

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

September 28, 2018

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

**APPLICATION FOR A DLNR DAM SAFETY  
PERMIT NO. 78 – KITANO RESERVOIR (KA-0004)  
DAM REMOVAL, KEKAHA, KAUAI, HAWAII  
TMK: (4) 1-2-02-01**

The Engineering Division (Division) hereby submits an application for your approval and authorization for the Chairperson and Department to stipulate conditions and issue a Dam Safety Permit for the subject application, KITANO RESERVOIR (KA-0004) – DAM REMOVAL, pursuant to Hawaii Revised Statutes Chapter 179D and current Administrative Rules.

APPLICANT:

Mr. James J. Nakatani, Executive Director  
State of Hawaii, Department of Agriculture  
Agribusiness Development Corporation  
235 South Beretania Street, Room 205  
Honolulu, HI 96813

LAND OWNER:

Mr. James J. Nakatani, Executive Director  
State of Hawaii, Department of Agriculture  
Agribusiness Development Corporation  
235 South Beretania Street, Room 205  
Honolulu, HI 96813

SUMMARY OF REQUEST:

Application for a Dam Safety Permit for the dam removal of the Kitano Reservoir (KA-0004), Kekaha, Kauai, Hawaii. (See Exhibit 1)

LOCATION: Kekaha, Kauai, Hawaii, TMK: (4) 1-2-02-01 (See Exhibit 2)

BACKGROUND:

The Kitano Reservoir, built around 1928 was used for irrigation purposes and is currently owned by the State of Hawaii, Department of Agriculture – Agribusiness Development Corporation (ADC). The dam is approximately 720-ft long and varies from 16-ft to 45-ft wide. The reservoir is generally circular in shape, approximately 520-ft long and 670-ft wide and has a maximum capacity of 86.9 ac-ft (at top of dam). The spillway consists of two (2) 42-corrugated steel arch culverts about 2.7-ft below the top of the crest. The low level outlet is controlled by a valve on the upstream side of the embankment however the valve is broken in the open position as a result of past vandalism. The reservoir has not retained water since 2006. The ADC has determined

storage of irrigation water is no longer required at Kitano Reservoir and are proposing to breach the empty reservoir for safety purposes.

The Kitano Reservoir has no natural upstream watershed. The area mauka of the reservoir is collected by the existing Kokee Ditch which conveys runoff around the reservoir and directs it to the Waipao Valley. When Kitano Reservoir was in operation it impounded water for irrigation purposes. Runoff from the Kokee Ditch could be manually diverted into the reservoir by opening and closing a series of gates. When the reservoir was full, excess runoff in the reservoir was discharged via the existing outlet pipe and spillway on the south returning it to the Kokee Ditch. Presently Kitano reservoir is not in operation and no upstream runoff is directed into the reservoir. The gate allowing inflow water from Kokee Ditch to enter the reservoir is closed and the Kokee Ditch runoff flows freely around the reservoir and continues into the Waipao Valley.

DESCRIPTION:

The proposed project will consist of mass grading to breach the manmade earth berm by excavating and removing a portion of the embankment. The resulting breach opening will have a bottom width of 20-ft and be trapezoidal with 2:1 side slopes. The invert of the channel will be lined with a concrete rubble masonry (CRM) apron to maintain soil stabilization during higher velocity storms. Excavated material from the dam removal will be placed in the reservoir bottom to ensure positive drainage through the dam breach to minimize ponding. The existing 18-in steel drain pipe will be filled with concrete and capped. The existing dual 42-in corrugated arch culvert spillway will be demolished and removed (See Exhibit 3).

CHAPTER 343-HRS – ENVIRONMENTAL ASSESSMENT:

The Department of Agriculture – Agribusiness Development Corporation conducted a HRS-343 environmental assessment evaluation of the project and concluded that the action is exempt from the preparation of an environment assessment pursuant to Exemption Class 8 on their Exemption list dated June 2, 2003 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. A SHPD review was conducted at the request of the County of Kauai, Department of Public Works, Clearinghouse Application No. CL-2015-026 Kitano Reservoir – Dam Breach Plan.

Based on the information provided, **SHPD's determination is no historic properties affected.** (See Exhibit 5). In the event that historic properties, including human skeletal remains, structural remains, cultural deposits or features, or artifacts are uncovered please cease work in the vicinity of the find, protect the find from further disturbance, and immediately contact the State Historic Preservation Division at (808) 692-8015.

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.

REMARKS:

The applicant/owner, State of Hawaii, Department of Agriculture, Agribusiness Development Corporation has completed a basis of design, plans and specifications and requests for the approval of a dam safety permit. The Division has reviewed the documents and concluded that 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:

That the Board:

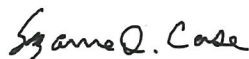
1. Authorize the approval and issuance of the Dam Safety Permit for this project;
2. Authorize the Chairperson to issue a Dam Safety Permit for the removal of the Kitano Reservoir (KA-0004) (DLNR Dam Safety Permit No. 78) subject to such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State; and
3. Authorize the Department to oversee performance of the permitted work and take appropriate action including but not limited to issuance of fines and/or revocation of the permit, if necessary.
4. Authorize the Department to remove this dam from dam safety regulatory inventory and the requirements of Hawaii Revised Statutes Chapter 179D, upon satisfactory completion of the construction project.

Respectfully submitted,



CARTY S. CHANG  
Chief Engineer

APPROVED FOR SUBMITTAL:



SUZANNE D. CASE  
Chairperson

- Exhibit(s):
1. Owner Permit Application
  2. Location map
  3. Construction Drawing pages
  4. Chapter 343-HRS Review
  5. HRS Chapter 6E-8 Review
  6. Agency Consultation
  7. Kitano Reservoir - photos
  8. General permit conditions



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

**DAM SAFETY PERMIT APPLICATION FORM**

Dam Name: Kitano Reservoir	Project Type: Removal
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Fill in the following information for the specified dam safety permit project. One application shall be used for each dam or reservoir structure.

<b>Project Information</b>	<i>Application Date</i>	January 5, 2017
	<i>Applicant Name</i>	James J. Nakatani
	<i>Licensed Engineer's Name</i>	Kevin Medes
	<i>Engineering Company</i>	R. M. Towill Corporation
Dam Name	Kitano Reservoir	
Dam ID No. (State) (if New Dam enter N/A)	KA-0004	
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)	Kekaha	
Dam/Reservoir Location (Latitude/Longitude)	22.028432 (lat) / -159.673562 (long)	
TMK(s)	(4) 1-2-02 : 01	
Island/County	Kauai / Kauai	
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 owners signature page)	Y
2. Design Report(s)	Y
3. Documentation for compliance with Chapter 343 Environmental Review	*N
4. Documentation for compliance with State Historic Preservation Division (SHPD)	**N
5. Construction Plans (2 sets)	Y
6. Construction Specifications (2 sets)	N
7. Construction Quality Assurance Plan	N
8. Detailed Cost Estimate	Y
9. Filing fee calculation	Y
10. Filing fee (check)	Y
11. Other Supporting Documents	N
12. Electronic copy of all of the above on CD/DVD	Y

\*ADC will submit a declaration of exemption from Chapter 343 pending compliance letter from SHPD.  
 \*\*Construction plans were submitted to SHPD for review. Compliance letter from SHPD pending USACOE Jurisdictional Determination.  
 USACOE currently reviewing Jurisdictional Determination.



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

Dam Name: Kitano Reservoir	Project Type: Removal
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<b>Technical Information</b>	
Drainage Area (sq. miles/acres)	0.05 sq. miles / 32.3 acres
Type of Structure (Earthen/Concrete, etc.)	Earthen Dam
Size Classification of Dam	Small
Hazard Classification	Proposed High
Purpose of Structure (Water supply, irrigation, recreation, real estate development, etc...)	Impoundment for irrigation water (not currently in use)
Maximum Capacity (existing volume)	70.8 ac-ft (spillway) / 86.9 ac-ft (top of dam)
Maximum Capacity (revised volume after project completed)	0.0 ac-ft
Year completed/last modified	Completed 1928

<b>Description of Work to be performed</b> (describe construction work to be done on dam and reservoir facility)
The project consists of mass grading to breach the man made earth berm of the Kitano Reservoir by excavating and removing a portion of the embankment. The resulting section will be trapezoidal with 2:1 side slopes and a bottom width of 20'. CRM will be placed for scour protection.

<b>Anticipated effect of proposed structure on natural environment:</b>
There will be no significant impact to downstream lots, street, and to the existing drainage pattern as a result of the proposed grading. The Kokee Ditch and Waipao Valley will see no change in runoff due to the proposed reservoir breach. Any runoff potentially diverted from the ditch through the reservoir breach would be returned to the Kokee Ditch downstream of the reservoir, matching the existing conditions.

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.

