

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

January 13, 2017

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

**APPLICATION FOR A DLNR DAM SAFETY  
PERMIT NO. 75 – LOWER ANAHOLA RESERVOIR (KA-0066)  
DAM REMOVAL, ANAHOLA, KAUAI, HAWAII**

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, LOWER ANAHOLA RESERVOIR – DAM REMOVAL, pursuant to Hawaii Revised Statutes Chapter 179D and current Administrative Rules.

**APPLICANT:**

Mr. Kenneth Rappolt  
Lyon Associates, Inc.  
45 N. King Street  
Honolulu, HI 96817

**LAND OWNER:**

Ms. Jobie Masagatani  
State of Hawaii  
Department of Hawaiian Home Lands  
91-5420 Kapolei Parkway  
Kapolei, HI 96707

**SUMMARY OF REQUEST:**

Application for a Dam Safety Permit for the dam removal of the Lower Anahola Reservoir, Anahola, Kauai, Hawaii. (See Exhibit 1)

**LOCATION:** Anahola, Kauai, Hawaii, TMK: (4) 4-7-004:002 (See Exhibit 2)

**BACKGROUND:**

The Lower Anahola Reservoir was completed in the 1920's for irrigation purposes and is now owned by the State of Hawaii, Department of Hawaiian Home Lands (DHHL). The Lower Anahola Reservoir, downstream of the Upper Anahola Reservoir, is not currently being used. DHHL is proposing to remove the Upper Anahola Reservoir. No documentation relating to the original design, construction, or subsequent repair or maintenance work is available for this structure.

ITEM L-1

DESCRIPTION:

DHHL proposed to permanently remove (breach) the Lower Anahola Reservoir. The proposed work provides a 100-ft wide bottom width channel excavated to the original ground elevation. This will render the existing impoundment incapable of storing water as a dam pursuant to Hawaii Administrative Rules Chapter 13-190.1. The upstream and downstream entrance to the existing outlet tunnel will be permanently sealed. The existing spillway will be abandoned and partially filled with excess materials. (See Exhibit 3)

CHAPTER 343-HRS – ENVIRONMENTAL ASSESSMENT:

The Department of Hawaiian Home Lands conducted a HRS-343 environmental assessment evaluation of the project and has concluded that the action is exempt from the preparation of an environmental assessment pursuant to Exemption Class #1 item 2(c)(i) on their Exemption List dated June 30, 2015 and will have minimal or no significant impact on the environment. (See Exhibit 4)

HAWAII REVISED STATUTES CHAPTER 6E-8 HISTORIC PRESERVATION REVIEW

The Department of Hawaiian Home Lands consulted with the State Historic Preservation Division (SHPD) for compliance with the Chapter 6E-8 requirements. Historic American Engineering Records (HAER) has been completed in compliance with SHPD. Mitigation has been completed and accepted and SHPD requires no further work or consultation. (See Exhibit 5)

REMARKS:

The applicant (Lyon Engineering, Inc.) and the owner, the Department of Hawaiian Home Lands, have 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 6)

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 Lower Anahola Reservoir (KA-0066) (DLNR Dam Safety Permit No. 75) 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 issuance of fines and/or revocation of the permit, if necessary; and

January 13, 2017


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. General permit conditions

DLNR-Dam Safety-Sheet 1

BOARD OF LAND AND NATURAL RESOURCES
Department of Land and Natural Resources
Engineering Division

DAM SAFETY PERMIT
APPLICATION FOR APPROVAL OF PLANS AND SPECIFICATIONS FOR CONSTRUCTION,
ENLARGEMENT, REPAIR, ALTERATION, OR REMOVAL OF A DAM

Applicant: Lyon Associates, Inc. Date of Application 12-31-2015
Contact Name: Kenneth Rappolt, P.E. Firm / Company: Lyon Associates, Inc.

Mailing Address 45 N. King Street, Honolulu, HI 96817

Telephone: 808 536 6621 fax: 808 523 1738 Email: ken.rappolt@lyon.us.com

The Applicant hereby applies to the Board of Land and Natural Resources for the approval of the attached plans and specification for rehabilitation and down-sizeing of a dam in accordance with Chapter 179D HRS (as amended by Act 262, SLH 2006), and subject to the provisions, conditions, and limitations of the current Hawaii Administrative Rules and various DLNR dam safety guidelines.

