is the discomfort of the stomach and nausea and it's usually attached to morning sickness. You have "Pu'uku'ua" which means to 'release', 'let go', 'discharge'. There are two small *pu'u* that reside on the eastern side of Pu'umakakilo, Pu'umo'opuna the grandchild; offspring; relative or descendant two generations later.

The whole idea then of who we are as a people, we are connected to our ancestral path, our genealogy. We talk about our deities and we pay homage and respect to Pele, to Kāne, others that perhaps are mythical entities or gods that have no associations or connections to contemporary Hawaiian...but the major point is that they are still our ancestral links. When you start to talk about the essence of our *kūpuna* and our ancestors having the ability to respect the landscape to the point that they have an intricate understanding of what was going on around them, you

have a debt when you utilize these resources...My gut, my *na'au* instinct is that all these things are kind of leading to a place, where it helps provide the ideal of how to restore---

Kapolei is viewed as a second city, and as a person who has lived and breathed there for 36 years, my childhood history was that this was all sugar cane fields. We used to play on the old dirt roads and the aqua ducts that no longer exist. It was pretty much agricultural community, and living in Makakilo was like a little pocket of urban. However, every sugarcane harvest fire, we would have to deal with the effects of being surrounded by so much agricultural activity. The burning of the cane resulting in the black snow, the falling ash. More field mice running crazy through the neighborhood. The occasional road closure along Farrington Highway due to high flames cross the road. Now, as I see the transition of it becoming the second major corridor of urban sprawl, I'm trying to think of the best possible solutions that if you can't stop the process, how best to make the process respect the cultural landscape and also the *mana'o* and sustainability...

My *kūpuna* already has the footprint and pattern of sustainability. Everything you need to know about how to live and breathe in Hawai'i, how to raise your family, how to maintain your resources, all of that is in oratorical sources, our chants, our *mo'olelo*...and it's just a matter of us being willing to be open to those sources of knowledge and develop an understanding and then apply it in a contemporary sense. In recognizing that Kapolei is going to be a central development, how do we implement those understood practices of sustainability into the planned urban corridors as well as maintaining those key component areas in the natural landscape that has very significant cultural significance. Pu'uomakakilo in my *mana'o* is one of those, and it hurts me every time I see a place specific there where I see a little bit taken away from her every day. Its purpose is to use the rock to make the roads and everything else. But Pu'uomakakilo is the center of everything that connects, from the outskirts of Pu'uokapolei...to the top of Pōhākea. She is for me that *piko na'au*...This particular project may be small-scale, but to put it in the bigger context, the more we allow for a physical transformation of our *pu'u*, the more we allow a bit of cultural identity to be irreparably lost--- including Pu'uomakakilo and Pu'uokapolei. Regarding the latter, the fact that they've taken development (even though some of it is as a county park), but they've taken it right up to her *wāwae*, right up to her feet, is indicative of a potential ongoing and future problem as the development continues to expand in this area. It bothers me quite a bit because you lose some of that cultural integrity and context of that site with each allowance of infringement on the physical site. We lose some of the visual qualities and cues that provide that cultural connection across that landscape. So my *mana'o* is that planners and developers need to figure out how to preserve those visual plains and educate others on those connectivity components of the cultural landscape so we don't lose that. It should be emphasized in building designs, heights, orientations,

materials- the whole component of development should include cultural guidance. I fear that in my lifetime, this area may be how Waikīkī is viewed by many, as an area devoid of any cultural life. You know, it took the efforts of folks like George Kanahele to plant the seeds of thought to change that. Is it too late? I don't know. With Kapolei, we have an opportunity to guide development and hopefully do it better this time.

Going back to Waikīkī for a moment, underneath the urban form of it all, it is, was, and still is, a beautiful place. You know about the richness of the *mo'olelo* there, and the things that our *kūpuna* did and shared, it's wonderful, but how do you recapture that now? Those *mo'olelo* need to come to life and more than just nice plaques that tell you what was once here. You need the people, the community, to be empowered with cultural understanding and to invoke protocols and practices wherever they go. When we speak of cultural landscapes in the urban form, we speak of creating true Hawaiian sense of place- not the contrived romanticized imagery that appeals to the tourist industry. You need those elements to a certain degree but how much more appealing and *pa'a* (firm, solid) if we can exemplify what we know is the true essence and being of a place. Now, here we have this project in Kapolei, I know it's another project to support development, so as we move forward and put in an infrastructure that will help support the needs of an area that is growing, those things that lend to cultural integrity can't be forgotten nor neglected either. *He kanaka wale no, he haumana wale no, he leo wale no. Mahalo* (Just a single person, just a student, just a voice)."

5.2.2 Dr. Ishmael Stagner

Cultural Surveys Hawai'i conducted a telephone interview with Dr. Ishmael Stagner on July 9, 2007. Dr. Stagner's father is Ishmael Worth Stagner, Sr. A seasoned mail man who had already handled sensitive material for the Honolulu portion of Amelia Earhart's first flight around the world in 1935, the senior Stagner became the superintendent of mail for O'ahu's eastern district, from Pearl Harbor to Ka'ena Point, during World War II. He was also the mail censor, hiring numerous school teachers to screen all mail for sensitive material. As a young boy, Dr. Stagner grew up aware of the secrecy surrounding Honouliuli internment camp. An author of a respected book on hula, a genealogist and historian, Dr. Stagner kindly shared his *mana'o* on the existence of the Honouliuli relocation camp and his experience riding on the Oahu Railway and Land Company, or OR&L trains. The OR & L trains would serve a vital role during World War II, carrying freight and passengers as well as military-related traffic:

My family and I moved over to Pearl City peninsula in 1935...In my youth, in the 1940s, I rode the train going east from Pearl City to Honolulu for 5 cents. Then I would jump into a trolley to go to the movies or shop in Chinatown. If you went west, you went to Waipahu, then to Honouliuli, then round to Ka'ena Point then it ended in La'ie. Honouliuli was simply one of the stops on the west route. The train followed the mail route.

As mentioned above, Dr. Stagner's father had worked as a mailman. With his security clearance, he quickly rose during wartime to become superintendent of mail as well as mail censor, before eventually becoming assistant postmaster for the city of Honolulu. As mail censor, Dr. Stagner's father was responsible for censoring information that might be found sensitive such as boat or train schedules or whether or not the population had rations. According to Dr. Stagner, so many schoolteachers were hired to work as censors that not enough were available for teaching. The teachers were paid around \$50 a month and extra food rations, almost double their normal pay.

After Pearl Harbor was attacked, Honouliuli became a relocation camp. Honouliuli was supposed to be secret, along with Fort Barrette and Fort Weaver. It was part of the secrecy of that area.

Although Sand Island was bigger than the Honouliuli camp, the Honouliuli camp was harder to find and was cloaked in secrecy due in part to its location between Fort Barrette and Fort Weaver on the approach to Barber's Point. Only people with the highest security clearance could come in, Dr. Stagner said. Due to his position, Dr. Stagner's father was familiar with top military figures and was responsible for the highly sensitive mail communications.

Referring to the military forts, Dr. Stagner said:

The government believed that if Honolulu was attacked, it would be by sea. There were huge facilities, like hospitals and everything. They were actually underground cities, but you weren't supposed to know that. Of course when the Japanese attacked, the facilities were useless. They never got to fire the guns, as these were useless against air attacks since the guns were designed to attack ships.

The Honouliuli internment camp originally housed local residents of Japanese American descent before POWs arrived:

First, they put in locals. They eventually had to release them because they had no people to do the civilian tasks. Other local people were sent to the mainland to camps like Manzanar...Eventually, Italians and German POWs were put in the Honouliuli camp. The Italians were very artistic. Some made pottery and other art forms, and even sold them while in camp. Some decided to stay in Hawai'i rather than go back.

According to Dr. Stagner, some local residents were able to leave by 1943, some as early as 1942. However, some were sent to the mainland to camps like Manzanar.

