

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813

October 13, 2023

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Authorize the Approval and Issuance of Dam Safety Permit P90
to Remove the Hawi No. 5 Reservoir (HA-0051),
North Kohala, Hawaii, TMK (3) 5-5-007:005 & 5-5-007:010

The Engineering Division (Division) recommends approval of the subject Dam Safety permit application and authorization for the Chairperson and Department to issue the Dam Safety Permit No. P90 with stipulated terms and conditions for the Hawi No. 5 Reservoir breach project, pursuant to Hawaii Revised Statutes Chapter 179D and current Administrative Rules.

APPLICANTS and LAND OWNERS

Hualua Farm LLC
P.O. Box 970998
Waipahu, HI 96797

State of Hawaii, Department of Agriculture
1428 South King Street
Honolulu, HI 96814

SUMMARY OF REQUEST

Application for a Dam Safety Permit to breach the Hawi No. 5 Reservoir (HA-0051), which will de-regulate the dam and remove it from DLNR jurisdiction. (See Exhibit 1.)

LOCATION

Hawi, North Kohala, Hawaii, TMK: (3) 5-5-007:005 & 5-5-007:010. (See Exhibit 2 for maps.)

BACKGROUND

Hawi 5 Reservoir is located on two parcels north of Akone Pule Highway in North Kohala. The dam is a small earthen embankment built around 1930 and was historically used to irrigate ranch land. The reservoir has not been in use since 1975 when the operator, the Kohala Sugar Plantation, closed.

Approximately sixty percent of the reservoir is located on State of Hawaii Department of Agriculture land (3) 5-5-007:005, and forty percent is privately owned by Hualua Farm LLC, (3) 5-5-007:010. The dam resides in the Kahei, Haulua Ahupuaa.

The reservoir is an irregular oval-shaped unlined basin, approximately 450 ft. by 850 ft., with an area of approximately 6 acres. The reservoir can store 55 acre-feet or 17.9 million gallons of water. The reservoir is "off-stream" and was previously fed by a 35-acre upstream watershed (historically used for ranching) via the now nonfunctional Kohala concrete irrigation ditch. Additional information on the physical characteristics of the dam is provided in the dam safety overview summary in Exhibit 9.

In 2014, DLNR ordered the owner to drain the reservoir because of serious deficiencies, putting the reservoir at risk of failure, and the reservoir has been kept empty since then. Without regular inflow from the Kohala Ditch source, no water is stored in the reservoir.

The reservoir is classified as a “High Hazard” dam by the DLNR. The reservoir has been inspected by DLNR multiple times and categorized the condition of the dam as “POOR” based on dam safety deficiencies. The recommendations have been to remove the dam, which the dam owners are proposing now.

DESCRIPTION

The owners propose to remove the Hawi No. 5 Reservoir structure by grading a channel in the main earthen embankment, demolishing its spillway appurtenances. The breach will consist of a 15-foot-wide trapezoidal channel floor with a 4% slope. Slopes on either side of the channel will be 2H:1V, and the channel will be lined with riprap (rocks). (See Exhibit 3 for plans.) The existing concrete spillway pipe and outlet works will be removed and excavated material will be placed onsite to ensure positive drainage without ponding. Since the inlet works are already nonfunctional and will not be restored, no water from that source will feed the basin and no water is proposed to remain stored in the reservoir.

CHAPTER 343 - HRS – ENVIRONMENTAL ASSESSMENT

The State of Hawaii, Department of Agriculture conducted an HRS-343 environmental assessment evaluation of the project and concluded the proposed action is exempt from the preparation of an environment assessment pursuant to Exemption Class 8 on their Exemption list dated March 8, 2000 and will have minimal or no significant impact on the environment. (See Exhibit 4.)

HAWAII REVISED STATUTES CHAPTER 6E-8 HISTORIC PRESERVATION REVIEW

The Division consulted with the State Historic Preservation Division (SHPD) for compliance with Chapter 6E-8 requirements. SHPD reviewed the proposed project, designated as SHPD Project No. 2023PR00393, Hawi No. 5 Reservoir Dam Breach. SHPD concluded “...the AIS (Archaeological Inventory Survey) and RLS (Reconnaissance Level Survey) have been accepted and the project initiation may continue.” (See Exhibit 5 for SHPD’s letter).

AGENCY CONSULTATION

The Division distributed notices to various agencies for their comments on this application. A summary of their responses is included in Exhibit 6. The Commission on Water Resource Management (CWRM) confirmed the proposed work will not impact any natural waterways in the surrounding area.

KA PA’AKAI ANALYSIS

In consultation with Ahu Moku, the Division conducted a Ka Pa’akai Pre-Assessment analysis of the proposed project and determined the project will not impact Native

Hawaiian traditional cultural resources or practices. Aha Moku confirmed a more detailed DLNR Ka Pa'akai Consultation Assessment is not required. (See Exhibit 7.)

REMARKS

The applicant/owner, Hualua Farm LLC, completed a basis of design, plans, and an archaeological inventory survey, and requests approval of a dam safety permit. The Division has reviewed the documents and concluded it is sufficient for its intended purposes. Staff recommends approval of this permit application with the Dam Safety General Permit Conditions. (See Exhibit 8.)

RECOMMENDATION

1. Authorize the approval and issuance of Dam Safety Permit No. P90 for the removal of the Hawi No. 5 Reservoir (HA-0051).
2. Authorize the Chairperson to issue a Dam Safety Permit for the Hawi No. 5 Reservoir (HA-0051), subject to such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.
3. Authorize the Department to oversee performance of the permitted work and take appropriate action including, but not limited to, amending the permit, issuance of fines and/or revocation of the permit, if necessary.

Respectfully submitted,



CARTY S. CHANG
Chief Engineer

APPROVED FOR SUBMITTAL:



DAWN N.S. CHANG, Chairperson
Board of Land and Natural Resources

- Exhibits:
1. Owner's Dam Safety permit application form
 2. Location map
 3. Construction drawing pages
 4. Chapter 343-HRS declaration of exemption
 5. HRS Chapter 6E-8 Historic Preservation review
 6. Agency consultation summary
 7. Ka Pa'akai Pre-Assessment Form
 8. General permit conditions
 9. Hawi No. 5 Reservoir dam safety overview summary

**APPLICATION FOR APPROVAL OF PLANS AND SPECIFICATIONS FOR THE
CONSTRUCTION, ENLARGEMENT, REPAIR, ALTERATION, OR REMOVAL OF
DAMS IN THE STATE OF HAWAII**

Introduction

The Department of Land and Natural Resources (DLNR) Engineering Division administers the State Dam and Reservoir Program as authorized under Hawaii Revised Statutes Chapter 179D (HRS) and Hawaii Administrative Rules Title 13, Department of Land and Natural Resources, Sub-Title 7 – Water and Land Development, Chapter 190.1 – Dams and Reservoirs, (HAR). Requirements for obtaining an approval for the construction, enlargement, repair, alteration, or removal of dams and reservoirs are derived from the (HRS) and Hawaii Administrative Rules (HAR) and the steps for obtaining a dam safety permit are outlined in this application form. Any omissions or errors in this document do not relieve the Applicant from complying with applicable sections of the HAR.

All applications should be addressed to:

Chairperson, Board of Land and Natural Resources
Department of Land and Natural Resources
Engineering Division
P.O. Box 373
Honolulu, Hawaii 96809
Telephone: (808) 587-0230

Instructions

An Applicant is encouraged to contact the Department to if they are interested in a pre-application meeting. The pre-application meeting allows for discussion of the Applicants conceptual plan and the requirements of the Board for specific applications and gives the Applicant an opportunity to ask questions.

A separate project dam safety permit application form shall be used for each dam structure. All information on the application form should be typed or printed. If a specific item does not apply it should be marked NA (not applicable). All owners of the facility shall sign an “Owners Signature” page for this site and project.

The Department shall accept and take action on applications only if the fee for the application is paid. The fee is based upon two percent of the total project costs associated with the design and construction of the dam and appurtenant works as in accordance with Chapter 13-190.1-50.

Review steps:

1. Administrative completeness review
2. Permit technical review
3. Approval by Board of Land and Natural Resources
4. Issuance of Permit

Any questions pertaining to completion of this form should be directed to the Engineering Division, Dam Safety Program at (808) 587-0254.

Hawaii Dam and Reservoir Safety Program DAM SAFETY PERMIT

Dam Name: Hawi No. 5 Reservoir

Project Type: Removal & Decommissioning

DAM SAFETY PERMIT APPLICATION FORM

Fill in the following information for the specified dam safety permit project. One application shall be used for each dam or reservoir structure.

Project Information	<i>Application Date</i>	February 22, 2023
	<i>Applicant Name (Attachment 1)</i>	Terin Gloor
Dam Name	Hawi No. 5 Reservoir	
Dam ID No. (State) (if New Dam enter N/A)	State HA-0051 & NID HI00051	
Type of Project (check one)	<input type="checkbox"/> New Construction <input type="checkbox"/> Improvement (repair/rehabilitation/alteration) <input type="checkbox"/> Reduction (alteration to below regulatory jurisdiction) <input checked="" type="checkbox"/> Removal (breach, no pond)	
Dam/Reservoir Location (City)	Hawi	
Dam/Reservoir Location (Latitude/Longitude)	20.24702N / 155.84376 W	
TMK(s)	(3) 5-5-007:005 & 5-5-007:010	
Island/County	Hawaii / Hawaii	
State Land Use District (check all applicable)	<input checked="" type="checkbox"/> Agriculture <input type="checkbox"/> Rural <input type="checkbox"/> Urban <input type="checkbox"/> Conservation	

Application Package	Included (Y/N)
1. Dam Safety Permit Application Form (with each owner's signature page) [Ref. 13-190.1-20(d)(1)]	Y
2. Design Report(s) [Ref. 13-190.1-20(d)(2)]	Y
3. Documentation for compliance with Chapter 343 Environmental Review	Y
4. Documentation for compliance with State Historic Preservation Division (SHPD) See SHPD website for HRS 6E Intake form to be submitted with backup documentation and determination. Government entities shall complete the 6E-08 review. (http://dlnr.hawaii.gov/shpd/review-compliance/forms/)	Y
5. Construction Plans (2 sets) [Ref. 13-190.1-20(d)(3)]	Y
6. Construction Specifications (2 sets) [Ref. 13-190.1-20(d)(3)]	Y
7. Construction Quality Assurance Plan [Ref. 13-190.1-20(d)(4)]	N
8. Detailed Cost Estimate [Ref. 13-190.1-20(d)(5)]	Y
9. Filing fee calculation [Ref. 13-190.1-20(d)(6)]	Y
10. Filing fee (check) [Ref. 13-190.1-20(d)(6)]	Y
11. Other Supporting Documents	N
12. Electronic copy of all of the above on CD/DVD/USB flash drive/other	Y

Hawaii Dam and Reservoir Safety Program DAM SAFETY PERMIT

Dam Name: Hawi No. 5 Reservoir

Project Type: Removal & Decommissioning

Technical Information	
Drainage Area (sq. miles/acres)	35 acres
Type of Structure (Earthen/Concrete, etc.)	Earthen
Size Classification of Dam	Small
Hazard Classification	High Hazard
Purpose of Structure (Water supply, irrigation, recreation, real estate development, etc...)	Irrigation
Maximum Capacity (existing volume)	55 acre feet (currently dry)
Maximum Capacity (revised volume after project completed)	0.0 acre feet
Year completed/last modified	circa 1930

Description of Work to be performed (describe construction work to be done on dam and reservoir facility)
<p>Project consists of mass grading to breach the manmade earth berm of the reservoir by excavating and removing a portion of the embankment. The remaining section will be trapezoidal with 2:1 side slopes and a bottom width of 15". Geotextile fabric and riprap will be placed for scour protection.</p>

Anticipated effect of proposed structure on natural environment:
<p>Due to the fact that the dam has been empty and not in use for many years, there are no anticipated impacts on the natural environment by breaching the berm.</p>

List all parties who share ownership of the parcels where the dam and reservoir are located and identify their interest in the property. All owners herein listed below shall sign **Attachment 2 – Owner Signature** and concur with the work proposed within this application by the applicant.