Accompanying this application are: (please check)

- 1. Filing fee equal to 2% of the Detailed Cost Estimate + Eng costs w/ calculation x
2. Two (2) copies of the Detailed Cost Estimate x
3. Two (2) copies of the Final Design Report x
4. Two (2) copies of the Plans+ x
5. Two (2) copies of the Specifications x
6. Proposed Construction Schedule Attachment D x
7. Supporting documents:
USCG Topographic Map x
Property Tax Map x
Rainfall Intensity and PMP x

NAME OF STRUCTURE: LOWER ANAHOLA RESERVOIR

DAM OR RESERVOIR LOCATION: ANAHOLA, 22 07 42"N, 159 18'50"W

Island: KAUAI

Tax Map Key: (4)4-7-004:002

Attach USGS topographic map (scale 1" = 2000') and property tax map (showing location access to site, proposed work)

State Land Use District: X Agriculture \_\_\_ Urban \_\_\_ Rural \_\_\_ Conservation

BRIEF DESCRIPTION OF WORK TO BE PERFORMED

Remove/fill existing dam. Excavate spillway to natural ground level to construct a permanent breach. Plug existing outlet tunnel.

**TECHNICAL INFORMATION:**

DLNR-Dam Safety-Sheet 2

1. Drainage Area \_\_\_\_\_ sq. miles or 86.9 acres
2. Classification of Dam (Hazard/Size) Low Hazard/Small
3. Type of Structure Earthen Dam
4. Elevation-Area-Capacity Data:

	Elevation	Surface Area (acres)	Total Storage Volume (acre-feet)
Natural Streambed Primary	212'		
Spillway (Existing-to be removed)	230' msl	7.4	63
Secondary Spillway	N/A		
Top of Dam (Existing-to be removed)	240' msl	10.7	155
Design Water Level	N/A		
Invert of Drain	N/A		
5. Spillway Details (Type, Dimensions, Material)  
Primary: N/A  
Secondary: N/A
6. Purpose of Structure: N/A  
(Water supply, irrigation, recreation, real estate development, etc.)
7. Attach rainfall and stream flow records, and flood-flow records and estimates (as accurately as may be readily obtained):

**ADDITIONAL INFORMATION**

1. Primary Owner Contact (if different from applicant) Mr. Kaipo Duncan  
Owner Company or Entity: Dept. of Hawaiian Home Lands  
Mailing Address: 91-5420 Kapolei Parkway, Kapolei, HI 96707  
Telephone: 808 620 9458 Fax: 808 620 9497 Email: kaipo.duncan@hawaii.gov
2. Registered Hawaii Professional Engineer who prepared the plan: Kenneth Rappolt, P.E.  
Mailing Address: Lyon Associates, Inc., 45 N. King Street, Honolulu, HI 96817  
Registration No. 5049-C Tel: 808 536 6621 Fax: 808 523 1738
3. Registered Engineer to be responsible for inspection during construction: Ron Gonzales, P.E.
4. Contractor (If known): Not known  
Mailing Address: \_\_\_\_\_ Telephone: \_\_\_\_\_
5. List all other permits applications submitted to other governmental agencies:  
DCAB Review, State of Hawaii  
DOH Notice of Intent Form C - NPDES  
Kauai County, Dept. of Public Works
6. Anticipated effect of proposed structure on natural environment: No change.
7. List all other parties that have ownership or other interest on the parcels where the dam and reservoir are located and identify their interest in the property. The Owners herein listed below concur with the work proposed within this application by the applicant and by his/her signing

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 additional copies of this sheet should there be more owners)

Department of Hawaiian Home Lands

91-5420 Kapolei Parkway  
Kapolei, Hawaii 96707  
Owner

By:   
Jobie M.K. Masagatani  
Chairman, Hawaiian Homes Commission

\_\_\_\_\_  
(Address / TMK/Interest in Dam or Reservoir)

I, Kenneth M. Rappolt, P.E., the applicant, hereby certify that the information herein is 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.



