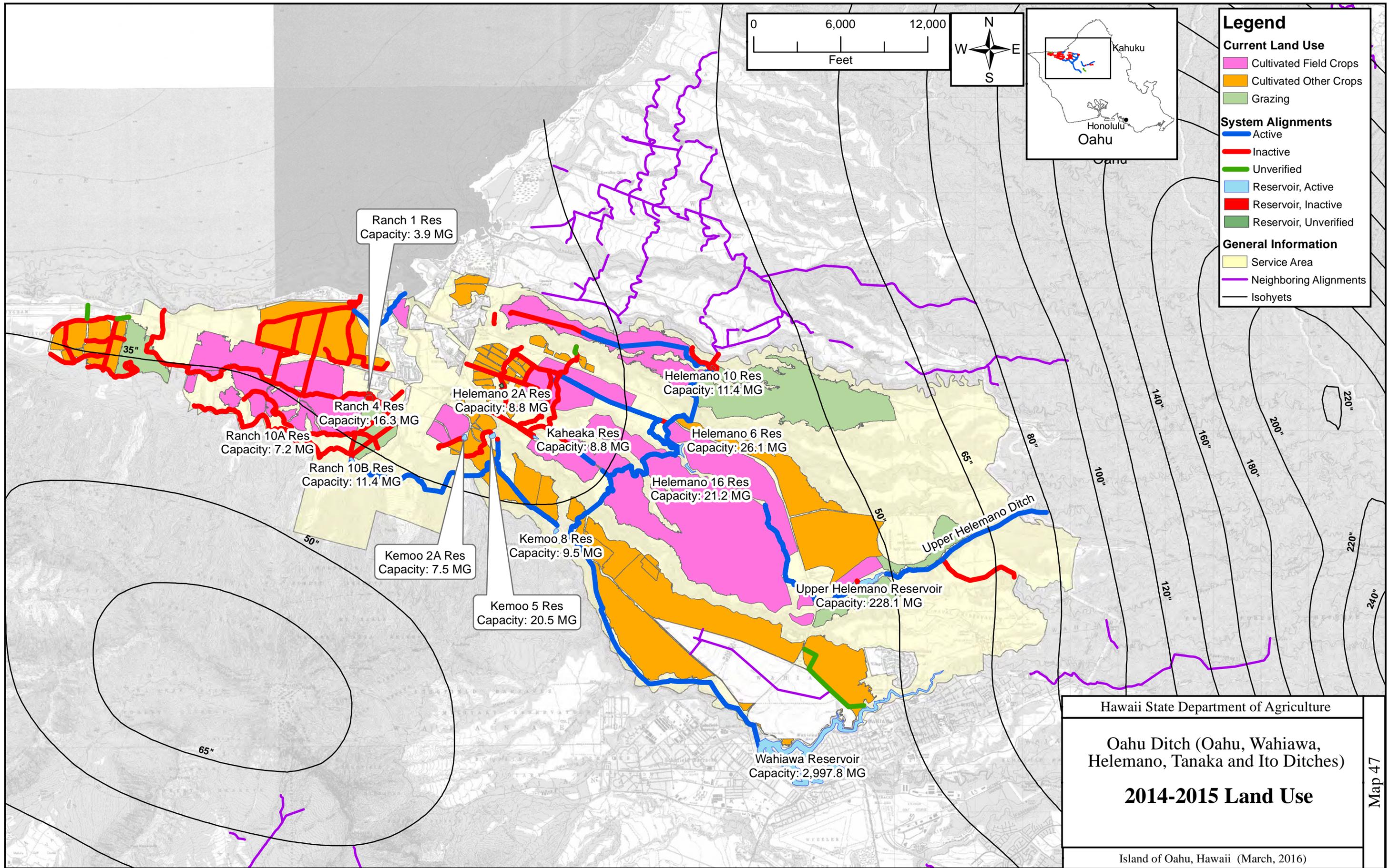


Hawaii State Department of Agriculture

Oahu Ditch (Oahu, Wahiawa, Helemano, Tanaka and Ito Ditches)

Alignments and System Components

Island of Oahu, Hawaii (March, 2016)



Legend

Current Land Use

- Cultivated Field Crops
- Cultivated Other Crops
- Grazing

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area
- Neighboring Alignments
- Isohyets

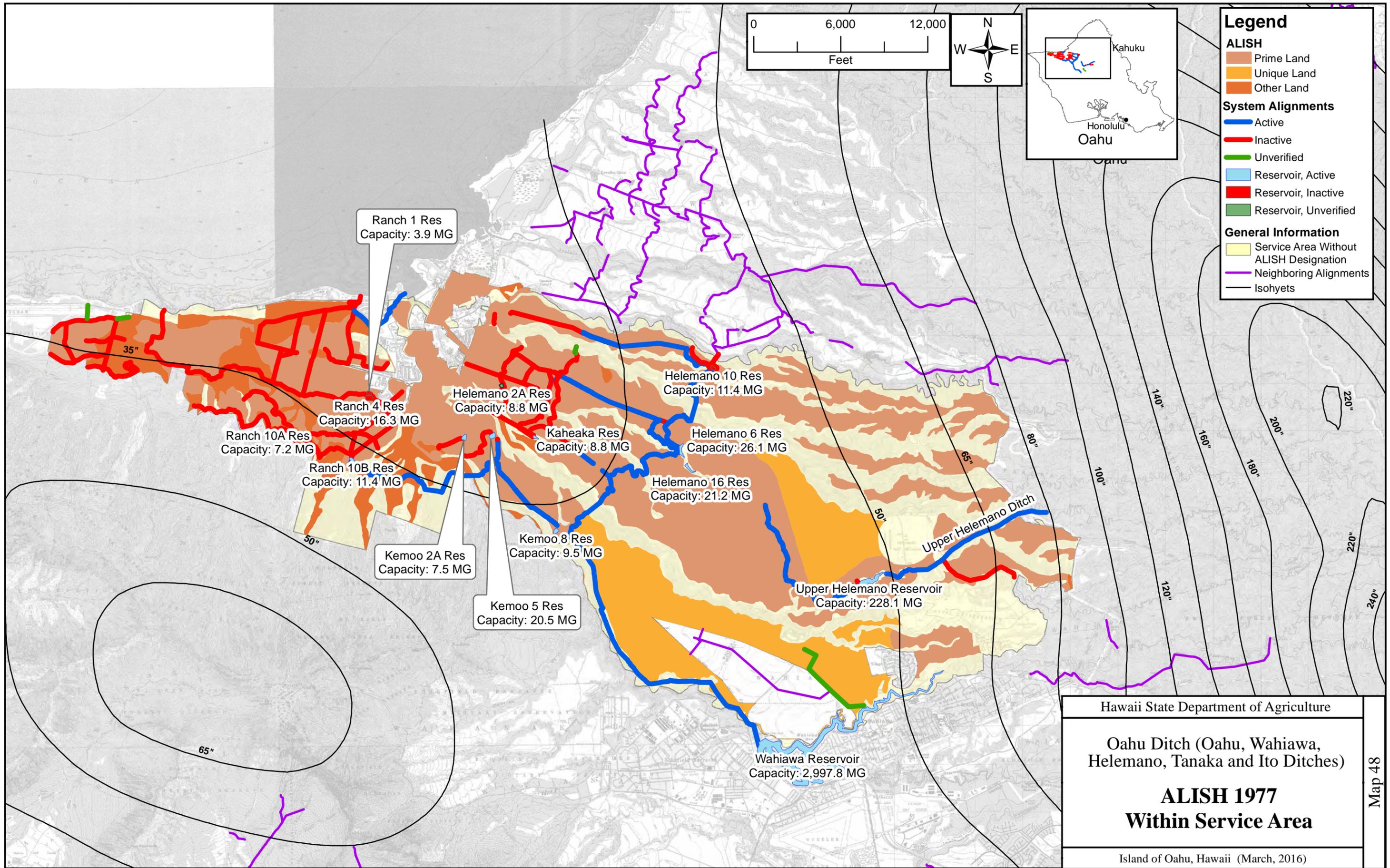
Hawaii State Department of Agriculture

Oahu Ditch (Oahu, Wahiawa, Helemano, Tanaka and Ito Ditches)

2014-2015 Land Use

Island of Oahu, Hawaii (March, 2016)

Map 47



Hawaii State Department of Agriculture

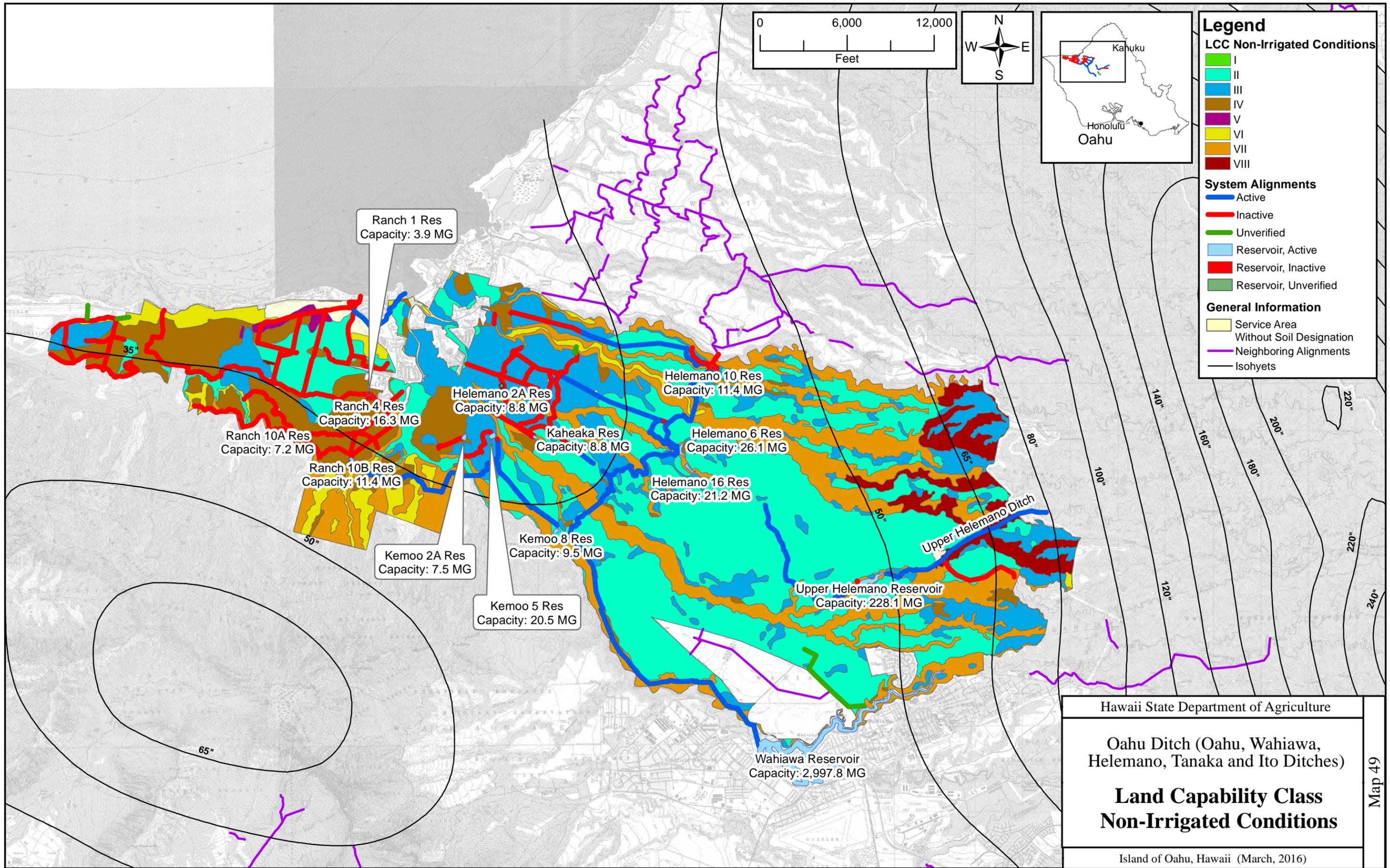
Oahu Ditch (Oahu, Wahiawa, Helemano, Tanaka and Ito Ditches)

ALISH 1977

Within Service Area

Island of Oahu, Hawaii (March, 2016)

Map 48



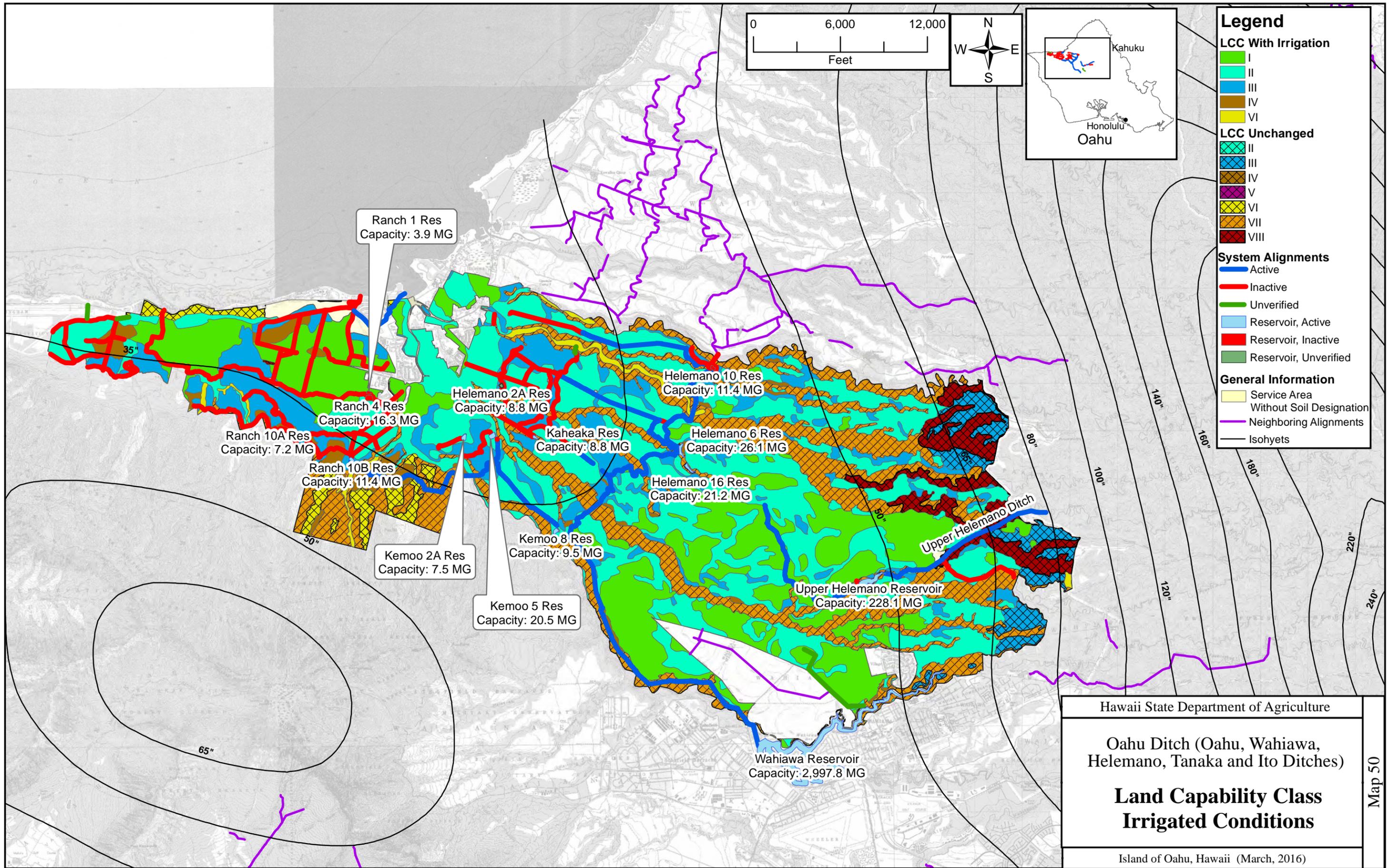
Hawaii State Department of Agriculture

Oahu Ditch (Oahu, Wahiawa, Helemano, Tanaka and Ito Ditches)

**Land Capability Class
Non-Irrigated Conditions**

Island of Oahu, Hawaii (March, 2016)

Map 49



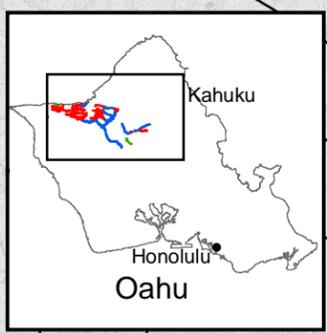
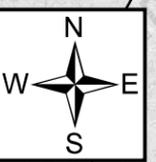
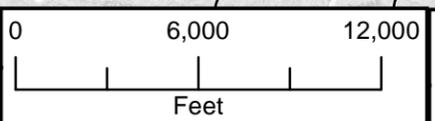
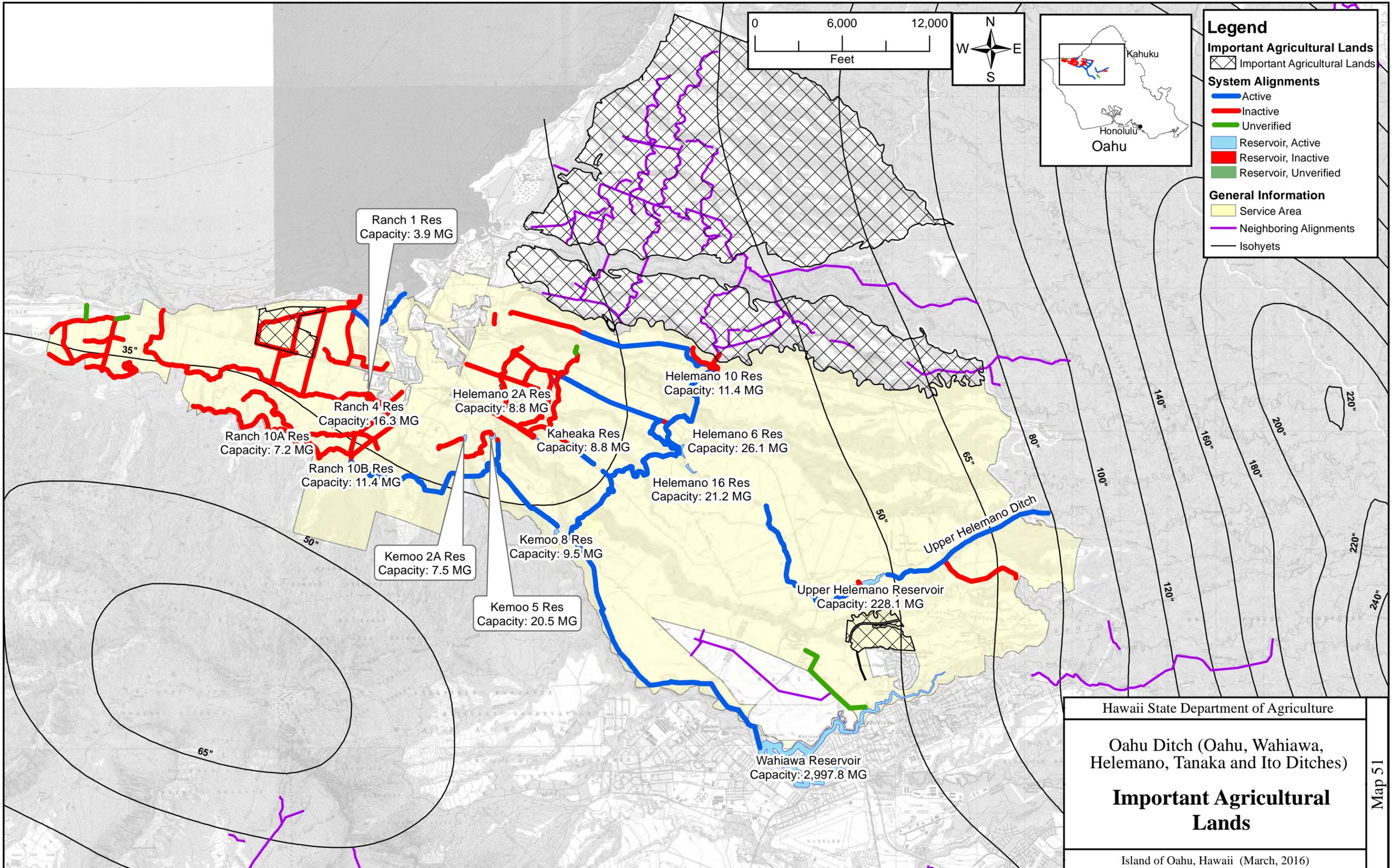
Hawaii State Department of Agriculture

