

DEPARTMENT OF DESIGN AND CONSTRUCTION  
KA 'OIHANA HAKULAU A ME KE KĀPILI  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8480 • FAX: (808) 768-4567 • WEBSITE: [honolulu.gov](http://honolulu.gov)

RICK BLANGIARDI  
MAYOR  
MEIA



HAKU MILLES, P.E.  
DIRECTOR  
POO

BRYAN GALLAGHER, P.E.  
DEPUTY DIRECTOR  
HOPE POO

891231

February 2, 2024

Ms. Mary Alice Evans, Director  
Office of Planning and Sustainable Development  
Department of Business, Economic Development and Tourism  
Environmental Review Program  
State of Hawai'i  
235 South Beretania Street, Room 702  
Honolulu, Hawai'i 96813

Dear Ms. Evans:

Subject: Draft Environmental Assessment  
Ke'ehi Lagoon Park Comfort Stations 1 and 2  
Tax Map Key: [1] 1-1-003: 239  
Moanalua, O'ahu, Hawai'i

The Department of Design and Construction (DDC), City and County of Honolulu, has reviewed the Draft Environmental Assessment (DEA) for the subject project and is issuing an Anticipated Finding of No Significant Impact (AFONSI) determination. Please publish this determination in the next Environmental Notice.

The purpose of the proposed action is to replace two existing comfort stations. Comfort Station 1 is located at the 'Ewa end of the park and has been closed since it was damaged by fire in 2015. Comfort Station 2, which is located at the Diamond Head end of the park, will be built near the middle of the park at a location convenient for park users.

The DEA will be uploaded to the Environmental Review Program website with the Environmental Notice publication form.

**First point of contact**

Please contact Gerald Park, Planner, at 808-625-9626 or email at [gpark@gpup.biz](mailto:gpark@gpup.biz) if you have any questions.

Ms. Mary Alice Evans, Director  
February 2, 2024  
Page 2

**Second point of contact**

Please contact William Romena, of the DDC, at 808-768-8459 or email at [ddcfd@honolulu.gov](mailto:ddcfd@honolulu.gov) if you have any questions.

Sincerely,



~~for~~ Haku Milles, P.E., LEED AP  
Director

HM:ln

Enclosures

**From:** [webmaster@hawaii.gov](mailto:webmaster@hawaii.gov)  
**To:** [DBEDT OPSD Environmental Review Program](#)  
**Subject:** New online submission for The Environmental Notice  
**Date:** Friday, February 9, 2024 11:16:46 AM

---

**Action Name**

Keehi Lagoon Park Comfort Stations 1 and 2

**Type of Document/Determination**

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

**HRS §343-5(a) Trigger(s)**

- (1) Propose the use of state or county lands or the use of state or county funds
- (3) Propose any use within a shoreline area

**Judicial district**

Honolulu, O'ahu

**Tax Map Key(s) (TMK(s))**

1-1-1-003: 239

**Action type**

Agency

**Other required permits and approvals**

Special Management Area, Grubbing and Grading, Building, Water System Requirement, Variance from Pollution Controls, HRS Chapter 6E Review

**Proposing/determining agency**

Department of Design and Construction, City and County of Honolulu

**Agency contact name**

William Romena

**Agency contact email (for info about the action)**

[Wromena@honolulu.gov](mailto:Wromena@honolulu.gov)

**Email address or URL for receiving comments**

[Wromena@honolulu.gov](mailto:Wromena@honolulu.gov)

**Agency contact phone**

(808) 768-8459

**Agency address**

650 South King Street 9th Floor  
Honolulu, HI 96813  
United States  
[Map It](#)

**Was this submittal prepared by a consultant?**

Yes

#### Consultant

Gerald Park Urban Planner

#### Consultant contact name

Gerald Park

#### Consultant contact email

[gpark@gpup.biz](mailto:gpark@gpup.biz)

#### Consultant contact phone

(808) 625-9626

#### Consultant address

95-595 Kanamee Street #324  
Mililani, HI 96789  
United States  
[Map It](#)

#### Action summary

The proposed action will replace two existing comfort station. Comfort station 1 will be demolished first and rebuilt on the same site as existing. It has been closed to the public since 2015 when it was damaged by fire. Comfort station 2 will be demolished and rebuilt in the vicinity of the main parking lot about 300 lineal feet west of its current location.

#### Reasons supporting determination

See Section 7 Determination of Significance.

#### Attached documents (signed agency letter & EA/EIS)

- [2024-02-02-FONSI.pdf](#)
- [S0824554-Keehi-Lagoon-Park.pdf](#)

#### Action location map

- [Keehi-Lagoon-Park-Halau-Figure-1-Standard.zip](#)

#### Authorized individual

Gerald Park

#### Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

DRAFT ENVIRONMENTAL ASSESSMENT

---

***KE'EHI LAGOON PARK COMFORT STATIONS 1 and 2***  
*Moanalua, O'ahu, Hawai'i*

---



Open Play Field Looking East



Portion of Ke'ehi Lagoon with Sand Island in Background

Prepared for

**Department of Design and Construction**  
City and County of Honolulu  
650 S. King Street  
Honolulu, HI 96813

December 2023

DRAFT ENVIRONMENTAL ASSESSMENT

---

***KE'EHI LAGOON PARK COMFORT STATIONS 1 and 2***  
*Moanalua, O'ahu, Hawai'i*

---

Prepared in Partial Fulfillment of the Requirements of Chapter 343, Hawai'i Revised Statutes  
and Chapter 25, Special Management Area, Revised Ordinances of Honolulu

Prepared for

**Department of Design and Construction**  
City and County of Honolulu  
650 S. King Street  
Honolulu, HI 96813

Prepared by

**Gerald Park Urban Planner**  
95-595 Kaname'e Street, #324  
Mililani, HI 96789

And

**Lou Chan & Associates, Inc.**  
725 Kapiolani Boulevard, Suite C207  
Honolulu, HI 96813

December 2023

## PROJECT PROFILE

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Proposed Action: Ke'ehi Lagoon Park Comfort Stations 1 and 2

Location: Ke'ehi Lagoon Park  
Moanalua, O'ahu, HI

Street Address: 465 Lagoon Drive  
Honolulu, Hawai'i 96819

Proposing/Determining Agency: Department of Design and Construction  
City and County of Honolulu  
650 South King Street, 11<sup>th</sup> Floor  
Honolulu, Hawai'i 96813

Tax Map Key: [1] 1-1-003: 239  
Land Area: 72.0 acres  
Landowner: City and County of Honolulu

Existing Use: Public Park  
State Land Use District: Urban  
General Plan for Oahu: Urbanized Area (PUC)  
Development Plan (DP): Primary Urban Center  
*DP Land Use Map PUC Central: Major Park and Open Space*  
Public Infrastructure Map: No Symbol  
Zoning: P-2 General Preservation  
Special District: None  
Special Management Area: Inside Special Management Area

Need for Assessment: Chapter 343, Hawai'i Revised Statutes  
§343-5(a)(1) Propose the use of state or county  
lands or the use of state or county funds

Determination: Anticipated Finding of No Significant Impact

Contact Person: William Romena  
Department of Design and Construction  
City and County of Honolulu  
650 South King Street, 9<sup>th</sup> Floor  
Honolulu, Hawai'i 96813

Telephone: (808) 768-8459  
Email: [Wromena@honolulu.gov](mailto:Wromena@honolulu.gov)

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## PHOTOGRAPHS

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The Department of Design and Construction on behalf of the Department of Parks and Recreation, City and County of Honolulu is proposing improvements as Ke'ehi Lagoon Park, District of Honolulu, Honolulu, Oahu. Ke'ehi Lagoon Park (hereafter "Park") is located on the south shore of the island of O'ahu and bounded by industrial/commercial development to the north, Sand Island to the east, Ke'ehi Lagoon to the south, and Daniel K. Inouye International Airport to the west. A Vicinity Map is shown as Figure 1.

The Park is identified as Tax Map Key [1] 1-1-003: 239 with an area of 72.0 acres. A Tax Map is shown as Figure 2.

**A. Purpose of the Action**

The purpose of the proposed action is to replace two existing comfort stations. Comfort Station 1 is located at the 'Ewa end of the Park near a baseball and softball field. Comfort Station 2 will be built near the middle of the Park adjoining a section of the main parking area.

**B. Technical Characteristics**

1. Demolition

Comfort Station 1 will be demolished first and rebuilt on the same site as the existing. It has been closed to the public since damaged by fire in 2015.

Comfort Station 2 will be demolished and rebuilt in the vicinity of the main parking lot about 300 lineal feet to the west ('Ewa) of its current location. It will be demolished after the new Comfort Station 2 is built.

A Site Plan is shown as Sheet 002. The proposed locations of both comfort stations are shown on Photographs 1 and 2.

2. Comfort Stations

Both comfort stations are designed alike. The rectangular-shaped structures have an approximate building footprint of 1,813 square feet which includes accessible ramps. The restroom area is approximately 895 square feet with separate facilities for men and women. The men's restroom features two urinals, two lavatories (1 accessible stall), and four sinks. The women's restroom features four lavatories (1 accessible) and four sinks. A Park Keepers storage room (180 square feet) separates men's and women's facilities. Two drinking fountains are provided at the front and a wheelchair accessible ramp provided on one side of the building. Floor Plans are shown as Sheet A201.

The stations will be erected on poured in place concrete footings and floor. The structure will be wrapped with rock veneer, and topped by concrete deck with a bituminous roofing system. Skylights above the restroom will allow sunlight into the interior. The structure features a pitched roof with the high end approximately 12'-5" above existing grade. Exterior elevations are shown as Sheet A203 and A204.

Restroom interiors and walkways will be ADA accessible.

### 3. Grading and Drainage

The area around both comfort stations will be graded and both comfort stations elevated about 3+ feet above existing grade. The change in elevation will place the finish floor at the 9-foot base flood elevation estimated for the 0.1% annual chance flood. The area to be disturbed for Comfort Station 1 is approximately 13,000 square feet and the area to be graded 4,100 square feet. Earthwork is estimated at 10 cubic yards of excavation and 25 cubic yards of embankment. The area to be disturbed for Comfort Station 2 is approximately 14,211 square feet and the area to be graded 4,350 square feet. Earthwork quantities are estimated at 10 cubic yards of excavation and 35 cubic yards of embankment. Civil drawings are shown as Sheets C101, C102, C03, and C104.

Drainage improvements are not proposed. Roof runoff will surface flow onto the lawn area around each comfort station.

### 4. Circulation and Parking

Changes to the existing circulation pattern are not proposed. Two accessible parking stalls will be provided for and fronting Comfort Station 2.

### 5. Infrastructure

In-place water, wastewater, and electrical systems are available and connections will be made with the respective system.

Water usage and wastewater discharge is estimated at 150 gallons per day for each comfort station or 300 gallons per day total.

## **C. Economic Characteristics**

The construction cost for each is estimated at \$0.5 million for a total of \$1.0 million. Construction will be performed in two phases: Comfort Station 1 will be constructed in the first phase and Comfort Station 2 in the second phase. Both phases are projected to take one year to complete. Construction will commence after all approvals and permits are received.

## **D. Social Characteristics**

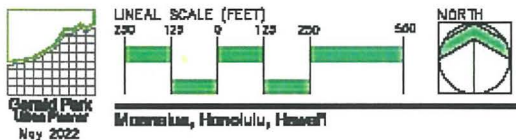
Comfort Station 2 will remain open for public use for the duration of the construction period and will be demolished after Comfort Station 2 has been completed.

