

**Kamehameha Schools Motion for Modification, Time Extension, and Release and
Modification of Conditions, LUC Docket No. A87-610**

Written Direct Testimony of Christopher M. Monahan, Ph.D., February 24, 2022

1. **Please state your name and business address for the record.**
Chris Monahan, Ph.D.
150 Hamakua Drive, # 810
Kailua, HI 96734
2. **What is your current occupation?**
I am the president and founder of TCP Hawai'i, LLC ("TCP"). TCP is an archaeology and cultural resource firm.
3. **How long have you worked in the field of archaeology?**
I have been actively engaged in the field of archaeology and historic preservation for over 30 years, 18 of which have been in Hawai'i. In 2006 I was the Lead Archaeologist and Acting Branch Chief on O'ahu for the State Historic Preservation Division ("SHPD"). I have also been a lecturer at U.H Manoa in the Department of Anthropology.
4. **Did you provide a copy of your resume for these proceedings?**
Yes, my resume was provided as Exhibit 19.
5. **Please briefly describe your educational background.**
I have a Bachelor of Arts in Anthropology from St. Lawrence University (with a concentration in archaeology) and a Master's degree and Ph.D. in Anthropology from the University of Wisconsin-Madison.
6. **Do you specialize in any particular areas?**
I specialize in conducting archaeological and cultural resource surveys and historic preservation studies, including work on Hawaiian archaeology, cultural studies, archeological assessments, reconnaissance, inventories, site testing, recovery, preservation planning, burial treatment plans, and monitoring.

TCP is on SHPD's list of approved archaeological consultants. (Our current permit is Permit # 22-27).
7. **What does a Hawai'i archaeologist do?**
Study the past and address historic preservation laws through the investigation of properties for the presence/absence of archaeological site-features, and if site-features are found, assess the significance of the items found, describe possible effects on such historic properties based upon the particular development proposal being considered, and provide mitigation commitments for each historic property that may be affected by the proposed development.

We also prepare plans to address the particular mitigation commitments presented, such as data recovery plans, preservation plans, burial treatment plans, and archaeological monitoring plans. We also provide verification for completed mitigation plans. Our work also includes assessment of Native Hawaiian cultural resources, and may include consultation with Native Hawaiian organizations and others.

8. **Have you even been qualified as an expert witness in archaeology, cultural resources, and historical resources before the Land Use Commission?**

Yes. I was qualified as an expert witness in archaeology before the Land Use Commission for the solar farm proposed in this Docket in 2014. I also provided written direct testimony to the Commission when it revisited one of those two solar farms in 2019/2020 in this Docket.

9. **Are you familiar with the solar farm project currently under consideration?**

Yes. The current solar farm is pretty similar to the project that the Commission approved for this location in 2014. To take a step back, on November 26, 2014, the Commission issued a Decision and Order authorizing the landowner, Kamehameha Schools (“KS”) to have solar farms within approximately 655 acres of its larger 1,395-acre Urban District property at Waiawa. That 1,395 acre area is referred to as the “Petition Area” or sometimes as the “KS Property”.

The current solar farm is pretty similar to the project that the Commission approved for this location in 2014. It is a 30 megawatt (“MW”) alternating current, 60 MW direct current, solar farm with a 240 MW-hour battery energy storage system, which allows for the energy produced during the day to be stored and dispatched to the grid at times of higher electricity demand. The project includes a substation and other electrical generation infrastructure. Two 46 kV overhead lines will deliver power from the substation to the existing Waiiau-Mililani and Wahiawa-Waimano 46 kV sub-transmission lines. The entire project area will be enclosed by fencing that will be about seven feet high. A portion of the solar farm will be in place until the end of 2044 and the remainder of the project would be removed by the end of 2054.

This solar farm is proposed for development by Waiawa Phase 2 Solar, LLC (“WP2S”). My understanding is that WP2S is a wholly-owned, indirect subsidiary of The AES Corporation.

10. **Where exactly is the solar farm located?**

The solar farm is proposed to be installed within approximately 387 acres in the northwestern portion of the Petition Area. This is the same site that was approved for solar farm development in 2014. You can see this area on Exhibit 2, identified as Waiawa Phase 2 Solar, LLC Solar Farm Extent -387 acres. I refer to this as the “Phase 1 Site.”