Oahu Ditch (Oahu, Wahiawa, Helemano, Tanaka and Ito Ditches)

**Land Capability Class
Irrigated Conditions**

Island of Oahu, Hawaii (March, 2016)

Map 50



Legend

Important Agricultural Lands
 [Cross-hatched box] Important Agricultural Lands

System Alignments
 [Blue line] Active
 [Red line] Inactive
 [Green line] Unverified

[Light blue box] Reservoir, Active
 [Red box] Reservoir, Inactive
 [Green box] Reservoir, Unverified

General Information
 [Yellow box] Service Area
 [Purple line] Neighboring Alignments
 [Black line] Isohyets

Ranch 1 Res
Capacity: 3.9 MG

Ranch 4 Res
Capacity: 16.3 MG

Ranch 10A Res
Capacity: 7.2 MG

Ranch 10B Res
Capacity: 11.4 MG

Helemano 2A Res
Capacity: 8.8 MG

Kaheaka Res
Capacity: 8.8 MG

Helemano 6 Res
Capacity: 26.1 MG

Helemano 16 Res
Capacity: 21.2 MG

Kemoo 2A Res
Capacity: 7.5 MG

Kemoo 8 Res
Capacity: 9.5 MG

Kemoo 5 Res
Capacity: 20.5 MG

Upper Helemano Reservoir
Capacity: 228.1 MG

Wahiawa Reservoir
Capacity: 2,997.8 MG

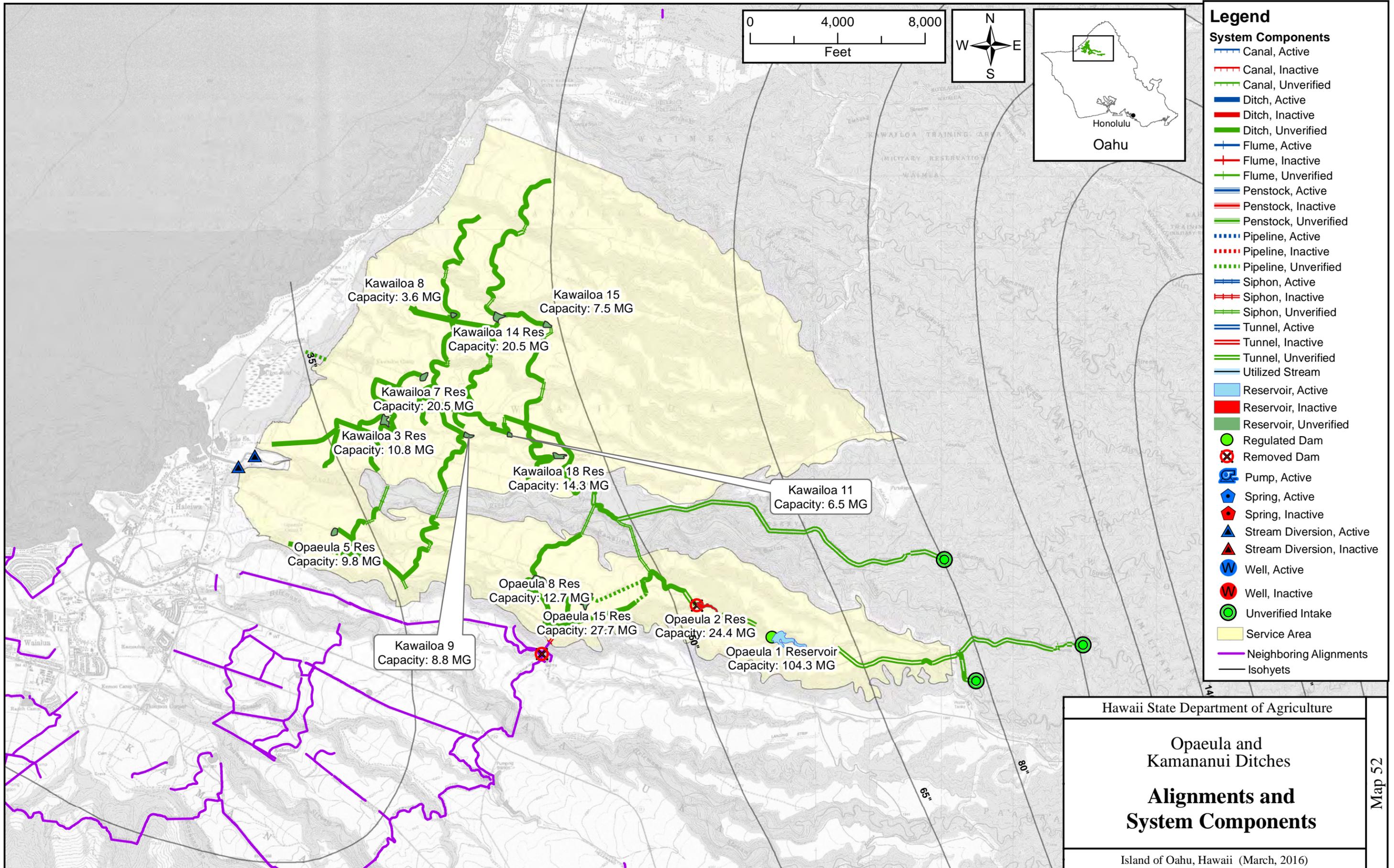
Hawaii State Department of Agriculture

Oahu Ditch (Oahu, Wahiawa, Helemano, Tanaka and Ito Ditches)

Important Agricultural Lands

Island of Oahu, Hawaii (March, 2016)

Map 51



- ### Legend
- #### System Components
- Canal, Active
 - Canal, Inactive
 - Canal, Unverified
 - Ditch, Active
 - Ditch, Inactive
 - Ditch, Unverified
 - + Flume, Active
 - + Flume, Inactive
 - + Flume, Unverified
 - Penstock, Active
 - Penstock, Inactive
 - Penstock, Unverified
 - Pipeline, Active
 - Pipeline, Inactive
 - Pipeline, Unverified
 - Siphon, Active
 - Siphon, Inactive
 - Siphon, Unverified
 - Tunnel, Active
 - Tunnel, Inactive
 - Tunnel, Unverified
 - Utilized Stream
 - Reservoir, Active
 - Reservoir, Inactive
 - Reservoir, Unverified
 - Regulated Dam
 - ✕ Removed Dam
 - ⚙ Pump, Active
 - ⬆ Spring, Active
 - ⬆ Spring, Inactive
 - ▲ Stream Diversion, Active
 - ▲ Stream Diversion, Inactive
 - ⊙ Well, Active
 - ⊙ Well, Inactive
 - ⊙ Unverified Intake
 - Service Area
 - Neighboring Alignments
 - Isohyets

Hawaii State Department of Agriculture

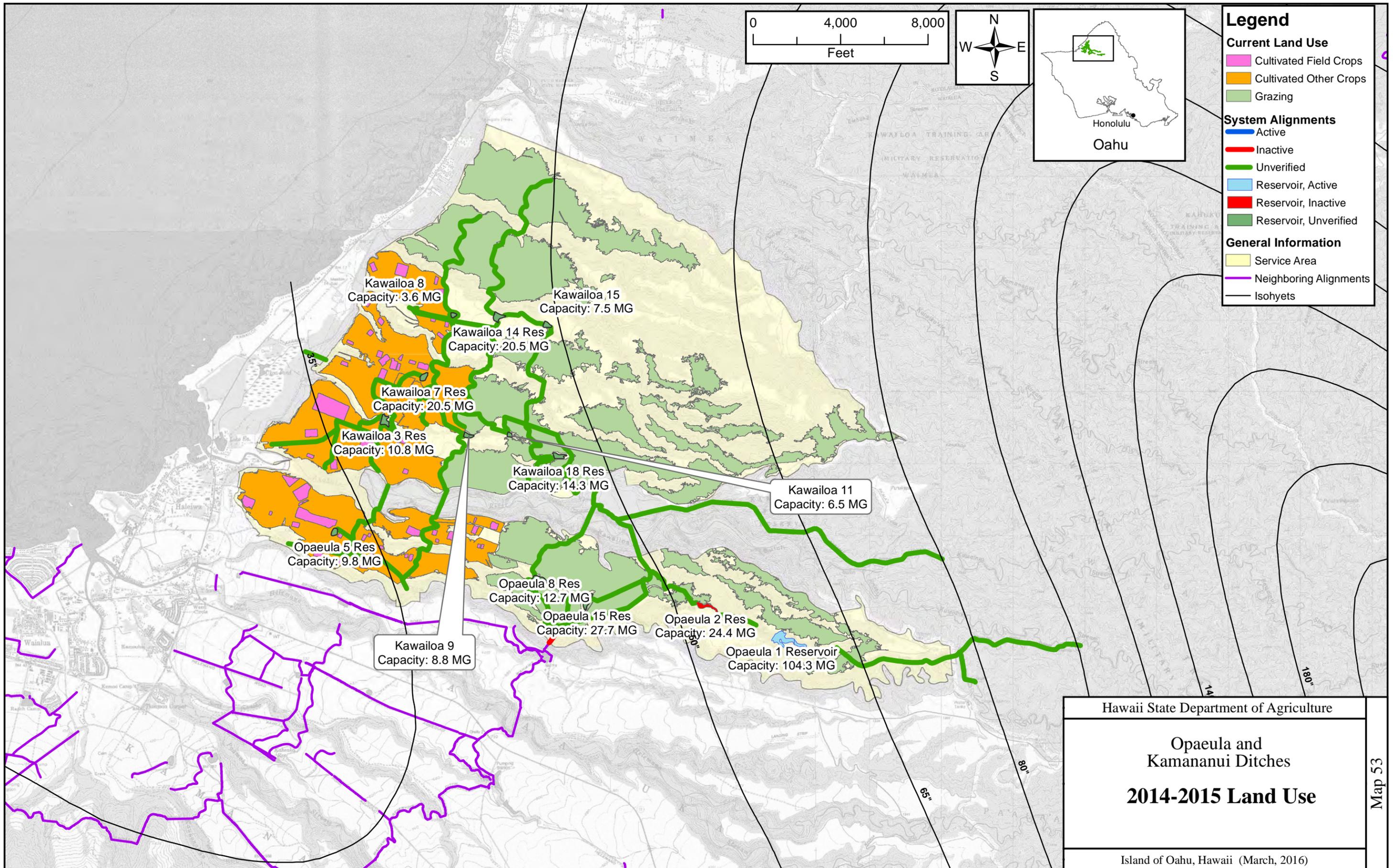
**Opaeula and
Kamananui Ditches**

**Alignments and
System Components**

Island of Oahu, Hawaii (March, 2016)

Map 52

NAD 83, UTM Zone 4N



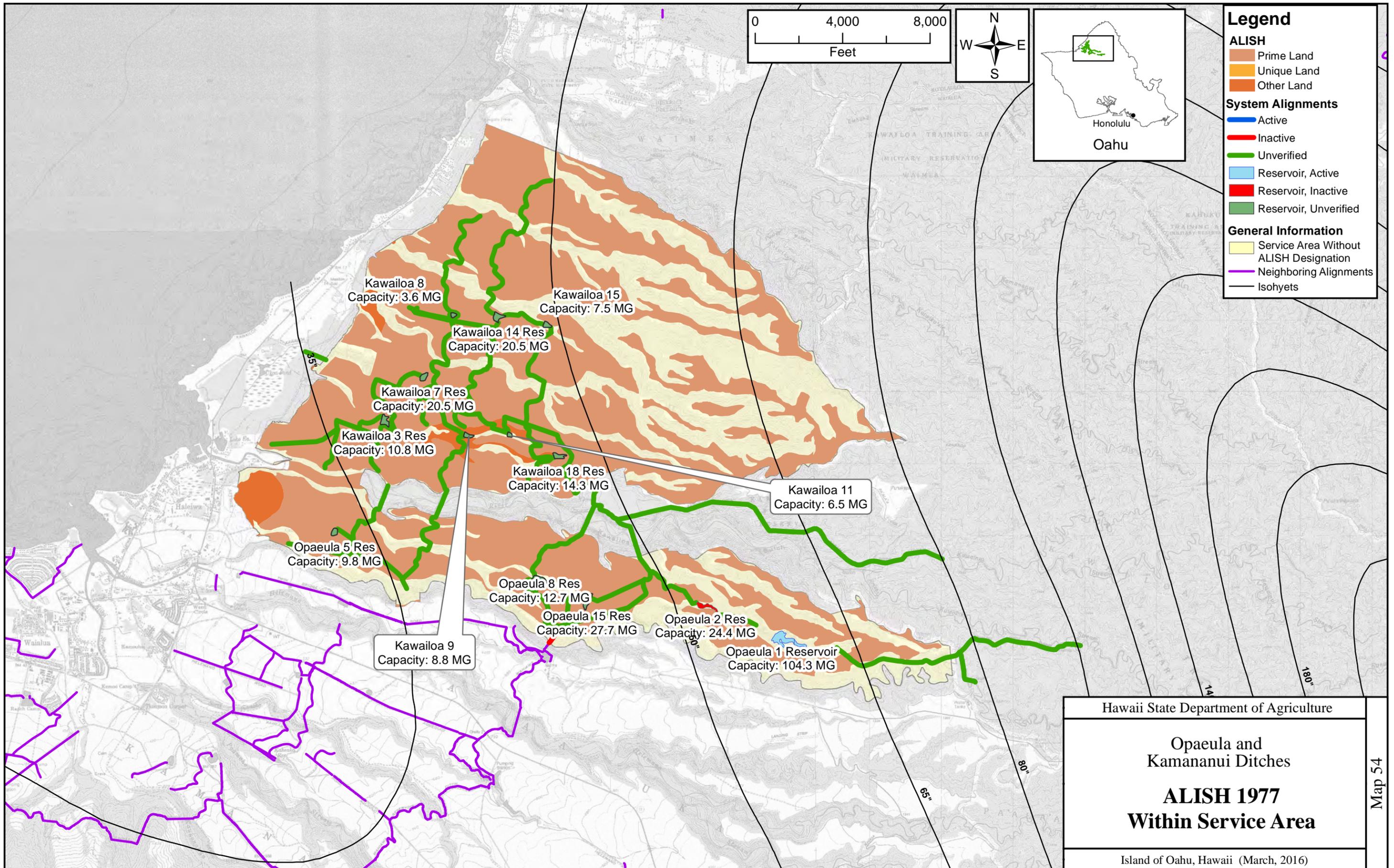
Hawaii State Department of Agriculture

Opaulea and Kamananui Ditches

2014-2015 Land Use

Island of Oahu, Hawaii (March, 2016)

Map 53



Legend

ALISH

- Prime Land
- Unique Land
- Other Land

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without ALISH Designation
- Neighboring Alignments
- Isohyets

Hawaii State Department of Agriculture

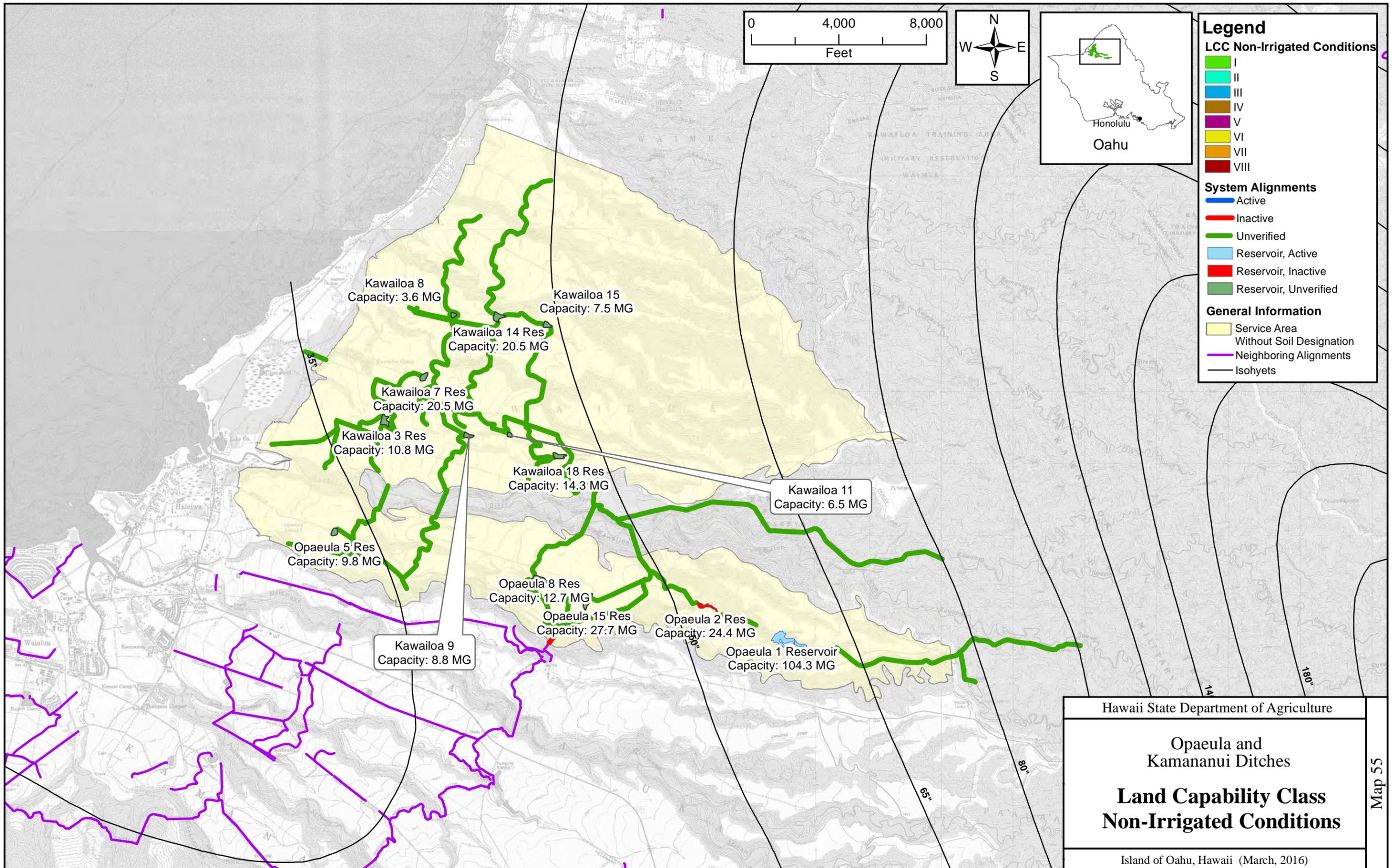
Opaeula and Kamananui Ditches

ALISH 1977

Within Service Area

Island of Oahu, Hawaii (March, 2016)