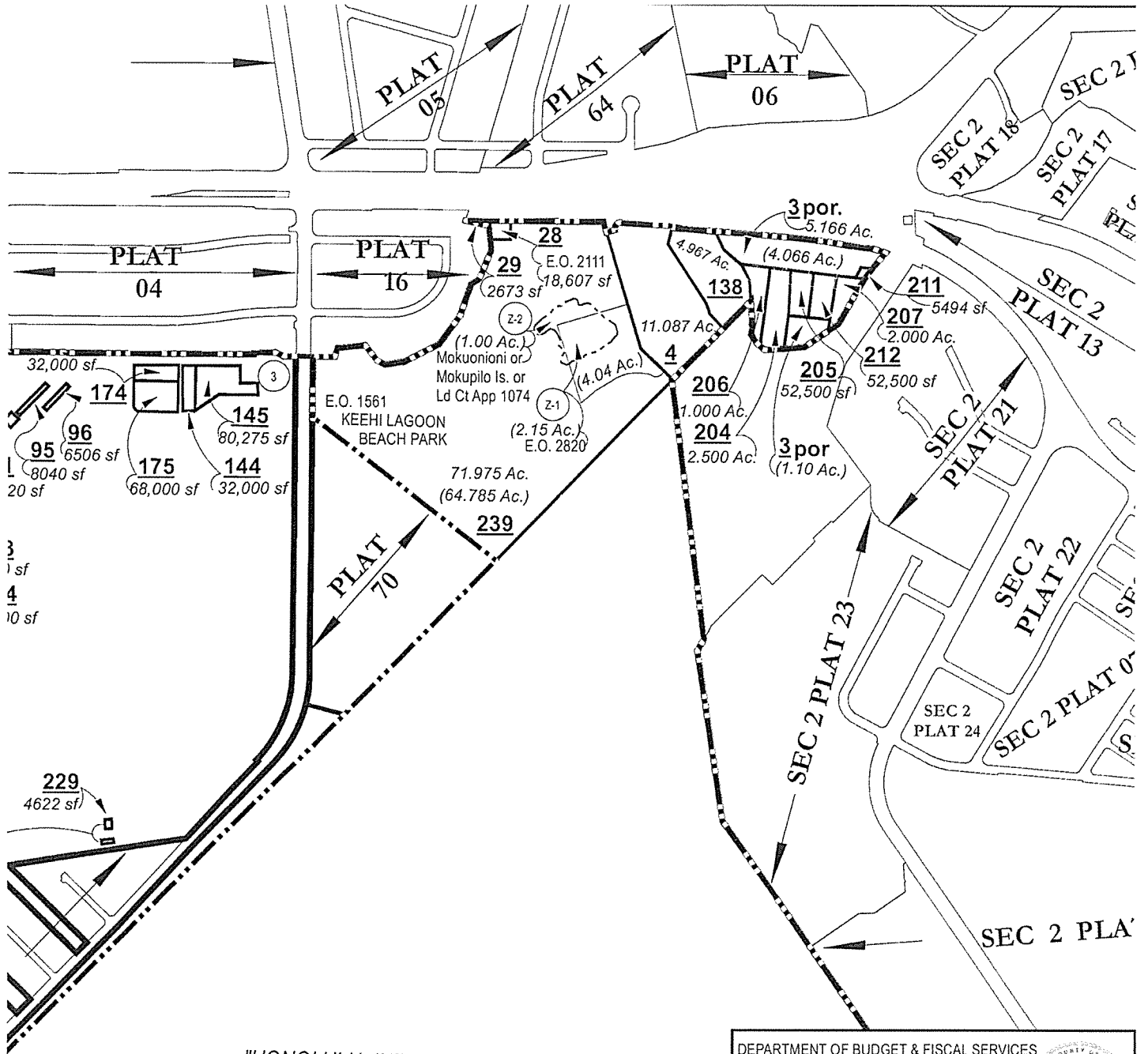




Source: Google Maps 2022 Imagery

**Figure 1**  
**Vicinity Map**  
**Ke'ehi Lagoon Park**  
**Comfort Stations**






"HONOLULU INTERNATIONAL AIRPORT  
AND HARBOR FACILITIES"

EXEC. ORD. NO. 3202

f) or 0.785 Ac.

f)

DEPARTMENT OF BUDGET & FISCAL SERVICES  
REAL PROPERTY ASSESSMENT DIVISION  
TAX MAPS BRANCH  
CITY & COUNTY OF HONOLULU  
**TAX MAP**

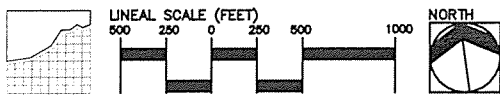


FIRST TAXATION DIVISION

ZONE	SECTION	PLAT
<b>1</b>	<b>1</b>	<b>003</b>

SCALE: 1 INCH = 1000 FEET

Source: City & County of Honolulu, Tax Map Office



Gerald Park  
Urban Planner  
May 2022

Moanalua, Honolulu, Hawai'i

Figure 2  
Tax Map  
Ke'ehi Lagoon Park  
Comfort Stations





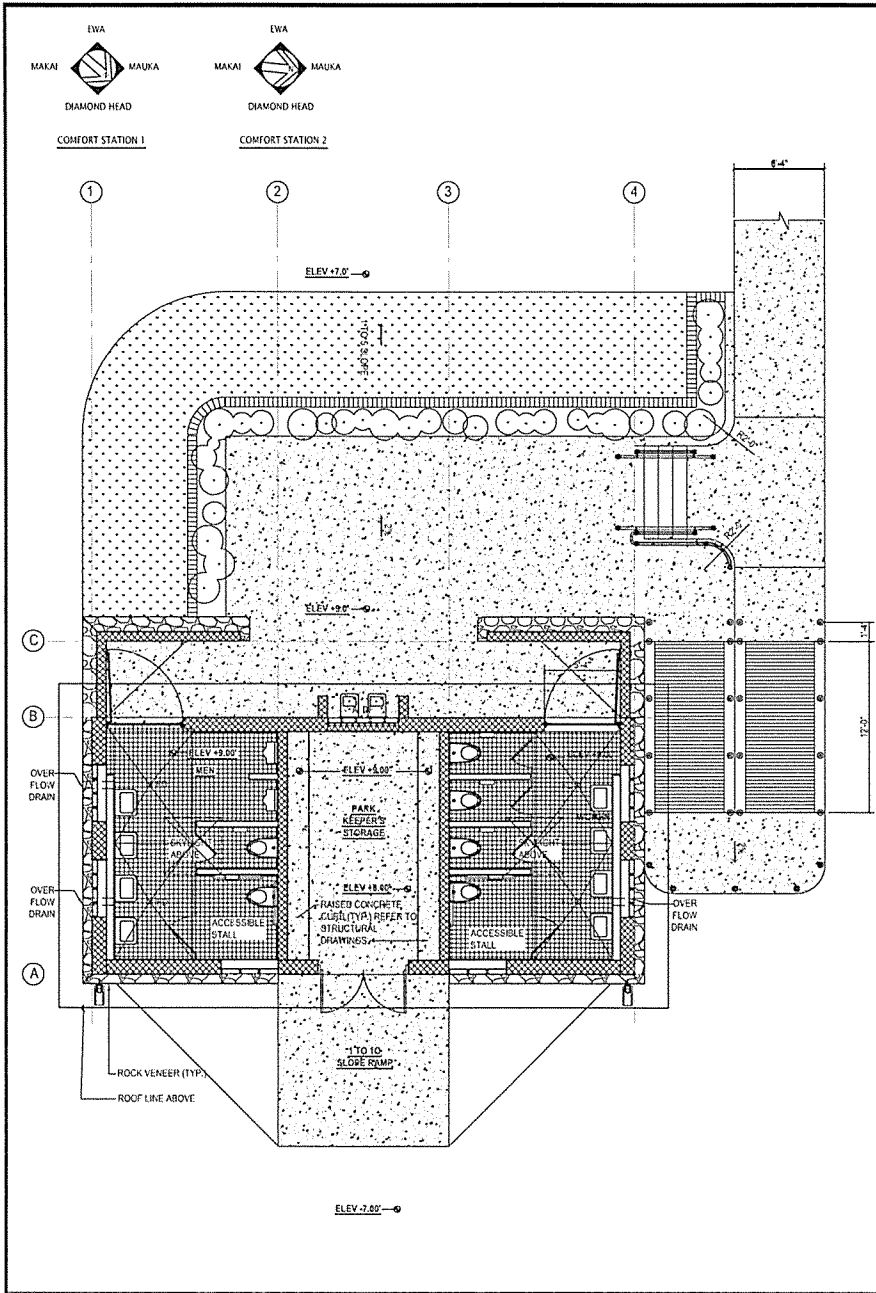


Photograph 1. North View at Front of Comfort Station 1.

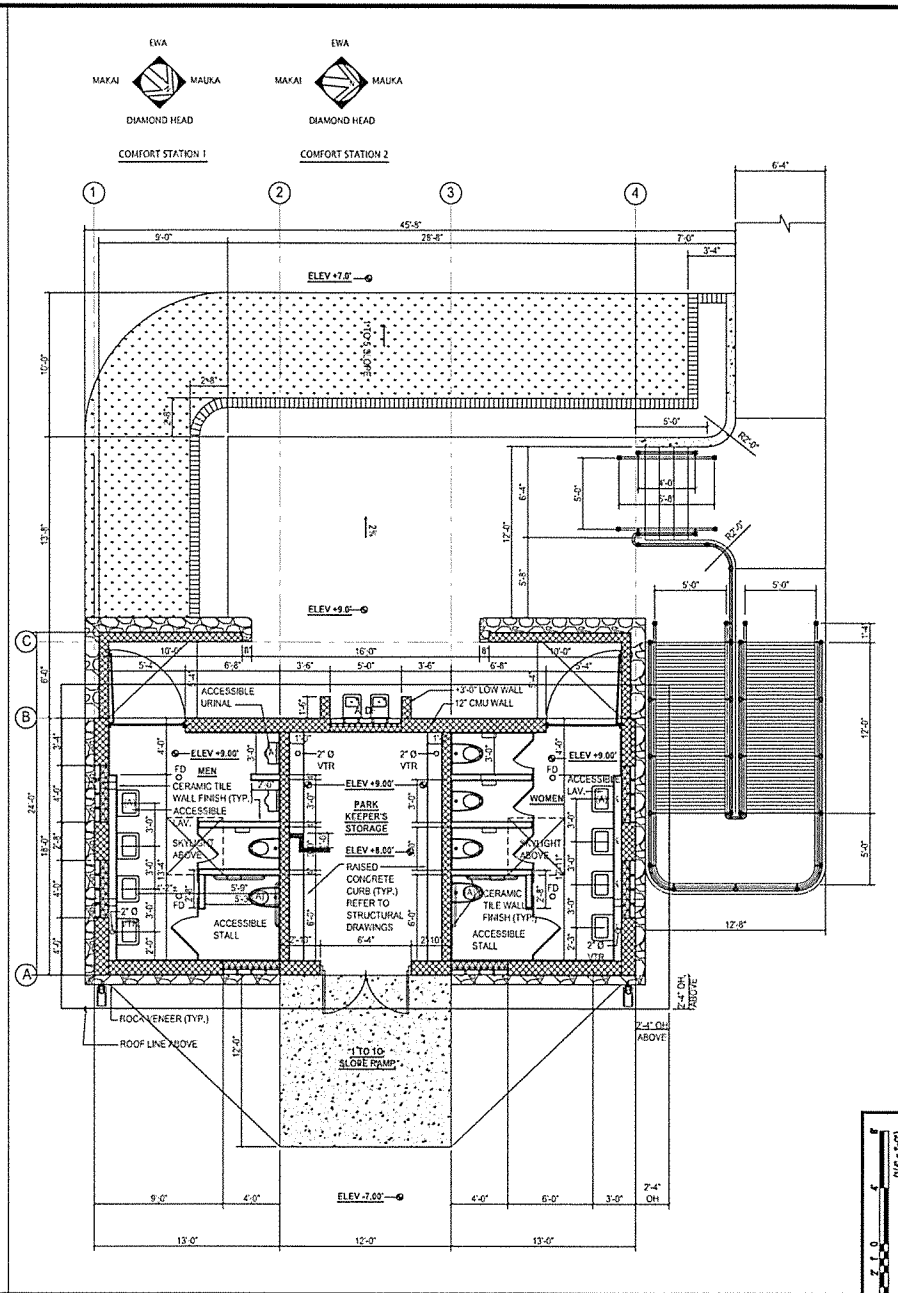


Photograph 2. Approximate Location of Comfort Station 2 is in the Center of the Photograph.