For background, the other solar farm area, that is not the matter before the Commission, is within approximately 268 acres in the eastern portion of the Petition Area.

11. **Are you familiar with the archaeological, historic, and cultural resources within and around the proposed project and the Petition Area?**

Yes. TCP prepared a report titled Archaeological Inventory Survey of 1,395 Acres of Kamehameha Schools' Land in Waiawa and Waipi'o Ahupua'a, 'Ewa District, O'ahu Island, Hawai'i, dated March 2015 (Revised) ("AIS"). The AIS covers the entire 1,395-acre KS Property. A copy of this AIS was filed as Exhibit 14. SHPD approved that AIS in April 2015. The first draft AIS was submitted to SHPD on September 16, 2014. TCP then revised it in response to SHPD feedback. SHPD accepted the final AIS in April 2015. Documentation of SHPD's acceptance was filed with this current Motion as Exhibit 8.

TCP also prepared an Archaeological Preservation Plan, called Archaeological Preservation Plan State Site No. 50-80-09-2273 Features 14 (Portion), 19, 22 & 23 (Portion) Kamehameha Schools' Land in Waiawa and Waipi'o Ahupua'a, 'Ewa District, O'ahu Island, Hawai'i, dated May 2015 ("APP"). A copy of the APP, and of SHPD's acceptance letter for that APP, is part of the record in this Docket. It can be found on the Commission's website at: <https://luc.hawaii.gov/wp-content/uploads/2019/10/Exhibit-19-SHPD-Ltr-re-Archaeological-Preservation-Plan.pdf> It was filed as Exhibit 19 to the Motion for Modification and Time Extension that KS filed with the Commission on July 24, 2019, and a copy of SHPD's acceptance letter for the APP was filed with the present Motion as Exhibit 9.

12. **What is an AIS and when is one required?**

The definition of "archaeological inventory survey" comes from Hawaii Administrative Rules § 13-276-1, and it is defined as "the process of identifying and documenting the archaeological historic properties and burial sites in a delineated area, gathering sufficient information to evaluate significance of the historic properties and burial sites, and compiling the information into a written report for review and acceptance by the department."

The "department" is the State Department of Land and Natural Resources.

An AIS is required when SHPD says it is required. An AIS cannot be done on a voluntary basis, just because a landowner wants to do an AIS. There are specific informational and process requirements that must be followed for an AIS and only the DLNR-SHPD can make an acceptance determination. Without SHPD's involvement, the document is not an AIS.

Hawaii Revised Statutes § 6E-42 explains that this formal historic review process can be started only in the context of when a State or County agency is asked to approve a project

involving a permit, license, certificate, land use change, subdivision, or other entitlement for use, which may affect historic property. For years, even though the statutory trigger has clearly been a permit or entitlement for use, SHPD was regularly asked to review and make acceptance determinations on AIS documents that were prepared in connection with environmental assessments or environmental impact statements. That was wrong because the preparation of an EA or EIS is not a trigger under Hawaii Revised Statutes Chapter 6E.

In 2017 SHPD made it clear that it was not obligated to review AIS documents prepared in connection with EAs or EISs, but would do so if possible. In contrast, SHPD must take action on AISs or other reports that are submitted in connection with permit applications, such as grading permits. Thus, County agencies that receive permit applications for work that “may affect a historic property” must submit the AIS to SHPD. SHPD’s reviewing authority is agency to agency. SHPD does not review AISs submitted by private landowners and in the absence of a permit application.