<b>Owner Information</b>	
<b>Owner 1 Name:</b> James J. Nakatani State of Hawaii, Department of Agriculture, Company: Agribusiness Development Corporation	TMK: (4) 1-2-02 : 01
<b>Owner 2 Name:</b> Company:	TMK:
<b>Owner 3 Name:</b> Company:	TMK:
<b>Owner 4 Name:</b> Company:	TMK:

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


Dam Name: Kitano Reservoir	Project Type: Removal
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**Attachment 1**

**CONTACT INFORMATION**

<b>Applicant Information (primary contact for Dam Safety Permit process)</b>	
Applicant Contact Name	James J. Nakatani, Executive Director
Firm/Company	State of Hawaii, Department of Agriculture, Agribusiness Development Corporation
Mailing Address	State Office Tower, 235 South Beretania Street, Room 205 Honolulu, HI 96813
Telephone	(808) 586-0186
Fax	(808) 586-0189
Email	James.Nakatani@hawaii.gov

I, James J. Nakatani, 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  
 Executive Director  
 Applicant Title

Date: January 6, 2017

<b>Licensed Engineer Contact Information</b>	
Registered Hawaii Professional Engineer	Kevin Mendes
Registration No.	8200-C
Firm/Company	R. M. Towill Corporation
Mailing Address	2024 North King Street, Suite 200, Honolulu, HI 96819
Telephone	(808) 842-1133
Mobile/Other	
Fax	(808) 842-1937
Email	kevinm@rmtowill.com

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

Dam Name: Kitano Reservoir	Project Type: Removal
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**Attachment 2**

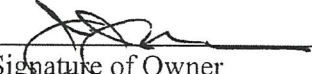
**OWNER SIGNATURE**

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)

<b>Owner Information</b>	
Owner Contact Name	James J. Nakatani, Executive Director
Firm/Company	State of Hawaii, Department of Agriculture, Agribusiness Development Corporation
Mailing Address	State Office Tower, 235 South Beretania Street, Room 205 Honolulu, HI 96813
Telephone	(808) 586-0186
Mobile/Other	
Fax	(808) 586-0189
Email	James.Nakatani@hawaii.gov
TMK for dam/reservoir property	(4) 1-2-02 : 01

**Owner Signature**

James J. Nakatani  
 \_\_\_\_\_  
 Print Name of Owner

  
 \_\_\_\_\_  
 Signature of Owner

January 6, 2017  
 \_\_\_\_\_  
 Date



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

Dam Name: Kitano Reservoir	Project Type: Removal
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**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**

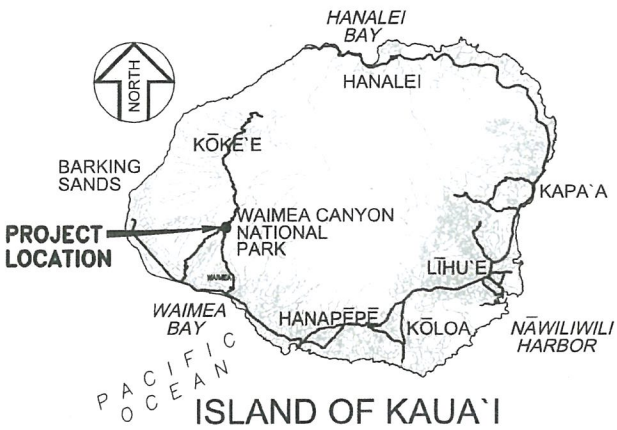
Engineering costs (studies, plans, specifications, etc...)	<u>\$55,070</u>
Estimated Construction cost	<u>\$261,970</u>
Total estimated costs	<u>\$317,040</u>
Initial Application fee = 2% x Total estimated costs	<u>\$6,341</u>





**PROJECT SITE**  
 TMK: (4)1-2-02-01

**KITANO RESERVOIR**  
 (KA-0004)



**VICINITY MAP**

NOT TO SCALE

**LOCATION MAP**

NOT TO SCALE

**KITANO RESERVOIR  
 DAM BREACH PLAN  
 (KA-0004)**

**LOCATION AND VICINITY MAP**



STATE OF HAWAII  
 DEPARTMENT OF AGRICULTURE  
 PROJECT NO. DOASW02

# KITANO RESERVOIR - DAM BREACH PLAN

## [KA-0004]

KŌKE'E, KAUA'I, HAWAII

TAX MAP KEY: (4TH DIV.) 1-2-02 : 01

PREPARED FOR :  
**HAWAII STATE DEPARTMENT OF AGRICULTURE**  
**AGRICULTURAL RESOURCE MANAGEMENT DIVISION**  
 1428 SOUTH KING STREET  
 HONOLULU, HAWAII 96814

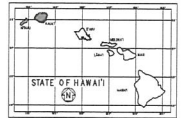
PREPARED BY :  
**CIVIL ENGINEER:**



**R. M. TOWILL CORPORATION**

SINCE 1938  
 (808) 842-1133 2024 NORTH KING STREET SUITE 200 HONOLULU, HAWAII 96819

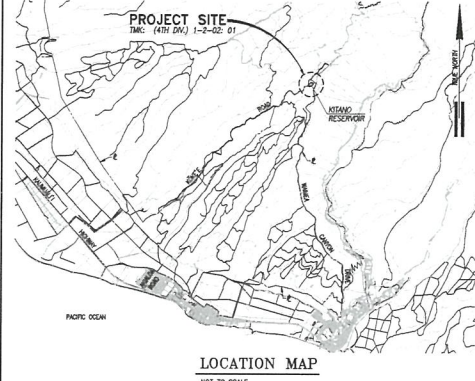
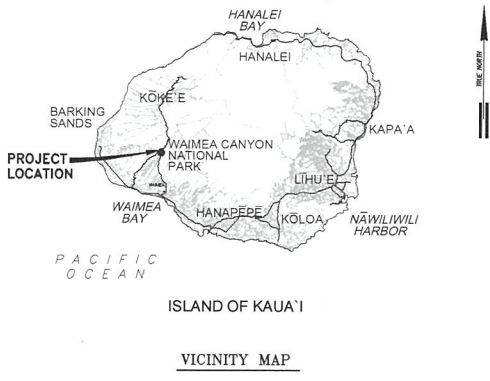
**GEOTECHNICAL ENGINEER:**  
**YOGI KWONG ENGINEERS, LLC**  
 677 ALA MOANA BOULEVARD, SUITE 710  
 HONOLULU, HAWAII 96813



JUNE 8, 2018

PROJECT NO. DOASW02

KITANO RESERVOIR - DAM BREACH PLAN



**APPROVED:**

ADMINISTRATOR AND CHIEF ENGINEER, AGRICULTURAL RESOURCE MANAGEMENT DIVISION  
 DEPARTMENT OF AGRICULTURE, STATE OF HAWAII

DATE \_\_\_\_\_

**INDEX TO DRAWINGS:**

SHT. NO.	DWG. NO.	TITLE
1	T-1	TITLE SHEET AND INDEX
2	C-1	NOTES
3	C-2	EROSION CONTROL PLAN, NOTES, AND DETAILS
4	C-3	GRADING PLAN
5	C-4	SECTIONS AND DETAILS
6	C-1	UNITED SOIL CLASSIFICATION, DESCRIPTION OF ROCK MATERIALS, AND LOG OF BORING KEY
7	C-2	BORING LOGS B-1, B-2, AND B-3
8	C-3	BORING LOGS B-3 CONTINUED, B-4, AND B-5
9	C-4	BORING LOGS B-5 CONTINUED AND B-6

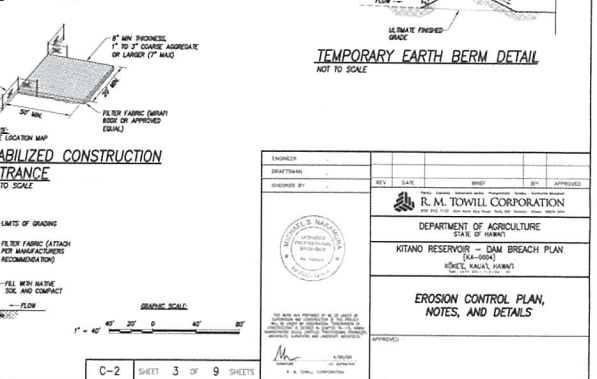
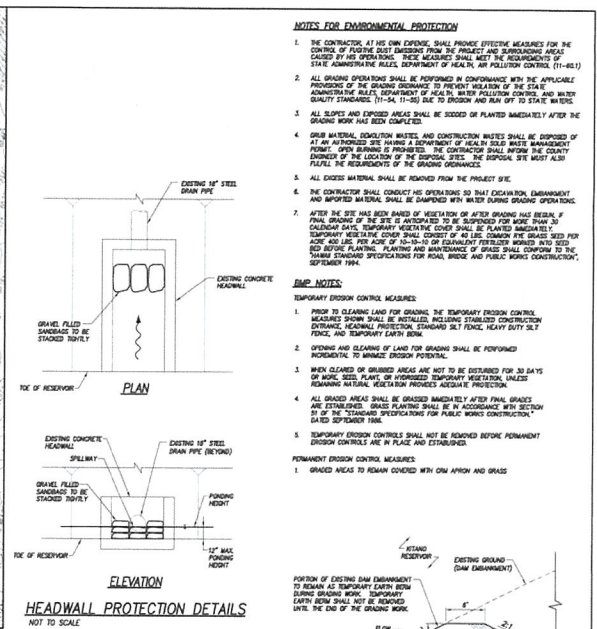
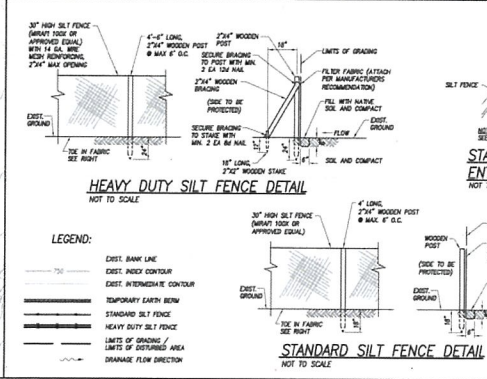
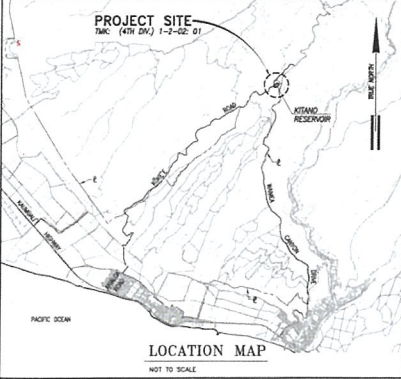
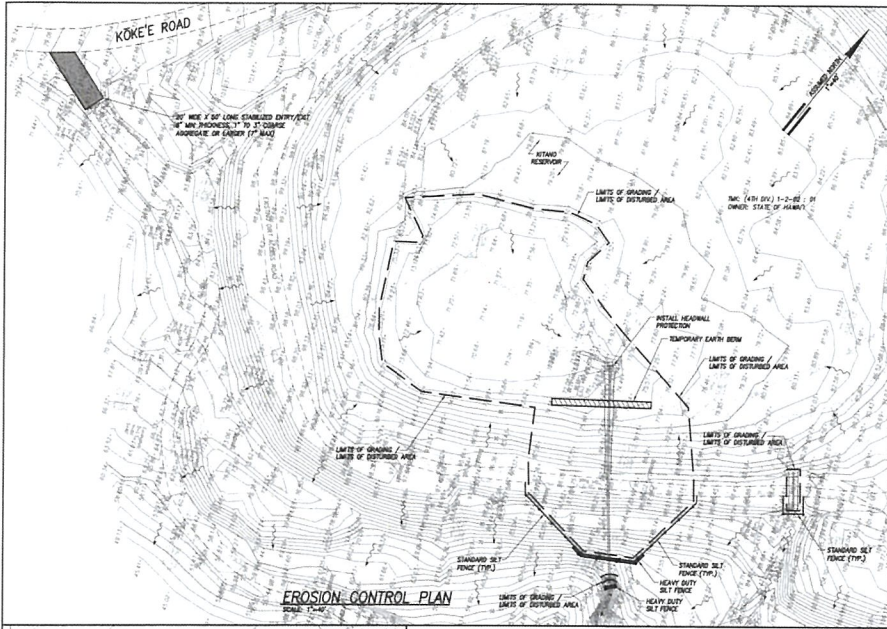
DATE FOR REV. 1-23-02-02

K:\proj\12458 Kitano Reservoir\DWG\Plan\Kitano - Title.dwg May 2, 2018 11:55am kikiwi

REV.	DATE	BY	CHK.