COMFORT STATION 1 AND 2 - FINISH FLOOR PLAN SCALE 1/4\"/>



COMFORT STATION 1 AND 2 - FLOOR PLAN SCALE 1/4\"/>

DATE	DESCRIPTION	BY	CHK

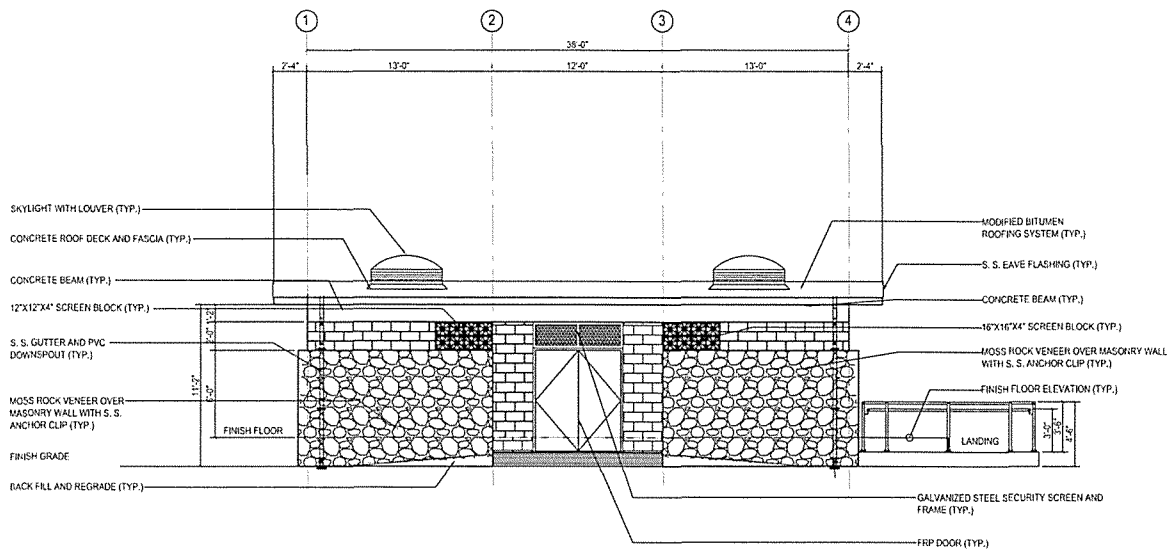
  

I HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL ARCHITECT IN THE STATE OF HAWAII AND THAT I AM THE DESIGNER OF THE PROJECT AND I AM NOT PROVIDING ARCHITECTURAL SERVICES TO ANY OTHER PARTY.

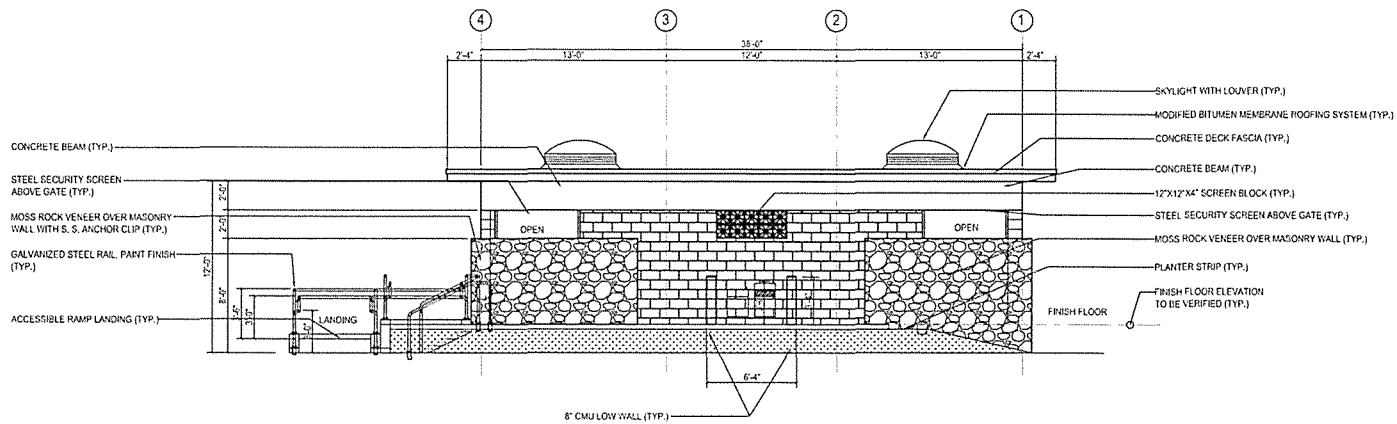
DESIGNER: LILI CHAK CHAK  
 CHECKED BY: L.C. WONG  
 APPROVED BY: L.C. WONG

DEPARTMENT OF DESIGN AND CONSTRUCTION  
 KEENE LAGOON PARK  
 COMFORT STATIONS 1 AND 2  
 ADDRESS: 485 LAGOON DRIVE, HONOLULU, OAHU, HAWAII 96810  
 NEW FLOOR AND RE-FINISH STATION 1 AND 2

PROJECT NO.: JCC-X-201  
 DRAWING NO.: A201  
 SHEET NO.: 8 OF X  
 FILE NO.: X-X/XX

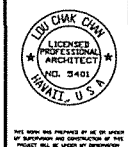


MAUKA EXTERIOR ELEVATION SCALE 1/4" = 1'-0" 3



MAKAI EXTERIOR ELEVATION SCALE 1/4" = 1'-0" 1

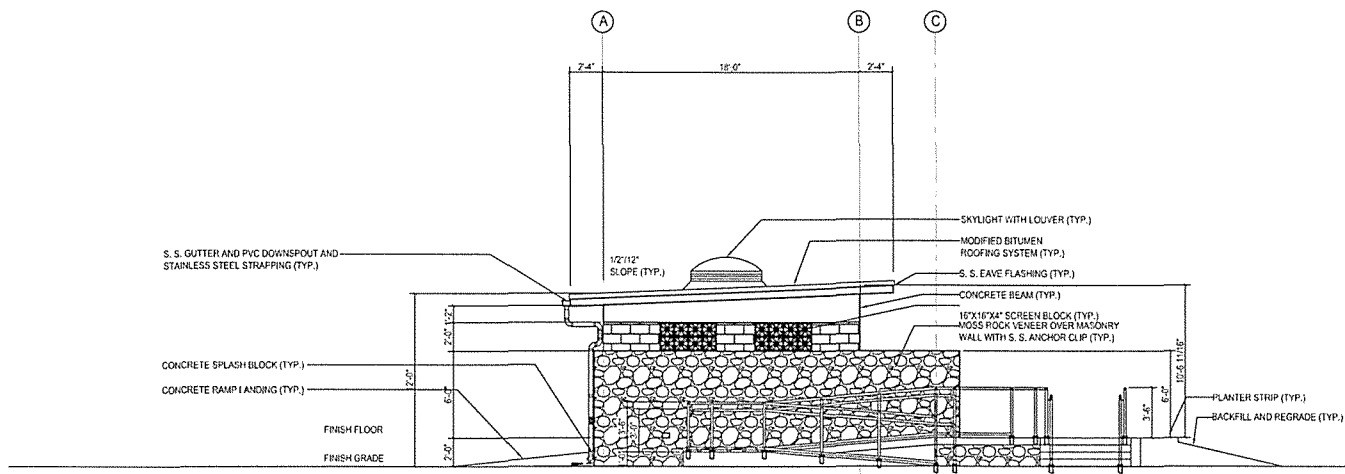
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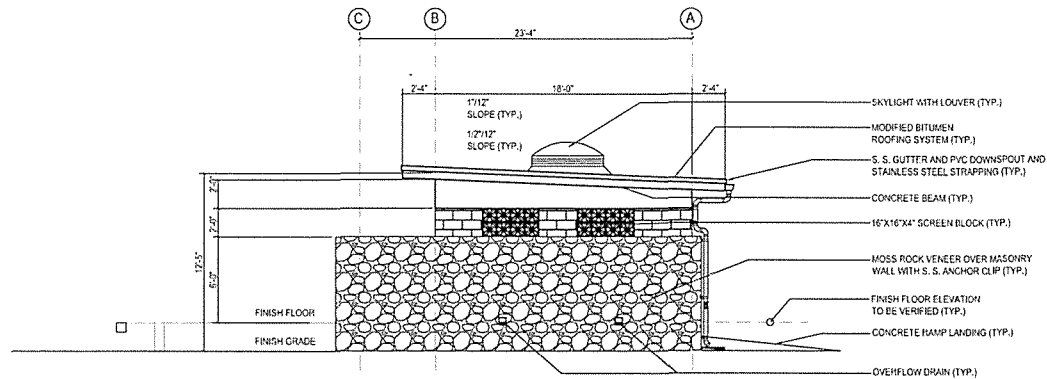
DESIGNER: LIU CHAK CHAI  
 CHECKED: LIU CHAK CHAI  
 DATE: MAR 2022

DEPARTMENT OF DESIGN AND CONSTRUCTION  
 CITY & COUNTY OF HONOLULU  
 KEELI LAGOON PARK  
 COMFORT STATIONS 1 AND 2  
 ADDRESS: 443 LAGOON AVENUE, HONOLULU, OAHU, HAWAII 96809  
 COMPART STATION 1 AND 2 PROPOSED EXTERIOR ELEVATIONS

