

Landfill Site Selection Study GIS Assessment

Mayor's Advisory Committee on
Landfill Site Selection

2011

Introduction/Objectives

- Identify and map locations on the Island of O‘ahu within the UIC and No Pass Zones to identify potential new sites for a landfill
- 2003 City Resolution 03-09
- Examine all locations available to the City Administration in evaluating and then selecting a new site

Key Data References

- Governmental agency interviews
- Hawai'i Source Water Assessment Program Report, 2004 (Confidential)
- Board of Water Supply (BWS)
- Honolulu Land Info. System (HoLIS)
- State of Hawai'i GIS Program
- Commission on Water Resource Mgmt. (CWRM), geo-coordinate information on public and private wells

Factors Considered

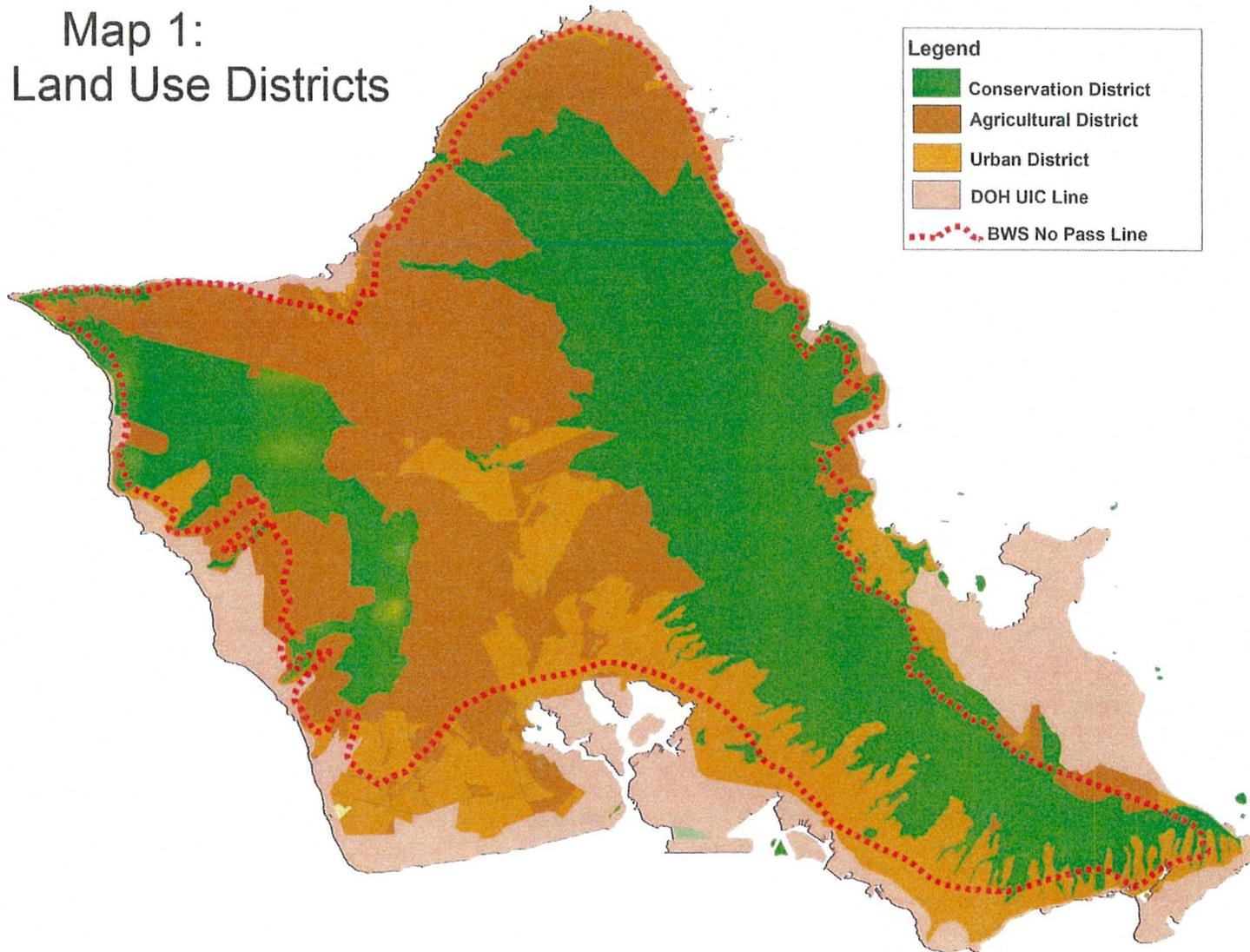
GIS overlays created for:

- State Land Use Districts
- Groundwater Resources (BWS and Others)
- Land Ownership
- USFWS Critical Habitats and State Natural Area Reserve System (NARS)
- Impaired Water Bodies
- Agricultural Lands Assessment
- CWRM Well Data

Methodology

- Prepare separate overlay maps to analyze:
 - State Land Use
 - BWS Well Resources
 - Land Ownership
 - Critical Habitat
 - Impaired Waters
 - Agricultural Lands Assmt.
 - CWRM Well Resources
- Compile data from overlay maps to create a final Composite Map that is the result of the analysis

Map 1: State Land Use Districts



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- State Conservation District Overlay
- No Rural State Land Use Districts on O'ahu

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Groundwater Resources

- Capture Zones (CZ) contribute groundwater to a well or wells over a period of time
- DOH Underground Injection Control/No Pass Zone designed to protect drinking water wells located mauka of these lines.
- Lands makai of the UIC/No Pass Line are not considered in this exercise as they will be evaluated as a part of this Committee's assessment
- Well location and CZ data is confidential