Section 6 Project Effect and Recommendations

6.1 Archaeological Evaluation

No surface historic properties were observed within or in the immediate vicinity of the project area. In addition, due to the heavily graded nature of the project area, and the observed relatively thin soil layer overlying basalt bedrock, the likelihood of encountering subsurface cultural material within the project area seems exceedingly low. Therefore, the proposed development will likely have "no effect" on significant historic properties.

No further work is recommended for the proposed Kapolei 215 Reservoir No. 2 project. As always, if in the unlikely event that any human remains or other significant subsurface deposits are encountered during the course of development activities, all work in the immediate area should stop and the State Historic Preservation Division should be promptly notified.

6.2 Cultural Impact Evaluation

None of the community contacts queried for this evaluation identified any strong cultural concerns about the proposed project. No on-going cultural practices were noted in the vicinity of the current proposed project area.

However, the community contacts discussed the significance of the larger area, the *ahupua'a* of Honouliuli. The Office of Hawaiian Affairs mentions the unique history of the region and that of Pu'uokapolei, site of a *heiau* and burial site, and requests that proper mitigation and consultation to occur should any unanticipated or unidentified cultural, historic or burial sites and items be encountered during any phase of this project.

As Honouliuli continues to be developed, community contact Kawika McKeague stressed the need for critical sustainability. He stated that maintaining key areas in the natural landscape continues their cultural significance and to lose these visual plains, is to lose the cultural integrity and context of that particular site. Shad Kane of Ahahui Siwila Hawai'i O Kapolei, pointed out that although there are native plants such as *'uhaloa* (*Waltheria indica*) and *'ilima* (*Sida fallax*) adjacent to the existing reservoir that are commonly gathered by cultural practitioners, these plants can be found in abundance throughout the region. He also mentioned that the cultural history of the area is preserved in the *mo'olelo*, dances, chants and songs. Both study participants and several others emphasized the continuing significance of the area in Hawaiian mythology and folklore.

Another study participant, Dr. Ishmael Stagner, shared the historical importance of the Honouliuli internment camp, a mostly secret camp that housed Japanese Americans and prisoners of war during World War II.

Based on this cultural impact evaluation, Cultural Surveys Hawai'i finds that the proposed project will have minimal impact upon native Hawaiian cultural resources, beliefs and practices.

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APPENDIX C

DRAFT EA COMMENTS AND RESPONSES



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

REPLY TO
ATTENTION OF:

July 15, 2008

RECEIVED

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ENGINEERING CONCEPTS

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

Regulatory Branch

File Number POH-2008-183

Mr. Kenneth Ishizaki
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Subject:

Dear Mr. Ishizaki:

This letter is in response to your July 3, 2008 letter for comments on the draft Environmental Assessment (dEA) dated May 2008 for the proposed improvements at the Kapolei 215 Reservoir No. 2, Kapolei, Ewa, Oahu, Hawaii TMK: (1) 9-2-003:083. The project will involve expansion of the Board of Water Supply (BWS) 215 water system storage capacity in the Kapolei area by constructing a second 4-million gallon tank and associated appurtenances including a 10-foot wide paved perimeter road, on-site drainage and piping improvements and installments all located within the existing fenced BWS parcel. We have reviewed the information you submitted with respect to the Corps' authority to issue Department of the Army (DA) permits pursuant to Section 10 of the Rivers and Harbors Act (RHA) of 1988 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

Based on the information you submitted, it appears the proposed project site consists entirely of uplands and will not include work activities involving the placement or discharge of dredged and/or fill material into waters of the U.S.; therefore, a DA permit will not be required. This determination does not relieve you of the responsibility to obtain any other permits, licenses, or approvals that may be required under County, State, or Federal law for your proposed work.

Should you have any questions regarding this jurisdictional determination, please contact Ms. Joy Anamizu of my staff at (808) 438-7023 or by e-mail at joy.n.anamizu@usace.army.mil and reference the Corps File No. POH-2008-183 in all future correspondence and inquiries related to this project.

Sincerely,

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

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 15 Jul 2008

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Honolulu (CEPOH-EC-R) POH-2008-183 Kapolei Reservoir No.2

C. PROJECT LOCATION AND BACKGROUND INFORMATION: TMK (1) 9-2-003:083

State: Hawaii County/parish/borough: Honolulu City: Kapolei
Center coordinates of site (lat/long in degree decimal format): Lat. 21.34617° N, Long. -158.07467° W
Universal Transverse Mercator: UTM Zone 4 North NAD83

Name of nearest waterbody: Pacific Ocean

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Name of watershed or Hydrologic Unit Code (HUC):

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: 11 Jul 2008

Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: sticks/flags

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain:

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
Identify TNW:

Summarize rationale supporting determination:
2. **Wetland adjacent to TNW**
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size:
Drainage area:
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
- Tributary flows through tributaries before entering TNW.

Project waters are river miles from TNW.
Project waters are river miles from RPW.
Project waters are aerial (straight) miles from TNW.
Project waters are aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:
Tributary stream order, if known:

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: feet
Average depth: feet
Average side slopes: Pick List

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover:
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: Pick List
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: Pick List

Estimate average number of flow events in review area/year: Pick List

Describe flow regime:

Other information on duration and volume:

Surface flow is: Pick List. Characteristics:

Subsurface flow: Pick List. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

- Bed and banks
- OHWM⁶ (check all indicators that apply):
 - clear, natural line impressed on the bank
 - changes in the character of soil
 - shelving
 - vegetation matted down, bent, or absent
 - leaf litter disturbed or washed away
 - sediment deposition
 - water staining
 - other (list):
- the presence of litter and debris
- destruction of terrestrial vegetation
- the presence of wrack line
- sediment sorting
- scour
- multiple observed or predicted flow events
- abrupt change in plant community

Discontinuous OHWM.⁷ Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- High Tide Line indicated by:
 - oil or scum line along shore objects
 - fine shell or debris deposits (foreshore)
 - physical markings/characteristics
 - tidal gauges
 - other (list):
- Mean High Water Mark indicated by:
 - survey to available datum;
 - physical markings;
 - vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
 Wetland fringe. Characteristics:
 Habitat for:
 Federally Listed species. Explain findings:
 Fish/spawn areas. Explain findings:
 Other environmentally-sensitive species. Explain findings:
 Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) **General Wetland Characteristics:**

Properties:

- Wetland size: _____ acres
Wetland type. Explain:
Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) **General Flow Relationship with Non-TNW:**

Flow is: Pick List. Explain:

Surface flow is: Pick List

Characteristics:

Subsurface flow: Pick List. Explain findings:

- Dye (or other) test performed:

(c) **Wetland Adjacency Determination with Non-TNW:**

- Directly abutting
 Not directly abutting
 Discrete wetland hydrologic connection. Explain:
 Ecological connection. Explain:
 Separated by berm/barrier. Explain:

(d) **Proximity (Relationship) to TNW**

Project wetlands are Pick List river miles from TNW.

Project waters are Pick List aerial (straight) miles from TNW.

Flow is from: Pick List.

Estimate approximate location of wetland as within the Pick List floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
 Vegetation type/percent cover. Explain:
 Habitat for:
 Federally Listed species. Explain findings:
 Fish/spawn areas. Explain findings:
 Other environmentally-sensitive species. Explain findings:
 Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: Pick List

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N) Size (in acres) Directly abuts? (Y/N) Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. **SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. **DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters:

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters:

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
 Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
 which are or could be used for industrial purposes by industries in interstate commerce.
 Interstate isolated waters. Explain:
 Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters:
 Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
 Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
 Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
 Other: (explain, if not covered above): No WOUS, Site consists entirely of uplands.