PROJECT NO.: JCC-X-03  
 DRAWING NO.:  
**A203**  
 SHEET NO.: 10 OF X  
 FILE NO.: X-X/03



EWA EXTERIOR ELEVATION SCALE 1/4" = 1'-0" 3



DIAMOND HEAD EXTERIOR ELEVATION SCALE 1/4" = 1'-0" 1

NO.	DATE	BY	CHKD.
1			
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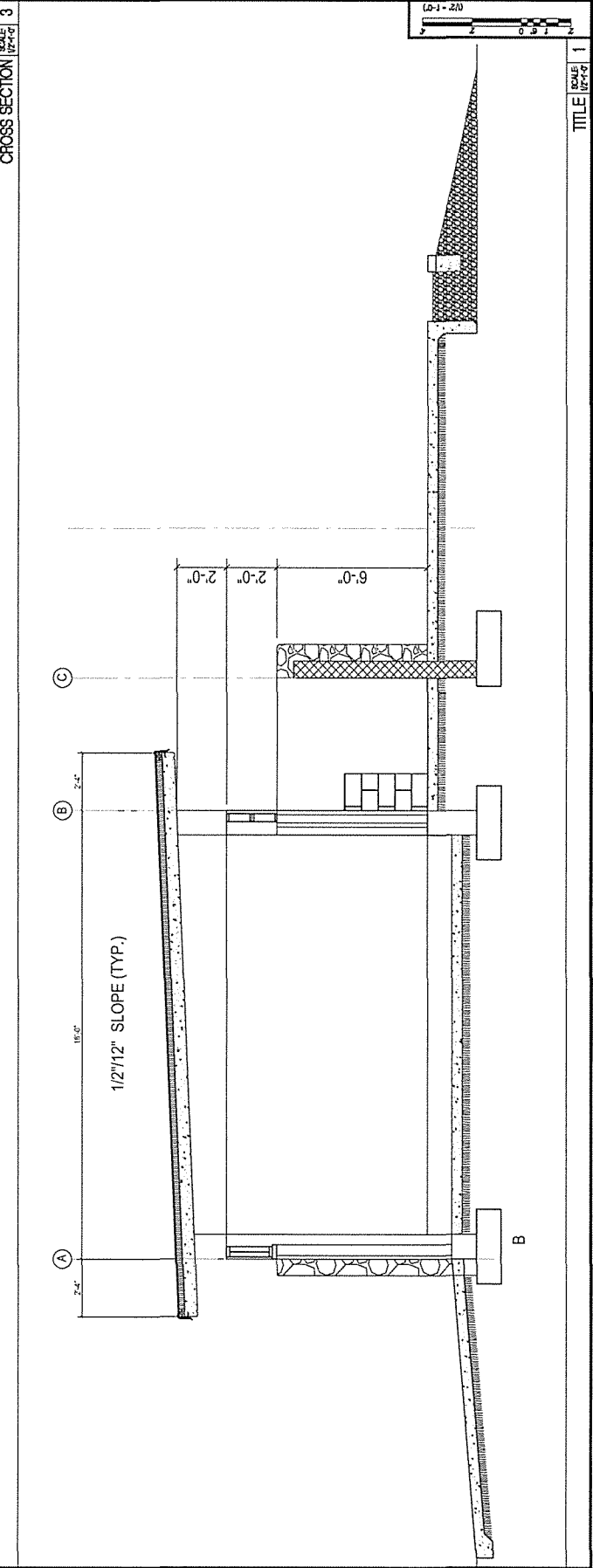
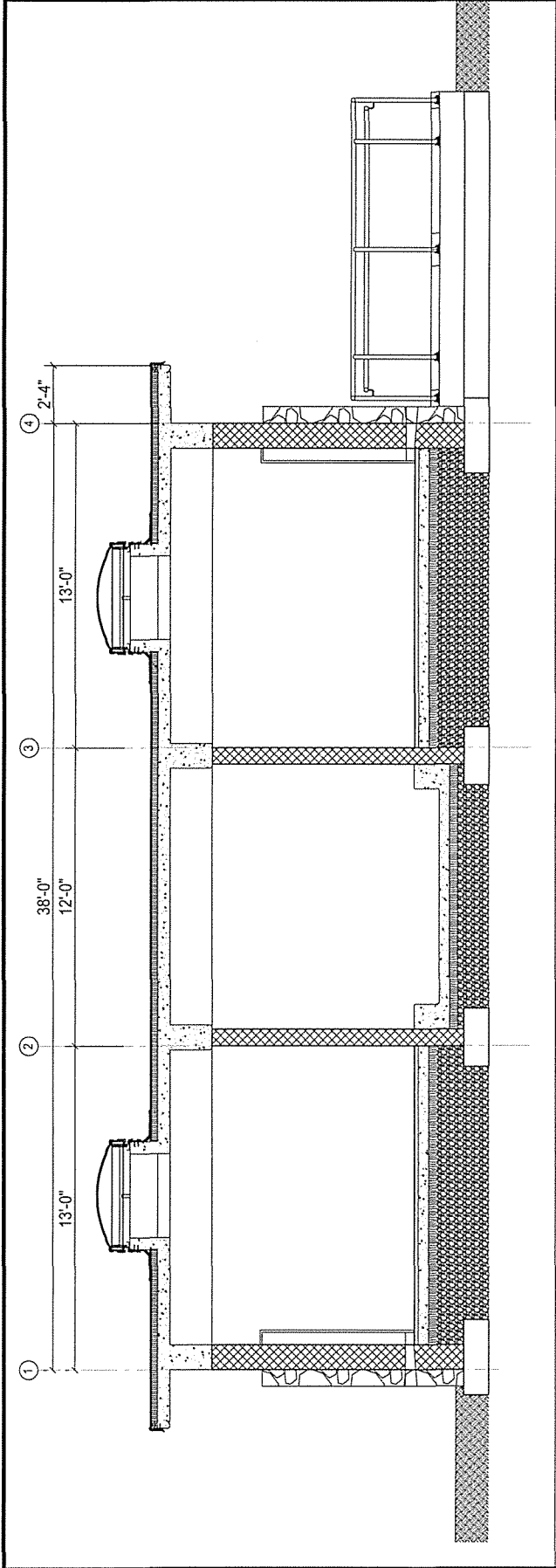


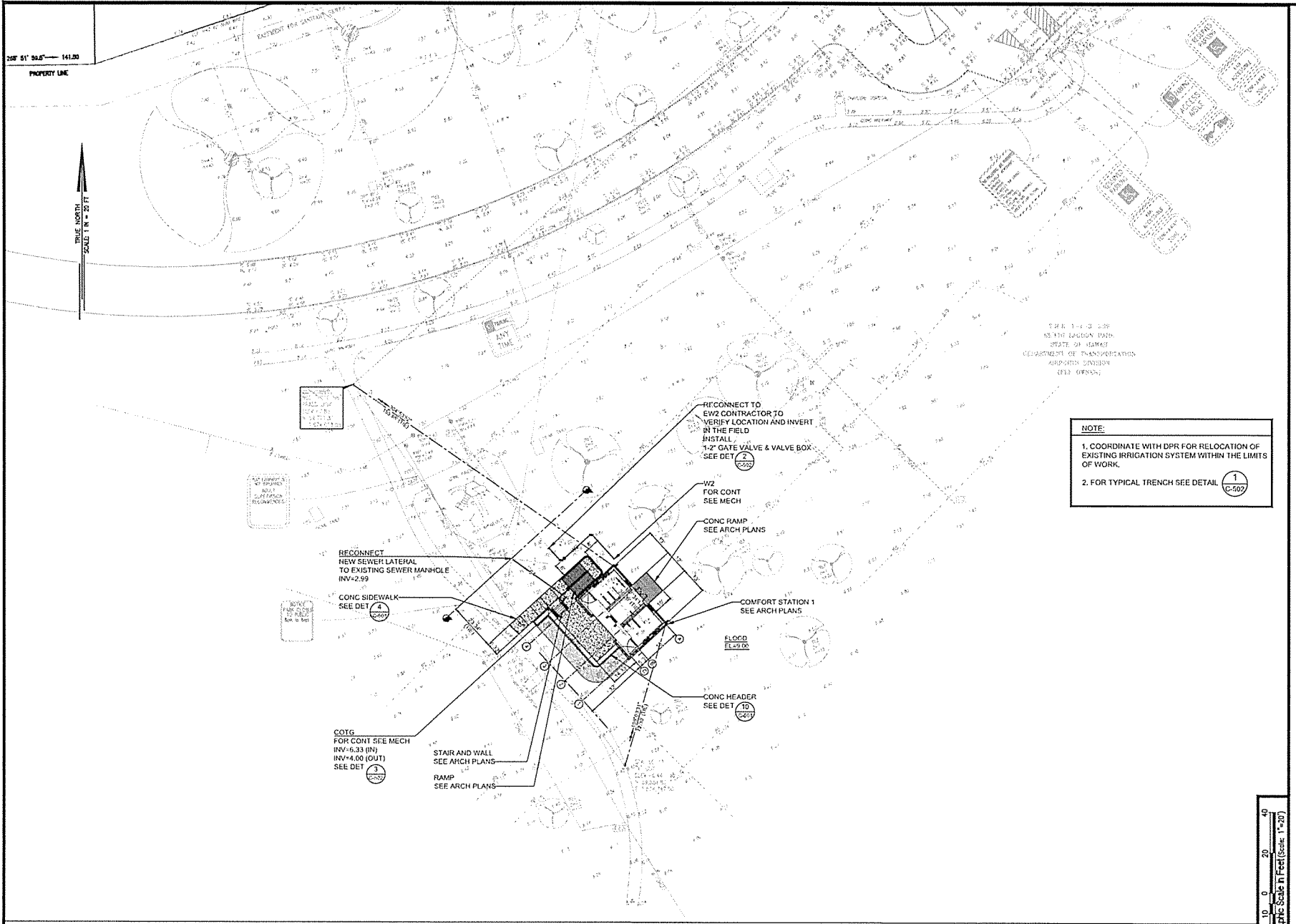
DESIGN BY: LC  
 DRAWN BY: CL  
 CHECKED BY: LG  
 DATE: MAR 2022

DEPARTMENT OF DESIGN AND CONSTRUCTION  
 KEELI LAGOON PARK  
 COMFORT STATIONS 1 AND 2  
 ADDRESS: 445 LAGOON DRIVE, HICKULU, OAHU, HAWAII 96809

PROJECT NO.: 202-X-00  
 DRAWING NO.:  
**A204**

SHEET NO. 10 OF X FILE NO. X-XXX





**NOTE:**

1. COORDINATE WITH DPR FOR RELOCATION OF EXISTING IRRIGATION SYSTEM WITHIN THE LIMITS OF WORK.
2. FOR TYPICAL TRENCH SEE DETAIL 1 (C-507)

DATE	DESCRIPTION	BY	CHK

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 AIRPORT DIVISION  
 (311 DESIGN)

**KEVIN T. OKAMOTO**  
 LICENSED PROFESSIONAL ENGINEER  
 HAWAII, U.S.A.

THE WORK PREPARED BY ME OR UNDER MY SUPERVISION AND CONTROL AND FOR WHICH I AM RESPONSIBLE IS NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT MY WRITTEN CONSENT.

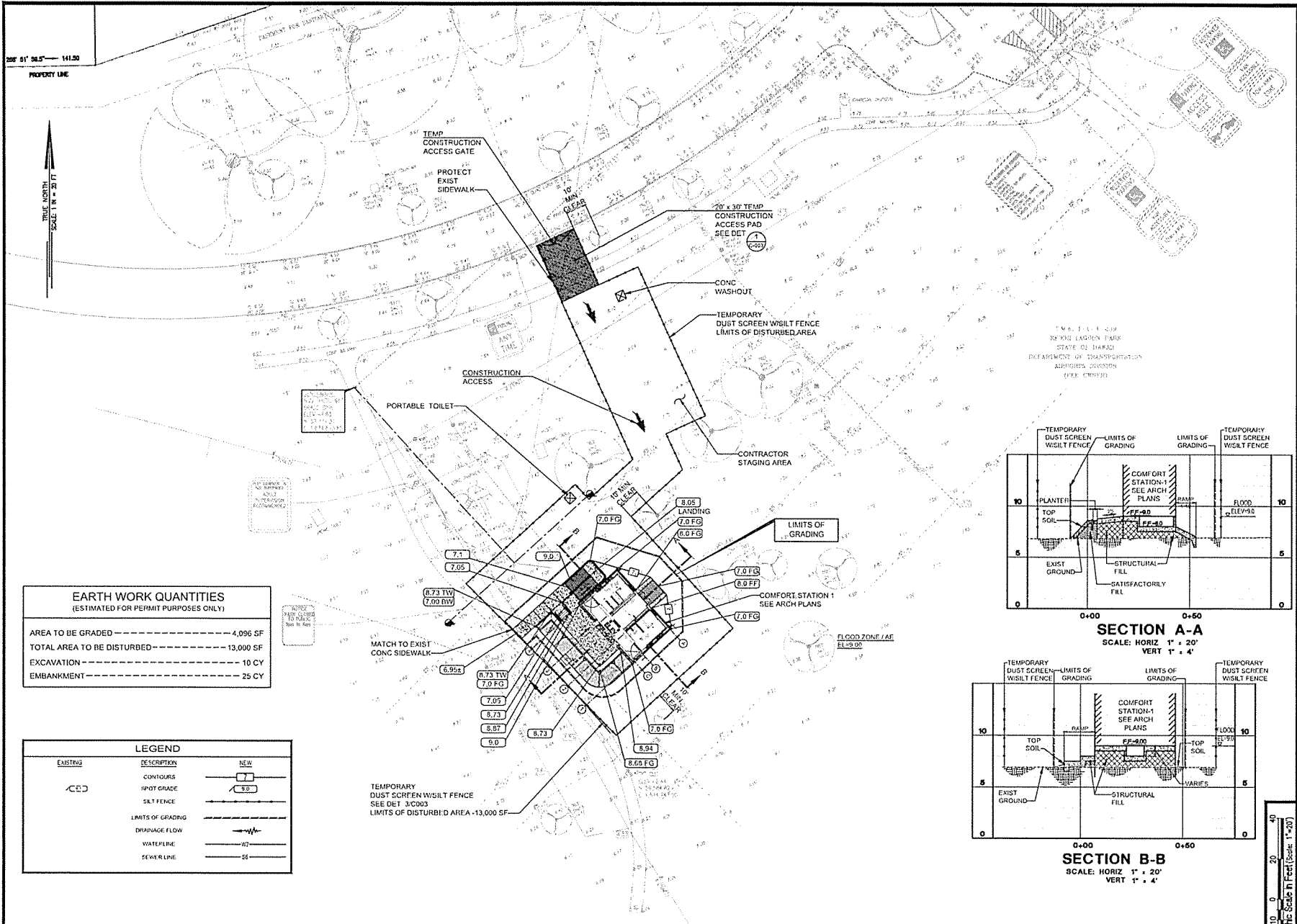
*Robert P. Olanoff*  
 CHECKED BY: RW DATE: APRIL 2022  
 ACCEPTED