**NOTES FOR ENVIRONMENTAL PROTECTION**

1. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE EFFECTIVE MEASURES FOR THE CONTROL OF FUGITIVE DUST EMISSION FROM THE PROJECT AND SURROUNDING AREAS CAUSED BY HIS OPERATIONS. THESE MEASURES SHALL MEET THE REQUIREMENTS OF STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, AIR POLLUTION CONTROL, (11-651)
2. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE GRADING ORDINANCE TO THE BEST INTEREST OF THE STATE AND ADMINISTERING LOCAL JURISDICTIONS OF ALLER. WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS (11-54 (11-55) DUE TO EROSION AND RUN OFF TO STATE WATERS.
3. ALL SLOPES AND EXPOSED AREAS SHALL BE SOLOD OR PLANTED IMMEDIATELY AFTER THE GRADING WORK HAS BEEN COMPLETED.
4. GRASS MATERIAL, EROSION CONTROL MATS, AND CONSTRUCTION WASTES SHALL BE DEPOSITED AT AN APPROVED SITE. A DEPARTMENT OF HEALTH SOLID WASTE MANAGEMENT PERMIT, OPEN BURNING OF SOLID WASTE, THE CONTRACTOR SHALL NOTIFY THE COUNTY ENGINEER OF THE LOCATION OF THE DISPOSAL SITE. THE DISPOSAL SITE MUST ALSO FOLLOW THE REQUIREMENTS OF THE GRADING ORDINANCE.
5. ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE.
6. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO THAT EROSION, EMBANKMENT AND MOVED MATERIAL SHALL BE CHAINED WITH WATER DURING GRADING OPERATIONS.
7. AFTER THE SITE HAS BEEN BARRICADED OR AFTER GRADING HAS BEGUN, IF FINAL GRADING OF THE SITE IS ANTICIPATED TO BE SUPPLEMENTED FOR MORE THAN 30 CALENDAR DAYS, TEMPORARY VEGETATIVE COVER SHALL BE PLANTED IMMEDIATELY. TEMPORARY VEGETATIVE COVER SHALL CONSIST OF 10-15% COARSE SEED PER ACRE AND 10% PER ACRE OF 10-10-10 OR EQUIVALENT FERTILIZER WORKED INTO SOIL BED BEFORE PLANTING. PLANTING AND MAINTENANCE OF GRASS SHALL CONFORM TO THE TARRANT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984.

**TEMPORARY EROSION CONTROL MEASURES:**

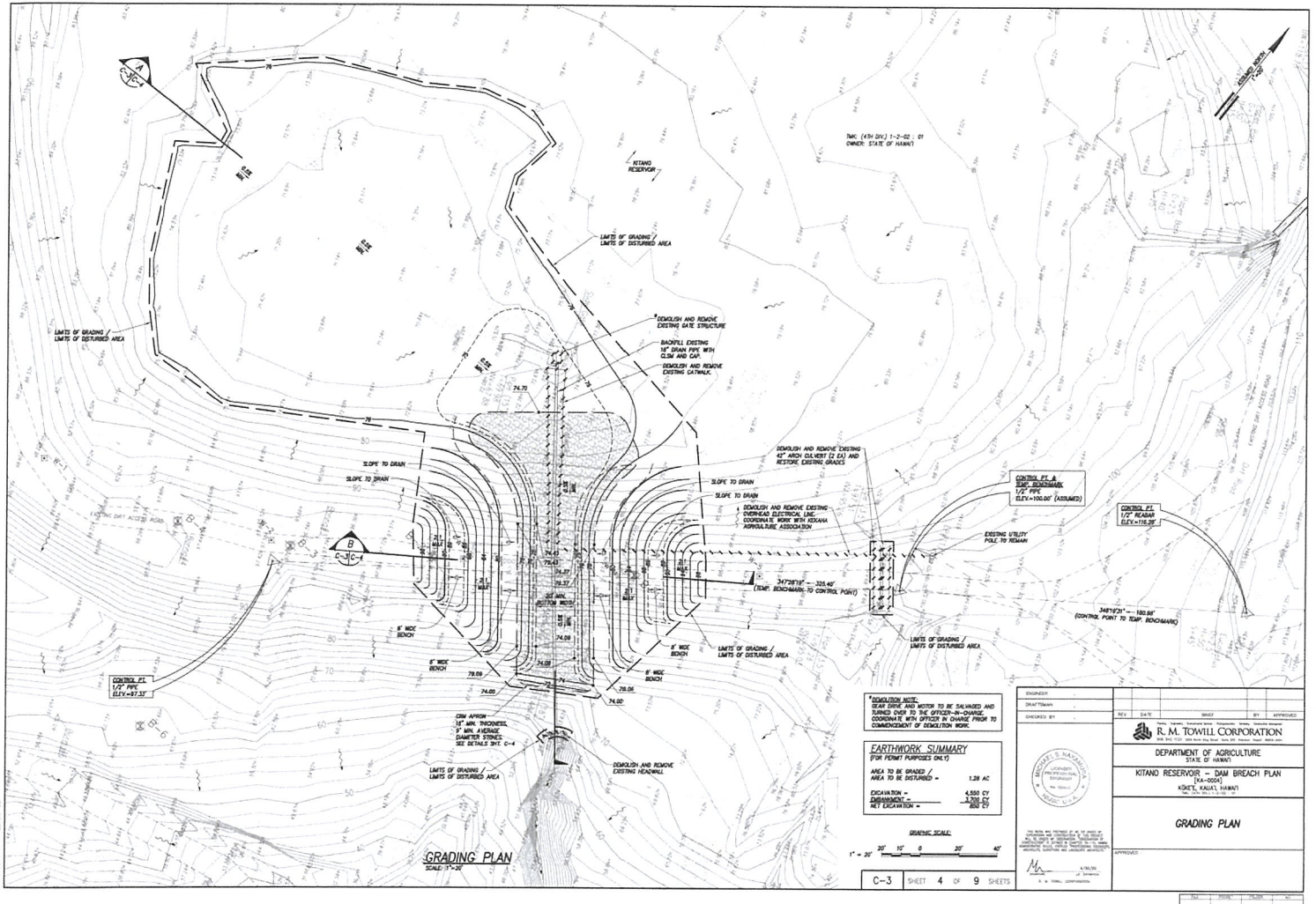
1. PRIOR TO CLEARING LAND FOR GRADING, THE TEMPORARY EROSION CONTROL MEASURES SHOWN SHALL BE INSTALLED, INCLUDING STABILIZED CONSTRUCTION ENTRANCE, HEADWALL PROTECTION, STANDARD SILT FENCE, HEAVY DUTY SILT FENCE, AND TEMPORARY EARTH BERM.
2. OUTFLOW AND CLEARING OF LAND FOR GRADING SHALL BE PERFORMED INCIDENTAL TO MINIMIZE EROSION POTENTIAL.
3. WHEN CLEARED OR GRABBED AREAS ARE NOT TO BE DESTROYED FOR 30 DAYS OF WORK, SEED, PLANT, OR FERTILIZED TEMPORARY VEGETATIVE MEASURES REMAINING NATURAL VEGETATION PROVIDES ADEQUATE PROTECTION.
4. ALL GRABBED AREAS SHALL BE GRABBED IMMEDIATELY AFTER FINAL GRADING AND STABILIZED. GRASS PLANTING SHALL BE IN ACCORDANCE WITH SECTION 5.4.5 OF THE TARRANT SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984.
5. TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN PLACE AND ESTABLISHED.

**PERMANENT EROSION CONTROL MEASURES:**

1. GRABBED AREAS TO REMAIN COVERED WITH OAK APRON AND GRASS.

ENGINEER	DATE	REVISION	BY	APPROVED
DESIGNED BY				
<b>R. M. TOWILL CORPORATION</b> DEPARTMENT OF AGRICULTURE STATE OF HAWAII KITAND RESERVOIR - DAM BREACH PLAN (SHEET 3 OF 9) HONOLULU, HAWAII				
<b>EROSION CONTROL PLAN,          NOTES, AND DETAILS</b>				
APPROVED				






DEMOLITION NOTE:  
SEAL SINK AND MOTOR TO BE SALVAGED AND  
TURNED OVER TO THE OFFICER-IN-CHARGE.  
COORDINATE WITH OFFICER IN CHARGE PRIOR TO  
COMMENCEMENT OF DEMOLITION WORK.

