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STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
OFFICE OF CONSERVATION AND COASTAL LANDS  
POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

CDUA: OA-3754

MEMORANDUM

JUL 28 2015

To: Jessica Wooley, Director  
Office of Environmental Quality Control

From: Samuel J. Lemmo, Administrator  
Office of Conservation and Coastal Lands

Subject: Draft Environmental Assessment (DEA) for Conservation District Use Application (CDUA) OA-3754 for the Poka Place Diamond Head State Monument Encroachments  
Tax Map Key (TMK): (1) 3-1-042: 017 (por.)

The Department of Land and Natural Resources has reviewed the DEA for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Please publish notice of availability for this project in the August 8, 2015 issue of the *Environmental Notice*. We have enclosed one (1) hard copy of the DEA and OEQC publication form, as well as one (1) CD of the same in pdf format. A separate e-mail shall be sent with the OEQC publication form in word document format for publication purposes.

Please contact Lauren Yasaka of our Office of Conservation and Coastal Lands staff at 587-0386 should you have any questions.

Attachments: Draft EA, OEQC Pub Form, 1 CD

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

15 JUL 28 P4:31

RECEIVED

**APPLICANT ACTION  
SECTION 343-5(e), HRS  
PUBLICATION FORM**

**Project Name** Poka Place - Diamond Head State Monument Alleged Encroachments

**HRS §343-5 Trigger(s):** Use of State land

**Island:** Oahu

**District:** Diamond Head

**TMK:** (1) 3-1-042:017 (portion)

**Permits:** Conservation District Use Permit (CDUP)

**Approving Agency:**

Department of Land and Natural Resources, State of Hawai'i

Ms. Lauren Yasaka, (808) 587-0386

**Applicant:**

Poka Place LLC

3703 Poka Place

Honolulu, HI 96816

c/o Ed Saffery, (808) 547-5736

**Consultant:**

Ho'okuleana LLC

1539 Kanapu`u Drive

Kailua, HI 96734

Peter T Young, (808) 226-3567

**Status (check one only):**

\_X\_ DEA-AFNSI

Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to [oeqchawaii@doh.hawaii.gov](mailto:oeqchawaii@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.

\_FEA-FONSI

Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to [oeqchawaii@doh.hawaii.gov](mailto:oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

\_FEA-EISPN

Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to [oeqchawaii@doh.hawaii.gov](mailto:oeqchawaii@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.

\_Act 172-12 EISPN

Submit the approving agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to [oeqchawaii@doh.hawaii.gov](mailto:oeqchawaii@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.

\_DEIS

The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to [oeqc@doh.hawaii.gov](mailto:oeqc@doh.hawaii.gov)); a 45-day comment period ensues upon publication in the periodic bulletin.

\_FEIS

The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to [oeqc@doh.hawaii.gov](mailto:oeqc@doh.hawaii.gov)); no comment period ensues upon publication in the periodic bulletin.

\_Section 11-200-23  
Determination

The approving agency simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the applicant. No comment period ensues upon publication in the periodic bulletin.

\_Statutory hammer  
Acceptance

The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it failed to timely make a determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and that the applicant's FEIS is deemed accepted as a matter of law.

\_Section 11-200-27  
Determination

The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and

determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

\_\_\_Withdrawal (explain)

**Summary** (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

The subject parcel is located in Honolulu, O'ahu, Hawai'i, on the southern slope of Diamond Head Crater and part of the Diamond Head State Monument, under the jurisdiction of the DLNR Division of State Parks. The parcel is located in the Resource Subzone of the Conservation District. To the south of the State parcel is TMK (1) 3-1-042-017 which is currently owned by Poka Place, LLC.

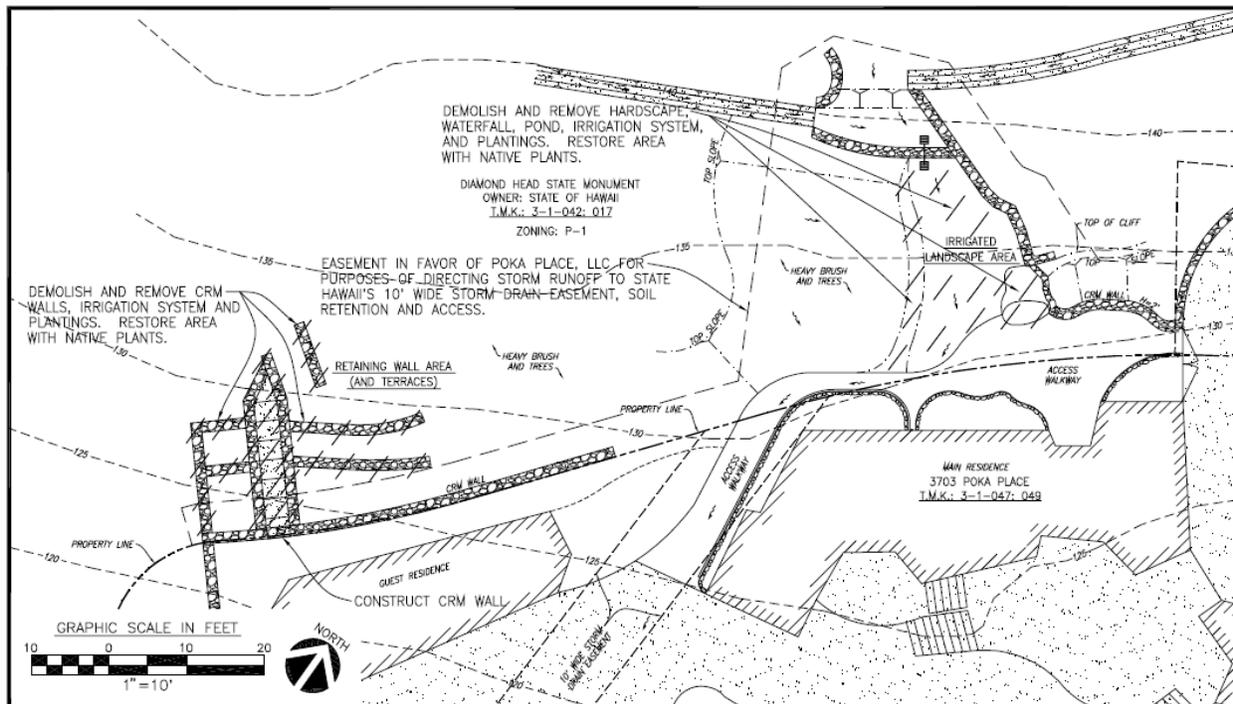
At an undetermined time previous, rock retaining walls, terraced walls and landscaping was added to the state property. On September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation that imposed certain actions that are the proposed actions of the Environmental Assessment. This environmental assessment is being prepared as part of resolving the issues with DLNR and applying for a Conservation District Use Permit with DLNR.

The proposed actions include the removal of the extraneous improvements including the terraced landscaping, irrigation system, waterfall and pond. These areas are to be restored with native plants. It is also recommended that drainage-related and soil retention improvements be retained. After removal of the extraneous improvements, the remaining walls will continue their initial intended purpose.

# Poka Place

## Diamond Head State Monument Encroachments

### Draft Environmental Assessment



Prepared for:  
**Approving Agency**  
State of Hawai'i Department of Land and Natural Resources  
&  
Applicant/Adjoining Property Owner  
Poka Place LLC

Prepared by:  
**Ho`okuleana LLC**  
*... to take responsibility ...*

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July 2015

**Project Name:** Poka Place - Diamond Head State Monument Alleged Encroachments

**Adjoining Property Owner:** Poka Place LLC  
3703 Poka Place  
Honolulu, HI 96816

**Approving Agency:** State of Hawai'i Department of Land and Natural Resources

**Anticipated Determination:** Finding of No Significant Impact (FONSI)

**Project Location:** Diamond Head, Honolulu, Hawai'i

**TMK:** (1) 3-1-042: 017 (portion)

**Land Use Classification:** County Zoning: P-1 (Adjoining Property is R-10)  
Development Plan: Preservation (Adjoining is Lower-Density Residential)  
State Land Use Designation: Conservation (Resource)

**Land Area:** Approximately 2,000-square feet  
Portion of the 6.465-acre property

**EA Trigger:** Property is within the Conservation District; State of Hawai'i property

**Approvals Required:** Conservations District Use Permit (CDUP) and BLNR resolution of enforcement of alleged encroachment and use of State property

**Summary:**

The subject parcel is located in Honolulu, Oahu, Hawaii, on the southern slope of Diamond Head Crater and part of the Diamond Head State Monument, under the jurisdiction of the DLNR Division of State Parks. The parcel is located in the Resource Subzone of the Conservation District. The area in question is located on the southern boundary of the parcel.

To the south of the State parcel is TMK (1) 3-1-047-049 which is currently owned by Poka Place, LLC. The Poka Place lot includes a main residence as well as a guest residence, a carport and pool. Between the two residences is a 10-foot wide storm drainage easement in favor of the State.

In July 2013, OCCL opened an investigation into the alleged unauthorized uses on Conservation lands. On September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation that noted, in part, that Poka Place LLC shall:

- 1) Apply for and after-the-fact Conservation District Use Permit (CDUP) Departmental Permits for earth retention walls and landscaping improvements.
- 2) Remediate and restore the terraced landscaping areas, pursuant to approval of plans by the Department.
- 3) Remediate the irrigated landscaping area to the extent in which the drainage purpose of the area is maintained.
- 4) Remove the extraneous improvements (i.e. waterfall and pond) and restore area pursuant to approval of plans by the Department.
- 5) Remove and/or replace introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, or allow the area to re-grow naturally.

**Agencies and Organizations who were sent the Draft EA for comments:**

Federal

U.S. Department of the Interior, Fish & Wildlife Service

State of Hawai'i

Department of Business, Economic Development & Tourism – Office of Planning

Department of Health

Department of Land & Natural Resources

Department of Transportation

Office of Hawaiian Affairs

Waikiki-Kapahulu Public Library

City & County of Honolulu

Department of Planning and Permitting

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## **Chapter 1 – Introduction – Brief Summary of Issues/Actions**

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This Environmental Assessment (EA) represents Poka Place LLC's analysis in compliance with State environmental review statutes including Chapter 343, Hawai'i Revised Statutes (HRS).

This Environmental Assessment (EA) evaluates the activities to remove, remediate and restore the terraced landscaping areas on State land within the Diamond Head State Monument, in accordance with directives from the Board of Land and Natural Resources (DLNR) related to an alleged encroachment onto State land.

The purpose of the EA is to inform the relevant county, state and federal agencies and the public of the likely environmental consequences of resolving the issues with DLNR and applying for a Conservation Use Permit with DLNR.

### **1.1 Overview & Background**

---

The subject parcel is located in Honolulu, O'ahu, Hawai'i, on the southern slope of Diamond Head Crater and part of the Diamond Head State Monument (DHSM,) under the jurisdiction of the DLNR Division of State Parks. The parcel is located in the Resource Subzone of the Conservation District. The area in question is located on the southern boundary of the parcel.

To the south of the State parcel is TMK (1) 3-1-047-049 (3703 Poka Place) which is currently owned by Poka Place, LLC. The Poka Place lot includes a main residence as well as a guest residence, a carport and pool. Between the two residences, the private property is encumbered by a 10-foot wide storm drainage easement in favor of the State. The land area where the proposed actions would take place is approximately 2,000-square feet.

A "Notice of Alleged Violation" letter from the Department of Land and Natural Resources, State of Hawai'i, dated July 12, 2013 was received by the attorneys (Goodsill Anderson Quinn & Stifel) representing the Poka Place LLC, owners of the property at 3703 Poka Place. The letter states that a site inspection was conducted on July 8, 2013 and revealed that various improvements (retaining walls, terraces, and irrigated landscaping were constructed within the DHSM property and within the conservation district without the authorization of the State of Hawai'i.

In response, the private property owner retained Alpha Engineers, Inc to evaluate the matter and make recommendations to address the alleged violations.

Alpha Engineers, Inc. evaluated the improvements and in addressing the BLNR actions as well as evaluating the nature of the site and improvements concluded:

The lot at is located within the Diamond Head area on the Island of Oahu. The Tax Map Key is 3-1-47: 49 and the lot area are 11,006 square feet or 0.253 acres. Access to the lot is from a 24-foot wide road easement from the end of Poka Place to the northeast. The Diamond Head State Monument is to the north and west of the lot with Diamond Head Road to the south.

The private lot is zoned residential district (R-10) and has a main single-family residence and a single-family residence for guests. Other structures include a carport and pool. North of the lot is the DHSM which is owned by the State of Hawaii and is zoned restricted preservation (P-1) and is in the State Conservation District, General subzone. Site improvements within the DHSM include retaining walls (CRM walls), terraces, and irrigated landscaping (including a pond and waterfall).

The topography of the lot is steep. The existing ground at the center of the lot slopes about 22 percent with elevations ranging from about 130 feet mean sea level (msl) north of the lot to 113 feet msl south of the lot.

The soil of the northern area of the lot consists of Rock land (rRK) which is made up of areas where exposed rock covers 25 to 90 percent of the surface. The rock outcrops and very shallow soils are the main characteristics. The rock outcrops are mainly basalt.

Offsite runoff is conveyed to the lot from the DHSM. A large portion of this runoff is collected within a small valley along the DHSM slope which lies to the north and center of the lot. Runoff from the valley is discharged into the lot and flows along the walkway, between the main and guest residences and into Diamond Head Road. Within the lot there is a 10 feet wide storm-drain easement that roughly aligns with the path of the runoff. Runoff from other areas of the DHSM sheet flows into the lot.

On September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation related to the alleged encroachments.

In their November 10, 2014 letter, Alpha Engineers Inc., after further analysis and information provided by the property's caretaker, explained in detail their evaluation of the drainage and erosion control features constructed within the Diamond Head State Monument:

"It appears that some of the walls were built for the purpose of directing drainage to the State storm drain easement."

"This was confirmed by Matthew Mendez, caretaker of the lot who had stated that the wall improvements at the Diamond Head State Monument drainage way direct the storm water runoff into the State storm drain easement."

"Also, the wall spanning across the drainage way traps debris thus, protecting the onsite structures from damage and the residents from harm. Other walls are in-place to retain soil due to the nature of the slope and soil composition. These walls are recommended to remain."

"There were no major changes to the existing topographical and vegetation condition and no expansion or changes in use of the subject area beyond that previously existing."

"The recommended actions include the removal of the extraneous improvements including the terraced landscaping, irrigation system, waterfall and pond. These areas are to be restored with native plants. It is also recommended that drainage-related and soil retention improvements be retained. After removal of the extraneous improvements, the remaining walls will continue their initial intended purpose."

## 1.2 Purpose & Need

---

The subject parcel is located in Honolulu, O‘ahu, Hawai‘i, on the southern slope of Diamond Head Crater and part of the Diamond Head State Monument, under the jurisdiction of the DLNR Division of State Parks. The parcel is located in the Resource Subzone of the Conservation District. The area in question is located on the southern boundary of the parcel.

To the south of the State parcel is TMK (1) 3-1-042-017 which is currently owned by Poka Place, LLC. The Poka Place lot includes a main residence as well as a guest residence, a carport and pool. Between the two residences is a 10-foot wide storm drainage easement in favor of the State.

In July 2013, OCCL opened an investigation into the alleged unauthorized uses on Conservation lands. On September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation that imposed certain actions that are the proposed actions of the Environmental Assessment. This environmental assessment is being prepared as part of resolving the issues with DLNR and applying for a Conservation District Use Permit with DLNR.

At an undetermined time previous, rock retaining walls, terraced walls and landscaping was added to the state property. In response to the alleged unauthorized use on the State-owned Conservation lands Alpha Engineers was retained by the adjoining privately owned parcel to determine the impact on the other lot improvements (single-family structures, carport, pool, walkways, etc.) should the State of Hawai‘i require the removal of various site improvements (retaining walls, terraces, and irrigated Landscaping) that were constructed within the Diamond Head State Monument (DHSM) and within the conservation district.

The topography of the lot is steep. The existing ground at the center of the lot slopes about 22 percent with elevations ranging from about 130 feet mean sea level (msl) north of the lot to 113 feet msl south of the lot. Offsite runoff is conveyed to the lot from the DHSM. A large portion of this runoff is collected within a small valley along the DHSM slope which lies to the north and center of the lot. Runoff from the valley is discharged into the lot and flows along the walkway, between the main and guest residences and into Diamond Head Road. Within the lot there is a 10 feet wide storm drain easement that roughly aligns with the path of the runoff.

The cement nibble masonry (CRM) wall parallel to and offset four feet from the guest residence, near the northwest corner of the lot varies in height from about 4.5 feet to 7.5 feet. It was installed to stabilize the slope and protect the structure from falling/sliding debris. The other CRM walls within the same area were constructed to terrace the area and provide a measure of drainage control and water quality improvement of the runoff from the slopes of the DHSM.

The irrigated landscape area within the DHSM includes a 2.4 feet high CRM wall that ‘dams’ the flow of the small valley. The ponding behind the CRM wall is a detention basin that reduces flooding of the downstream area. It also acts as a boulder basin that traps heavy debris behind the wall preventing damage to downstream improvements. During periods of heavy rainfall, runoff fills the detention basin and overflows the ‘dam’ and flows toward the main residence. There are rock curbs adjacent to the residence that maintain the flow within the walkway (away from the structure). However, there are gaps in the rack curb and those gaps should be provided with a continuous rock curb.

The main area of the irrigated landscape area is below the CRM wall dam is about 500 square feet and includes a small pond, waterfall, irrigation system, CRM walls, and paved rock walkways. They provide a measure of erosion control, slope stability and open space.

It appears that some of the walls were built for the purpose of directing drainage to the State storm drain easement. This was confirmed by Matthew Mendez, caretaker of the lot who had stated that the wall improvements at the DHSM drainage way direct the storm water runoff into the State storm drain easement. Also, the wall spanning across the drainage way traps debris, thus protecting the onsite structures from damage and the residents from harm. Other walls are in-place to retain soil due to the nature of the slope and soil composition. These walls are rproposed to remain.

There were no major changes to the existing topographical and vegetation condition and no expansion or changes in use of the subject area beyond that previously existing.

The proposed actions include the removal of the extraneous improvements including the terraced landscaping, irrigation system, waterfall and pond. These areas are to be restored with native plants. It is also recommended that drainage-related and soil retention improvements be retained. After removal of the extraneous improvements, the remaining walls will continue their initial intended purpose.

### **1.3 Proposed Actions**

---

In response to the directive and action by the Board of Land and Natural Resources (BLNR,) the adjoining property owner is applying for a Conservation District Use Permit. Associated with that action, this Environmental Assessment represents Poka Place LLC's analysis in compliance with State environmental review statutes including Chapter 343, Hawai'i Revised Statues (HRS).

This Environmental Assessment (EA) evaluates the activities to remove, remediate and restore the terraced landscaping areas on State land within the Diamond Head State Monument, in accordance with directives from the Board of Land and Natural Resources related to an alleged encroachment onto State land.

The purpose of the EA is to inform the relevant county, state and federal agencies and the public of the likely environmental consequences of the proposed actions.