DEPARTMENT OF DESIGN AND CONSTRUCTION  
 CITY & COUNTY OF HONOLULU  
**KEEHI LAGOON PARK**  
**COMFORT STATIONS 1 AND 2**  
 ADDRESS: 443 LAGOON DRIVE, HONOLULU, OAHU, HAWAII 96809  
 COMFORT STATION SITE AND UTILITY PLAN

PROJECT NO.: JCC-X-XX  
 DRAWING NO.:  
**C101**

SHEET NO. FILE NO.  
 OF X-XX

COMFORT STATION 1 SITE AND UTILITY PLAN SCALE: 1"=20' 1

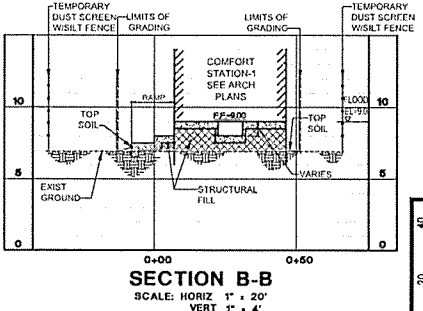
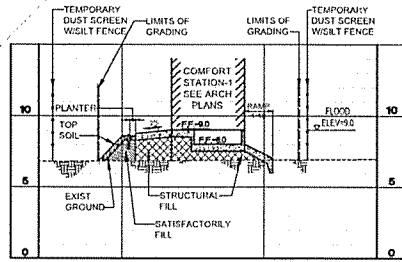


**EARTH WORK QUANTITIES**  
(ESTIMATED FOR PERMIT PURPOSES ONLY)

AREA TO BE GRADED	4,096 SF
TOTAL AREA TO BE DISTURBED	13,000 SF
EXCAVATION	10 CY
EMBANKMENT	25 CY

**LEGEND**

EXISTING	DESCRIPTION	NEW
	CONTOURS	
	SPOT GRADE	
	SILT FENCE	
	LIMITS OF GRADING	
	DRAINAGE FLOW	
	WATERLINE	
	SEWER LINE	



NO.	DATE	DESCRIPTION	BY	CHK.
1				
2				
3				
4				
5				



THE WORK HEREIN IS THE PROPERTY OF THE ENGINEER AND WILL BE USED ONLY FOR THE PROJECT AND DATE SPECIFIED HEREON.

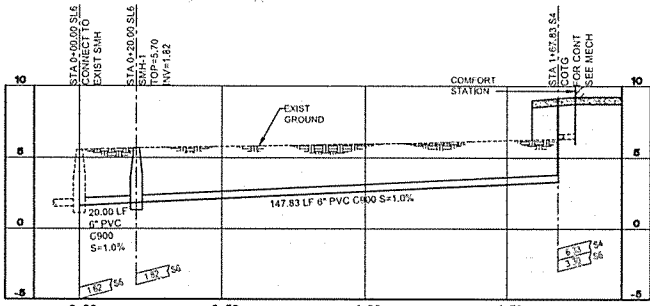
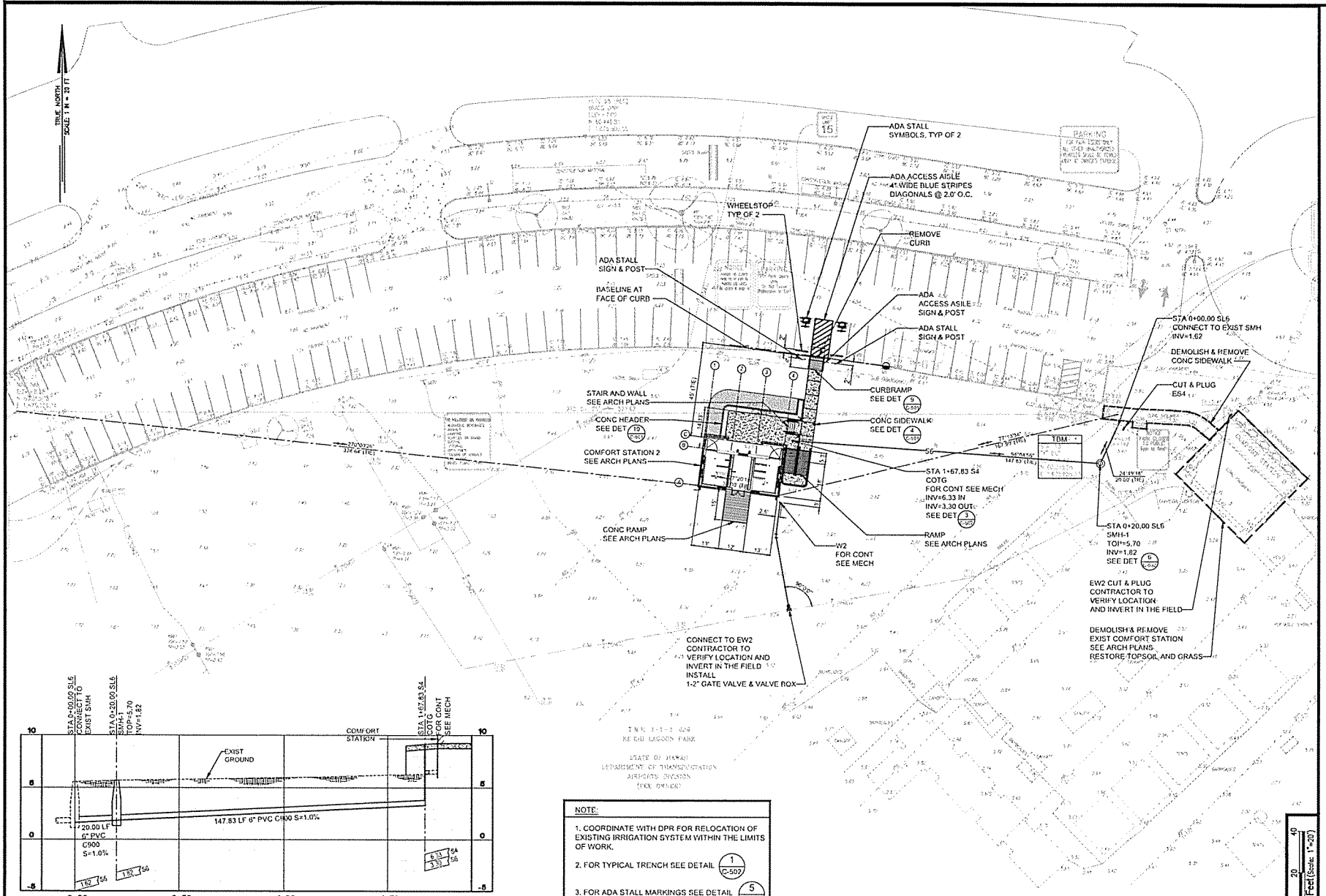
**Alan C. Clements**  
REGISTERED PROFESSIONAL ENGINEER  
LICENSE NO. 15412  
STATE OF HAWAII

DESIGN BY: ATD DESIGN GROUP  
CHECKED BY: RW DATE: APRIL 2022  
ACCEPTED



DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY & COUNTY OF HONOLULU  
**KEEHI LAGOON PARK**  
COMFORT STATIONS 1 AND 2  
TAX MAP REF: H-001-238  
ADDRESS: 4685 LAGOON DRIVE, HONOLULU, OAHU, HAWAII 96829

COMFORT STATION 1 EROSION CONTROL AND GRADING PLAN

PROJECT NO.: JCC-X-XX  
DRAWING NO.:  
**C102**  
SHEET NO. FILE NO.  
OF X-XXX



**NOTE:**

1. COORDINATE WITH DPR FOR RELOCATION OF EXISTING IRRIGATION SYSTEM WITHIN THE LIMITS OF WORK.
2. FOR TYPICAL TRENCH SEE DETAIL 
3. FOR ADA STALL MARKINGS SEE DETAIL 

**SEWER LINE-A PROFILE**  
SCALE: HORIZ 1" = 20'  
VERT 1" = 4'

DATE	DESCRIPTION

PLAN 1 OKAMOTO  
HONOLULU  
REGISTERED PROFESSIONAL ENGINEER  
NO. 11406  
HAWAII, U.S.A.

THE WORK HEREON IS THE SOLE PROPERTY OF OKAMOTO ENGINEERING. NO PARTS HEREOF SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF OKAMOTO ENGINEERING.

*Alan C. Okamoto*

DESIGN BY: ATD DESIGN GROUP  
CHECKED BY: RW DATE: APRIL 2022  
ACCEPTED

DEPARTMENT OF DESIGN AND CONSTRUCTION  
STATE OF HAWAII  
KEEHI LAAGON PARK  
COMFORT STATIONS 1 AND 2  
ADDRESS: 480 LAAGON PARK DRIVE, KEEHI, HAWAII 96751  
COMFORT STATION 2 SITE AND UTILITY PLAN

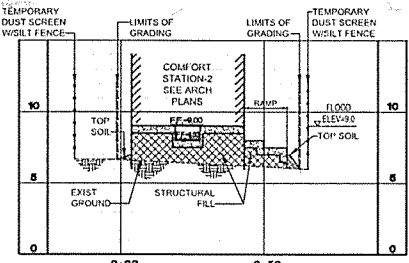
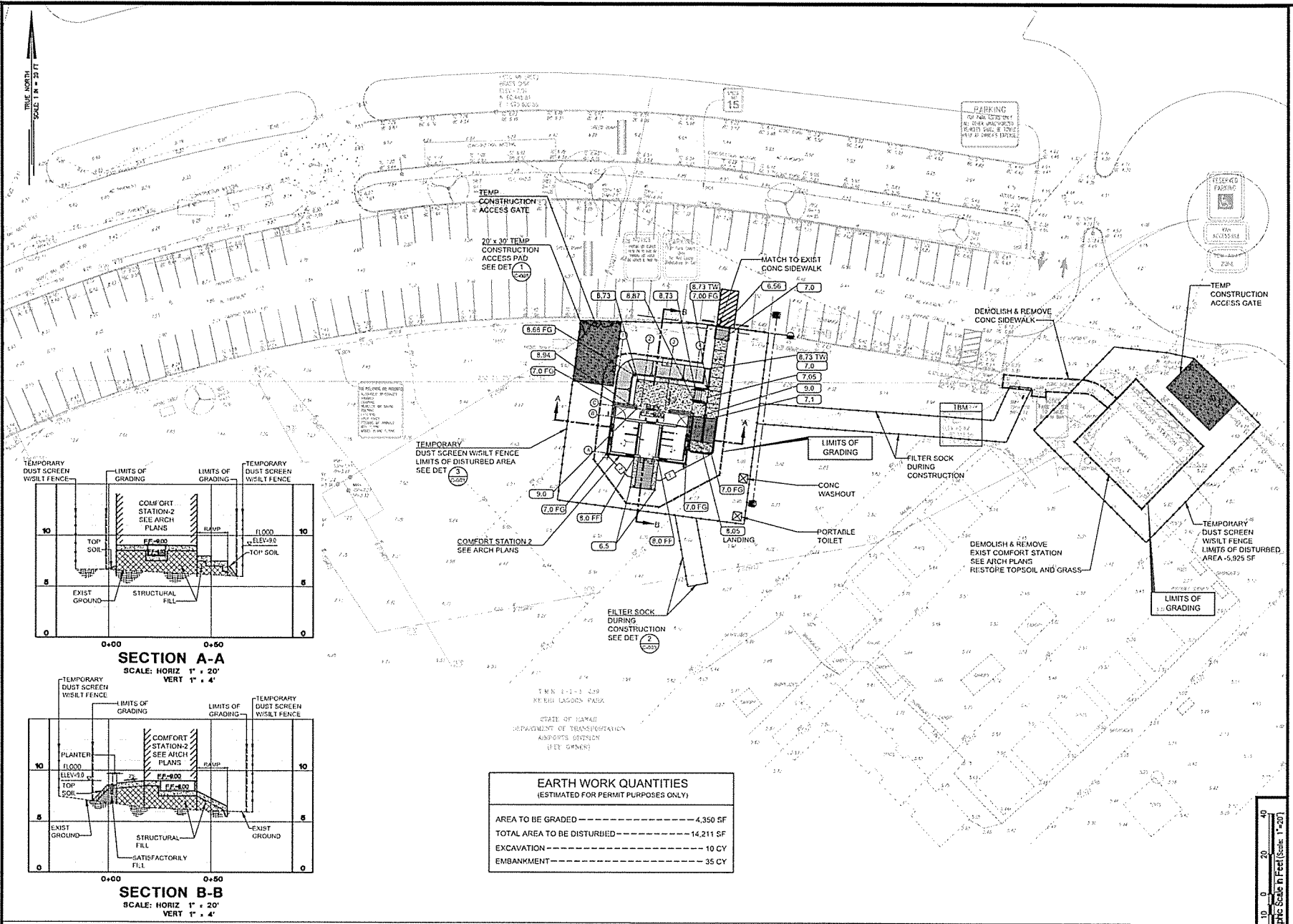
PROJECT NO.: XXX-XX  
DRAWING NO.:  
**C103**