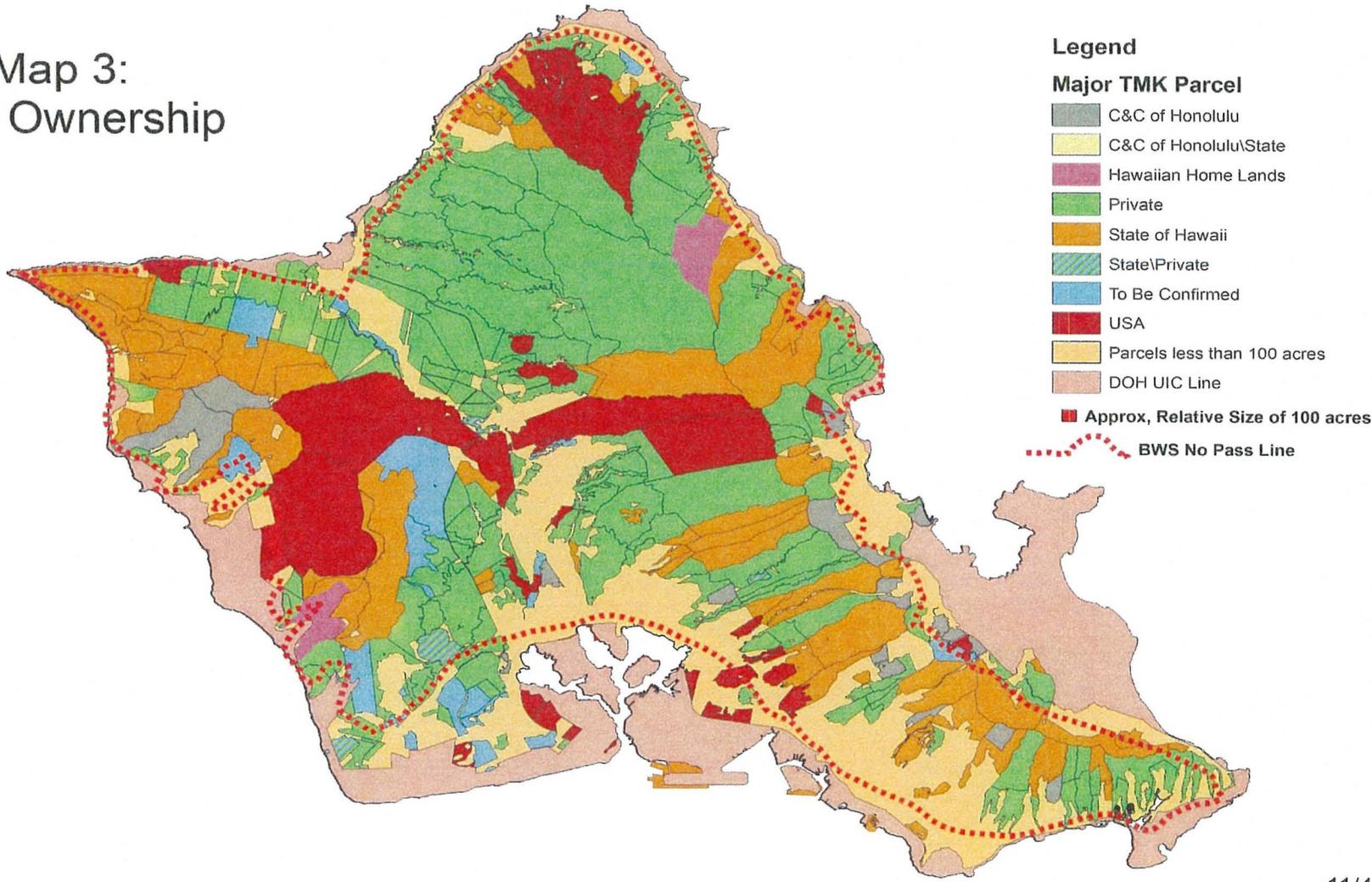
Confidential

- **BWS Well Capture Zone Overlay (2004 and Updated Info.)**

Land Ownership

- Landfill site requires at least 100 acres to address capacity and lifespan needs
- TMK parcels of 100 acres or less were eliminated from assessment
- Federal lands are the most difficult to acquire while City and County land would involve the least effort and expense