Owner Information	
<u>Owner 1 Name:</u> Company:	Hualua Farm LLC (private owner of TMK:010 and lessee of TMK:005 under GLS-3150)
<u>Owner 2 Name:</u> Company:	Hawaii Dept. of Agriculture: owner of 50% of dam and 60% reservoir
<u>Owner 3 Name:</u> Company:	
<u>Owner 4 Name:</u> Company:	

TMK: (3) 5-5-007:010

TMK: (3) 5-5-007:005

TMK:

TMK:

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: Hawi No. 5 Reservoir


Project Type: Removal & Decommissioning

Attachment 1

APPLICANT CONTACT INFORMATION

Applicant Information (primary contact for Dam Safety Permit process)	
Applicant Contact Name	Terin Gloor
Firm/Company	Green Aina Planning & Engineering LLC
Mailing Address	PO Box 978, Pepeekeo, HI 96783
Telephone	808-756-7725
Fax	
Email	terin@greenaina.com

I, Terin Gloor, the applicant, hereby certify that the information herein is
(print name)
true and factual to the best of my knowledge. Signing below indicates that the applicant understands that, if the permit requested is granted by the Board of Land and Natural Resources, the proposed work is to be initiated and completed within five (5) years of the approval date, unless specifically permitted in the approved permit terms and conditions.



Applicant Signature

Date: Feb. 13, 2023

Engineer

Applicant Title

ENGINEER CONTACT INFORMATION

Licensed Engineer Contact Information	
Registered Hawaii Professional Engineer	Terin Gloor, PE
Registration No.	12235-C
Firm/Company	Green Aina Planning & Engineering, LLC
Mailing Address	PO Box 978, Pepeekeo, HI 96783
Telephone	808-756-7725
Mobile/Other	
Fax	
Email	terin@greenaina.com

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: Hawi No. 5 Reservoir

Project Type: Removal & Decommissioning

Attachment 2

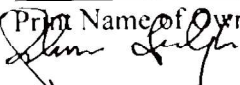
OWNER INFORMATION/SIGNATURE

A separate signature page is required for each and all owners of the dam and reservoir for the subject project. The Owner herein listed below concurs with the work proposed within this application by the applicant and by signing hereto, the owner of the land extends to the Board of Land and Natural Resources, and its designated representatives, a right-of-entry onto the project site to conduct any investigations or inspections required in compliance with the provisions of Chapter 13-190.1, Hawaii Administrative Rules. (Submit copies of this sheet for each owner)

Owner Information	
Owner Contact Name	Bahman Sadeghi
Firm/Company	Hualua Farm LLC
Mailing Address	11 Railroad Ave. Hilo HI 96720
Telephone	949-678-4726
Mobile/Other	
Fax	
Email	bahman_sadeghi@mgdhawaii.com
TMK for dam/reservoir property	(3) 5-5-007:010

Owner Signature

BAHMAN SADEGHI, Manager
Print Name of Owner


Signature of Owner

2/13/23
Date

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: Hawi No. 5 Reservoir

Project Type: Removal & Decommissioning

Attachment 2

OWNER INFORMATION/SIGNATURE

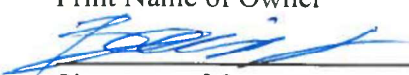
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Owner Information	
Owner Contact Name	Brian Kau
Firm/Company	State of Hawaii Department of Agriculture: Agricultural Resource Management Division
Mailing Address	1428 S. King Street, Honolulu, 96814
Telephone	(808) 973-9473
Mobile/Other	(808) 973-9473
Fax	(808) 973-9467
Email	brian.k.kau@hawaii.gov
TMK for dam/reservoir property	(3) 5-5-007:005

Owner Signature

Brian Kau

Print Name of Owner


Signature of Owner

2/22/23

Date

**Hawaii Dam and Reservoir Safety Program
DAM SAFETY PERMIT**

Dam Name: Hawi No. 5 Reservoir

Project Type: Removal & Decommissioning

Attachment 3

FEE REQUIREMENTS/FILING FEE CALCULATION

Payment of the filing fee is required pursuant to HRS §179D-6 and §13-190.1-50 for all applications. The Department shall accept and take action on the following applications and filings only if the fee shown for the application or filing is paid at the time the application or filing is submitted. The fee is based upon two percent of the total project costs associated with construction of the dam and appurtenant works integral to the design and safe operation of the dam.

The applicant or owner shall submit with the application for construction, enlargement, alteration, repair, or removal a fee calculation sheet and the application fee in the amount equal to two per cent of the estimated cost of construction including engineering costs. The estimated cost of the construction, enlargement, alteration, repair, or removal shall include the cost of all labor and materials entering into the construction of the dam and appurtenant works or reservoir, the cost of preliminary investigations and surveys, the cost of the construction plans properly chargeable to the cost of the dam or reservoir, and any and all other items entering directly into the cost of the construction, enlargement, alteration, repair or removal. The costs of right-of-way, detached powerhouses, electrical generating machinery, and roads and railroads affording access to the dam or reservoir shall not be included among the items used in the determination of cost.

An application shall not be considered by the department until the application fee is received. In the event the actual cost exceeds the estimated cost by more than 15 percent, a further fee shall be required by the board before final approval and shall be two per cent of the amount the actual cost exceeded the estimated cost of the construction, enlargement, alteration, repair, or removal. No further fee shall be required, if such fee is to be computed at less than twenty dollars (\$20).

FILING FEE CALCULATION

Engineering costs (studies, plans, specifications, etc...)	\$9000.00
Estimated Construction cost	\$95,100.00
Total estimated costs	\$104,100.00
Initial Application fee = 2% x Total estimated costs	\$2,082.00

Hawaii Dam and Reservoir Safety Program

DAM SAFETY PERMIT

Dam Name: Hawi No. 5 Reservoir

Project Type: Removal & Decommissioning

CONDITIONS OF APPROVAL

Construction work shall commence within five years of the date of the approved application. A licensed engineer in the State of Hawaii shall be in charge of the inspection of the construction.

One set of final plans and specifications with the County approval (signature) shall be submitted to the Department prior to the start of the work.

The Department shall be notified five (5) calendar days prior to the commencement of the construction, and a construction schedule shall be provided, which includes the notice to proceed date and estimated project duration.

Changes and/or modifications to the plans shall be sent to DLNR Dam Safety Program in the form of shop drawings and/or plans that are approved and stamped by a licensed engineer. Changes and/or modifications shall not be implemented until approved by DLNR Dam Safety Program.

The owner or owner's representative shall submit a copy of the dam safety application and the plans and specifications of the proposed improvements to the County Engineer of the County for which the dam resides for compliance with County codes.

This permit does not relieve the owner or owner's representative of their obligations to comply with all applicable Federal, State, and County regulations. These may include but may not be limited to:

- **National Pollution Discharge Elimination System (NPDES) Permit** – Department of Health (DOH), Environmental Management Division, Clean Water Branch (CWB), Engineering Section.
- **US Army Corps of Engineers Permits (404 Permit)** – USACE, DOH, CWB, Engineering Section
- **Threatened and Endangered Species Review Request** – U.S. Fish and Wildlife Service
- **'No Effects' Letter** – DLNR, State Historic Preservation Division (SHPD)
- **DLNR Stream Channel Permit** – DLNR, Commission on Water Resource Management
- **DOH 401 Permit** – DOH, CWB, Engineering Section
- **Grading Permit** – County, Department of Public Works (DPW), Engineering Division
- **Grubbing Permit** – County, Department of Public Works (DPW), Engineering Division
- **Work Within the County Right-of-Way** – County, Department of Public Works (DPW), Engineering Division
- **Stockpiling Permit** – County, Department of Public Works (DPW), Engineering Division
- **Private Waterline Permit** – County, Department of Public Works (DPW), Engineering Division
- **Building Permit** – County, Department of Public Works (DPW), Building Division
- **Planning Approval** – County, Planning Division
- **Community Noise Permit** – State of Hawaii, DOH, Environmental Management Division, Indoor and Radiological (IRH) Branch

Hawaii Dam and Reservoir Safety Program

DAM SAFETY PERMIT

Dam Name: Hawi No. 5 Reservoir

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- **Planning Approval** – County, Planning Division
- **Community Noise Permit** – State of Hawaii, DOH, Environmental Management Division, Indoor and Radiological (IRH) Branch

DECLARATION OF EXEMPTION

From the preparation of an environmental assessment under the authority of Chapter 343, HRS and Chapter 11-200, HAR

Project Title: Hāwī No. 5 Reservoir Dam Breach

Site Location: (3) 5-5-007:005 AND (3) 5-5-007:010

Project Description: The Hāwī No. 5 Reservoir is a defunct earthen berm dam that has not been maintained. Approximately half of the dam/reservoir is on State Department of Agriculture land ((3) 5-5-007:005) and half of the dam/reservoir is privately owned ((3) 5-5-007:010)). The dam is rated as a High Hazard dam and site inspections have advised the dam to be removed. The project consists of decommissioning the nonfunctional Hāwī No. 5 Reservoir Dam by excavation and removal of a portion of the earthen embankment as recommended for dam safety. Excavation spoils to be backfilled with the reservoir. Green 'Āina Planning & Engineering LLC was consulted regarding this declaration of exemption.

Exemption Class: **Exemption Class 8** as identified on the Comprehensive Exemption List for the Division of Agricultural Resource Management, Dept. of Agriculture Department, State of Hawaii, dated March 8, 2000.

Exempt Description: Demolition of structures, except those structures located on any historic site as designated in the national register or Hawaii Register as provided for in the National Historic Preservation Act of 1966, as amended, or Chapter 6E, HRS.