SHEET NO. FILE NO.  
OF X-XXX

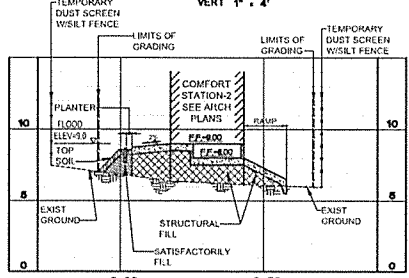
**COMFORT STATION 2 SITE AND UTILITY PLAN**

SCALE: 1" = 20'  
SHEET: 1

TRUE NORTH  
SCALE 1" = 20'



**SECTION A-A**  
SCALE: HORIZ 1" = 20'  
VERT 1" = 4'



**SECTION B-B**  
SCALE: HORIZ 1" = 20'  
VERT 1" = 4'

EARTH WORK QUANTITIES (ESTIMATED FOR PERMIT PURPOSES ONLY)	
AREA TO BE GRADED	4,350 SF
TOTAL AREA TO BE DISTURBED	14,211 SF
EXCAVATION	10 CY
EMBANKMENT	35 CY

T.M.N. 1-1-1-1 259  
KYLEIGH LAGOON PARK  
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AND PUBLIC WORKS  
(SEE DRAWINGS)

DESIGN BY: ATD 05/08/2022  
CHECKED BY: RW DATE: APRIL 2022  
ACCEPTED:

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY & COUNTY OF HONOLULU  
**KEEHEE LAGOON PARK**  
COMFORT STATIONS 1 AND 2  
TAX MAP KEY: I-1-001 - 238  
ADDRESS: 465 LAGOON DRIVE, HONOLULU, OAHU, HAWAII 96809

PROJECT NO.: XX-X-XX  
DRAWING NO.:  
**C104**  
SHEET NO. OF  
FILE NO. X-X/XX

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY & COUNTY OF HONOLULU  
**COMFORT STATION 2 DEMOLITION, EROSION CONTROL AND GRADING PLAN**

SCALE: 1" = 20'  
**2**



---

**A. Existing Use**

Located at 465 Lagoon Drive, Ke'ehi Lagoon Park is one of the largest beach and shoreline parks in the City and County of Honolulu. The park has been improved for active and passive recreational activities with facilities that include 12 tennis courts, 1 baseball field with bleachers and dugouts, 2 softball fields, 2 cricket pitches, a children's play apparatus, a pavilion for judging canoe racing, and an open field for field sports. Support facilities include 3 comfort stations, a maintenance yard, and 470+ parking stalls (Department of Parks and Recreation, 1997; Updated by this author, 2022). An Existing Facilities Plan is shown as Figure 3.

Ke'ehi Lagoon provides ocean recreation opportunities and its relatively calm waters provide for competitive canoe racing / regattas during the summer months (June to August). O'ahu's two canoe associations---O'ahu Hawaiian Canoe Racing Association and Na Ohana O Na Hui Wa'a---stage their respective regattas during the racing season.

There are neither lifeguard towers nor lifeguards posted at the Park.

The Department of Parks and Recreation maintains the Park grounds and recreation facilities. Solid waste is collected several times a week.

**B. Climate**

Climatic conditions in the vicinity of the Park are typical of the leeward coastal lowlands of Oahu---persistent trade winds, abundant sunshine, relatively constant temperatures, and moderate humidity. The mean temperature in Honolulu ranges from 73<sup>o</sup> Fahrenheit in the winter to 81<sup>o</sup> Fahrenheit in the summer. The mean annual rainfall is about 23 inches with most rainfall occurring between the months of November and April. Relative humidity ranges from 56 and 72 percent. Cooling tradewinds from the northeast prevail throughout most of the year, while occasional "Kona" winds from the south bring warm, humid air (Wilson Okamoto and Associates, Inc., 1996)

**C. Topography**

Both comfort station sites and adjoining park land were graded to current elevations when the Park was constructed. Both sites are relatively flat and ground elevation for both is approximately 6+ feet above sea level.

**D. Soils**

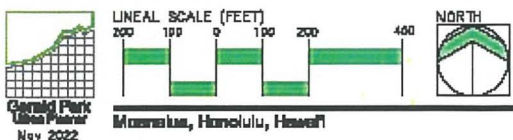
Most of the land under Honolulu International Airport, Ke'ehi Lagoon Park, Kapalama Military Reservation, and Honolulu Harbor is Fill Land. In general, the fill sits on top of broad elevated coral reef much of which is covered by alluvium carried out from the Ko'olau Mountain.





Source: Google Maps 2022 Imagery & Gerald Park

**Figure 3**  
**Ke'ehi Lagoon Park Facilities Plan**  
**Ke'ehi Lagoon Park**  
**Comfort Stations**



Gerald Park  
 Urban Master  
 May 2022

Moanaloa, Honolulu, Hawaii



The fill consists of materials dredged to create Honolulu Harbor and adjoining waterways, earthen material hauled from nearby areas, garbage, and other general material from inland sources (Soil Conservation Service, 1972).

## E. Water Resources/Water Quality

### 1. Surface Water

There are no streams, wetlands, or other fresh water bodies at the Park. Kalihi Stream adjoins the Park on its eastern end and discharges directly into Keehi Lagoon.

### 2. Ground Water

Ground water maps prepared by Mink and Lau (1990), show the Park overlies the Moanalua aquifer system of the Honolulu aquifer sector (See Table 1). The Moanaula aquifer is characterized by an unconfined sedimentary aquifer above a confined flank aquifer. The sedimentary aquifer is comprised of moderately brackish water with potential for future use. (but perhaps not for drinking water) and highly vulnerable to contamination. The flank-confined aquifer currently used for drinking water and considered to be irreplaceable.

**Table 1. Aquifer Classification System Code**

<b>Aquifer Code</b>	<b>30104116</b>	<b>30104121</b>
Island Code	3 - Oahu	3 - Oahu
Aquifer Sector	01 - Honolulu	01 - Oahu
Aquifer system	04 - Moanalua	04 - Moanalua
Aquifer Type, hydrogeology	1 - Basal	1 - Basal
Aquifer Condition	1 - Unconfined	2 - Confined
Aquifer Type, geology	6 - Sedimentary	1 - Flank
<b>Status Code</b>	<b>23321</b>	<b>11113</b>
Developmental Stage	2 - Potential Use	1 - Currently Used
Utility	3 - Neither	1 - Drinking
Salinity (in mg/L Cl <sup>-</sup> )	3 - Moderate (1,000-5,000)	1 - Fresh (<250)
Uniqueness	2 - Replaceable	1 - Irreplaceable
Vulnerability to Contamination	1 - High	3 - None

Source: Mink and Lau, 1990.

### 3. Ocean Water

The State Department of Health designates the marine waters of Ke'ehi Lagoon as Class A Waters (Water Quality Standards Map, 1987). According to Chapter 54, Hawaii Administrative Rules, "It is the objective of class A waters that their use for recreational use and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class."

## **F. Flood Hazard and Drainage**

The Flood Hazard Assessment Report for the area (Department of Land and Natural Resources, 2014) (See Figure 4) places almost all the Park in a "special flood hazard areas subject to inundation by the 1% annual chance flood (100-year flood)". The 100 year flood area is designated Zone AE, base flood elevation determined. The base flood elevation for the AE zone is 9 feet above sea level and 10 feet for some areas along the shoreline. Mounded sections fronting the Lagoon are designated Zone X which are areas determined to be outside the 0.2% annual chance flood" (the 500 year flood).

Ke'ehi Lagoon is designated Zone VE coastal flood zone with velocity hazard (wave action) base flood elevation determined. The base flood elevation is 13 feet.

The Park is outside or beyond the 0.5 to 3.2 foot sea level rise exposure area for Ke'ehi Lagoon (Hawai'i Climate Change Mitigation and Adaptation Commission, 2017). See Figure 5, Sea Level Rise Exposure Area.

## **G. Flora**

The Park is landscaped with a variety of plant material. Bermuda grass is the predominant planting about 16 different trees comprising the tree palate (Division of Urban Forestry Correspondence). The more common trees include monkeypod, milo, kamani, *African* tulip, kou, banyan, wiliwili, shower and autograph. Coconut (*Cocos nucifera*) is spotted throughout. Hawaiian kou, and autograph trees are spot planted near the 'Ewa comfort station. There are no trees adjoining the Diamond Head comfort station.

None of the trees are considered rare, threatened or endangered or proposed for such status. All are commonly used in landscaping throughout the Hawaiian Islands.

## **H. Fauna**

Wildlife was not observed at the time of our field inspection. People were observed walking dogs along the parking lot walkway. More than likely mongoose, feral cats, and rodents frequent the park because of the availability of water and food and human habitation at the eastern end of the Park.