\_\_\_\_\_  
Kenneth M. Rappolt, P.E.,  
Sr. Project Manager  
Lyon Associates, Inc.  
(Signature and title)

Date: 12-31-2015

DEPARTMENT OF HAWAIIAN HOME LANDS  
 STATE OF HAWAII  
**ANAHOLA RESERVOIRS  
 IMPROVEMENT PROJECT**

DHHL CONTRACT NO. 59793  
 ANAHOLA, KAUAI COUNTY, HAWAII  
 TMK: (4) 4-7-004:002

LOWER ANAHOLA  
 State ID: KA-0066

PREPARED FOR:  
 DEPARTMENT OF HAWAIIAN  
 HOME LANDS



**APPROVED:**

*[Signature]*  
 COMMERCIAL ENGINEER  
 DEPARTMENT OF HAWAIIAN HOME LANDS  
 STATE OF HAWAII

DATE: 10/6/16

2	Δ	UPDATED REVISION COLUMN	8-19-16
1	Δ	ADDED REVISION COLUMN	3-10-16

DEPARTMENT OF HAWAIIAN HOME LANDS  
 STATE OF HAWAII

**ANAHOLA RESERVOIRS  
 IMPROVEMENT PROJECT**  
 Kauai County, Hawaii

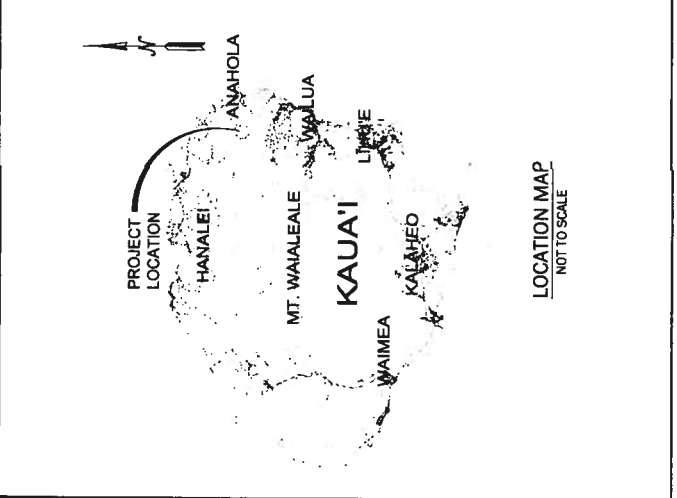
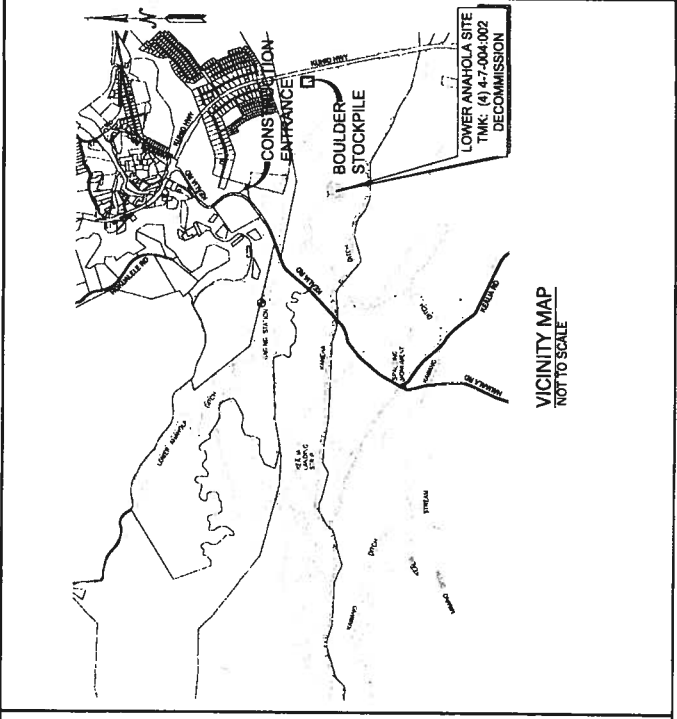
**TITLE SHEET**

LYON  
 4411 KALIA ROAD, SUITE 201  
 HONOLULU, HI 96817  
 PHONE: (808) 524-1729  
 FAX: (808) 524-1727  
 WWW.LYON.COM

DATE: 10-11-2016  
 SHEET NO: 1  
 TOTAL SHEETS: 37

**DRAWINGS INDEX:**

NO.	SHEET	REV.	DESCRIPTION
1	000	REV. 1	TITLE SHEET
2	000	REV. 2	CONTRACT NOTES, LEGENDS & APPROPRIATIONS
3	000	REV. 2	VEHICLE TRAILER STORAGE PLAN
4	000	REV. 2	LOWER ANAHOLA RESERVOIR COVER, PLAN
5	000	REV. 2	LOWER ANAHOLA RESERVOIR DAM
6	000	REV. 2	LOWER ANAHOLA CHANNEL, PROFILE & SECTION



