

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813**

October 13, 2023

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

**Deny Dole Food Company's Request for Suspension of Remediation Timelines
and Fines for the Wahiawa Dam (OA-0017), Helemano 6 Dam (OA-0023) and
Kemoo 5 Dam (OA-0021) and Authorize a Variance to Allow a Partial Payment
of the Dam Safety Permit Application Fee, Wahiawa, Oahu.
Tax Map Keys 7-1-012:014, 7-3-013:003, 7-3-012:002, 7-3-007:001**

Summary

The Dole Food Company Hawaii ("Dole"), owner of Wahiawa Dam (OA-0017), Helemano 6 Reservoir (OA-0023), and Kemoo 5 Reservoir (OA-0021), has requested the Board of Land and Natural Resources ("Board") suspend Dole's remediation timelines for the three dams because of the potential transfer of the Wahiawa Irrigation System (WIS) from Dole to the State of Hawaii ("State") (Exhibit 1).

Act 218, Session Laws of Hawaii 2023 (Act 218) (Exhibit 2), was signed into law on July 5, 2023. Act 218 requires the Governor's Office to negotiate the State's fee simple acquisition of the WIS and authorizes the Department of Agriculture ("DOA"), Agribusiness Development Corporation ("ADC"), and Department of Land and Natural Resources ("Department") to purchase, repair, and maintain the WIS which includes the Wahiawa Dam. Act 218 also appropriates to DOA \$21 million to repair and expand the spillway and \$5 million to acquire the fee to certain parcels associated with the WIS.

The Wahiawa Dam remediation timelines and associated fines were approved by the Board on May 13, 2022 (Exhibit 3) to ensure Dole addresses dam safety deficiencies, which have existed for some time, in a timely manner. The remediation timelines have fixed milestones with fines for missing the deadlines. The Helemano 6 and Kemoo 5 reservoir remediation timelines were issued by the Department in 2021 via Notice of Deficiency ("NOD") letters. Helemano 6 and Kemoo 5 reservoirs are not included in Act 218, nor has any action been taken by the Board on these two dams, therefore, they do not have standing in the matter and should not be considered for regulatory relief.

The Department recommends the Board deny Dole's request to suspend the remediation timelines and fines for the Wahiawa Dam. Although Act 218 is law, the State still needs to conduct its due diligence, negotiate the transfer of the fee, and ensure there are adequate funds to bring the dam and spillway into full compliance with current safety standards. Until the WIS is transferred to the State, Dole is still the owner and is responsible and liable for their actions or inactions associated with the Wahiawa Dam.

Therefore, it is premature to suspend the remediation timeline with these uncertainties, as this could create additional liability for the State and significant delays in bringing the Wahiawa Dam into compliance.

The Department, however, is open to recommending a reduced dam safety permit application fee to offset Dole's financial risk in the event the transfer of the WIS to the State does occur at some point in time.

Background

Wahiawa Dam was constructed in 1906 as a source of irrigation water for the Waialua Sugar Company. The dam is owned by Sustainable Hawaii, Inc. and Dole Food Company Hawaii. Wahiawa Dam is classified as a high hazard potential dam, as a failure of the dam will result in probable loss of human life. The reservoir is utilized by the community as a freshwater recreation area and also receives effluent discharge from a City owned wastewater treatment facility. The dam discharges water through a concrete lined tunnel, which continues to Kaukonahua Stream and supplies irrigation water to agricultural properties on the north shore.

The Wahiawa Dam is currently classified as having a Poor Overall Condition due to various deficiencies, including an undersized spillway. The dam is anticipated to overtop during storm events approaching the Probable Maximum Flood (PMF). The aging concrete spillway structure and main embankment integrity are uncertain and may potentially be compromised during a significant flood event.