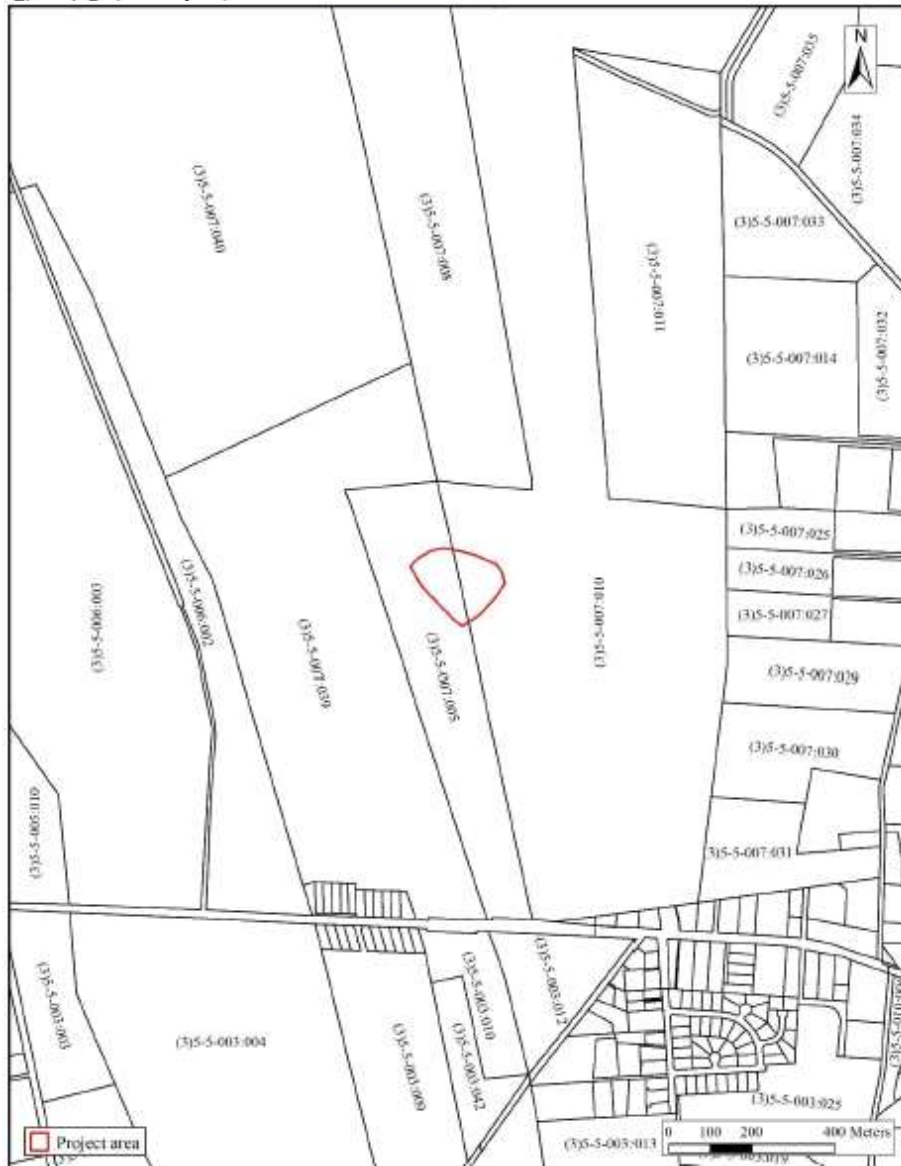
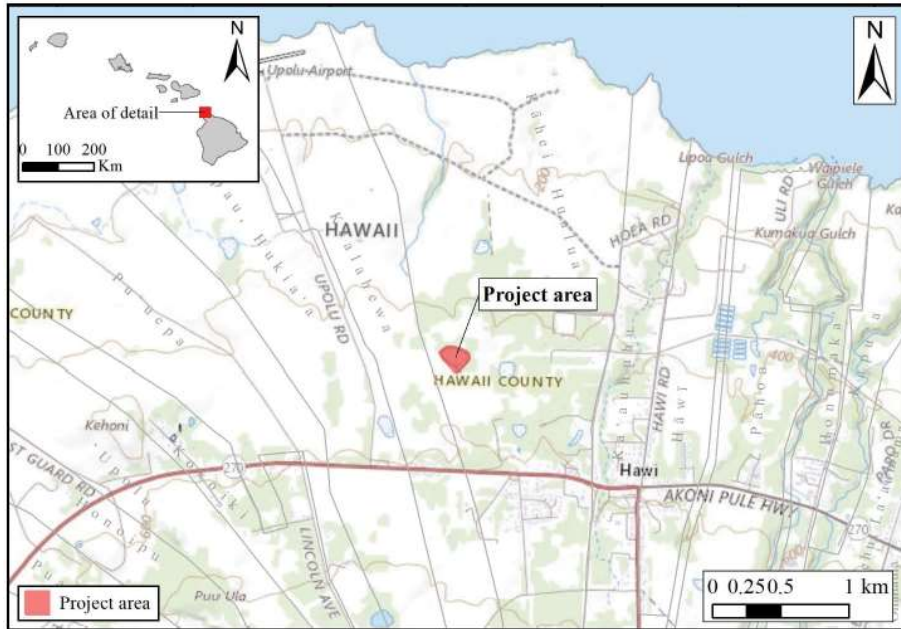
I have considered the potential effects of the above listed project as provided by Chapter 343, HRS and Chapter 11-200, HAR. I declare that this project will have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment.

Signature of the Chairperson

Or delegate: 

Date: 2/7/23

Hāwī No. 5 Dam Breach - Detailed Estimate					
Item	Description	Unit	Quantity	Unit Price	Total
1	Mobilization	LS	1	\$ 10,000.00	\$ 10,000.00
2	Erosion Control	LS	1	\$ 8,000.00	\$ 8,000.00
3	Demolition	LS	1	\$ 20,000.00	\$ 20,000.00
4	Grading	CY	1,300	\$ 35.00	\$ 45,500.00
5	Riprap	CY	18	\$ 200.00	\$ 3,600.00
6	Soil Stabilization	LS	1	\$ 8,000.00	\$ 8,000.00
7	Engineering & Permitting	LS	1	\$ 9,000.00	\$ 9,000.00
				Total:	\$ 104,100.00

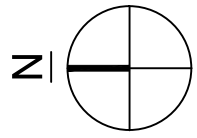


Project area location maps.

HAWAII COUNTY

PROJECT
LOCATION

UPOLO POINT



HONOKA'A

LAUPAHOEHOE

HONOMU

HILO

PUNA

KILAUEA

KAWAIHAE

WAIMEA

KA LAE

KAILUA-KONA

HONAUNAU

KEALIA

(270)

(250)

(27)

(190)

(11)

(19)

(180)

(11)

(200)

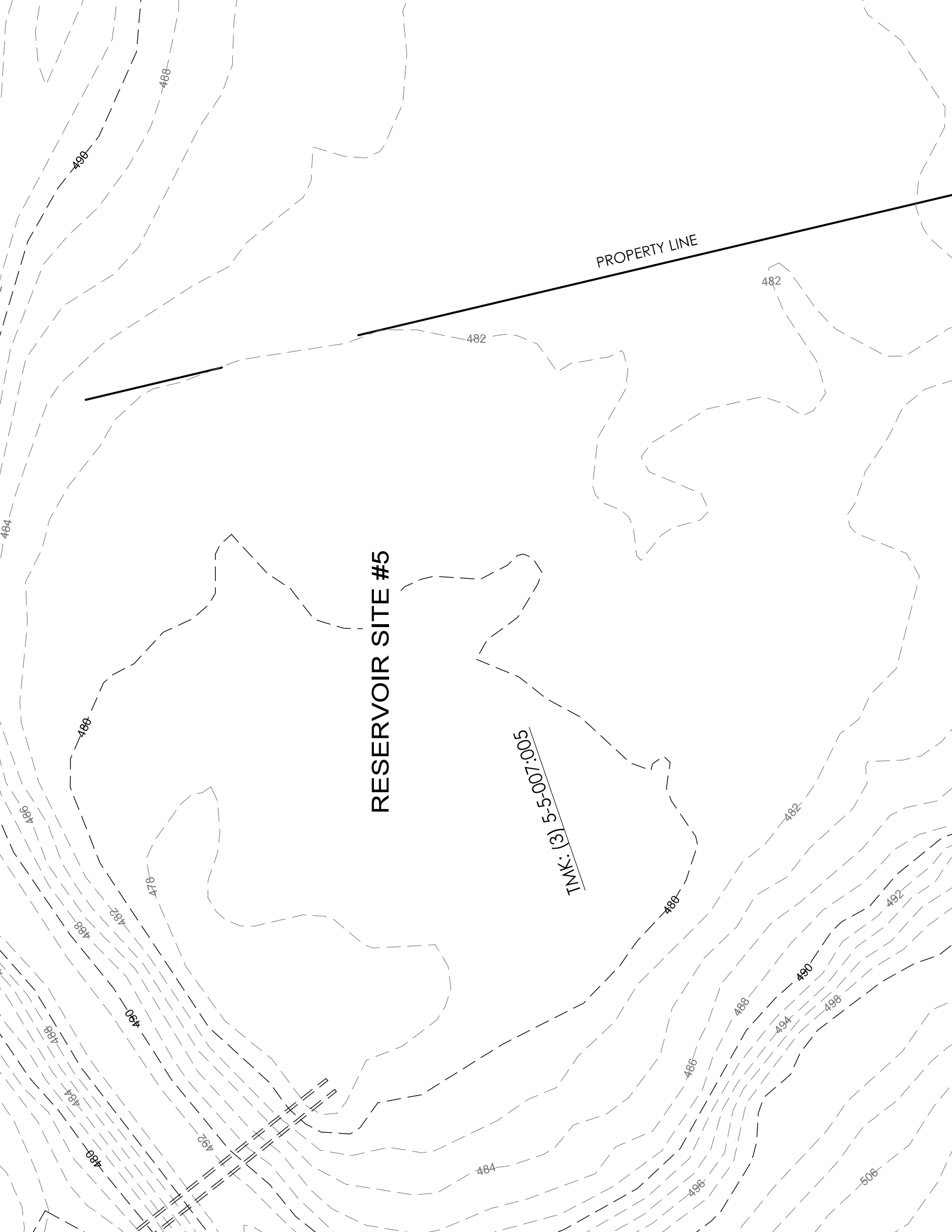
(11)

(130)

(11)