HYDRAULIC DATA		DESIGN CRITERIA	
Drainage Area =	289 ACRES	Channel Slope =	5 FPS MAX.
Q <sub>100</sub> =	1984.37 CFS	Channel Width =	150 FT
Depth =	3.74 FT	Channel Length =	4.5'
Velocity =	4.84 FPS	Channel Material =	5 FPS MAX.
Bottom Width =	150 FT	Channel Protection =	15 FT

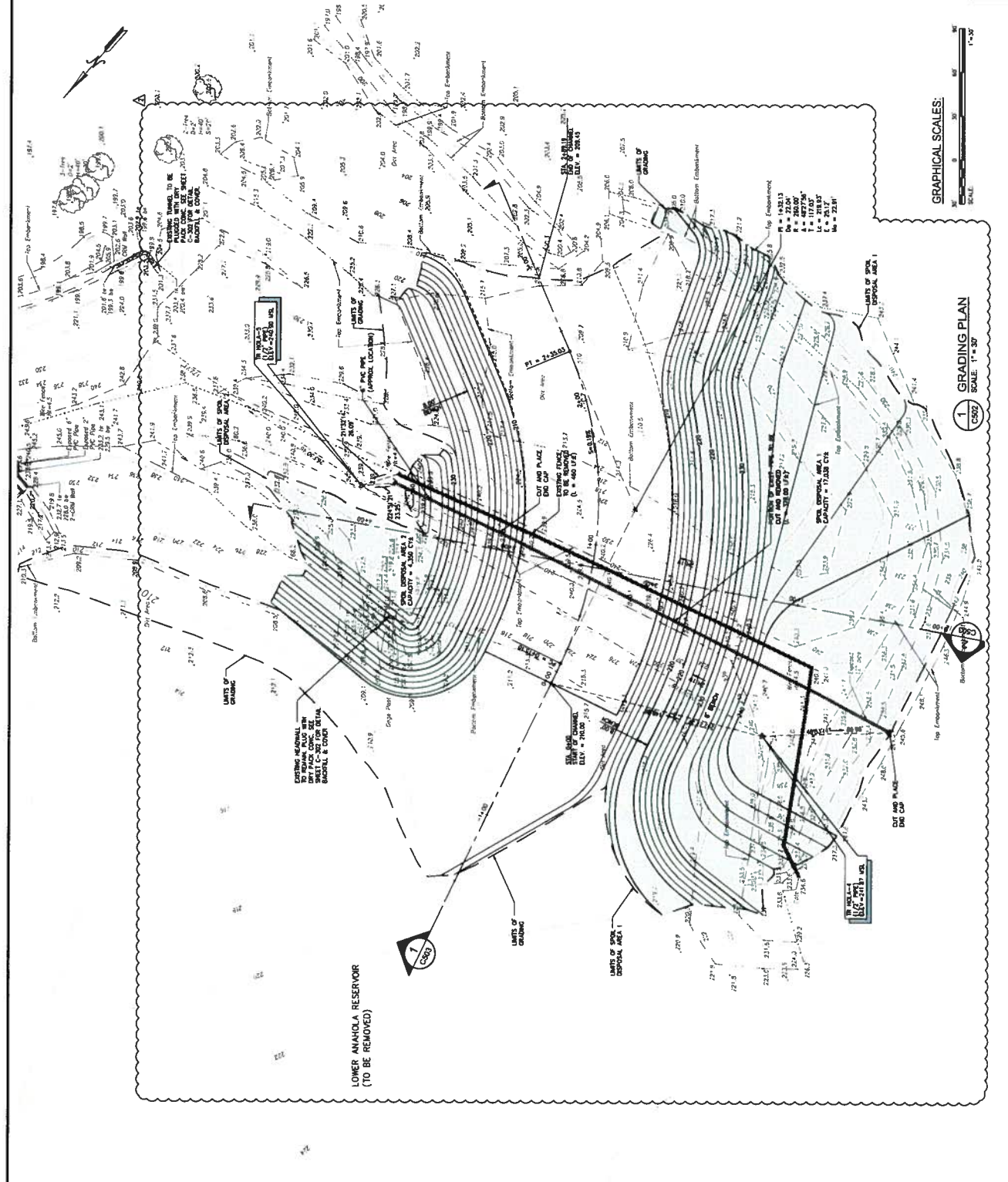
  

EARTHWORK QUANTITIES (FOR GRADING PROPOSED ONLY)	
CUT (TOTAL)	= 18,451 CY
FILL (TOTAL)	= 843 CY
CUT (NET)	= 17,608 CY
AREA TO BE GRADED	= 3.71 ACRES
AREA TO BE DENSED	= 3.71 ACRES
TOTAL PROJECT AREA	= 3.71 ACRES

\* TO BE REMOVED TO DESIGNATED SPILL DISPOSAL AREAS

- NOTES:**
1. ELEVATIONS TO BE USED FOR ALL WORK SHALL BE THE FINISHED ELEVATIONS UNLESS OTHERWISE NOTED.
  2. SPILL DISPOSAL AREAS MAY BE USED FOR DISPOSAL OF SOIL AND ROCK.
- LEGEND:**
- EXISTING CENTER MAJOR
  - EXISTING CENTER MINOR
  - PROPOSED CENTER MAJOR
  - PROPOSED CENTER MINOR
  - LIMITS OF GRADING

DEPARTMENT OF HAWAIIAN HOME LANDS STATE OF HAWAII	
ANAOHOLA RESERVOIRS IMPROVEMENT PROJECT Kauai I County Hawaii I	
LOWER ANAOHOLA GRADING PLAN	
DATE: 10/15/10	SCALE: 1" = 30'
PROJECT NO: 10-10-10	DATE: 10/15/10
DESIGNED BY: [Signature]	CHECKED BY: [Signature]
APPROVED BY: [Signature]	DATE: 10/15/10



GRAPHICAL SCALES:  
SCALE: 1" = 30'

1 GRADING PLAN  
SCALE: 1" = 30'



DAVID Y. IGE  
GOVERNOR  
STATE OF HAWAII

SHAN S. TSUTSUI  
LT. GOVERNOR  
STATE OF HAWAII



JOBIE M. K. MASAGATANI  
CHAIRMAN  
HAWAIIAN HOMES COMMISSION

WILLIAM J. AILA, JR.  
IN FIDELITY TO THE CHAIRMAN

**STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS**

P. O. BOX 1879  
HONOLULU, HAWAII 96808

July 29, 2015

**SUBJECT: HRS 343 Exemption Declaration**

**PROJECT: Anahola Reservoirs Improvements Project**

**LOCATION: Anahola, Kauai, Hawaii**

**TMK: (4) 4-7-002: 004 and (4) 4-7-004: 002**

**AGENCY OR APPLICANT ACTION**

Check applicable box

- This exempted action is an agency action as defined by Section 343-5(B), HRS, and Section 11-200-5, HAR.
- This exempted action is an applicant action as defined by Section 343-5(C), HRS, and Section 11-200-6, HAR.

**SPECIFY EXEMPTION CLASS**

Check applicable box

- The Exemption Declaration for the action described below is based on the Exemption List for the Department of Hawaiian Home Lands, reviewed and concurred to by the Environmental Council on June 30, 2015.
  - Exemption List Class # 1: "Operations, repairs or maintenance of existing structures, facilities, equipment or topographical features, involving negligible or no expansion or change of use beyond that previously existing."
    - 2(c)(i): Water system components such as pumps, valves and controls, pipes and channels, water storage tanks, wells and other water sources.
- The Exemption Declaration for the action described below is based on the consultation process prescribed by Section 11-200-8(a), Hawai'i Administrative Rules (HAR), Exemption Class #\_\_, (description of exemption)

**PROJECT: Anahola Reservoirs Improvements Project**  
**LOCATION: Anahola, Kauai, Hawaii**  
**TMK: (4) 4-7-002: 004 and (4) 4-7-004: 002**