Map 54



Hawaii State Department of Agriculture

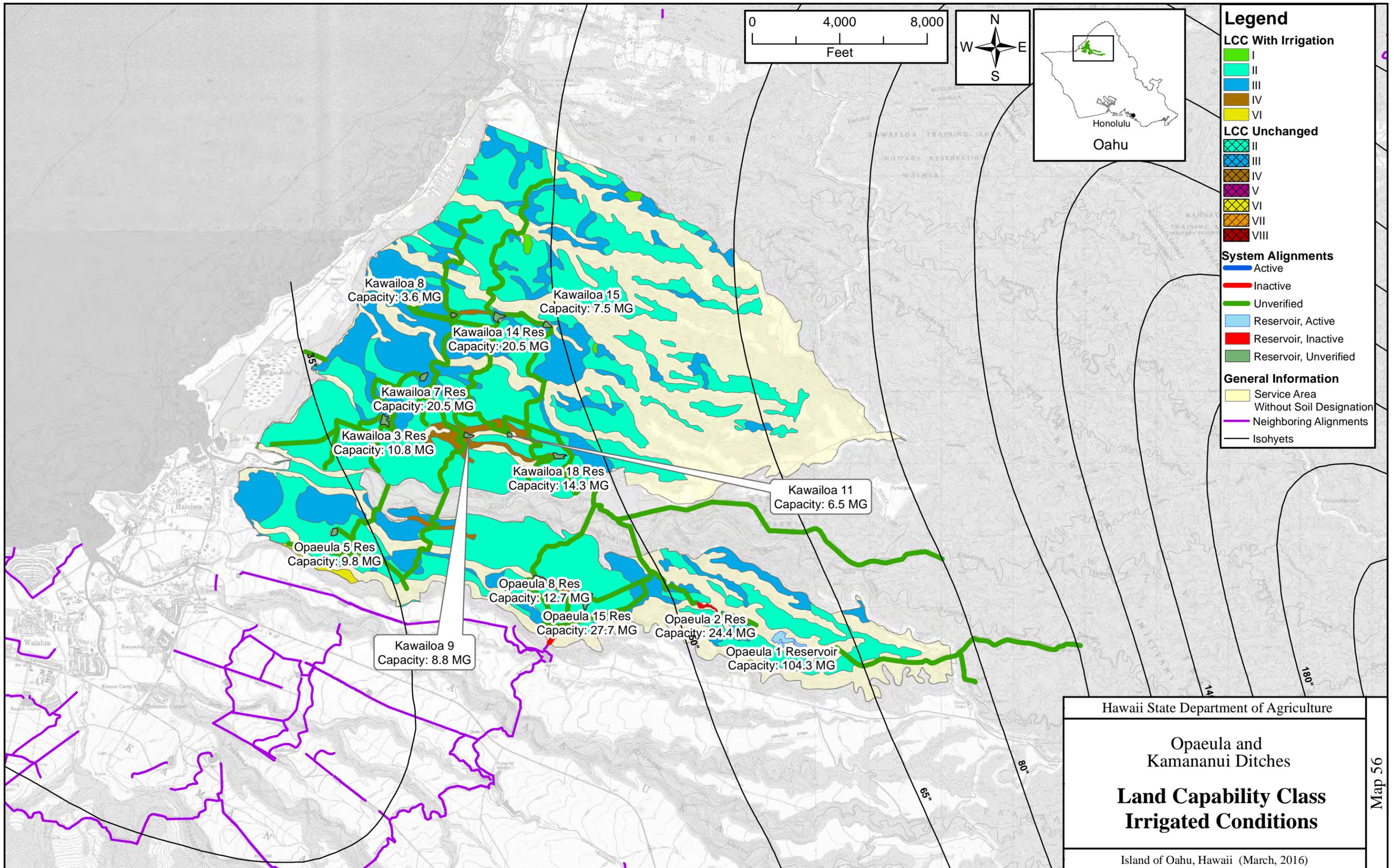
Opaeula and Kamananui Ditches

Land Capability Class Non-Irrigated Conditions

Island of Oahu, Hawaii (March, 2016)

Map 55

NAD 83, UTM Zone 4N



Hawaii State Department of Agriculture

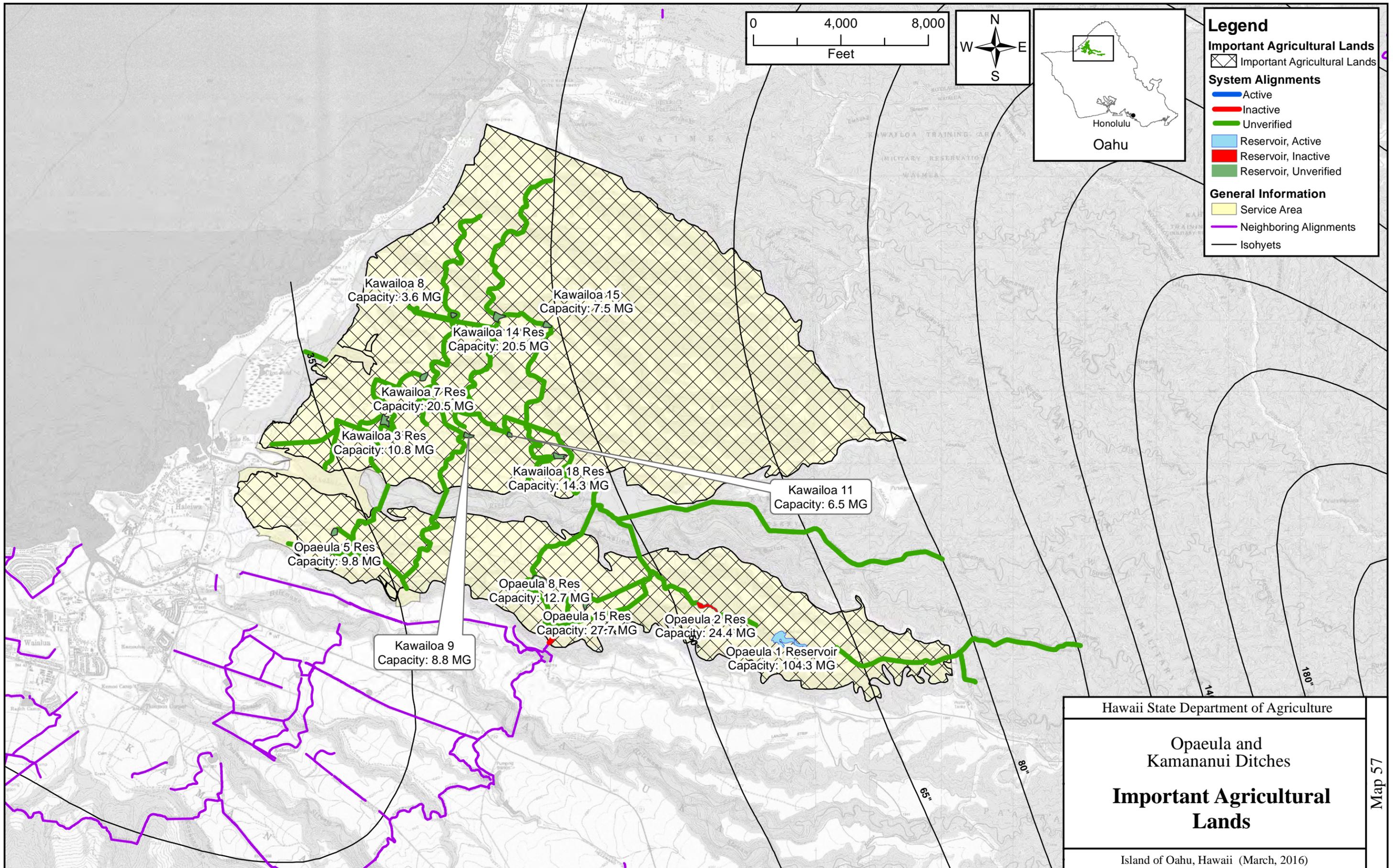
Opaulea and Kamananui Ditches

Land Capability Class Irrigated Conditions

Island of Oahu, Hawaii (March, 2016)

Map 56

NAD 83, UTM Zone 4N



Hawaii State Department of Agriculture

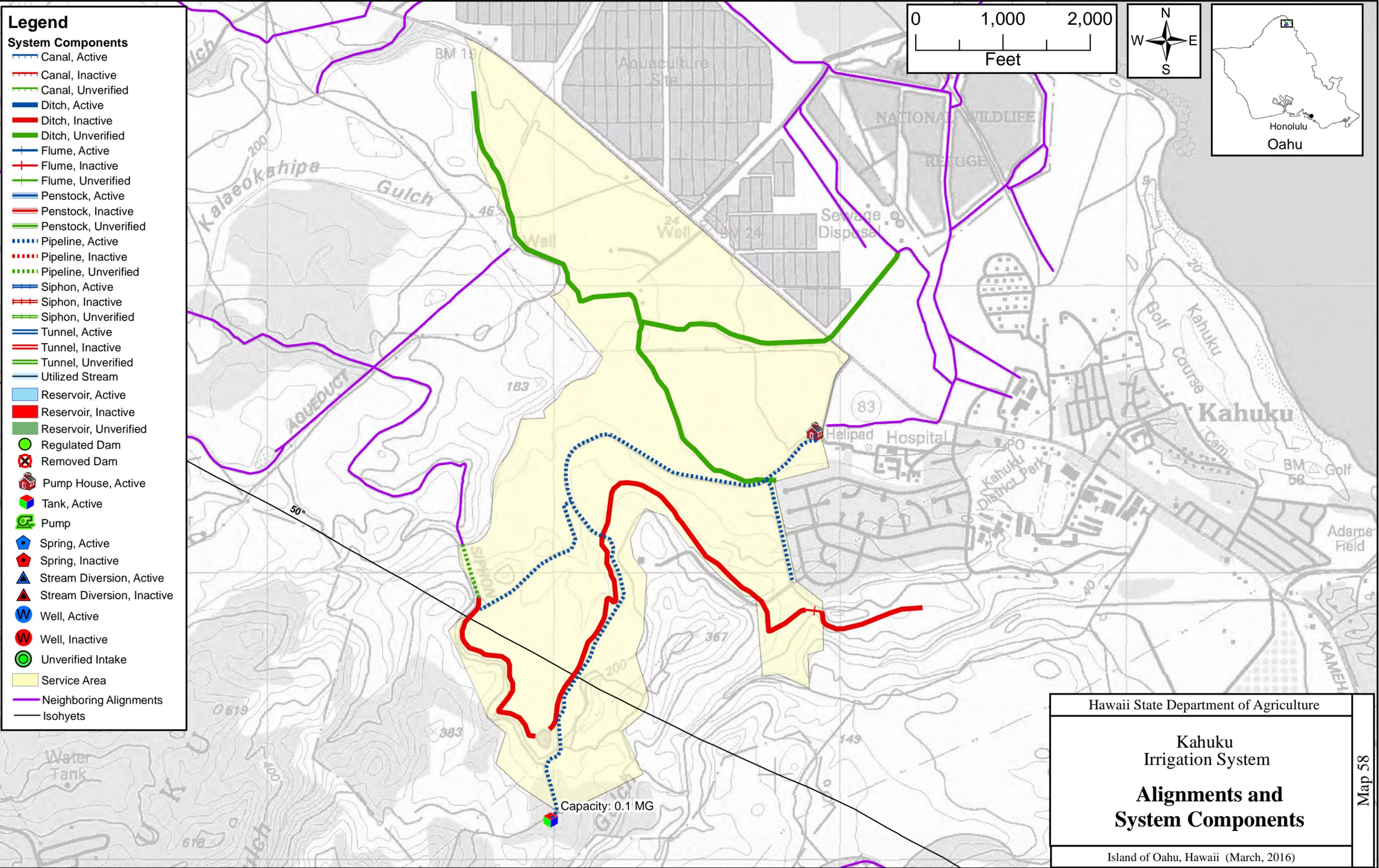
Opaeula and Kamananui Ditches

Important Agricultural Lands

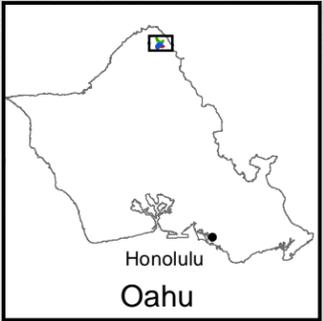
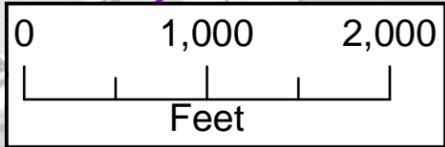
Island of Oahu, Hawaii (March, 2016)

Map 57

NAD 83, UTM Zone 4N



- Legend**
- System Components**
- Canal, Active
 - Canal, Inactive
 - Canal, Unverified
 - Ditch, Active
 - Ditch, Inactive
 - Ditch, Unverified
 - + Flume, Active
 - + Flume, Inactive
 - + Flume, Unverified
 - Penstock, Active
 - Penstock, Inactive
 - Penstock, Unverified
 - ⋯ Pipeline, Active
 - ⋯ Pipeline, Inactive
 - ⋯ Pipeline, Unverified
 - Siphon, Active
 - Siphon, Inactive
 - Siphon, Unverified
 - Tunnel, Active
 - Tunnel, Inactive
 - Tunnel, Unverified
 - Utilized Stream
 - Reservoir, Active
 - Reservoir, Inactive
 - Reservoir, Unverified
 - Regulated Dam
 - ⊗ Removed Dam
 - 🏠 Pump House, Active
 - 🏠 Tank, Active
 - 🏠 Pump
 - ◆ Spring, Active
 - ◆ Spring, Inactive
 - ▲ Stream Diversion, Active
 - ▲ Stream Diversion, Inactive
 - W Well, Active
 - W Well, Inactive
 - W Unverified Intake
 - Service Area
 - Neighboring Alignments
 - Isohyets



Hawaii State Department of Agriculture

**Kahuku
Irrigation System**

**Alignments and
System Components**

Island of Oahu, Hawaii (March, 2016)

Map 58

Legend

ALISH

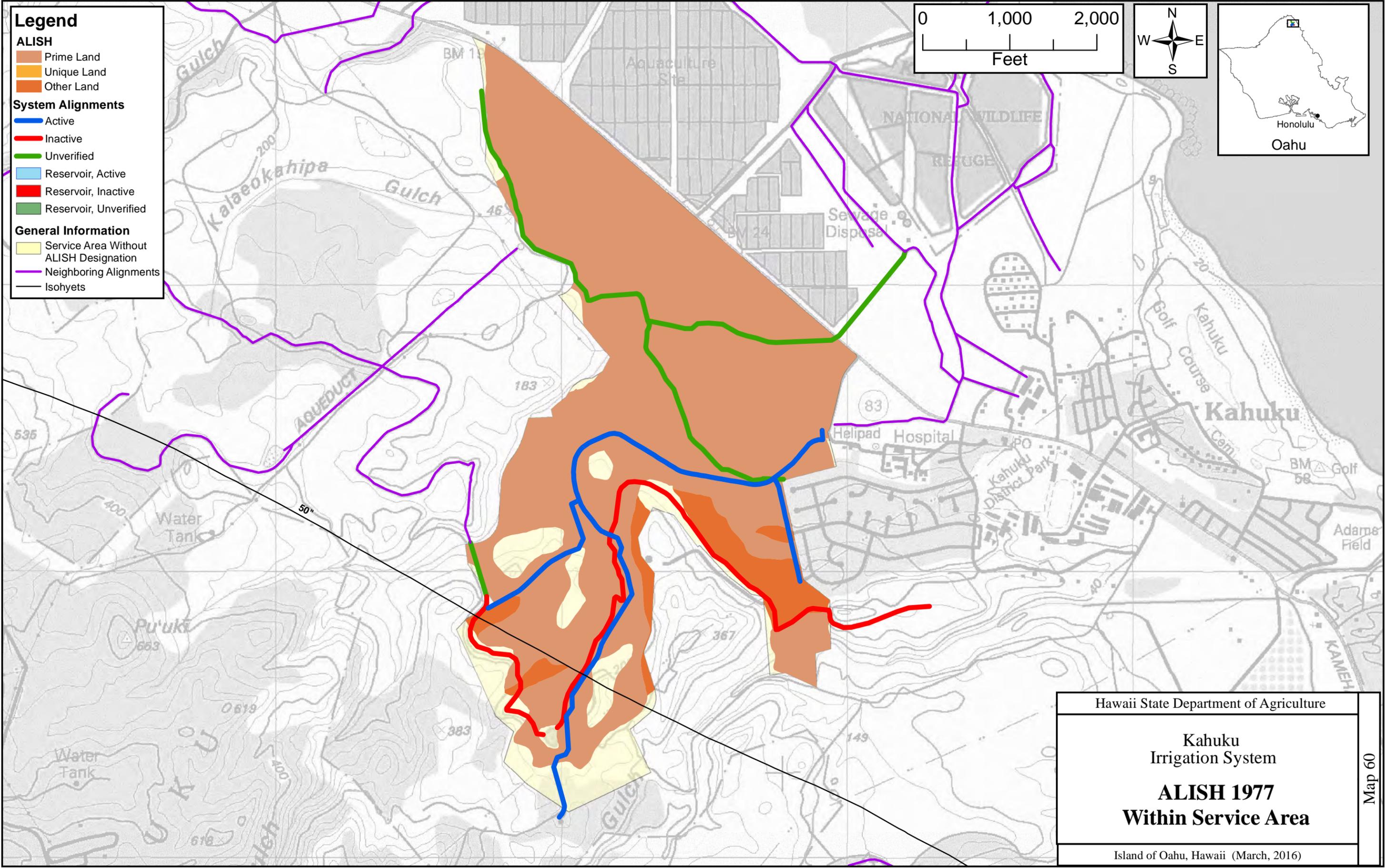
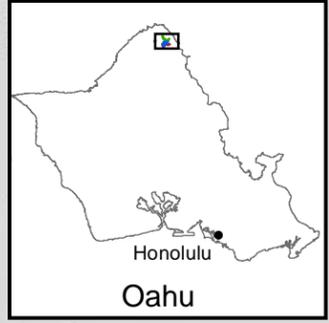
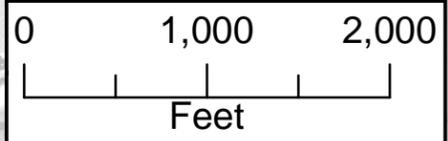
- Prime Land
- Unique Land
- Other Land

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

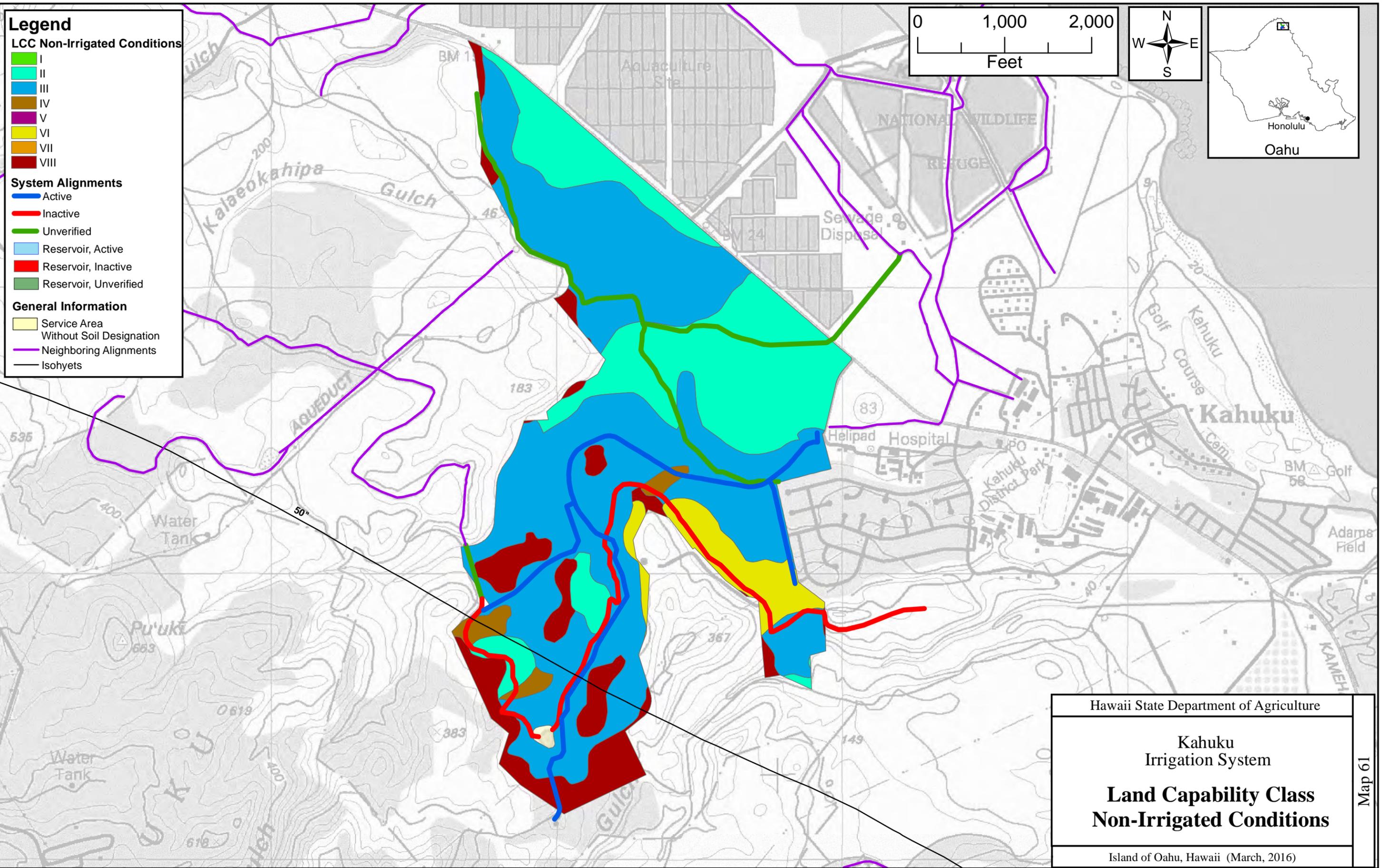
General Information

- Service Area Without ALISH Designation
- Neighboring Alignments
- Isohyets



Hawaii State Department of Agriculture	
Kahuku Irrigation System	
ALISH 1977 Within Service Area	
Island of Oahu, Hawaii (March, 2016)	