Map 3: Land Ownership



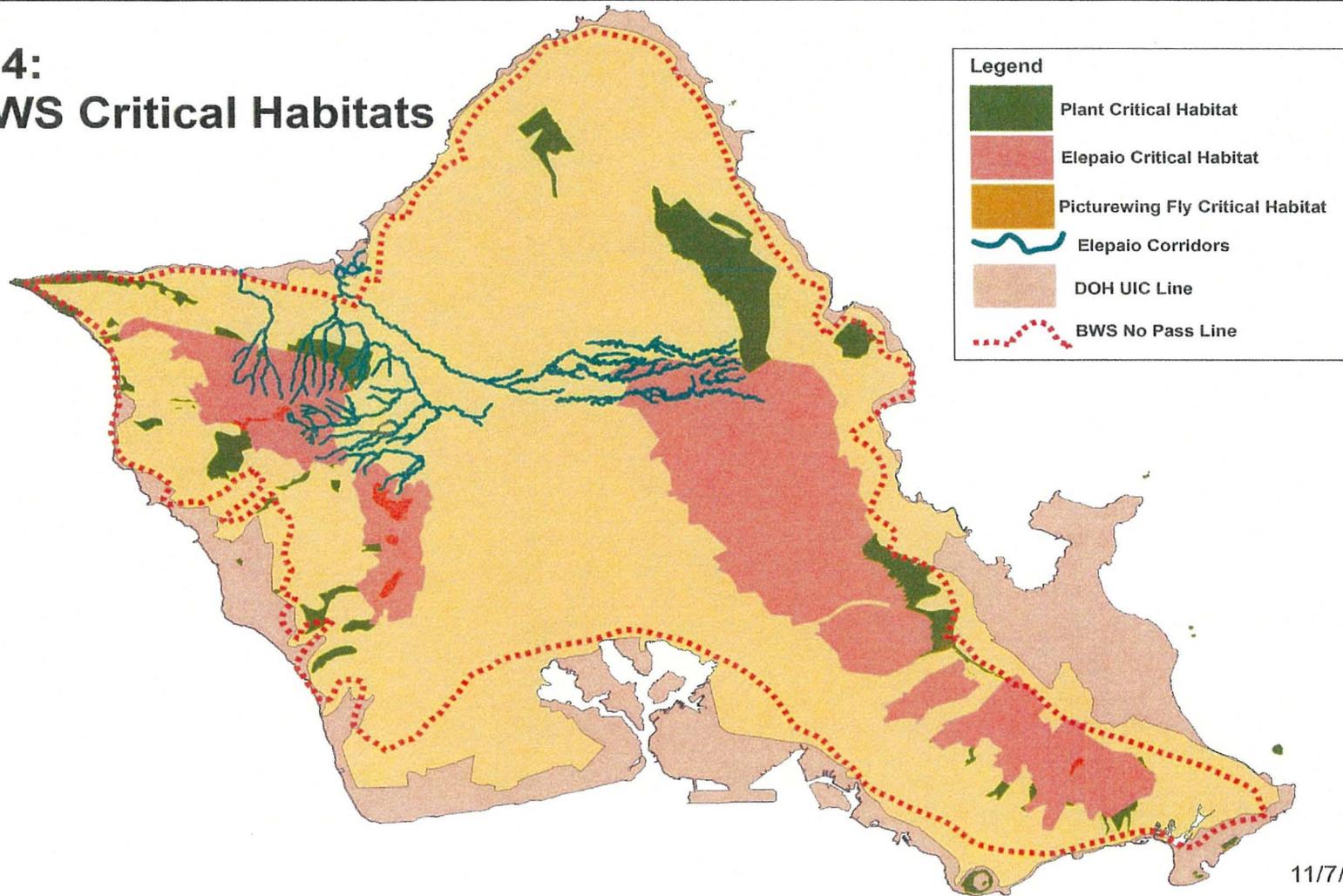
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• TMK Parcels >100 Acres Overlay

Critical Habitats and Natural Area Reserve System (NARS)

- Critical Habitats: Threatened & Endangered species identified by U. S. Fish & Wildlife Service
- NARS: Lands established by Department of Land and Natural Resources (DLNR)
 - Conserve ecologically important areas
 - Administered and managed by Division of Forestry and Wildlife

Map 4: USFWS Critical Habitats



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• USFWS Critical Habitat Overlay

Map 5: Natural Area Reserve System

Kaena Point NAR

Pahole NAR

Ka'ala NAR

Legend

-  Natural Area Reserve
-  Unavailable Land
-  DOH UIC Line
-  BWS No Pass Line

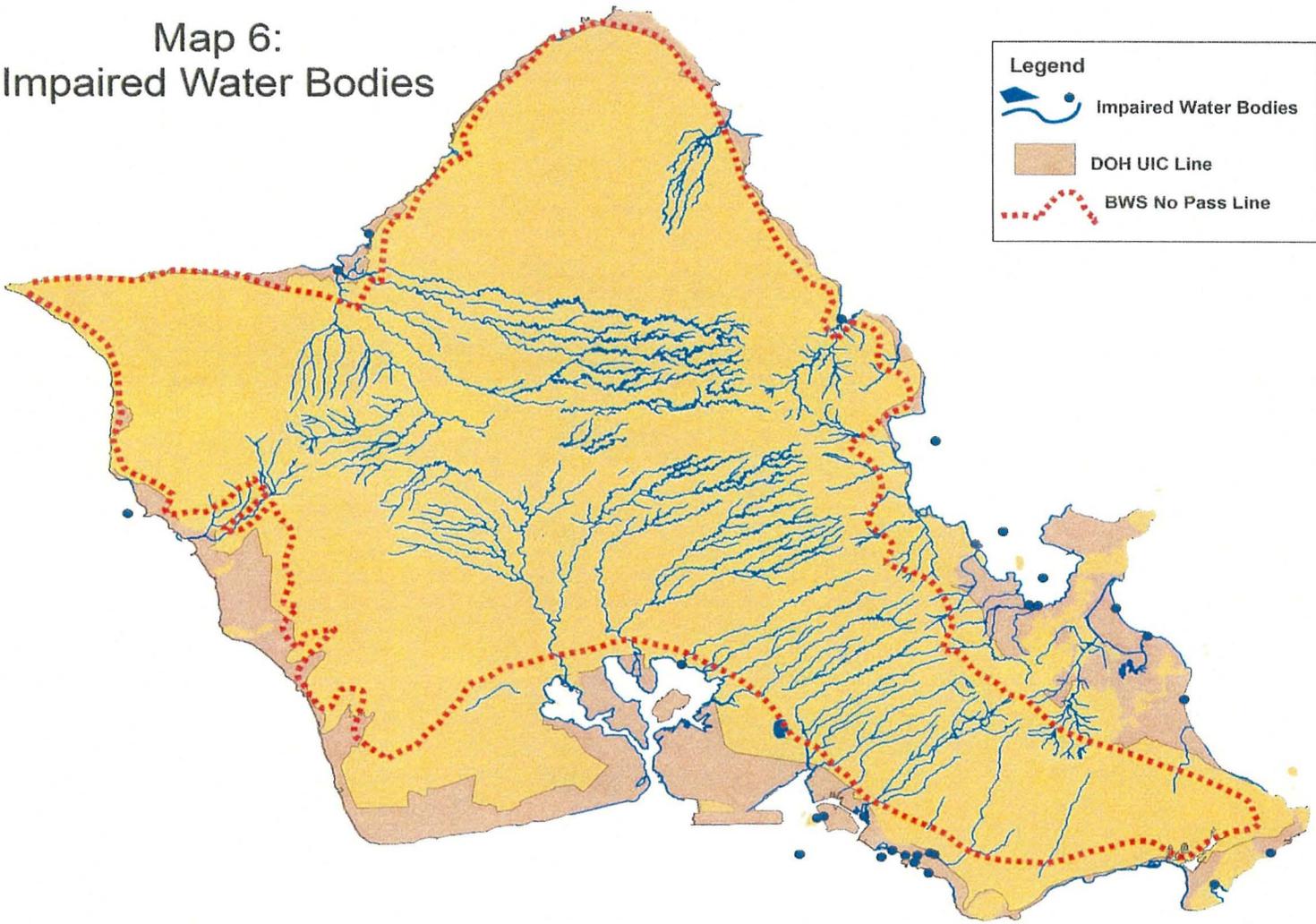
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• Natural Area Reserve System (NARS) Overlay