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
 Lakes/ponds: acres.
 Other non-wetland waters: acres. List type of aquatic resource:
 Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
 Lakes/ponds: acres.
 Other non-wetland waters: acres. List type of aquatic resource:
 Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: dEA dated May 2008.
 Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 Office concurs with data sheets/delineation report.
 Office does not concur with data sheets/delineation report.
 Data sheets prepared by the Corps:
 Corps navigable waters' study:
 U.S. Geological Survey Hydrologic Atlas:
 USGS NHD data.
 USGS 8 and 12 digit HUC maps.
 U.S. Geological Survey map(s). Cite scale & quad name: 1:24000 (TIG eGIS website, 1997).
 USDA Natural Resources Conservation Service Soil Survey. Citation: Survey dated 31 Dec 2006.
 National wetlands inventory map(s). Cite name: US Fish & Wildlife Service Online Wetland Mapper ret'vd 11 Jul 2008.
 State/Local wetland inventory map(s):
 FEMA/FIRM maps:
 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
 Photographs: Aerial (Name & Date): Aerial Image (TIG eGIS website, 2005).
or Other (Name & Date): dEA dated May 2008.
 Previous determination(s). File no. and date of response letter:
 Applicable/supporting case law:
 Applicable/supporting scientific literature:
 Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.



ENGINEERING CONCEPTS, INC.

Consulting Engineers

August 8, 2008

Mr. George P. Young, P.E., Chief
Regulatory Branch, CEPOH-EC-R
U.S. Army Engineer District, Honolulu
Fort Shafter, Hawaii 96858-5440

Attention: Ms. Joy Anamizu

**Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 15, 2008 (File No.: POH-2008-183) and understand that a Department of the Army permit will not be required for the project.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

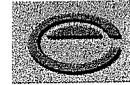


Natural Resources Conservation Service
P.O. Box 50004 Rm. 4-118
Honolulu, HI 96850
808-541-2600

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JUL 25 2008

ENGINEERING CONCEPTS



ENGINEERING CONCEPTS, INC.

Consulting Engineers

August 8, 2008

July 24, 2008

Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Mr. Lawrence T. Yamamoto, Director
Pacific Islands Area
Natural Resources Conservation Service
U.S. Department of Agriculture
P.O. Box 50004, Room 4-118
Honolulu, Hawaii 96850

**Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

Dear Mr. Ishizaki,

The United State Department of Agriculture, Natural Resources Conservation Service, and Pacific Islands Area have reviewed the Draft Environmental Assessment for Kapolei 215 Reservoir No. 2, and have no comments to offer.

Thank you for the opportunity to comment on this document. If we can be of further assistance, please do not hesitate to contact us.

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 24, 2008 and understand that the Natural Resources Conservation Service has no comments at this time.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Sincerely,

LAWRENCE T. YAMAMOTO
Director
Pacific Islands Area

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha, Director, Office of Environmental Quality Control,
Honolulu, HI
Mr. Clifford P. Lum, Manager and Chief Engineer, Board of Water Supply, Honolulu,
HI
Mr. Brad Myers, President, Kapolei Property Development, LLC, Kapolei, HI

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

LINDA LINGLE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

JUL 17 2008

RUSS K. SAITO
COMPTROLLER
BARBARA A. ANNIS
DEPUTY COMPTROLLER
(P)1225.8

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JUL 18 2008

ENGINEERING CONCEPTS



ENGINEERING CONCEPTS, INC.
Consulting Engineers

August 8, 2008

Mr. Ernest Y.W. Lau, Public Works Administrator
Department of Accounting and General Services
State of Hawaii
P.O. Box 119
Honolulu, Hawaii 96810

Attention: Mr. Bruce Bennett
Planning Branch

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 17, 2008 (reference: P1225.8) and understand that the project does not directly impact any of the Department of General Services' projects or existing facilities.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

Mr. Kenneth Ishizaki, Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

Subject: Kapolei 215 Reservoir No. 2,
Draft Environmental Assessment
Kapolei, Ewa, Oahu, Hawaii
Tax Map Key: 9-2-003:083

Thank you for the opportunity to review the above Draft Environmental Assessment. This project does not directly impact any of the Department of Accounting and General Services' projects or existing facilities, and we have no comments to offer at this time.

If you have any questions, please have your staff call Mr. Bruce Bennett of the Planning Branch at 586-0491.

Sincerely,

ERNEST Y.W. LAU
Public Works Administrator

BB:vca

c: Ms. Katherine Kealoha, DOH-OEQC
Mr. Clifford P. Lum, Board of Water Supply
Mr. Bradford Myers, Kapolei Property Development LLC

LINDA LINGLE
GOVERNOR

MAJOR GENERAL ROBERT G. F. LEE
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA
VICE DIRECTOR OF CIVIL DEFENSE



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

August 7, 2008



PHONE (808) 733-4300
FAX (808) 733-4287

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ENGINEERING CONCEPTS, INC.



ENGINEERING CONCEPTS, INC.

Consulting Engineers

August 8, 2008

Mr. Edward T. Teixeira, Vice Director of Civil Defense
Office of the Director of Civil Defense
Department of Defense
State of Hawaii
3949 Diamond Head Road
Honolulu, Hawaii 96816-4495

Attention: Mr. Norman Ogasawara, Assistant Telecommunications Officer

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 7, 2008 and offer the following response to your comment:

Comment: "...we suggest that a space of 25 square feet be set aside for potential placement of a warning siren. We are asking that this space be located near the entrance, at the southeast corner of the proposed location, within the perimeter of the property, near the facility, and as far away as possible from any planned fencing."

Response: Your request will be forwarded to the Honolulu Board of Water Supply since location of a warning siren within their property would need to be coordinated with their personnel.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

1150 South King Street, Suite 700 • Honolulu, Hawaii 96814
Tel (808) 591-8820 • Fax (808) 591-9010 • E-Mail: eci@ecihawaii.com

Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

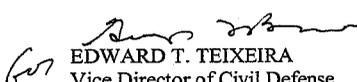
Draft Environmental Assessment
Proposed Kapolei 215 Reservoir No. 2 Station

Thank you for the opportunity to comment on this development. After review of the Draft Environmental Assessment for this project, we suggest that a space of 25 square feet be set aside for potential placement of a warning siren. We are asking that this space be located near the entrance, at the southeast corner of the proposed location, within the perimeter of the property, near the facility, and as far away as possible from any planned fencing.

We will anticipate reviewing the Environmental Assessment when it is completed and will make any appropriate comments at that time.

If you have any questions please call Norman Ogasawara, Assistant Telecommunications Officer, at (808) 733-4300, ext. 531.

Sincerely,


EDWARD T. TEIXEIRA
Vice Director of Civil Defense

c: Katherine Puana Kealoha, Director, Office of Environmental Quality Control
Clifford P. Lum, Manager and Chief Engineer, Board of Water Supply
Brad Myers, President, Kapolei Property Development LLC



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

July 21, 2008

Mr. Kenneth Ishizaki, Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

SUBJECT: Draft Environmental Assessment for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii. TMK 9-2-003:083

The Department of Education has reviewed the Draft Environmental Assessment for the addition of a second potable water reservoir at the Kapolei 215 Reservoir site. We have no comment or concern with the project.

Should you have any questions, please call Heidi Meeker of the Facilities Development Branch at 377-8301.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:jmb

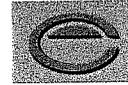
cc: Randolph Moore, Assistant Superintendent, OSFSS
Duane Kashiwai, Public Works Administrator, FDB
CAS, Campbell/Kapolei Complex Areas
Katherine Puana Kealoha, Director, OEQC
Clifford P. Lum, Manager and Chief Engineer, BWS, Attn: Robert Chun
Brad Myers, Kapolei Property Development, LLC, Attn: Steve Kelly

PATRICIA HAMAMOTO
SUPERINTENDENT

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JUL 23 2008

ENGINEERING CONCEPTS



ENGINEERING CONCEPTS, INC.

Consulting Engineers

August 8, 2008

Ms. Patricia Hamamoto, Superintendent
Department of Education
State of Hawaii
P.O. Box 2360
Honolulu, Hawaii 96804

Attention: Ms. Heidi Meeker
Facilities Development Branch

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 21, 2008 and understand that the Department of Education has no comment or concern with the project.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC



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

August 28, 2008

Mr. Kenneth Ishizaki
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

SUBJECT: Draft Environmental Assessment for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: (1) 9-2-003: 083

Thank you for allowing us to review and comment on the subject application. The document was routed to the various branches of the Department of Health (DOH) Environmental Health Administration. We have the following Clean Water Branch and General comments.