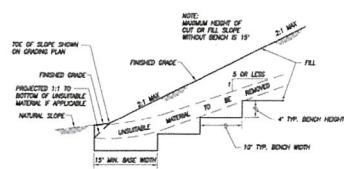
**EARTHWORK SUMMARY**  
(FOR PERMIT PURPOSES ONLY)  
AREA TO BE GRADED /  
AREA TO BE DISTURBED = 1.28 AC  
EXCAVATION = 4,550 CY  
EMBANKMENT = 3,100 CY  
NET EXCAVATION = 1,450 CY

GRAPHIC SCALE:  
1" = 20' 0" 20' 40'

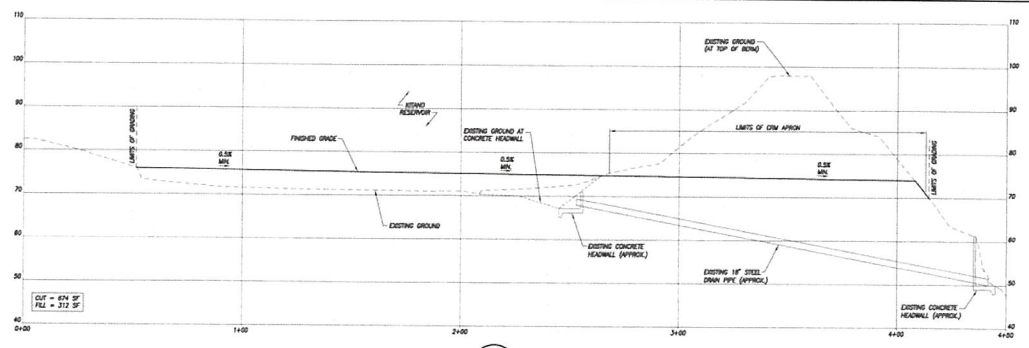
C-3 SHEET 4 OF 9 SHEETS

ENGINEER	DATE	REVISION	BY	APPROVED
DRAWN BY				
CHECKED BY				
				
<b>R. M. TOWILL CORPORATION</b> DEPARTMENT OF AGRICULTURE STATE OF HAWAII KITAND RESERVOIR - DAM BREACH PLAN MOLOE, KAUAI, HAWAII				
<b>GRADING PLAN</b>				
<small>THIS PLAN AND SPECIFICATIONS ARE THE PROPERTY OF R. M. TOWILL CORPORATION. NO PART OF THIS PLAN OR SPECIFICATIONS IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF R. M. TOWILL CORPORATION.</small>				





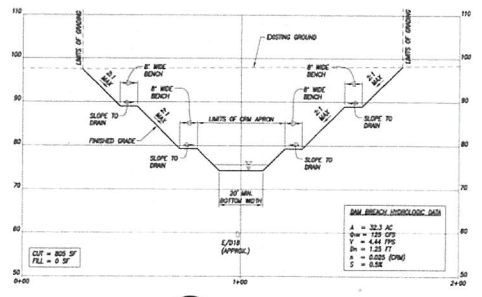
**FILL SLOPE ON SLOPING GROUND**  
**TYPICAL KEYING & BENCHING DETAIL**  
 NOT TO SCALE



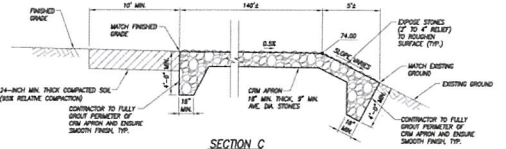
**EARTHWORK SUMMARY**  
 (FOR PERMIT PURPOSES ONLY)

AREA TO BE GRADED	1.28 AC
AREA TO BE DISTURBED	1.28 AC
EXCAVATION	4,500 CY
APPROXIMATE	3,200 CY
FILL	800 CY

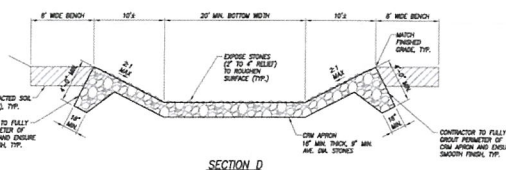
**A SECTION**  
 C-3 | C-4  
 SCALES: HORIZ. 1"=20'  
 VERT. 1"=10'



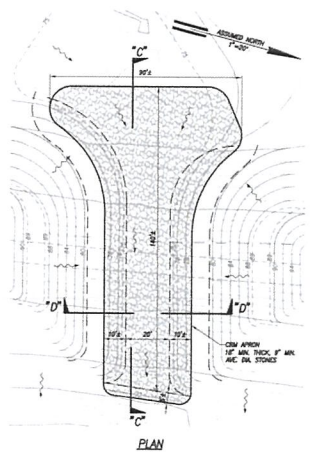
**B SECTION**  
 C-3 | C-4  
 SCALES: HORIZ. 1"=20'  
 VERT. 1"=10'



**SECTION C**

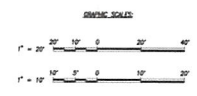


**SECTION D**



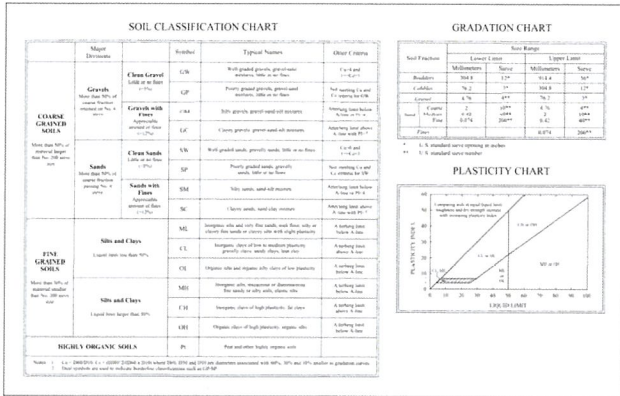
**PLAN**

**CRM APRON DETAILS**  
 NOT TO SCALE



**C-4 SHEET 5 OF 9 SHEETS**

ENGINEER	DESIGNED BY	REV.	DATE	SHEET	OF	APPROVED
<b>R. M. TOWILL CORPORATION</b> DEPARTMENT OF AGRICULTURE STATE OF HAWAII KITANO RESERVOIR - DAM BREACH PLAN (E.A. 1001) HONOLULU, HAWAII						
<b>SECTIONS AND DETAILS</b>						
PREPARED BY: _____ DATE: _____ CHECKED BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____						



#### A. RESULTS OF TESTS

**1. GRAIN ANALYSIS**  
 The grain analysis was conducted in accordance with the Standard Test Method for Soil Analysis, T 200, of the American Society of Civil Engineers. The results are as follows:

Grain Size	Percentage
Retained on 75 mm sieve	12.5
Between 75 mm and 4.75 mm sieves	87.5
Retained on 4.75 mm sieve	0.0
Between 4.75 mm and 75 microns	0.0
Between 75 microns and 20 microns	0.0
Between 20 microns and 7.5 microns	0.0
Between 7.5 microns and 4.75 microns	0.0
Retained on 4.75 microns sieve	0.0
Between 4.75 microns and 2.0 microns	0.0
Between 2.0 microns and 0.85 microns	0.0
Between 0.85 microns and 0.425 microns	0.0
Between 0.425 microns and 0.25 microns	0.0
Between 0.25 microns and 0.15 microns	0.0
Between 0.15 microns and 0.075 microns	0.0
Between 0.075 microns and 0.0425 microns	0.0
Between 0.0425 microns and 0.025 microns	0.0
Between 0.025 microns and 0.015 microns	0.0
Between 0.015 microns and 0.0075 microns	0.0
Retained on 0.075 microns sieve	0.0

**2. LIQUID LIMIT AND PLASTICITY INDEX**  
 The liquid limit and plasticity index were determined in accordance with the Standard Test Method for Liquid Limit and Plasticity Index, T 222, of the American Society of Civil Engineers. The results are as follows:

Test	Value
Liquid Limit (LL)	25.0
Plasticity Index (PI)	10.0

**3. SOIL CLASSIFICATION**  
 The soil is classified as **CL** (Clayey Silt) based on the grain analysis and liquid limit and plasticity index results.

### DESCRIPTION OF ROCK MATERIALS

### UNIFIED SOIL CLASSIFICATION

#### GEO TECHNICAL EXPLORATION AND EVALUATION DECOMMISSIONING OF KITANO RESERVOIR (H-00004)

LOG OF BORING KEY (Sheet 1 of 3)

DEPTH (m)	DESCRIPTION	REMARKS
0.0 - 0.5	Topsoil	
0.5 - 1.0	Clayey silt	
1.0 - 1.5	Clayey silt	
1.5 - 2.0	Clayey silt	
2.0 - 2.5	Clayey silt	
2.5 - 3.0	Clayey silt	
3.0 - 3.5	Clayey silt	
3.5 - 4.0	Clayey silt	
4.0 - 4.5	Clayey silt	
4.5 - 5.0	Clayey silt	
5.0 - 5.5	Clayey silt	
5.5 - 6.0	Clayey silt	
6.0 - 6.5	Clayey silt	
6.5 - 7.0	Clayey silt	
7.0 - 7.5	Clayey silt	
7.5 - 8.0	Clayey silt	
8.0 - 8.5	Clayey silt	
8.5 - 9.0	Clayey silt	
9.0 - 9.5	Clayey silt	
9.5 - 10.0	Clayey silt	

NOTE:  
 1. REFER TO SECTION 02200 FOR EARTHWORK REQUIREMENTS.

ENGINEER	KS	REV.	DATE	BY	APPROVED
DRAWNMAN	TH				
CHECKED BY	JCFK				
<b>R. M. TOWILL CORPORATION</b> 2001 KALANANĀʻOHI DRIVE, SUITE 200, HONOLULU, HAWAII 96813 DEPARTMENT OF AGRICULTURE STATE OF HAWAII KITANO RESERVOIR - DAM BREACH PLAN (SHEET 6 OF 9) UNIFIED SOIL CLASSIFICATION, DESCRIPTION OF ROCK MATERIALS, AND LOG OF BORING KEY APPROVED: _____ DATE: 4/26/03					

**GEOTECHNICAL EXPLORATION AND EVALUATION  
DECOMMISSIONING OF KITANO RESERVOIR (H-0004)**

LOG OF BORING B-1 (Sheet 1 of 3)

LOCATION: WEST 4 CORNER...  
 BORING DEPTH: 10.00 FT...  
 DATE: 10/15/2010...  
 DRAWN BY: J. W. TOWHILL...  
 CHECKED BY: J. W. TOWHILL...  
 SCALE: AS SHOWN...  
 SHEET NO.: 1 OF 3

DEPTH (FT)	DESCRIPTION	UNIT WEIGHT (pcf)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	CLASSIFICATION	TESTS AND RESULTS
0.00	Surface	120	15	25	10	CL	
0.50	...	...	...	...	...	...	
1.00	...	...	...	...	...	...	
1.50	...	...	...	...	...	...	
2.00	...	...	...	...	...	...	
2.50	...	...	...	...	...	...	
3.00	...	...	...	...	...	...	
3.50	...	...	...	...	...	...	
4.00	...	...	...	...	...	...	
4.50	...	...	...	...	...	...	
5.00	...	...	...	...	...	...	
5.50	...	...	...	...	...	...	
6.00	...	...	...	...	...	...	
6.50	...	...	...	...	...	...	
7.00	...	...	...	...	...	...	
7.50	...	...	...	...	...	...	
8.00	...	...	...	...	...	...	
8.50	...	...	...	...	...	...	
9.00	...	...	...	...	...	...	
9.50	...	...	...	...	...	...	
10.00	...	...	...	...	...	...	