Map 60



Legend

LCC Non-Irrigated Conditions

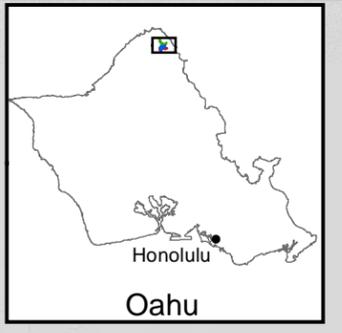
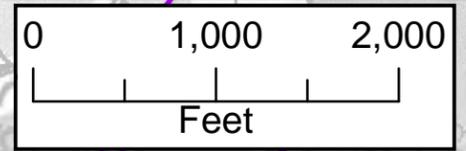
- I
- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets



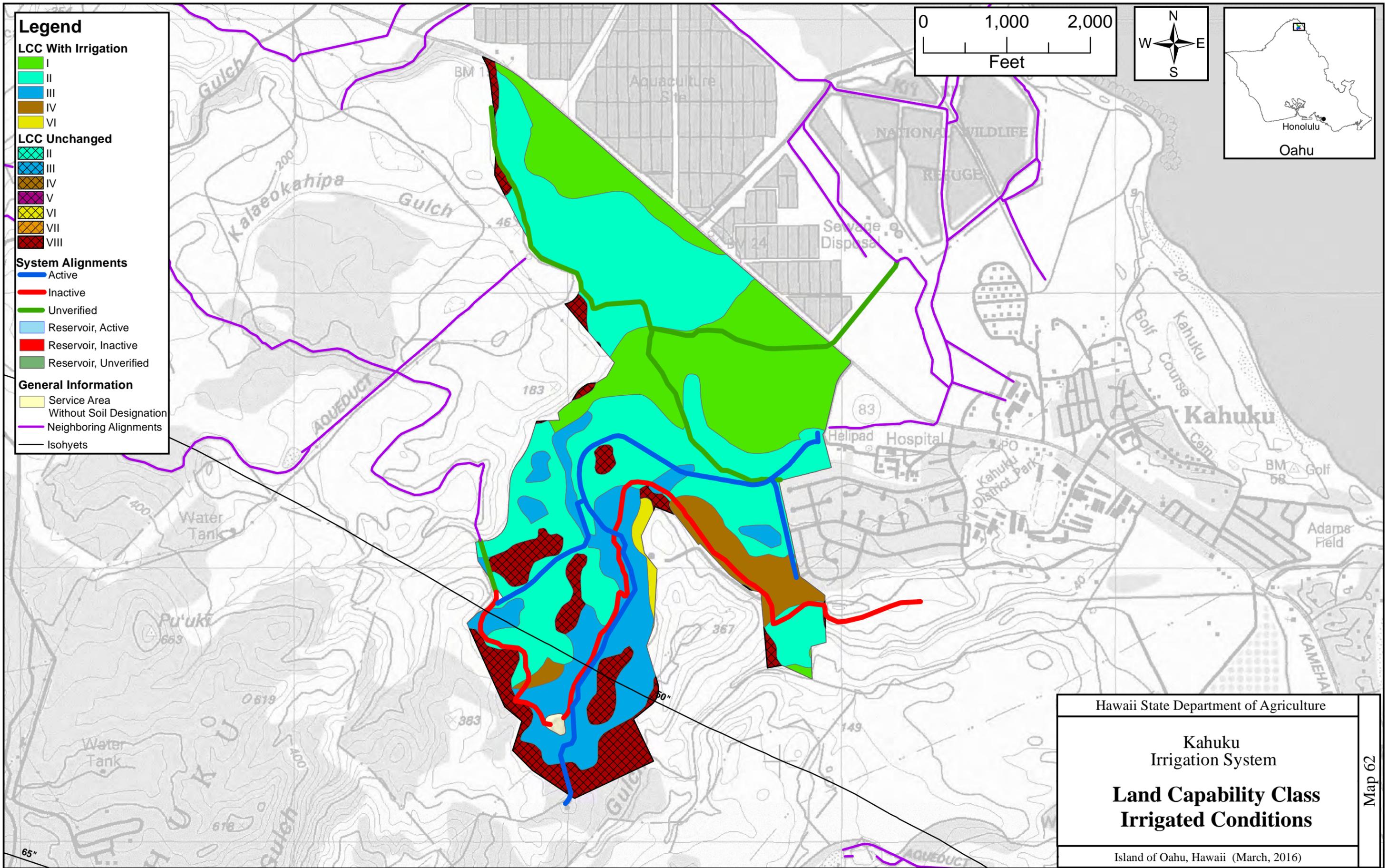
Hawaii State Department of Agriculture

**Kahuku
Irrigation System**

**Land Capability Class
Non-Irrigated Conditions**

Island of Oahu, Hawaii (March, 2016)

Map 61



NAD 83, UTM Zone 4N

Hawaii State Department of Agriculture	
Kahuku Irrigation System	
Land Capability Class Irrigated Conditions	
Island of Oahu, Hawaii (March, 2016)	

Map 62

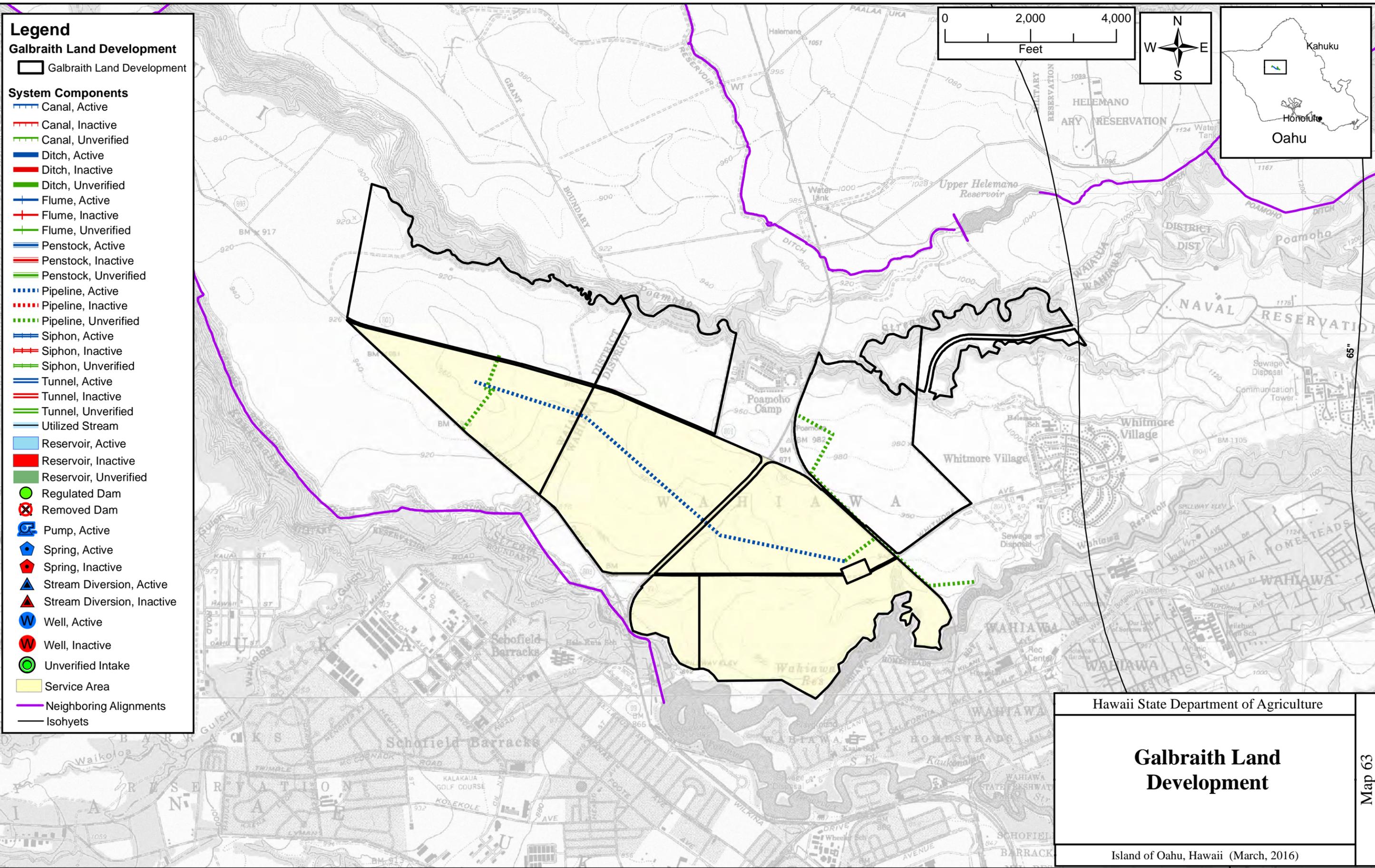
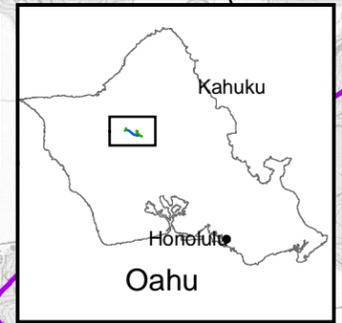
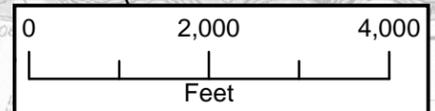
Legend

Galbraith Land Development

Galbraith Land Development

System Components

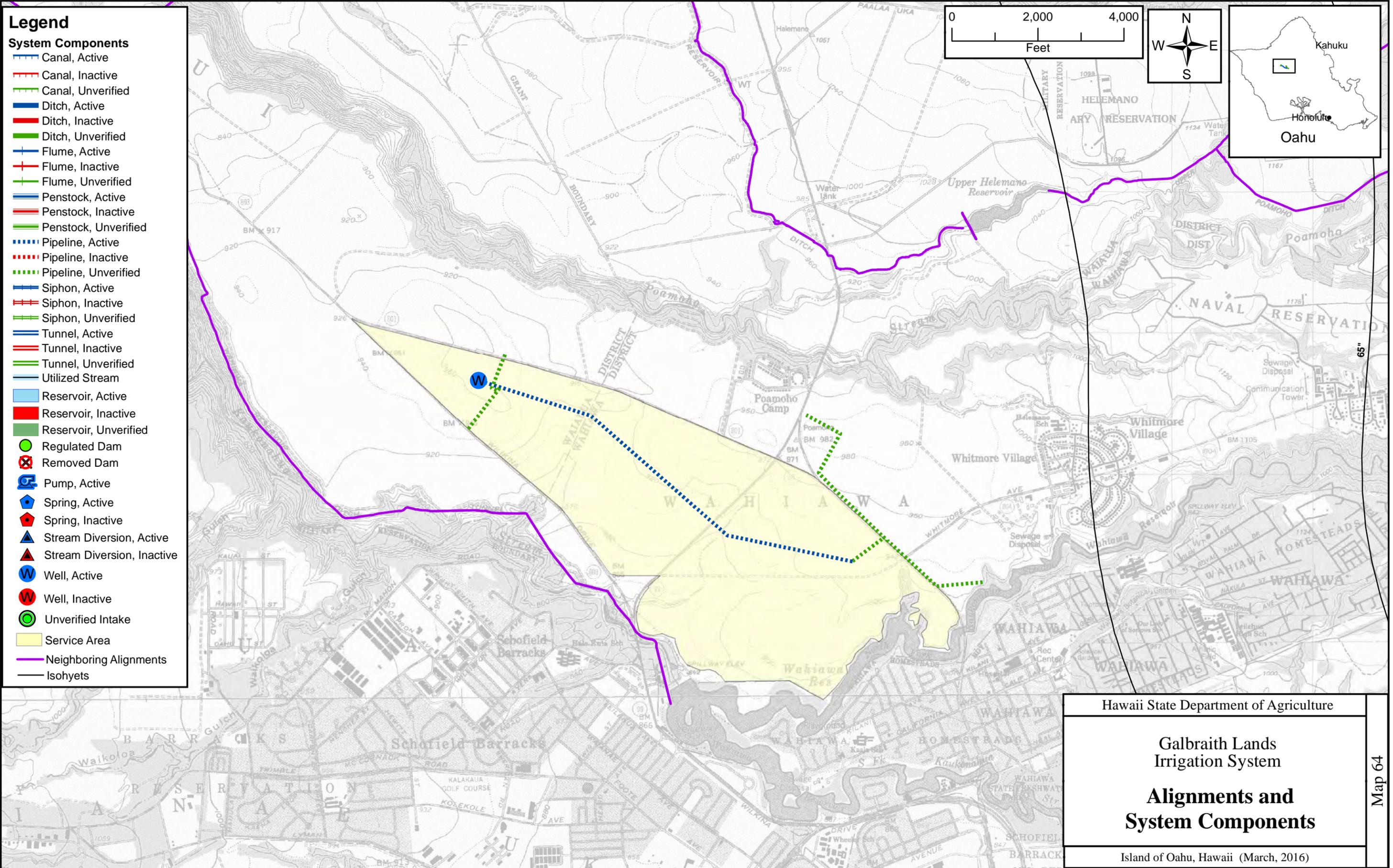
- Canal, Active
- Canal, Inactive
- Canal, Unverified
- Ditch, Active
- Ditch, Inactive
- Ditch, Unverified
- Flume, Active
- Flume, Inactive
- Flume, Unverified
- Penstock, Active
- Penstock, Inactive
- Penstock, Unverified
- Pipeline, Active
- Pipeline, Inactive
- Pipeline, Unverified
- Siphon, Active
- Siphon, Inactive
- Siphon, Unverified
- Tunnel, Active
- Tunnel, Inactive
- Tunnel, Unverified
- Utilized Stream
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified
- Regulated Dam
- Removed Dam
- Pump, Active
- Spring, Active
- Spring, Inactive
- Stream Diversion, Active
- Stream Diversion, Inactive
- Well, Active
- Well, Inactive
- Unverified Intake
- Service Area
- Neighboring Alignments
- Isohyets



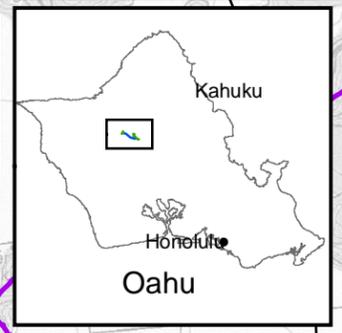
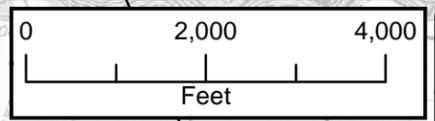
Hawaii State Department of Agriculture

Galbraith Land Development

Island of Oahu, Hawaii (March, 2016)



- Legend**
- System Components**
- Canal, Active
 - Canal, Inactive
 - Canal, Unverified
 - Ditch, Active
 - Ditch, Inactive
 - Ditch, Unverified
 - + Flume, Active
 - + Flume, Inactive
 - + Flume, Unverified
 - Penstock, Active
 - Penstock, Inactive
 - Penstock, Unverified
 - Pipeline, Active
 - Pipeline, Inactive
 - Pipeline, Unverified
 - Siphon, Active
 - Siphon, Inactive
 - Siphon, Unverified
 - Tunnel, Active
 - Tunnel, Inactive
 - Tunnel, Unverified
 - Utilized Stream
 - Reservoir, Active
 - Reservoir, Inactive
 - Reservoir, Unverified
 - Regulated Dam
 - ⊗ Removed Dam
 - ⊕ Pump, Active
 - ⬠ Spring, Active
 - ⬠ Spring, Inactive
 - ▲ Stream Diversion, Active
 - ▲ Stream Diversion, Inactive
 - ⊙ Well, Active
 - ⊙ Well, Inactive
 - ⊙ Unverified Intake
 - Service Area
 - Neighboring Alignments
 - Isohyets



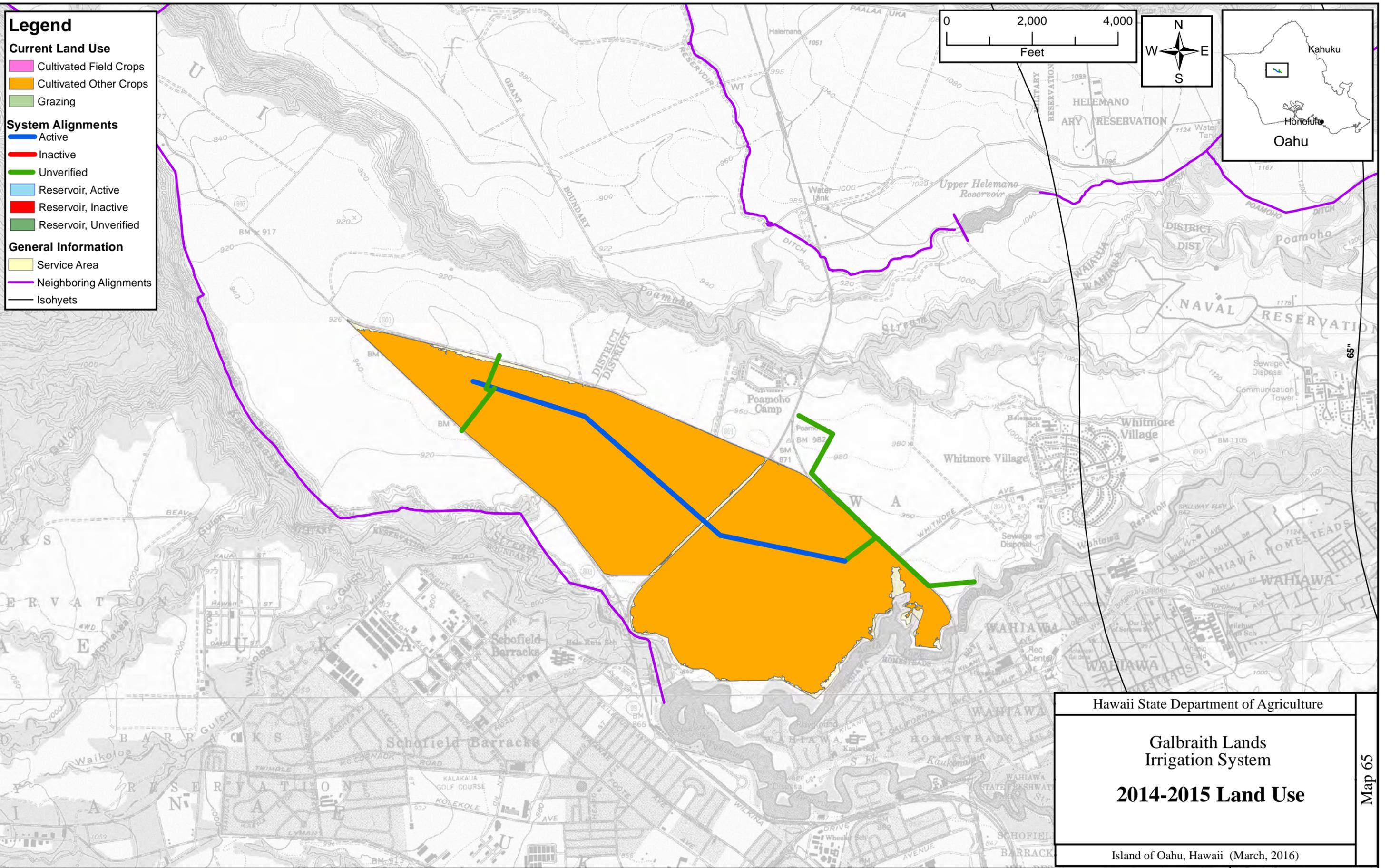
Hawaii State Department of Agriculture

Galbraith Lands
Irrigation System

**Alignments and
System Components**

Island of Oahu, Hawaii (March, 2016)