Hazard Potential:	HIGH HAZARD potential dam.
Population at Risk:	2,492 people.
Structures at Risk:	A total of 865 parcels are in the direct flow path of a dam failure, including two schools and a fire station.
Overall Condition:	POOR.
DLNR Restriction:	Reservoir is kept at 65 ft, since 2016.
Dam Embankment:	Earthen.
Dam Ht / length:	88 feet / 660 feet.
Maximum Storage:	2,998 million gallons.
Drainage Area:	17 square miles

Safety Issues

The Wahiawa Dam has a POOR overall condition rating, attributed to the following:

1. The spillway is undersized and could result in an overtopping failure.
2. The main embankment exhibits signs of instability and requires modifications, which if unaddressed could progress to an internal erosion failure.

Enforcement

From 2009 to 2020, the Department issued four NOD letters to the Owner for failing to bring the dam into compliance with State dam safety regulations, including restricting the reservoir water level to 65 feet in 2016.

In April 2021, the Board fined Dole \$20,000 for failing to submit a Dam Safety permit application to remediate the dam and address the safety deficiencies with the spillway by the stipulated deadlines. The Board's decision included revised deadlines with additional time from the original schedule.

On May 13, 2022, the Board approved Dole's request for an additional extension and issued the current Wahiawa Dam remediation timelines (Exhibit 3), requiring Dole to meet nine milestones from 2022 through 2025 and included a fine for each missed milestones. Dole successfully met milestones 1, 3, and 4, but was fined \$5,000 for missing milestone 2 in January 2023. Milestone 5 on the current remediation timeline is due on November 1, 2023 and requires Dole to submit a dam safety permit application.

Discussion

Dole has contracted with Gannett Fleming (Gannett), an engineering consultant, for the design of the Wahiawa Dam improvements. Gannett has completed the necessary preliminary studies and conceptual design and is currently working on the detailed design. It is the Department's understanding that Dole and Gannett are expected to submit the dam safety permit application by the November 1, 2023 remediation timeline deadline. The submission of the dam safety permit application would initiate the Department's HRS Chapter 6E analysis and Ka Pa'akai Assessment review processes. The early initiation of these processes will greatly aid in keeping this project moving.

Submission of a dam safety permit application includes a permit application fee, set by Hawaii Administrative Rules as 2% of the estimated cost of construction, including engineering costs (Hawaii Administrative Rules §13-190.1-50). This application fee is estimated between \$400,000 to \$500,000 based on estimates provided by Dole. As a good faith measure to offset some financial risk to Dole, the Department recommends the authorization of a variance to reduce the dam safety permit application fee to \$150,000 in lieu of the standard 2% application fee. This partial payment will allow the Department to cover initial review costs of the permit application. If the State does not acquire the properties identified in Act 218, the Department reserves the right to collect the balance of the 2% application fee prior to the start of construction.

The Department, DOA, and ADC have started their due diligence of their respective portions of the WIS identified in Act 218 and the process is expected to be completed in approximately one year. Dole and Gannett have made significant progress on their improvement plans for the Wahiawa Dam. Dole's release of rights to the documents prepared by Gannett (i.e., reports, studies, conceptual and detailed design drawings etc.) would assist the State in their due diligence efforts and potentially reduce the time and cost required for this process.

If for any reason the deed of the parcels identified in Act 218 are not filed or recorded with the Bureau of Conveyances by June 30, 2026, Act 218 shall be repealed in its entirety. If Act 218 is repealed, Dole will retain ownership of the WIS. If Dole's remediation timelines are suspended, it is likely that no progress will be made toward bringing the Wahiawa Dam into compliance. This would result in a significant delay to remediate the dam and continue to put the downstream community at risk in the event of a dam safety incident.