VICINITY MAP

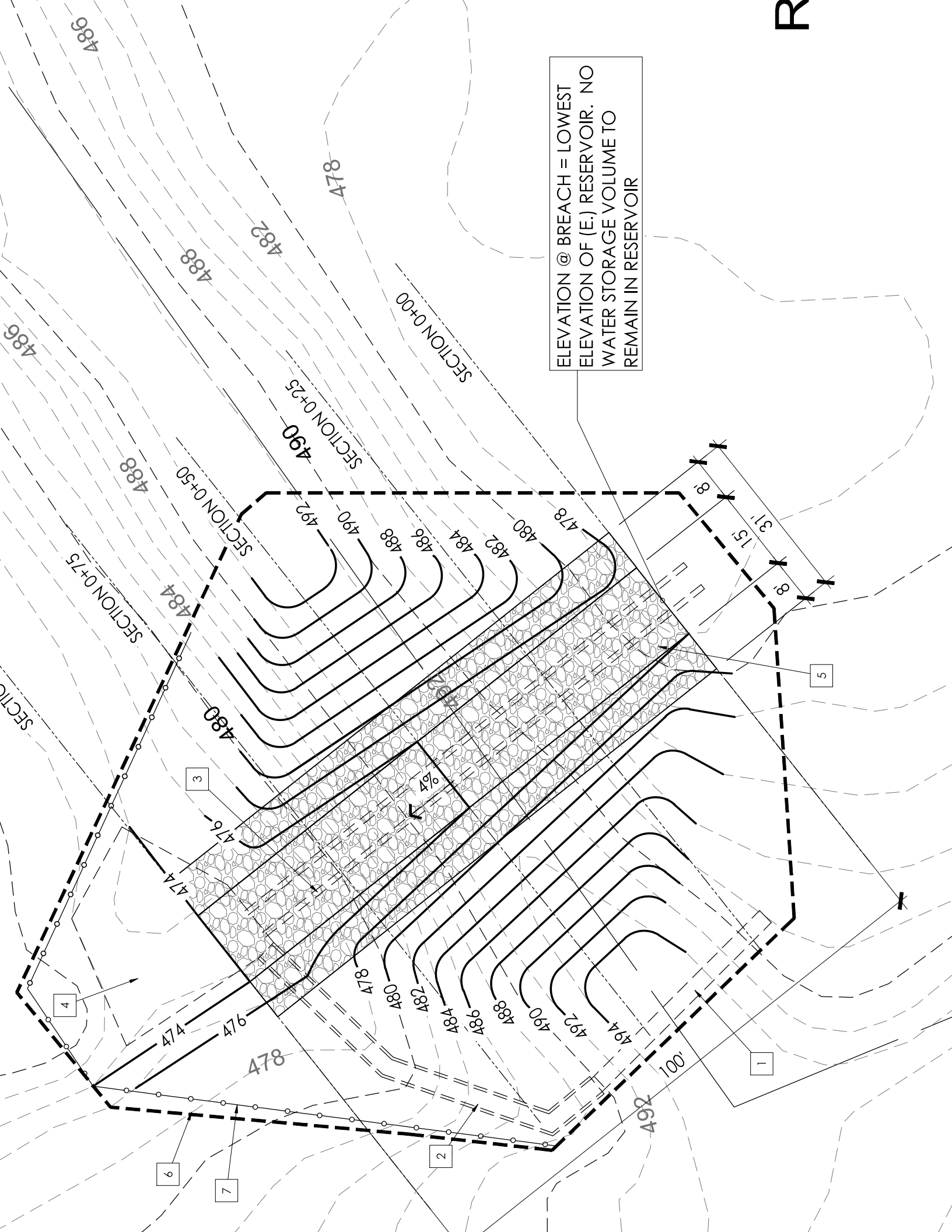


PROPERTY LINE

RESERVOIR SITE #5

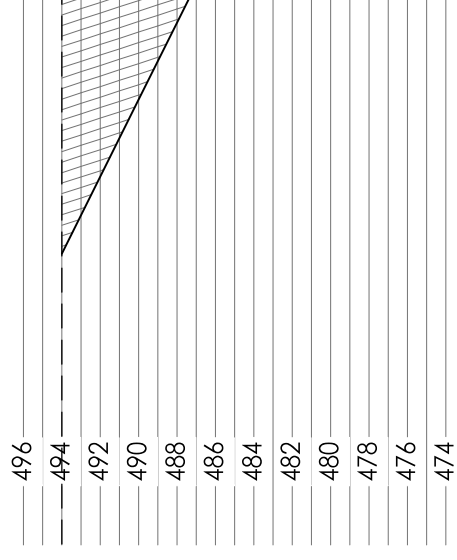
TMK: (3) 5-5-007:005

ELEVATION @ BREACH = LOWEST
ELEVATION OF (E.) RESERVOIR. NO
WATER STORAGE VOLUME TO
REMAIN IN RESERVOIR

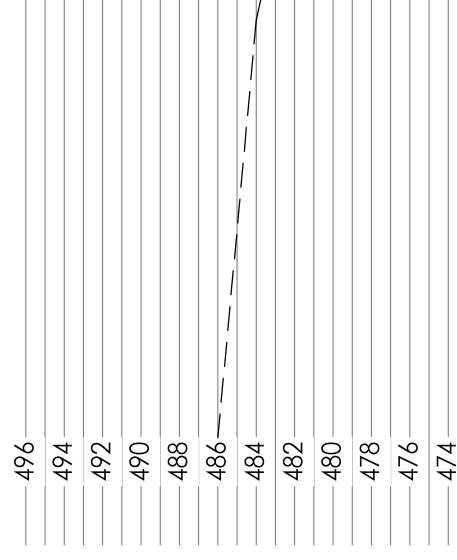


484
482
480
478
476

SECTION 0+50



SECTION 0+75



SECTION 1+00

496
494
492

SECTION 0+50

496
494
492

DECLARATION OF EXEMPTION

From the preparation of an environmental assessment under the authority of Chapter 343, HRS and Chapter 11-200, HAR

Project Title: Hāwī No. 5 Reservoir Dam Breach

Site Location: (3) 5-5-007:005 AND (3) 5-5-007:010

Project Description: The Hāwī No. 5 Reservoir is a defunct earthen berm dam that has not been maintained. Approximately half of the dam/reservoir is on State Department of Agriculture land ((3) 5-5-007:005) and half of the dam/reservoir is privately owned ((3) 5-5-007:010)). The dam is rated as a High Hazard dam and site inspections have advised the dam to be removed. The project consists of decommissioning the nonfunctional Hāwī No. 5 Reservoir Dam by excavation and removal of a portion of the earthen embankment as recommended for dam safety. Excavation spoils to be backfilled with the reservoir. Green 'Āina Planning & Engineering LLC was consulted regarding this declaration of exemption.

Exemption Class: **Exemption Class 8** as identified on the Comprehensive Exemption List for the Division of Agricultural Resource Management, Dept. of Agriculture Department, State of Hawaii, dated March 8, 2000.

Exempt Description: Demolition of structures, except those structures located on any historic site as designated in the national register or Hawaii Register as provided for in the National Historic Preservation Act of 1966, as amended, or Chapter 6E, HRS.

I have considered the potential effects of the above listed project as provided by Chapter 343, HRS and Chapter 11-200, HAR. I declare that this project will have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment.

Signature of the Chairperson

Or delegate: Sharon Hush

Date: 2/7/23

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

STATE HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING
601 KAMOKILA BLVD, STE 555
KAPOLEI, HAWAII 96707

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

LAURA H.E. KAAKUA
FIRST DEPUTY

DAVID UYENO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Exhibit 5

September 7, 2023

Carty S. Chang, Chief Engineer
State of Hawaii, Department of Land and Natural Resources
Engineering Division
Post Office Box 373
Honolulu, Hawaii 96809
carty.s.chang@hawaii.gov

IN REPLY REFER TO:
Project No.: 2023PR00393
Doc. No.: 2307SN04
Architecture, Archaeology

Dear Carty S. Chang:

**SUBJECT: Chapter 6E-8 and 6E-42 Historic Preservation Review –
Hāwī No. 5 Reservoir Dam Breach
Dam Safety Permit No. P90 – Hāwī Reservoir Dam (Dam No. HA-0051)
Request for Concurrence with Project Effect Determination
Archaeological Inventory Survey
Reconnaissance Level Survey
Kāhei and Hualua Ahupua'a, North Kohala District, Island of Hawai'i
TMK: (3) 5-5-007:005 por. and 010 por.**

This letter provides the State Historic Preservation Division's (SHPD's) review of the State of Hawai'i, Department of Land and Natural Resources (DLNR), Engineering Division project for the decommissioning of the Hāwī No. 5 Reservoir, and supporting documents. The submittal was received by SHPD on March 22, 2023, and included the DLNR Dam Safety Permit, construction project plans, an agency cover letter dated March 18, 2023, photographs of the project area, a SHPD HRS 6E Submittal Form, and a supporting document titled *Archaeological Inventory Survey for the Decommissioning of Hāwī No. 5 Reservoir TMK: (3) 5-5-007:005 (por.) and 010 (por.) Hualua Ahupua'a North Kohala District Island of Hawai'i* (Barna and Gonzales, January 2023). On September 1, 2023, SHPD received the Reconnaissance Level Survey (RLS) Report, titled *Reconnaissance Level Survey for the Hāwī No. 5 Reservoir TMK: (3) 5-5-007:005 (por.) and 010 (por.)* (Davis and Gloor, August 2023), as Appendix A to the AIS.

DLNR Engineering Division and the co-owner of the dam, Hualua Farm, propose the decommissioning of the Hāwī No. 5 Reservoir (Dam No. HA-0051) which will consist of the dismantling of a portion of the reservoir's berm, removing a three-foot concrete culvert spillway, a concrete spillway flume, a twelve-inch ductile iron water release valves and outlet works, and a concrete tail water structure. The project will also include mass grading to breach the earthen berm of the reservoir to ensure that the reservoir will not contain water in the future. The project area comprises a 0.29-acre portion of the 40.57-acre parcels. The project area straddles two parcels. TMK: (3) 5-5-007:005 (44.5-acres) is currently owned by the Hualua Farm, LLC., while TMK: (3) 5-5-007:010 (331.75-acres) is owned by the State of Hawai'i and is currently under lease to Hualua Farm, LLC.

ASM Affiliates completed an archaeological inventory survey (AIS) for the proposed project on behalf of DLNR Engineering Division. The AIS fieldwork was conducted on August 16, 2022, and resulted in the documentation of a newly identified feature associated with State Inventory of Historic Places (SIHP) 50-10-02-31284, the Hō'ea Mill Infrastructure. The previously identified site consists of six features (AI, AJ,

AK, AL, AM, and AN). The site was previously documented southwest of the current project area by Barna and Kepa‘a (2022). No subsurface testing was conducted as part of the current AIS. The newly identified feature (Feature AO) is documented as the Hāwī Reservoir No. 5 as is determined to be a part of the large-scale Hō‘ea Mill Infrastructure (SIHP 50-10-02-31284). The AIS report (Barna and Gonzales, January 2023) states the site retains fair to good integrity of design and association, good integrity of materials, location, setting and feeling, and diminished integrity of workmanship. SIHP 50-10-02-31284 was previously assessed as significant under Criterion a for its association with the development of the sugar industry in North Kohala and under Criterion d for the information yielded regarding sugar industry practices. The overall site was assessed as having been adequately documented and thus is recommended for no further work.

ASM Affiliates also completed a Reconnaissance Level Survey (RLS) report, prepared by an SOI-qualified architectural historian, which included fieldwork conducted on August 18, 2022. This RLS report was designed to fulfill historic property identification and significance evaluation requirements, as well as to help mitigate adverse effects to the Hāwī No. 5 Reservoir (SIHP 50-10-02-31284 Feature AO).

SHPD agrees with the integrity and significance evaluation in the RLS Report, that the Hāwī Reservoir No. 5 is a contributing resource of the Hō‘ea Mill Infrastructure (SIHP 50-10-02-31284) and is significant under Criterion a and Criterion d. **SHPD concurs** with a project effect determination of “Effect, with proposed mitigation commitments” for the proposed project. **SHPD has determined** that the RLS report serves as adequate mitigation, in the form of documentation, of the adverse effect that the proposed project will have on the significant contributing resource Hāwī No. 5 Reservoir (SIHP 50-10-02-31284 Feature AO) and the broader historic property Hō‘ea Mill Infrastructure (SIHP 50-10-02-31284).