Clean Water Branch

The Department of Health (DOH), Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project. Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at <http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>.

1. Any project and its potential impacts to State waters must meet the following criteria:
 - a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
 - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
 - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
EPO-08-104

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SEP - 5 2008

ENGINEERING CONCEPTS

Mr. Ishizaki
August 28, 2008
Page 2

2. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:
 - a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi).
 - b. Storm water associated with construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.
 - c. Hydrotesting water.

A separate NOI form for each type of discharge must be submitted at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.

3. For types of discharges not listed in Item 2 above or wastewater discharges into Class 1 or Class AA waters, you may need to obtain a NPDES individual permit. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html>.
4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage is required, must comply with the State's 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.

If you have any questions, please visit our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering Section, CWB, at 586-4309.

Mr. Ishizaki
August 28, 2008
Page 3

General

We strongly recommend that you review all of the Standard Comments on our website:
www.hawaii.gov/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiakai Liu with the Environmental Planning Office at 586-4346.

Sincerely,



KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
CWB



ENGINEERING CONCEPTS, INC.
Consulting Engineers

July 13, 2009

Mr. Kelvin H. Sunada, Manager
Environmental Planning Office
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Attention: Mr. Jiakai Liu

**Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 28, 2008 (Reference: EPO-08-104) and offer the following response to your comments:

Clean Water Branch

1. Applications for NPDES permits will be prepared for discharges during construction and will contain site specific information on mitigative measures that will be implemented to minimize offsite sediment transport to the drainage system and ultimately to the receiving State waters. Construction of the second reservoir was considered in the design of the existing drainage system.
2. Notice of Intent (NOI) applications for NPDES general permit coverage will be prepared to address (1) discharge of storm water associated with construction activities; and (2) discharge of hydrotesting effluent.
3. The need to apply for an individual NPDES permit is not anticipated.
4. We understand that all discharges related to construction or operation activities must comply with the State's Water Quality Standards.

ENGINEERING CONCEPTS, INC.

Mr. Kelvin H. Sunada

July 13, 2009

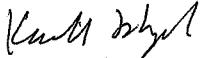
Page 2

General

We have reviewed the Standard Comments posted on the referenced website and will adhere to those that are applicable to the project, including: identification of potentially affected water bodies; control of fugitive dust; disposal of solid waste at permitted solid waste management facilities; and community noise control.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,



Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Wayne Hashiro - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

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

LA/MorrisAtta
Ref.: DEAKapolei215Reservoir#2
Oahu.631

COMMENTS

- (X) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone D. The National Flood Insurance Program does not have any regulations for developments within Zone D.
- () Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone ____.
- () Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is Zone D. The National Flood Insurance Program does not have any regulations for development within Zone D.
- () 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:

- () 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. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emiler at (808) 327-3530 (Kona) 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 water demands and infrastructure required to meet project needs. Please note that projects within State lands requiring water service from the Honolulu Board of Water Supply system will be required to pay resource development charge, in addition to Water Facilities Charges for transmission and daily storage.
- () 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: Eric T. Hirano
ERIC T. HIRANO, CHIEF ENGINEER
Date: 7/31/08

July 11, 2008

MEMORANDUM

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

FROM: Morris M. Atta
 SUBJECT: Draft environmental assessment for Kapolei 215 Reservoir No.2
 LOCATION: Kapolei, Oahu, TMK: (1) 9-2-3:83
 APPLICANT: Engineering Concepts, Inc. on behalf of BWS

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by August 1, 2008.

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: _____
Date: _____

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 08 JUL 14 P 2: 53
 COMMISSION ON WATER RESOURCE MANAGEMENT



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

July 30, 2008

REF: Kapolei 215 Res 2.dea

TO: Morris Atta, Administrator
Land Division

FROM: Ken C. Kawahara, P.E., Deputy Director
Commission on Water Resource Management

SUBJECT: Draft Environmental Assessment for Kapolei 215 Reservoir No. 2

FILE NO.: N/A
TMK NO.: (1) 9-2-3:83

Ken C. Kawahara
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII
2008 AUG - 1 P 3:20
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LAND DIVISION

LAURA H. THIELEN
CHAIRPERSON

MEREDITH J. CHING
JAMES A. FRAZIER
NEAL S. FUJIMURA
CHIYOME L. FUKINO, M.D.
DONNA FAY K. KIYOSAKI, P.E.
LAWRENCE H. MIKE, M.D., J.D.

KEN C. KAWAHARA, P.E.
DEPUTY DIRECTOR

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at <http://www.hawaii.gov/dlnr/cwrm>.

Our comments related to water resources are checked off below.

- 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
- 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
- 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at <http://www.usgbc.org/leed>. A listing of fixtures certified by the EPA as having high water efficiency can be found at <http://www.epa.gov/watersense/pp/index.htm>.
- 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://hawaii.gov/dbedt/czm/initiative/lid.php>.

Morris Atta, Administrator
Page 2
July 30, 2008

- 6. We recommend the use of alternative water sources where applicable.
- 7. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM:
Additional information and forms are available at http://hawaii.gov/dlnr/cwrm/resources_permits.htm.

- 8. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water.
- 9. A Well Construction Permit(s) is (are) required any well construction work begins.
- 10. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
- 11. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
- 12. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- 13. A Stream Channel Alteration Permit(s) is (are) required before any alteration(s) can be made to the bed and/or banks of a stream channel.
- 14. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is (are) constructed or altered.
- 15. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
- 16. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.
- 17. We recommend that the report identify feasible alternative non-potable water resources, including reclaimed wastewater.
- OTHER:

If there are any questions, please contact Lenore Ohye at 587-0216.



ENGINEERING CONCEPTS, INC.
Consulting Engineers

ENGINEERING CONCEPTS, INC.

Mr. Morris M. Atta
August 8, 2008
Page 2

August 8, 2008

Mr. Morris M. Atta, Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

**Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 1, 2008 and offer the following response to the comments provided by the Engineering Division (reference: DEAKapolei215 Reservoir#2, Oahu.631) and Commission on Water Resource Management (reference: Kapolei 215 Res 2.dea):

Engineering Division Comment:

We confirm that the project site, according to the Flood Insurance Rate map (FIRM), is located in Zone D. The National Flood Insurance Program does not have any regulations for developments within Zone D.

Response:

Thank you for confirmation of the flood zone designation for the project site.

Commission on Water Resource Management Comment:

We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

Response:

Coordination has been initiated with the Board of Water Supply with regard to incorporating the project into the Water Use and Development Plan.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC



ENGINEERING CONCEPTS, INC.
Consulting Engineers

August 8, 2008

Mr. Keith S. Shida, Program Administrator
Customer Care Division
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Attention: Mr. Robert Chun

Subject: Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii
TMK: 9-2-003:083

During the draft environmental assessment public review period, we received a comment from the State Commission of Water Resource Management (CWRM) recommending coordination for inclusion of the project into the Water Use and Development Plan. We understand that the Water Use and Development Plan for the City and County of Honolulu is a Board of Water Supply document, and respectfully request that the proposed Kapolei 215 Reservoir No. 2 be included in future updates to the document. A copy of the Department of Land and Natural Resources (DLNR) Land Division Comment letter is enclosed for your reference. The CWRM comment is included in this enclosure. Please forward the enclosure to the appropriate person to initiate our coordination on this subject.

Should you have any questions or require additional information, please call me or Dana Arakaki at 591-8820.

