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ALEXANDER & BALDWIN, INC.
and EAST MAUI IRRIGATION COMPANY,
LLC

BOARD OF LAND AND NATURAL RESOURCES

STATE OF HAWAII

In the Matter of a Contested Case
Regarding the Continuation of Revocable
Permits (RPs) for Tax Map Key Nos.
(2) 1-1-001 :044 & 050; (2) 2-9-014:001,
005, 011, 012 & 017; (2) 1-1-002:002 (por.)
and (2) 1-2-004:005 & 007 for Water Use on
the Island of Maui to Alexander & Baldwin,
Inc. (A&B) and East Maui Irrigation
Company, LLC (EMI) for the remainder of
the 2021 RPs, if applicable, and for their
continuation through the end of 2022

DLNR File No. CCH-LD-21-01

**SUPPLEMENTAL DECLARATION OF
CEIL HOWE, III**

SUPPLEMENTAL DECLARATION OF CEIL HOWE, III

I, CEIL HOWE, III, hereby declare as follows:

Crop Water Needs

1. Forecasting water needs is an important part of developing any farming operation.

It depends on several factors including type of crop, growth stage, precipitation, soil, and

climate. For this reason, the amount of applied water needed for a specific crop at any specific time varies depending on its location along with these other factors.

2. As explained in the Supplemental Declaration of Grant Nakama, Mahi Pono based its calculation of the amount of water needed per acre per crop on Hawai'i specific data. The methodology utilized by Mahi Pono is a standard method for determining water demand of a crop. Based on my experience, the water needs calculated by Mahi Pono are reasonable and within industry standards.

Ground Water

3. Water to supply Mahi Pono's irrigation comes from three sources: rainfall, surface water and groundwater. Ground water is used for irrigation when there is insufficient rainfall and surface water to meet Mahi Pono's irrigation needs.

4. It is my understanding that during sugar cultivation brackish ground water was relied upon regularly during the summer months when there was insufficient surface water available. This was made possible from the fact that, at the time, EMI was importing approximately 165 mgd to Central Maui. The seepage from the laterals, reservoirs and rejected recharge (water that goes past the root zone of the crop being irrigated) all recharged the ground water aquifer.

5. Now that EMI is only importing approximately 25 mgd, there is significantly less recharge of the ground water aquifers. For this reason, it is unclear how much water can be pumped without causing drawdown in the aquifers and/or saline intrusion.

6. Moreover, as alluded to in my original declaration, there is a risk associated with the use of ground water on Mahi Pono's crops due to uncertainty regarding how they will

tolerate chlorides. This was less of a concern with sugar cane which is a relatively salt-tolerant crop.

I declare under penalty of perjury that the foregoing is true and correct.

DATED: Stratford, California, December 6, 2021.

A handwritten signature in cursive script that reads "Ceil Howe III". The signature is written in black ink and is positioned above a horizontal line.

CEIL HOWE, III