Impaired Water Bodies

- Includes streams, rivers, marine waters, and other coastal and inland water bodies that exceed Total Maximum Daily Load (TMDL) pollutants
- These waters do not meet DOH and EPA water quality standards and require rehabilitation and protection

Map 6:
Impaired Water Bodies

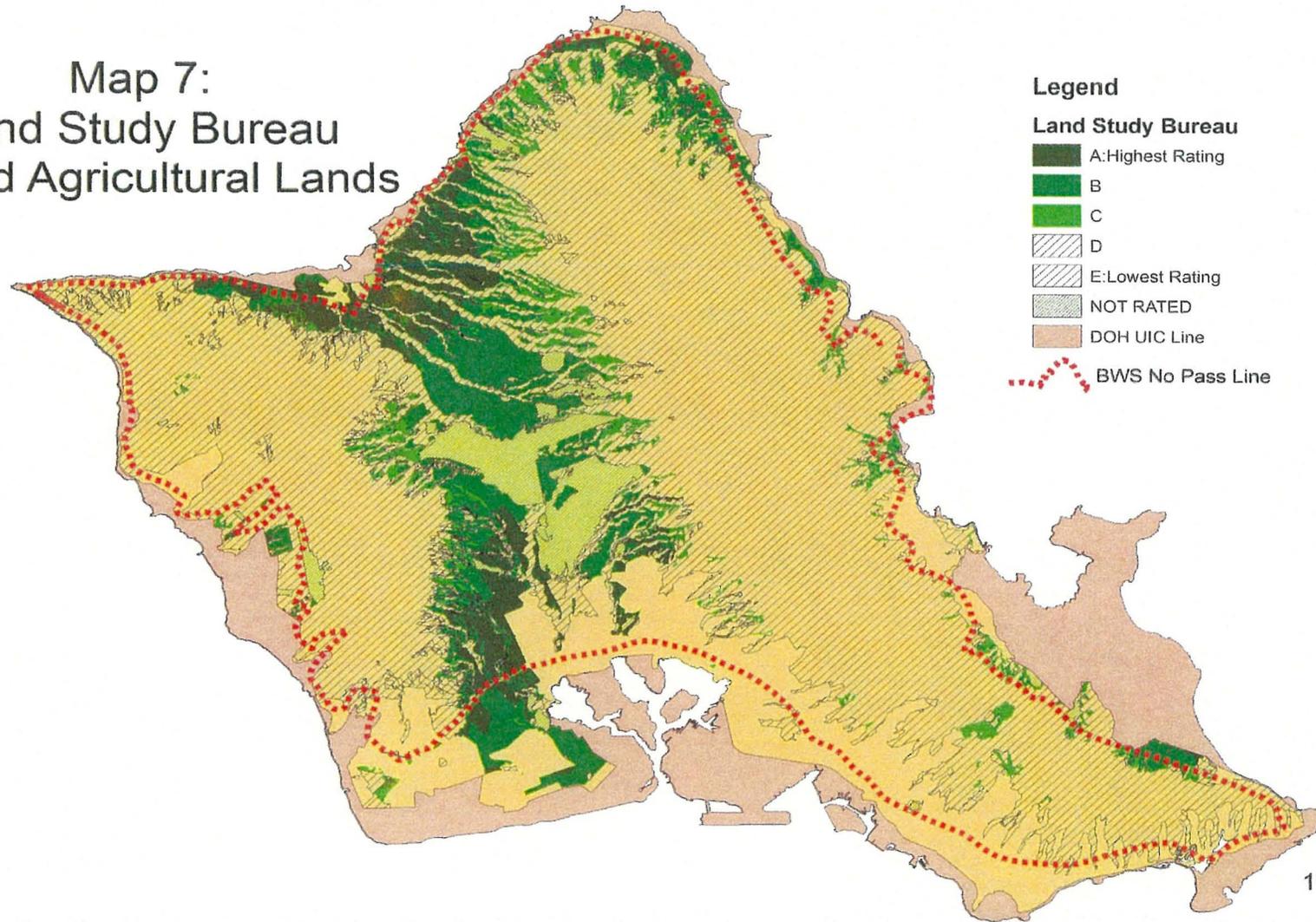


• Impaired Water Bodies Overlay

Agricultural Land Ratings

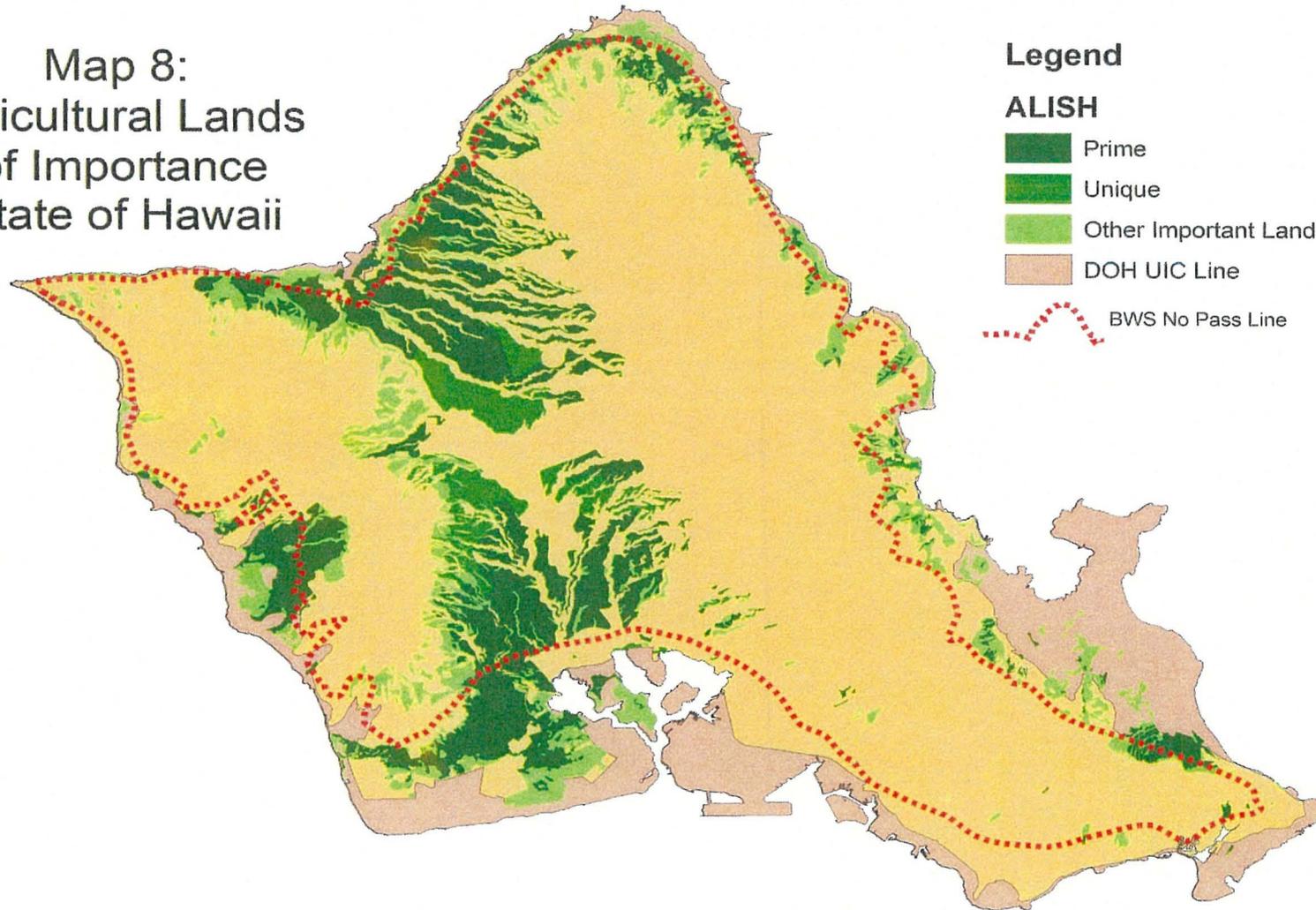
- Land Study Bureau (LSB)
 - A – E Ratings (A is highest)
- Agricultural Lands of Importance to the State of Hawai'i (ALISH)
 - Prime (highest productivity rating)
 - Unique (high-value crops)
 - Other important land