This AIS report (Barna and Gonzales, January 2023) satisfies the requirements of HAR §13-276-5. **It is accepted.** Please make the minor corrections detailed below (see Attachment) and send one hard copy of the document, clearly marked FINAL, along with a text-searchable PDF copy of the document and a copy of this acceptance letter to the Kapolei SHPD office, attention SHPD Library and one hard copy of the document, clearly marked FINAL, and a copy of this acceptance letter to the Hilo SHPD office, attention Sean Nāleimaile. Additionally, please upload a text-searchable PDF version of the final AIS to HICRIS Project No. 2022PR01517 using the Project Supplement option and send a PDF copy to lehua.k.soares@hawaii.gov.

The RLS report (Davis and Gloor, August 2023) meets the minimum requirements of HAR §13-275-5. **It is accepted.** Please upload a copy of the final RLS report (detached from the AIS), to HICRIS Project 2023PR00393 using the Project Supplement option. Additionally, please send one hard copy of the RLS Report, clearly marked FINAL, and a copy of this review letter to the Kapolei SHPD office, attention SHPD Library and submit a digital copy to the SHPD Library at dlnr.hp.library@hawaii.gov.

SHPD hereby notifies DLNR Engineering Division that the AIS and RLS have been accepted and the project initiation may continue.

Attach to the permit: In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division, at (808) 933-7651.

Please contact Mary Kodama, Historic Architect at mary.kodama@hawaii.gov for any matters regarding architectural resources and please contact Sean P. Naleimaile, Hawai‘i Island Archaeologist IV, at sean.p.naleimaile@hawaii.gov for any questions or concerns regarding archaeological resources or this letter.

Aloha,

Alan Downer

Alan S. Downer, PhD
Administrator, State Historic Preservation Division
Deputy State Historic Preservation Officer

Carty, S. Chang
September 7, 2023
Page 3

cc: Tony Koyamatsu, tony.koyamatsu@hawaii.gov
Terin Gloor, terin@greenaina.com
Bahman Sadeghi, bahman_sadeghi@mgdhawaii.com
Matt Clark, mclark@asmaffiliates.com
Bob Rechtman, brechtman@asmaffiliates.com

Attachment

Issues and Comments: *Archaeological Inventory Survey for the Decommissioning of Hāwī No. 5 Reservoir*
TMK: (3) 5-5-007:005 (por.) and 010 (por.) Hualua Ahupua'a North Kohala District Island of Hawai'i
(Barna and Gonzales, January 2023).

1. Page iii, Chapter 4. Fieldwork: change 50-10-01-31284 to 50-10-02-31284
2. Page 33, paragraph heading after Table 4: change 50-10-01-31284 to 50-10-02-31284

DAM SAFETY PERMIT AGENCY CONSULTATION SUMMARY

PERMIT NO. 90 – HAWI 5 RESERVOIR (HA-0049) – Dam Removal

Agency	Date Sent by Dam Safety	Date Returned	No Comments	Comments	No Reply
DLNR Division of Aquatic Resources	6/27/23				X
DLNR Commission on Water Resource Mgt	6/27/23	8/11/23		See Note 1	
DLNR Division of Forestry & Wildlife (DOFAW)	6/27/23	7/31/23		See enclosed memo from DOFAW	
DLNR Historic Preservation Division	3/21/23	9/11/23		See Note 2	
DLNR Land Division	6/27/23				X
DLNR Office of Conservation & Coastal Lands	6/27/23				X
Department of Agriculture	6/27/23				X
DOA Agribusiness Development Corporation	6/27/23				X
County of Hawaii, National Flood Insurance Program	6/27/23				X
County of Hawaii, Civil Defense	6/27/23	6/28/23		See Note 3	
Hawaii Emergency Management Agency	6/27/23				X

Notes:

1. Comment from Commission on Water Resource Management: It is our understanding that Hawi No. 5 Reservoir (HA-0051) has not been inactive for many years that the irrigation system which fed the reservoir is also no longer active. The reservoir is located near Hualua Stream, which DAR classifies as non-perennial or intermittent. The reservoir is also not located within a stream

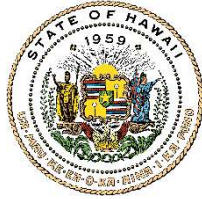
channel, thus a Stream Channel Alteration Permit is not required, nor does the reservoir receive water directly from a stream, thus a Stream Diversion Works Permit is not required.

2. Comment from the State of Hawaii Historic Preservation Division: SHPD hereby notifies DLNR Engineering Division that the AIS (Archaeological Inventory Survey) and RLS (Reconnaissance Level Survey) have been accepted and the project initiation may continue.
3. Comment from Hawaii County Civil Defense: Documents provided illustrate no threat to adjacent properties or community through this dam removal.

Enclosure

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

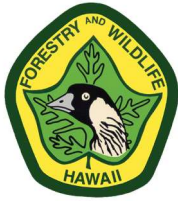


DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

LAURA H.E. KAAKUA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

July 31, 2023

Log no. 4173

MEMORANDUM

TO: Carty S. Chang, Chief Engineer
Department of Land and Natural Resources

FROM: LAINIE BERRY, Wildlife Program Manager
Division of Forestry and Wildlife

SUBJECT: **Dam Safety Permit-Agency Consultation, Hawi No. 5 Reservoir (HA-0051),
Dam Safety Permit No. 90, Dam Removal on Hawai'i Island**

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has received your request for comments on the Dam Safety Permit-Agency Consultation, Hawi No. 5 Reservoir (HA-0051), Dam Safety Permit No. 90, Dam Removal on the island of Hawai'i; TMKs: (3) 5-5-007:005 & 5-5-007:010. The Hawi No. 5 Reservoir is a defunct earthen berm dam that has not been maintained. Approximately half of the dam/reservoir is on State Department of Agriculture land; TMK: (3) 5-5-007:005 and half of the dam/reservoir is privately owned; TMK: (3) 5-5-007:010. The dam is rated as a High Hazard dam and site inspections have advised the dam to be removed. The project consists of decommissioning the nonfunctional Hawi No. 5 Reservoir Dam by excavation and removal of a portion of the earthen embankment as recommended for dam safety. Excavation spoils will be backfilled with the reservoir.

The State listed 'Ōpe'ape'a or Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) could potentially occur at or in the vicinity of the project and may roost in nearby trees. Any required site clearing should be timed to avoid disturbance to bats during their birthing and pup rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be avoided for any construction because bats can become ensnared and killed by such fencing material during flight.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in their collision with manmade structures or the grounding of birds. For nighttime work that might be required,

DOFAW recommends that all lights used be fully shielded to minimize the attraction of seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15, when young seabirds make their maiden voyage to sea.

If nighttime construction is required during the seabird fledging season (September 15 to December 15), we recommend that a qualified biologist be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling around the area, lights should then be turned off. If a downed seabird is detected, please follow DOFAW's recommended response protocol by visiting <https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/#response>.

Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai'i please visit <https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf>.

State-listed waterbirds such as the ae'ō or Hawaiian stilt (*Himantopus mexicanus knudseni*), 'alae ke'oke'ō or Hawaiian coot (*Fulica alai*), and nēnē or Hawaiian Goose (*Branta sandvicensis*) could potentially occur at or in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any of these species are present during construction, all activities within 100 feet (30 meters) should cease and the bird or birds should not be approached. Work may continue after the bird or birds leave the area of their own accord. If a nest is discovered at any point, please contact the Hawai'i Island Branch DOFAW Office at (808) 974-4221.

The State listed 'Ō or Hawaiian Hawk (*Buteo solitarius*) may occur in the project vicinity. Prior to undertaking vegetation clearing, DOFAW recommends that pre-construction surveys of the area be conducted by a qualified biologist following appropriate survey methods (Gorresen et al., 2008)¹ to ensure no Hawaiian Hawk nests are present, which may occur during the breeding season from March to September. The survey should be conducted at least 10 days prior to the start of construction. If an 'Ō nest is detected, a buffer zone of 100 meters (330 feet) should be established around it where no construction shall occur until the chick or chicks have fledged, or the nest is abandoned. DOFAW staff should be immediately notified. If adult individuals are detected in the area during construction, all activities within 30 meters (100 feet) of the bird should cease. Work may continue when the bird has left the area on its own.

The endemic pueo or Hawaiian Short-Eared Owl (*Asio flammeus sandwichensis*) could potentially nest in the project area. Before any potential vegetative alteration, especially ground-based disturbance, we recommend that line transect surveys are conducted during crepuscular hours through the project area. If a pueo nest is discovered, a minimum buffer distance of 100 meters from the nest should be established until chicks are capable of flight.

The project area is within the range of the State listed Blackburn's Sphinx Moth (*Manduca blackburni*) or BSM. Larvae of BSM feed on many nonnative hostplants, which includes tree tobacco (*Nicotiana glauca*), that grow in disturbed soil. We recommend contacting the Hawai'i Island Branch DOFAW office at (808) 974-4221 for further information about where BSM may

¹Gorresen, P. M., R. J. Camp, J. L. Klavitter, and T. K. Pratt. 2008. Abundance, distribution and population trend of the Hawaiian Hawk: 1998-2007. Hawai'i Cooperative Studies Unit Technical Report HCSU-009. University of Hawai'i at Hilo. 53 pp., incl. 8 figures, 3 tables & 1 appendix.

be present and whether a vegetation survey should be conducted to determine the presence of plants preferred by BSM. DOFAW recommends removing plants less than one meter in height or during the dry season to avoid harm to BSM. If you intend to either remove tree tobacco over one meter in height or to disturb the ground around or within several meters of these plants, they must be thoroughly inspected by a qualified entomologist for the presence of BSM eggs and larvae.

DOFAW recommends using native plant species for landscaping that are appropriate for the area; i.e., plants for which climate conditions are suitable for them to thrive, plants that historically occurred there, etc. Please do not plant invasive species. DOFAW also recommends referring to www.plantpono.org for guidance on the selection and evaluation of landscaping plants and to determine the potential invasiveness of plants proposed for use in the project.

DOFAW recommends minimizing the movement of plant or soil material between worksites. Soil and plant material may contain detrimental fungal pathogens (e.g., Rapid 'Ōhi'a Death), vertebrate and invertebrate pests (e.g., Little Fire Ants, Coqui Frogs, etc.), or invasive plant parts (e.g., African Tulip, Octopus Tree, Trumpet Tree, etc.) that could harm our native species and ecosystems. We recommend consulting the Big Island Invasive Species Committee (BIISC) at (808) 933-3340 to help plan, design, and construct the project, learn of any high-risk invasive species in the area, and ways to mitigate their spread. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.

We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have any questions, please contact Myrna N. Giraldo Pérez, Protected Species Habitat Conservation Planning Coordinator at (808) 265-3276 or myrna.giraldo-perez@hawaii.gov.

Sincerely,

Lainie Berry

LAINIE BERRY
Wildlife Program Manager

DLNR Dam Safety
Ka Pa'akai Pre-Assessment Form
(08/15/23)

PROJECT INFORMATION (To be completed by the dam owner)

Dam Name: Hawi No. 5 Reservoir

Dam ID No.: HA-0051

Dam Owner (name, title, company): Hualua Farms LLC and Hawaii Dept of Agriculture

Type of Project (e.g., removal, reduction, improvement): Removal

Brief Description of Project (as needed, attach diagrams, maps, etc.): This project seeks to remove the earthen dam by grading a breach in the earthen berm to create a drainage channel in one location and demolishing its spillway appurtenances. See figures 1-7.