Very truly yours,


Kenneth Ishizaki, P.E.
Executive Vice President

enclosure

cc: Morris M. Atta, DLNR Land Division
Brad Myers, Kapolei Property Development LLC

LINDA LINGLE
GOVERNOR



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

August 1, 2008

BRENNON T. MORIOKA
DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

HWY-PS
2.8696



ENGINEERING CONCEPTS, INC.
Consulting Engineers

August 8, 2008

Mr. Brennon T. Morioka, Ph.D., P.E.
Director of Transportation
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Attention: Mr. Ken Tatsuguchi, Head Planning Engineer
Highways Division

**Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 1, 2008 (reference: HWY-PS 2.8696) and offer the following response to your comments:

- Since the proposed Reservoir No. 2 will be constructed adjacent to our Interstate Route H-1 rights-of-way, construction plans must be submitted to us for our review and approval.*

The project site is not directly adjacent to the freeway right-of-way. TMK parcel 9-2-003:082 is situated between the two, as indicated on Figure 2-4 of the Draft EA. However, construction plans will be submitted to the Highways Division Traffic Branch for review and approval, as requested.
- The grading and construction of the reservoir shall not result in additional discharge of surface water runoff onto our State highway facilities.*

The proposed project will not result in additional discharge of surface water to State highway facilities. The construction plans for the existing reservoir provided a graded gravel pad and drainage facilities to accommodate a future 4.0 million gallon reservoir.
- Approval from our Oahu District Office, Highways Division is required if applicant will be transporting oversized/overweight materials and equipment on our State roads.*

RECEIVED

AUG - 2 2008

ENGINEERING CONCEPTS

Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

Subject: Draft Environmental Assessment (Draft EA)
Kapolei Property Development, LLC
Kapolei 215 Reservoir No. 2
Oahu, Ewa District, Kapolei, TMK: (1) 9-2-003: 83

Thank you for consulting with us on the subject project. We have the following comments:

- Since the proposed Reservoir No. 2 will be constructed adjacent to our Interstate Route H-1 rights-of-way, construction plans must be submitted to us for our review and approval.
- The grading and construction of the reservoir shall not result in additional discharge of surface water runoff onto our State highway facilities.
- Approval from our Oahu District Office, Highways Division is required if applicant will be transporting oversized/overweight materials and equipment on our State roads.

If there are any questions, please contact Ken Tatsuguchi, Head Planning Engineer, Highways Division, at 587-1830.

Very truly yours,

BRENNON T. MORIOKA, Ph.D., P.E.
Director of Transportation

c: Ms. Katherine Puana Kealoha, Director, OEQC
Mr. Clifford P. Lum, Mgr. & Chief Engineer, Attn: Mr. Robert Chun, Board of Water Supply
Mr. Brad Myers, President, Attn: Mr. Robert Chun, Kapolei Property Development LLC

ENGINEERING CONCEPTS, INC.

Mr. Brennon T. Morioka, Ph.D., P.E.
August 8, 2008
Page 2

The Contractor will be instructed to obtain approval from the Oahu District Office, Highways Division, if transport of oversized/overweight materials and equipment on State roads is needed.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,



Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

LINDA LINGLE
GOVERNOR

RECEIVED

AUG 15 2008

ENGINEERING CONCEPTS



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

August 14, 2008

BRENNON T. MORIOKA
DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

HWY-PS
2.8970

Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

Subject: Draft Environmental Assessment (Draft EA)
Kapolei Property Development LLC, Kapolei 215 Reservoir No. 2
Oahu, Ewa District, Kapolei, TMK: (1) 9-2-003: 083

Thank you for your letter of August 8, 2008 replying to our comments regarding the subject project.

Your individual response to our comments as stated in HWY-PS 2.8696 dated August 1, 2008 is satisfactory. We look forward to your future compliance to the applicable requirements (construction plan submittal, permits for transporting overweight/oversized equipment, etc.) regarding the project.

If there are any questions, please contact Ken Tatsuguchi, Head Planning Engineer, Highways Division, at 587-1830.

Very truly yours,

BRENNON T. MORIOKA, Ph.D., P.E.
Director of Transportation

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OCT 18 2008

ENGINEERING CONCEPTS



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

LAURA B. THELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL V. 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
KAROO LAKEWATER RESERVE COMMISSION
LAND
STATE PARKS



ENGINEERING CONCEPTS, INC.

Consulting Engineers

July 13, 2009

Ms. Nancy McMahon
Archaeological and Historic Preservation Manager
State Historic Preservation Division
Department of Land and Natural Resources
State of Hawaii
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

Attention: Ms. Teresa Kaneakua-Davan

Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your Chapter 6E-42 Historic Preservation Review letter dated October 7, 2008 (LOG NO: 2008.2817; DOC NO: 0810ED09; Archaeology) which determined that no historic properties will be affected by undertaking the project because:

- Previous grubbing/grading has altered the land; and
- There are no known archaeological resources located within the subject parcel. The project area has been previously mass graded during construction of the existing reservoir and it is unlikely that historic resources are located within the project area.

With regard to your comment:

...in the event that historic resources, including human skeletal remains, are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Oahu Section, needs to be contacted immediately at (808) 692-8015.

The construction plans will include the standard grading note to inform the Contractor of the SHPD notification requirement.

October 7, 2008

Kenneth Ishizaki, Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

LOG NO: 2008.2817
DOC NO: 0810ED09
Archaeology

Dear Mr. Ishizaki:

**SUBJECT: Chapter 6E-42 Historic Preservation Review –
Draft Environmental Assessment – Kapolei 215 Reservoir No. 2
Honouliuli Ahupua'a, 'Ewa District, Island of O'ahu
TMK: (1) 9-2-003:083**

Thank you for the opportunity to comment on the aforementioned draft Environmental Assessment (DEA), which we received on July 7, 2008. We apologize for the delayed response and we request that you consider our comments in the event that the project has not yet commenced. The proposed undertaking involves construction of a 4.0 million gallon water reservoir adjacent to the existing Kapolei Reservoir No.1.

We determine that **no historic properties will be affected** by this undertaking because:

- Intensive cultivation has altered the land
- Residential development/urbanization has altered the land
- Previous grubbing/grading has altered the land
- An accepted archaeological inventory survey (AIS) found no historic properties
- SHPD previously reviewed this project and mitigation has been completed
- Other: *There are no known archaeological resources located within the subject parcel. The project area has been previously mass graded during construction of the existing reservoir and it is unlikely that historic resources are located within the project area.*

However, in the event that historic resources, including human skeletal remains, are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, O'ahu Section, needs to be contacted immediately at (808) 692-8015.

Please contact Teresa Kaneakua-Davan at (808) 692-8015 if you have any questions or concerns regarding this letter.

Aloha,

Nancy McMahon, Archaeology and Historic Preservation Manager
State Historic Preservation Division
ED

ENGINEERING CONCEPTS, INC.

Ms. Nancy McMahon
July 13, 2009
Page 2

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,



Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Wayne Hashiro - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

PHONE (808) 594-1888



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

FAX (808) 594-1865

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AUG 15 2008

ENGINEERING CONCEPTS

HRD08/3052B

Kenneth Ishizaki
August 8, 2008
Page 2

immediate vicinity and the State Historic Preservation Division shall be contacted as noted on page 1-3 of the DEA.

Thank you for the opportunity to comment. If you have further questions, please contact Grant Arnold at (808) 594-0263 or e-mail him at granta@oha.org.

'O wau iho nō me ka 'oia'i'o,

A handwritten signature in black ink, appearing to read "Clyde W. Nāmu'o".

Clyde W. Nāmu'o
Administrator

C: Office of Environmental Quality Control
235 S. Beretania St., Suite 702
Honolulu, Hawaii 96813

C: Board of Water Supply
630 South Beretania St.
Honolulu, Hawaii 96843

August 8, 2008

Kenneth Ishizaki
Engineering Concepts, Inc.
1150 South King Street, Suite 702
Honolulu, Hawaii 96814

RE: Request for comments on the proposed 4.0 MG Kapolei 215 Reservoir No. 2 Draft Environmental Assessment (DEA), Kapolei Ahupua'a, 'Ewa District, Island of Oahu, TMK 9-2-003:083.

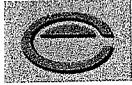
Aloha e Kenneth Ishizaki,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated July 3, 2008. OHA has reviewed the project and offers the following comments.