Recommendations

That the Board of Land and Natural Resources:

1. Deny Dole Food Company Hawaii's request to suspend the remediation timelines and fines for the Wahiawa Dam (OA-0017) until the properties authorized to be acquired by the State of Hawaii by Act 218, Session Laws of Hawaii 2023 are filed and recorded with the Bureau of Conveyances.
2. Authorize a variance, pursuant to HAR §13-190.1-9, to allow a partial payment of the dam safety application permit fee. A fee of \$150,000 would be due at the time the dam safety permit application is submitted on November 1, 2023. The balance of the 2% permit application fee shall be due prior to the start of construction. If the Wahiawa Irrigation System properties identified in Act 218, Session Laws of Hawaii 2023 are acquired by the State of Hawaii, the balance of the permit application fee shall be waived.
3. Deny Dole Food Company Hawaii's request to suspend the remediation timelines for the Helemano 6 Dam (OA-0023) and Kemoo 5 Dam (OA-0021), as these dams are not included in Act 218, Session Laws of Hawaii 2023.
4. Encourage Dole Food Company Hawaii to release to the State of Hawaii, the rights to all of their studies, planning and design documents for the Wahiawa Dam Improvements. Dole Food Company Hawaii and their consultant Gannett Fleming have made significant progress on their improvement plans for the Wahiawa Dam. The release of rights to the documents prepared by their consultants (i.e., geotechnical analysis, reports, studies, conceptual and detailed design drawings etc.) would assist the State of Hawaii in their due diligence efforts and potentially reduce the time and cost required for this process. Releasing this information would not incur additional cost and would be a good faith gesture.

Respectfully submitted,



CARTY S. CHANG
Chief Engineer

APPROVED FOR SUBMITTAL:



Dawn N.S. Chang, Chairperson
Board of Land and Natural Resources

Exhibit 1 – Dole's 8/8/2023 request to Department to suspend remediation timeline
Exhibit 2 – Act 218 (SLH 2023)
Exhibit 3 – Board's 5/13/2022 approved remediation timeline and fines



August 8, 2023

SUBMITTED VIA EMAIL TO CHAIR DAWN CHANG
State of Hawaii – Department of Land and Natural Resources
Post Office Box 621
Honolulu, HI 96809

Re: REQUEST FOR PAUSING THE REMEDIATION SCHEDULES OF WAHIAWA IRRIGATION SYSTEM DAMS: WAHIAWA DAM (OA-0017)), HELEMANO 6 DAM (OA-0023) AND KEMOO 5 DAM (OA-0021) WHILE THE STATE OF HAWAII ACQUIRES THE WAHIAWA IRRIGATION SYSTEM.

To: Chairperson Dawn Chang,

I. Brief Background

Wahiawa Dam and Wahiawa Irrigation System (WIS) was constructed in 1906 as a source of irrigation water for the Waialua Sugar Company. The WIS “is essential” to continued agricultural production in Central and North Oahu (see SB 833 and Act 218). The system currently delivers upwards of 10 million gallons of water daily to over fifty farms. This number is expected to grow significantly in the future as State of Hawaii Agribusiness Corporation lands become fully leased out in the area. The WIS also provides critical infrastructure for both flood and fire control.

In addition to the current uses of this system, the future uses could include hydroelectricity to meet State of Hawaii renewable energy goals and possibly power a water purification system that can provide potable water security to the island of Oahu as our aquifers face threats from contamination and saltwater intrusion from over pumping.

II. Senate Bill 833

Senate Bill 833 directs the Governor of the State of Hawaii to negotiate the transfer of the WIS lands and infrastructure (ditches, pipelines, tunnels and reservoirs) to the State of Hawaii. The bill was signed into law July 5, 2023 by Governor Josh Green as Act 218. The bill passed both houses unanimously as public leaders recognized the importance of this resource to the State. Per Act 218, Dole will be gifting its ownership of the WIS to the State of Hawaii in exchange for the State’s agreement to assume responsibilities for upgrading the WIS reservoirs and dams to meet the dam safety standards. We expect that this will take place imminently, and Dole is ready to do so, as the transfer of the properties must be completed by June 30, 2026 or the act will be repealed in its entirety.