TMK(s): (3) 5-5-007:005 and (3) 5-5-007:010

Ahupua'a: Kahei, Haulua (See Figure 1)

PRE-SCREENED COMPLIANT ACTIVITIES (To be completed by the dam owner)

Yes	No	Compliant Activity
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Repair and maintenance
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Removing trees or vegetation
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Valve replacement
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Outlet modification
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Perimeter fence installation
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Service roadway installation
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Embankment repair or improvement

Does the permit activity meet any of the pre-screened compliant activities? Yes No

If Yes, no further analysis will be required. Submit form to DLNR Dam Safety.

If No, the dam owner needs to complete the SCREENING ANALYSIS section.

SCREENING ANALYSIS (To be completed by the dam owner)

Provide responses to the following four screening questions:

1. Upon completion, will the proposed project result in a physical change of the geographical landscape in the area?

No. Relative to the size of the dam structure and the breach channel on the dam embankment, the new channel will not change the overall geographic landscape of the area.

2. Upon completion, will the proposed project result in changes to the water flow frequency, volume, or path upstream of the dam facility, through the project site, or downstream of the project site? Include impacts during conditions such as severe storm events.

No. The project is not expected to change the water flow characteristics in the area because the dam inlets have been secured and the reservoir has been empty for almost a decade. Once the breach is installed, the water flowing from the reservoir through the breach will be from the rain collected in the reservoir surface area.

3. Upon completion, is there a possibility the project may impact “valued cultural, historical, or natural resources in the petition area?”

No. An Archaeological Inventory Survey for the Decommissioning of Hawi No. 5 Reservoir by ASM Affiliates (July 2023) confirms there are no cultural, historical, or natural resources in the petition area to be impacted by the project. See figure 8.

4. Upon completion, is there a possibility the project may change public accessibility to the dam facility or

No. The proposed work will not change public access to the dam facility or the surrounding area.

If AT LEAST ONE of the four questions above were answered Yes, Dam Safety will consult Aha Moku and/or the Po’o of the respective island to determine the likelihood of the proposed permit activity to affect the Ka Paakai Framework. If it is deemed that further investigation is required, the dam owner will conduct a KPCA. Otherwise, no further analysis will be required.

If ALL of the four questions above were answered “No,” no further analysis will be required and the dam owner will NOT need to perform a KPCA.

SCREENING SUMMARY (To be completed by DLNR Dam Safety)

Is a Ka Pa’akai Consultation Assessment required?

Yes – Subject to approval, inform the dam owner to perform a Ka Pa’akai Consultation Assessment

No – Subject to approval by Aha Moku, who will provide a recommendation to BLNR.

Comments: _____

SIGNATURES (To be processed by DLNR Dam Safety)

Dam Safety Reviewer Name (Printed): Tony Koyamatsu / Edwin Matsuda

Dam Safety Reviewer Signature: Anthony Koyamatsu

DLNR Chief Engineer Name (Printed): Carty S. Chang

DLNR Chief Engineer Signature:

Aha Moku Executive Director (Printed): Leimana DaMate

Aha Moku Executive Director Signature: Leimana DaMate

Attachments

KA PA'AKAI PRE-ASSESSMENT SUPPORTING DOCUMENTS

HAWI NO. 5 RESERVOIR (HA-0051)

AUGUST 11, 2023

Prepared by:

**State of Hawaii
Department of Land & Natural Resources
Dam Safety Program**



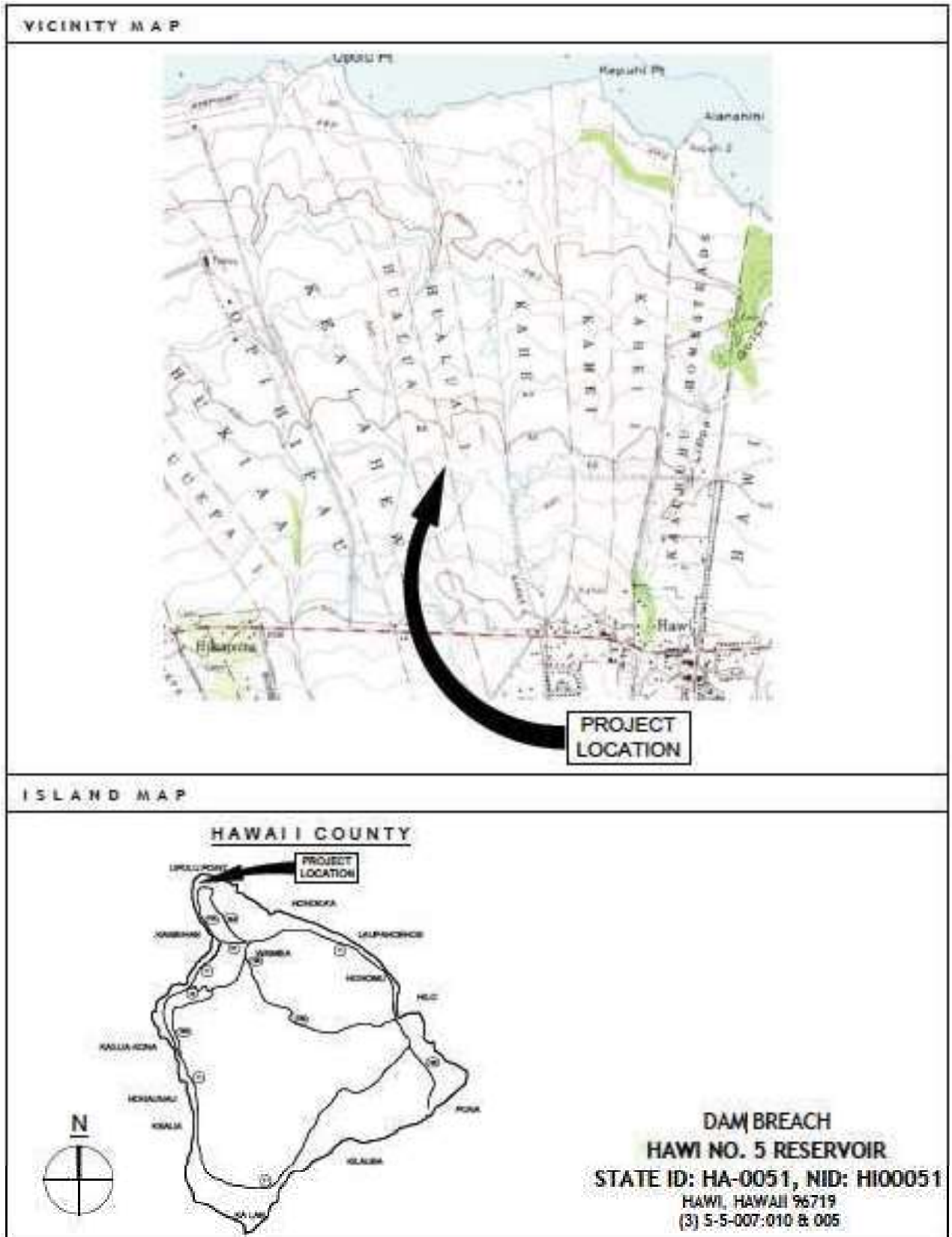


Figure 1. Project location on island map and Ahupuaa map.

Hawi No. 5 Reservoir Ka Pa'akai Pre-Assessment

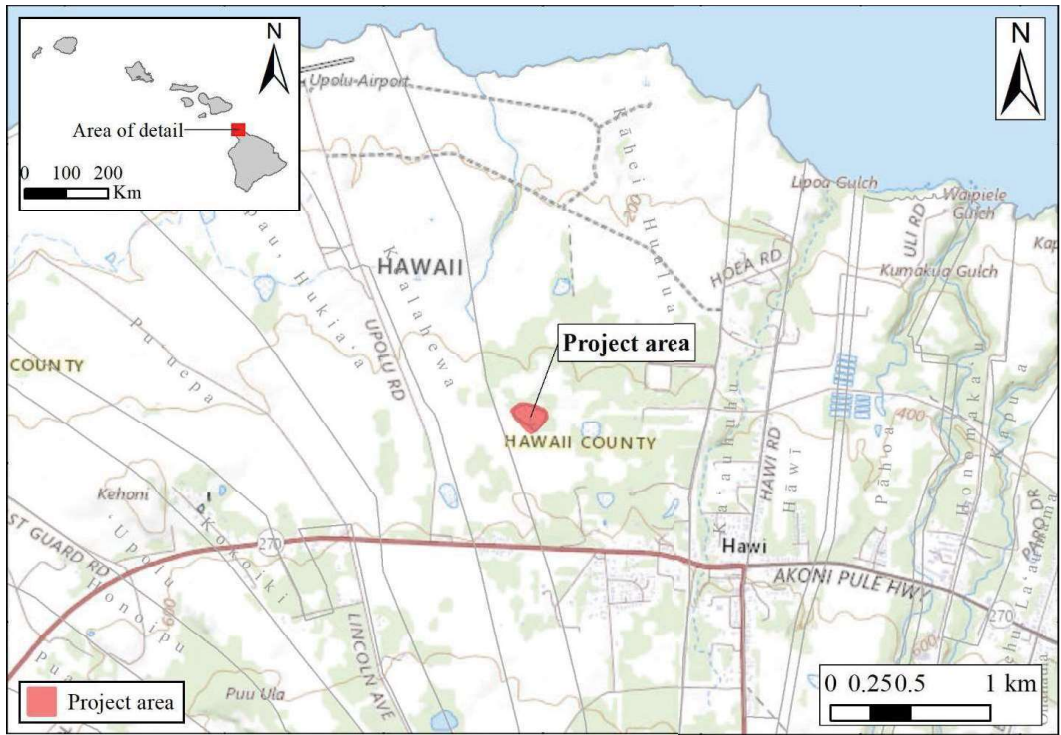


Figure 2. Project area location.



Figure 3. Hawi No. 5 Reservoir aerial photo looking north.



Figure 4. Hawi No. 5 reservoir basin.



Figure 5. Reservoir floor facing south easterly; embankment on the left.

