To State Commission on Water Resources
Re: Item B.1. SDWP.5951.6 permit to remove Kapala’alaea dam

April 14, 2023

Greetings Chair Chang, Deputy Director Manuel, Commission members and staff

Sierra Club Maui Group has conducted permitted hikes along EMI trails in the Hamakualoa area for over 30 years. We share our observations of the nature of the lands downstream of the Kapala’aleae dam in hopes that Commission members and staff realize that the proposed dam closure should be accomplished in conjunction with some basic archaeological mapping of the extensive traditional kanaka sites along the streams. Other actions are also needed, summarized at the end of these comments.

Archaeological mapping should be done, even if SHPD does not require it. Why: SHPD does not have the time to investigate conditions on neighbor islands and may not have any rationale to require any mitigations beyond the immediate area of the dam. In truth, because the project involves alterations to an actual stream bed channel, the Area of Potential Affect (APE) goes beyond the confines of the existing dam and spill way, and includes the area along the entire downstream length of the stream channel.

<u>CULTURAL IMPORTANCE of PROJECT AREA</u>

Halehaku/Pilale Bay is the site of a massive heiau overlooking the bay (also known as “Halehaku”), a smaller mauka heiau, and an extensive complex of pre-contact cultural-historical sites surrounding the heiau. This complex continues mauka for a mile or more, bordering the pathways of the two major streams, Papalua and Halehaku, that water these fertile lands. (SEE ATTACHED SLIDE SHOW)

Halehaku Bay is well known for its fisheries and as the place where Hawaii’s future king, Kamehameha I, landed his canoes in preparation of his forces taking on the army of Maui Chief Kalanikupule in the battle of Kapaniwai in Wailuku.

<u>RISKS OF PROPOSED ACTION NOT DISCUSSED</u>

While no one desires to delay the dam removal project and increase the risk of the dam breaching during large storm events, it is important to understand that the dam over the

past almost 140 years has also given storm waters a place to be held and redistributed to the EMI ditch systems.

This dam is built right into the Papalua stream bed. Conditions down stream have grown into a pattern, based upon that management strategy. The new Hana Highway was built and culverts were sized based upon that expectation.

Recent storms in the Ha'iku-Huelo area have shown the great risk facing homes, farms, bridges, culverts and traditional archaeological sites down stream of storm waters during heavy rainfall events. These risks should not be ignored in the planning and permitting for this project. (SEE ATTACHED SLIDE SHOW)

With the removal of the dam, it would be expected that greater amounts of storm waters will be carried down stream by the Papalua stream. The permit application and staff report only refers to the benefits this will bring, but not the risks. Increased flows during stormwater events can present a variety of risks as well as benefits:

- They will possibly overwhelm the existing culvert under Hana Hwy, flooding or undercutting the Hana Highway road that is a lifeline for all of East Maui.
- They will possibly carry away trees and foliage that have grown up in the Papalua stream channel, scouring and scraping a path along the banks as we saw in the Wailuku River floods of 2016.
- This in turn could greatly alter a large complex of traditional kanaka sites along the banks.
- It is important to map the stream banks before the dam alterations are complete, both to comply with the intent of our historic preservation laws and also to respect the past role the Haleahku area played in Maui's history.

EXPECTED STREAM FLOWS NOT QUANTIFIED

There are currently 6 EMI diversions on Papalua stream. It is not clearly indicated n the staff report whether any EMI diversions will be disabled or adjusted to allow more base flow into the Papalua stream channel? This base flow could help gradually clear the stream channel and minimize storm debris damage.

NO MEANINGFUL OUTREACH TO LOCAL AHA MOKU COUNCIL TO GAIN TRADITIONAL KNOWLEDGE OF AREA

The EMI proposal says that flood calculations have been included in the application - "using the U.S Army Corps of Engineers (USACE) Hydrologic Modeling System (HEC-HMS) v4.4 along with other data sources." We are not sure if these are standard engineering models, or are actually based on the complex nature of Papalua stream and its tributaries.
As we have observed, natural events don't always conform to engineering calculations. This project should make a sincere attempt to contact local AHA Moku Council members in Hamakualoa who have knowledge of this area.

The concerns summarized by USFWS re: the imported rip rap material used to “restore and stabilize” the stream banks also should be given due consideration, as recommended by the staff report. Where will this material end up during large stormwater events? Traditional knowledge may include community members who recall the construction of the present Hana Highway and have valuable input to offer.

In Summary:

1) Require archaeological survey and mapping of the Papalua stream channel makai of Hana Hwy to the sea.

2.) Clarify if any base flow is proposed to be restored to Papalua stream from the EMI diversions above the reservoir site or from Lowrie ditch at the current dam site.

3) Support USFWS design suggestions for restoration of the stream banks; removal of earthen dam and in fill of the reservoir basin.

4) Have EMI conduct outreach to Hamakualoa Aha Moku council leaders and consult on their design and any needed mitigations.

5) Have the application clearly describe for the public review the present size of the Hana Hwy/Papalua stream culvert(s) and mitigations proposed for large storm water events to minimize impacts to Hana Hwy and downstream natural and cultural resources.

Mahalo for your consideration

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Huelo resident for 40 years, living 3 miles from proposed action.