III. Current Improvement Mandates

The BLNR has mandated Dole to make upgrades to Wahiawa Dam, Helemano 6 Dam and Kemoo 5 Dam to meet the latest flood in-flow standards. Dole is committed to ensuring that its dams comply with all State requirements and has been working cooperatively with DLNR Dam Safety Division personnel to remain on schedule with current mandates. However, now that the WIS and associated dams are to be transferred to the State of Hawaii “in exchange for the State’s agreement to . . . maintain dam safety standards” per Act 218, mandated timelines of upgrades should be paused pending the transfer negotiation.

The following are the mandates that need to be paused:

Wahiawa Dam (OA-0017)

Task	Date
Dam Safety Permit Application, which will include: <ul style="list-style-type: none"> • Preliminary design drawings • H&H design and analyses • Geotechnical design and analyses, including stability, seismic, seepage, filter compatibility assessments, etc. • Structural design and analyses (spillway) • Preliminary cost estimate (engineering costs and construction costs) • Permit application fee (2% of total estimated cost). 	11/01/2023
Key specifications (draft)	04/01/2024
Final set of drawings and specifications (complete permit application)	12/01/24
Executed contract with construction contractor	6 months after Dam Safety permit approval, or 6 months after milestone 7, whichever date is later.
Start construction	9 months after Dam Safety permit approval or 9 months after milestone 7, whichever date is later.

Kemoo 5 Dam (OA-0021)

Task	Date
Start Construction of the approved Dam Safety Permit to breach Kemoo 5 Reservoir	05/01/2024

Helemano 6 Dam (OA-0023)

Task	Date
Studies to breach dam	05/01/2024
Conceptual design to breach dam	11/01/2024
Submit dam safety permit to breach dam	05/01/2025

Now that Act 218 is law, it is no longer appropriate for Dole to do that which is required of the State, and the current state-mandated timelines should therefore be paused. Failing to pause these timelines and thereby requiring Dole to continue to take actions now required of the State is also contrary to the purpose of Act 218—the WIS is “critical” infrastructure that the State should (and will soon) own to ensure its continued viability. It would also frustrate the entire purpose of Act 218 as leaving the timelines in place would cause the decommissioning of this system and would be catastrophic to agriculture and food production in Central Oahu. Further, the loss of the flood and fire control and recreational assets that the State and the community now enjoy and the loss of irrigation water for a major portion of agricultural production on Oahu.

I urge you to act now and pause the deadlines while the WIS is being transferred to the State of Hawaii as is contemplated by Act 218. The WIS is a historically important asset for Oahu and the State of Hawaii and this opportunity for the State to own, manage, and improve the system is critical to agriculture, flood and fire control, energy security, and water security.

I am available to answer any questions,



Dan Nellis
General Manager
Dole Food Company Hawaii



GOV. MSG. NO. 1321

EXECUTIVE CHAMBERS
KE KE'ENA O KE KIA'ĀINAJOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

July 5, 2023

The Honorable Ronald D. Kouchi
President of the Senate,
and Members of the Senate
Thirty-Second State Legislature
State Capitol, Room 409
Honolulu, Hawai'i 96813

The Honorable Scott K. Saiki
Speaker, and Members of the
House of Representatives
Thirty-Second State Legislature
State Capitol, Room 431
Honolulu, Hawai'i 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

This is to inform you that on July 5, 2023, the following bill was signed into law:

SB833 SD2 HD3 CD1

RELATING TO THE WAHIAWA IRRIGATION
SYSTEM.
ACT 218

Sincerely,

A handwritten signature in black ink that reads "Josh Green M.D." in a cursive style.