#### **DESCRIPTION OF ACTION**

**Proposing Agency:** DHHL-Land Management Division  
**Project Name and Location:** Anahola Reservoirs Improvements Project  
Anahola, Kauai, Hawaii  
**Anticipated Start Date:** January 2016  
**Anticipated End Date:** December 2016  
**Island and District:** Kauai, Anahola  
**Tax Map Key(s):** (4) 4-7-002: 004 and (4) 4-7-004: 002  
**All Necessary Permits  
and Approvals:** Dam Safety Permit  
County of Kauai Grading Permit  
State Dept of Health NPDES Permit  
State Historic Preservation Division Chapter 6E Review

#### **NARRATIVE**

The purpose of the project is to bring the four DHHL-owned water storage facilities in Anahola, Kauai into compliance with the "Hawaii Dam and Reservoir Safety Act of 2007", HRS Chapter 179D (Dam Safety Program). The project includes repairs and improvements to the following four (4) earthen water reservoirs in Anahola, Kauai.

- Kealia Field #1 Reservoir (4-7-004:002) Repairs to Outlet Structure and Reduction in Storage Volume
- Kealia Field #2 Reservoir (4-7-004: 002) Partially Remove Embankment to Restore Natural Stream Flow
- Upper Anahola Reservoir (4-7-002: 004) Repairs to Outlet Structure and Reduction in Storage Volume
- Lower Anahola Reservoir (4-7-002: 004) Partially Remove Embankment to Restore Natural Stream Flow

While the storage capacity of the reservoirs will be temporarily reduced with the construction improvements, the total square footage of land area for all four reservoirs remains the same. The intent of the project is retain the potential of restoring the reservoirs to their original capacity once the water needs for the Anahola area have been determined. Maintenance roads and access for all four reservoirs will be preserved as part of this project.

#### **RECEIVING ENVIRONMENT**

**PROJECT: Anahola Reservoirs Improvements Project**  
**LOCATION: Anahola, Kauai, Hawaii**  
**TMK: (4) 4-7-002: 004 and (4) 4-7-004: 002**

The project area is within the Kamalomalo'o and Anahola ahupua'a, in an area that is characterized by flat plateaus divided by streams and gulches. All four reservoirs were constructed in the early 1900's to support the cultivation of sugar cane in the surrounding land.

Depending on elevation, the area gets approximately 48-100 inches of rainfall per year.

Between Kuhio Highway (paved) and Kealia Road (dirt), predominant soils are Lihue silty clay soils (LhB, LhC, LhD, and LHE2). These are well-drained soils found from sea level to about 800 feet in elevation, and they support vegetation such as lantana, guava, koa haole, joe, kikuyu grass, molasses grass, guinea grass, Bermuda grass and Java plum.

Between the old Kealia Landing Strip and Kealia Road the soils are mostly Puhi silty clay soils (PnB, PnC, PnD, PnE). These are also well-drained and are found in level to steep areas from 175 to 500 feet in elevation.

From the Kealia Landing Strip mauka to the Kealia Forest Reserve the soils are predominantly Kapa'a silty clay soils (KkB, KkC, KkD, KkE) that support ricegrass, hilograss, yellow foxtail, Christmas berry, false staghorn fern, guava, rhodomyrtus and melastoma. In the past 20 years this area has become almost completely overrun with invasive Albizia trees and Guinea grass.

During the plantation days, the sugar cane fields mauka from the Kealia Landing Strip were mostly non-irrigated, while those Makai were dependent on man-made irrigation canals. The reservoirs and dams in this project were most likely constructed to support the irrigation needs of the fields in the drier lower elevations.

**PROJECT: Anahola Reservoirs Improvements Project**  
**LOCATION: Anahola, Kauai, Hawaii**  
**TMK: (4) 4-7-002: 004 and (4) 4-7-004: 002**

**ENVIRONMENTAL ANALYSIS**

I have considered the potential effects of the proposed project and all related activities against the criteria checked below:

- |   | Not Applicable                      |
|---|-------------------------------------|
| <input checked="" type="checkbox"/> Land Use and Zoning Conformance                                     | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Traffic (Vehicles, Bicycles, Pedestrian)                            | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Infrastructure (Roads, Buildings, Utilities)                        | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Air Quality Pollutant Emissions                                     | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Noise Emissions   | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Solid, Hazardous, and Liquid Waste Management                       | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Social  | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Economic  | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Health and Safety   | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Recreation  | <input type="checkbox"/>            |
| <input type="checkbox"/> Public Beach Access  | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> Cultural Resources and Practices                                    | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Visual/Aesthetic  | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Environmental Justice   | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Rare, Threatened, and/or Endangered Species                         | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Surface and Ground Water Resources                                  | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Wetlands  | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> Floodplains   | <input type="checkbox"/>            |
| <input type="checkbox"/> Riparian/Coastal Resources   | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> Other (Historical Architecture, see attached Limited Survey Report) | <input type="checkbox"/>            |

The proposed project will not have significant negative impact on the above criteria.