OHA understands that the proposed action involves expansion of the current water system storage capacity in the area by construction of a second 4.0 million gallon tank at the existing Kapolei 215 reservoir site.

OHA is concerned by an inconsistency in the DEA regarding cultural resources. On page 1-3 it states that the project "will have minimal impact on native Hawaiian cultural resources, beliefs and practices." However, on page 3-5 it states, "None of the community contacts queried by CSH identified any strong cultural concerns about the proposed project. Further, no on-going cultural practices were noted in the vicinity." Appendix B also reaffirms this statement. Therefore, OHA asks what impacts (minimal or otherwise) the applicant refers to on page 1-3, because none are identified or elaborated upon later in the DEA.

OHA asks that, in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if the project moves forward, and if any significant cultural deposits or human skeletal remains are encountered, work shall stop in the



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Consulting Engineers

ENGINEERING CONCEPTS, INC.

Mr. Clyde W. Namuo
August 21, 2008
Page 2

August 21, 2008

Mr. Clyde W. Namuo, Administrator
Office of Hawaiian Affairs
State of Hawaii
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Attention: Mr. Grant Arnold

**Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 8, 2008 (reference: HRD08/3052B) and offer the following response to your comments:

1. *OHA is concerned by an inconsistency in the DEA regarding cultural resources. On page 1-3 it states that the project "will have minimal impact on native Hawaiian cultural resources, beliefs and practices." However, on page 3-5 it states, "None of the community contacts queried by CSH identified any strong cultural concerns about the proposed project. Further, no on-going cultural practices were noted in the vicinity." Appendix B also reaffirms this statement. Therefore, OHA asks what impacts (minimal or otherwise) the applicant refers to on page 1-3, because none are identified or elaborated upon later in the DEA.*

The statement that the project "will have minimal impact on native Hawaiian cultural resources, beliefs and practices" made in the DEA on page 1-3 (and again on page 3-6) is directly from the Archaeological Assessment and Cultural Impact Evaluation by Cultural Surveys Hawaii (CSH) in Appendix B.

Section 3.5 (Archaeological, Historical and Cultural Resources) of the Final EA will be expanded to clarify the anticipated minimal impact on cultural resources, beliefs and practices.

2. *OHA asks that, in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if the project moves forward, and if any significant cultural deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State Historic Preservation Division shall be contacted as noted on page 1-3 of the DEA.*

The construction plans will include the standard grading note to inform the Contractor of the SHPD notification requirement.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,


Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

LINDA LINGLE
GOVERNOR



KAREN SEDDON
EXECUTIVE DIRECTOR



ENGINEERING CONCEPTS, INC.
Consulting Engineers

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AUG - 8 2008

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STATE OF HAWAII

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM
HAWAII HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
Honolulu, Hawaii 96813
FAX: (808) 587-0600

IN REPLY REFER TO:

08:PEO/102

August 8, 2008

August 6, 2008

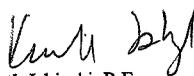
Ms. Karen Seddon, Executive Director
Hawaii Housing Finance and Development Corporation
Department of Business, Economic Development and Tourism
State of Hawaii
677 Queen Street, Suite 1300
Honolulu, Hawaii 96813

**Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 6, 2008 (reference: 08:PEO/102) and appreciate your support of the proposed action.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,


Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

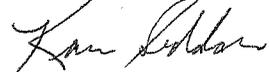
Dear Mr. Ishizaki:

Re: Draft Environmental Assessment (DEA) for Kapolei 215 Reservoir No. 2, Kapolei,
Oahu, Hawaii, TMK: 9-2-003: 083

We have reviewed the subject DEA and are supportive of the proposed action to expand the capacity of the BWS 215 water system storage system. The proposed action will ensure adequate potable water storage for domestic consumption and fire protection for residents in the Villages of Kapolei and adjoining areas.

Thank you for the opportunity to comment.

Sincerely,



Karen Seddon
Executive Director

c: Ms. Katherine Puana Kealoha, Office of Environmental Quality Control
Mr. Clifford P. Lum, Board of Water Supply
Mr. Brad Myers, Kapolei Property Development LLC

DEPARTMENT OF FACILITY MAINTENANCE
CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

MUFI HANNEMANN
MAYOR



August 1, 2008

Mr. Kenneth Ishizaki
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

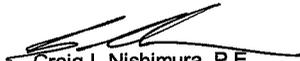
Subject: Draft Environmental Assessment (DEA)
Kapolei 215 Reservoir No. 2, Kapolei, Oahu
TMK: 9-2-003:083

Thank you for the opportunity to review and comment on the DEA dated May 2008, for the proposed Kapolei 215 Reservoir No. 2.

We have no comments to offer. The proposed reservoir and associated improvements will be constructed within property under the jurisdiction of the Board of Water Supply and will have negligible impact on our facilities and operations.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

Sincerely,


Craig I. Nishimura, P.E.
Director and Chief Engineer

cc: Office of Environmental Control
Board of Water Supply
Kapolei Property Development LLC

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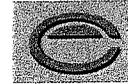
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ENGINEERING CONCEPTS

CRAIG I. NISHIMURA, P.E.
DIRECTOR AND CHIEF ENGINEER

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 08 - 634



ENGINEERING CONCEPTS, INC.
Consulting Engineers

August 8, 2008

Mr. Craig I. Nishimura, P.E.
Director and Chief Engineer
Department of Facility Maintenance
City and County of Honolulu
1000 Uluohia Street, Suite 215
Kapolei, Hawaii 96707

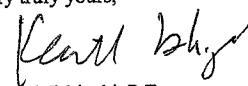
Attention: Mr. Charles Pignataro
Division of Road Maintenance

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 1, 2008 (reference: DRM 08-634) and understand that the Department of Facility Maintenance has no comments at this time.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,



Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

KAPOLEI HALE • 1000 ULUOHIA STREET, SUITE 309 • KAPOLEI, HAWAII 96707
TELEPHONE: (808) 768-3003 • FAX: (808) 768-7053 • INTERNET: www.honolulu.gov



July 14, 2008

MUFI HANNEMANN
MAYOR

Mr. Kenneth Ishizaki, Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

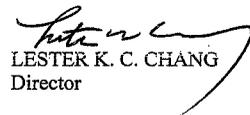
Dear Mr. Ishizaki:

Subject: Draft Environmental Assessment
Kapolei 215 Reservoir No. 2
Kapolei, Oahu, Hawaii TMK 9-2-003:083

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Kapolei 215 Reservoir No. 2.

The Department of Parks and Recreation has no comment and as the proposed reservoir project will not impact any program or facility of the department, you are invited to remove us as a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner, at 768-3017.


LESTER K. C. CHANG
Director

LKCC:jr
(269461)

cc: Ms. Katherine Puana Kealoha, Director, Office of Environmental Quality Control
Mr. Clifford Lum, Manager and Chief Engineer, Board of Water Supply
Mr. Brad Myers, President, Kapolei Property Development LLC

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JUL 15 2008

ENGINEERING CONCEPTS

LESTER K. C. CHANG
DIRECTOR

GAIL Y. HARAGUCHI
DEPUTY DIRECTOR



ENGINEERING CONCEPTS, INC.

Consulting Engineers

August 8, 2008

Mr. Lester K.C. Chang, Director
Department of Parks and Recreation
City and County of Honolulu
1000 Uluohia Street, Suite 309
Kapolei, Hawaii 96707

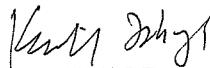
Attention: Mr. John Reid, Planner

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2**
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 14, 2008 (reference: 269461) and understand that the Department of Parks and Recreation has no comment, and that the project will not impact any program or facility of the department.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,


Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

850 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 768-8000 • FAX: (808) 527-6743
INTERNET: www.honolulu.gov • DEPT. WEB SITE: www.honolulu.gov



August 7, 2008

MUFI HANNEMANN
MAYOR

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AUG - 8 2008

ENGINEERING CONCEPTS

HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUÉ
DEPUTY DIRECTOR

2008/ELOG-1664 (TH)

Mr. Kenneth Ishizaki, Executive Vice President
Engineering Concepts, Inc.
August 7, 2008
Page 2

Furthermore, we believe that the proposed reservoir will be visible from the roadway serving both subdivisions. The FEA should disclose how this visual impact will be addressed, such as screening and landscaping strategies. This will address the planning policies in Section 3.4.2 of the Ewa DP that advocate maintaining public views along streets and highways and mauka-makai view corridors.