Josh Green, M.D.
Governor, State of Hawai'i

on JUL 5 2023

ACT 218

THE SENATE
THIRTY-SECOND LEGISLATURE, 2023
STATE OF HAWAII

S.B. NO. 833
S.D. 2
H.D. 3
C.D. 1

A BILL FOR AN ACT

RELATING TO THE WAHIAWA IRRIGATION SYSTEM.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 PART I

2 SECTION 1. In accordance with section 9 of article VII of
3 the Hawaii State Constitution and sections 37-91 and 37-93,
4 Hawaii Revised Statutes, the legislature has determined that the
5 appropriations contained in H.B. No. 300, H.D. 1, S.D. 1,
6 C.D. 1, and this Act will cause the state general fund
7 expenditure ceiling for fiscal year 2023-2024 to be exceeded by
8 \$1,089,767,367 or 11.0 per cent. This current declaration takes
9 into account general fund appropriations authorized for fiscal
10 year 2023-2024 in H.B. No. 300, H.D. 1, S.D. 1, C.D. 1, and this
11 Act only. The reasons for exceeding the general fund
12 expenditure ceiling are that:

- 13 (1) The appropriations made in this Act are necessary to
14 serve the public interest; and
15 (2) The appropriations made in this Act meet the needs
16 addressed by this Act.

17 PART II



1 SECTION 2. The legislature finds that the Wahiawa
2 irrigation system is a critical irrigation system providing
3 water to farmers in Wahiawa, Waialua, and Haleiwa on the island
4 of Oahu. Built by the Waialua Sugar Company, the Wahiawa
5 irrigation system was created with a dam and freshwater
6 reservoir fed by the north fork and south fork of the Kaukonahua
7 stream. The dam is essential to agriculture as the water in the
8 reservoir provides irrigation to farmers in Wahiawa, Waialua,
9 and Haleiwa. The reservoir also provides a venue for
10 recreational activities for the surrounding community and the
11 State.

12 The legislature further finds that Dole Food Company, Inc.,
13 has listed the irrigation system for sale for \$20,000,000. The
14 Dole portion of the system includes the Wahiawa reservoir,
15 Wahiawa dam, and ditch system. The spillway, owned by
16 Sustainable Hawaii, LLC, is also an integral component of the
17 irrigation system. Dole has offered to donate its interests to
18 the State of Hawaii in exchange for the State's agreement to
19 repair the spillway to meet and maintain dam safety standards.
20 It is in the interest of the public for the State to acquire the



1 Wahaiwa irrigation system and preserve the system for public
2 access and the agriculture industry.

3 The purpose of this Act is to authorize the department of
4 agriculture, department of land and natural resources, and
5 agribusiness development corporation to acquire the Wahiawa
6 irrigation system, on terms negotiated and agreed upon by the
7 office of the governor, or by eminent domain, and to purchase,
8 repair, and maintain the associated spillway.

9

PART III

10 SECTION 3. (a) The office of the governor shall negotiate
11 with Wahiawa Water Company, Inc.; Dole Food Company, Inc.;
12 Sustainable Hawaii, LLC; or any other appropriate owner for the
13 State's fee simple acquisition of the Wahiawa irrigation system.

(b) The department of land and natural resources may acquire from Wahiawa Water Company, Inc., or Dole Food Company, Inc., on terms agreed upon by the office of the governor, the fee simple interest in the Wahiawa irrigation system, including the following parcels:

- 19 (1) TMK (1) 7-3-001-003;
20 (2) TMK (1) 7-3-001-019;
21 (3) TMK (1) 7-3-006-023;



- 1 (4) TMK (1) 7-3-007-001;
2 (5) TMK (1) 7-3-008-001;
3 (6) TMK (1) 7-3-010-003;
4 (7) TMK (1) 7-3-011-003;
5 (8) TMK (1) 7-3-011-006;
6 (9) TMK (1) 7-3-011-007;
7 (10) TMK (1) 7-3-012-002;
8 (11) TMK (1) 7-3-012-006;
9 (12) TMK (1) 7-4-001-003; and
10 (13) TMK (1) 7-4-012-001.
- 11 (c) The department of agriculture may acquire:
- 12 (1) From Dole Food Company, Inc., or the appropriate
13 owner, a fee simple interest in the Wahiawa dam, on
14 terms agreed upon by the office of the governor; and
- 15 (2) From Sustainable Hawaii, LLC, a fee simple interest in
16 the spillway associated with the Wahiawa irrigation
17 system, located at parcel TMK (1) 7-1-012-014;
18 provided that the sale terms shall be conditioned on
19 an appraisal of the property pursuant to section
20 171-30, Hawaii Revised Statutes.



