Hawaii GIS Flood Hazard Assessment Tool

2017 Esri User Conference
July 13, 2017

Christine Chaplin, GISP
The Onyx Group
Honolulu, Hawaii
Project Background

- FHAT created to assist State in administration of National Flood Insurance Program (NFIP)
- NFIP is Federal program to allow property owners access to flood insurance
- NFIP is administered through FEMA and state coordinators
- Mature system – initially online in January 2008
Initial Development Objectives

- Interactive GIS web application to access flood info for parcel or location
- Utilizes Federal, State, and County data
- Accessibility to LOMCs, NGS Datasheets for Benchmark, and Flood Insurance Studies
Data Utilized

- **Datasets by County**
  - High Resolution Imagery
  - TMK Parcel Data
  - DFIRM Panels
  - DFIRM Flood Zones

- **All Vector:** Kauai, Honolulu, Maui counties

- **Vector/Raster:** Hawaii County
Technology Utilized

- ArcGIS Server 10.4
  - Dynamic services
  - Tiled services
- SQL Server Enterprise Geodatabase 10.4
- ArcGIS Javascript API 3.20
- MVC Architecture
- DevExpress third-party controls
Key Functionality

- Search for Parcels by Address or Tax Map Key
- Output to PDF report
- Links to Additional Resources
- Markup Tools
- Elevation Certificate Initiation
- View Preliminary DFIRM
Home Page
Parcel Search
Parcel Identify

 Parcel Detail

Property Details
- TMK: (1) 3-5-023-103
- County: Honolulu
- Watershed: Yes
- Tsunami Evacuation Zone: Yes
- Dam Evacuation Zone: No

Customize and Print FHAT Report
- Edit the property address if required: 5000 Kahala Ave, Honolulu, HI 96816
- Enter a report title (25 character max): [optional]

Click to Download Report

Additional Resources
- Street View
- Real Property Tax Information
- FHMA Flood Insurance Study
- Flood Insurance Information
- Floodplain Management Regulations

FIRM Map Panel(C)
- Click on Panel No. to create FIRMette
  - 1500K3036/HH: 11/05/2014
  - 1500K3036BG: 01/19/2011

Letter of Map Change(s)
- No data to display

Close
### Additional Resources

### Relevant Information

- **Parcel Number:** 350239390000
- **Owner Name:** B & F BISHOP TRUST ESTATE, P W Owner
- **Location Address:** 5000 KAHALA AVE
- **Land Area (approximate sq ft):** 282,487
- **Land Area (acres):** 6.483

### Assessed Information

- **Assessment Year:** 2017
- **Property Class:** HOTEL AND RESORT
- **Assessed Land Value:** $185,356,400
- **Net Taxable Land Value:** $85,956,400
- **Net Taxable Building Value:** $364,256,800

### Appeal Information

- **Year:** 2009
- **Type:** TAX APPEAL COURT
- **Status:** Closed

### Land Information

- **Property Class:** HOTEL AND RESORT
- **Square Footage:** 274,490
- **Acreage:** 6.3014

### Commercial Improvement Information

- **Building Card:** 1
- **Building Number:** 0001
- **Improvement Name:** KAHALA MANDARIN ORIENTAL
- **Units:** 1
- **Structure Type:** HOTEL O/0
- **Year Built:** 1992
- **Effective Year Built:** 1999
- **Cross Building Description:** LAGOON
- **Sketch:** NA
Additional Resources
Links to LOMCs
Links to LOMCs

Federal Emergency Management Agency
Washington, D.C. 20572

LETTER OF MAP AMENDMENT
DETERMINATION DOCUMENT (REMOVAL)

<table>
<thead>
<tr>
<th>COMMUNITY</th>
<th>MAP PANEL INFORMATION</th>
<th>LEGAL PROPERTY DESCRIPTION</th>
<th>LOT</th>
<th>BLOCK</th>
<th>SECTION</th>
<th>SUBDIVISION</th>
<th>STREET</th>
<th>OUTCOME</th>
<th>OFFICIAL REMOVAL FROM THE SFHA</th>
<th>FLOOD ZONE</th>
<th>CHANGE IN FLOOD ELEVATION (E.T.)</th>
<th>LOWEST ADJACENT ELEVATION (E.T.)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HONOLULU</td>
<td>CITY AND COUNTY OF HONOLULU, HONOLULU COUNTY, HI</td>
<td>1390851</td>
<td>59</td>
<td>325A</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>X</td>
<td>10</td>
<td>125.1</td>
<td>125</td>
<td>x</td>
<td>CERTIFIED</td>
</tr>
</tbody>
</table>