Map 64



Legend

Current Land Use

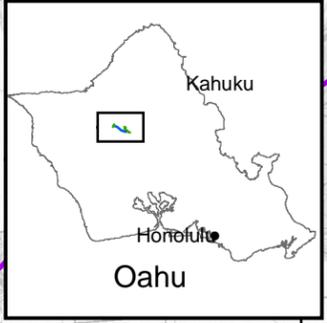
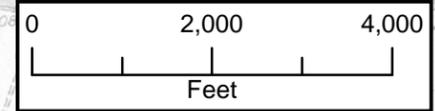
- Cultivated Field Crops
- Cultivated Other Crops
- Grazing

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area
- Neighboring Alignments
- Isohyets



Hawaii State Department of Agriculture

**Galbraith Lands
Irrigation System**

2014-2015 Land Use

Island of Oahu, Hawaii (March, 2016)

Map 65

Legend

ALISH

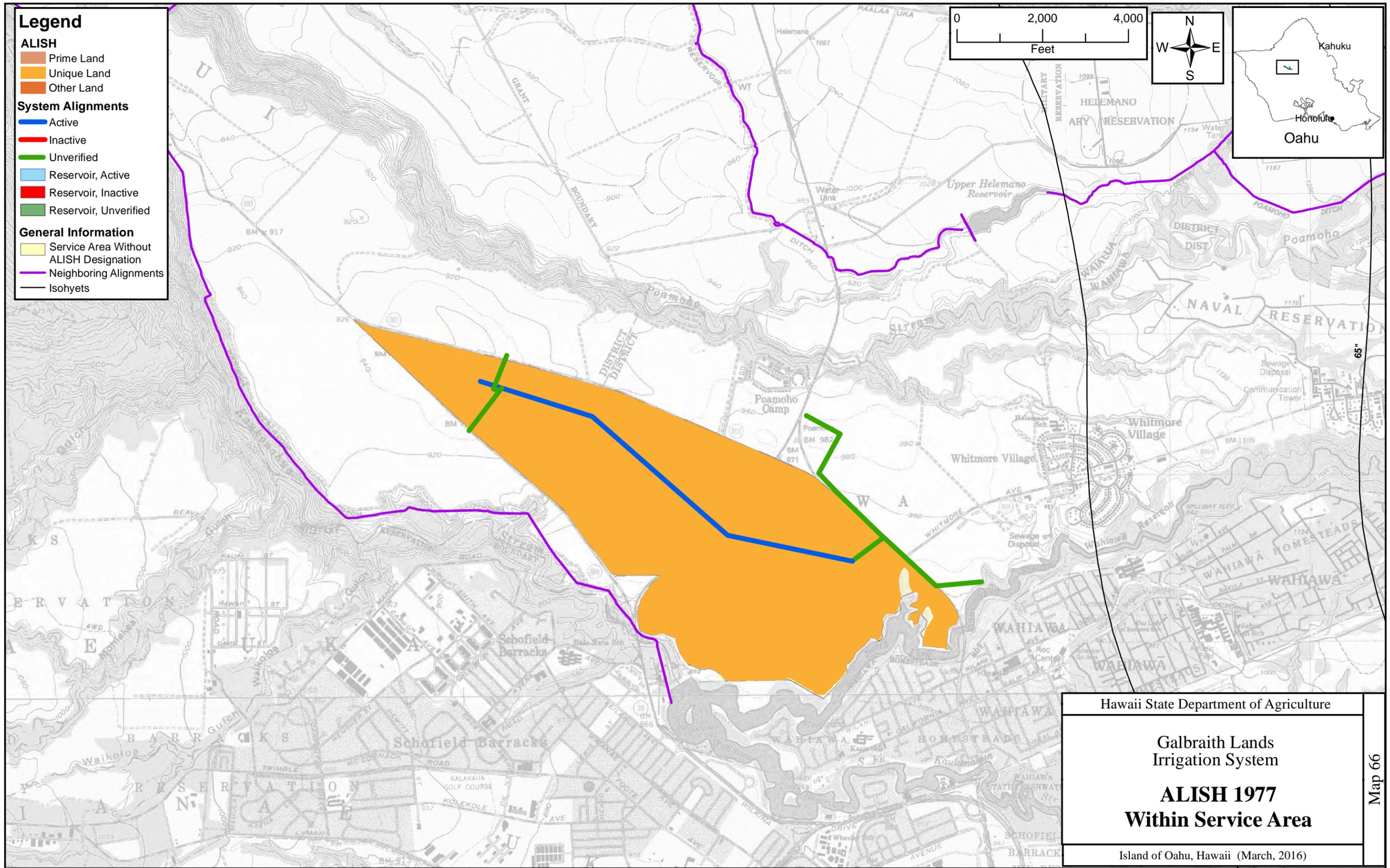
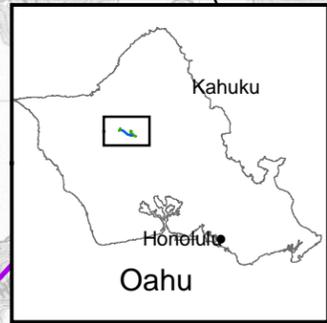
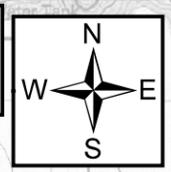
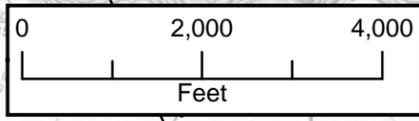
- Prime Land
- Unique Land
- Other Land

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without ALISH Designation
- Neighboring Alignments
- Isohyets



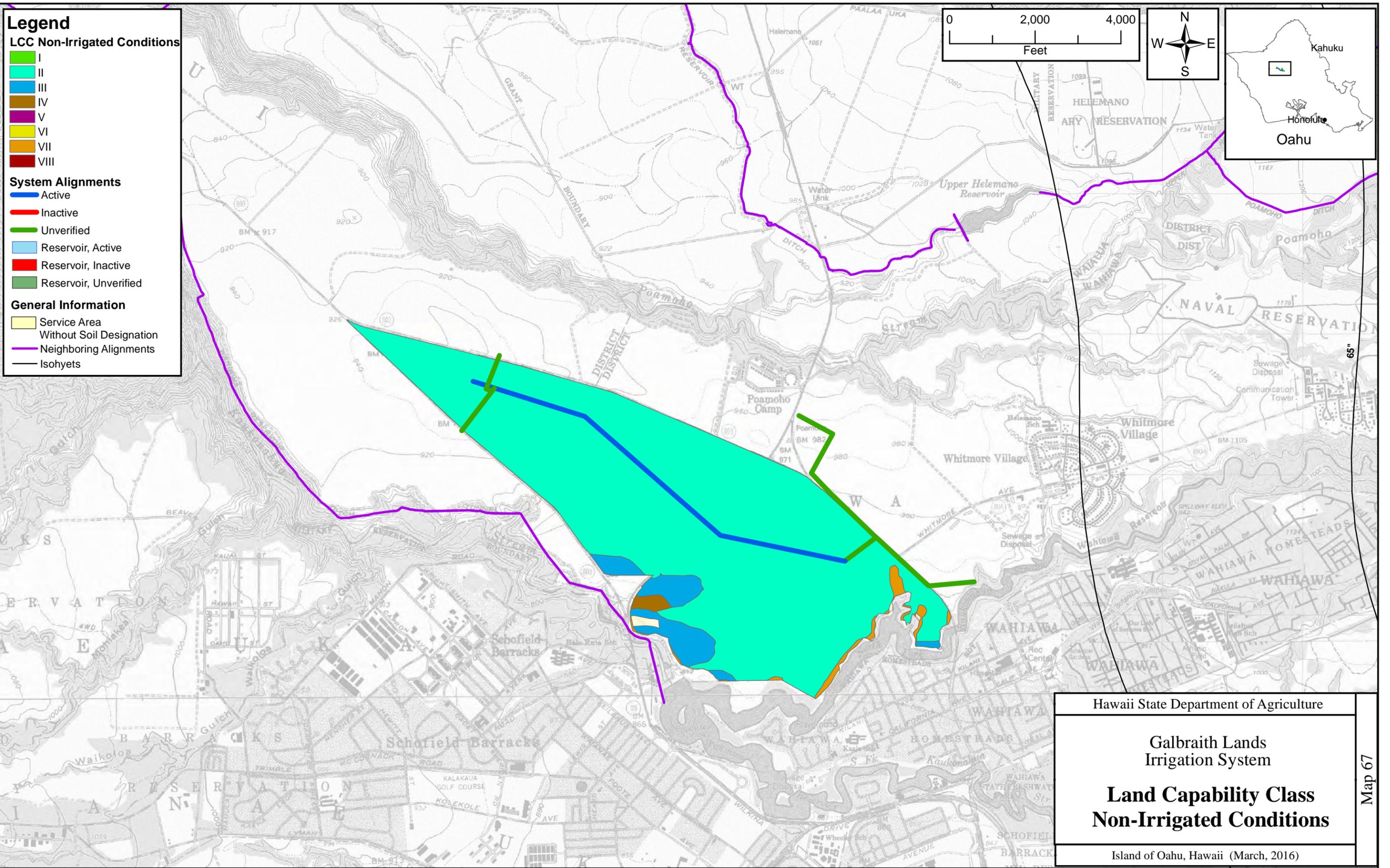
Hawaii State Department of Agriculture

Galbraith Lands
Irrigation System

ALISH 1977
Within Service Area

Island of Oahu, Hawaii (March, 2016)

Map 66



Legend

LCC Non-Irrigated Conditions

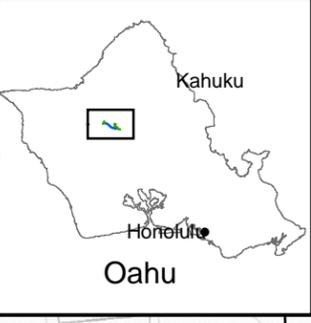
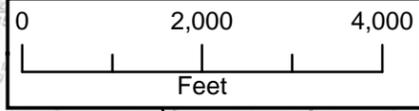
- I
- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets



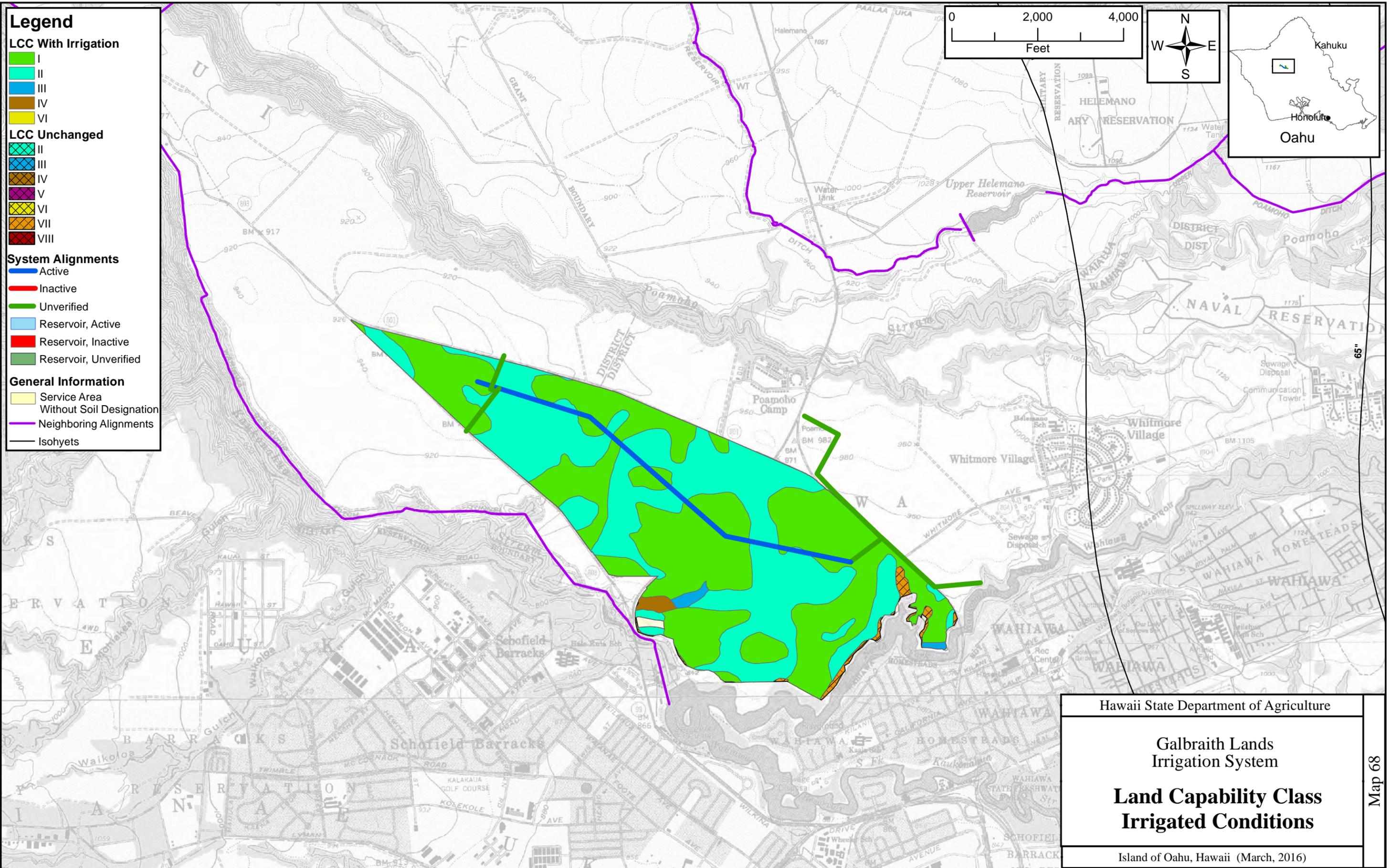
Hawaii State Department of Agriculture

Galbraith Lands
Irrigation System

**Land Capability Class
Non-Irrigated Conditions**

Island of Oahu, Hawaii (March, 2016)

Map 67



Legend

LCC With Irrigation

- I
- II
- III
- IV
- VI

LCC Unchanged

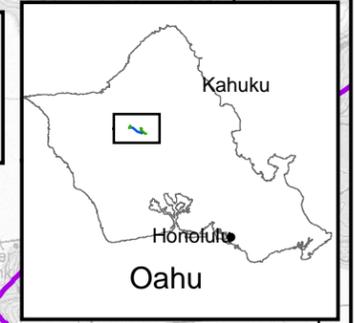
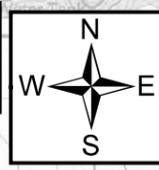
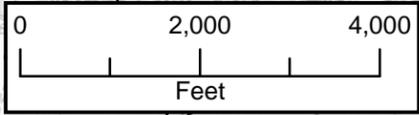
- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets



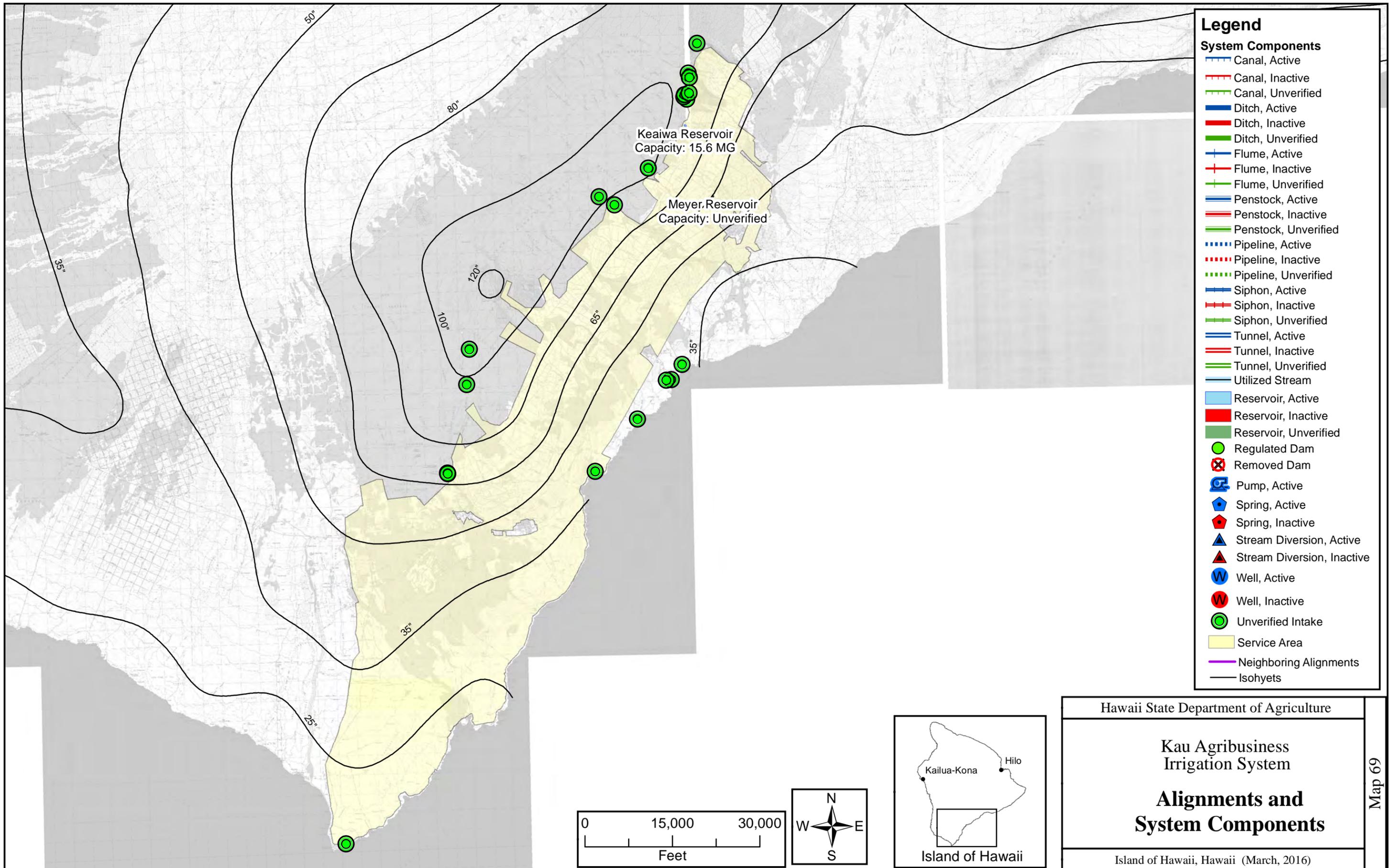
Hawaii State Department of Agriculture

Galbraith Lands
Irrigation System

**Land Capability Class
Irrigated Conditions**

Island of Oahu, Hawaii (March, 2016)