13. **Please describe your findings in the AIS.**

The AIS included review of three previous archaeological surveys that covered portions of the KS Property, as follows: Barrera 1987 (Waiawa Ridge, Oahu: Archaeological Survey of Proposed Golf Course); Goodman and Nees 1991 (Archaeological Reconnaissance and Inventory Surveys of 3,600 Acres in Waiawa Ahupua‘a, ‘Ewa, O‘ahu, manuscript 022892. Public Archaeology Section, Applied Research Group, Bishop Museum, Honolulu); and Thurman et al. 2012 (Archaeological Reconnaissance Survey of 1,680 Acres of Kamehameha School Lands in Waiawa Ahupua‘a, ‘Ewa District, Island of O‘ahu, TMK [1] 9-4-006:034, 036, 037, 9-6-004:024 & 025. Cultural Surveys Hawai‘i, Kailua, Hawai‘i). TCP also consulted with KS, SHPD, and the Office of Hawaiian Affairs in preparing the AIS.

We determined that the entire KS Property had been completely altered by plantation-era activities and construction. The KS Property was in commercial agricultural operations for approximately 100 years. There was evidence of extensive bulldozing and road construction in all three gulches, whose drainage bottoms have also experienced major flooding damage. We did not identify any sites that qualified under significance criterion E. No Hawaiian sites or artifacts, human skeletal remains, heiau, or habitation sites were found on the KS Property.

In the AIS we documented three historic properties, all plantation-era sites dating from the early to middle 20th century, consisting of 55 component features: (a) SIHP # 50-80-09-2270, a network of roads and railroad rights-of-way consisting of 28 features; (b) SIHP # 50-80-09-2271, the remains of workers’ camps consisting of two features; and (c) SIHP # 50-80-09-2273, an irrigation system consisting of 25 features.

We evaluated SIHP # 50-80-09-2270 as significant under criterion D for its intrinsic informational value to research on Hawaiian history. In general, site 2270 informs us about the earliest efforts to develop Waiawa Uka as a commercial plantation growing first pineapple then sugarcane. It includes a network of roads that were used by the military during World War II.

SIHP # 50-80-09-2271 consists of two features. Feature 1 is the structural remains of a pineapple cannery, and TCP evaluated feature 1 as significant under criterion D. Feature 2 is camp debris, which TCP evaluated as not a significant historical property.

We evaluated SIHP # 50-80-09-2273 as significant under criteria C and D for its intrinsic informational value to research on Hawaiian history. In particular, it provides important data on the geospatial location, extent and character of the plantation irrigation infrastructure in Waiawa Uka built around or shortly after 1916 by the O‘ahu Sugar Company; and, excluding the interruption of World War II, continued to be used into the 1970s.

14. **What were the final recommendations of the AIS?**

For one site, 2273, the effect determination was “effect, with agreed upon mitigation commitments.” Those mitigation commitments are preservation for four features of site 2273.

For sites 2270 and 2271 no additional work was recommended. Those sites had already yielded their informational and research value, and no additional relevant information would be gained by either further research or preservation of these sites, no further archaeological or historic preservation work was needed.

15. **Is an additional SHPD effects determination required prior to development of any other areas of the KS Property, or does the 2015 AIS effects determination cover the entire Petition Area?**

No additional effects determination should be required, provided that development takes place in the relative near future. SHPD may request a new opportunity to provide an effects determination for an AIS that is over 10 years in age.

16. **What are the four features of site 2273 to be preserved?**

The four features identified for preservation are:

(i) Feature 14, a very long irrigation ditch built with cut basalt and mortar. As explained in the APP, a 100-foot representative section of feature 14 will be preserved. Feature 14 is in the vicinity of the Phase 1 Site solar farm. That can be seen on Exhibit 13.

(ii) Feature 19, a large dam-like retention structure in the west end of Gulch B. Under the APP, this is to be preserved in its entirety. This feature is in the vicinity of the Phase

1 Site solar farm. For clarification, the location of the gulches can be seen on pages 2-3 of the AIS. See Exhibit 14 at 2-3.

The other two features are not within the vicinity of the Phase 1 Site solar farm. They are on the other side of the Petition Area, north of the Phase 2 Site solar farm. Those are:

(iii) Feature 22, a large water distribution and retention basin east of Gulch A, is inscribed with the date 1925. Under the APP, this feature is to be preserved in its entirety.

(iv) Feature 23, a cut basalt and mortar irrigation ditch. Under the APP, a 75-foot representative section of feature 23 will be preserved.

17. **Are any of the identified features of Site 2273 within the proposed solar farm footprint?**

Not within the footprint itself. But features 14 and 19 are in close proximity to this solar farm.