Thank you for the opportunity to comment on this matter. Should you have any questions, please contact Tim Hata of our staff at 768-8043.

Very truly yours,

A handwritten signature in black ink, appearing to read "Henry Eng".

Henry Eng, FAICP, Director
Department of Planning and Permitting

Mr. Kenneth Ishizaki, Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

Subject: Kapolei 215 Reservoir No. 2, Draft Environmental Assessment
Kapolei, Ewa, Oahu, Hawaii, Tax Map Key: 9-2-003:083

We have reviewed the subject Draft Environmental Assessment (DEA) and offer the following comments.

1. The Final EA should include a new section that discusses the proposed project's relationship to public land use plans and policies. This new section should specifically discuss the project's conformance to Chapter 205, Hawaii Revised Statutes that deals with the State Land Use Commission and State Land Use Districts, and the City's General Plan, Ewa Development Plan (DP), and Public Infrastructure Maps (PIM).
2. The proposed 4.0 million gallon (MG) potable water reservoir will require a revision to the Ewa PIM (Resolution 2000-37). Section 4-8.3(10) of Revised Ordinances of Honolulu (ROH) states that a water reservoir is a type of public infrastructure that must be shown on the PIM.

Therefore, Sections 1.6 and 2.2.1 (Land Use and Zoning), and Table 1-1 of the FEA should be revised to disclose this requirement. Discussion regarding the PIM can be included in the new section regarding public land use plans and policies.

3. Section 3.9.2 (Visual Resources) of the FEA should be expanded to explain that there are two (2) residential subdivisions referred to as "Makakilo C & D" currently being developed by D.R. Horton-Shuler Division. We believe that the proposed reservoir site will be visible to some homes in Phase I and II.

HE:js

cc: OEQC
BWS, Attn: Mr. Robert Chun
Kapolei Property Development, LLC, Attn: Mr. Steve Kelly

P:\DivFunction\EA-EIS\2008\2008elog1664



ENGINEERING CONCEPTS, INC.

Consulting Engineers

ENGINEERING CONCEPTS, INC.

Mr. Henry Eng
July 13, 2009
Page 2

July 13, 2009

Mr. Henry Eng, FAICP, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

**Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 7, 2008 (reference: 2008/ELOG-1664(TH)) and offer the following response to your comments:

1. *The Final EA should include a new section that discusses the proposed project's relationship to public land use plans and policies. This new section should especially discuss the project's conformance to Chapter 205, Hawaii Revised Statutes that deals with the State Land Use Commission and the State Land Use Districts, and the City's General Plan, Ewa Development Plan (DP), and Public Infrastructure Maps (PIM).*

Section 2.2.1 (Land Use and Zoning) will be expanded to address Chapter 205, HRS; the City's General Plan; the Ewa DP; and PIMs.

2. *The proposed 4.0 million gallon (MG) potable water reservoir will require a revision to the Ewa PIM (Resolution 2000-37). Section 4-8.3(10) of Revised Ordinances of Honolulu (ROH) states that a water reservoir is a type of public infrastructure that must be shown on the PIM.*

Therefore, Sections 1.6 and 2.2.1 (Land Use and Zoning), and Table 1-1 of the FEA should be revised to disclose this requirement. Discussion regarding the PIM can be included in the new section regarding public land use plans and policies.

Section 1.6 (Summary of Potential Impacts and Mitigation Measures), Section 2.2.1, and Table 1-1 (Permits and Approvals) will be revised to disclose revision of the PIM for inclusion of the proposed Kapolei 215 Reservoir No. 2. Coordination has been initiated with the City's Department of Planning and Permitting with regard to incorporating the project into the Ewa PIM.

3. *Section 3.9.2 (Visual Resources) of the FEA should be expanded to explain that there are two (2) residential subdivisions referred to as "Makakilo C & D" currently being developed by D.R. Horton-Schuler Division. We believe that the proposed reservoir site will be visible to some homes in Phase I and II.*

Furthermore, we believe that the proposed reservoir will be visible from the roadway serving both subdivisions. The FEA should disclose how this visual impact will be addressed, such as screening and landscaping strategies. This will address the planning policies in Section 3.4.2 of the Ewa DP that advocate maintaining public views along streets and highways and mauka-makai view corridors.

Section 3.9.2 of the DEA discloses the that proposed reservoir will be visible from the surrounding D.R. Horton - Schuler Division subdivision. For clarification, the write-up will be edited to specify there are two subdivisions (Makakilo C & D).

We understand that the Ewa DP advocates maintaining public views along streets and highways, and mauka-makai view corridors. Therefore, landscaping will be provided to screen the view of the reservoir. Section 3.9.2 will be revised to include this mitigative measure.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Wayne Hashiro - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 788-8305 • Fax: (808) 523-4730 • Internet: www.honolulu.gov

MUFI HANNEMANN
MAYOR



July 23, 2008

Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Attention: Mr. Kenneth Ishizaki:

Subject: Kapolei 215 Reservoir No. 2 Draft Environmental Assessment Report

This responds to your letter of July 3, 2008, requesting our review and comment on the Draft Environmental Assessment (DEA) for the Kapolei 215 Reservoir project.

We have no comments to offer at this time.

Thank you for the opportunity to review the report.

Very truly yours,

Handwritten signature of Wayne Y. Yoshioka in black ink.

WAYNE Y. YOSHIOKA
Director

cc: Office of Environmental Quality Control
Board of Water Supply
Kapolei Property Development LLC

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WAYNE YOSHIOKA
DIRECTOR

RICHARD F. TORRES
DEPUTY DIRECTOR

TP7/08-269307R



ENGINEERING CONCEPTS, INC.

Consulting Engineers

August 8, 2008

Mr. Wayne Y. Yoshioka, Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawaii 96813

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 23, 2008 (reference: TP7/08-269307R) and understand that the Department of Transportation Services has no comments at this time.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Handwritten signature of Kenneth Ishizaki in black ink.

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

836 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd



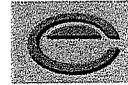
July 30, 2008

MUFI HANNEMANN
MAYOR

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Consulting Engineers

KENNETH G. SILVA
FIRE CHIEF

ALVIN K. TOMITA
DEPUTY FIRE CHIEF

August 8, 2008

Mr. Kenneth G. Silva, Fire Chief
Honolulu Fire Department
636 South Street
Honolulu, Hawaii 96813-5007

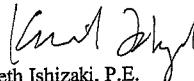
Attention: Mr. Socrates Bratakos, Battalion Chief
Fire Prevention Bureau

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 30, 2008 and understand that the Honolulu Fire Department has no objections to the proposed project.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,


Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

Subject: Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
Tax Map Key: 9-2-003: 083

In response to your letter of July 3, 2008, regarding the above-mentioned subject, the Honolulu Fire Department reviewed the material provided and has no objections to the proposed project.

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/SK:jl

cc: Katherine Puana Kealoha, State of Hawaii
Office of Environmental Quality Control
Clifford Lum, Board of Water Supply
Brad Myers, Kapolei Property Development LLC

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honoluluupd.org

MUFI HANNEMANN
MAYOR



OUR REFERENCE BS-DK

July 11, 2008

Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

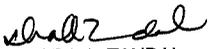
This is in response to a letter from your agency requesting comments on a Draft Environmental Assessment for the Kapolei 215 Reservoir No. 2 project.

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 Michael Moses of District 8 at 692-4253 or Mr. Brandon Stone of our Executive Office at 529-3644.