1 (d) The agribusiness development corporation may acquire
2 from Dole Food Company, Inc., or the appropriate owner, on terms
3 agreed upon by the office of the governor, the ditch system
4 associated with the Wahiawa irrigation system.

5 (e) The agribusiness development corporation may acquire
6 from Wahiawa Water Company, Inc.; Dole Food Company, Inc.; or
7 Sustainable Hawaii, LLC; on terms agreed upon by the office of
8 the governor, the fee simple interest in the Wahiawa irrigation
9 system, including the following parcels:

- 10 (1) TMK (1) 7-1-001-013;
11 (2) TMK (1) 7-1-001-017;
12 (3) TMK (1) 7-1-012-003;
13 (4) TMK (1) 7-1-012-004;
14 (5) TMK (1) 7-1-012-007;
15 (6) TMK (1) 7-3-005-005; and
16 (7) TMK (1) 7-3-013-003.

17 (f) The department of land and natural resources shall not
18 impose administrative fines on the department of agriculture for
19 safety deficiencies at Wahiawa dam or the associated spillway;
20 provided that the department of agriculture shall repair and



1 maintain the Wahiawa dam and spillway and shall ensure the
2 structures meet dam safety standards.

3 (g) No fines owed by Wahiawa Water Company, Inc.; Dole
4 Food Company, Inc.; or Sustainable Hawaii, LLC; for violations
5 of dam safety standards at Wahiawa dam or the associated
6 spillway shall transfer to the State upon the sale of the
7 property to the State.

8 SECTION 4. Notwithstanding any law to the contrary, all
9 users of water associated with the Wahiawa irrigation system
10 shall pay such rates sufficient to operate and maintain the
11 irrigation system as prescribed by the agribusiness development
12 corporation.

13 SECTION 5. The State may by exercise of eminent domain
14 acquire the Wahiawa dam, the spillway associated with the
15 Wahiawa irrigation system, and the ditch system associated with
16 the Wahiawa irrigation system, including all parcels in this
17 Act.

18 PART IV

19 SECTION 6. There is appropriated out of the general
20 revenues of the State of Hawaii the sum of \$5,000,000 or so much
21 thereof as may be necessary for fiscal year 2023-2024 for the



1 department of agriculture to acquire a fee simple interest in
2 the spillway associated with the Wahiawa irrigation system,
3 located at parcel TMK (1) 7-1-012-014; provided that the sale
4 terms shall be conditioned on an appraisal of the property
5 pursuant to section 171-30, Hawaii Revised Statutes; provided
6 further that if negotiations for the acquisition of the property
7 are unsuccessful, the appropriation shall be used for an eminent
8 domain action to acquire the property; provided further that
9 moneys from the appropriation may be expended for an eminent
10 domain action and its associated costs.

11 The sum appropriated shall be expended by the department of
12 agriculture for the purposes of this Act.

13 SECTION 7. There is appropriated out of the general
14 revenues of the State of Hawaii the sum of \$21,000,000 or so
15 much thereof as may be necessary for fiscal year 2023-2024 for
16 the department of agriculture to repair and expand the spillway
17 associated with the Wahiawa irrigation system and to bring the
18 spillway into compliance with all relevant dam safety
19 requirements; provided that the expenditure of the appropriation
20 is contingent upon the State's acquisition of the property.



1 The sum appropriated shall be expended by the department of
2 agriculture for the purposes of this Act.

3 PART V

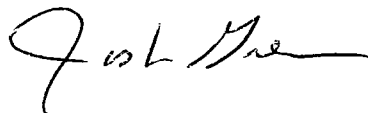
SECTION 8. If the transfer of all properties authorized to be acquired by this Act are not filed or recorded with the bureau of conveyances by June 30, 2026, the governor shall notify the legislature and the revisor of statutes by June 30, 2026, that the conveyance was not filed or recorded with the bureau of conveyances, and this Act shall be repealed in its entirety on July 1, 2026.