The proposed actions are those approved on September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation related to the alleged encroachments and noted, in part, that Poka Place LLC shall:

- 1) Apply for and after-the-fact Conservation District Use Permit (CDUP) Departmental Permits for earth retention walls and landscaping improvements.
- 2) Remediate and restore the terraced landscaping areas, pursuant to approval of plans by the Department.
- 3) Remediate the irrigated landscaping area to the extent in which the drainage purpose of the area is maintained.
- 4) Remove the extraneous improvements (i.e. waterfall and pond) and restore area pursuant to approval of plans by the Department.

- 5) Remove and/or replace introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, or allow the area to re-grow naturally.

#### **1.4 Responsible Parties**

---

Applicant - Adjoining Property Owner: Poka Place LLC

Approving Agency: State of Hawai'i Department of Land and Natural Resources

#### **1.5 Proposed Actions Status & Implementation Schedule**

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The proposed actions are being further evaluated by Alpha Engineers, Inc; they previously prepared a Site Improvements Assessment of the property (November 2013.) (Appendix A) As required by the BLNR, a set of engineered and approved stamped plans will be submitted along with the CDUP application.

Following the approval of the plans and issuance the Conservation District Use Permit, the removal, remediation and restoration activities in the terraced landscaping areas will be conducted.

#### **1.6 Required Permits & Approvals**

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The proposed actions require a Conservation District Use Permit from the Department of Land and Natural Resources.



## Chapter 2 - Project Description

This chapter gives a general description of the project, its location and proposed actions.

### 2.1 Location of Proposed Actions

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Diamond Head, also known as Lē‘ahi, lies on the southern coastline of O‘ahu, approximately one and a half miles south of the slopes of the Ko‘olau range. Diamond Head is a nearly circular crater of approximately two-thirds of a mile in diameter and is bounded by Diamond Head Road and Monsarrat Road.

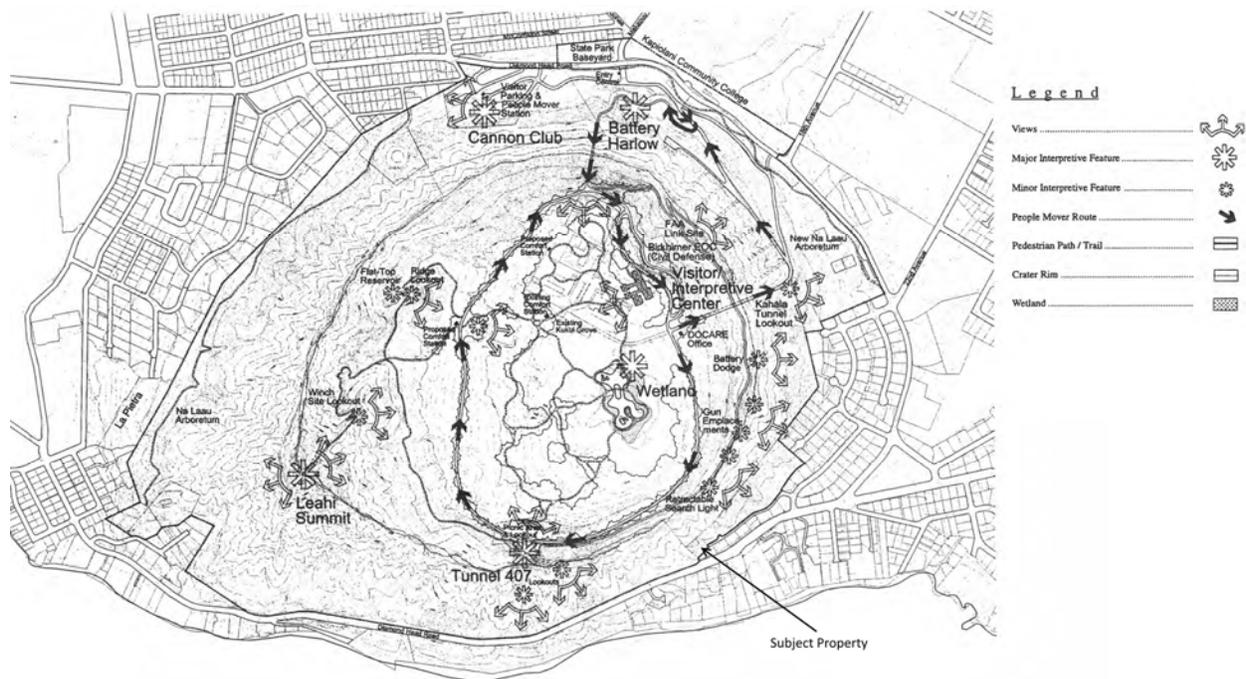
To the northwest are residences, Kapi‘olani Park, the Honolulu Zoo and Waikīkī. To the north are the Cannon Club, Kapi‘olani Community College and the residential areas of Kapahulu and Kaimukī. To the east is the residential area of Kāhala. To the south is Diamond Head Road and Diamond Head Beach Park.



Diamond Head State Monument (DHSM) was first officially established under Executive Order 2000 by Hawai‘i’s Governor Quinn in 1962. This early designation covered about 145 acres in a horseshoe configuration preserving the famous profile and the south and west exterior slopes from the crater rim down to Diamond Head Road. Subsequently, Executive Orders 3642, 3688, and 3743 have added additional lands to the Monument.

The interior of the crater had been closed to the public from 1906 until 1968, when it was opened to crater festivals and hiking under permit from the State Department of Defense (State DOD). In 1976 the Division of State Parks, Outdoor Recreation and Historic Sites (now called “Division of State Parks”), under the direction of the Department of Land and Natural Resources (DLNR), became the agency generally responsible for the planning and management of the Monument and, given the responsibility of managing portions of the crater, with the understanding that in the near future the lands would be set aside into the State Monument, so that the Parks Division rules and regulations would be applicable along with the enforcement.

The crater is a National Natural Landmark and a State Monument. In order to preserve its natural appearance and view aspects, the crater was placed and remains within the State Conservation (Land Use) District and also within the City and County of Honolulu Diamond Head Special District.



**Diamond Head Monument Master Plan – PBR, DLNR**

The Conservation District limits types of land uses and activities, while the Special District protects the view of the Monument. The Monument is thus stabilized, and “mounted” into an essentially permanent setting - a large, undeveloped, natural feature ringed with urban developments of low-rise homes, parks, and government facilities such that the natural appearance of the crater can be viewed and appreciated from Koko Head to Ewa, from miles out to sea as an icon of Hawai‘i.

The National Natural Landmark title is bestowed as an honor upon an outstanding natural landmark by the Federal government. The objectives of the natural landmark program are to encourage the preservation of sites importantly illustrating the geologic and ecologic character of America; to enhance the educational and scientific value of sites so preserved; to strengthen the cultural appreciation of the natural history of America among people; and to foster a greater concern and involvement in the conservation of America’s natural heritage among Federal, State, and local governments, citizens organizations and individuals. There are no rules or regulations for this special award, and conservation is the responsibility of the owner (State of Hawai‘i).

State Parks criteria define State Monuments as: “Areas, usually limited in size, established primarily to preserve objects of historic and/or scientific interest, and places commemorating important persons or historic events. The only facilities usually provided are those required for the safety and comfort of the visitors, such as access, parking, water, sanitation, interpretive devices, and sometimes facilities for picnicking and other recreational facilities.”

The State Land Use Commission (LUC) places all lands in the State of Hawai‘i in one of four land use districts: urban, agriculture, conservation, or rural. DHSM consists primarily of conservation district land. Only a very small portion of the DHSM lies in the urban district and is subject to City and County of Honolulu zoning regulations.

Conservation District land is subject to the administrative rules of the Hawai‘i State Department of Land and Natural Resources (DLNR), Title 13, Chapter 5. These rules define four subzones of conservation district land, two of which apply to the DHSM.

Resource (R) subzone: The objective of this subzone is “to develop, with proper management, areas to ensure sustained use of the natural resources of those areas.” The resource subzone encompasses lands used for parks or for outdoor recreational uses. Most of the DHSM (including the subject property) is currently designated as an R (Resource) subzone.

The property is within the City and County’s P-1 zoning district. The P-1, Restricted Preservation District establishes most of DHSM’s underlying zoning, it is “intended that all lands within a state-designated conservation district be zoned P-1 restricted preservation district.” As such, “within the P-1 restricted preservation district, all uses, structures and development standards shall be governed by the appropriate state agencies.”

The entire DHSM lies within the Special Management Area (SMA), a County designation designed to protect shoreline areas and natural resources of the coastal zone.

In correspondence (December 4, 2014) related to SMA determination and requirements the City may impose for the proposed actions, the City’s Director of Planning and Permitting noted, the parcel “The above parcel is entirely within the P-1 Restricted Preservation District. The City and County of Honolulu has no jurisdiction over this land. We suggest that you contact the State of Hawaii, Department of Land and Natural Resources with any questions pertaining to this parcel as they are the governing agency.” (Appendix C)

## **2.2 Proposed Actions**

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A Site Improvements Assessment was prepared by Alpha Engineers, Inc to determine the impact on the other lot improvements (single-family structures, carport, pool, walkways, etc ) should the State of Hawaii require the removal of various site improvements (retaining walls, terraces, and irrigated Landscaping) that were constructed within the DHSM property and within the conservation district. (Appendix A)

That analysis concluded the following and provided several recommendations:

## Retaining Walls

Of primary importance is the CRM wall located north and parallel to the guest residence. The CRM wall provides slope protection of the guest residence from falling debris and/or slides. Restoring this area to its original state requires removing the CRM wall which will render the slope face unstable and jeopardize the safety of the guest residence and the people residing there.

Of secondary importance are the other CRM walls used to terrace the immediate area for landscaping/gardening. These walls and terraces provide erosion control, slope stability and a measure of drainage and water quality control of the runoff.

## Irrigated Landscape Area

Of primary importance is the CRM wall acting as a dam and detention basin of the small valley. The wall traps boulders and debris, detains runoff of smaller storms and improves stormwater quality. Removal of the CRM wall may increase the damaging impact of boulders, debris and runoff to downstream improvements including the main residence.

Of secondary importance are the other CRM walls above and below the dam, and the irrigated landscape area.

In subsequent correspondence, Wade Kagawa, Engineer with Alpha Engineer, Inc, noted, "It appears that some of the walls were built for the purpose of directing drainage to the State storm drain easement."

"This was confirmed by Matthew Mendez, caretaker of the lot who had stated that the wall improvements at the DHSM drainage way direct the storm water runoff into the State storm drain easement. Also, the wall spanning across the drainage way traps debris thus protecting the onsite structures from damage and the residents from harm. Other walls are in-place to retain soil due to the nature of the slope and soil composition. These walls are recommended to remain."

"There were no major changes to the existing topographical and vegetation condition and no expansion or changes in use of the subject area beyond that previously existing."

"The recommended actions include the removal of the extraneous improvements including the terraced landscaping, irrigation system, waterfall and pond. These areas are to be restored with native plants. It is also recommended that drainage-related and soil retention improvements be retained. After removal of the extraneous improvements, the remaining walls will continue their initial intended purpose."

"The property owner will also be pursuing an easement from the State for these remaining improvements for periodic repair and maintenance, as well as access through the area."

## Landscaping

The existing vegetation is consistent with the soil survey issued by the United States Department of Agriculture Soil Conservation Service in 1972, stating the natural vegetation of this area consists of Kiawe, Koa Haole, Lantana, Bermudagrass and Fingergrass.

The proposed ground cover planting on the hillside to be restored will be a mixture of Bermudagrass and Fingergrass which is the predominant existing vegetation in the area. This seed mix will be distributed on the sloping grade over an erosion control mat to mitigate erosion.

A temporary irrigation system will be required to help get these grass seeds get established. Native Naupaka Kahakai shrubs will be planted above the existing retaining wall along the property line. The Naupaka will have a permanent drip irrigation system to help sustain the shrubs.

The proposed actions are those approved on September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation related to the alleged encroachments and noted, in part, that Poka Place LLC shall:

- 1) Apply for and after-the-fact Conservation District Use Permit (CDUP) Departmental Permits for earth retention walls and landscaping improvements.
- 2) Remediate and restore the terraced landscaping areas, pursuant to approval of plans by the Department.
- 3) Remediate the irrigated landscaping area to the extent in which the drainage purpose of the area is maintained.
- 4) Remove the extraneous improvements (i.e. waterfall and pond) and restore area pursuant to approval of plans by the Department.
- 5) Remove and/or replace introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, or allow the area to re-grow naturally.

Removal of the retaining walls, vegetation, etc will be primarily with hand tools, including, picks, pry bars, hoes, shovels, wheel barrows, etc. It is expected that a jack hammer will be used to break apart some of the concreted sections (it would be stationed down on Diamond Head road, with hoses running up the hill to the site.)

Two anticipated removal methods are contemplated: for the Poka Place side of the property, smaller trucks will be used to remove rocks and vegetation. On the other side, a chute (sectional construction type or made on site) will guide material from the house site down into a semi-, dump or other sized truck parked on Diamond Head Road.

The following images show the area and drawings of the existing (before) condition (and notation of areas to be removed,) as well what will remain after the removal, remediation and restoration activities in the terraced landscaped areas.



**Pond, Waterfall and Landscaping to be Removed - CRM Wall to Right to Remain**



**Landscaping and Waterfall to be Removed - CRM Wall to Right to Remain**



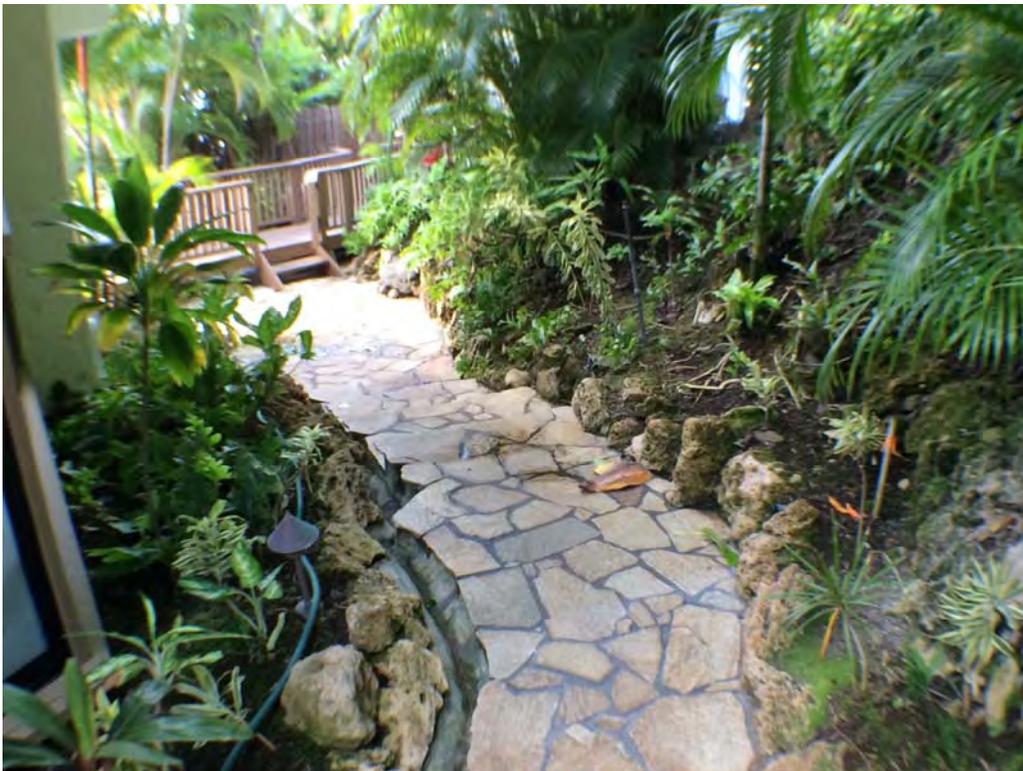
**Upper Drainage Collection Swales to Remain - None Native Landscaping to be Removed**



**Retention Basin and Walls to Remain**



**Walkway and Retaining Wall to Remain - Non-Native Landscaping and Pool to be Removed**



**Drainageway to Remain (Part of Drainage Easement)**



**Retaining Wall to Remain**



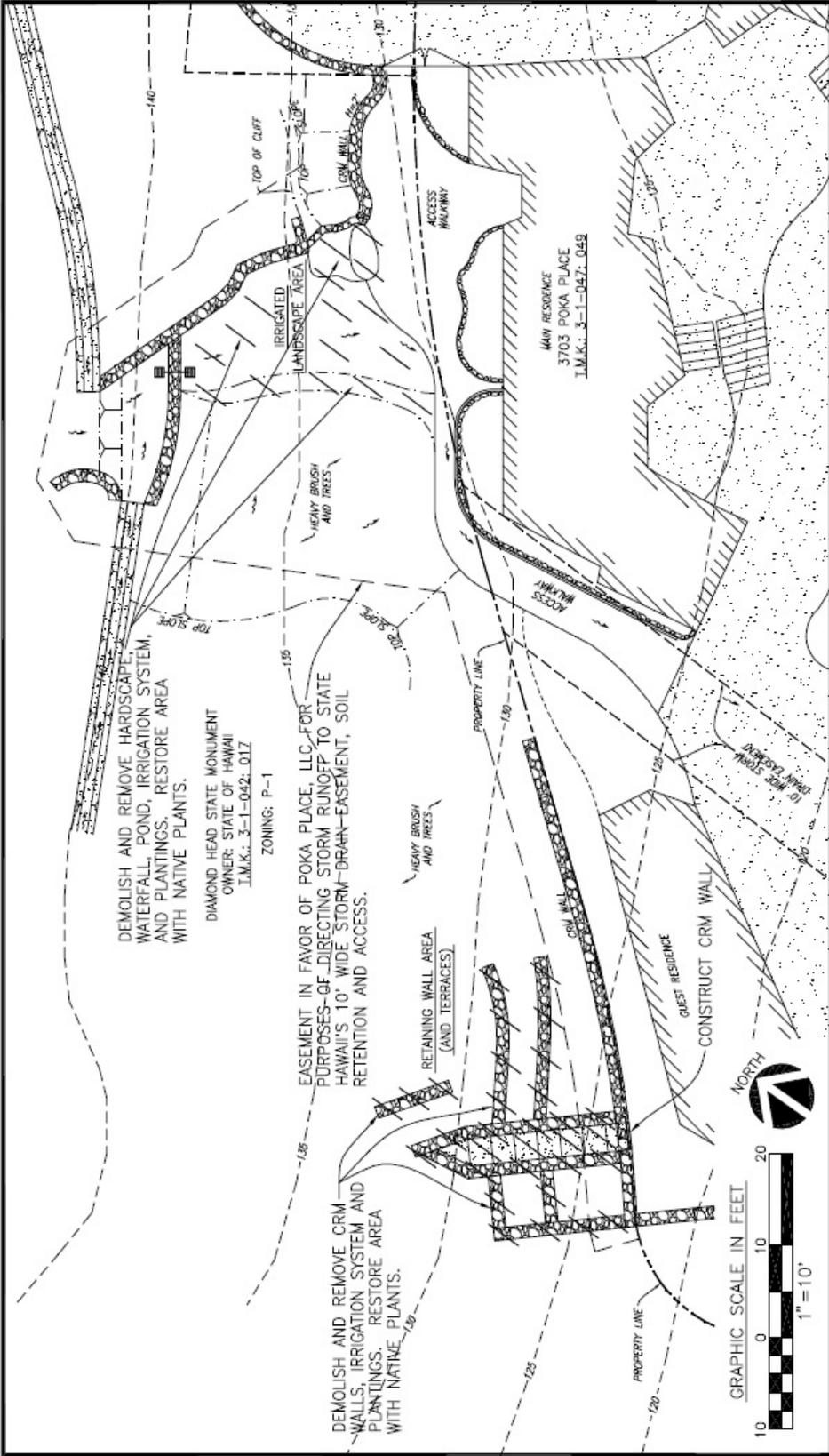
**Retaining Wall to Remain - Steps and Side Walls to be Removed - Retaining Wall to Fill Opening**