Map 7: Land Study Bureau Rated Agricultural Lands



- Land Study Bureau (LSB) Overlay

Map 8:
Agricultural Lands
of Importance
State of Hawaii



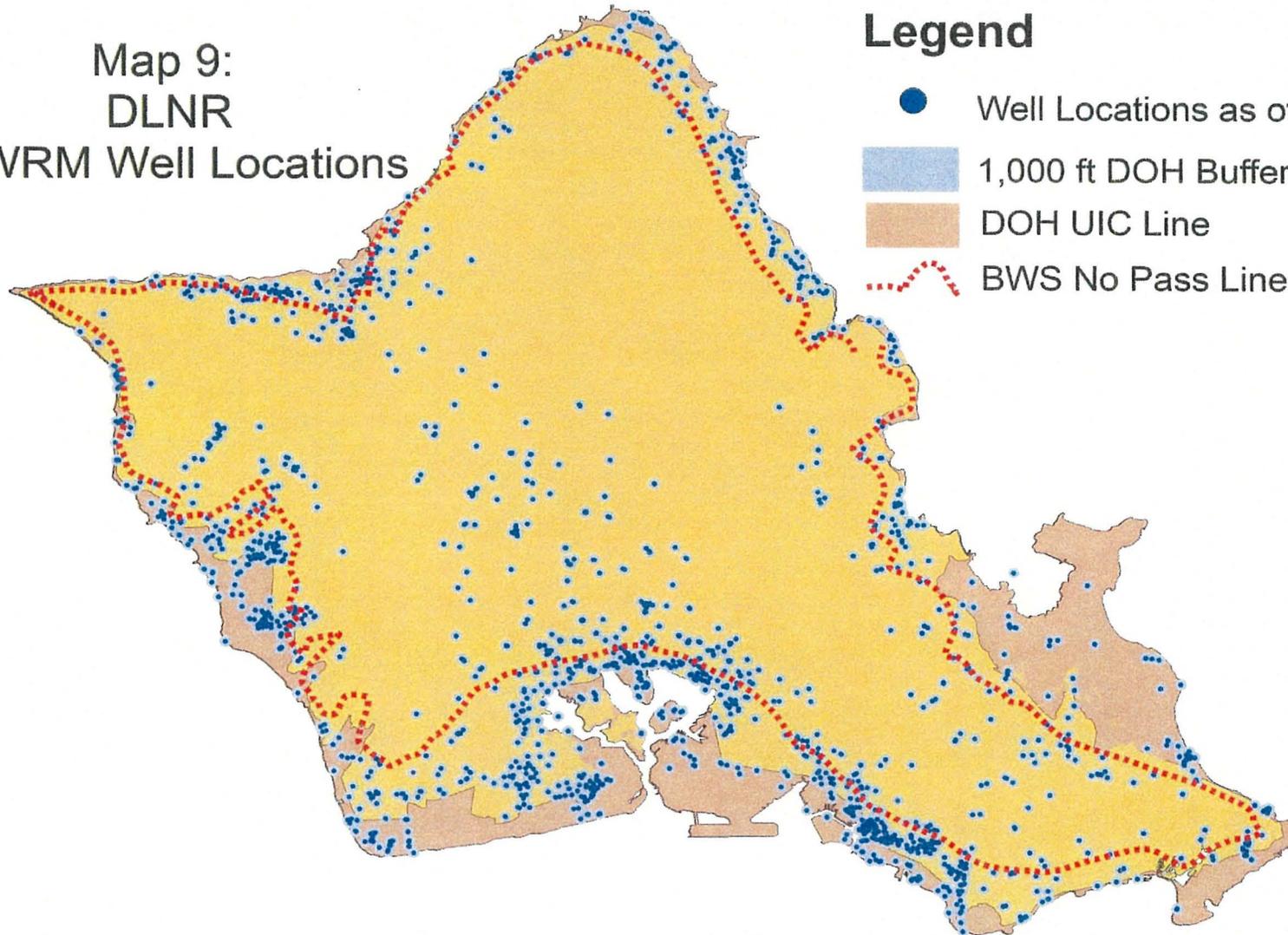
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- Agricultural Lands of Importance to the State of Hawai'i (ALISH) Overlay

CWRM Well Location Data

- Wells not in the Hawai'i Source Water Assessment Program Report, 2004
- Includes 1,000-foot buffer from wells as recommended by DOH
- Potable and non-potable well sources