1:1 Scale Printed 10/15/10

**GEOTECHNICAL EXPLORATION AND EVALUATION  
DECOMMISSIONING OF KITANO RESERVOIR (H-0004)**

LOG OF BORING B-1 (Sheet 2 of 3)

LOCATION: WEST 4 CORNER...  
 BORING DEPTH: 10.00 FT...  
 DATE: 10/15/2010...  
 DRAWN BY: J. W. TOWHILL...  
 CHECKED BY: J. W. TOWHILL...  
 SCALE: AS SHOWN...  
 SHEET NO.: 2 OF 3

DEPTH (FT)	DESCRIPTION	UNIT WEIGHT (pcf)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	CLASSIFICATION	TESTS AND RESULTS
10.50	...	...	...	...	...	...	
11.00	...	...	...	...	...	...	
11.50	...	...	...	...	...	...	
12.00	...	...	...	...	...	...	
12.50	...	...	...	...	...	...	
13.00	...	...	...	...	...	...	
13.50	...	...	...	...	...	...	
14.00	...	...	...	...	...	...	
14.50	...	...	...	...	...	...	
15.00	...	...	...	...	...	...	
15.50	...	...	...	...	...	...	
16.00	...	...	...	...	...	...	
16.50	...	...	...	...	...	...	
17.00	...	...	...	...	...	...	
17.50	...	...	...	...	...	...	
18.00	...	...	...	...	...	...	
18.50	...	...	...	...	...	...	
19.00	...	...	...	...	...	...	
19.50	...	...	...	...	...	...	
20.00	...	...	...	...	...	...	

1:1 Scale Printed 10/15/10

**GEOTECHNICAL EXPLORATION AND EVALUATION  
DECOMMISSIONING OF KITANO RESERVOIR (H-0004)**

LOG OF BORING B-1 (Sheet 3 of 3)

LOCATION: WEST 4 CORNER...  
 BORING DEPTH: 10.00 FT...  
 DATE: 10/15/2010...  
 DRAWN BY: J. W. TOWHILL...  
 CHECKED BY: J. W. TOWHILL...  
 SCALE: AS SHOWN...  
 SHEET NO.: 3 OF 3

DEPTH (FT)	DESCRIPTION	UNIT WEIGHT (pcf)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	CLASSIFICATION	TESTS AND RESULTS
20.50	...	...	...	...	...	...	
21.00	...	...	...	...	...	...	
21.50	...	...	...	...	...	...	
22.00	...	...	...	...	...	...	
22.50	...	...	...	...	...	...	
23.00	...	...	...	...	...	...	
23.50	...	...	...	...	...	...	
24.00	...	...	...	...	...	...	
24.50	...	...	...	...	...	...	
25.00	...	...	...	...	...	...	
25.50	...	...	...	...	...	...	
26.00	...	...	...	...	...	...	
26.50	...	...	...	...	...	...	
27.00	...	...	...	...	...	...	
27.50	...	...	...	...	...	...	
28.00	...	...	...	...	...	...	
28.50	...	...	...	...	...	...	
29.00	...	...	...	...	...	...	
29.50	...	...	...	...	...	...	
30.00	...	...	...	...	...	...	

1:1 Scale Printed 10/15/10

**GEOTECHNICAL EXPLORATION AND EVALUATION  
DECOMMISSIONING OF KITANO RESERVOIR (H-0004)**

LOG OF BORING B-2 (Sheet 1 of 3)

LOCATION: WEST 4 CORNER...  
 BORING DEPTH: 10.00 FT...  
 DATE: 10/15/2010...  
 DRAWN BY: J. W. TOWHILL...  
 CHECKED BY: J. W. TOWHILL...  
 SCALE: AS SHOWN...  
 SHEET NO.: 1 OF 3

DEPTH (FT)	DESCRIPTION	UNIT WEIGHT (pcf)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	CLASSIFICATION	TESTS AND RESULTS
0.00	Surface	120	15	25	10	CL	
0.50	...	...	...	...	...	...	
1.00	...	...	...	...	...	...	
1.50	...	...	...	...	...	...	
2.00	...	...	...	...	...	...	
2.50	...	...	...	...	...	...	
3.00	...	...	...	...	...	...	
3.50	...	...	...	...	...	...	
4.00	...	...	...	...	...	...	
4.50	...	...	...	...	...	...	
5.00	...	...	...	...	...	...	
5.50	...	...	...	...	...	...	
6.00	...	...	...	...	...	...	
6.50	...	...	...	...	...	...	
7.00	...	...	...	...	...	...	
7.50	...	...	...	...	...	...	
8.00	...	...	...	...	...	...	
8.50	...	...	...	...	...	...	
9.00	...	...	...	...	...	...	
9.50	...	...	...	...	...	...	
10.00	...	...	...	...	...	...	

1:1 Scale Printed 10/15/10

**GEOTECHNICAL EXPLORATION AND EVALUATION  
DECOMMISSIONING OF KITANO RESERVOIR (H-0004)**

LOG OF BORING B-2 (Sheet 2 of 3)

LOCATION: WEST 4 CORNER...  
 BORING DEPTH: 10.00 FT...  
 DATE: 10/15/2010...  
 DRAWN BY: J. W. TOWHILL...  
 CHECKED BY: J. W. TOWHILL...  
 SCALE: AS SHOWN...  
 SHEET NO.: 2 OF 3

DEPTH (FT)	DESCRIPTION	UNIT WEIGHT (pcf)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	CLASSIFICATION	TESTS AND RESULTS
10.50	...	...	...	...	...	...	
11.00	...	...	...	...	...	...	
11.50	...	...	...	...	...	...	
12.00	...	...	...	...	...	...	
12.50	...	...	...	...	...	...	
13.00	...	...	...	...	...	...	
13.50	...	...	...	...	...	...	
14.00	...	...	...	...	...	...	
14.50	...	...	...	...	...	...	
15.00	...	...	...	...	...	...	
15.50	...	...	...	...	...	...	
16.00	...	...	...	...	...	...	
16.50	...	...	...	...	...	...	
17.00	...	...	...	...	...	...	
17.50	...	...	...	...	...	...	
18.00	...	...	...	...	...	...	
18.50	...	...	...	...	...	...	
19.00	...	...	...	...	...	...	
19.50	...	...	...	...	...	...	
20.00	...	...	...	...	...	...	

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**GEOTECHNICAL EXPLORATION AND EVALUATION  
DECOMMISSIONING OF KITANO RESERVOIR (H-0004)**

LOG OF BORING B-2 (Sheet 3 of 3)

LOCATION: WEST 4 CORNER...  
 BORING DEPTH: 10.00 FT...  
 DATE: 10/15/2010...  
 DRAWN BY: J. W. TOWHILL...  
 CHECKED BY: J. W. TOWHILL...  
 SCALE: AS SHOWN...  
 SHEET NO.: 3 OF 3

DEPTH (FT)	DESCRIPTION	UNIT WEIGHT (pcf)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	CLASSIFICATION	TESTS AND RESULTS
20.50	...	...	...	...	...	...	
21.00	...	...	...	...	...	...	
21.50	...	...	...	...	...	...	
22.00	...	...	...	...	...	...	
22.50	...	...	...	...	...	...	
23.00	...	...	...	...	...	...	
23.50	...	...	...	...	...	...	
24.00	...	...	...	...	...	...	
24.50	...	...	...	...	...	...	
25.00	...	...	...	...	...	...	
25.50	...	...	...	...	...	...	
26.00	...	...	...	...	...	...	
26.50	...	...	...	...	...	...	
27.00	...	...	...	...	...	...	
27.50	...	...	...	...	...	...	
28.00	...	...	...	...	...	...	
28.50	...	...	...	...	...	...	
29.00	...	...	...	...	...	...	
29.50	...	...	...	...	...	...	
30.00	...	...	...	...	...	...	

1:1 Scale Printed 10/15/10

**GEOTECHNICAL EXPLORATION AND EVALUATION  
DECOMMISSIONING OF KITANO RESERVOIR (H-0004)**

LOG OF BORING B-3 (Sheet 1 of 3)

LOCATION: WEST 4 CORNER...  
 BORING DEPTH: 10.00 FT...  
 DATE: 10/15/2010...  
 DRAWN BY: J. W. TOWHILL...  
 CHECKED BY: J. W. TOWHILL...  
 SCALE: AS SHOWN...  
 SHEET NO.: 1 OF 3

DEPTH (FT)	DESCRIPTION	UNIT WEIGHT (pcf)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	CLASSIFICATION	TESTS AND RESULTS
0.00	Surface	120	15	25	10	CL	
0.50	...	...	...	...	...	...	
1.00	...	...	...	...	...	...	
1.50	...	...	...	...	...	...	
2.00	...	...	...	...	...	...	
2.50	...	...	...	...	...	...	
3.00	...	...	...	...	...	...	
3.50	...	...	...	...	...	...	
4.00	...	...	...	...	...	...	
4.50	...	...	...	...	...	...	
5.00	...	...	...	...	...	...	
5.50	...	...	...	...	...	...	
6.00	...	...	...	...	...	...	
6.50	...	...	...	...	...	...	
7.00	...	...	...	...	...	...	
7.50	...	...	...	...	...	...	
8.00	...	...	...	...	...	...	
8.50	...	...	...	...	...	...	
9.00	...	...	...	...	...	...	
9.50	...	...	...	...	...	...	
10.00	...	...	...	...	...	...	