**Terracing, Walls and Non-Native Landscaping to be Removed**



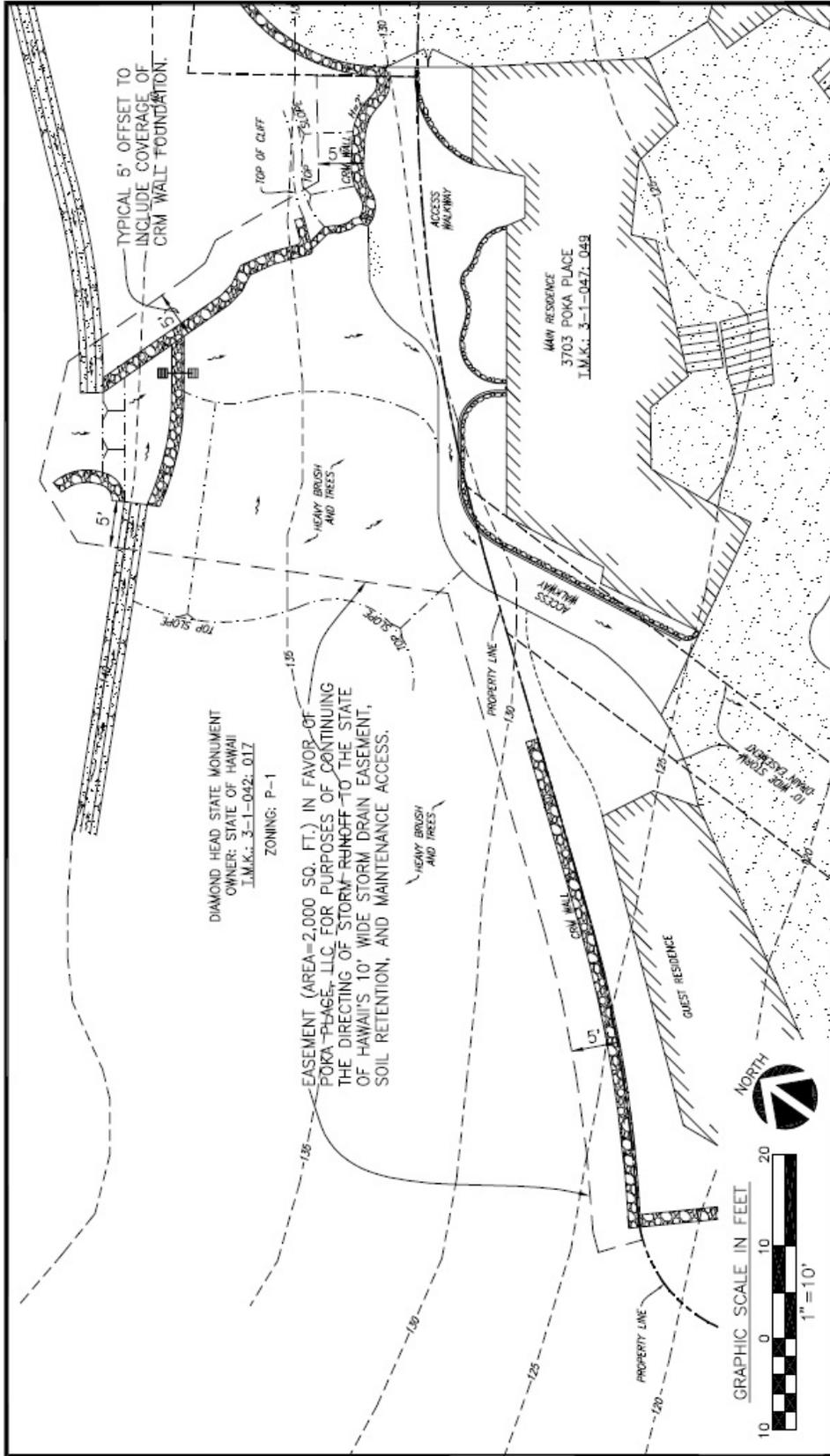
**Terracing Walls to be Removed - Lower Retaining Wall to Remain**



PRE-CONSTRUCTION DWG. NO.  
SITE PLAN C-1

3703 POKA PLACE  
HONOLULU, OAHU, HAWAII  
T.M.K.: 3-1-047: 049  
Prepared By: Alpha Engineers, Inc.

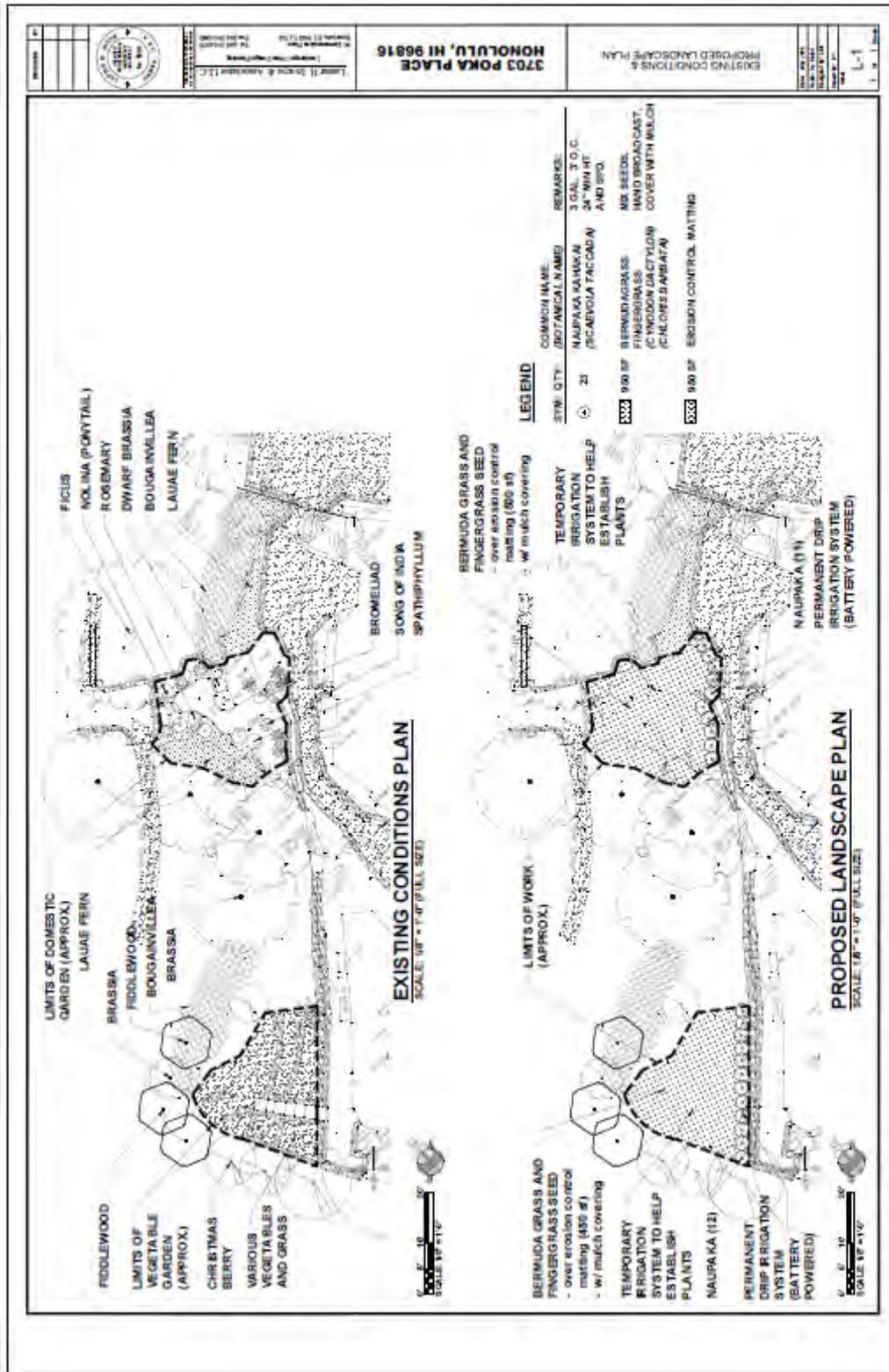
Site Plan - Before - Noting Improvements to be Removed



POST-CONSTRUCTION DWG. NO.  
 SITE PLAN C-2

3703 POKA PLACE  
 HONOLULU, OAHU, HAWAII  
 T.M.K.: 3-1-047: 049  
 Prepared By: Alpha Engineers, Inc.

Site Plan - After - Extraneous Improvements Removed



Landscaping Plan – Before/After - Extraneous Improvements Removed – Area Relandscaped

## **Chapter 3 - Environmental Assessment Alternatives**

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This chapter lists and describes the various alternatives, including the preferred alternative, for the development of the Poka Place project.

### **3.1 Alternative 1 - No Action**

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Under the “no action” alternative, no action would be taken and the project area would be left in its current state.

The ‘no action’ alternative is contrary to the instructions of the Board of Land and Natural Resources (BLNR) that the adjoining property owner is required to remove alleged encroachments that are on State property.

As such, the ‘no action’ alternative was not considered viable and the analysis is based on the preferred alternative, noted below.

### **3.2 Alternative 2 - Proceed with Project as Described - Preferred Alternative**

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The preferred alternative is to implement the proposed actions unanimously approved on September 12, 2014, by the BLNR, as recommended by staff, related to the alleged encroachments and noted, in part, that Poka Place LLC shall:

- 1) Apply for and after-the-fact Conservation District Use Permit (CDUP) Departmental Permits for earth retention walls and landscaping improvements.
- 2) Remediate and restore the terraced landscaping areas, pursuant to approval of plans by the Department.
- 3) Remediate the irrigated landscaping area to the extent in which the drainage purpose of the area is maintained.
- 4) Remove the extraneous improvements (i.e. waterfall and pond) and restore area pursuant to approval of plans by the Department.
- 5) Remove and/or replace introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, or allow the area to re-grow naturally.

Because the proposed action is the result of a decision of the Board of Land and Natural Resources, no other alternative was considered.

## **Chapter 4 - Environmental Setting, Impact & Mitigation**

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This chapter presents the current description of the environmental setting in the region and within the project area. Mitigation measures identified in this EA have been developed to avoid, minimize, rectify or reduce the project's potential adverse environmental impacts. Mitigation measures have been considered throughout the project's planning process and incorporated into the project's design and construction plans.

The information about existing conditions, potential project impacts and potential mitigation measures presented in this Chapter has been developed through the review and use of existing information related to the project area.

Since the subject property is State-owned land that is part of the Diamond Head State Monument and a Master Plan and EIS have been prepared for the Monument, much of the information in this environmental assessment is taken from those two documents, including their associated environmental and other studies.

### **4.1 Introduction**

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Each section in this Chapter discusses:

- (a) Environmental Setting - current conditions and/or management practices in the project area related to the specific environmental subject,
- (b) Potential Environmental Impacts and Mitigation Measures - the project's potential long-term operation phase impacts related to the specific environmental subject, and the potential mitigation measures that could be implemented by the project to avoid, minimize, rectify, or reduce potential substantial adverse environmental impacts, and
- (c) Level of Impact after Mitigation - the project's relative potential impact that will remain after the potential mitigation measures are implemented.

#### **4.1.1 Environmental Setting**

"Environmental Setting" describes the existing environmental conditions in the project area and the region as it currently exists, before the commencement of the project. This provides a baseline for comparing "before the project" and "after the project" environmental conditions.

#### **4.1.2 Potential Environmental Impacts & Mitigation Measures**

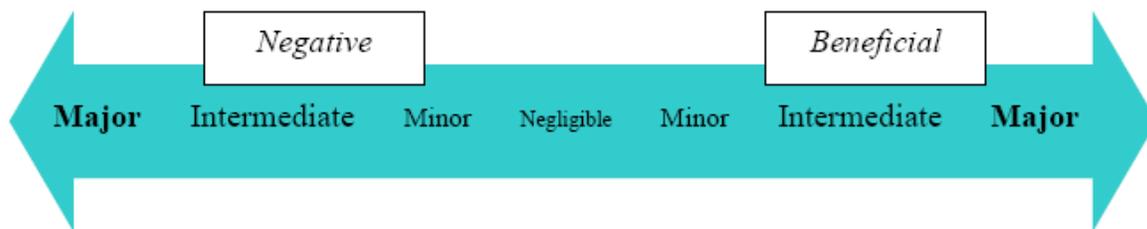
Potential environmental impacts are assessed through thresholds used to determine level of impact. "Thresholds Used to Determine Level of Impact" defines and lists specific criteria used to determine whether an impact is considered to be potentially significant.

Hawai'i Administrative Rules (HAR) Section 11-200-12 provides 13 "significance criteria" against which an action is to evaluate its potential impact. These criteria are:

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.
2. Curtails the range of beneficial uses of the environment.

3. Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.
4. Substantially affects the economic welfare, social welfare and cultural practices of the community or State.
5. Substantially affects public health.
6. Involves substantial secondary impacts, such as population changes or effects on public facilities.
7. Involves a substantial degradation of environmental quality.
8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.
9. Substantially affects a rare, threatened or endangered species, or its habitat.
10. Detrimently affects air or water quality or ambient noise levels.
11. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters.
12. Substantially affects scenic vistas and view planes identified in County or State plans or studies.
13. Requires substantial energy consumption.

Effects were assessed for scope, scale and intensity of impacts to resources. Effects may be identified further as beneficial or negative, as well as short-term and long-term. Scope, scale and intensity can be defined on a range from negligible to major.



(Graphic: Pacific Southwest Research Station-Institute of Pacific Islands Forestry, 2009)

- **Negligible:** Resources will not be affected, or the effects will be at or near the lowest level of detection. Resource conditions will not change or will be so slight there will not be any measurable or perceptible consequence to a population, wildlife or plant community, public use and access opportunity, visitor experience, or cultural resource;
- **Minor:** Effects will be detectable but localized, small, and of little consequence to a population, wildlife or plant community, public use and access opportunity, visitor experience, or cultural resource. Mitigation, if needed to offset negative effects, will be easily implemented and likely to be successful;
- **Intermediate:** Effects will be readily detectable and localized with consequences to a population, wildlife or plant community, public use and access opportunity, visitor experience, or cultural resource. Mitigation measures will be needed to offset negative effects and will be extensive, moderately complicated to implement, and probably successful;

- **Major:** Effects will be obvious and will result in substantial consequences to a local area or regional population, wildlife or plant community, public use and access opportunity, visitor experience, or cultural resource. Extensive mitigating measures may be needed to offset negative effects and will be large-scale, very complicated to implement and may not have any guarantee of success. In some instances, major effects will include the irretrievable loss of the resource.

Time scales are defined as either short-term or long-term:

- **Short-term or Temporary:** An effect that generally will last less than a year or season;
- **Long-term:** A change in a resource or its condition that will last longer than a single year or season.

The thresholds established correspond to the above criteria and other environmental laws. Each section of this EA presents a significance threshold for its specific environmental subject; should the project potentially cause an impact greater than the identified threshold then the potential impact will be considered to be significant.

“Mitigation Measures” identifies project-specific measures that may be needed that go beyond compliance with applicable existing rules, regulations and requirements, to reduce a potentially significant impact, as applicable. The compliance with existing applicable rules, regulations and requirements is considered a part of the existing regulatory environment, and is described above.

The mitigation measures identified in this EA have been developed to avoid, minimize, rectify or reduce the project’s potential adverse environmental impacts. Mitigation measures have been considered throughout the project’s planning process and will be incorporated into the project design and construction plans. Project mitigation measures are identified and detailed in subsection 4 of sections 4.2 through 4.18.

#### **4.1.3 Level of Impact after Mitigation**

“Level of Impact after Mitigation” indicates what effect remains after application of mitigation measures, and whether the remaining effect will be considered to be significant, or not.

#### **4.1.4 Potential Project Impacts in Context with Applicable Requirements & Mitigation Measures**

The potential impacts are evaluated within the framework of the project’s compliance with all applicable rules, regulations and requirements for its action type and location. The existing rules, regulations, requirements and procedures applicable to the project are considered a part of the existing regulatory environment.

Rules, regulations and requirements which may be applicable include:

- Hawai’i Administrative Rules (HAR), including (but not limited to):
  - Title 11, Chapter 23, Underground Injection Control
  - Title 11, Chapter 45, Community Noise Control
  - Title 11, Chapter 54, Water Quality Standards
  - Title 11, Chapter 55, Water Pollution Control
  - Title 11, Chapter 60, Air Pollution Control

- Title 11, Chapter 62, Wastewater Systems
- Title 11, Chapter 68, Litter Control
- Title 11, Chapter 200, Environmental Impact Statement Rules
- Title 11, Chapter 260, Hazardous Waste Management General Provisions
- Title 11, Chapter 262, Standards Applicable to Generators of Hazardous Waste
- Title 13, Subtitle 5, Chapter 107, Threatened and Endangered Plants
- Title 13, Subtitle 5, Chapter 124, Indigenous Wildlife, Endangered and Threatened Wildlife and Introduced Wild Birds
- Title 13, Subtitle 13, Chapter 275-284, Historic Preservation Review Process
- Title 13, Subtitle 13, Chapter 300, Burial Sites and Human Remains
- Hawai'i Revised Statutes (HRS), including (but not limited to):
  - Chapter 6E, Historic Preservation
  - Chapter 195D, Conservation of Aquatic Life, Wildlife and Land Plants
  - Chapter 205, State Land Use Law
  - Chapter 226, Hawai'i State Planning Act
  - Chapter 342D, Water Pollution Law
  - Chapter 342J, Hawai'i Hazardous Waste Law
  - Chapter 343, Environmental Impact Statements
  - Chapter 344, Hawai'i State Environmental Policy
- City & County of Honolulu ordinances, rules and requirements, including (but not limited to):
  - Long range planning documents, including the General Plan
  - Building and Planning Codes

## **4.2 Archaeological, Historic and Cultural Resources**

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This section discusses the cultural, archaeological and historic resources in the region and specific project area, the potential impact of the project on those resources and mitigation measures the project will employ to minimize those potential impacts.