18. **What are the interim or short-term preservation measures?**

Prior to and during initial construction in the vicinity of any of the preservation sties, buffer areas are to be delineated by yellow construction/caution tape or other temporary barriers.

Additionally, avoidance instructions must be added to construction plans and specifications, and the developer must conduct a pre-construction briefing of the hired construction firms to make them aware of the preservation buffer.

19. **What is the status of the preservation efforts for features 14 and 19?**

Interim (short-term) preservation buffers for both of the preservation features (100-foot portion of feature 14 and feature 19) have been installed. These buffers have also been surveyed and marked by a certified land surveyor.

20. **Are any other preservation measures required?**

Yes. After construction of the solar farm is completed, the permanent preservation measures must be put into place. In this case, both for the features that are in proximity to the Phase 1 Site and also for the features in proximity to the Phase 2 Site, the permanent measures are the same. The temporary construction fencing/taping should be replaced with permanent fencing that is consistent in appearance with the early 20th century features it surrounds. For example, chain link fencing should not be used. Appropriate fencing would consist of t-post or wood post with barbed wire or hog wire.

21. **Are any other permanent preservation measures required?**

Other than the fencing and monitoring of the fencing, no. No other preservation measures are appropriate. There is no cultural practice associated with these features.

No signage is needed because public access to these sites is not appropriate. The landowner or its designee is required to periodically inspect the fencing marking the permanent buffers. If any damage or impacts to the preservation features are noted, that will be reported to SHPD and, in consultation with SHPD, corrective measures may be taken.

22. **Are you familiar with the requirements imposed by the Hawai‘i Supreme Court in *Ka Pa‘akai O Ka ‘Aina v. Land Use Commission*?**

Yes. In that case, the Hawai‘i Supreme Court ruled that an agency must make specific findings and conclusions related to cultural, historical, and natural resources and any associated traditional and customary practices prior to making a decision that may impact those resources.

Specifically, the agency must make specific findings on (1) the identity and scope of “valued, cultural, historical, or natural resources” in the area under consideration, including the extent to which traditional and customary native Hawaiian rights are exercised in the Petition Area; (2) the extent to which those resources, including traditional and customary native Hawaiian rights, will be affected or impaired by the proposed action; and (3) the feasible action, if any, to be taken by the agency to reasonably protect native Hawaiian rights if they are found to exist.

23. **In light of *Ka Pa‘akai*, do you feel that the AIS and APP are sufficiently detailed to identify the cultural and historical resources in the Petition Area and in the solar project area specifically?**

Yes. Moreover, the historic resources within the Petition Area are not related to traditional or customary native Hawaiian rights or practices. They are all plantation-era water system sites dating from the early to middle 20th century.

24. **Have you prepared any data recovery or burial treatment plans for the Petition Area? If not, why?**

No data recovery plans have been prepared because the few historic sites located within the Petition Area do not require data recovery. SHPD determined that no further work was required on two of the three sites. Data recovery work had already been done in 1994 and 1995. See 1994 Archaeological Data Recovery at Sites 50-80-09-2262 and 2271, Phase 1 Development Area, Waiawa Gentry, Waiawa, ‘Ewa, O‘ahu. Aki Sinoto Consulting, Honolulu; and see 1995 Archaeological Data Recovery at Sites 50-80-09-2262 and 2271, Phase 1 Development Area, Waiawa Gentry, Waiawa, ‘Ewa, O‘ahu. Supplemental Data for Site 2271, Feature 3. Aki Sinoto Consulting, Honolulu.

No data recover work is required for site 2273 because SHPD instead required preservation.

No burial treatment plans have been prepared because no burial sites were identified within the Petition Area.

25. **In your professional opinion, will the solar farm project adversely impact any archaeological, historic, or cultural resources?**

No. The proposed project will not have any adverse effects on any archaeological, historic, or cultural resources within the Petition Area.

DATED: Honolulu, Hawai'i, February 24, 2022.

Respectfully submitted,

/s/ Chris M. Monahan

CHRISTOPHER M. MONAHAN, PH.D.