Map 9:
DLNR
CWRM Well Locations



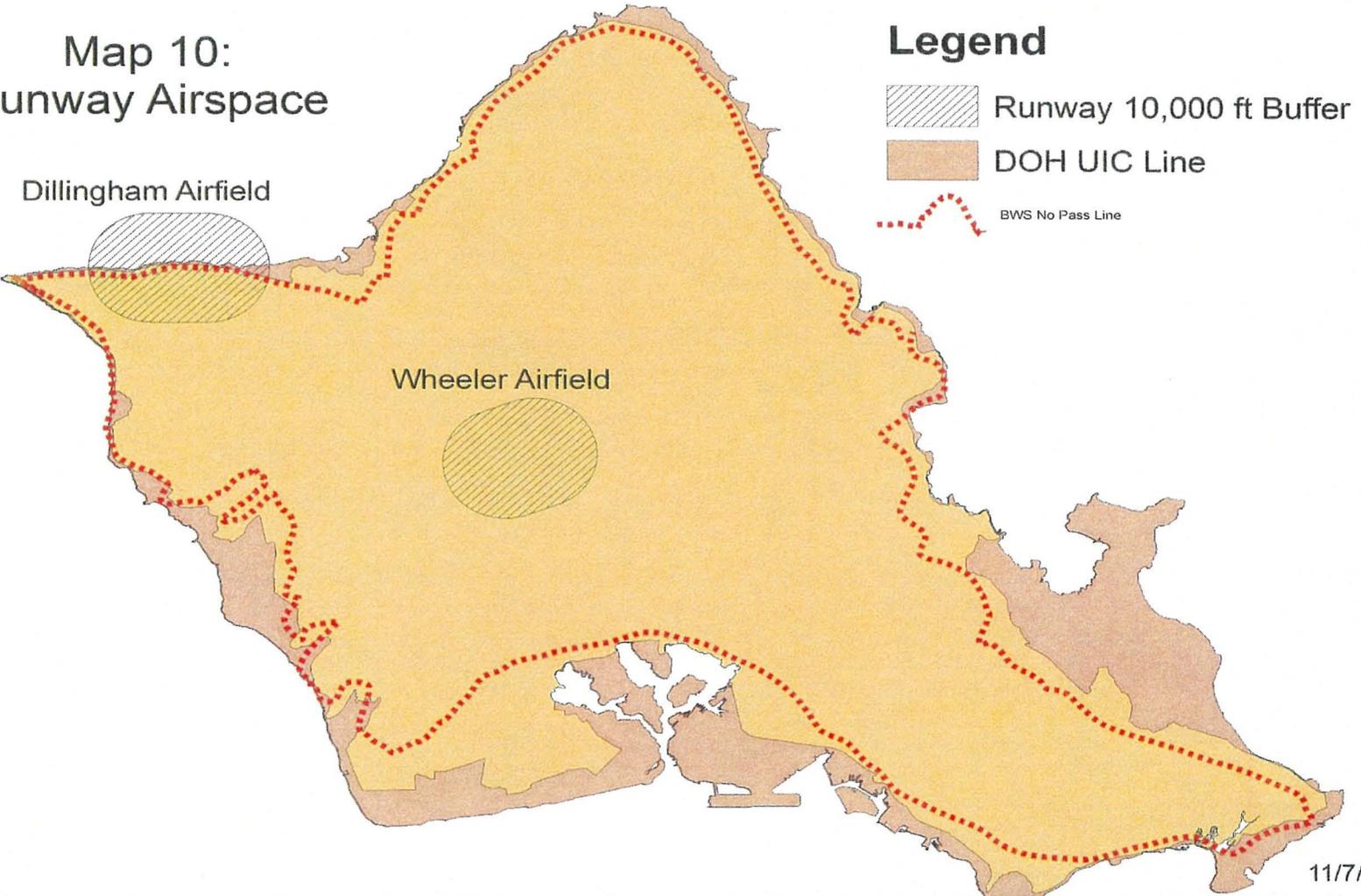
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• CWRM Well Location Overlay

Protection of Runway Airspace

- 10,000-foot buffer placed on all runways using jet aircraft within the DOH UIC Line
- This is an FAA requirement because of a landfill's potential to attract birds, causing a hazard to aviation

Map 10: Runway Airspace



- Runway Airspace Overlay