SECTION 9. If the transfer of all properties authorized to be acquired by this Act are filed or recorded with the bureau of conveyances by June 30, 2026, the governor shall notify the legislature and the revisor of statutes by June 30, 2026, that the transfer of all properties authorized to be acquired by this Act were filed or recorded with the bureau of conveyances, and this Act shall not be repealed and the appropriations authorized pursuant to this Act shall not lapse at the end of the fiscal year for which the moneys were appropriated; provided that all moneys that remain unexpended or unencumbered on June 30, 2026, shall lapse.



1 SECTION 10. This Act shall take effect on July 1, 2023.

APPROVED this 5th day of July, 2023



GOVERNOR OF THE STATE OF HAWAII




THE SENATE OF THE STATE OF HAWAI‘I

Date: May 4, 2023
Honolulu, Hawai‘i 96813

We hereby certify that the foregoing Bill this day passed Final Reading in the Senate
of the Thirty-Second Legislature of the State of Hawai‘i, Regular Session of 2023.


President of the Senate


Clerk of the Senate

SB No. 833, SD 2, HD 3, CD 1

THE HOUSE OF REPRESENTATIVES OF THE STATE OF HAWAII

Date: May 4, 2023
Honolulu, Hawaii

We hereby certify that the above-referenced Bill on this day passed Final Reading in the House of Representatives of the Thirty-Second Legislature of the State of Hawaii, Regular Session of 2023.



Scott K. Saiki
Speaker
House of Representatives



Brian L. Takeshita
Chief Clerk
House of Representatives

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813

May 13, 2022

Approved by the Board of
Land & Natural Resources
At the meeting held on

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

05/13/22

**REQUEST AUTHORIZATION FOR TIME EXTENSION FOR
WAHIAWA DAM (OA-0017) REMEDIATION SCHEDULE
WAHIAWA, OAHU,
Tax Map Keys 7-1-012:014, 7-3-013:003, 7-3-012:002, 7-3-007:001**

SUMMARY

The Department of Land and Natural Resources (“Department”) requests the Board of Land and Natural Resources (“Board”) authorize the Chairperson to extend the Dole Food Company Hawaii (“Dole”) remediation schedule for Wahiawa Dam (OA-0017) set by the Board in its meeting on April 9, 2021 and establish penalties in the event Dole misses any of the deadlines. The revised schedule is based on guidance provided by Dole’s engineering consultant for additional investigations required to verify the condition of the existing spillway portions proposed to be reused in Dole’s current conceptual remediation design plan.

BACKGROUND

Wahiawa Dam was constructed in 1906 as a source of irrigation water for the Waialua Sugar Company. The dam is owned by Sustainable Hawaii, Inc. and Dole Food Company Hawaii (“Owners”). Wahiawa Dam is classified as a high hazard potential dam, as a failure of the dam will result in probable loss of human life. The reservoir is utilized by the community as a freshwater recreation area and also receives effluent discharge from a City owned wastewater treatment facility. The dam discharges water through a concrete lined tunnel, which continues to Kaukonahua Stream and supplies irrigation water to agricultural properties on the north shore.

The Wahiawa Dam is currently classified as having a Poor Overall Condition due to various deficiencies, including an undersized spillway. The dam is anticipated to overtop during storm events approaching the Probable Maximum Flood (PMF). The aging concrete spillway structure integrity is uncertain and may potentially be compromised during a significant flood event. The Department has issued four Notice of Deficiency letters to the Owner dating back to 2009 for failing to bring the dam into compliance with State dam safety regulations, including restricting the reservoir water level in 2016 to 15 feet below the spillway, or 65 feet as measured on the reservoir staff gage. The Department set deadlines for Dole to submit a dam safety permit application and construction start dates to address the current deficiencies at the dam facility in a February 18, 2020 Notice of Deficiency letter (NOD). In December 2020, Dole requested a one-

year extension to the permit application and construction start deadlines set forth in the NOD, which was presented to the Board for decision at their April 9, 2021 regular meeting.