### **4.2.1 Environmental Setting**

An archaeological assessment was completed in 1998 as part of a Final Environmental Impact Statement (Final EIS) for the Diamond Head State Monument Master Plan Update (IARI, Inc., 1998). This study reviewed documentary information and historic maps concerning traditional and historic land uses in Diamond Head Crater, and conducted a limited field survey of areas within Diamond Head State Monument.

As part of that, consultation with Dr. George Kanahale was also conducted as part of the archaeological assessment in 1998 to collect information on cultural practices and features including traditional and customary gathering rights of native Hawaiians associated with Diamond Head. Dr. Kanahale reported that:

"It seems clear to me that from a Hawaiian cultural point of view, Diamond Head's importance is mythological, i.e., rooted in Pele. It was kapu. The most kapu place was the crater or pit (or lua as luakini), where Pele resided. Hence, no Hawaiian would think of living, working, or even visiting there,

just as no Hawaiian would think of living, working, or visiting a leina a ka uhane (leaping off place). This explains why no evidence of pre-Cook human habitation has been found in the crater. Besides, what thinking Hawaiian would want to live or work in that inaccessible and harsh environment."

"We can safely conclude that the kapu on Diamond Head and the crater was broken years ago, when Papa'ena'ena heiau lost its mana and when people ceased to worship there (unlike Halema'uma'u where Hawaiian practitioners still worship and conduct ceremonies and rituals). In any case, the crater's importance, then, would be in its geological and botanical environment." (PBR Hawai'i, 2000).

Lē'ahi, also known as Diamond Head, is a nearly circular crater of approximately two-thirds of a mile in diameter.

Diamond Head is different things to different people:

- Homes of Hawai'i's Kings, Queens and Royal Families were in its shadow
- It's an internationally-recognized visitor industry icon
- It's the backdrop to the famous Waikīkī Beach
- It served an integral role in the island military defenses
- It is present home and command center for State Civil Defense
- It's an easy walk to the summit for spectacular views of the ocean and coastline
- It is a backdrop to a transformation of social, political and religious events

Diamond Head was given its name by British sailors who found natural calcite crystals on the slopes of the mountain and mistook them for diamonds. Hawaiians called the volcanic cone Lē'ahi, Lae'ahi or Lae-ahi. Translations include: "brow of the 'ahi" and "cape of fire."

In the legend of Pele and Hi'iaka, Hi'iaka is said to have compared Diamond Head to the brow of the 'ahi: Me he i'a la ka Lae o Ahi; E kalali au ae nei i ke kai - Like a fish is the Brow-of-the-ahi Resting high above the sea.

Other names for Diamond Head include Point Rose (given to the geologic feature in 1786 by Captain Nathaniel Portlock in honor of the secretary of the British treasury), Diamond Hill and Conical Mountain.

From at least the 15th century, chiefly residences lined the shore of Waikīkī, and cultivated fields spread across the Waikīkī plain to the foot of the crater and inland to the Ko'olau valleys. There were several heiau in Waikīkī, of which several were located around Diamond Head.

One of Kamehameha's main heiau (also suggested as a surfing heiau,) Papa'ena'ena (also called Lē'ahi Heiau,) was situated at the base of the southern slopes.

Other heiau in the vicinity include Kupalaha Heiau, which may have been connected with Papa'ena'ena, Pahu-a-Maui Heiau on the crater's eastern cliffs overlooking the ocean (the site of the present Diamond Head lighthouse), Kapua Heiau near the present Kapi'olani Park, and Ahi Heiau on the peak of Diamond Head.

In the early years of the 19th century, people tended gardens in the crater and one visitor described finding "an abundance of melons and watermelons growing wild, upon which we feasted".

In 1831, the botanist, Dr. FJF Meyen, noted the crater contained a small pool of water “which was completely covered with plants”. (The crater pond was filled-in by military bulldozing; now, there is a seasonally-moist wetland where standing water can occasionally be seen.)

Some have suggested there is little likelihood for archaeological sites of pre-contact Hawaiian or early post-contact origin in the crater. The archival research suggests that the only Hawaiian activity that might have taken place in the crater was dryland farming (dating to 1822.)

In the Great Māhele division of lands between the king and his high chiefs, Diamond Head, which lies within the ‘ili of Kapahulu in the ahupua‘a of Waikīkī, was awarded to William C. Lunalilo, the future king of Hawai‘i (1873-1874).

In the early 1860s, Mark Twain commented, “On the seventh day out we saw a dim vast bulk standing up out of the wastes of the Pacific and knew that that spectral promontory was Diamond Head, a piece of this world which I had not seen before for twenty-nine years.”

“So we were nearing Honolulu, the capital city of the Sandwich Islands - those islands which to me were Paradise; a Paradise which I had been longing all those years to see again. Not any other thing in the world could have stirred me as the sight of that great rock did.”

In 1884, the Kapahulu portion of Lunalilo’s Māhele award was subdivided by the Lunalilo Estate. Diamond Head was transferred from the estate to the Hawaiian Government.

The summit of Lē‘ahi affords an excellent and unobstructed view of the ocean from Koko Head in the east, to beyond the ‘Ewa Plain to Wai‘anae in the west. The utility of Diamond Head did not go unnoticed by the U.S. Army.

In 1906, the US government acquired the 729-acres of Lunalilo’s property from the Hawaiian Government, as well as other adjacent lands (including Black Point), to create Fort Ruger Military Reservation, the easternmost of the coastal defense forts.

From 1963 to 2001, the FAA had its air traffic control facilities in Diamond Head crater, which guided Hawai‘i-bound aircraft from 250 miles outside the Islands to within 20 miles of their intended airport.

Diamond Head State Monument was first officially established under an Executive Order by Hawai‘i’s Governor Quinn in 1962; nearly 500-acres of land now make up the Monument.

This early designation covered about 145-acres in a horseshoe configuration preserving the famous profile and the south and west exterior slopes from the crater rim down to Diamond Head Road. Subsequently, Executive Orders have added additional lands to the Monument.

The interior of the crater had been closed to the public from 1906 until 1968. In 1976, DLNR’s Division of State Parks became the agency responsible for the planning and management of the Monument – it is now open every day.

Two major tunnels (Kāhala Tunnel and Kapahulu Tunnel) provide pedestrian and vehicular access into the crater.



**Sept. 15, 1921 Balloon Encampment is looking south towards Black Point – Subject around to top-right**

Two separate trail systems (interior and exterior) address different needs and purposes. The exterior trail system has a dual function as a jogging and bicycle path traversing the mauka end of the Monument and along the existing trail on the lower ‘Ewa-makai slopes. The interior trail system leads to the summit of Lē‘ahi (1.6-mile round trip.)

#### **4.2.2 Potential Environmental Impacts & Mitigation Measures**

The subject area is approximately 2,000-square feet of the overall Diamond Head State Monument. It has been disturbed with retaining walls, landscaping and other features.

There are no identified archaeological, historic or cultural features within this area.

#### **4.2.3 Level of Impact after Mitigation**

There are no known traditional resources or cultural practices associated with this area of the Monument.

The adjoining property owner will comply with all State and County laws and rules regarding the preservation of archaeological and historic sites. 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 will stop and DLNR's State Historic Preservation Division will be promptly notified.

In consideration of the above, because the proposed actions do not affect any known historic property within the area, the actions will not result in the loss or destruction of any archaeological/historic resource. Therefore, the proposed actions will have a less than significant impact on Hawaiian archeological, historic sites or cultural practices, or its traditions.

### **4.3 Biological Resources**

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This section discusses the biological resources (flora and fauna) in the region and in project area, the potential impacts of the project on those resources and mitigation measures the project will take to mitigate those potential impacts.

#### **4.3.1 Environmental Setting**

##### Flora

The existing naturalized vegetation of the area to included trees of Brassia, Kiawe, Koa Haole and Christmasberry and a predominance of Bougainvillea shrubs. The domestic plants within the disturbed landscape areas included Areca Palms, Song of India, Spathiphyllum, Bromeliads, Lauae Fern and a vegetable garden with various vegetables.

Beyond the designated area the hillside appeared covered with very dry vegetation that are typical to the area. The existing vegetation is consistent with the soil survey issued by the United States Department of Agriculture Soil Conservation Service in 1972, stating the natural vegetation of this area consists of Kiawe, Koa Haole, Lantana, Bermudagrass and Fingergrass.

While most of the crater is covered by alien, dryland species, according to the Diamond Head Master Plan and EIS, it is likely that a native coastal and dryland forest existed in the crater prior to Western Contact. According to that report, this dryland forest may have consisted of the following trees, shrubs, and ground covers.

Trees: 'Alahe'e, 'iliahi, lama, 'ohai, 'uhi'uhi, and wiliwili.

Shrubs: 'A'ali'i, 'akia, 'akoko, ma'o, naio, pua kala, and 'ulei.

Ground cover: 'Ihi'ihilauakea, 'ilima, iwa'iwa, hinahina, kakonakona, nehe, pa'u o hi'iaka, and pili grass.

Today, the flora of the crater consists of an alien, coastal dryland plant community. The crater slopes and floor are dominated by kiawe trees (*Prosopis pallida*) and koa haole shrubs (*Leucaena glauca*) with an understory of lantana (*Lantana camara*) and alien grasses (California grass, buffel grass, sour grass, and fountain grass).

The kiawe (*Prosopis pallida*) is native to South America and is related to the mesquite (*Algaroba*). It was introduced to Hawai'i in 1853 when a single tree was planted on the grounds of the Catholic Mission on Fort Street in Honolulu. Kiawe is a common tree found on the leeward side of all the major Hawaiian Islands. It has adapted well to Hawai'i's semi-arid environments and shallow soils resulting in forests of these trees.

As the growth of these trees expanded in the late 1800s, the seed pods were collected as feed for cattle, horses, mules, and pigs. The livestock promoted the extensive spread of these trees throughout the islands. Today the wood is favored for charcoal. Kiawe trees grow up to 60 feet in height and have hard, dense wood with thorns, small bipinnate leaves, spirul seed pods, and elongate yellow mimosaceous flowers (small, ball-like clusters).

Koa haole or ēkoa (*Leucaena leucocephala*) was also introduced in the 19th Century and spread rapidly throughout the Hawaiian Islands. This species is native to the Neotropics. Like kiawe, the koa haole has adapted well to Hawai'i's dry, lowland climates and is found in areas with a wide range of soil conditions. Koa haole is considered both a shrub and small tree that spreads into shrublands, often with a grassy understory.

The highly invasive fountain grass community is potentially the most devastating to native dry and mesic ecosystems. The species is one of the worst invaders in the Hawaiian Islands (potentially second behind *Miconia calvescens*) and is targeted for eradication from Diamond Head by the O'ahu Fountain Grass Working Group.

At least three endangered species are found inside and on the slopes of Diamond Head: 1) *Spemolepis hawaiiensis*, 2) *Cyperus trachysanthos* in the wetland area, and 3) *Schideia adamantis* on the crater rim. All of these locations are removed from the subject property; there are no known endangered flora within the subject project area.

#### Fauna

The fauna seen today in Lē'ahi is dominated by introduced, alien species. According to the Monument Master Plan, an 1899 photograph of the crater interior indicates grazing animals, possibly cattle, horses, and/or goats were in the crater and the floor appears to have been a grassy pasture.

Today, the fauna of the crater is dominated by alien bird species common in an urban setting. Other species commonly sighted in and around the crater include: house cat (*felis catus*), small Indian mongoose (*herpestes auropunctatus*), chickens (*gallus*) and rats (*rattus*.) There are no known endangered fauna within the project area.

#### **4.3.2 Potential Environmental Impacts & Mitigation Measures**

As required action directed by the BLNR is that the adjoining property owner either remove or replace the introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, or allow the area to regrow naturally.

#### **4.3.3 Level of Impact after Mitigation**

There are no known species currently proposed or listed as threatened or endangered under either the federal or state of Hawai'i endangered species statutes were documented on the subject property.

There is no federally delineated Critical Habitat for any species present on or adjacent to the project area. Thus, the proposed actions will not result in impacts to federally designated Critical Habitat. There is no equivalent statute under State law.

The project will follow all applicable rules and regulation and adhere to the mitigation measure described above. The project will not have a significant impact on any botanical or biological resources.

#### **4.4 Visual & Aesthetic Resources**

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This section describes the existing visual, vista and viewplane conditions on within the project area, discusses the visual impacts the project may have, and identifies how the project mitigates its potential visual impacts.

##### **4.4.1 Environmental Setting**

Lē'ahi, Diamond Head, is a prominent national natural landmark, state monument, and scenic district that can be viewed from the sea, from the air, and from much of urban Honolulu. The most familiar profile of Diamond Head is known worldwide.

Views from the east, north, and south provide different, but no less distinctive profiles, recognized by residents and even by many visitors.



**View from Diamond Head Road - Looking at Drainage Easement Outlet (above Fire Hydrant)  
Proposed actions will take place behind all of the existing vegetation noted here  
(as well as behind residential structures, just behind the vegetation)**

The exterior of the Crater appears as a massive circular form elongated at the southwest rim, which forms the highest point. The eroded exterior is characterized by numerous deep, narrow ravines, which extend from the base of the Crater to the rim.

The interior of the Crater encloses an area of approximately 175 acres and is 3,520 feet in length. The floor is nearly level with its greatest slope at approximately 12 percent. The interior walls are much softer and rolling in appearance than the exterior walls. The slope is more gradual and less dissected in appearance.

The Crater floor is mixed with trees and variety of grasses and smaller shrubs. There is an upper, middle, and lower story of vegetation. This pattern is more noticeable on the north facing slopes because they are considerably denser in vegetation than the south facing slopes which consist mostly of small shrubs and grasses. A hiking trail cuts through the most densely vegetated area of the Crater.

This area is composed of a thick canopy of trees and an understory of mixed shrubs and grasses. During the rainy season, this becomes more green and foliated. However, during most of the year the interior Crater often appears brown and dry. This is especially apparent on the southern exposure facing slopes.

Upon entering the Crater through Kāhala Tunnel, one can see various buildings to the north of the entrance road. The buildings house the facilities of the State DOD and the FAA. The buildings are block-like concrete structures with no distinguishing architectural value.

From outside the Crater, the City and County of Honolulu Coastal View Study, 1987 designates Diamond Head within the "South Shore Viewshed" and as an "Important Coastal Land Form"

#### **4.4.2 Potential Environmental Impact & Mitigation Measures**

The visual impact of the Monument as a Natural Landmark has remained important to many as urban Honolulu has developed around the Crater. The public and the Citizen Advisory Committee have fought many battles to keep the gaze of developers and government in check.

The exterior visual impact of Diamond Head as a 'Registered Natural Landmark' (Department of the Interior, 1968) has been kept intact through City and County Ordinances and the Department's (DLNR) efforts to preserve the natural beauty of this world renowned crater. Past proposals on the development of the Crater would have altered this natural landscape.

The intent is to retain the taller vegetation on the property that screens the improvements from being seen from Diamond Head Road. During the removal of material a sectional construction chute, or a chute made on site, will direct material from the jobsite down to a waiting semi-, dump or other sized truck on Diamond Head Road.

#### **4.4.3 Level of Impact after Mitigation**

Due to the limited size of the project area, the surrounding residential uses and vegetation, and temporary nature of the time material will be moved from the upper level down to Diamond Head Road, the proposed actions and changes will have limited effect on the overall visual and aesthetic nature of the Monument. Therefore, the level of the visual impact will be less than significant.

## 4.5 Geology, Soils & Slope Stability

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This section discusses the geology, soils and slope stability in the region and site area, the potential impact of the project on those characteristics, and mitigation measures project will employ to mitigate those potential impacts.

### 4.5.1 Environmental Setting

The Hawaiian Islands were formed as the Pacific Plate moved westward over a geologic hot spot. O'ahu is dominated by two large shield volcanoes, Wai'anae and Ko'olau that range in age from two to four-million years old.

The younger volcanic craters are all less than 500,000 years old. They formed after O'ahu had moved well off the hot spot and the main shield volcanoes had gone dormant for at least two-million years. Scientists say Lē'ahi (Diamond Head) (one of these later eruptions) is a tuff cone, formed by hydromagmatic activity. Tuff is a volcanic rock made up of a mixture of volcanic rock and mineral fragments. Wherever there are explosive volcanic eruptions you can expect to find tuff. (SOEST)

Geologically speaking, Diamond Head is a dormant volcanic tuff cone, with a variable-height rim surrounding the recessed interior area; the eruption of Diamond Head took place well over 150,000-years ago. The highest point (at 761-feet) on the southwest rim of Diamond Head is known as Lē'ahi Summit (most of the rim is between 400-500-feet.) The crater is on the southern coastline of O'ahu, approximately one-and-a-half miles south of the Ko'olau range.

A hundred years ago, Hawai'i missionary Reverend Sereno Bishop noted Diamond Head was made in less than an hour's time and is "composed not of lava, like the main mountain mass inland, but of this soft brown rock called tuff." (Bishop, Commercial Advertiser, July 15, 1901)

Others noted, "the duration of eruption of Diamond Head was of the order of five hours. The eruption may have been intermittent with interruptions sufficient to extend the whole period of activity to as much as five days, but probably not more." (Wentworth, Bishop Museum, 1926)

"Volcanic eruptions may be distinguished into two classes, the effusive and the explosive. In the former the molten rock is poured out and covers the mountain slopes with great floods. If you look up at the sides of yonder ravines (on the Ko'olau Mountains,) which the rainstorms of many hundred thousands of years have worn out of the original dome-shaped mountain, you will see the back edges of the ancient lava streams lying in layers."

"The tuff cones are entirely different, and are produced by very brief and sudden explosive eruptions. The tuff was violently shot high aloft into the air in the form of superheated mud. This hot mud cooled and thickened by the expansion of its water and its partial escape as steam before reaching the ground."

"It hardened and cemented as it fell, though still liquid enough to form in thin layers or laminations as we see it lying around us at the base of the hill. ... The tuff-fountain escaping from its confinement, at once expanded and spread out like a vast tree."

"Here at Diamond Head, which is one mile in diameter, the bulk of the mud spread out half a mile in all directions before ending its fall. Thus a very exact circular ring was piled up of one mile in diameter.

There was, however, another influence, that of a violent easterly-wind which deflected the entire fountain westward”.

“The wind also acted with especial force upon the highest part of the fountain, flinging and piling it up on the western side of the crater in a lofty cone. A large part of that cone has been weathered away by the impact of rainstorms upon the soft rock; but it still stands in a peak some 200 feet higher than the main run.”

“The vent or point of issue of the tuff-fountain must have been at the lowest point of the interior, where lies the present pond of water.” (Bishop, Commercial Advertiser, July 15, 1901) (The same series of eruptions produced Punchbowl and Koko Head Crater.)

Somewhat more than half of the craters of southeast Oahu are arranged in linear groups, those dominated by the craters Tantalus, Diamond Head, and Koko Crater. In the Diamond Head group is the main Diamond Head vent, Kaimuki crater and Mau‘umae crater.