This document contains the official Federal Emergency Management Agency (FEMA) determination regarding the removal of a flood zone for a specific property. The SFHA is an area that would be inundated by the flood having a significant chance of being exceeded or exceeded in any given year (base flood). The determination is based on the flood data available. The佛得角 data provides additional information for this determination. For any questions about this document, please contact the FEMA Map Assistance Center at 877-397-6667.
**Elevation Certificate Initiation**

The Elevation Certificate Tool allows user to download a fillable PDF of the current EC form with FIRM panel information, Lat/Long, and site address populated into the form. The form can then be edited as needed to complete.

1. Click on the compass icon below, then click in the map on the center of the front of the desired building in the image.

   **Latitude:** 21.277825  
   **Longitude:** -157.709159

2. Verify the property address below and revise as necessary.

   **Active Parcel TMK:** (1) 3-9-002:002  
   **251 Portlock Rd**  
   **Honolulu**  
   **HI 96825**

3. Click **Download EC** to download the initiated Elevation Certificate.
Elevation Certificate Initiation

An Elevation Certificate (EC) can be initiated from the panel by following the steps below. Before starting, ensure an imagery base map is selected using the MAP LAYERS panel above.

1. Click on the compass icon below, then click in the map on the center of the front of the desired building in the image.
   - Latitude: 21.277825
   - Longitude: -157.799159

2. Verify the property address below and revise as necessary.
   - Active Parcel TR# (1): 3-9-602:302
   - 251 Portlock Rd
     - Honolulu, HI 96815

3. Click Download EC to download the initiated Elevation Certificate.
# Elevation Certificate Initiation

Please fill out the following form.

**A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.**
- 251 PORTLOCK RD

**A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)**
- Lot 3-2-002-002

**A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.)**

**A5. Latitude/Longitude:**
- Lat: 21.277825
- Long: -157.706159

**A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.**

**A7. Building Diagram Number**

**A8. For a building with a crawlspace or enclosure(s):**
- a) Square footage of crawlspace or enclosure(s): \( \text{sq ft} \)
- b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade
- c) Total net area of flood openings in all b
- d) Engineered flood openings? \( \text{Yes} \) \( \text{No} \)

**A9. For a building with an attached garage:**
- a) Square footage of attached garage: \( \text{sq ft} \)
- b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade
- c) Total net area of flood openings in all b
- d) Engineered flood openings? \( \text{Yes} \) \( \text{No} \)

**B1. NFIP Community Name & Community Number**
- HONOLULU, CITY AND COUNTY OF: 150001

**B2. County Name**
- HONOLULU COUNTY

**B3. State**
- HAWAII

**B4. Map/Panel Number**
- 150033C393

**B5. Sheet**
- G

**B6. FIRM Index Date**
- 11/05/2014

**B7. FIRM Panel Effective Date**
- 01/19/2011

**B8. Flood Zone(s)**
- AE

**B9. Base Flood Elevations (Zone AO, use Base Flood Depth)**

**SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION**

- Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9.

---

2017 © Copyright by Hawaii NIP. All rights reserved.
Drawing Tools
View Preliminary DFIRM
Interesting Facts

- **Web Site Statistics**
  - Average ~225 visitors per day
  - 1,200 reports generated per month
  - 150 Elevation Certificates per month

- **Outreach**
  - Esri ArcNews article
  - NOAA Coastal Services Magazine

- **Recognition**
  - ESRI Special Achievement in GIS
Mahalo !!!

Questions/Comments

- Christine Chaplin, The Onyx Group
  cchaplin@onyxgroup.com
  808-599-7941

- Carol Tyau-Beam, State of Hawaii DLNR
  Carol.L.Tyau@hawaii.gov
  808-587-0267