Map 68



- Legend**
- System Components**
- Canal, Active
 - Canal, Inactive
 - Canal, Unverified
 - Ditch, Active
 - Ditch, Inactive
 - Ditch, Unverified
 - Flume, Active
 - Flume, Inactive
 - Flume, Unverified
 - Penstock, Active
 - Penstock, Inactive
 - Penstock, Unverified
 - Pipeline, Active
 - Pipeline, Inactive
 - Pipeline, Unverified
 - Siphon, Active
 - Siphon, Inactive
 - Siphon, Unverified
 - Tunnel, Active
 - Tunnel, Inactive
 - Tunnel, Unverified
 - Utilized Stream
 - Reservoir, Active
 - Reservoir, Inactive
 - Reservoir, Unverified
 - Regulated Dam
 - Removed Dam
 - Pump, Active
 - Spring, Active
 - Spring, Inactive
 - Stream Diversion, Active
 - Stream Diversion, Inactive
 - Well, Active
 - Well, Inactive
 - Unverified Intake
 - Service Area
 - Neighboring Alignments
 - Isohyets

NAD 83, UTM Zone 4N

Map 69



Legend

Current Land Use

- Cultivated Field Crops
- Cultivated Other Crops
- Grazing

System Alignments

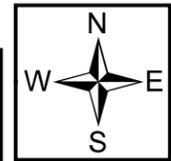
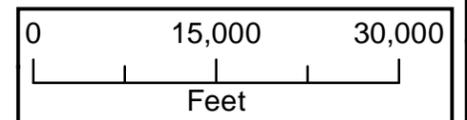
- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area
- Neighboring Alignments
- Isohyets

Keiwa Reservoir
Capacity: 15.6 MG

Meyer Reservoir
Capacity: Unverified



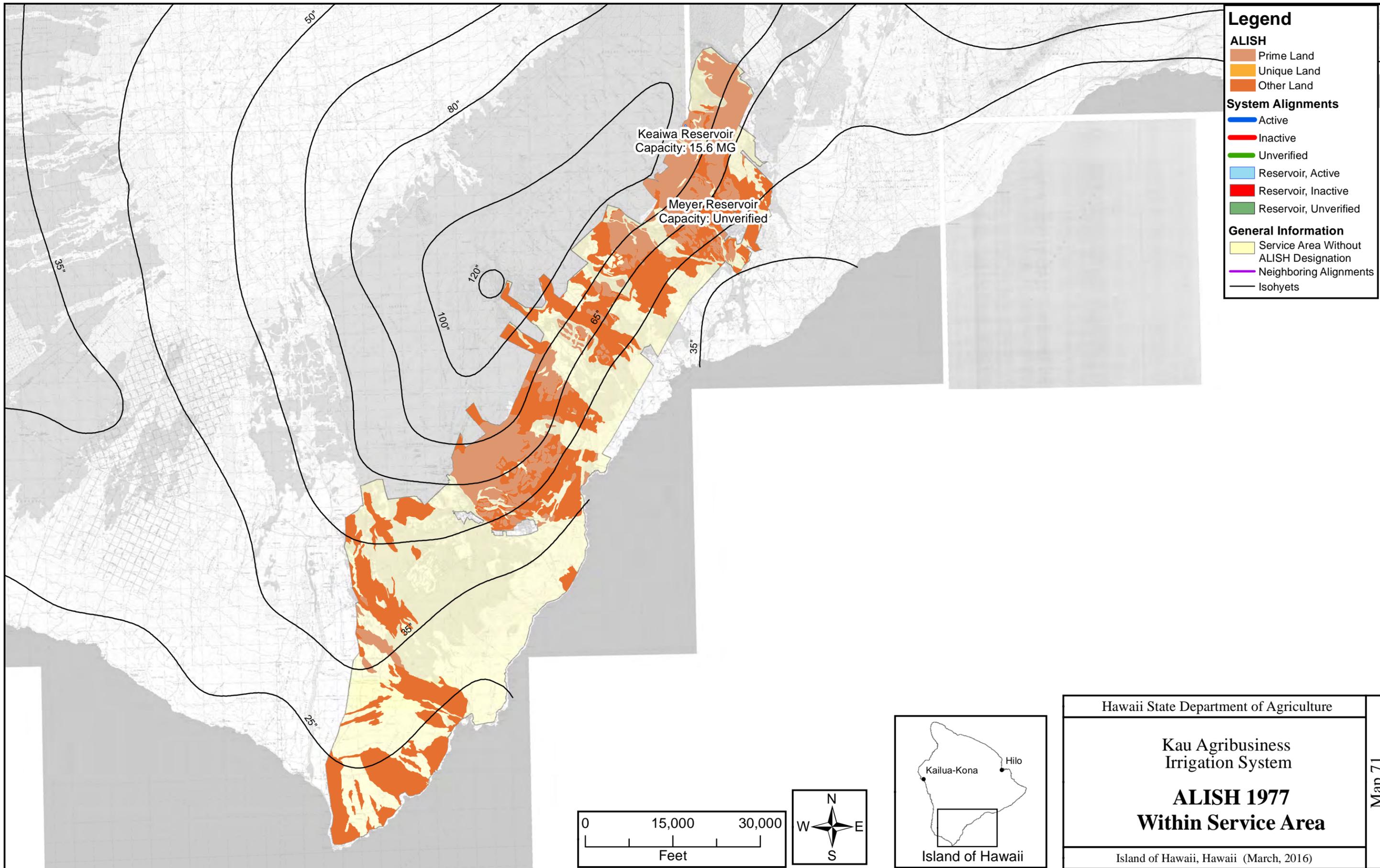
Hawaii State Department of Agriculture

**Kau Agribusiness
Irrigation System**

2014-2015 Land Use

Island of Hawaii, Hawaii (March, 2016)

Map 70



Legend

ALISH

- Prime Land
- Unique Land
- Other Land

System Alignments

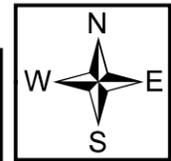
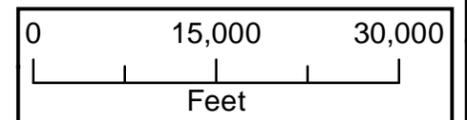
- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without ALISH Designation
- Neighboring Alignments
- Isohyets

Keaiwa Reservoir
Capacity: 15.6 MG

Meyer Reservoir
Capacity: Unverified



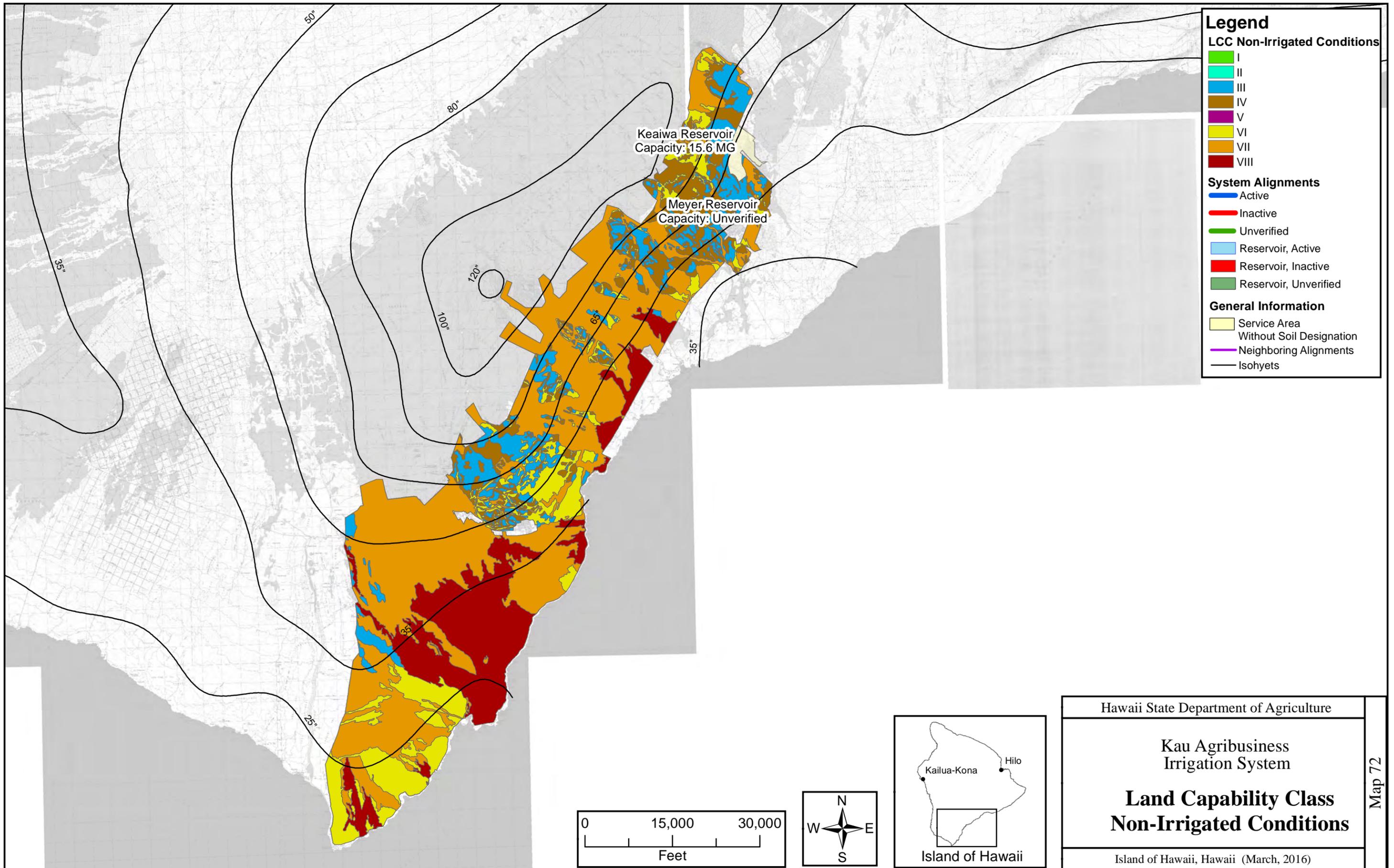
Hawaii State Department of Agriculture

Kau Agribusiness
Irrigation System

ALISH 1977
Within Service Area

Island of Hawaii, Hawaii (March, 2016)

Map 71



Legend

LCC Non-Irrigated Conditions

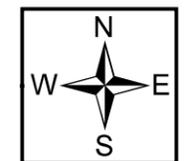
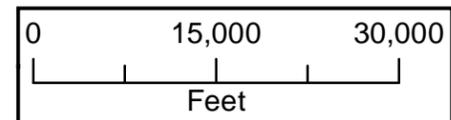
- I
- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets



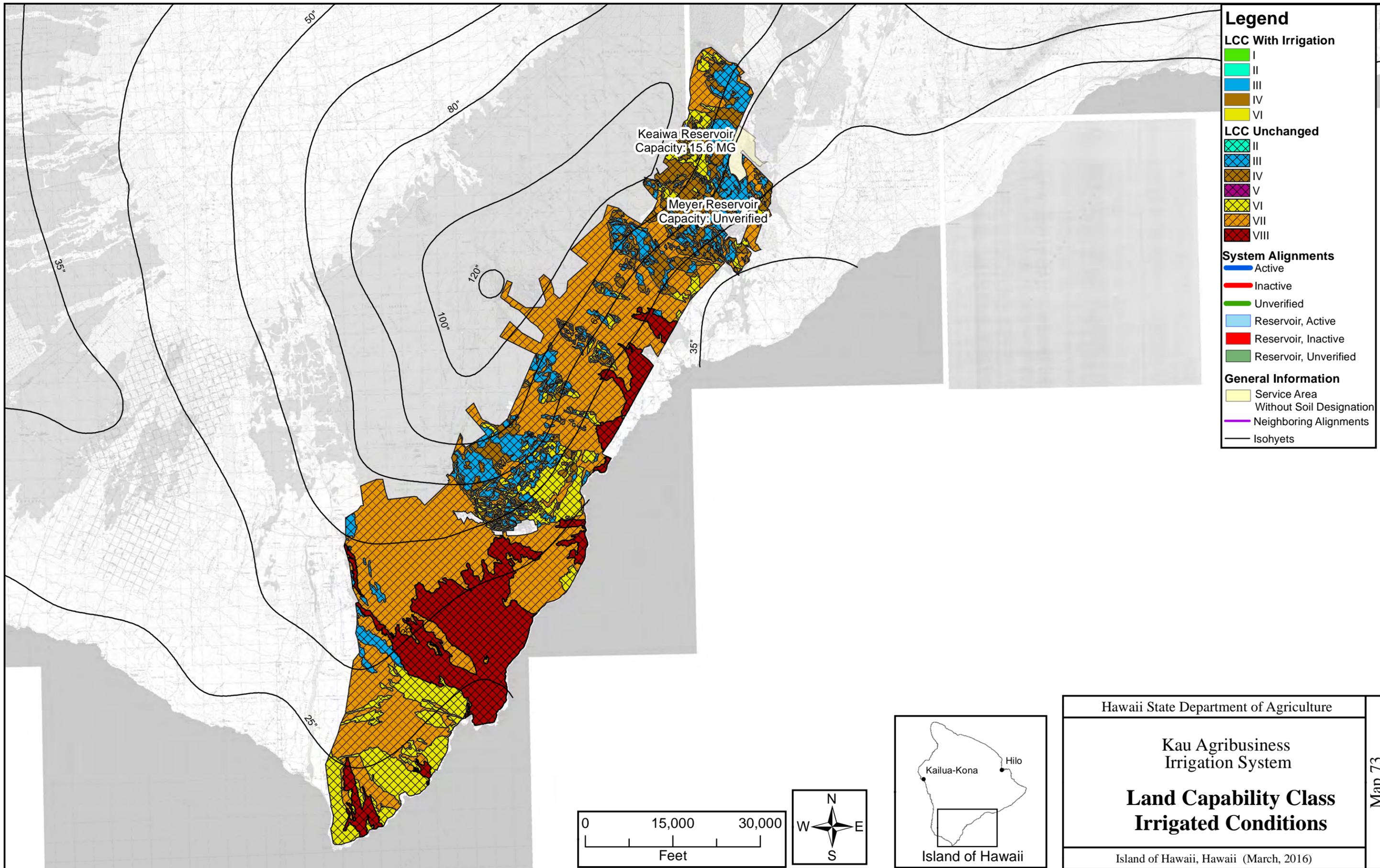
Hawaii State Department of Agriculture

Kau Agribusiness Irrigation System

Land Capability Class Non-Irrigated Conditions

Island of Hawaii, Hawaii (March, 2016)

Map 72



Legend

LCC With Irrigation

- I
- II
- III
- IV
- VI

LCC Unchanged

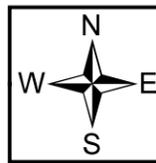
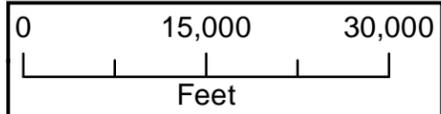
- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets



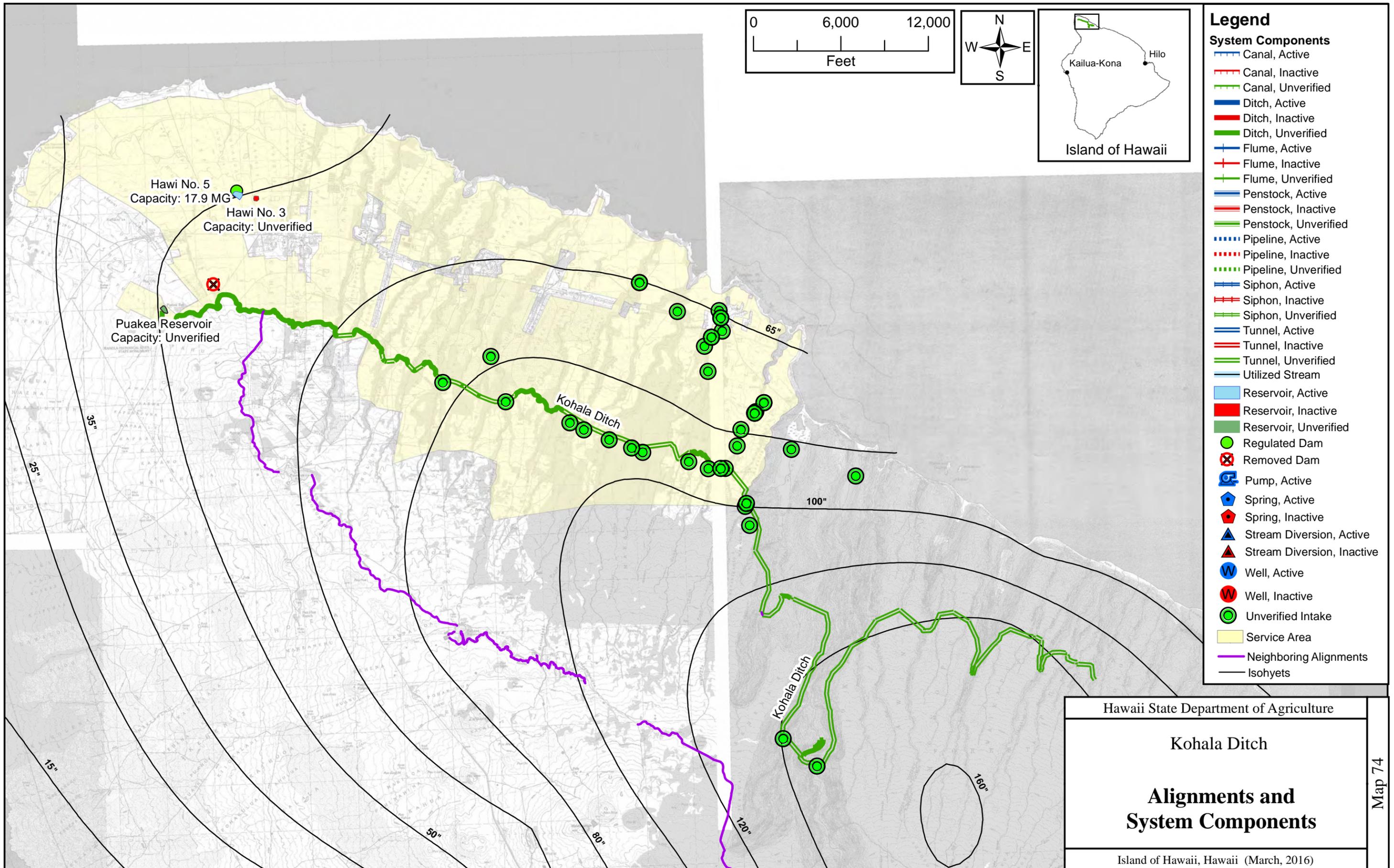
Hawaii State Department of Agriculture

Kau Agribusiness Irrigation System

Land Capability Class Irrigated Conditions

Island of Hawaii, Hawaii (March, 2016)