**PROJECT: Anahola Reservoirs Improvements Project**  
**LOCATION: Anahola, Kauai, Hawaii**  
**TMK: (4) 4-7-002: 004 and (4) 4-7-004: 002**

#### **MITIGATION**

The proposed construction improvements are located within the limits of the existing reservoir structures, so impacts on natural and cultural resources would be minimal. Impacts such as noise and dust traffic due to the construction would be temporary, only during the construction activity.

Since the purpose of the project is to reduce the capacity of the reservoirs, there is a corresponding reduction in the risk and vulnerability of a dam failure on the homes and properties located downstream thereby increasing the safety to residents, leasees and landowners.

#### **EXEMPT DECLARATION**

The direct, cumulative, and potential impacts of the action described above have been considered pursuant to Chapter 343, Hawaii Revised Statutes and Chapter 11-200, Hawaii Administrative Rules. I declare that the action described above will have minimal or no significant impact on the environment and is therefore exempt from the preparation of an environmental assessment.

This document is on file in our office and is available for public review.

Aloha,



**Jobie M. K. Masagatani, Chairman**  
**Hawaiian Homes Commission**

**Attachment: Limited Archaeological & Historic Survey, Anahola Reservoirs Improvement Project, September 4, 2014**

c: Land Management Division (via email)

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

KEKOA KALUHIWA  
FIRST DEPUTY

JEFFREY T. PEARSON  
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

October 6, 2016

Kaipo Duncan  
Department of Hawaiian Homelands  
Land Management Division  
PO Box 1879  
Honolulu, HI 96805

IN REPLY REFER TO:  
LOG: 2016.02382  
DOC: 1610JLP02  
Mitigation Accepted

**RE: Hawaii Revised Statutes (HRS) Chapter 6E-8 Historic Preservation Review**  
**Agency: Department of Hawaiian Homelands (DHHL)**  
**Project Name: Repair and Replacement of DHHL Reservoirs in Anahola**  
**Anahola Ahupuaa, Kawaihau District, Island of Kauai**  
**TMK: (4) 4-7-002:004 and (4) 4-7-004:002**

Dear Mr. Duncan:

On July 12, 2016, the State Historic Preservation Division (SHPD) received a submittal from Mason Architects, which included Historic American Engineering Records (HAERs) for the Lower Anahola Reservoir, Kealia No. 2 Reservoir, Kealia No. 1 Reservoir, and Upper Anahola Reservoir. SHPD has reviewed the submittal and determined that it is consistent with the requirements of our letter (2015.02266/1507MN18) dated August 19, 2015. Therefore, the mitigation has been completed and accepted and SHPD requires not further work or consultation. Please submit a final copy of the HAER documentation to Mary McPartland, ([mary\\_mcpartland@nps.gov](mailto:mary_mcpartland@nps.gov)) at the National Park Service, Washington, D.C. office so that it may be added to the Library of Congress collection.

DHHL is the office of record for this undertaking. Please maintain a copy of this letter with your environmental review record. If you have any questions about this undertaking or if there is a change to the scope of work, please contact Jessica Puff, Architectural Historian, at (808) 692-8023 or by email at [jessica.l.puff@hawaii.gov](mailto:jessica.l.puff@hawaii.gov).

Mahalo,

A handwritten signature in black ink, appearing to read "Alan Downer".

Dr. Alan Downer  
Deputy State Historic Preservation Officer

CC: Kaipo Duncan, DHHL, [Kaipo.Duncan@hawaii.gov](mailto:Kaipo.Duncan@hawaii.gov)  
Polly Tice, Mason Architects, [pt@masonarch.com](mailto:pt@masonarch.com)  
Ken Rappolt, Lyon, [Ken.Rappolt@LYON.US.com](mailto:Ken.Rappolt@LYON.US.com)

## **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. Compliance with Hawaii Revised Statutes 179D, and Hawaii Administrative Rules 13-190.1.