Sincerely,

BOISSE P. CORREA
Chief of Police

By 
DEBORA A. TANDAL
Assistant Chief of Police
Support Services Bureau

cc: Ms. Katherine P. Kealoha, OEQC
Mr. Clifford P. Lum, BWS
Mr. Brad Meyers, Kapolei Property
Development LLC

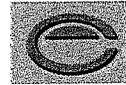
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BOISSE P. CORREA
CHIEF

PAUL D. PUTZULU
KARL A. GODSEY
DEPUTY CHIEFS



ENGINEERING CONCEPTS, INC.
Consulting Engineers

August 8, 2008

Mr. Boisse P. Correa, Chief of Police
Honolulu Police Department
801 South Beretania Street
Honolulu, Hawaii 96813

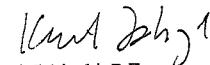
Attention: Ms. Debora A. Tandal, Assistant Chief of Police
Support Services Bureau

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii**
TMK: 9-2-003:083

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 11, 2008 (reference: BS-DK) and understand that the project should have no impact on the facilities or operations of the Honolulu Police Department.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,


Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

DEPARTMENT OF EMERGENCY MANAGEMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

Mufi Hannemann
MAYOR



Melvin N. Kaku
DIRECTOR

August 1, 2008

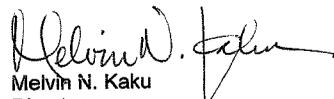
Mr. Kenneth Ishizaki, Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, Hawaii 96814

Dear Mr. Ishizaki:

SUBJECT: Kapolei 215 Reservoir No. 2,
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083

Thank you for opportunity to review and comment on the above subject matter. The Department of Emergency Management does not have any comments at this time.

Sincerely,

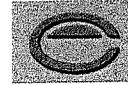

Melvin N. Kaku
Director

Cc: Ms. Katherine Puana Kealoha
Mr. Clifford P. Lum
Mr. Brad Myers

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AUG - 2 2008

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ENGINEERING CONCEPTS, INC.
Consulting Engineers

August 8, 2008

Mr. Melvin N. Kaku, Director
Department of Emergency Management
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: **Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083**

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated August 1, 2008 and understand that the Department of Emergency Management has no comments at this time.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,


Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

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DEC 26 2008

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December 22, 2008



ENGINEERING CONCEPTS, INC.

Consulting Engineers

July 13, 2009

Mr. Kirk S. Tomita
Senior Environmental Scientist
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

Attention: Ms. Michelle Yoshioka
Transmission & Distribution Division, Engineering Department

Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated December 22, 2008 and understand that you have no objections to the project and offer the following responses to your comments:

Transmission & Distribution Division, Engineering Department

1. Based on our utility research of the area, the only HECO overhead facility in the vicinity of the project site is an overhead pole line located along the reservoir access road to serve the Kapolei 215 reservoir site. Construction of the second reservoir at the site is not anticipated to affect this overhead pole line. Continued access shall be provided to HECO for maintenance of these facilities as required. Kapolei Property Development LLC will continue to keep you informed of the status of the proposed Kapolei 215 Reservoir No. 2 project. As requested, a copy of the construction plans of the project will be forwarded to you for your review.
2. Relocation of HECO's facilities is not anticipated with this project.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Wayne Hashiro - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

1150 South King Street, Suite 700 • Honolulu, Hawaii 96814
Tel (808) 591-8820 • Fax (808) 591-9010 • E-Mail: eci@echawaii.com



Mr. Kenneth Ishizaki
Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, HI 96814

Dear Mr. Ishizaki:

Re: Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu
TMK: 9-2-003:083

Thank you for the opportunity to comment on the DEA of the above-referenced project. Hawaiian Electric Company, Inc. (HECO) has no objections. The following comments were received from the Transmission & Distribution Division of our Engineering Department:

- (1) HECO has existing overhead facilities within the area of the subject project, and will require continued access for maintenance purposes. We appreciate your efforts to keep us apprised of the planning process. As the project progresses, please continue to keep us informed. We will be better able to evaluate any effects on our system facilities further along in the project's development. We request that development plans show all affected HECO facilities and address any conflicts between the proposed plans and our existing facilities. Please forward the pre-final development plans to HECO for review. A brief description and environmental analysis of any requirements for relocation or new facilities should be included in the DEA.
- (2) Should it become necessary to relocate HECO's facilities, please submit a request in writing and we will work with you so that construction of the project may proceed as smoothly as possible. Please note that there may be costs associated with any relocation work, and that such costs may be borne by the requestor. Because any redesign or relocation of our facilities may cause lengthy delays, upon determination that HECO facilities will need to be relocated or built, HECO should be notified immediately in order to minimize any delays in or impacts on the project schedule.

Our point of contact for this project is Michelle Yoshioka, Transmission & Distribution Division, Engineering Department (543-7082). I suggest dealing directly with her to coordinate HECO's continuing input in this project.

Sincerely,

Kirk S. Tomita
Senior Environmental Scientist

cc: Ms. Katherine Kealoha (OEQC)
Mr. Clifford P. Lum (C&C BOD)
Mr. Brad Myers (Kapolei Prop. Dev.)
M. Yoshioka/M. Lum/R. Tamayo



ROBERT Q. BRUHL
VICE PRESIDENT, OAHU DEVELOPMENT

July 24, 2008

Mr. Kenneth Ishizaki, Executive Vice President
Engineering Concepts, Inc.
1150 South King Street, Suite 700
Honolulu, HI 96814

Subject: Kapolei Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK 9-2-003: 083

Dear Mr. Ishizaki:

Thank you for providing the Draft Environmental Assessment regarding the Subject. We appreciate the information and find it comprehensive and well prepared. We also are thankful for your company's and client's proven willingness to maintain an ongoing dialogue with our company regarding all of your various projects where we, our homeowners and other stakeholders might be affected.

As you know, our Kahiwelo at Makakilo subdivision is under construction on lands immediately adjacent to your project site. Kahiwelo is planned for a total of 472 single-family homes and has an anticipated completion date of 2015. Over 150 of these homes will be constructed within a maximum radius of only a few hundred feet from the site of the Kapolei Reservoir No. 2. In fact, the closest homes border the site and are presently under construction, with the first turnovers to new homeowners expected later this year.

We note that the Subject is scheduled to begin construction this year and continue throughout 2009. Providing us with regular, perhaps quarterly, updates as to the Subject's construction schedule and progress will help us better plan and manage Kahiwelo's operations. It will also enable us to keep informed all those on our side who will be affected by it, most importantly the new homeowners. We appreciate your kind assistance with this request.

Thank you,

cc: Mr. Katherine Kealoha, OECC
Mr. Clifford Lum, BWS
Mr. Steve Kelly, KPD
Ms. Vanessa Yanagawa, DHI

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Consulting Engineers

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August 8, 2008

Mr. Robert Q. Bruhl
Vice President, Oahu Development
D.R. Horton Schuler Division
828 Fort Street Mall, 4th Floor
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (EA) for Kapolei 215 Reservoir No. 2
Kapolei, Ewa, Oahu, Hawaii
TMK: 9-2-003:083

On behalf of our client, Kapolei Property Development LLC, thank you for responding to our request for comments on the Draft EA. We reviewed your letter dated July 24, 2008 and understand your concerns for continued coordination with your adjacent residential construction project. Kapolei Property Development LLC will continue to keep you informed of the status of the proposed Kapolei 215 Reservoir No. 2 as design and construction proceeds.

Your letter and this response will be incorporated in the Final EA. Should you have any questions, please call me at 591-8820.

Very truly yours,

Kenneth Ishizaki, P.E.
Executive Vice President

cc: Ms. Katherine Puana Kealoha - Office of Environmental Quality Control
Mr. Clifford P. Lum - Honolulu Board of Water Supply
Mr. Brad Myers - Kapolei Property Development LLC

1150 South King Street, Suite 700 • Honolulu, Hawaii 96814
Tel (808) 591-8820 • Fax (808) 591-9010 • E-Mail: eci@ecihawaii.com