Analytical Results

Two parcels remain after overlays:

1. James Campbell Trust Estate

- TMK: (1)-9-2-003-084, 1,000 acres
- Owned by James Campbell Trust Estate
- Borders critical habitat of *Isodendrion pyrifolium*
- Not viable

Analytical Results

2. Kahe Point Power Station

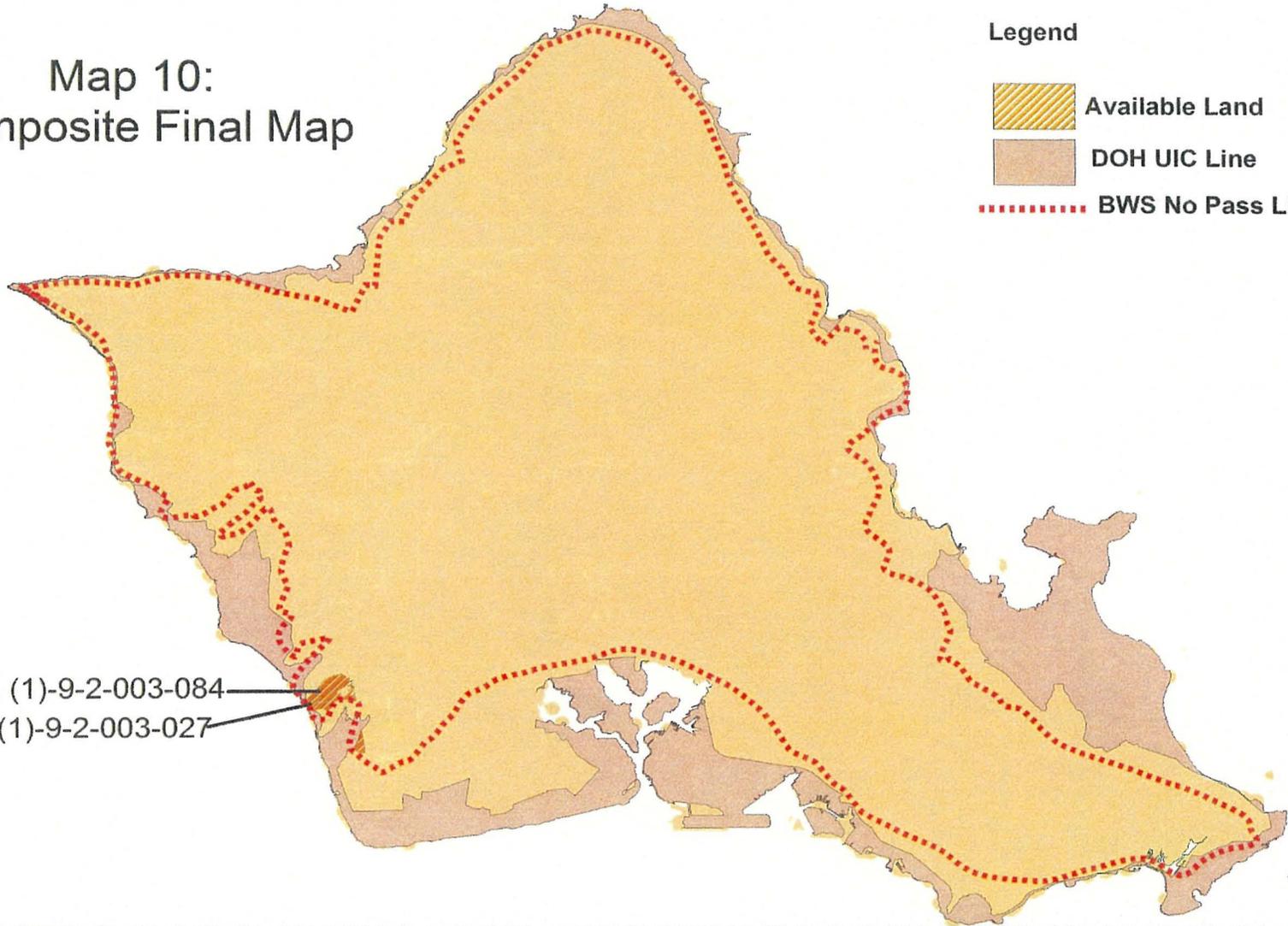
- TMK: (1)-9-2-003-027, 454.39 acres
- Owned by HECO
- Mostly mauka of UIC and No Pass Line
- Not viable