Map 73



NAD 83, UTM Zone 4N

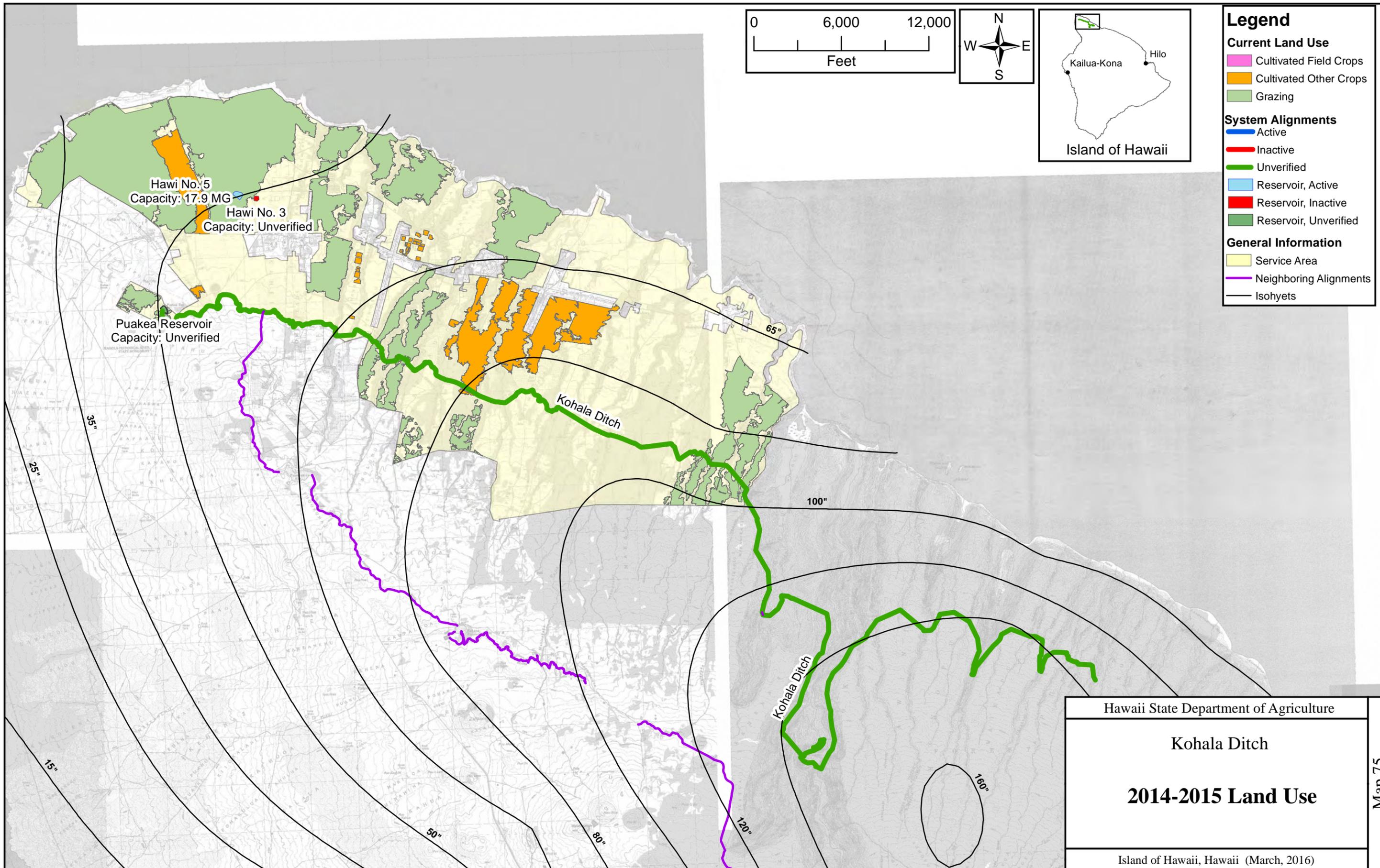
Hawaii State Department of Agriculture

Kohala Ditch

Alignments and System Components

Island of Hawaii, Hawaii (March, 2016)

Map 74



Hawaii State Department of Agriculture

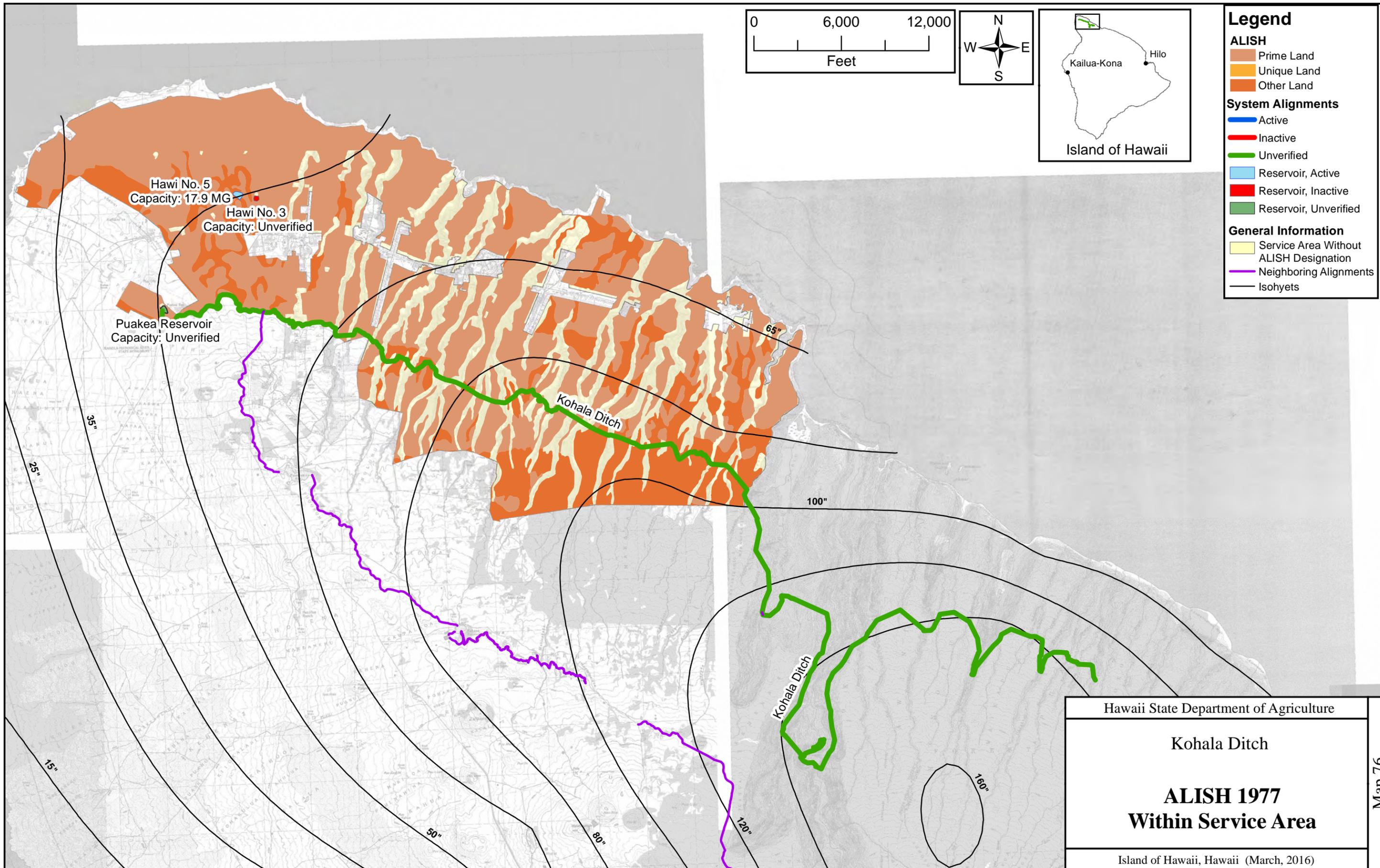
Kohala Ditch

2014-2015 Land Use

Island of Hawaii, Hawaii (March, 2016)

Map 75

NAD 83, UTM Zone 4N



Legend

ALISH

- Prime Land
- Unique Land
- Other Land

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without ALISH Designation
- Neighboring Alignments
- Isohyets

Hawaii State Department of Agriculture

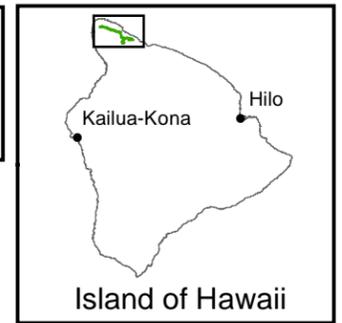
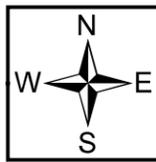
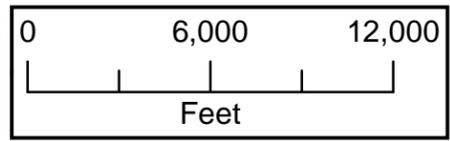
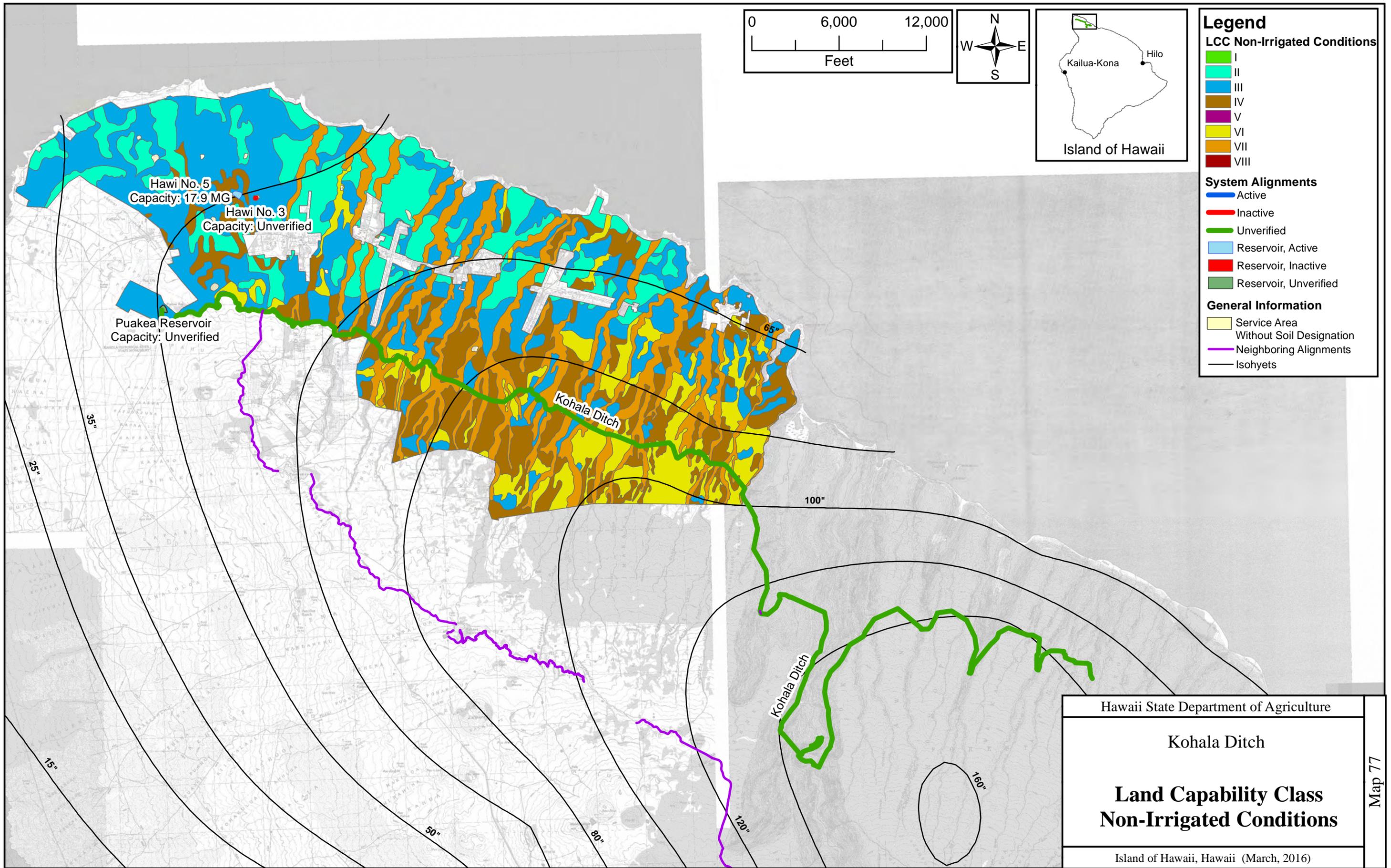
Kohala Ditch

ALISH 1977

Within Service Area

Island of Hawaii, Hawaii (March, 2016)

Map 76



Legend

LCC Non-Irrigated Conditions

- I
- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets

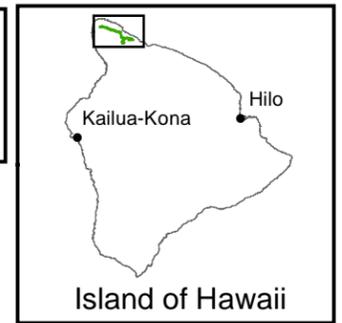
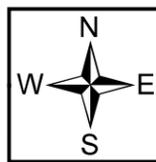
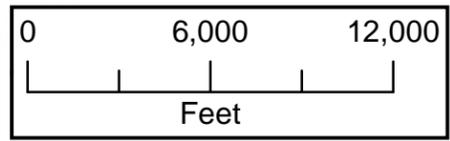
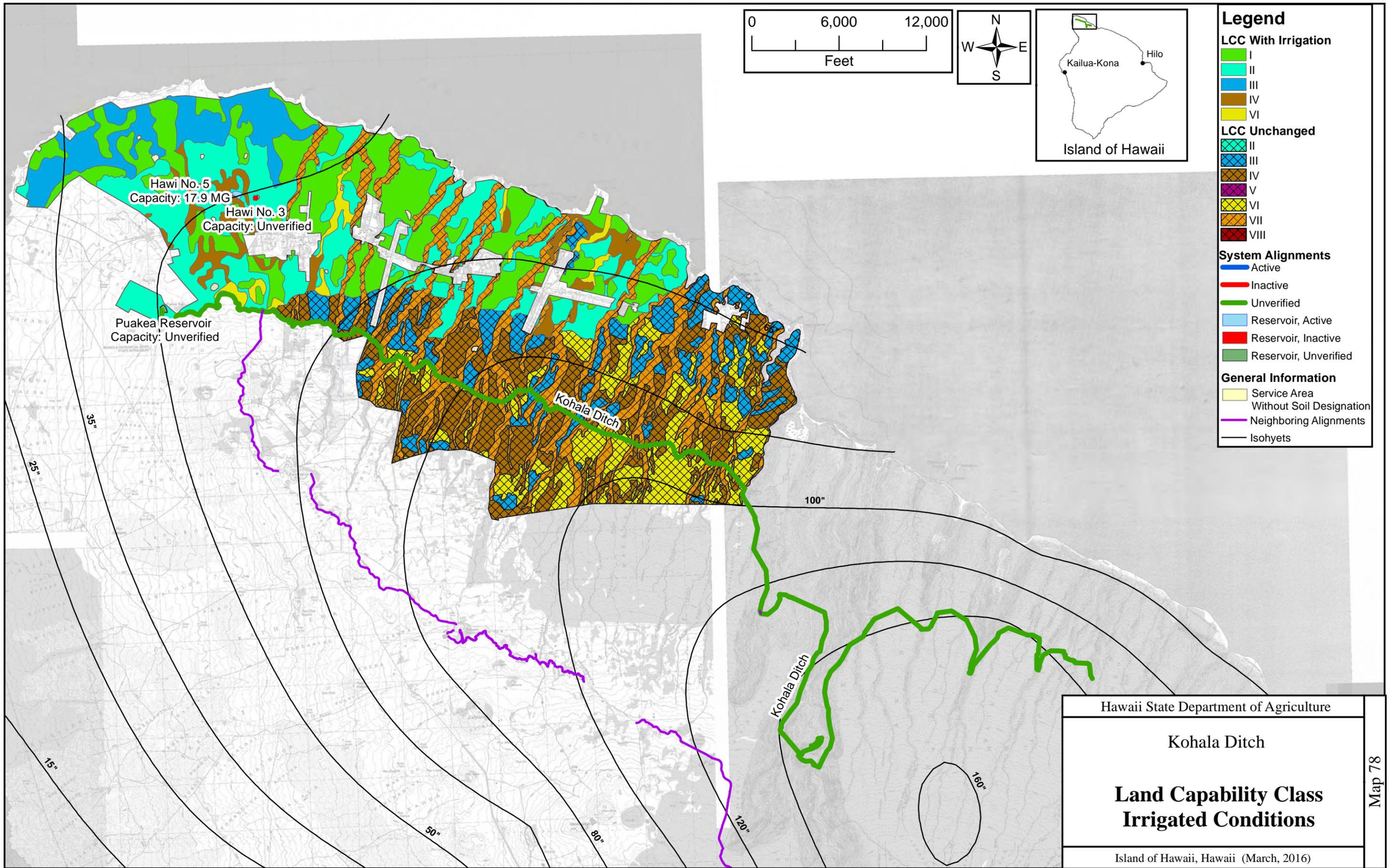
Hawaii State Department of Agriculture

Kohala Ditch

**Land Capability Class
Non-Irrigated Conditions**

Island of Hawaii, Hawaii (March, 2016)

Map 77



Legend

LCC With Irrigation

- I
- II
- III
- IV
- VI

LCC Unchanged

- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets

Hawaii State Department of Agriculture

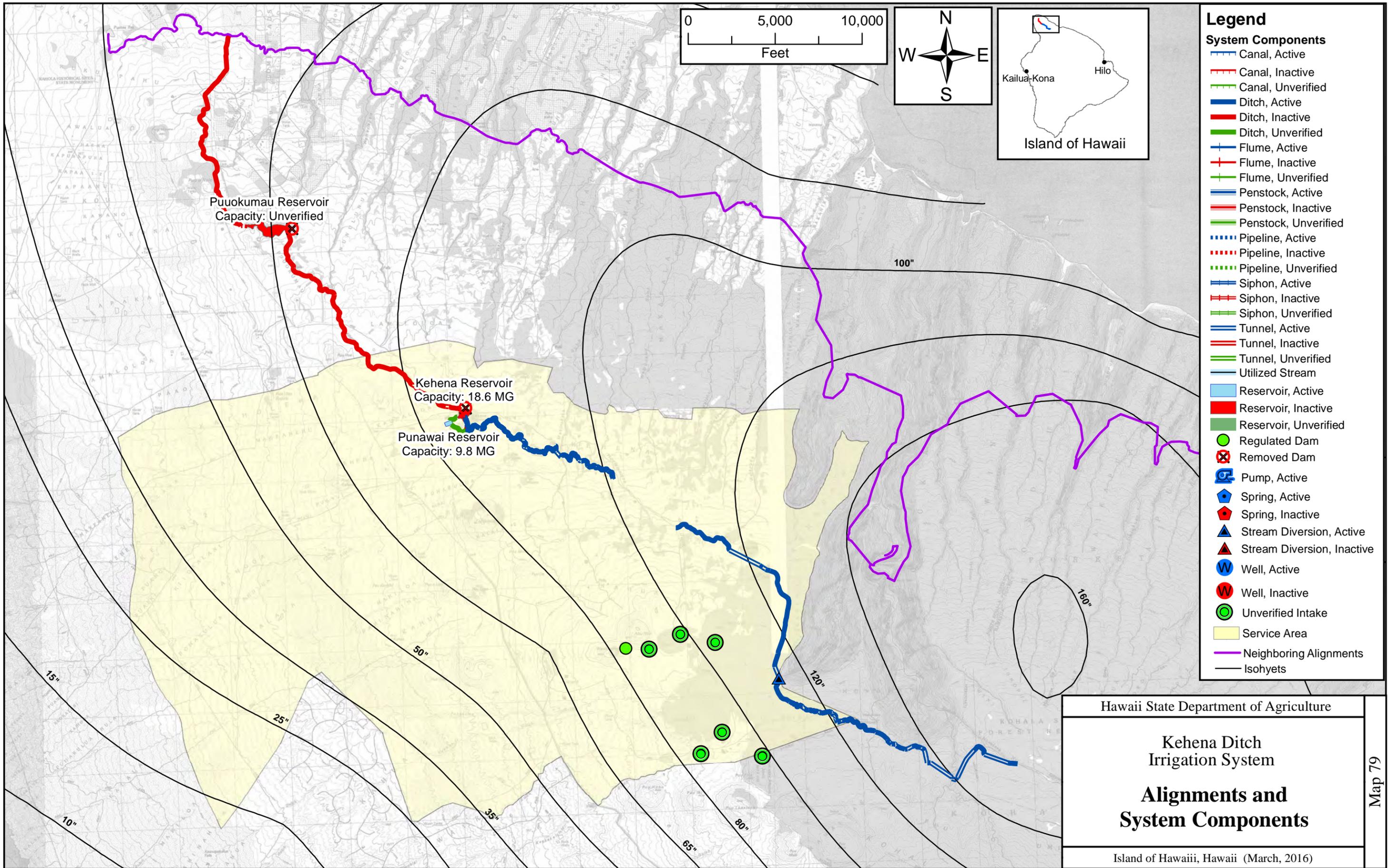
Kohala Ditch

**Land Capability Class
Irrigated Conditions**

Island of Hawaii, Hawaii (March, 2016)