(A cinder cone is a volcanic cone built almost entirely of loose volcanic fragments called cinders or pumice that accumulate around and downwind from a vent. Cinders are glassy and contain numerous gas bubbles "frozen" into place as magma exploded into the air and then cooled quickly.) (USGS)

Two thirds of the crater rim is a sharply crested, circular ridge of 500- to 800-foot width at its base. The slopes, in general, are steep; the outside slope being dissected into alternating ravines and spurs. The remaining one-third of the rim, including all those parts of the crest rising above 500 feet, is somewhat less regular, much more massive, and much more deeply dissected. It is the only part of the crater that shows any considerable amount of dissection of the inside rim.

The rim of Diamond Head is eroded by numerous deep, narrow ravines that follow radial courses down the steep surface. Most of the ravine bottoms are only 2 to 3 feet wide – in some places just a few inches. The steeper portions on some ravine channels contain series of potholes. The side walls of the channels are generally fairly smooth, except near their tops.

Most of the cliffs at the heads of the majority of the ravines rise 50 to 200 feet, nearly or quite to the crest of the crater rim and range from slopes of 70 degrees to vertical or slightly overhanging declivities. The smaller ravines head in rounded, funnel-like coves, above which are graded slopes of spurs.

Between the ravines are long, narrow, radial spurs having longitudinal slopes averaging 30 to 35 degrees, but in places these are cut back at the base so that the slope becomes 40 to 45 degrees. The slopes of these spurs are covered by beds of calcareous talus breccia that mantle them, in some places, up to within 100 to 150 feet of the adjacent rim crest.

The soils of O‘ahu – which have developed from volcanic materials that include lava, ash tuff, and cinders – are inherently rich in iron, magnesium and aluminum, but deficient in phosphorus. Diamond Head soils consist largely of one-time volcanic ash and lapilli altered to palagonite, but contain, in addition to the magmatic debris, a considerable quantity of talus breccia that formed and was cemented by calcium carbonate when the sea level was 40 feet higher than its present level. Occasional blocks of

Ko‘olau basalt and numerous fragments of coral limestone from the reef that covered the original volcano site can also be found.

An “Area of Interest” was selected in the NRCS (USDA) Web Soil Survey. The map of that area follows:

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MdC	Makalapa clay, 6 to 12 percent slopes	1.6	8.2%
MdD	Makalapa clay, 12 to 20 percent slopes	5.2	26.8%
MnC	Mamala stony silty clay loam, 0 to 12 %	1.1	5.5%
rRK	Rock land	11.5	59.5%
Totals for Area of Interest		19.3	100.0%

The predominant soil type is rRK - Rock land. This soil type can be found in areas with slope from 5 to 70 percent. In the immediate area of the subject, the slope ranges from gradual to steep. The soil is well-drained, has high run-off. A typical profile included silty clay over bedrock.

The Makalapa clay series predominates in the alluvium within the crater. These soils are mildly alkaline in their dark grayishbrown, 8-inches-thick surface layer and mildly to moderately alkaline in their 18-to-36-inches lower layer. They are underlain by light-gray to dark grayish-brown, weathered, volcanic tuff. The Makalapa clay series is divided into three types, described below.

The MdB soils come from the shallower slopes (2 to 6 percent) of the crater. Their clay components are very sticky and plastic and therefore very difficult to work. Their shrink-swell potential is high and they crack widely on drying. The permeability and runoff of MdB are slow and the erosion hazard is slight. The available water capacity is about 1.4 inches per foot of soil. Roots can penetrate to the volcanic tuff beneath.

The MdC soil is similar to the MdB except that it occurs on fans (6 to 12 percent slope). Runoff is slow to medium and the erosion hazard is slight to moderate.



On the MdD soil (12 to 20 percent slope), runoff is medium and the erosion hazard is moderate. Particularly beneath the developed area in the crater’s interior, fill of miscellaneous composition and various depths has been added.

#### 4.5.2 Potential Environmental Impacts & Mitigation Measures

Applicable law will be followed to minimize soil movement, erosion and compaction during all project actions.

The subject area is approximately 2,000-square feet and a water run-off channel is situated above the project area that collects and directs run-off to the retention basin, in addition, it appears some of the existing walls were built for the purpose of directing drainage to the State storm drain easement.

Wall spanning across the drainage way trap debris, thus protecting the onsite structures from damage and the residents from harm. Other walls are in-place to retain soil due to the nature of the slope and soil composition. These walls are recommended to remain.

Necessary retention walls will be retained. There were no major changes to the existing topographical and vegetation condition and no expansion or changes in use of the subject area beyond that previously existing.

The proposed actions include the removal of the extraneous improvements including the terraced landscaping, irrigation system, waterfall and pond. These areas are to be restored with native plants. Drainage-related and soil retention improvements will be retained. After removal of the extraneous improvements, the remaining walls will continue their initial intended purpose.

The following image gives a sense of the grade in the area, as well as the alignment of the drainageway that runs down the side of Diamond Head, then is intercepted by the drainage improvements on the subject property that directs the run-off across the drainage easement. (Image notes 40-foot contours in Google Earth; subject area indicated with white arrow.)



#### **4.5.3 Level of Impact after Mitigation**

The mitigation measures proposed will further reduce the level of impact to geologic resources, which is considered less than significant without any mitigation.

### **4.6 Water Resources & Wastewater**

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This section discusses the water resources and wastewater management practices in the region and in the subject property area and the potential impacts of the project on those resources, and mitigation measures the project will employ to mitigate those potential impacts.

#### **4.6.1 Environmental Setting**

The 2,000-square foot project site has irrigated landscaping, retention and drainage-related walls. The existing irrigation system will be removed, as well as invasive plants and the area will be restored with native vegetation.

#### **4.6.2 Potential Environmental Impact & Mitigation Measures**

A temporary irrigation system will be required to help get these grass seeds get established. The Naupaka will have a permanent drip irrigation system to help sustain the shrubs (approximately 140-foot in total length.) Water use for each will be less than has been used with the prior system and waterfall.

Improvements associated with the drainage system in the area will be maintained.

#### **4.6.3 Level of Impact after Mitigation**

The 2,000-square foot project site does not include increased demands on water or wastewater resources.

Due to the limited size of the project area, the proposed actions will have limited effect on the overall water and wastewater demands. Therefore, the level of the impact will be less than significant.

### **4.7 Solid Waste & Material Management**

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This section discusses the solid waste and materials management practices within the project area and potential impacts of the project on those practices.

#### **4.7.1 Environmental Setting**

The 2,000-square foot project site has irrigated landscaping, retention and drainage-related walls. The existing irrigation system will be removed, as well as invasive plants and the area will be restored with native vegetation.

#### **4.7.2 Potential Environmental Impact & Mitigation Measures**

Plant material will be put into the green-waste recycling stream operated by the City and County of Honolulu. Construction material will be disposed of at City and County approved facilities.

#### **4.7.3 Level of Impact after Mitigation**

Compliance with existing regulations and requirements and the implementation of the mitigation measures proposed above, will ensure that the project will have a less than significant impact in regards to solid waste management.

### **4.8 Socioeconomic Conditions & Public Service Facilities**

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This section discusses the socioeconomic conditions and public services and facilities in the region and in the project area, and the potential long-term socio-economic impacts of the proposed actions.

#### **4.8.1 Environmental Setting**

The 2,000-square foot project site has irrigated landscaping, retention and drainage-related walls. The irrigation system will be removed, as well as invasive plants and the area will be restored with native vegetation.

#### **4.8.2 Potential Environmental Impact & Mitigation Measures**

None of these actions, directly or indirectly relate to increased demands for public services or facilities.

Improvements associated with the drainage system in the area will be maintained.

#### **4.8.3 Level of Impact after Mitigation**

Due to the limited size of the project area, the proposed actions and changes will have limited effect on the overall public services or facilities demands. Therefore, the level of the impact will be less than significant.

### **4.9 Traffic**

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This section discusses the traffic in the region and the specific project area, the potential impacts of the project on traffic, and the mitigation measures Poka Place will employ to mitigate potential impacts.

#### **4.9.1 Environmental Setting**

The 2,000-square foot project site has irrigated landscaping, retention and drainage-related walls. The irrigation system will be removed, as well as invasive plants and the area will be restored with native vegetation.

The property is served by an access road and access easement. Smaller trucks will be used on Poka Place to remove the material and vegetation. A semi -, dump or other truck will park on Diamond Head

Road below the chute to receive the bulk of the material to be removed (a chute will be used to direct the material down to the parked truck).

#### **4.9.2 Potential Environmental Impact & Mitigation Measures**

During the removal of material as noted, there will be temporary, nominal increase in trips to and from the property on the access road, access easement and nearby roads. Work is expected to be conducted between the typical morning and early-evening 'go to work/school' travel times.

#### **4.9.3 Level of Impact after Mitigation**

Due to the limited size of the project area, the proposed actions and changes will have limited effect on the overall traffic conditions. Therefore, the level of the impact will be less than significant.

### **4.10 Power & Communication**

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This section discusses the electrical power and communications facilities in the region, the potential impact of the project on those facilities, and mitigation measures Poka Place will employ to mitigate potential impacts.

#### **4.10.1 Environmental Setting**

The 2,000-square foot project site has irrigated landscaping, retention and drainage-related walls. The irrigation system will be removed, as well as invasive plants and the area will be restored with native vegetation.

#### **4.10.2 Potential Environmental Impact & Mitigation Measures**

Due to the nature of the proposed actions, there is no anticipated increase in electrical and communication demands.

#### **4.10.3 Level of Impact after Mitigation**

Due to the limited size of the project area, the proposed actions and changes will have limited effect on the overall electrical and communications conditions. Therefore, the level of the impact will be less than significant.

### **4.11 Noise**

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This section discusses the noise conditions in the region and in the project area, the potential impacts of the project on those conditions, and the mitigation measures Poka Place will employ to mitigate those potential impacts.

#### **4.11.1 Environmental Setting**

The 2,000-square foot project site has irrigated landscaping, retention and drainage-related walls. The existing irrigation system will be removed, as well as invasive plants and the area will be restored with native vegetation.

#### **4.11.2 Potential Environmental Impact & Mitigation Measures**

Removal of some of the material may require machines. However, it is anticipated that the sound associated with the proposed actions will be consistent with typical residential-type of gas-powered landscaping maintenance-related equipment. A hand operated jack hammer or similar pneumatic device may be necessary to break up the terraced wall segments to be removed. It will be staged down on Diamond Head Road and hoses will run up the hill to the site.

#### **4.11.3 Level of Impact after Mitigation**

Consistent with the Department of Health's Noise Reference Manual (2008,) because the demolition of the rock walls will require jackhammers or related equipment, use of such equipment will be limited to 9:00 a.m. to 5:30 p.m., Monday through Friday.

In addition, all applicable laws and regulations with respect to noise will be followed and applicable permits will be obtained, if necessary.

Due to the limited size of the project area, the proposed actions and changes will have temporary, limited effect on the overall noise conditions. Therefore, the level of the impact will be less than significant.

### **4.12 Climate, Air Quality & Lighting**

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This section discusses the air quality, climatic, and lighting conditions in the region and specific subject area, the potential impact of the project on those resources, and mitigation measures Poka Place will employ to mitigate potential impacts.

#### **4.12.1 Environmental Setting**

The 2,000-square foot project site has irrigated landscaping, retention and drainage-related walls. The irrigation system will be removed, as well as invasive plants and the area will be restored with native vegetation.

#### **4.12.2 Potential Environmental Impact & Mitigation Measures**

Due to the nature of the proposed actions, there is no anticipated increase in climate, air quality or lighting demands.

#### **4.12.3 Level of Impact after Mitigation**

Due to the limited size of the project area, the proposed actions and changes will have limited effect on the overall climate, air quality or lighting demands. Therefore, the level of the impact will be less than significant.

## 4.13 Natural Hazards

This section discusses the natural hazards which may affect the subject property including flooding, hurricanes, volcanic activity, tsunami and earthquakes.

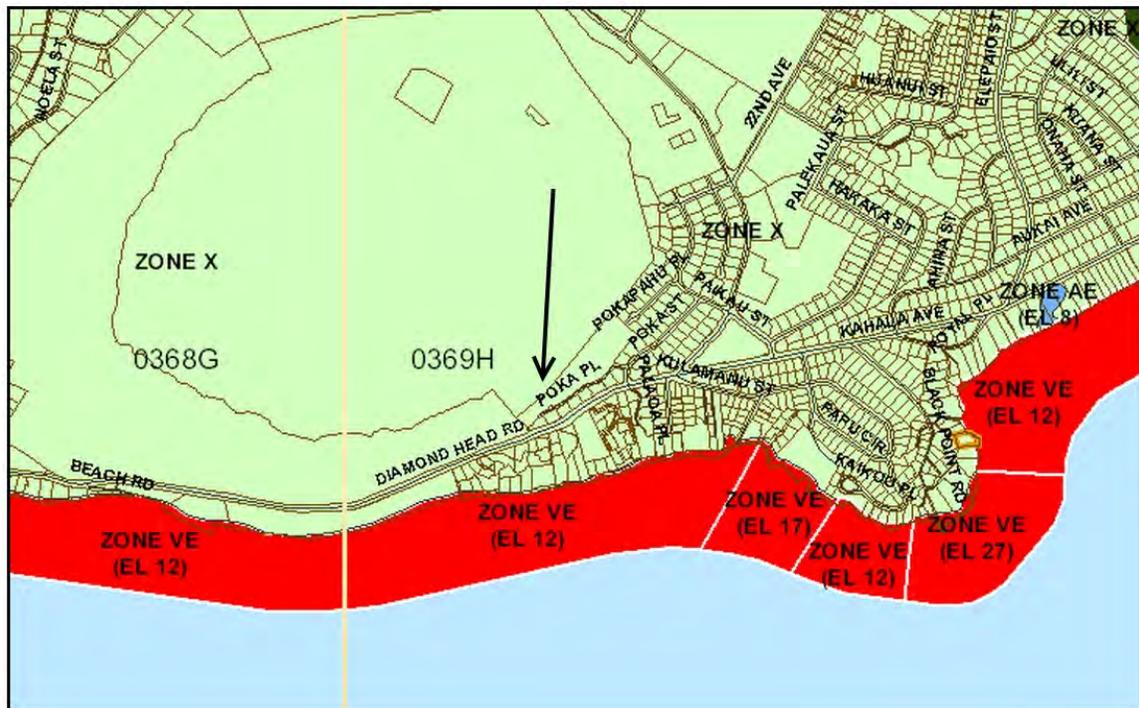
### 4.13.1 Environmental Setting

Natural hazards are events such as tsunami, earthquakes, floods, hurricanes, soil slippage, and volcanic hazards. The project may be subject to hurricanes and minor earthquakes in the future; however, the site is not unique to these potential hazards.

Earthquakes in the Hawaiian islands are associated with volcanic eruption or tectonic movement. The Diamond Head Crater is not uniquely susceptible to natural hazards, however, the relatively steep slopes and cliffs can pose a hazard to hikers (there are no trails nearby on the Monument.)

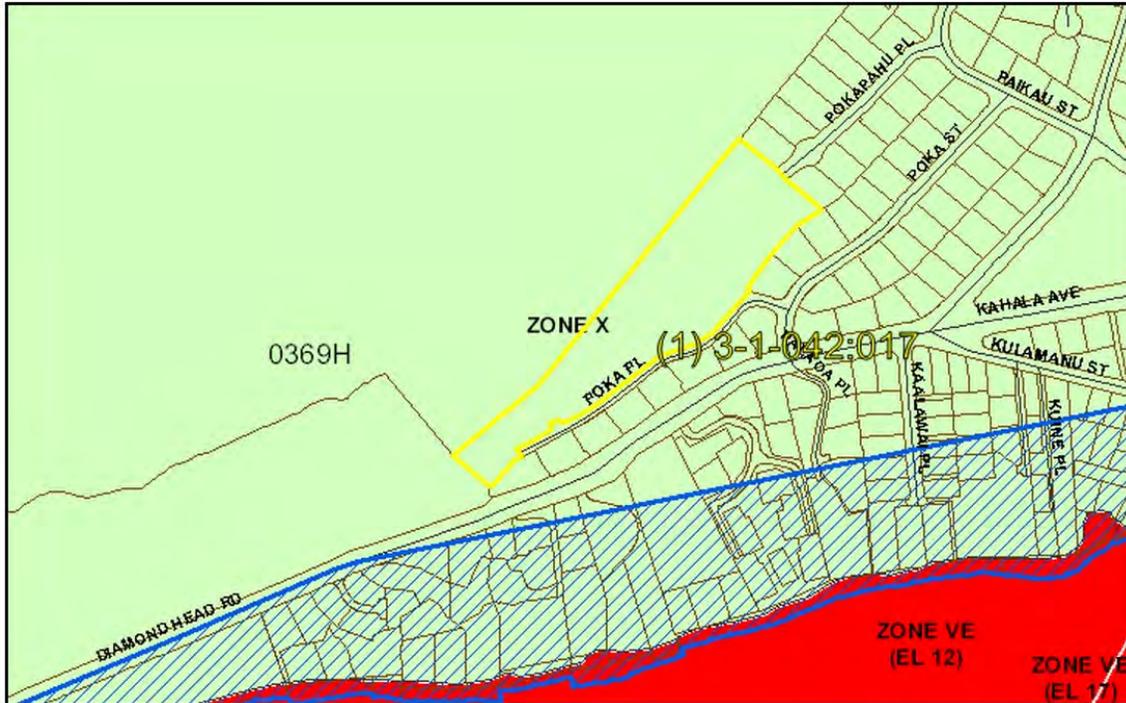
### Flooding

The following map indicates the location of the Subject Site (black arrow:)



FEMA No. 15003C0369H (Flood Hazard Assessment Tool) - Property is in Zone X

According to the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) Community-Panel No. 15003C0369H and the Hawai'i - National Flood Insurance Program (Flood Hazard Assessment Tool,) the project site is mostly located in Zone X. Zone X is described as areas outside of the 100- and 500-year floodplains with minimal flooding.



FEMA No. 15003C0369H (Flood Hazard Assessment Tool) - Property is in Zone X

#### Tsunami Evacuation

The subject site, as well as the adjoining private property, is not in the tsunami evacuation area, as noted on the Hawai'i - National Flood Insurance Program (Flood Hazard Assessment Tool.)

#### 4.13.2 Potential Environmental Impact & Mitigation Measures

##### Flooding - Tsunami

The project does not involve construction within a 100-year flood plain (Zones A or V), and it does not involve a "critical action" within a 500-year flood plain; nor is it in the tsunami evacuation area.

#### 4.13.3 Level of Impact after Mitigation

The project will not have a significant impact on natural hazards. Therefore, the level of the impact will be less than significant.

#### 4.14 Site Preparation, Construction/Demolition & Landscaping

This section discusses the potential site preparation and construction impacts related to the natural and built environment and the potential mitigation measures that could be employed. Site preparation and construction effects will be temporary.

The project will incorporate appropriate Construction Best Management Practices (BMPs.) In part, these include: Keeping work areas clean and clearing out waste and litter at the work site daily. Likewise, trucks and equipment will be cleaned off-site or in designated and contained areas. Machinery and vehicles will use off-site fueling stations. Spills will be immediately dealt with.

Potential run-off will be control runoff during construction and diverted from areas of exposed soil, as well as including downslope sediment barriers (fences) composed of permeable geotextile filter fabric attached to supporting posts to intercept any flow of sediment laden runoff that will filter the water and trap the sediment. All applicable laws and regulations will be followed.