Map 10: Composite Final Map

Legend

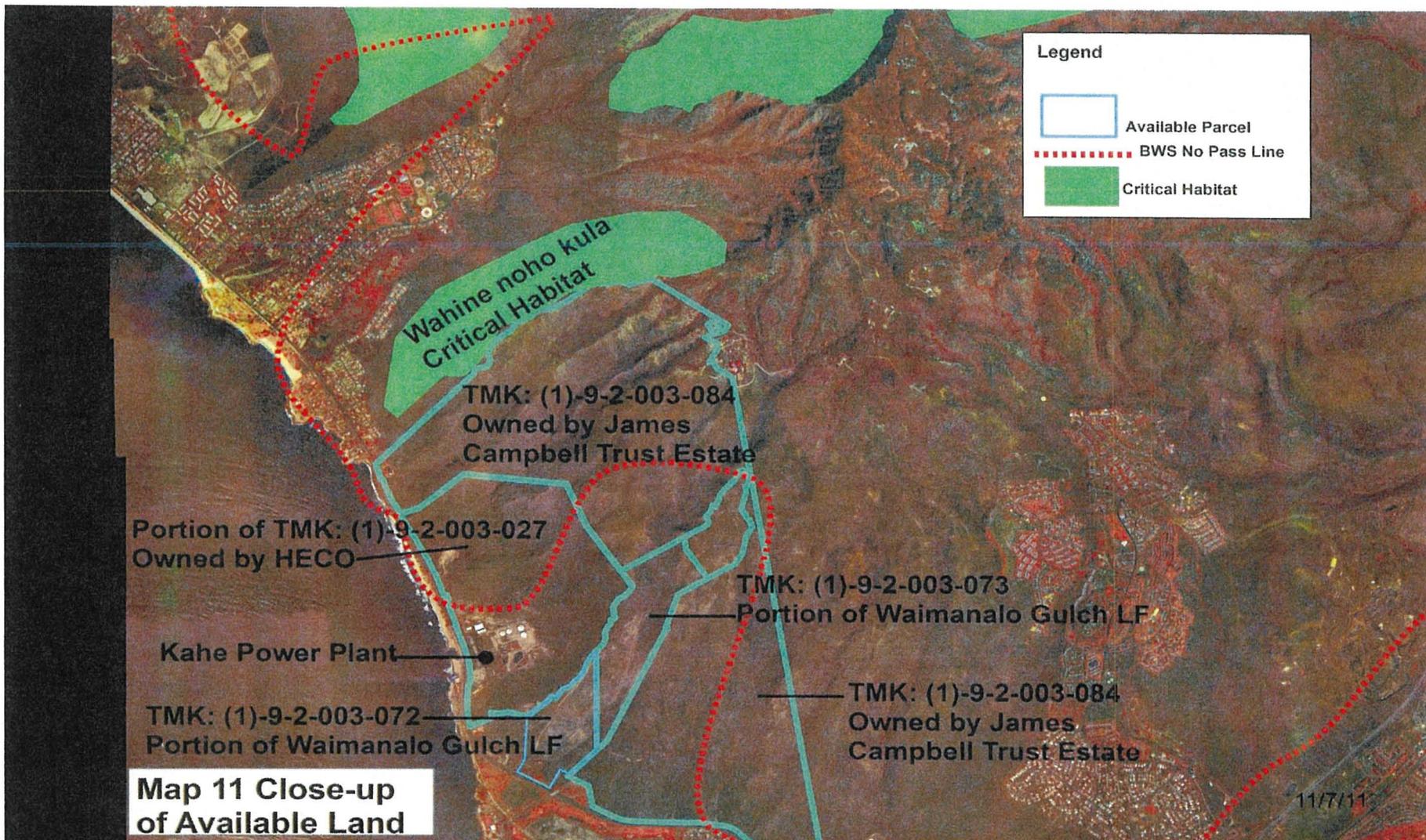
-  Available Land
-  DOH UIC Line
-  BWS No Pass Line

TMK: (1)-9-2-003-084
TMK: (1)-9-2-003-027



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• Composite Final Map – All Overlays Combined



- Identified Parcels

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