Map 78

NAD 83, UTM Zone 4N



- Legend**
- System Components**
- Canal, Active
 - Canal, Inactive
 - Canal, Unverified
 - Ditch, Active
 - Ditch, Inactive
 - Ditch, Unverified
 - Flume, Active
 - Flume, Inactive
 - Flume, Unverified
 - Penstock, Active
 - Penstock, Inactive
 - Penstock, Unverified
 - Pipeline, Active
 - Pipeline, Inactive
 - Pipeline, Unverified
 - Siphon, Active
 - Siphon, Inactive
 - Siphon, Unverified
 - Tunnel, Active
 - Tunnel, Inactive
 - Tunnel, Unverified
 - Utilized Stream
 - Reservoir, Active
 - Reservoir, Inactive
 - Reservoir, Unverified
 - Regulated Dam
 - Removed Dam
 - Pump, Active
 - Spring, Active
 - Spring, Inactive
 - Stream Diversion, Active
 - Stream Diversion, Inactive
 - Well, Active
 - Well, Inactive
 - Unverified Intake
 - Service Area
 - Neighboring Alignments
 - Isohyets

Hawaii State Department of Agriculture

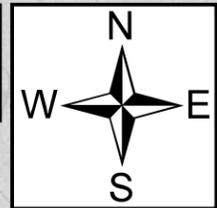
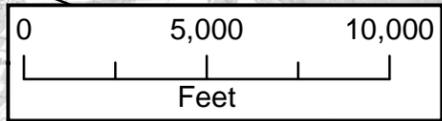
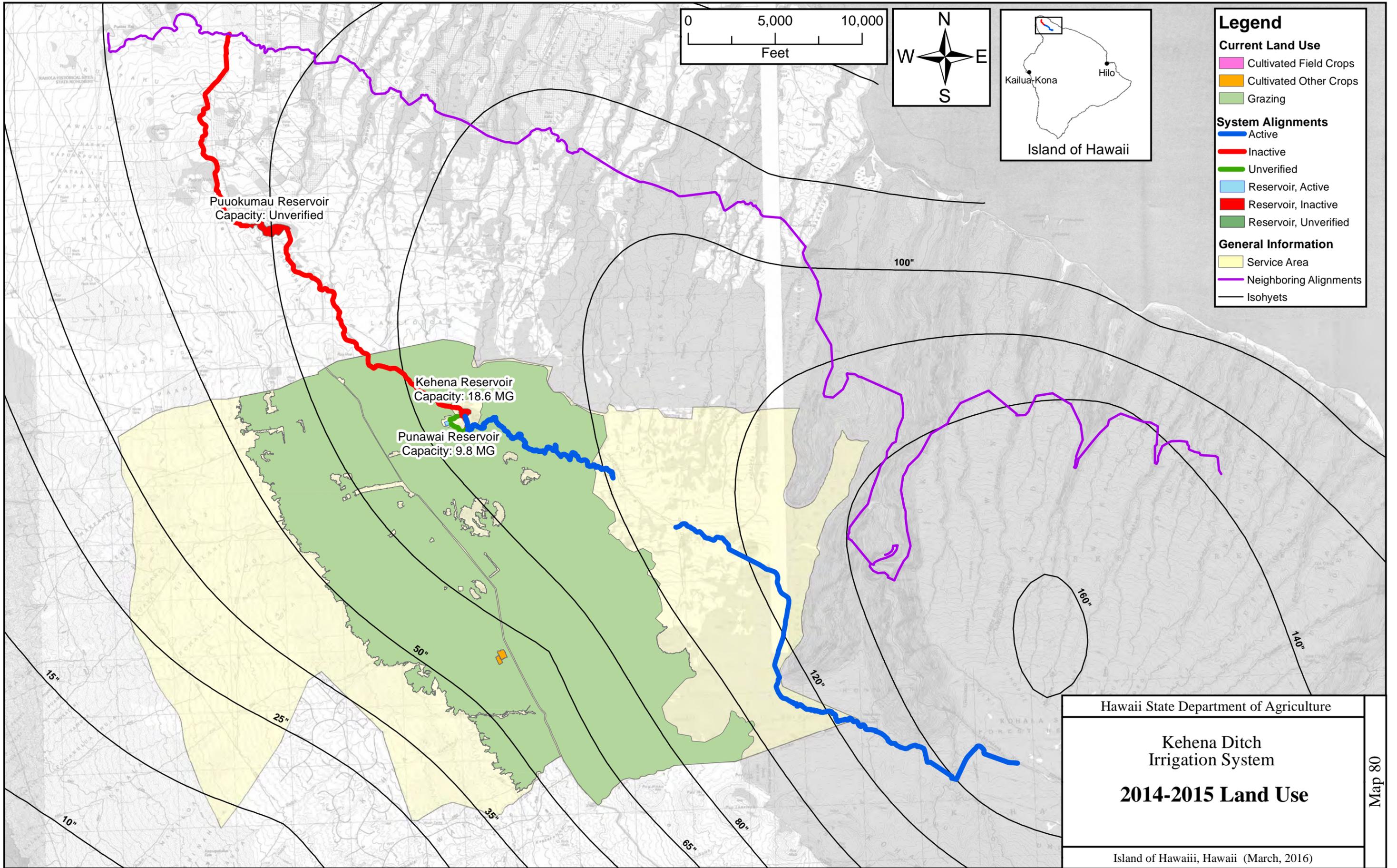
**Kehena Ditch
Irrigation System**

**Alignments and
System Components**

Island of Hawaii, Hawaii (March, 2016)

Map 79

NAD 83, UTM Zone 4N



Legend

Current Land Use

- Cultivated Field Crops
- Cultivated Other Crops
- Grazing

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area
- Neighboring Alignments
- Isohyets

Hawaii State Department of Agriculture

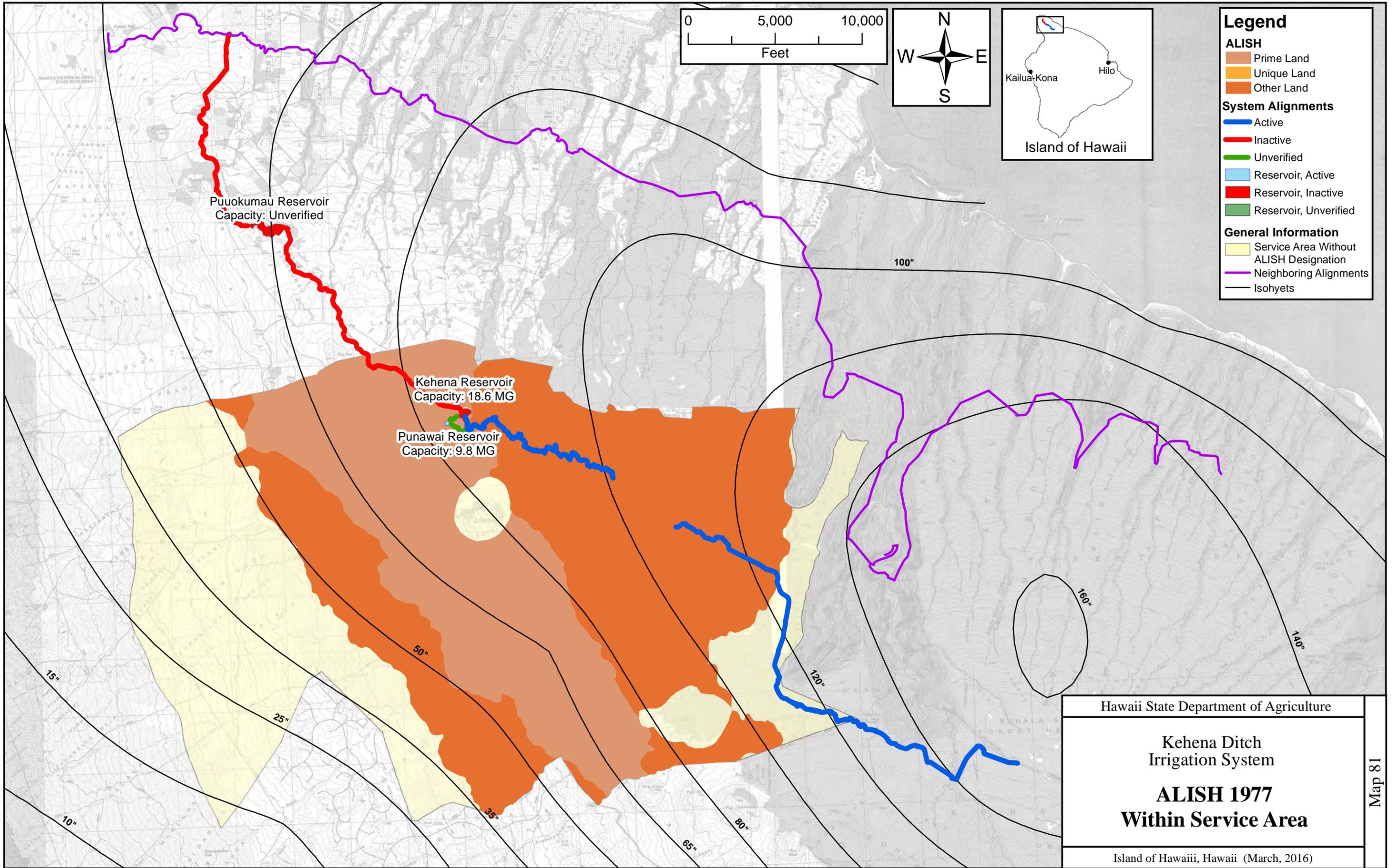
**Kehena Ditch
Irrigation System**

2014-2015 Land Use

Island of Hawaii, Hawaii (March, 2016)

Map 80

NAD 83, UTM Zone 4N



Legend

ALISH

- Prime Land
- Unique Land
- Other Land

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without ALISH Designation
- Neighboring Alignments
- Isohyets

Hawaii State Department of Agriculture

Kehena Ditch Irrigation System

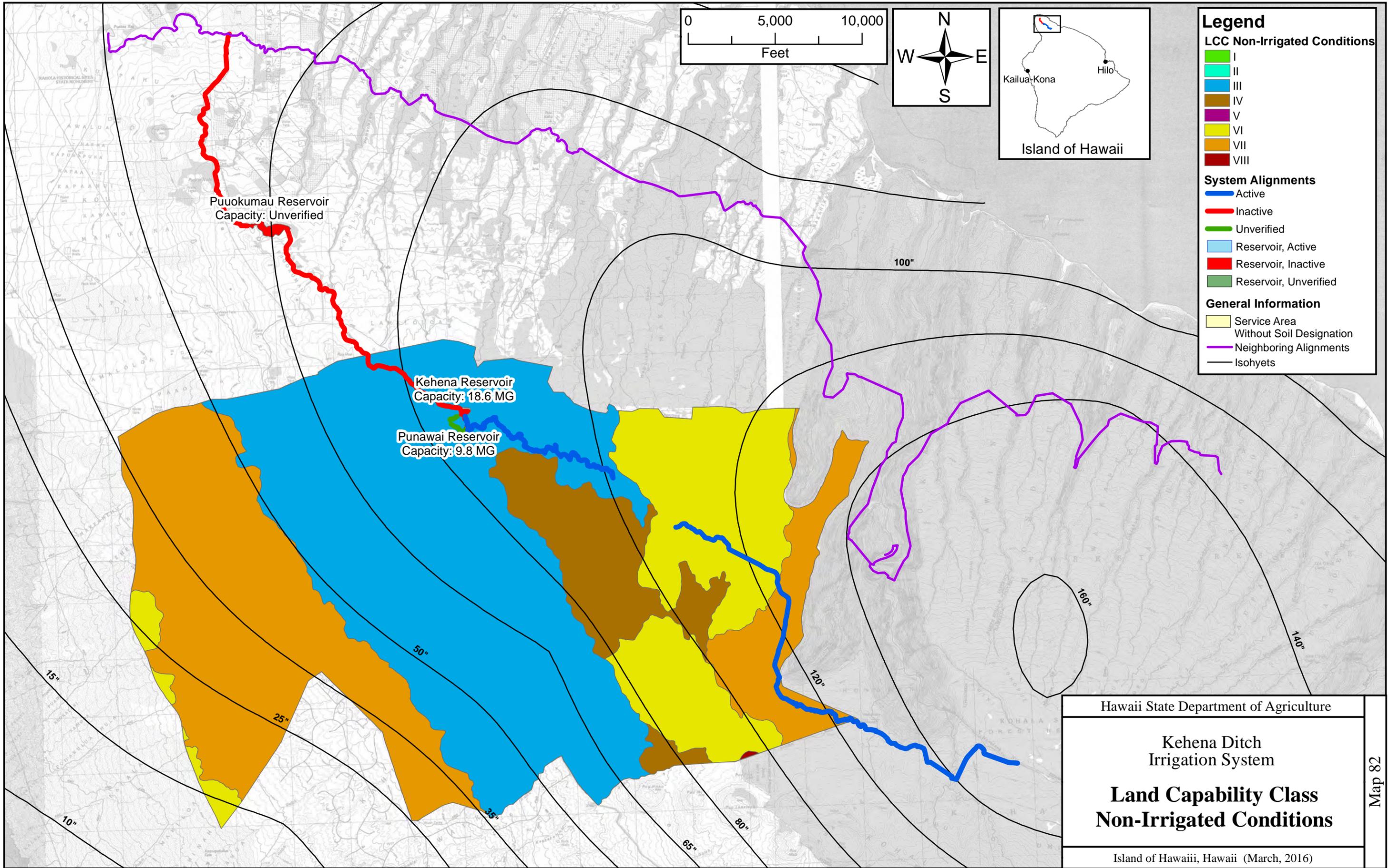
ALISH 1977

Within Service Area

Island of Hawaii, Hawaii (March, 2016)

Map 81

NAD 83, UTM Zone 4N



Legend

LCC Non-Irrigated Conditions

- I
- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets

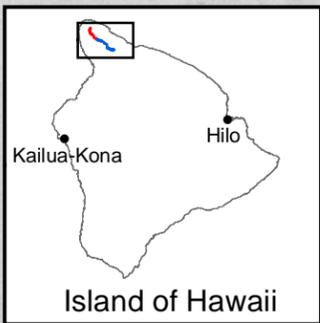
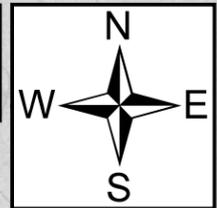
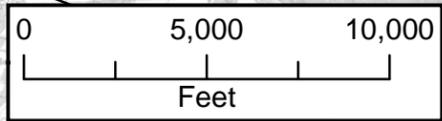
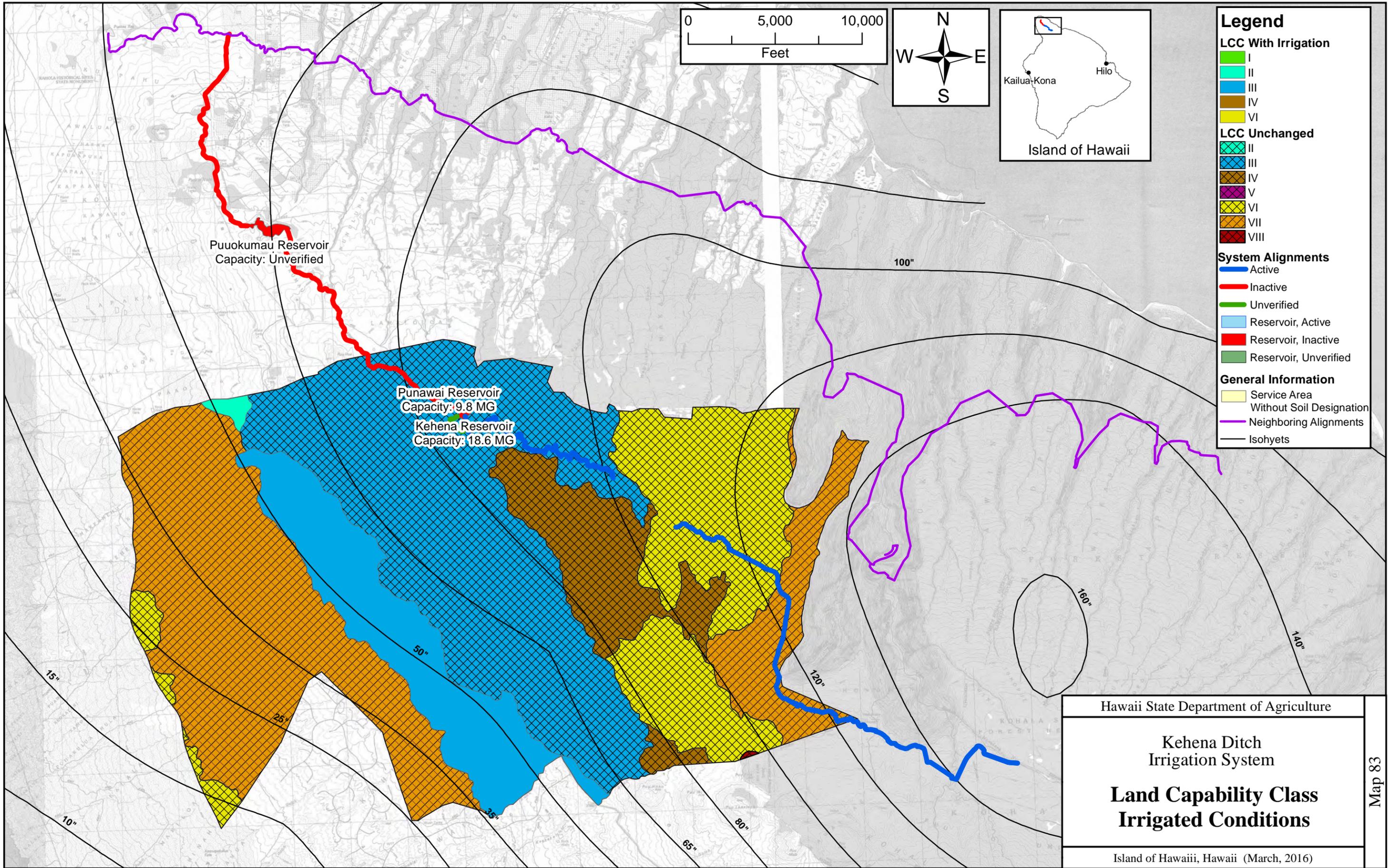
Hawaii State Department of Agriculture

Kehena Ditch Irrigation System

Land Capability Class Non-Irrigated Conditions

Island of Hawaii, Hawaii (March, 2016)

Map 82



Legend

LCC With Irrigation

- I
- II
- III
- IV
- VI

LCC Unchanged

- II
- III
- IV
- V
- VI
- VII
- VIII

System Alignments

- Active
- Inactive
- Unverified
- Reservoir, Active
- Reservoir, Inactive
- Reservoir, Unverified

General Information

- Service Area Without Soil Designation
- Neighboring Alignments
- Isohyets

Hawaii State Department of Agriculture

Kehena Ditch
Irrigation System

**Land Capability Class
Irrigated Conditions**

Island of Hawaii, Hawaii (March, 2016)

Map 83

NAD 83, UTM Zone 4N