1:1 Scale Printed 10/15/10

**GEOTECHNICAL EXPLORATION AND EVALUATION  
DECOMMISSIONING OF KITANO RESERVOIR (H-0004)**


LOG OF BORING B-3 (Sheet 2 of 3)

LOCATION: WEST 4 CORNER...  
 BORING DEPTH: 10.00 FT...  
 DATE: 10/15/2010...  
 DRAWN BY: J. W. TOWHILL...  
 CHECKED BY: J. W. TOWHILL...  
 SCALE: AS SHOWN...  
 SHEET NO.: 2 OF 3

DEPTH (FT)	DESCRIPTION	UNIT WEIGHT (pcf)	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	CLASSIFICATION	TESTS AND RESULTS
10.50	...	...	...	...	...	...	
11.00	...	...	...	...	...	...	
11.50	...	...	...	...	...	...	
12.00	...	...	...	...	...	...	
12.50	...	...	...	...	...	...	
13.00	...	...	...	...	...	...	
13.50	...	...	...	...	...	...	
14.00	...	...	...	...	...	...	
14.50	...	...	...	...	...	...	
15.00	...	...	...	...	...	...	
15.50	...	...	...	...	...	...	
16.00	...	...	...	...	...	...	
16.50	...	...	...	...	...	...	
17.00	...	...	...	...	...	...	
17.50	...	...	...	...	...	...	
18.00	...	...	...	...	...	...	
18.50	...	...	...	...	...	...	
19.00	...	...	...	...	...	...	
19.50	...	...	...	...	...	...	
20.00	...	...	...	...	...	...	

1:1 Scale Printed 10/15/10

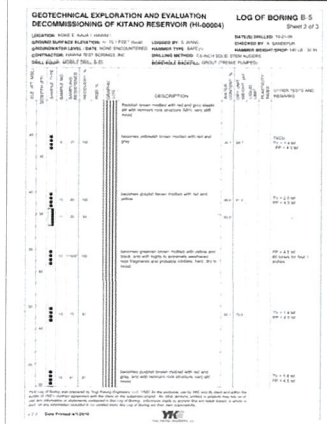
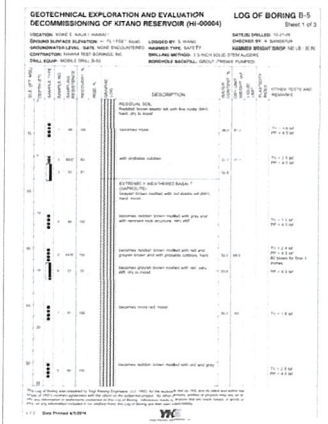
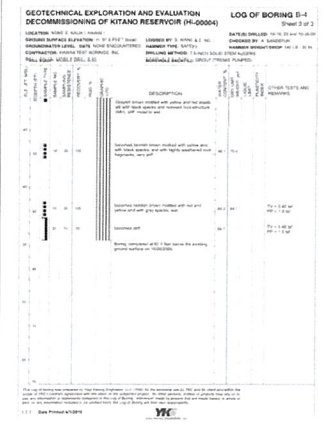
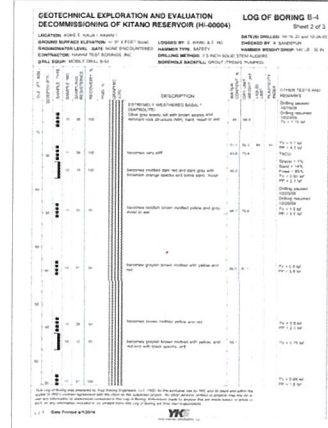
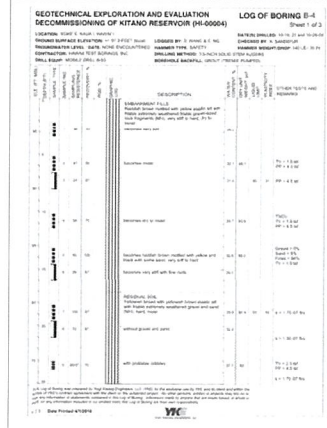
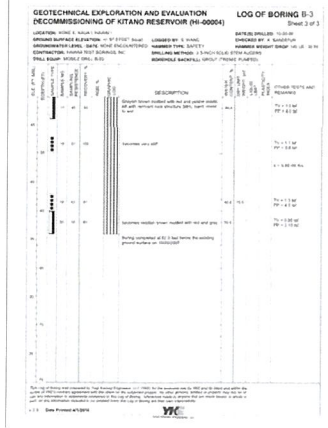
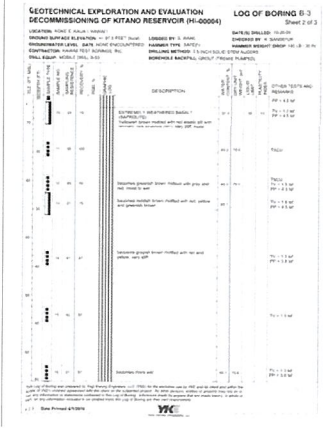
NOTE:  
 1. REFER TO SECTION 02200 FOR EARTHWORK REQUIREMENTS.

ENGINEER	KS				
DRAWN BY	JWTK	DATE	BRIEF	BY	APPROVED
					
<b>R. M. TOWHILL CORPORATION</b> DEPARTMENT OF AGRICULTURE STATE OF HAWAII KITANO RESERVOIR - DAM BREACH PLAN LOGS, KUALA, 1/10/10 SHEET NO. 7-3-B-1					
<b>BORING LOGS B-1, B-2, AND B-3</b>					
APPROVED: _____ DATE: _____					


REV	DATE	BY	DESCRIPTION

DATE: JAN 11 11:22AM '10





NOTE:  
1. REFER TO SECTION 02200 FOR EARTHWORK REQUIREMENTS.

ENGINEER	RS	REV	DATE	BY	APPROVED
DRAWN BY	JPK				
 <b>R. M. TOWILL CORPORATION</b> DEPARTMENT OF AGRICULTURE STATE OF HAWAII KITANO RESERVOIR - DAM BREACH PLAN NO. 1230-5 (REVISED 1-1-83)					
<b>BORING LOGS B-3 CONTINUED, B-4, AND B-5</b>					
APPROVED:					

DATE	TIME	PERSON	NO.

DATE: 10/15/2010 1:22:40 PM





DAVID Y. IGE  
Governor

SHAN S. TSUTSUI  
Lt. Governor



JAMES J. NAKATANI  
Executive Director

STATE OF HAWAII  
**AGRIBUSINESS DEVELOPMENT CORPORATION**  
235 S. Beretania Street, Room 205  
Honolulu, HI 96813  
Phone: (808) 586-0186 Fax: (808) 586-0189

### DECLARATION OF EXEMPTION

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

**Project Title:** Kitano Reservoir Dam Breach

**Project Number:** DOASW02

**Project Description:** Decommissioning of the Kitano Reservoir Dam by  
Excavation Removal of a Portion of the Earthen Embankment. Excavation Spoils  
to be Backfilled with the Reservoir.

**The Following Parties Have Been Consulted About This Declaration of  
Exemption:** R.M. Towill Corporation & Yogi Kwong Engineers, LLC

**Exemption Class:** Exemption Class 8

**Exempt Item Number:** Number 3.

**Exempt Item Description:** Demolition and/or removal of unusable, obsolete,  
abandoned, or unauthorized structures or improvements on agricultural lands  
and agricultural processing or marshalling facilities.

**Date of Agency Exemption List:** June 2, 2003

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  
probably have minimal or no significant effect on the environment and is  
therefore exempt from the preparation of an environmental assessment.

Signature of Director  
Or delegate: \_\_\_\_\_

Date: December 14, 2015

Original: Agency file  
Copy: Project file

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA  
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.  
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

August 25, 2017

Paul Togioka  
Department of Public Works, County of Kaua'i  
4444 Rice St., Suite 275  
Lihue, Hawaii 96766  
[ptogioka@hawaii.gov](mailto:ptogioka@hawaii.gov)

IN REPLY REFER TO:  
Log No. 2015.03389  
Doc No. 1510MN02  
Archaeology

Dear Mr. Togioka:

SUBJECT: **Chapter 6E-42 Historic Preservation Review – REVISED COMMENTS**  
**Clearinghouse Application No. CL-2015-026 Kitano Reservoir – Dam Breach Plan**  
**Waimea Ahupua'a, Kona District, Island of Kaua'i**  
**TMK: (4) 1-2-002:001 por.**

This is a follow up letter to our letter dated October 13, 2015 (Log No. 2015.03389, Doc. No. 1510MN02) for *Clearinghouse Application No. CL-2015-026 Kitano Reservoir – Dam Breach Plan*, in which SHPD requested the applicant/landowner (1) provide a scope of work, and (2) indicate whether the project would require a U.S. Army Corps of Engineers (Corps) permit and if so, (3) indicate whether the USCAE had initiated National Historic Preservation Act (NHPA) Section 106 consultation. According to the submittal, the State of Hawaii Department of Agriculture (DOA) proposes to grade approximately 1.28 acres of the property, including excavating 4,550 cubic yards and excavating approximately 3,700 cubic yards of embankment.

Our office received the requested information via email on May 17, 2017 (Michael Nakamura [RM Towill, on behalf of DOA] to Stephanie Hacker [SHPD. The additional information consisted of a scope of work which includes mass grading to breach the man-made earthen berm, installation of grouted rip rap, backfilling of existing 18-inch steel drain pipe with concrete, and demolition of an existing 42-inch arch culvert spillway. The additional information specifies that the Kitano Reservoir is currently dry and not in operation. In addition, a copy of the following Corps document: *USACOE, Approved Jurisdictional Determination for Kitano Reservoir, Kokee, Island of Kauai, Army File No. POH-2015-00064 (January 11, 2017)*. This document indicates the Corps has determined that the *Kitano Reservoir is not a water of the U.S. and is not subject to the regulatory jurisdiction of Corps pursuant to Sections 10 and 404.*

A review of SHPD records indicates that no archaeological inventory survey has been conducted and no historic properties have been identified within the subject parcel. SHPD records also indicate that the above parcel has undergone extensive grubbing and grading. SHPD previously made a no historic properties affected for the above parcel on September 17, 2013 (Log No. 2013.02764, Doc. No. 1307GC21).