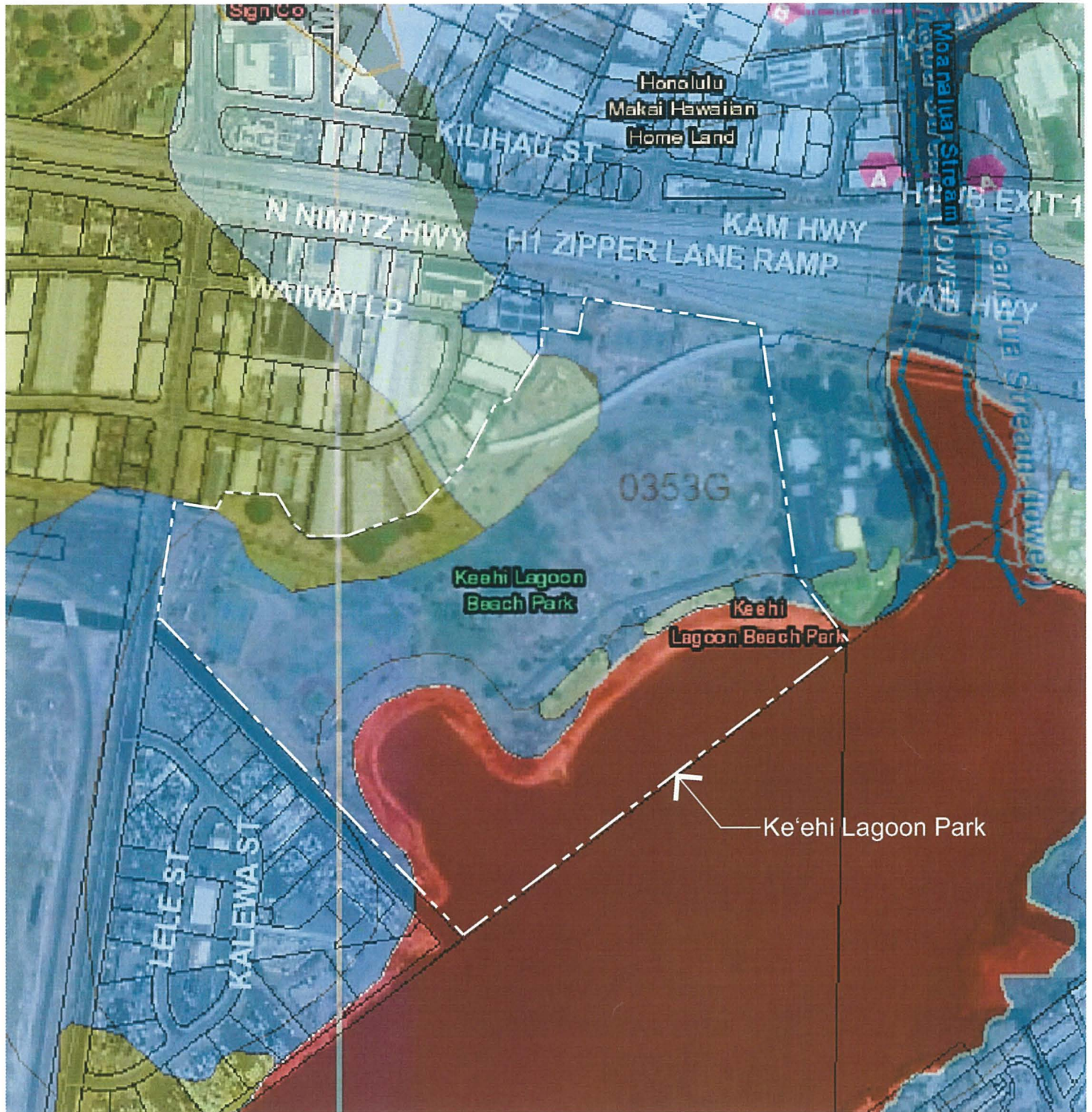
Barred dove, mynah, sparrow, and feral chicken were observed.

## **I. Historical and Cultural Resources**

No historical or cultural features are known to be present in the Park.











## **J. Visual Resources**

The Coastal View Study (Chu and Jones, 1987) places Ke'ehi Lagoon in the South Shore Viewshed, Section B, Keehi. The South Shore Viewshed is a geographic area spanning Oahu's south facing shores from Barbers Point on the west to Diamond Head on the east. The Viewshed is separated into four sections---'Ewa and Pearl Harbor, Ke'ehi, Downtown, and Ala Moana.



Source: Flood Hazard Assessment Tool Website

**Effective DFIRM**

- |  |   |
|--|---|
|  Zone XS (X shaded) |  Zone AO                   |
|  Zone A             |  Zone D                    |
|  Zone AE            |  Zone VE                   |
|  Zone AEF           |  Zone X                    |
|  Zone AH            |  Zone X Protected by Levee |



Gerald Park  
Urban Planner  
May 2022

Moanalua, Honolulu, Hawaii

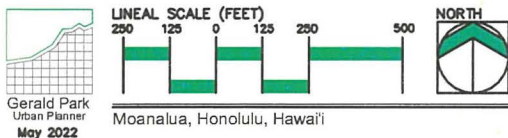
Figure 4  
Flood Hazard Assessment Report Map  
Ke'ehi Lagoon Park  
Comfort Stations





Source: Sea Level Rise Exposure Website

Sea Level Rise Exposure Area  
 3.2 ft scenario



Gerald Park  
 Urban Planner  
 May 2022

Moanalua, Honolulu, Hawai'i

Figure 5  
 Sea Level Rise Exposure Area  
 Ke'ehi Lagoon Park  
 Comfort Stations

"The Keehi Lagoon section consists of the area between the airport and Sand Island. Industrial activities are the primary characteristic of this section. Keehi Lagoon is the primary visual resource of this section and roadway views into the lagoon consist of an intermittent view off Kamehameha Highway near Keehi Lagoon Park and views from Lagoon Drive." The authors also identify views from Ke'ehi Lagoon Park looking south towards Sand Island and the lagoon waters off Honolulu International Airport (including the canoe competition course) as significant stationary views.

## K. Land Use Controls

State Land Use Designation:	Urban
O'ahu General Plan:	Urban Area (PUC)
PUC Development Plan Land Use Map:	Major Park and Open Space
Zoning:	P-2 General Preservation (See Figure 6)
Special Management Area:	Inside Special Management Area

The O'ahu General Plan sets forth objectives and broad policies for the long range development of the island (DPP, 2021). The objectives and policies are posited in 11 subject areas each with desired objectives and supporting policies for attaining the objective.

Objective and policies appropriate for this project and location are presented below.

### Culture and Recreation

Objective D To provide a wide range of recreational facilities and services that are readily available to residents and visitors alike, and to balance access to natural areas with the protection of those areas

Policy 3 Develop, maintain, and improve urban parks, squares, and beautification areas in high density urban places.

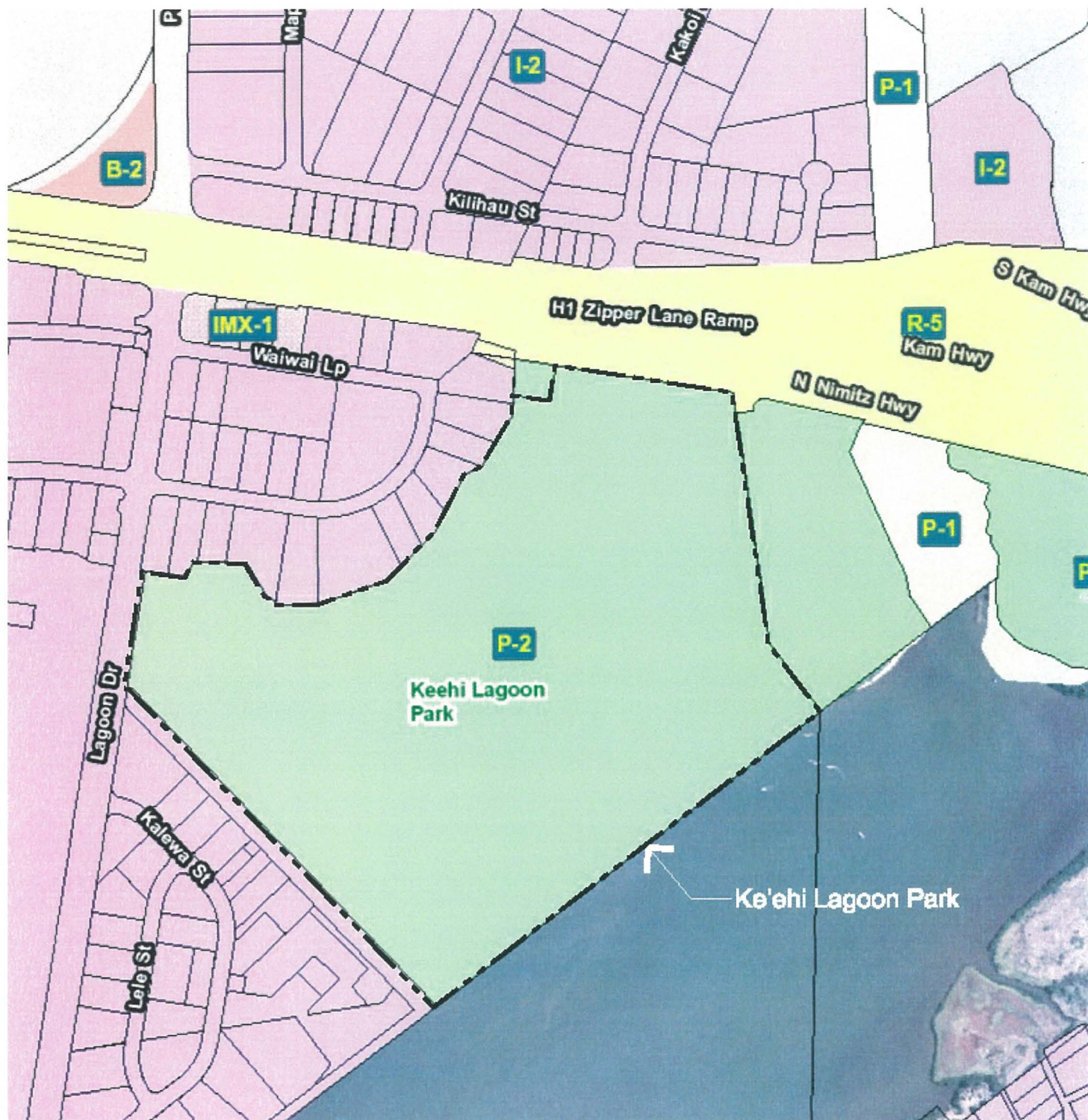
Policy 6 Ensure that public recreational facilities balance the demand for facilities against capital and operating cost constraints so that they are adequately sized and properly maintained

Comfort stations are not specifically identified but are typically treated as a "recreational facility" much like a multi-use field and sport court. Few persons would dispute the contention that comfort stations are important for recreational use and enjoyment of land and ocean based recreation areas and facilities. Without proper sanitation and associated facilities public health becomes a major problem for park users and government agencies.

Ke'ehi Lagoon Park is defined as a "public use" by the City's Land Use Ordinance. Public uses and structures are a permitted use in the P-2 zoning district (Land Use Ordinance).

The entire Park is located within the County delineated Special Management Area ("SMA") and the proposed action will be subject to SMA review and permitting requirements (See Figure 7).





Source: City & County of Honolulu (DPP) Website

**Legend**

<b>R-5</b>	RESIDENTIAL (5,000 SF. LOT MINIMUM)	<b>IMX-1</b>	MIXED-USE INDUSTRIAL
<b>B-2</b>	NEIGHBORHOOD BUSINESS DISTRICT	<b>I-2</b>	INTENSIVE INDUSTRIAL
<b>P-1</b>	PUBLIC USE PRESERVATION		
<b>P-2</b>	GENERAL PRESERVATION		




**Figure 6**  
**Zoning**  
**Ke'ehi Lagoon Park**  
**Comfort Stations**





Legend

 SPECIAL MANAGEMENT AREA

Source: Hawaii Statewide GISData Base

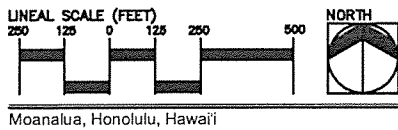


Figure 7  
Special Management Area  
Ke'ehi Lagoon Park  
Comfort Stations

The comfort stations are not proposed within the 40-foot shoreline setback area. Comfort Station 1 is approximately 650 feet and Comfort Station 2 about 715 feet from the shoreline (top of bank).

#### **L. Public Facilities and Services**

Ke'ehi Lagoon Park is accessed from Lagoon Drive at its intersection with Aolele Street. Movement through the intersection is controlled by traffic signals. Traffic within the Park is confined to a two-way, two-lane driveway with a turnaround at the western most end.

The airport corridor for the Honolulu Rail Transit Project ("HRTP") traverses the northern section of the Park connecting the Lagoon Drive and Middle Street Stations. The Lagoon Drive Station is located near the Diamond Head corner of Lagoon Drive and Ualena Street one block *mauka* of the Park. A multi-use path is proposed along Aolele Street where it will cross Lagoon Drive and follow the Park's driveway and link up with the HRTP corridor where it traverses the northern end of the Park.

Water service is provided through an 8" X 2" FM from Lagoon Drive. The 8" line is connected to a 16" line in Lagoon Drive. The State of Hawai'i, Department of Transportation operates and maintains the water system.

A 42-inch force main line crosses through the Park generally following its boundary with industrial lots to the northwest and north. The force main flows to a pumping station located in the northern corner of the Park. From the pumping station a 36-inch force main line crosses Moanalua and Kalihi Streams and then eventually to the Sand Island Treatment Plant.

No underground drainage collection or disposal system exists in the Park. Runoff from the shoreline area either sheet flows directly into Ke'ehi Lagoon or into a drainage canal west of the Park. (Belt Collins, 1990).