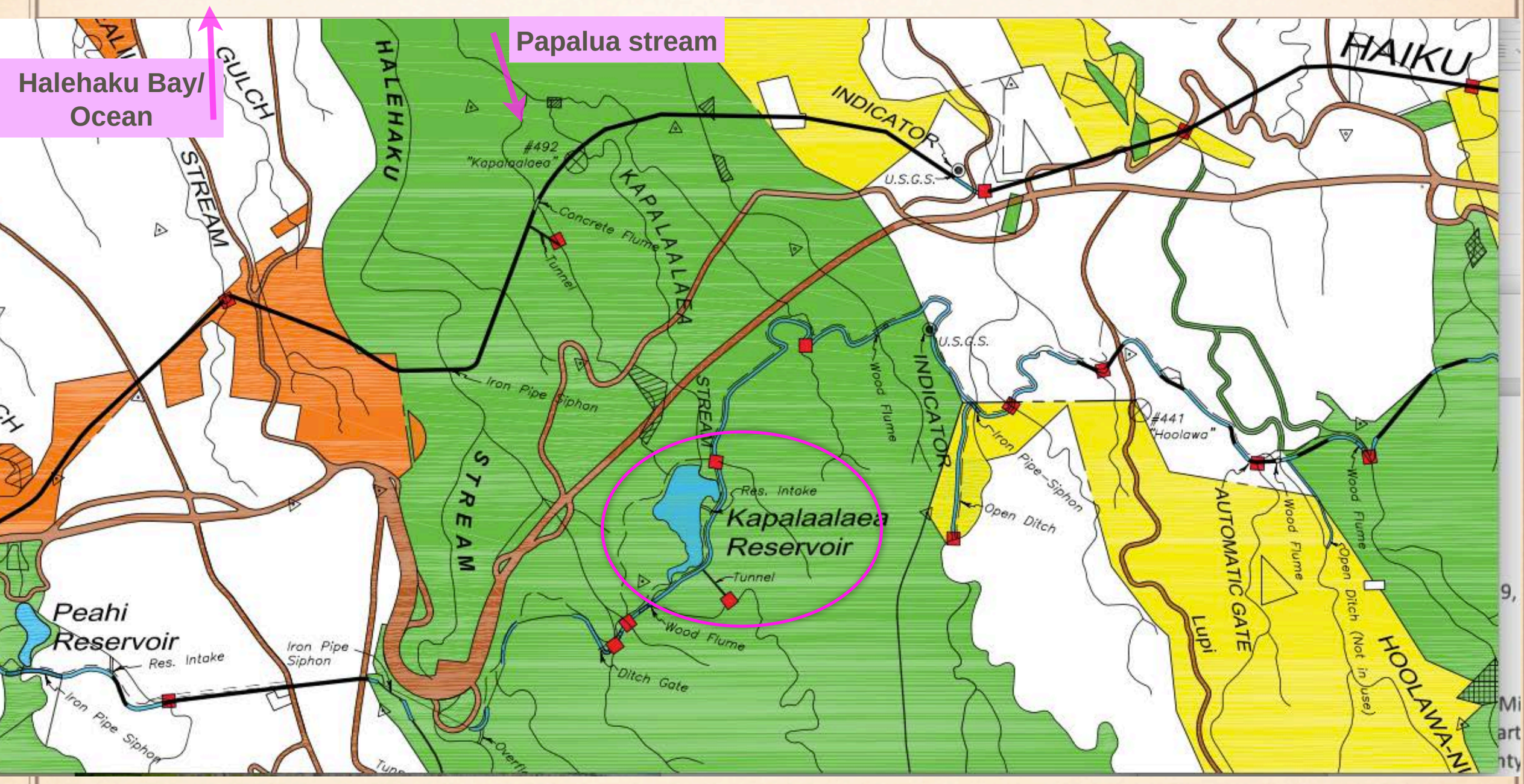
PILALE/ HALEHAKU BAY, HAMAKUALOA, MAUI

A few examples of extensive complex of traditional archaeological sites seen along stream tributaries, down stream of Kapala'alaea dam removal……and pictures of storm damage in East Kuiaha stream

Submitted by Lucienne de Naie, on behalf of Sierra Club Maui
April 18, 2023 CWRM Meeting. Re: Item B. 1. SDWP.5951.6

Halehaku Bay, Hamakualoa, outfall of Papalua stream

Several streams converge into the traditional fishing grounds of Halehaku Bay. Papalua stream is the eastern branch. Halehaku stream, the western branch. Many other important tributaries also join both branches.
Kapala'alaea Reservoir (circled) was built into Papalua stream channel

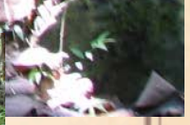


The entire area, along both major stream branches is a rich traditional kanaka archaeological complex. Here are a few views, along the stream trails.....

A series of kalo lo'i...along the stream


Many well preserved terraces are near the stream

The extent of this archaeological complex makai of the dam should be mapped and recorded, before floodwater patterns are altered



Papala'alaea Dam closure must act to minimize RISKS observed on nearby streams

View to left is E. Kuiaha stream channel in Ha'iku after March 2021 storm waters. Inset picture on right is the overwhelmed culvert on the makai side of Hana Highway

RISKS: An undersized culvert under Hana Hwy in Haiku caused both earth and stone structures to be swept away by floods along East Kuiaha stream, in March 2021

view to right of inadequate East Kuiaha stream culvert after storm passed, and view to left of floodwaters rising over blocked culvert to sweep across the road and pour into E. Kuiaha stream bed, carrying debris from homes and farms on the day of the storm.

undersized stream culverts under Hana Hwy in in the Kapala'alaea dam area can also be completely overwhelmed by the intense storms we now experience. We need to properly record any traditional sites along the stream bed as part of dam closure, in case they are damaged.