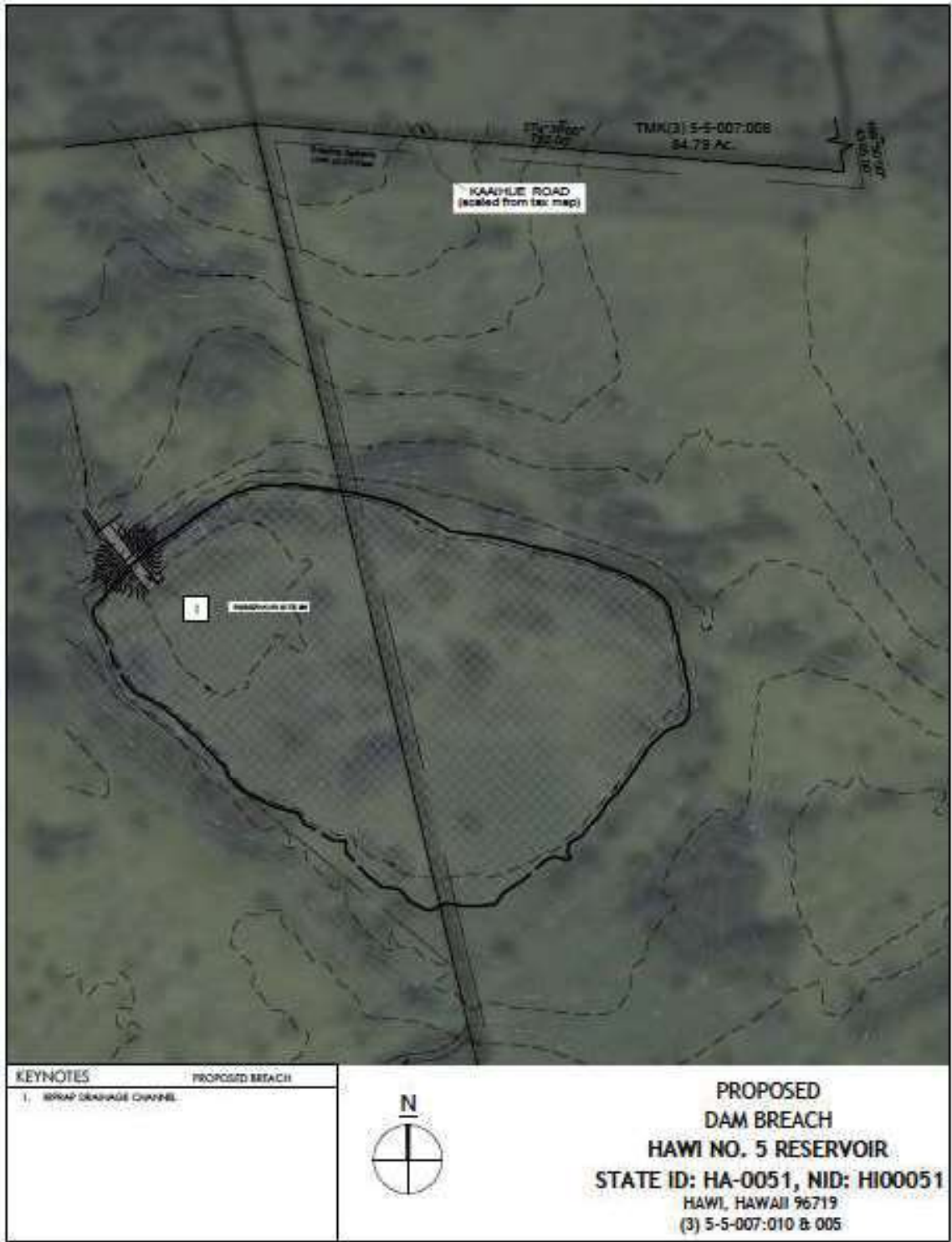


Figure 6. Proposed project plan of breaching the northwest embankment (Design Report, Green Aina Planning & Engineering, January 2023).

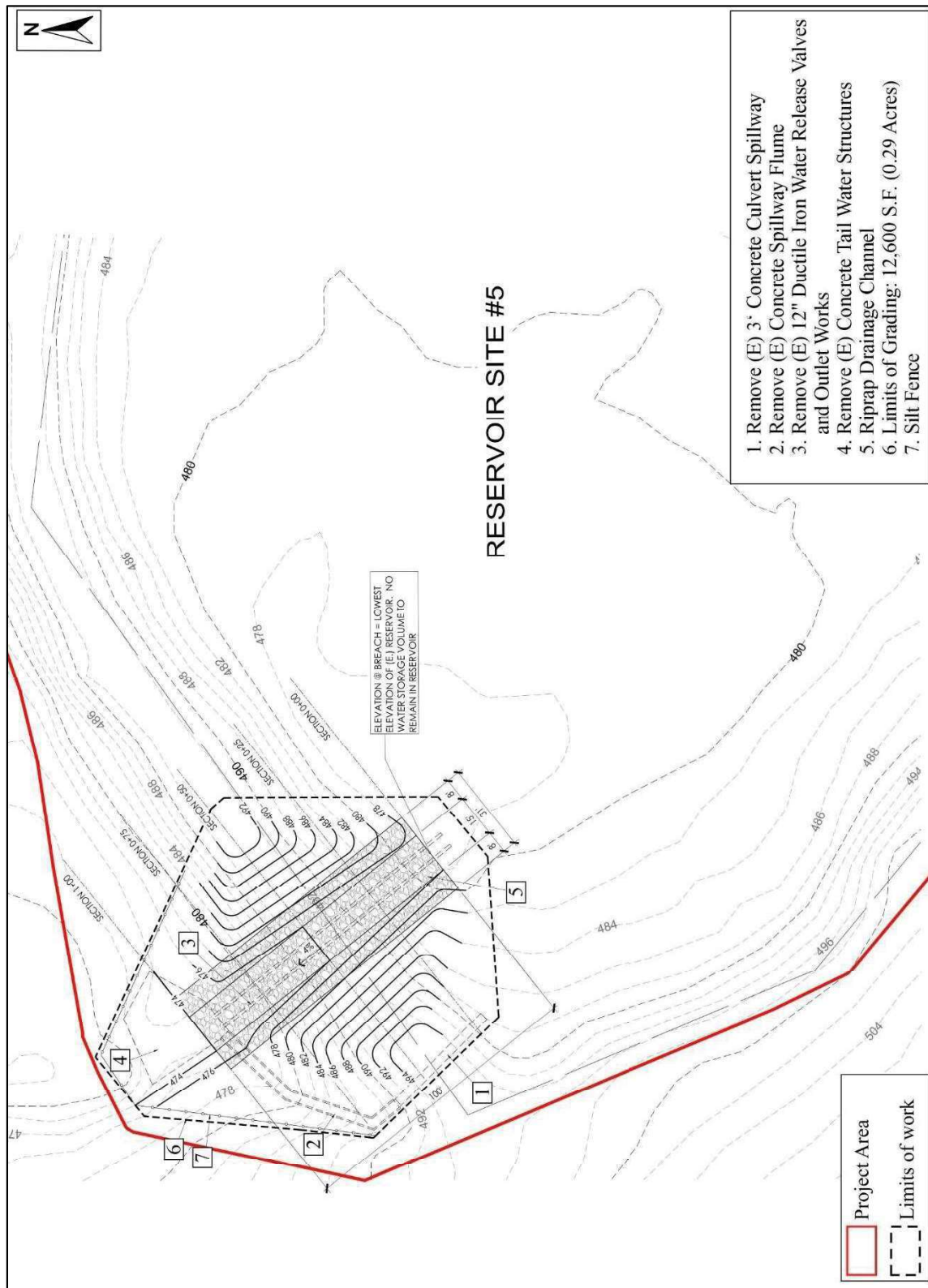


Figure 7. Proposed project plan of breaching the northwest embankment (AIS, ASM Affiliates, revised July 2023).

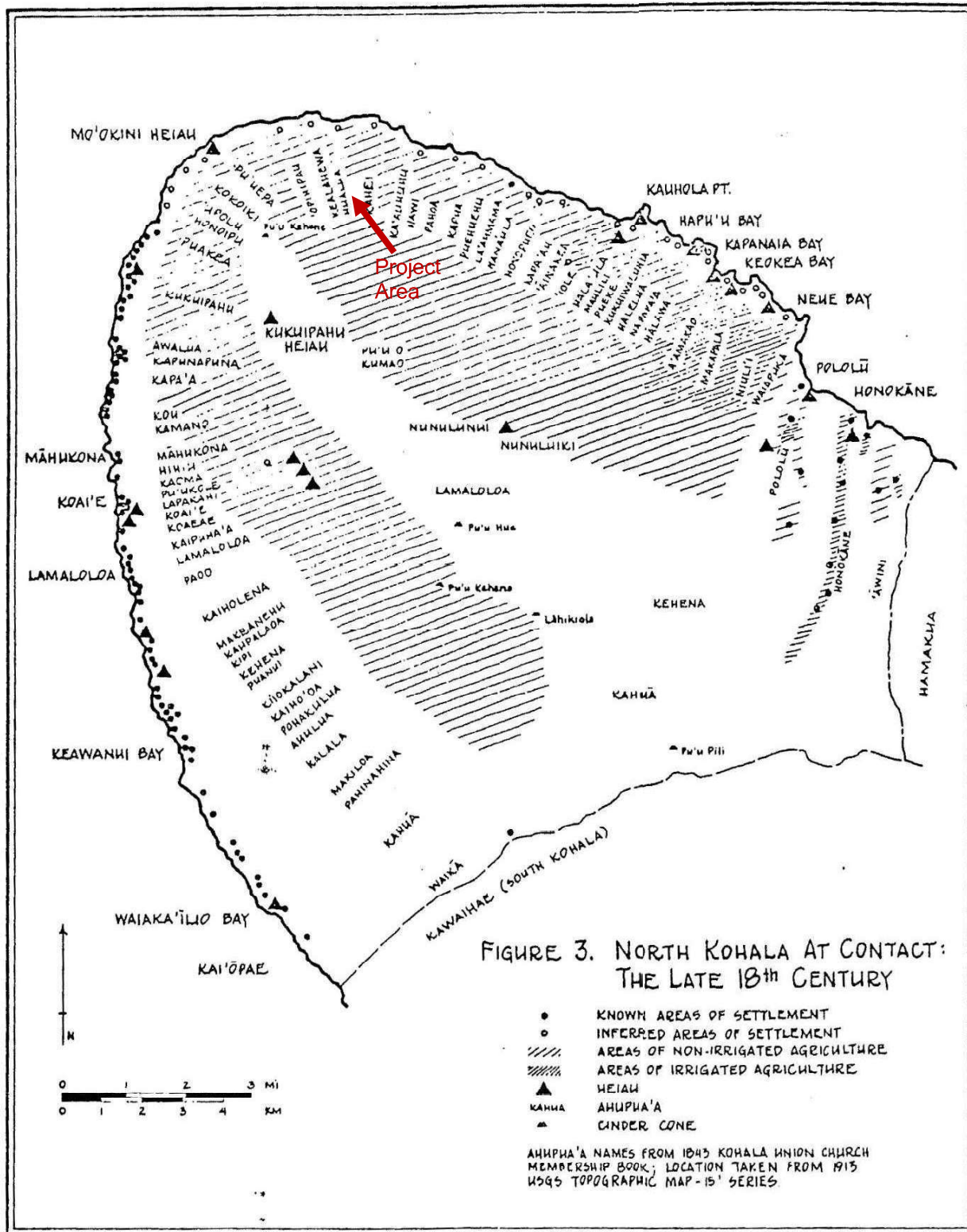


Figure 8. Settlement patterns in North Kohala in the late 18th century (AIS, ASM Affiliates, revised July 2023)(Tomonari-Tuggle 1988:18).