Based on the information provided, **SHPD's determination is no historic properties affected.** The permitting process may continue.

Please attach the following to the permit: In the event that historic properties, including human skeletal remains, structural remains, cultural deposits or features, or artifacts are uncovered please cease work in the vicinity of the find, protect the find from further disturbance, and immediately contact the State Historic Preservation Division at (808) 692-8015.

Paul Togioka  
August 28, 2017  
Page 2

Please contact me at (808) 692-8019 or at [Susan.A.Lebo@hawaii.gov](mailto:Susan.A.Lebo@hawaii.gov) if you have any questions regarding this letter.

Aloha,

A handwritten signature in black ink that reads "Susan A. Lebo". The signature is written in a cursive, flowing style.

Susan A. Lebo, PhD  
Archaeology Branch Chief

cc: Mike Nakamura, RM Towill ([MikeN@rmtowill.com](mailto:MikeN@rmtowill.com))

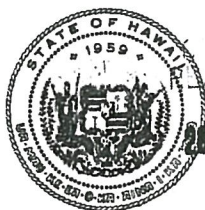


**Dam Safety Permit - Agency Consultation summary:**

**Permit No. 78 – Kitano Reservoir (KA-0004) – Dam removal**

Agency	Date Sent	Date Returned	No Comments	Comments	No Reply
Division of Aquatic Resources	9/19/2017				X
Commission on Water Resources Management	9/19/2017	10/27/17		X	
Division of Forestry and Wildlife	9/19/2017	10/31/17		X	
Historic Preservation Division	9/19/2017	10/11/17		X	
Land Division	9/19/2017	10/30/17	X		
Office of Conservation and Coastal Lands	9/19/2017	9/27/17		X	
Department of Agriculture	9/19/2017				X
Department of Agriculture – ADC	9/19/2017				X
County of Kauai– NFIP	9/19/2017	10/26/17	X		
Hawaii EMA	9/19/2017				X
County of Kauai Emergency Management	9/19/2017				X

DAVID Y. IGE  
GOVERNOR OF HAWAII



RESERVOIR  
DIVISION WATER  
RESOURCE MANAGEMENT  
2017 SEP 20 PM 3: 32

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
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JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER  
  
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CONSERVATION AND COASTAL LANDS  
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HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION  
POST OFFICE BOX 373  
HONOLULU, HAWAII 96809  
SEP 19 2017

TO:

	DLNR agencies		Other Agencies
X	Division of Aquatic Resources	X	County of Kauai – NFIP
X	Commission on Water Resource Mgt		City & County of Honolulu – NFIP
X	Division of Forestry & Wildlife		County of Maui – NFIP
X	Historic Preservation Division		County of Hawaii - NFIP
X	Land Division	X	Kauai Emergency Management Agency
X	Office of Conservation & Coastal Lands		Dept of Emergency Mgt – City & County of Hon
	<b>Other Agencies</b>		Maui County Emergency Management Agency
X	Department of Agriculture		County of Hawaii – Civil Defense
X	Department of Agriculture-ADC	X	HI EMA

FROM: Carty Chang, Chief Engineer

SUBJECT: Dam Safety Permit – Agency Consultation  
Kitano Reservoir (KA-0004)  
Dam Safety Permit No. 78, Dam Removal

LOCATION: Kauai, TMK: (4) 1-2-002:001

APPLICANT: James J. Nakatani, State of Hawaii, Department of Agriculture, Agribusiness Development Corporation

Transmitted for your review and information are the attached documents on the subject Dam Safety Permit application. Please return to our office a signed copy of this transmittal with one of the choices below checked along with any comments by **October 31, 2017**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Denise Manuel of my staff at (808) 587-0246 or denise.m.manuel@hawaii.gov.

1. Dam Safety Permit Application
2. Plan set (selected sheets)
3. DLNR Dam Facility Data sheet

RFD.4677.2  
17910 ✓

( ) We have no comments

Signed: /s/Jeffrey T. Pearson, P.E.

( x ) Comments are attached (separate document)

Print name: Deputy Director

( ) Comments are noted below

Agency: CWRM

Date: October 27, 2017

Comments: \_\_\_\_\_

17 OCT 31 PM 10:22 ENGINEERING

DAVID Y. IGE  
GOVERNOR OF HAWAII



SUZANNE D. CASE  
CHAIRPERSON

WILLIAM D. BALFOUR, JR.  
KAMANA BEAMER, PH.D.  
MICHAEL G. BUCK  
NEIL J. HANNAHS  
PAUL J. MEYER  
VIRGINIA PRESSLER, M.D.

JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
P.O. BOX 621  
HONOLULU, HAWAII 96809

October 27, 2017

REF: RFD.4677.2

TO: Carty Chang, Chief Engineer  
Engineering Division

FROM: Jeffrey T. Pearson, P.E., Deputy Director   
Commission on Water Resource Management

SUBJECT: Dam Safety Permit - Agency Consultation - Kitano Reservoir (KA-0004) - Dam Safety Permit No. 78, Dam Removal

FILE NO.: RFD.4677.2  
TMK NO.: (4) 1-2-002:001

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at <http://dlnr.hawaii.gov/cwrm>.

Our comments related to water resources are checked off below.

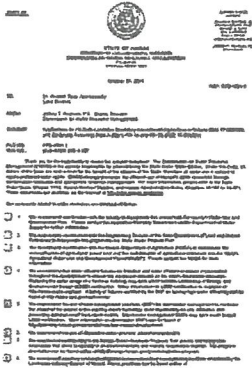
1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at <http://www.usgbc.org/leed>. A listing of fixtures certified by the EAP as having high water efficiency can be found at <http://www.epa.gov/watersense>.
5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at <http://planning.hawaii.gov/czm/initiatives/low-impact-development/>
6. We recommend the use of alternative water sources, wherever practicable.
7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at <http://energy.hawaii.gov/green-business-program>.
8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at



[http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH\\_Irrigation\\_Conservation\\_BMPs.pdf](http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf).

- 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
  - 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.
  - 11. A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.
  - 12. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
  - 13. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
  - 14. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
  - 15. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a stream channel.
  - 16. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.
  - 17. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
  - 18. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.
- OTHER: The Kitano Reservoir is not located on or within a natural stream channel, thus a Stream Channel Alteration Permit and/or Stream Diversion Works Permits will not be required for removal of the Kitano Reservoir Dam (Dam Safety Permit No. 78).

If you have any questions, please contact Dean Uyeno of the Commission staff at 587-0234.



# DOC Reviews (2) RFD.4694.8 State Land Use Boundary Amendment/RFD.4677.2 Kitano Reservoir

Adobe Sign Document History

10/27/2017

Created:	10/27/2017
By:	Kathy Yoda (kathy.s.yoda@hawaii.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAoUg8MD5DGpohnN1nE3qr9CgDZKH7LEnQ

## "DOC Reviews (2) RFD.4694.8 State Land Use Boundary Amendment/RFD.4677.2 Kitano Reservoir" History

- Document created by Kathy Yoda (kathy.s.yoda@hawaii.gov)  
10/27/2017 - 9:56:24 AM HST - IP address: 132.160.239.30
- Document emailed to Jeffrey Pearson (jeff.pearson@hawaii.gov) for signature  
10/27/2017 - 9:57:12 AM HST
- Document viewed by Jeffrey Pearson (jeff.pearson@hawaii.gov)  
10/27/2017 - 5:06:59 PM HST - IP address: 98.155.140.187
- Document e-signed by Jeffrey Pearson (jeff.pearson@hawaii.gov)  
Signature Date: 10/27/2017 - 5:08:35 PM HST - Time Source: server- IP address: 98.155.140.187
- Signed document emailed to all eligible parties.  
10/27/2017 - 5:08:35 PM HST

DAVID Y. IGE  
GOVERNOR OF  
HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF FORESTRY AND WILDLIFE  
3060 Eiwa Street, Room 306  
Lihue, Kauai, HI 96766

1700  
SUZANNE D. CASE  
CHAIRPERSON  
COMMISSION ON WATER RESOURCE MANAGEMENT  
ROBERT K. MASUDA  
FIRST DEPUTY  
JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER  
AQUATIC RESOURCES  
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FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAIHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

October 11, 2017

TO: Carty Chang, Chief Engineer – Engineering Division

FR: Sheri S. Mann, Kauai Branch Manager – Division of Forestry & Wildlife <sup>SSM</sup>

RE: Dam Safety Permit Application – Agency Consultation, Kitano Reservoir, Kauai, Hawaii, (KA-0004)

Dear Mr. Chang:

The Department of Land and Natural Resources, Kauai Division of Forestry and Wildlife (DOFAW) is in receipt of your letter dated September 19, 2017, requesting comments on the subject Dam Safety application for the Kitano Reservoir, Kauai, Hawaii. Our comments and recommendations are below.

Hawaiian Hoary Bat – (HHB)

The Hawaiian hoary bat (*Lasiurus cinereus semotus*) is federally and state listed as endangered and is known to roost throughout the island of Kauai in mixed native and non-native forest habitat. During the birthing and pupping season of June to September 15, HHB often occupy trees greater than 15 feet or 4.6 meters in height to raise their young. To minimize impacts to HHB, it is recommended that earthworks involving or impacting trees of this size be done outside of the pup rearing season (September 16 to May 31).

If a tree that is greater than 15 feet in height needs to be trimmed or removed inside the pup rearing season, it is recommended that a wildlife biologist that is knowledgeable in Hawaiian bats be hired to survey the tree(s) prior to tree cutting. Additionally, attached is a general guideline pertaining to HHB habitat that may be of interest to you.

Hawaiian Waterbirds and Hawaiian Goose

Kitano Reservoir previously supported feeding habitat for the Federal and State endangered Hawaiian duck (*Anas wyvilliana*). However, the reservoir has been dry for the past 6 or 7 years and no longer supports native waterbirds.