Accumulated sediment will be removed from barriers and sedimentation devices; worn or damaged silt fence fabrics will be replaced or repaired; damaged structural controls will be replaced or repaired and damaged soil stabilization measures will be repaired.

There are two (2) separate areas slated for demolition: irrigated/landscape area and retaining wall area (and terraces). Both sites are situated on steep slopes and are difficult to access with heavy construction equipment. Due to the difficult access situation and relatively small amount of demolition work, hand tools including jack/demolition/sledge hammers, pry bars, picks, hoes, shovels and wheel barrows are expected to be used for the work.

Material will be loosened, carried or placed in wheel barrows, then taken to the small trucks (on the Poka Place side) or carried/wheeled to the chute for deposit into the trucks below (on the other end of the property.)

The irrigated/landscape area is located near the cul-de-sac of Poka Place and the demolition material of about 5 cubic yards will be hauled away with pickup trucks (compact or full-size, light duty trucks). The duration of the demolition work is estimated at 5 working days.

The retaining wall area is at the far end (south-west) of the lot and the demolition material of about 13 cubic yards will be brought to a chute that deposits the demolition material directly into the bed of dump trucks situated along Diamond Head Road. The dump trucks have load carrying capacities varying from 10 cubic yards up to 30 cubic yards. The duration of the demolition work is estimated at 10 working days.

#### Landscaping

The existing naturalized vegetation of the area includes trees of Brassiaia, Kiawe, Koa Haole and Christmasberry and a predominance of Bougainvillea shrubs. The domestic plants within the disturbed landscape areas included Areca Palms, Song of India, Spathiphyllum, Bromeliads, Lauae Fern and a vegetable garden with various vegetables.

Beyond the designated area the hillside appeared covered with very dry vegetation that are typical to the area. The existing vegetation is consistent with the soil survey issued by the United States Department of Agriculture Soil Conservation Service in 1972, stating the natural vegetation of this area consists of Kiawe, Koa Haole, Lantana, Bermudagrass and Fingergrass.

The proposed ground cover planting on the hillside to be restored will be a mixture of Bermudagrass and Fingergrass which is the predominant existing vegetation in the area. This seed mix will be distributed on the sloping grade over an erosion control mat to mitigate erosion.

A temporary irrigation system will be required to help get these grass seeds get established. Native Naupaka Kahakai shrubs will be planted above the existing retaining wall along the property line. The Naupaka will have a permanent drip irrigation system to help sustain the shrubs.

#### **4.14.1 Potential Environmental Impacts**

No unusual site preparation or construction techniques or materials are anticipated.

The proposed actions are those approved on September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation related to the alleged encroachments and noted, in part, that Poka Place LLC shall:

- 1) Apply for and after-the-fact Conservation District Use Permit (CDUP) Departmental Permits for earth retention walls and landscaping improvements.
- 2) Remediate and restore the terraced landscaping areas, pursuant to approval of plans by the Department.
- 3) Remediate the irrigated landscaping area to the extent in which the drainage purpose of the area is maintained.
- 4) Remove the extraneous improvements (i.e. waterfall and pond) and restore area pursuant to approval of plans by the Department.
- 5) Remove and/or replace introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, or allow the area to re-grow naturally.

#### **4.14.2 Mitigation Measures**

Removal of some of the material may require machines. Trucks, hand-operated jackhammers or related pneumatic tools, wheelbarrows, machine and hand operated tools (i.e. picks, shovels, pry bars, etc) will be used. Best Management Practices will be incorporated. All applicable laws and regulations will be followed.

#### **4.14.3 Level of Impact after Mitigation**

Due to the limited size of the project area, incorporating BMPs and following applicable regulations, the proposed actions and changes will be temporary and have limited effect on the overall site conditions. Therefore, the level of the impact will be less than significant.

### **4.15 Secondary & Cumulative Impacts**

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The proposed project does not appear to have the potential to involve any significant secondary or cumulative impacts.

The proposed actions are those approved on September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation related to the alleged encroachments and noted, in part, that Poka Place LLC shall:

- 1) Apply for and after-the-fact Conservation District Use Permit (CDUP) Departmental Permits for earth retention walls and landscaping improvements.

- 2) Remediate and restore the terraced landscaping areas, pursuant to approval of plans by the Department.
- 3) Remediate the irrigated landscaping area to the extent in which the drainage purpose of the area is maintained.
- 4) Remove the extraneous improvements (i.e. waterfall and pond) and restore area pursuant to approval of plans by the Department.
- 5) Remove and/or replace introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, or allow the area to re-grow naturally.

**4.15.1 Summary of Potential Contribution of the Preferred Alternative to Cumulative Effects**

The following chart identifies possible resources that could be impacted individually or cumulatively by the proposed project. The analysis evaluates potential impacts in the context of the existing environment, anticipated uses, compliance with applicable rules, regulations and requirements, and mitigation measures previously identified.

**Table 4.15.1 - Summary of Potential Contribution of the Preferred Alternative to Cumulative Effects**

<b>Resource Area</b>	<b>Effect</b>	<b>Cumulative Effect</b>
Cultural, Archaeological & Historic	Less than Significant	There are no known Cultural, Archaeological or Historic resources on the site
Biological	Less than Significant	There is no habitat or endangered plants or animals, so the cumulative effect will be less than significant.
Visual & Aesthetic	Less than Significant	Due to the limited size of the project area, the surrounding residential uses and vegetation, the proposed actions and changes will have limited effect on the overall visual and aesthetic nature of the Monument.
Geology, Soils & Slope Stability	Less than Significant	The proposed actions include the removal of the extraneous improvements including the terraced landscaping, irrigation system, waterfall and pond. These areas are to be restored with native plants. Drainage-related and soil retention improvements will be retained. After removal of the extraneous improvements, the remaining walls will continue their initial intended purpose.
Water Resources & Wastewater	Less than Significant	There are no water or wastewater facilities demands associated with the proposed actions.
Solid Waste & Material Management	Less than Significant	Plant material will be put into the green-waste recycling stream operated by the City and County of Honolulu.
Socioeconomic Conditions & Public Service Facilities	Less than Significant & Beneficial	None of these actions, directly or indirectly relate to increased demands for public services or facilities.
Power & Communications	Less than Significant	The projects energy consumption and communication needs will have a less than significant cumulative impact.

Resource Area	Effect	Cumulative Effect
Climate, Air Quality & Lighting	Less than Significant	Due to the nature of the proposed actions, there is no anticipated increase in climate, air quality or lighting demands.
Traffic	Less than Significant	Due to the limited size of the project area, the proposed actions and changes will have limited effect on the overall traffic conditions.
Noise	Less than Significant	Removal of some of the material may require machines. However, it is anticipated that the sound associated with the proposed actions will be temporary.
Natural Hazards	None	None
Site Preparation & Construction	Less than Significant	Due to the limited size of the project area, the proposed actions and changes will have limited effect on the overall site conditions.

#### 4.15.2 Irreversible & Irrecoverable Commitments of Resources

There were no major changes to the existing topographical and vegetation condition and no expansion or changes in use of the subject area beyond that previously existing.

The recommended actions include the removal of the extraneous improvements including the terraced landscaping, irrigation system, waterfall and pond. These areas are to be restored with native plants. It is also recommended that drainage-related and soil retention improvements be retained. After removal of the extraneous improvements, the remaining walls will continue their initial intended purpose.

#### 4.15.3 Conclusion

Implementation of the proposed action will not result in significant impacts that will not be able to be mitigated to any environmental resource area. Therefore, the proposed actions will not result in significant cumulative impacts.

## **Chapter 5 – Laws, Regulations, Land Use Plans & Policies**

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This chapter discusses laws, regulations, land use plans and policies on the County, State and Federal level in relation to the proposed actions.

As already noted, a “Notice of Alleged Violation” letter from the Department of Land and Natural Resources, State of Hawai‘i, dated July 12, 2013 was received by the attorneys (Goodsill Anderson Quinn & Stifel) representing the Poka Place LLC, owners of the property at 3703 Poka Place. The letter states that a site inspection was conducted on July 8, 2013 and revealed that various improvements (retaining walls, terraces, and irrigated landscaping were constructed within the DHSM property and within the conservation district without the authorization of the State of Hawai‘i.

In response, the private property owner retained Alpha Engineers, Inc to evaluate the matter and make recommendations to address the alleged violations. On September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation related to the alleged encroachments.

The proposed actions are those approved on September 12, 2014, the Board of Land and Natural Resources unanimously approved staff recommendation related to the alleged encroachments and noted, in part, that Poka Place LLC shall:

- 1) Apply for and after-the-fact Conservation District Use Permit (CDUP) Departmental Permits for earth retention walls and landscaping improvements.
- 2) Remediate and restore the terraced landscaping areas, pursuant to approval of plans by the Department.
- 3) Remediate the irrigated landscaping area to the extent in which the drainage purpose of the area is maintained.
- 4) Remove the extraneous improvements (i.e. waterfall and pond) and restore area pursuant to approval of plans by the Department.
- 5) Remove and/or replace introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, or allow the area to re-grow naturally.

The following sections examine the projects compliance with applicable land use plans and policies.

### **5.1 City & County of Honolulu**

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#### **5.1.1 City & County Jurisdiction**

As part of the investigation of consistency with City & County of Honolulu regulations, an inquiry was made to the City’s Director of Planning and Permitting to see what issues may be required, due to the property’s location within the Special Management Area.

In response, Anthony Ching signed a letter for George Atta that states (letter dated December 4, 2014:)

“This is in response to your letter (received October 15, 2014) requesting for an SMA determination as to whether remediation of a landscaped area would require an SMA Permit.”

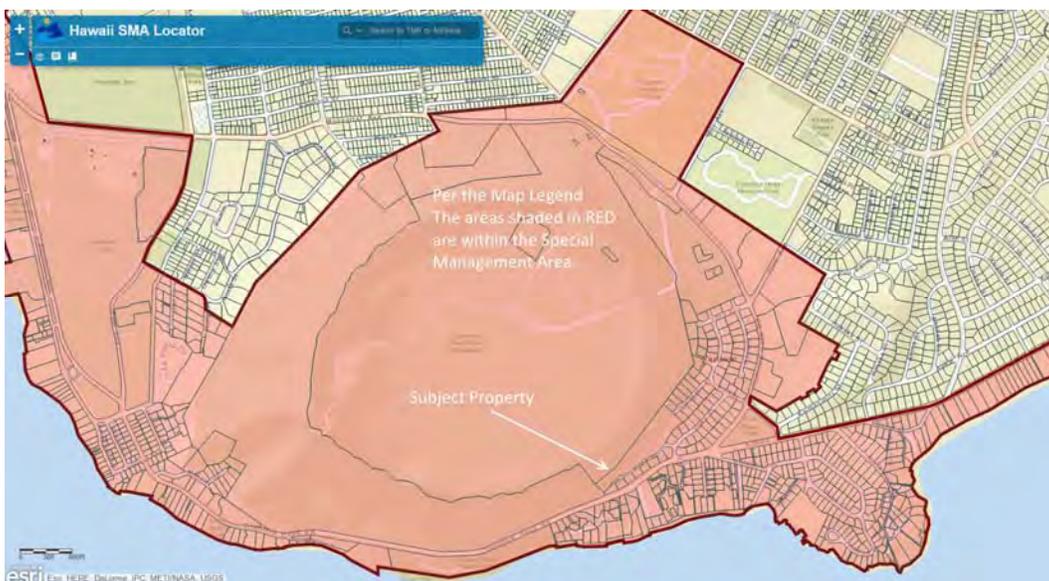
“The above parcel is entirely within the P-1 Restricted Preservation District. The City and County of Honolulu has no jurisdiction over this land. We suggest that you contact the State of Hawaii, Department of Land and Natural Resources with any questions pertaining to this parcel as they are the governing agency.” (Appendix C)



**C&C Honolulu GIS – Zoning Map**

As such, no further inquiries or references related to the City & County of Honolulu requirements were made.

The following map is from the on-line Hawaii SMA Locator - it indicates that properties shaded in red are within the SMA.



## 5.2 State of Hawai'i

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### 5.2.1 Hawai'i State Plan, HRS Chapter 226

Adopted in 1978 and last revised in 1991, the plan establishes a set of themes, goals, objectives, and policies meant to guide the long term growth and development within the state. The three themes are individual and family self-sufficiency, social and economic mobility, and community and social wellbeing.

The actions at Poka Place are directed and correcting alleged violations and restoring the property back to a natural state. This is not in conflict and is generally consistent with provisions with the Hawai'i State Plan.

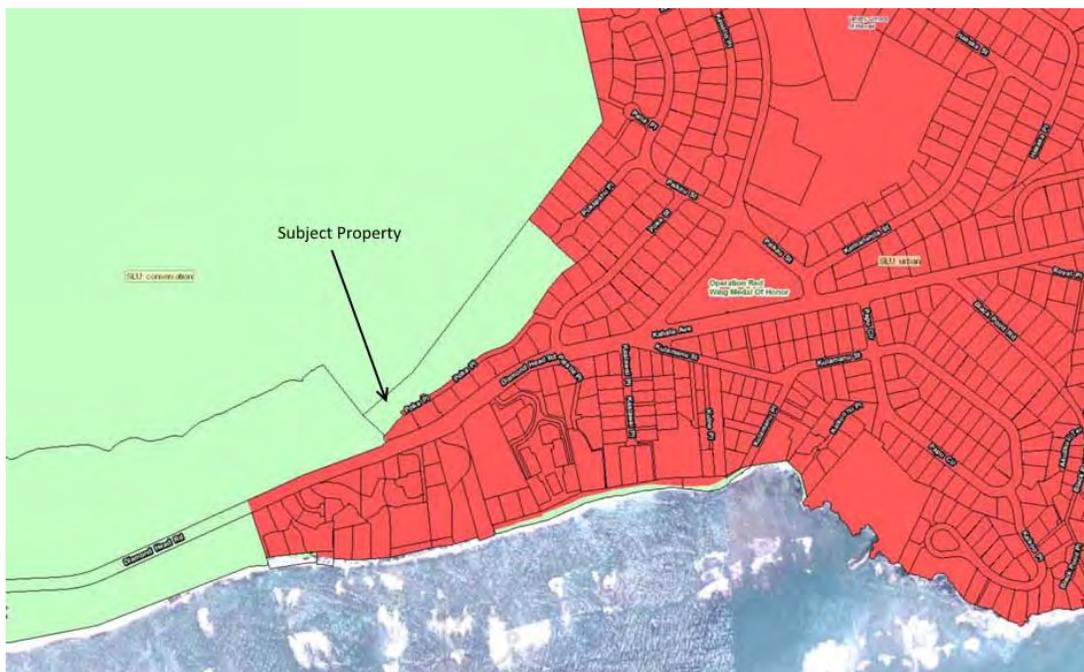
### 5.2.2 State Land Use Law, HRS Chapter 205

Administered by the Land Use Commission, all lands in the State of Hawai'i are classified into one of four major land use districts: urban, rural, agricultural, and conservation. Each category has a range of allowable uses.

Chapter 205, HRS, relating to the Land Use Commission, establishes four major land use districts into which all lands of the State are placed. The districts are designated Urban, Rural, Agricultural and Conservation.

The adjoining property is in the Urban District and is in residential use. The area where removal and restoration are required to be compliant with the Department of Land and Natural Resources is part of the Diamond Head State Monument.

There is no increased use of the property, nor will there be any changes in land use.



C&C Honolulu GIS – State Land Use Map

### 5.2.3 Chapter 205A, Coastal Zone Requirements

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawaii Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** Provide coastal recreational opportunities accessible to the public.

The property lies within the lower portion of Diamond Head Crater, within the Diamond Head State Monument, away from the actual recreational activities in the monument. Because of the steep nature of the terrain and heavy vegetation, it is not used for recreational activities.

The property is not located on the shoreline and lies about a mile from the ocean. The project will not have an effect on coastal recreational opportunities.

- **Historic resources:** Protect, preserve and, where desirable, restore those natural and manmade historic prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

The property is not located on the shoreline and lies about a mile from the ocean.

An archaeological assessment was completed in 1998 as part of a Final Environmental Impact Statement (Final EIS) for the Diamond Head State Monument Master Plan Update (IARI, Inc., 1998). This study reviewed documentary information and historic maps concerning traditional and historic land uses in Diamond Head Crater, and conducted a limited field survey of areas within Diamond Head State Monument.

Consultation with Dr. George Kanahale was also conducted as part of the archaeological assessment in 1998 to collect information on cultural practices and features including traditional and customary gathering rights of native Hawaiians associated with Diamond Head. Dr. Kanahale reported that:

"It seems clear to me that from a Hawaiian cultural point of view, Diamond Head's importance is mythological, i.e., rooted in Pele. It was kapu. The most kapu place was the crater or pit (or lua as luakini), where Pele resided. Hence, no Hawaiian would think of living, working, or even visiting there, just as no Hawaiian would think of living, working, or visiting a leina a ka uhane (leaping off place). This explains why no evidence of pre-Cook human habitation has been found in the crater. Besides, what thinking Hawaiian would want to live or work in that inaccessible and harsh environment."

"We can safely conclude that the kapu on Diamond Head and the crater was broken years ago, when Papa'en'ena heiau lost its mana and when people ceased to worship there (unlike Halema'uma'u where Hawaiian practitioners still worship and conduct ceremonies and rituals). In any case, the crater's importance, then, would be in its geological and botanical environment." (PBR Hawai'i, 2000).

- **Scenic and open space resources:** Protect, preserve and where desirable, restore or improve the quality of coastal scenic and open space resources.

The property lies within the bottom portion of Diamond Head Crater, within the Diamond Head State Monument. The area is vegetated with invasive plants. The project does not include the development of structures and will not impact the scenic or open space nature of the area. The project includes the removal of extraneous improvements (i.e. waterfall and pond) and restoration of the area to its natural vegetated state.

Removal and/or replacement of introduced and/or invasive species that are part of the terraced landscaping area and the irrigated landscaping area with either endemic or indigenous plants to Hawaii, will allow the area to re-grow in a more natural state.

- **Coastal Ecosystem:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

The current earth retention walls and landscaping improvements prevent erosion of conservation land and the potential adverse impact of unmitigated runoff from State land adjacent to the property.

Remediation of the irrigated landscaping area to the extent, in which the drainage purpose of the area is maintained, will Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

The earth retention walls and irrigated landscaping areas provide erosion control, slope stability and a measure of drainage and water quality control of runoff, thus improving storm water collection. This promotes the protection of marine and coastal resources as well as coastal ecosystems.

- **Economic Uses:** Provide public or private facilities and improvements important to the State's economy in suitable locations.

The earth retention walls and irrigated landscaping provide erosion control, slope stability and a measure of drainage and water quality control for runoff from State land. These land uses offer protection from these threats to the dwellings below.

- **Coastal Hazards:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence and pollution.

The earth retention walls and irrigated landscaping provide erosion control, slope stability and a measure of drainage and water quality control for runoff from State land. These land uses offer protection from these threats to the dwellings below.