At the April 9, 2021 Board meeting, the Board fined Dole \$20,000 for failing to submit a Dam Safety permit application to remediate the dam and address the safety deficiencies with the spillway by the stipulated deadlines. The Board's decision also included revised deadlines to submit confirmation on PMF flow data, a conceptual design to remediate the dam and spillway, and to submit a Dam Safety permit application by July 19, 2022, which is six months following Department comments on the conceptual design.

DISCUSSION

Dole has submitted the required PMF flow data and a conceptual design for dam and spillway remediation before the Board ordered deadlines. However, Dole is requesting an extension on the deadline to submit a Dam Safety permit application from July 19, 2022 to November 1, 2023. An updated schedule identifying milestones, deliverables and deadlines are identified in the table below.

Since the April 9, 2021 Board action, Dole has been working in good faith with the Department and has made progress on the process to bring their dam into compliance. They retained a new engineering consultant with extensive dam safety experience to develop a plan which includes conducting necessary studies and designing a solution to remediate the dam. The consultant has also developed and submitted a conceptual design to expand the capacity of the spillway and a schedule to implement the plan. The plan includes conducting additional geotechnical, hydraulic, structural, and hydraulic studies from which a preliminary design will be based on and included in a dam safety permit application. The permit application is expected to be submitted to the Department for review by November 1, 2023, and the Department will then initiate its technical, historic, cultural, and archaeological review. Dole will concurrently continue work to develop technical specifications and finalize its design and submit a complete permit application package to DLNR by December 1, 2024.

While this proposed schedule does add substantial time to the original deadlines established by this Board, the Department is recommending approval of the extension. Staff believes this extension is warranted, as it provides for more in-depth investigations which are necessary to verify the integrity of the proposed spillway alignment, especially at the lower section which is planned to be retained and incorporated into the new spillway remediation design.

RECOMMENDATION

1. The Department recommends the Board authorize the Chairperson to extend Dole's remediation schedule for Wahiawa Dam (OA-0017) and to issue automatic penalties in the event Dole misses any of the deadlines as follows:

Milestone	Deliverable to Department	Due date	Penalty for missed milestone
1	Investigation plan for geotechnical exploration	7/1/22	\$5,000
2	Geotechnical Data Report (draft)	1/3/23	\$5,000
3	Geotechnical analysis Technical Memorandum (draft)	5/1/23	\$5,000
4	Spillway Assessment Technical Memorandum (draft)	5/1/23	\$5,000
5	Dam Safety Permit Application, which will include: <ul style="list-style-type: none"> • Preliminary design drawings • H&H design and analyses • Geotechnical design and analyses, including stability, seismic, seepage, filter compatibility assessments, etc. • Structural design and analyses (spillway) • Preliminary cost estimate (engineering costs and construction costs) • Permit application fee (2% of total estimated cost). 	11/1/23	\$20,000
6	Key specifications (draft)	4/1/24	\$5,000
7	Final set of drawings and specifications (complete permit application)	12/1/24	\$10,000
8	Executed contract with construction contractor	6 months after Dam Safety permit approval, or 6 months after milestone 7, whichever date is later.	\$20,000
9	Start construction	9 months after Dam Safety permit approval or 9 months after milestone 7, whichever date is later.	\$10,000

2. Dole will pay all fines issued by the Chairperson within 60 calendar days of the fine being issued. In the event the Dole fails to pay fines within the time allotted, the Dole shall be fined an additional \$5,000 per day until the ordered fine amount is paid.

Respectfully submitted,



CARTY S. CHANG
Chief Engineer

APPROVED FOR SUBMITTAL:



SUZANNE D. CASE, Chairperson










20230913 - L-2 Wahiawa Suspension

Final Audit Report

2023-09-25

Created:	2023-09-25 (Hawaii-Aleutian Standard Time)
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