There are no records of the Federal and state endangered Hawaiian coot (*Fulica alai*), Hawaiian moorhen (*Gallinula chloropus sandvicensis*), Hawaiian stilt (*Himantopus mexicanus*) and Hawaiian goose (*Branta sandvicensis*) using the Kitano Reservoir.



DAVID Y. IGE  
GOVERNOR OF  
HAWAII



SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

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JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER

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KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

October 11, 2017

Carty Chang, Chief Engineer  
Engineering Division  
Department of Land and Natural Resources  
P.O. Box 373  
Honolulu, HI 96809  
[carty.s.chang@hawaii.gov](mailto:carty.s.chang@hawaii.gov)

IN REPLY REFER TO:  
Log No. 2017.02107  
Doc. No. 1710GC05  
Archaeology

Dear Mr. Chang:

SUBJECT: **Chapter 6E-8 Historic Preservation Review –  
Kitano Reservoir (KA-004) – Agency Consultation  
Dam Safety Permit No. 78, Dam Removal  
Waimea Ahupua‘a, Kona District, Island of Kaua‘i  
TMK: (4) 1-2-002:001 por.**

Thank you for the opportunity to comment on the *Kitano Reservoir (KA-004) Dam Safety Permit No. 78, Dam Removal* (Log No. 2017.02107), which the State Historic Preservation Division (SHPD) received on September 19, 2017 from the Department of Land and Natural Resources, Engineering Division. The Department of Agriculture (DOA) proposes to breach a 1.28-acre portion of the 4.8-acre earthen dam. The dam is currently dry and not in operation. The scope of work includes grading approximately 1.28 acres of the embankment and installing of a CRM for scour protection.

A review of SHPD records indicates that our division commented on *County of Kauai Clearinghouse Application No. CL-2015-026, Kitano Reservoir-Dam Breach Plan, Revised Comments* on August 25, 2017 (Log No. 2015.03389, Doc. No. 1708GC15). SHPD's determination was no historic properties affect for the proposed dam breach.

Based on the available information, **SHPD's determination is no historic properties affected.** The permitting process may continue.

Please 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) 692-8015.

Please contact me at (808) 692-8019 or at [Susan.A.Lebo@hawaii.gov](mailto:Susan.A.Lebo@hawaii.gov) for any concerns regarding this letter.

Aloha,

A handwritten signature in cursive script that reads "Susan A. Lebo".

Susan A. Lebo, PhD  
Archaeology Branch Chief

cc: Denise Manuel – DLNR-Engineering ([denise.m.manuel@hawaii.gov](mailto:denise.m.manuel@hawaii.gov))

DAVID Y. IGE  
GOVERNOR OF HAWAII



RECEIVED  
LAND DIVISION

SEP 20 AM 10:10

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA  
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.  
DEPUTY DIRECTOR - WATER

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STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION  
POST OFFICE BOX 373  
HONOLULU, HAWAII 96809  
SEP 19 2017

FROM  
TO:

	DLNR agencies		Other Agencies
X	Division of Aquatic Resources	X	County of Kauai – NFIP
X	Commission on Water Resource Mgt		City & County of Honolulu – NFIP
X	Division of Forestry & Wildlife		County of Maui – NFIP
X	Historic Preservation Division		County of Hawaii - NFIP
X	Land Division	X	Kauai Emergency Management Agency
X	Office of Conservation & Coastal Lands		Dept of Emergency Mgt – City & County of Hon
	Other Agencies		Maui County Emergency Management Agency
X	Department of Agriculture		County of Hawaii – Civil Defense
X	Department of Agriculture-ADC	X	HI EMA

TO FROM: Carty Chang, Chief Engineer

SUBJECT: **Dam Safety Permit – Agency Consultation**  
**Kitano Reservoir (KA-0004)**  
**Dam Safety Permit No. 78, Dam Removal**

LOCATION: Kauai, TMK: (4) 1-2-002:001

APPLICANT: James J. Nakatani, State of Hawaii, Department of Agriculture, Agribusiness Development Corporation

Transmitted for your review and information are the attached documents on the subject Dam Safety Permit application. Please return to our office a signed copy of this transmittal with one of the choices below checked along with any comments by **October 31, 2017**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Denise Manuel of my staff at (808) 587-0246 or denise.m.manuel@hawaii.gov.

1. Dam Safety Permit Application
2. Plan set (selected sheets)
3. DLNR Dam Facility Data sheet

- (X) We have no comments
- ( ) Comments are attached (separate document)
- ( ) Comments are noted below

Signed: Wesley T. Natsuraga  
 Print name: Wesley T. Natsuraga  
 Agency: DLNR - Land Div.  
 Date: 10/20/17

Comments: \_\_\_\_\_

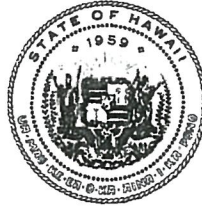
SEP 25 2017

SEP 25 2017

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DAVID Y. IGE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION  
POST OFFICE BOX 373  
HONOLULU, HAWAII 96809  
SEP 19 2017

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AND COASTAL LANDS

2017 SEP 20 A 11:45

SUZANNE D. CASE  
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ROBERT K. MASUDA  
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FROM TO:

	DLNR agencies		Other Agencies
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X	Division of Forestry & Wildlife		County of Maui – NFIP
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X	Office of Conservation & Coastal Lands		Dept of Emergency Mgt – City & County of Hon
	Other Agencies		Maui County Emergency Management Agency
X	Department of Agriculture		County of Hawaii – Civil Defense
X	Department of Agriculture-ADC	X	HI EMA

TO: FROM: Carty Chang, Chief Engineer

SUBJECT: Dam Safety Permit – Agency Consultation  
Kitano Reservoir (KA-0004)  
Dam Safety Permit No. 78, Dam Removal

LOCATION: Kauai, TMK: (4) 1-2-002:001

APPLICANT: James J. Nakatani, State of Hawaii, Department of Agriculture, Agribusiness Development Corporation

Transmitted for your review and information are the attached documents on the subject Dam Safety Permit application. Please return to our office a signed copy of this transmittal with one of the choices below checked along with any comments by **October 31, 2017**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Denise Manuel of my staff at (808) 587-0246 or denise.m.manuel@hawaii.gov.

1. Dam Safety Permit Application
2. Plan set (selected sheets)
3. DLNR Dam Facility Data sheet

- ( ) We have no comments  
 ( ) Comments are attached (separate document)  
 Comments are noted below

Signed: [Signature]  
Print name: ALEX D. ROY  
Agency: DUNR - OCCL  
Date: 9-27-17

Comments: WORK IS NOT LOCATED IN  
SLU CONSERVATION DISTRICT

17 SEP 28 PM 01:26 ENGINEERING

SEP 25 2017



DAVID Y. IGE  
GOVERNOR OF HAWAII



SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

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STATE PARKS



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

ENGINEERING DIVISION  
POST OFFICE BOX 373  
HONOLULU, HAWAII 96809

SEP 19 2017

TO:

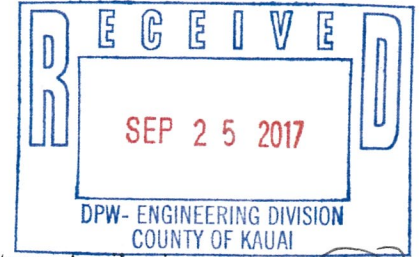
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	<b>Other Agencies</b>		Maui County Emergency Management Agency
X	Department of Agriculture		County of Hawaii – Civil Defense
X	Department of Agriculture-ADC	X	HI EMA

FROM: Carty Chang, Chief Engineer

SUBJECT: Dam Safety Permit – Agency Consultation  
Kitano Reservoir (KA-0004)  
Dam Safety Permit No. 78, Dam Removal

LOCATION: Kauai, TMK: (4) 1-2-002:001

APPLICANT: James J. Nakatani, State of Hawaii, Department of Agriculture, Agribusiness Development Corporation



Transmitted for your review and information are the attached documents on the subject Dam Safety Permit application. Please return to our office a signed copy of this transmittal with one of the choices below checked along with any comments by **October 31, 2017**. If no response is received by this date, we will assume your agency has no comments. If you have any questions, please contact Denise Manuel of my staff at (808) 587-0246 or denise.m.manuel@hawaii.gov.

1. Dam Safety Permit Application
2. Plan set (selected sheets)
3. DLNR Dam Facility Data sheet

- We have no comments  
 Comments are attached (separate document)  
 Comments are noted below

Signed: [Signature]  
Print name: STANFORD IWANOTO FLOODPLAIN MANAGER  
Agency: DPW. COUNTY OF KAUAI  
Date: 10/26/2017

Comments:

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**Kitano Reservoir (KA-0004)**  
**Erosion Gullies and Trees on the Upstream Slope**



**W 159.67430°**  
**N 22.02810°**

**Kitano (208).JPG**

**9:37:31 AM**  
**22/Sep/15**



**Kitano Reservoir (KA-0004)**  
**Right Side of Embankment - Wide Dam Crest**



W 159.67493°  
N 22.02871°

Kitano (214).JPG

11:11:48 AM  
14/May/14

**Kitano Reservoir (KA-0004)**  
**Trees and Erosion Gullies on the Upstream Slope**



W 159.67458°  
N 22.02822°

Kitano (216).JPG

11:12:53 AM  
14/May/14



**Kitano Reservoir (KA-0004)  
Catwalk Metal Support Structure - 90% Deterioration - Unsafe**



W 159.67383°  
N 22.02874°

Kitano (211).JPG

11:05:10 AM  
14/May/14

**Kitano Reservoir (KA-0004)  
Catwalk Access - Catwalk in Disrepair**



W 159.67360°  
N 22.02850°

Kitano (214).JPG

9:39:26 AM  
22/Sep/15



Kitano Reservoir (KA-0004)  
Right Side Spillway CMP Partially Silted In



W 159.67329°  
N 22.02884°

Kitano (219).JPG

11:15:57 AM  
14/May/14



Kitano Reservoir (KA-0004)  
Upstream Slope - Erosion Gully from Motocross Activities

N 22.02820°  
W 159.67391°

Photo: 24

10:37:10 AM  
May 2, 2012



## **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.