They also help to improve the public's health, safety and welfare but preventing water run-off into homes below as well as containing storm run-off and preventing storm-runoff from entering the ocean.

- **Managing development:** Improve the development review process, communication and public participation in the management of coastal resources and hazards.

Project staff have worked with the Department as well as the City in developing the best alternatives for addressing management of the public resource.

- **Public participation:** Stimulate public awareness, education and participation in coastal management.

The public has had several opportunities to participate through the Land Board meeting process. Additionally, as part of the CDUA process, there is public notification and opportunity to participate.

- **Beach protection:** Protect beaches for public use and recreation.

The property lies within the lower portion of Diamond Head Crater, within the Diamond Head State Monument. Although it is not near the beach, the slope of the crater walls allows silt and rock to flow toward the ocean.

The earth retention walls and irrigated landscaping areas provide erosion control, slope stability and a measure of drainage and water quality control of runoff, thus improving storm water quality. This promotes the protection of marine and coastal resources as well as beaches and coastal recreation areas.

- **Marine resources:** Promote the protection, use and development of marine and coastal resources to assure their sustainability.

The property lies within the bottom portion of Diamond Head Crater, within the Diamond Head State Monument. Although it is not near the beach, the slope of the crater walls allows silt and rock to flow toward the ocean.

The earth retention walls and irrigated landscaping areas provide erosion control, slope stability and a measure of drainage and water quality control of runoff, thus improving storm water quality. This promotes the protection of marine and coastal resources.

### **Consultation with the City and County of Honolulu**

This matter was referred to the Director of Planning and Permitting in the City and County of Honolulu related to the Coastal and Special Management Area. Their response noted no requirements related to the City and County of Honolulu and referred all future discussions to DLNR, as they are considered the governing agency related to the remediation of the landscaped area and other actions.

### **5.2.4 Environmental Review, HRS Chapter 343 and HAR Section 11-200**

HRS Chapter 343, the State of Hawai'i Environmental Review Law, requires that any proposed use within a conservation district, use of State land or use of State funds be subject to review. The statute and rules establish a system of environmental review and provide that environmental concerns are considered for all proposed actions on State and county lands.

As part of this review, this EA has been prepared to ensure that environmental concerns are given appropriate consideration in decision making, along with economic and technical considerations.

#### **5.2.5 State Environmental Policy, HRS Chapter 344**

The broad goals of this policy are to conserve natural resources and enhance the quality of life in the State. It encourages productive and enjoyable harmony between people and their environment to promote efforts which will prevent or eliminate damage to the environment and biosphere, stimulate the health and welfare of humanity, and enrich the understanding of the ecological systems and natural resources important to the people of Hawai'i.

Poka Place will abide by the guidelines promulgated by HRS §344-4(1)–(10), including, but not limited to, encouraging management practices which conserve natural resources and encouraging the efficient use of energy resources.

## **Chapter 6 - Anticipated Determination, With Findings & Reasons Supporting**

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This environmental assessment has examined the environmental and socio-economic impact associated with Poka Place. Pursuant to Section 11-200-12, HAR, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria listed below.

The expected determination of the project will be a Finding of No Significant Impact (FONSI).

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

The project does not involve a loss or destruction of any natural or cultural resources. There are no rare or endangered species and there are no cultural sites on the parcel.

- 2) *Curtail the range of beneficial uses of the environment;*

The project does not restrict the range of beneficial uses of the environment. The alleged encroachments will be removed and the property restored to its natural state.

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

As proposed, the project is in compliance with the state's long-term goals and guidelines as expressed in Chapter 343, HRS. Completion of the actions will be consistent with the actions taken by the Board of Land and Natural Resources.

- 4) *Substantially affects the economy or social welfare of the community and/or state;*

As proposed, the project does not significantly impact the economic or social welfare of the community or state. Completion of the actions will be consistent with the actions taken by the Board of Land and Natural Resources.

- 5) *Substantially affects public health;*

As proposed, the project does not impact public health.

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

As proposed, the project does not have secondary effects such as changes in demographics and infrastructure. No new infrastructure will be required, and the demand on the existing infrastructure will not change.

- 7) *Involves a substantial degradation of environmental quality;*

The project, as planned, does not result in the significant degradation of environmental quality. It will not degrade water quality or impact marine or terrestrial flora and fauna. Completion of

the actions will be consistent with the actions taken by the Board of Land and Natural Resources.

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

As proposed, there are no cumulative adverse effects on the environment or the need for larger actions on the site.

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

As proposed, the project does not impact any rare, threatened, or endangered species or its habitat. There are no rare or endangered species or habitat for such species on the parcel or in the area.

- 10) *Detrimentially affects air or water quality or ambient noise level;*

As proposed, the project does not have any adverse impacts on air and water quality. Removal of some of the material may require machines. However, it is anticipated that the sound associated with the proposed actions will be consistent with typical residential-type of gas-powered landscaping maintenance-related equipment. A hand operated jack hammer or similar pneumatic device may be necessary to break up the terraced wall segments to be removed.

- 11) *Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as flood plain, tsunami zone, beach, erosion-prone areas, geologically hazardous land, estuary, freshwater, or coastal areas;*

The project is not in an environmentally sensitive area and the proposed actions do not involve construction within a 100-year flood plain (Zones A or V), and it does not involve a “critical action” within a 500-year flood plain; nor is it in the tsunami evacuation area.

- 12) *Substantially affects scenic vistas and view planes identified in county or state plans or studies;*

Due to the limited size of the project area, the surrounding residential uses and vegetation, the proposed actions and changes will have limited effect on the overall visual and aesthetic nature of the Monument.

- 13) *Requires substantial energy consumption;*

Poka Place will not require substantial energy consumption.

### **Summary Conclusion**

For the reasons above, Poka Place will not have a significant effect in the context of Chapter 343, Hawai'i Revised Statutes and section 11-200-12 of the State Administrative Rules.

## Chapter 7 - Agency & Public Participation

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Copies of the Draft Environmental Assessment were sent to the following entities:

### Federal

U.S. Department of the Interior, Fish & Wildlife Service

### State of Hawai'i

Department of Business, Economic Development & Tourism – Office of Planning

Department of Health

Department of Land & Natural Resources

Department of Transportation

Office of Hawaiian Affairs

Waikiki-Kapahulu Public Library

### City & County of Honolulu

Department of Planning and Permitting

## Chapter 8 - List of Preparers

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Jennifer Barra	Deputy Project Manager	MURP, University of Hawai'i, Mānoa BS, Natural Resources Recreation & Tourism, Colorado State University	13

## Chapter 9 – References

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Alpha Engineers Inc, Site Improvements Assessment at 3703 Poka Place, November 2013

Alpha Engineers Inc, Letter Explaining Pre-Post Improvements Removal-Retention November 2014

C&C Honolulu on-line GIS Mapping - <http://gis.hicentral.com/>

DLNR – Board of Land and Natural Resources Submittals/Minutes related to alleged Violation

DOH – Noise Reference Manual, O’ahu, 2008

NRCS – USDA Web Soil Survey - <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

PBR, DLNR - Diamond Head Master Plan Update 2003

PBR, DLNR - Diamond Head State Monument Master Plan Update, Final Environmental Impact Statement - 2000-09-OA-FEIS-Diamond-Head-State-Monument

# Appendix A

## Site Improvements Assessment

Alpha Engineers, Inc

**FINAL**

**SITE IMPROVEMENTS ASSESSMENT**

**AT**

**3703 POKA PLACE  
HONOLULU, OAHU, HAWAII**

Prepared For The:

**POKA PLACE LLC  
1582 Kapiolani Boulevard, Suite 1110  
Honolulu, Hawaii 96814**

Prepared By:

**Alpha Engineers, Inc.  
99-144 Iwaiwa Place  
Aiea, Hawaii 96701**

November 2013

**EXHIBIT 5a**

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**SITE IMPROVEMENTS ASSESSMENT**

**AT**

**3703 POKA PLACE**

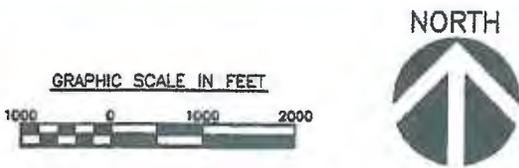
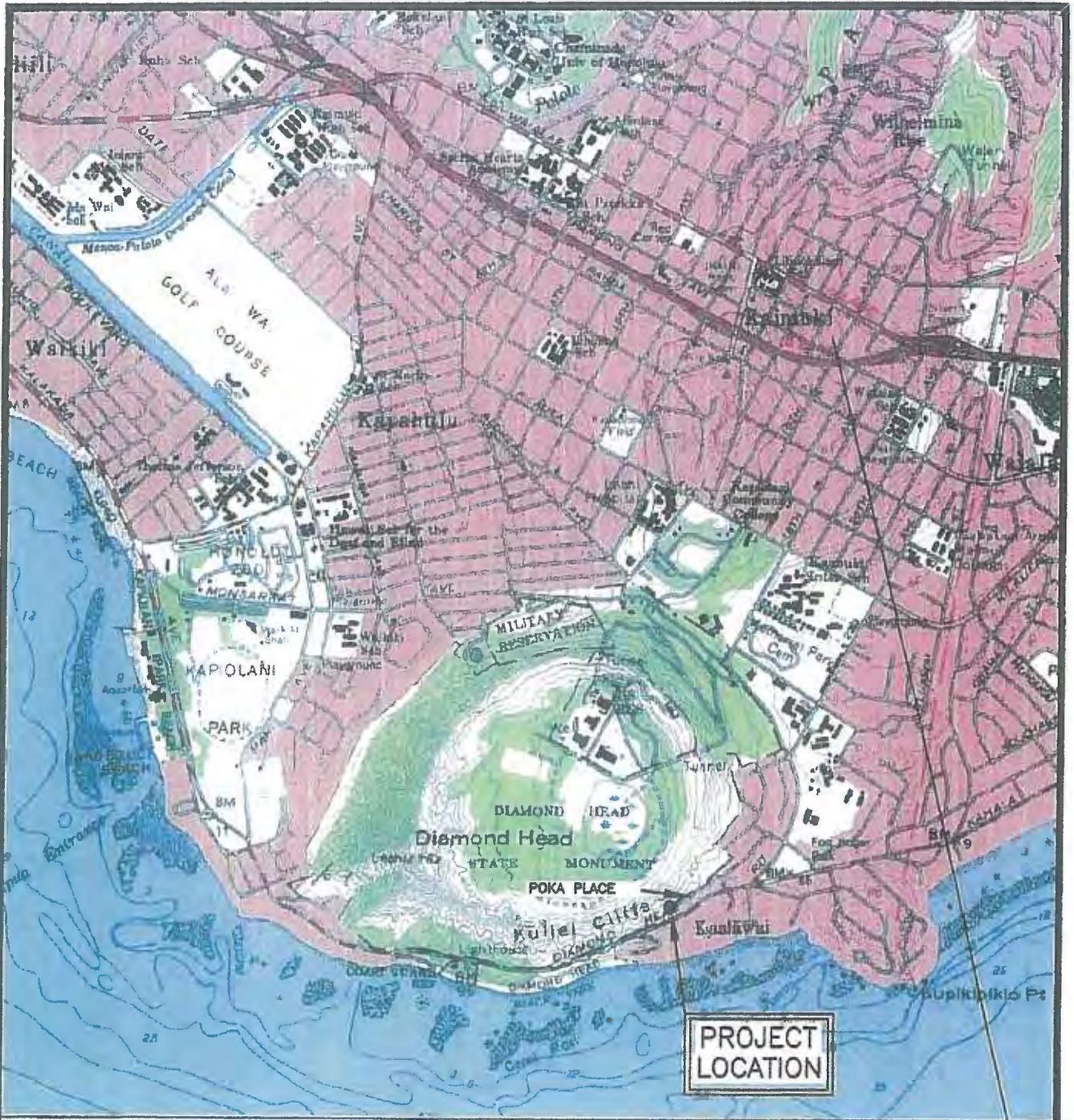
**HONOLULU, OAHU, HAWAII**

**INTRODUCTION**

The lot at 3703 Poka Place is located within the Diamond Head area on the Island of Oahu (Figure 1). The Tax Map Key is 3-1-47: 49 and the lot area are 11,006 square feet or 0.253 acres. Access to the lot is from a 24 feet wide road easement from the end of Poka Place to the northeast (Figure 2). The Diamond Head State Monument (DHSM) is to the north and west of the lot with Diamond Head Road to the south.

**BACKGROUND**

A "Notice of Alleged Violation" letter (Appendix A) from the Department of Land and Natural Resources, State of Hawaii, dated July 12, 2013 was received by the attorneys (Goodsill Anderson Quinn & Stifel) representing the Poka Place LLC, owners of the property at 3703 Poka Place. The letter states that a site inspection was conducted on July 8, 2013 and revealed that various improvements (retaining walls, terraces, and irrigated landscaping, Figure 3 and Appendix B) were constructed within the DHSM property and within the conservation district without the authorization of the State of Hawaii. The letter continues that "The various improvements are considered encroachments or unauthorized structures on public land, and also constitute zoning violations within the state land use conservation district." which may result in fines of up to \$15,000 per violation of the state land use conservation district, administrative costs, cost associated with land or habitat restoration, and damages to public land or natural resources, or any combination thereof.



3703 POKA PLACE  
 HONOLULU, OAHU, HAWAII  
 T.M.K.: 3-1-047: 049  
 Prepared By: Alpha Engineers, Inc.

VICINITY  
 PLAN

FIGURE  
 1





### Purpose of Report

The purpose of the Site Improvements Assessment is to determine the impact on the other lot improvements (single-family structures, carport, pool, walkways, etc.) should the State of Hawaii require the removal of various site improvements (retaining walls, terraces, and irrigated landscaping) that were constructed within the DHSM property and within the conservation district.

### EXISTING CONDITIONS

#### Existing Improvements

The lot is zoned residential district (R-10) and has a main single-family residence and a single-family residence for guests. Other structures include a carport and pool (Figure 2).

North of the lot is the DHSM which is owned by the State of Hawaii and is zoned restricted preservation (P-1). Site improvements within the DHSM include retaining walls (CRM walls), terraces, and irrigated landscaping (including a pond and waterfall).

#### Topography

The topography of the lot is steep. The existing ground at the center of the lot slopes about 22 percent with elevations ranging from about 130 feet mean sea level (msl) north of the lot to 113 feet msl south of the lot (Figure 2).

#### Soils

The soil of the northern area of the lot consists of Rock land (rRK) which is made up of areas where exposed rock covers 25 to 90 percent of the surface. The rock outcrops and very shallow soils are the main characteristics. The rock outcrops are mainly basalt and andesite.

### Drainage

Offsite runoff is conveyed to the lot from the DHSM. A large portion of this runoff is collected within a small valley along the DHSM slope which lies to the north and center of the lot. Runoff from the valley is discharged into the lot and flows along the walkway, between the main and guest residences and into Diamond Head Road. Within the lot there is a 10 feet wide storm drain easement that roughly aligns with the path of the runoff (Figure 2).

Runoff from other areas of the DHSM sheet flows into the lot.

### ANALYSIS OF SITE IMPROVEMENTS

#### Retaining Walls Area

The cement rubble masonry (CRM) wall parallel to and offset four feet from the guest residence, near the northwest corner of the lot varies in height from about 4.5 feet to 7.5 feet (Figure 3). It was installed to stabilize the slope and protect the structure from falling/sliding debris.

The other CRM walls within the same area were constructed to terrace the area and provide a measure of drainage control and water quality improvement of the runoff from the slopes of the DHSM.

Removal of the CRM wall near the guest residence would require the excavation of a portion of the adjacent slope within the DHSM to stabilize the slope. A slope of 1.5H:1V excavated in the rock material requires a horizontal length into the slope that varies from about 12 feet to 23 feet. The excavation would also remove the CRM walls within the terraced area.

Generally, demolition work and excavation in rock of this magnitude would require the use of heavy equipment: excavators equipped with hoe rams, front end loaders and dump trucks but due to the site conditions (steep slopes and

minimal space) it is not possible. Thus, hand tools would be used which would greatly increase the cost and time to accomplish the work.

A curb should be constructed along the northern edge of the guest residence to prevent water from flowing under the structure. The water may cause the ground to swell (and shrink) resulting in uneven floors, doors and windows "out of plumb" and cracks in the structure.

#### Irrigated Landscaping Area

The irrigated landscape area within the DHSM includes a 2.4 feet high CRM wall that "dams" the flow of the small valley (Figure 3). The ponding behind the CRM wall is a detention basin that reduces flooding of the downstream area. It also acts as a boulder basin that traps heavy debris behind the wall preventing damage to downstream improvements. During periods of heavy rainfall, runoff fills the detention basin and overflows the "dam" and flows toward the main residence. There are rock curbs adjacent to the residence that maintain the flow within the walkway (away from the structure). However, there are gaps in the rock curb and those gaps should be provided with a continuous rock curb.

The main area of the irrigated landscape area is below the CRM wall dam, is about 500 square feet and includes a small pond, waterfall, irrigation system, CRM walls, and paved rock walkways. They provide a measure of erosion control, slope stability and open space.

Removal and/or restoration of the area of the irrigated landscape area would require the demolition of the landscaping, irrigation system, pond and waterfall. To restore the slope, the level areas should be backfilled with the finished grade paved with grouted rubble paving using onsite rocks to closely match the surrounding area.

## CONCLUSION AND RECOMMENDATION

### Retaining Walls

Of primary importance is the CRM wall located north and parallel to the guest residence (Figure 4). The CRM wall provides slope protection of the guest residence from falling debris and/or slides. Restoring this area to its original state requires removing the CRM wall which will render the slope face unstable and jeopardize the safety of the guest residence and the people residing there.

Of secondary importance are the other CRM walls used to terrace the immediate area for landscaping/gardening (Figure 4). These walls and terraces provide erosion control, slope stability and a measure of drainage and water quality control of the runoff.

### Irrigated Landscape Area

Of primary importance is the CRM wall acting as a dam and detention basin of the small valley (Figure 4). The wall traps boulders and debris, detains runoff of smaller storms and improves stormwater quality. Removal of the CRM wall may increase the damaging impact of boulders, debris and runoff to downstream improvements including the main residence.

Of secondary importance are the other CRM walls above and below the dam, and the irrigated landscape area (Figure 4).

### Recommendation

A compromise with the State of Hawaii is recommended involving maintaining the primary importance improvements and restoring the area of secondary importance improvements. This compromise restores almost the entire affected area of the DHSM.



---

## CONSTRUCTION COST ESTIMATE

### Retaining Walls Area

The total estimated construction cost for restoring the area of secondary importance improvements is \$20,900. The cost includes a contingency of 20 percent. The breakdown is shown in Appendix C.

### Irrigated Landscape Area

The total estimated construction cost for restoring the area of secondary importance improvements is \$34,100. The cost includes a contingency of 20 percent. The breakdown is shown in Appendix C.