DAM SAFETY PERMIT GENERAL CONDITIONS**APPROVAL OF PLANS AND SPECIFICATIONS FOR DAM AND RESERVOIR
CONSTRUCTION, ENLARGEMENT, REPAIR, ALTERATION OR REMOVAL**

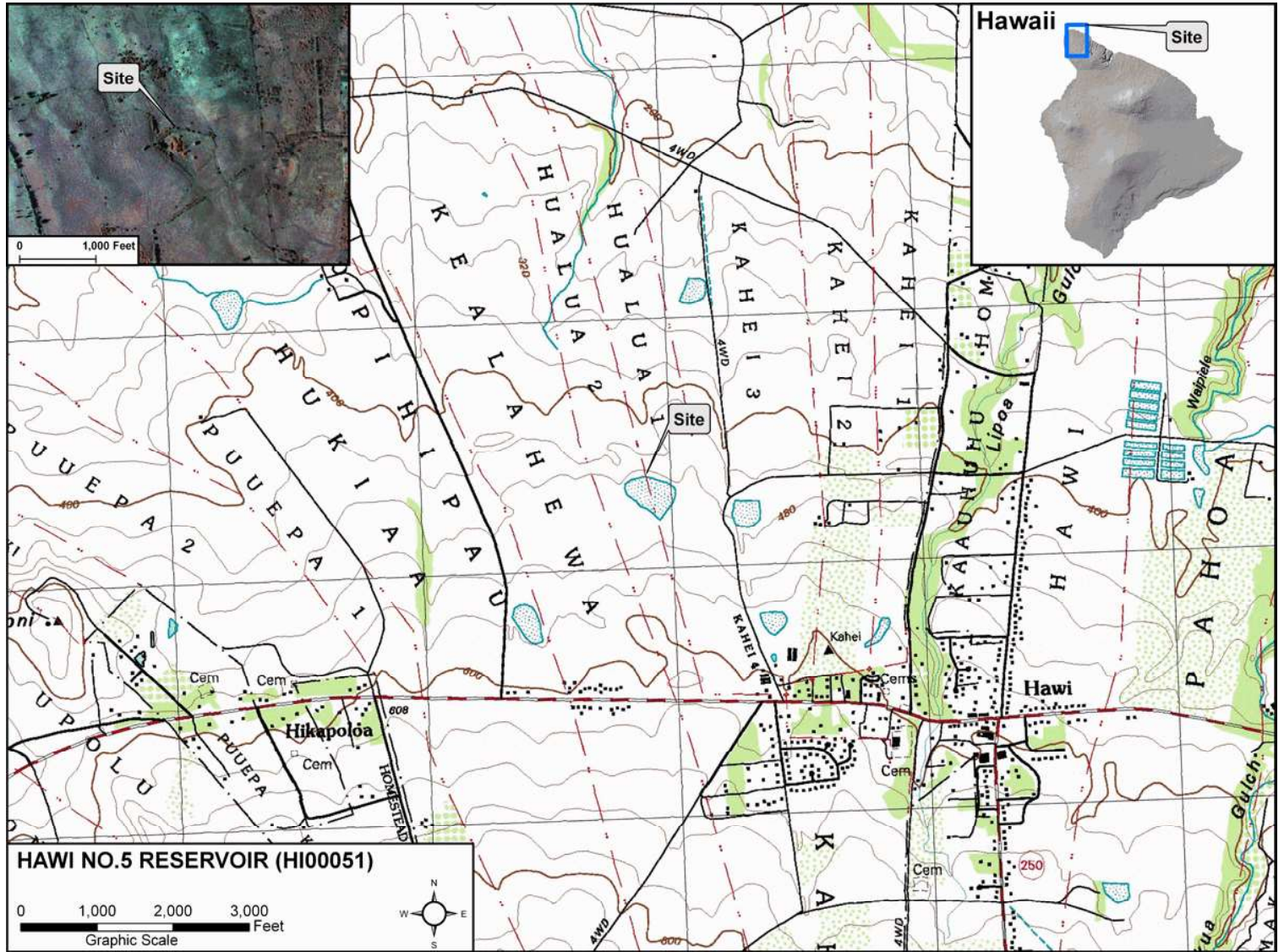
The following General Conditions shall be adhered to for all Dam Safety permits unless otherwise authorized in writing.

1. Actual construction, enlargement, repair, alteration or removal shall be completed within 5 years of issuance of the permit application approval unless an extension authorized in writing by the Board is issued.
2. Prior to the start of work the owner or applicant shall provide a construction engineer to ensure compliance with the approved plans and specifications and who shall have ultimate responsibility for the supervision of all inspection tasks. The construction engineer may assign some inspection tasks to a duly authorized agent under the construction engineer's supervision. The engineer shall be licensed in the State of Hawaii.
3. The construction engineer shall maintain a record of construction that at a minimum, shall include, daily activity, and progress reports, all test results pertaining to construction; photographs sufficient to provide a record of foundation conditions and various stages of the construction through completion, all geologic information obtained; and construction problems and remedies.
4. A construction quality assurance plan shall be prepared and submitted to the Department for approval prior to the start of construction, which details the minimum requirements of the construction engineer's observation of construction.
5. A construction schedule, which includes the notice to proceed date and estimated project duration and a construction emergency action plan shall be submitted prior to the preconstruction meeting.
6. A preconstruction meeting shall be held subsequent to submitting the quality assurance plan, construction schedule and construction emergency action plan, but not later than 14 days prior to the start of construction. All parties actively involved in the construction should be requested to attend, such as the dam owner, the design engineer, the construction engineer, the contractor and the Department.
7. The Department shall be notified 5 calendar days prior to the commencement of construction.
8. Any changes from the approved plans and specifications shall be approved by the design engineer and a change order, including details and supporting calculations, must be provided to the Department. Major changes must be submitted in writing with supporting documentation and approved in writing by the Department. No work shall be initiated until the approval by the Department or Board is received. Minor changes may be transmitted verbally and approved by the Department verbally provided that documentation of the change is provided to the Department within 10 days of the approval.

9. For new dam construction and for dams and reservoirs that have lowered the water level or have been drained to facilitate construction, the construction engineer shall file and obtain approval of a filling plan with the Department. The applicant/owner shall not proceed with the filling of the reservoir until it receives permission from the Department. The construction engineer shall provide documentation of monitoring during the filling operation.
10. Prior to the filling of the reservoir, the construction engineer shall submit one copy each of the approved Operations Manual and the approved Emergency Action Plan for the facility upon completion of the project as applicable.
11. The construction engineer shall give the Department at least ten days advanced notice of initial materials placement of the dam's foundation, in the cutoff trench, outlet backfill, outlet foundation, and any appurtenance requested by the Department in the approval of the plan for construction observation, to allow for observation by the Department.
12. Notice of substantial completion shall be issued by the construction engineer to the Department stating that the permitted improvements are functionally complete such that filling of the reservoir can be initiated with an approved filling plan.
13. The construction engineer shall give the Department fifteen (15) calendar days advance written notice prior to the project's final construction inspection. The construction engineer shall coordinate with the Department to conduct this inspection in the presence of the Department's dam safety personnel.
14. The construction engineer shall provide notice at least ten (10) days prior to initiating filling the reservoir, unless agreed at the final inspection.
15. If conditions are revealed which will not permit the construction, enlargement, repair, alteration, or removal of a safe dam or reservoir, the application for approval for construction, enlargement, repair, alteration, or removal shall be revoked.
16. A topographic survey of completed work including all monuments, inverts, crest alignment, spillways, and significant appurtenant features, when required by the Department shall be completed.
17. The applicant/owner shall utilize appropriate erosion control best management practice measures during construction to minimize turbidity (such as scheduling of work during period of low stream flow) and prevent debris and construction materials, including concrete, petroleum products, and other pollutants from enter the waters of the State. Construction related water and debris should be properly disposed of in a legal and environmentally safe manner and in accordance with the Department of Health and other Federal regulations.
18. The applicant/owner shall submit a copy of the dam safety application and the plans and specifications of the proposed improvements to the County Engineer of the County for which the dam resides for compliance with County codes.
19. Within fifteen (15) calendar days of completing the project, the applicant/owner or its representative shall provide the Department with a confirmation letter of compliance, signed and stamped by the construction engineer, indicating that the construction

was completed in accordance to approved plans and specifications including any field changes. The construction engineer shall submit the remaining construction completion documents which may include, but not be limited to, as-constructed drawing, final construction report, topographic survey, record of the location of permanent monuments, log of recorded water levels and other readings from the refilling operation, long-term instrumentation monitoring plan, and affidavit showing the actual cost of construction including engineering costs, within 60 calendar days of the submittal of the final construction inspection.

20. Construction completion documents and the construction engineer's certification shall be provided to the Department within 60 days of the final construction inspection. The Department will review the submitted items and furnish acceptance or denial within 60 days of receipt of satisfactorily completed construction completion documents and close out the dam safety permit.
21. This permit does not relieve the applicant/owner of their obligations to comply with all applicable Federal, State, and County regulations.
22. In the unlikely event that subsurface historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the immediate vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division at (808) 692-8015.
23. Compliance with Hawaii Revised Statutes 179D, and Hawaii Administrative Rules 13-190.1.



1. General Information	
a. State Dam ID	HA-0051
b. National ID	HI00051
c. Dam Name	HAWI NO. 5 RESERVOIR
d. Other Name(s)	
e. Longitude / Latitude	-155.8438 / 20.2470
f. County / Island	Hawaii / Hawaii
g. Type of Dam	Earthen
h. Purpose	Other
i. Completed / Last Modified	1930 /
j. Nearest City / Town	HOEA CAMP (1 mile)
k. Water Body Type	State Regulated Dam
l. Dam Height	20 ft
m. Dam Length	1,500 ft
n. Drainage Area	/
o. Size Classification	Small

2. Owner Information	
a. Name of Owner	Hualua Farm, LLC, State of Hawaii, Dept of Agriculture
b. TMK(s)	(3) 5-5-007:005, (3) 5-5-007:010

3. Hazard Potential Classification	
a. Hazard Classification	High
b. Emergency Action Plan	Yes
c. Date of Last EAP	08/08/2022

Exhibit 9



Aerial Photo (01/10/2008)

4. Reservoir

a. Normal Storage	55 ac-ft / 18 MG
b. Maximum Storage	55 ac-ft / 18 MG
c. Surface Area	10.6 acres

5. Primary Spillway

a. Minimum Width	2 ft
b. Length	31 ft
c. Type	Pipe
d. Protection	Concrete
e. Maximum Discharge	

6. Primary Outlet Works

a. Works Type	Controlled
b. Maximum Discharge	
c. Size	12"
d. Control Description	Upstream

7. Embankment

a. Type of Dam	Earthen
b. Minimum Crest Width	16 ft
c. Upstream Slope Grade	28° / 1.9:1
d. Upstream Slope Protection	Dumped Rock
e. Downstream Slope Grade	25° / 2.1:1
f. Downstream Slope Protection	Vegetation
g. Dam Height	20 ft
h. Dam Length	1,500 ft

8. Inflow Works

Type	Name	Controlled	Size
Ditch	Abandoned Ditch System	No	

20230913 - L-1 P90 Hawi 5 Permit Board Submittal

Final Audit Report

2023-09-13


Created:	2023-09-13 (Hawaii-Aleutian Standard Time)
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 Agreement completed.

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