Three fire stations are located within two miles of the Park. These include the Kalihi-Kai Station (Nimitz Highway near Waiakamilo Road), Moanalua Station (off Salt Lake Boulevard near Ala Napunani Street), and Kalihi Station (on King Street near Kalihi Street). A fire and rescue station for Honolulu International Airport is located in the South Ramp area of Lagoon Drive. This station is for aircraft and airport fires only.

Police service originates from the Kalihi Police Station on Kam IV Road in Kalihi approximately 3 miles to the northeast.

The Park is located to the east of and outside the boundaries of the Daniel K. Inouye International Airport ("Airport"). However, its proximity to the Airport subjects it to Federal Aviation Agency safety restrictions for protecting people and property near the runways. Protection is in the form of delineating runway protection zones outward from approach / departure runways and assigning departure glide heights within the protection zone. Runway 22L at the Airport extends partially into the Park on its western end where tennis courts and a baseball field are located. The glideslope height is demarcated at 50 feet at the entry to the Park gradually increasing to 100 feet near Nimitz Highway to the northeast property (AECOM, 2021). The proposed comfort stations are outside the runway protection zone and glide height area.

**A. Assessment Process**

The scope of the project was discussed with the consulting architect and others comprising the design team. State and County agencies were consulted for information relative to their jurisdiction, expertise, and areas of concern. Time was spent in the field noting site conditions and conditions in the vicinity of the proposed park. From the discussions and field investigations, existing conditions and features that could be affected by or affect the project were identified. These influencing conditions are:

- The proposed action is a replacement project;
- The building sites are located at improved sections of Ke'ehi Lagoon Park;
- The two sites are located in flood hazard Zone AE; base flood elevation 9 feet;
- The two sites are located outside Zone VE, coastal flood zone with velocity waves;
- The building sites are outside of the Shoreline Setback;
- The building sites are not located in a Sea Level Rise Exposure Area;
- There are no recorded historic features at the Park;
- There are no rare, threatened, or endangered flora on either building site;
- The two comfort stations are outside the Runway Protection Zone for the Airport;
- There are no streams, wetlands, or ponds at the Park; and
- Water, wastewater, and electrical services are available.

**B. Short-term Impacts**

1. Air Quality

Construction will temporarily affect air quality during construction. Grubbing, grading, trenching, stockpiling, backfilling and other soil (or sand) moving activities will raise fugitive dust at construction sites which can settle in adjoining areas. Windy conditions coupled with exposed soil can create severe dust problems. The general contractor will employ on and off-site dust control measures to prevent the work site and construction equipment and activities from becoming significant dust generators. Control measures shall comply with Chapter 60.1, Air Pollution Control, Title 11, State Department of Health (and revisions thereto).

Most construction equipment and vehicles are diesel powered and emit exhaust emissions typically high in nitrogen dioxide and low in carbon monoxide. The Federal and State nitrogen dioxide standard ---100mg/m<sup>3</sup> per annum---which is an annual standard, is not likely to be exceeded during construction. Carbon dioxide emissions should be less than that generated by automobile traffic on adjoining streets. Aldehyde odors from diesel equipment may be detected but should be dispersed by the prevailing winds.

## 2. Noise

Like fugitive dust, construction noise cannot be avoided. Construction noise will be audible work takes place. Exposure to noise will vary by construction phase, the duration of each phase, and the type of equipment used during the different phases. Maximum sound levels in the range of 82-96 db(A) measured at 50 feet from the source would be generated by heavy machinery during the site work phase. After site work is completed, reductions in sound levels, frequency, and duration can be expected during actual construction of the structure.

The proposed locations for the comfort stations are not actively used recreation areas. It is anticipated that noise although audible would not adversely disturb park users.

Community Noise Control regulations establish maximum permissible sound levels for construction activities occurring within "acoustical" zoning districts. Based on the park zoning of the area, the project is considered to be located in the Class A zoning district for noise control purposes. The maximum permissible daytime sound level in the district is 55 dBA all day (Chapter 46, Community Noise Control, 1996).

In general, construction activities cannot exceed the permissible noise levels for more than ten percent of the time within any twenty-minute period except by permit or variance. Any noise source that emits noise levels in excess of the maximum permissible sound levels cannot be operated without first obtaining a noise permit from the State Department of Health. Although the permit does not attenuate noise per se it regulates the hours during which excessive noise is allowed.

The General Contractor will be responsible for obtaining and complying with conditions attached to the permit. Work will be scheduled between the hours of 7:00 AM to 3:30 PM Mondays through Fridays. The Contractor will also ensure that construction equipment with motors is properly equipped with mufflers in good operating condition.

Construction noise will be audible over the entire development period. All construction activities will comply with Chapter 46 Noise Control for Oahu, Administrative Rules, Department of Health, State of Hawaii.

## 3. Erosion

Site work will expose soil thus creating opportunities for erosion (fugitive dust and suspended sediment in runoff). The consulting engineers estimate earthwork quantities at 10 cubic yards of excavation and 25 cubic yards of embankment for the 'Ewa comfort station and 10 cubic yards of excavation and 35 cubic yards of embankment for the Diamond Head comfort station. Minimal grading is proposed. The comfort stations will be elevated approximately 3+ feet above existing grade to attain the 9-foot height of the base flood elevation of the 100 year flood hence the embankment quantities. Grubbing, grading, and stockpiling excavated or imported material will be performed in accordance with the Revised Ordinances of Honolulu, 1990, as amended.

Best Management Practices (BMPS) for erosion and drainage control during construction will be incorporated into grading plans. Construction work will not exceed one (1) acre in area thus a NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity will not be required from the State

Department of Health. The Contractor will also adhere to the City's Rules for Water Quality during construction and post-construction.

#### 4. Archaeological Features

The State Historic Preservation Division has indicated that Keehi Lagoon is mostly built on fill lands, which are unlikely to contain significant historic sites. Thus, "no historic properties will be affected" by this undertaking (Correspondence, November 6, 2001)

Should excavation unearth subsurface archaeological sites, artifacts, or cultural deposits, work in the immediate area will cease and the proper authorities notified for disposition of the finds. If the burials appear to be less than 50 years old, the Honolulu Police Department will be notified. If the burials appear to be more than 50 years old, then the State Historic Preservation Officer will be notified. As a matter of protocol, both agencies will probably be notified for inspection and disposition of the finds.

#### 5. Flora

The building sites will be grubbed and cleared of vegetation primarily Bermuda grass. No threatened or endangered plants were observed growing on the premises. Following construction, areas adjoining the building sites will be restored to pre-construction condition or better.

#### 6. Traffic

Some construction work on the Park driveway nearest the building sites may be required. The contractor will implement measures to minimize inconvenience to motorists and park users during construction. These measures would include but are not limited to:

- Keeping one lane of the two-lane driveway open at all times;
- Posting warning signs on both sides of the work area to alert motorists of road work and to slow traffic speed;
- Positioning traffic cones or other directional devices in the driveway to guide vehicles around work areas;
- Posting flagmen to assist in traffic control;
- Limiting construction to between 7:00 AM and 3:30 PM, Monday through Friday; and
- Minimizing the number of parking stalls affected by construction.

Driveway sections and parking stalls affected by construction will be restored to pre-construction condition or better. Open trenches will be covered with steel plates at the end of each working day and safety devices posted during night hours.

Construction vehicles hauling men and material will contribute traffic on roads leading to the Park and on the park driveway. Material deliveries will be scheduled to minimize impacts on local traffic.

## 7. Public Safety and Recreation

During construction, areas adjoining the building sites will be fenced for public safety. Fencing will temporarily preclude public recreational use of these areas. Other areas in the Park will be open for public use.

### C. Long-term Impacts

- Two new comfort stations will benefit park users.
- Comfort Station 1 will replace a facility that has been closed since 2015.
- The facilities will be constructed with a finish floor elevation of 9-feet which is 3-feet above existing grade. The raised elevation is to avoid flooding resulting from a 100-year storm.
- The low-rise form and profile of the proposed improvements would resemble existing Park structures and should not adversely affect scenic and open space resources.
- The project does not propose constructing improvements on or adjacent to the shoreline.
- Both comfort stations are located outside of the shoreline setback.
- Water demand (150 gallons per day) and wastewater discharge (150 gallons per day) can be accommodated without adverse effects on the respective system;
- The proposed project should not affect existing drainage patterns. Roof and sidewalk runoff will sheet flow to lawn areas surrounding both facilities.
- The Department of Parks and Recreation will be responsible for maintaining the comfort stations.
- The City and County will be responsible for funding long-term maintenance, repairs, and utility charges.
- The comfort stations may subject to periodic vandalism. The Park is closed to the public from 10:00 PM to 6:00 AM and the main entry gates on Aolele Street secured at night. Although routinely patrolled by HPD, the secured main gate could preclude access by police vehicles.
- Inadequate security measures could foster unpermitted uses and illegal activities at night when the Park is closed.

**A. No Action**

A "No Action" alternative would preclude the occurrence of all impacts, short and long term, beneficial and adverse described in this Assessment. The No Action alternative would forego maintain the status quo

**B. Alternative Locations**

Alternative locations were not considered.

*AGENCIES AND ORGANIZATIONS TO BE CONSULTED  
IN THE ASSESSMENT PROCESS*

---

5

**City and County of Honolulu**

Department of Planning and Permitting  
Department of Parks and Recreation  
Police Department

**State of Hawaii**

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

**Other**

Kalihi-Palama Neighborhood Board No. 15  
Kalihi Public Library (Placement)  
Salt Lake Public Library (Placement)



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Permitting authorities and associated permits and approvals required for the project are indicated below. Additional permits and approvals may be required pending final construction plans.

**City and County of Honolulu**

Honolulu City Council

Special Management Area Permit

Department of Planning and Permitting

Grubbing, Grading, and Stockpiling Permit  
Building Permit for Building, Electrical, Plumbing  
Sidewalk/Driveway and Demolition Work

Board of Water Supply

Water and Water System Requirements  
for Developments

**State of Hawai'i**

Department of Health

Variance from Pollution Controls (Noise Permit)

Department of Land and Natural Resources

State Historic Preservation Division, HRS Chapter 6E Review

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Hawai'i Administrative Rules, Title 11, Department of Health, Chapter 200.1 (Environmental Impact Statement Rules) establishes criteria for determining whether an action may have significant effects on the environment (§11-200.1-13). The relationship of the proposed project to these criteria is discussed below.

- 1) Irrevocably commit a natural, cultural, or historic resource;

*Natural, cultural, or historic resources are not found on the comfort station sites.*

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

- 3) Conflict with the State's environmental policies or long-term environmental goals established by law;

*The proposed improvements does not conflict with the State's environmental policies or long-term environmental goals.*

- 4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;

*Adverse effects on the economic and social welfare and cultural practices of the community are not anticipated.*

- 5) Have a substantial adverse effect on public health;

*Substantial effects on public health are not anticipated. Park users will benefit from the two new comfort stations especially since one has been closed since 2015.*

- 6) Involve adverse secondary impacts, such as population changes or effects on public facilities;

*Adverse secondary impacts are not anticipated. However, comfort stations in general have been vandalized and restroom fixtures made useless. The cost for restoring the damaged facility (or facilities) is a long-term impact for the City and County of Honolulu.*

- 7) Involve a substantial degradation of environmental quality;

*Environmental quality will not be degraded*

- 8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;

- 9) Have a substantial adverse effect on a rare, threatened or endangered species, or its habitat;

*Rare, threatened, or endangered species or habitat were not observed on the two building sites.*

- 10) Have a substantial adverse effect on air or water quality or ambient noise levels;

*Substantial adverse effects on air or water quality or ambient noise levels are not anticipated.*

- 11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

*The comfort stations are not located in an environmentally sensitive area as cited by this criterion.*

- 12) Have a substantial adverse effect on scenic vistas and view planes, day or night, identified in county or state plans or studies, or,

The low-rise structures should not result in substantial impacts on scenic vistas and view planes.

- 13) Require substantial energy consumption or emit substantial greenhouse gases.

Substantial energy consumption is not anticipated. Motion sensing exterior light fixtures will aid in reducing energy consumption and cost.

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