**APPENDICES**

**Appendix A – “Notice of Alleged Violation” Letter**

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR.  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ESTHER KIA'AINA  
FIRST DEPUTY

WILLIAM M. TAM  
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  
DISTRICTS  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

NOTICE OF ALLEGED VIOLATION

JUL 12 2013

Enf.: OA-14-2

CERTIFIED MAIL RETURN RECEIPT

7009 3410 0000 4942 9507

Poka Place, LLC.  
C/O Goodsill Anderson Quinn & Stifel  
Attn: Edmund K. Saffery, Esq.  
First Hawaiian Center, Suite 1600  
999 Bishop Street  
Honolulu, HI 96813

Dear Mr. Saffery:

**SUBJECT:** Alleged Unauthorized Landscaping, Drainage Improvements, and Earth Retention Structures Constructed within Conservation District and Public Land, Located at Diamond Head, Island of Oahu, TMK: (1) 3-1-042:017

NOTICE IS HEREBY GIVEN that your client may be in violation of both conservation district land use laws and public land laws. Your client's property (TMK: (1)3-1-047:049) abuts Diamond Head State Monument (TMK: (1) 3-1-042:017) which comprises public lands set aside to the Department of Land and Natural Resources, Division of State Parks, and zoned within the state land use conservation district.

A site inspection conducted on July 8, 2013 revealed that your client, or predecessor[s] in interest, had constructed various improvements within the state park property and within the conservation district without the authorization of the Department or the Board of Land and Natural Resources. A partial property survey map was prepared by your client that demarcates, in part, the property boundary between parcel #017 (State Park) and #049 (your client). The property boundary was staked when we visited the property on July 8, 2013.

The various improvements are considered encroachments or unauthorized structures on public land, and also constitute zoning violations within the state land use conservation district. The various improvements we observed consisted of a retaining wall, terraces, and irrigated landscaping all of which were either installed or maintained by your client, or representatives of your client, or predecessor[s] in interest

This letter is written to notify you that pursuant to 183C, HRS (Conservation District) the Board of Land and Natural Resources may subject your client to fines of up to \$15,000.00 per violation in addition to administrative costs, cost associated with land or habitat restoration, and damages

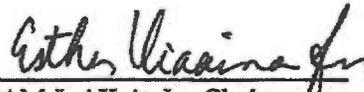
to public land or natural resources, or any combination thereof. After written or verbal notification from the department, willful violation of this chapter or any rule adopted in accordance with this chapter may incur an additional fine of up to \$15,000 per day per violation for each day in which the violation persists.

In addition, it appears that the improvements are built on state property without permission. Section 171-6 (12), HRS, empowers the Board to impose fines, assess costs, and require the land be restored to its original condition.

While it is the intent of our office to schedule a violation proceeding before the Board of Land and Natural Resources (BLNR), in the near future, we thought it would be prudent to provide you with written notice of these allegations. You will be notified of the specific issues, as well as the time and place of the BLNR meeting in advance of the meeting.

Should you have any questions or wish us to clarify or discuss anything, please contact Sam Lemmo of the Office of Conservation and Coastal Lands at (808) 587-0377.

Sincerely,

  
WILLIAM J. AILA, Jr., Chairperson

C: Department of the Attorney General (Land Trans)  
ODLO/DOCARE-Oahu  
City and County of Honolulu  
Dept. of Planning and Permitting

Appendix B – Photos of Retaining Wall and Irrigated Landscape Area

**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



Near northwest corner of guest residence, looking east along CRM wall.

1



Near northwest corner of guest residence, looking east toward terraced area.

2

**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



Near northwest corner of guest residence, looking north toward terraced area.

3

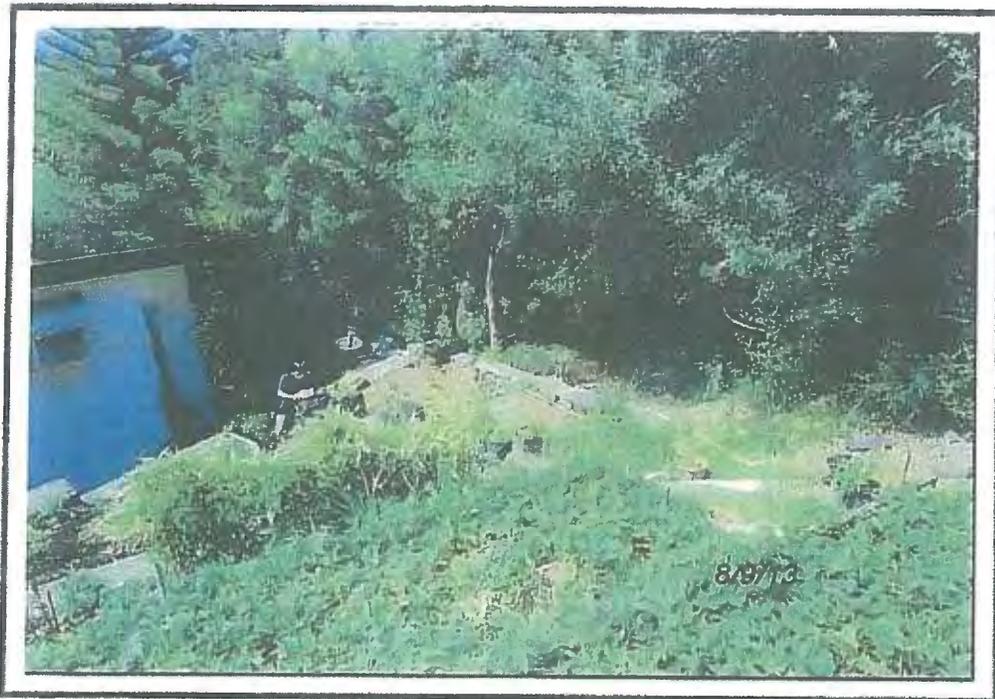


Near northeast corner of guest residence, looking west along CRM wall.

4

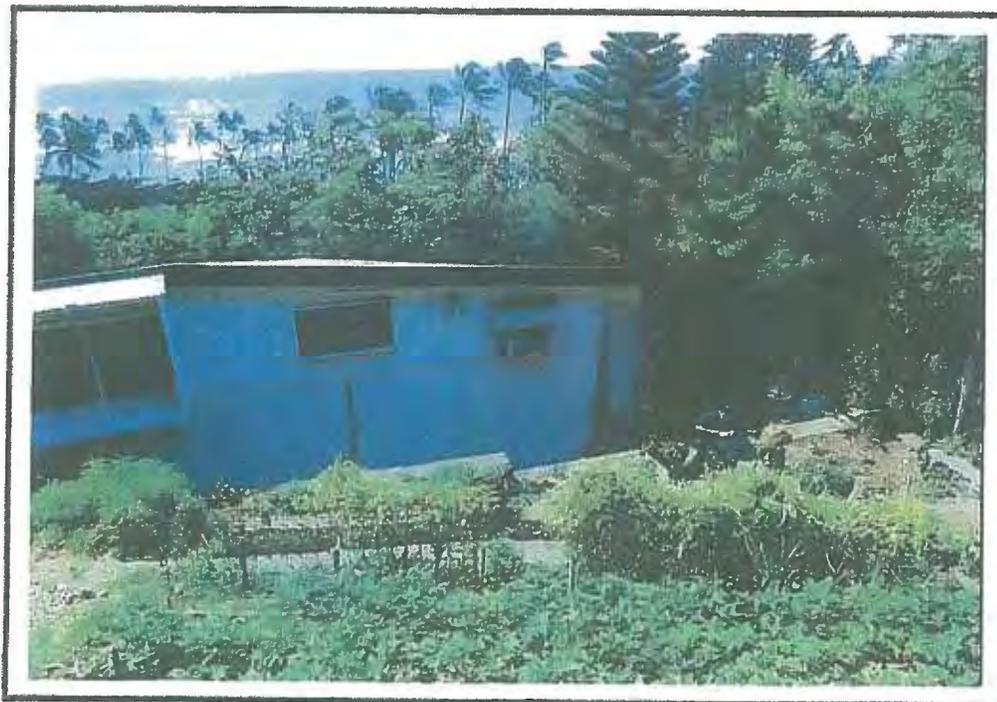
**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



At terraced area, looking south toward northwest corner of guest residence.

5

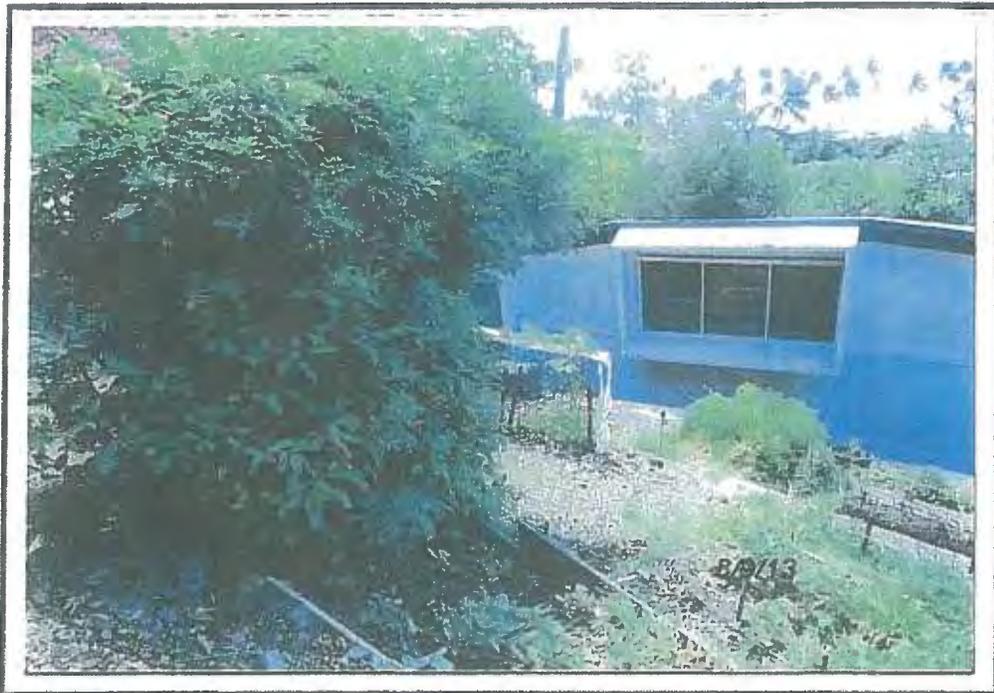


At terraced area, looking south toward guest residence.

6

**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



At terraced area, looking southeast toward guest residence.

7



At terraced area, looking west toward guest residence.

8

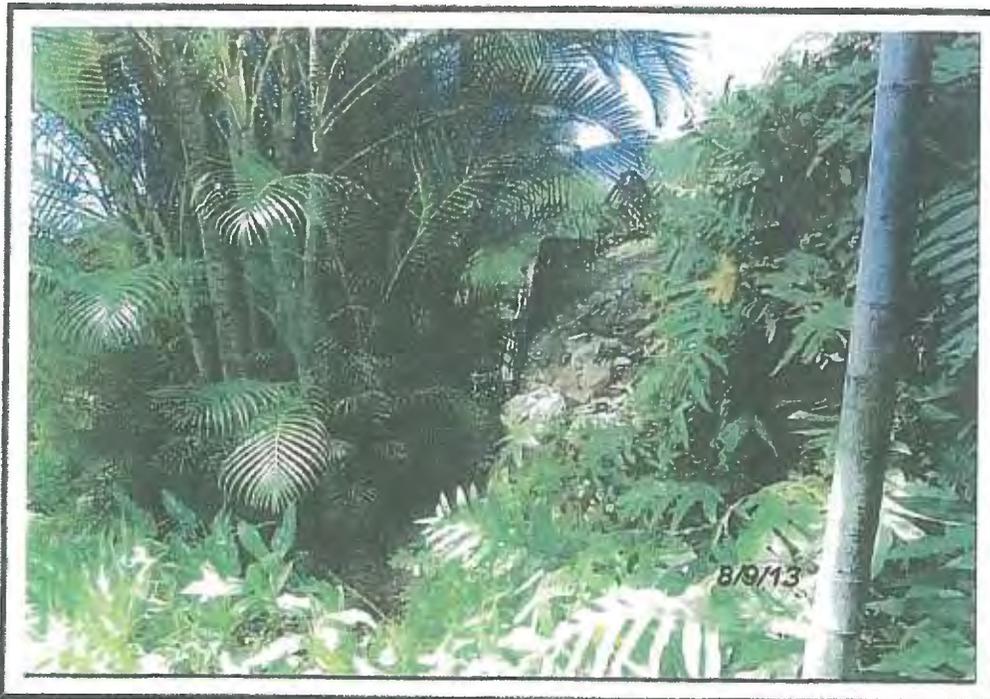
**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



Near southeast corner of guest residence, looking north at CRM wall.

9



At dirt pathway between main and guest residences, looking west along CRM wall. Note existing rock formation at end of wall.

10

**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



At mid-point of norther side of main residence, looking north at irrigated landscaped area.

11



At irrigated landscaped area (within DHSM property), looking north at small valley. At foreground, note the CRM wall across bottom of valley acting as a dam.

12

**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



At dam, looking south toward main residence.

13



At dam, looking down toward CRM wall and drain inlet.

14

**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



North of dam, looking north toward the small valley within the DHSM.

15



At dam, looking east toward the cement lined cut-off ditch.

16

**SITE IMPROVEMENTS ASSESSMENT - 3703 POKA PLACE**

Pictures taken on August 9, 2013



At dam, looking west toward the cement lined cut-off ditch.

17



At dam wall, looking south and down. Note 4" pipe from inlet at dam. Pipe discharges runoff into another inlet. Don't know location of the outlet (from this inlet shown).

18

Appendix C – Construction Cost Estimate of Restoring Areas of Secondary  
Importance Improvements



# Appendix B

## Explanatory Comments

Alpha Engineers, Inc



## **ALPHA ENGINEERS, INC.**

Consulting Civil Engineers

November 10, 2014

Mr. James Tanaka, Chief Financial Officer  
Poka Place LLC  
1585 Kapiolani Boulevard, Suite 1110  
Honolulu, Hawaii 96814

Subject: Lot at 3703 Poka Place  
Honolulu, Hawaii 96816  
TMK: 3-1-047: 049

Dear Mr. Tanaka:

We have evaluated the site improvements that were apparently constructed within the adjacent Diamond Head State Monument (DHSM), TMK: 3-1-042: 017 (por.) and the letter from the Department of Land and Natural Resources, State of Hawaii dated September 18, 2014 regarding enforcement action of unauthorized improvements located within the DHSM.

It appears that some of the walls were built for the purpose of directing drainage to the State storm drain easement. This was confirmed by Matthew Mendez, caretaker of the lot who had stated that the wall improvements at the DHSM drainage way direct the storm water runoff into the State storm drain easement. Also, the wall spanning across the drainage way traps debris thus protecting the onsite structures from damage and the residents from harm. Other walls are in-place to retain soil due to the nature of the slope and soil composition. These walls are recommended to remain.

There were no major changes to the existing topographical and vegetation condition and no expansion or changes in use of the subject area beyond that previously existing.

The recommended actions include the removal of the extraneous improvements including the terraced landscaping, irrigation system, waterfall and pond. These areas are to be restored with native plants. It is also recommended that drainage-related and soil retention improvements be retained. After removal of the extraneous improvements, the remaining walls will continue their initial intended purpose.

The property owner will also be pursuing an easement from the State for these remaining improvements for periodic repair and maintenance, as well as access through the area.

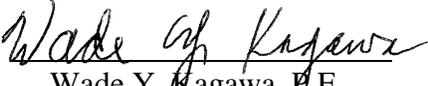
Mr. James Tanaka, Chief Financial Officer

November 10, 2014

Page 2

If there are questions, please contact me.

Sincerely,

  
Wade Y. Kagawa, P.E.

cc: Peter Young, Ho'okuleana LLC

## Appendix C

### City's Director of Planning & Permitting Letter

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7<sup>TH</sup> FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8000 • FAX: (808) 768-6041  
DEPT WEB SITE: [www.honolulu.gov](http://www.honolulu.gov) • CITY WEB SITE: [www.honolulu.gov](http://www.honolulu.gov)

KIRK CALDWELL  
MAYOR



GEORGE I. ATTA, FAICP  
DIRECTOR

ARTHUR D. CHALLACOMBE  
DEPUTY DIRECTOR

2014/ELOG-1990(WA)

December 4, 2014

Mr. Peter T. Young  
Hookuleana, LLC  
1539 Kanapuu Drive  
Kailua, Hawaii 96734

Dear Mr. Young:

SUBJECT: Request for Special Management Area (SMA) Determination  
Poka Place - Diamond Head  
Tax Map Key 3-1-42: 17

This is in response to your letter (received October 15, 2014) requesting for an SMA determination as to whether remediation of a landscaped area would require an SMA Permit.

The above parcel is entirely within the P-1 Restricted Preservation District. The City and County of Honolulu has no jurisdiction over this land. We suggest that you contact the State of Hawaii, Department of Land and Natural Resources with any questions pertaining to this parcel as they are the governing agency.

Please contact William Ammons of our staff at 768-8025 or via email at [wammons@honolulu.gov](mailto:wammons@honolulu.gov) if you have any questions.

Very truly yours,

*Anthony X. Cling*  
FOR George I. Atta, FAICP  
Director

Doc 1199341

# Appendix D

## Landscape Report

Lester H. Inouye and Associates LLC

**Lester H. Inouye  
& Associates LLC**

Landscape 90 Kawanakoa Place  
Architecture Honolulu, Hawaii  
96817-1708

Tel 808 595-6979  
Fax 808 595-6980  
Email: les@linouyelandarchitect.com

# LANDSCAPE REPORT

PROJECT: **3703 POKA PLACE**

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TO: **ALPHA ENGINEERS INC.**  
ATTEN: **WADE KAGAWA**

DATE: June 4, 2015

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## **Existing Site Vegetation:**

The site was visited on May 6, 2015 by Lester H. Inouye and Associates LLC. We observed the existing naturalized vegetation of the area to include trees of Brassia, Kiawe, Koa Haole and Christmasberry and a predominance of Bougainvillea shrubs. The domestic plants within the disturbed landscape areas included Areca Palms, Song of India, Spathiphyllum, Bromeliads, Lauae Fern and a vegetable garden with various vegetables.

Beyond the designated area the hillside appeared covered with very dry vegetation that are typical to the area. The existing vegetation is consistent with the soil survey issued by the United States Department of Agriculture Soil Conservation Service in 1972, stating the natural vegetation of this area consists of Kiawe, Koa Haole, Lantana, Bermudagrass and Fingergrass.

## **Proposed Site Restoration:**

The proposed ground cover planting on the hillside to be restored will be a mixture of Bermudagrass and Fingergrass which is the predominant existing vegetation in the area. This seed mix will be distributed on the sloping grade over an erosion control mat to mitigate erosion. A temporary irrigation system will be required to help get these grass seeds established.

Native Naupaka Kahakai shrubs will be planted above the existing retaining wall along the property line. The Naupaka will have a permanent drip irrigation system to help sustain the shrubs.

FROM: Lester Inouye FASLA

This message is for the exclusive use of the individual or entity which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the recipient of this message is not the addressee or a person responsible for delivering the message to the addressee, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error please notify Lester H. Inouye & Assoc. LLC. Immediately by telephone or return fax.

