BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI`I

In The Matter Of The Petition Of	)	DOCKET NO. SP15-406
	)	
KAWAILOA SOLAR, LLC	)	FINDINGS OF FACT, CONCLUSIONS
	)	OF LAW, AND DECISION AND
For A Special Use Permit To Establish	)	ORDER APPROVING THE
A Solar Energy Facility On	)	RECOMMENDATION OF THE
Approximately 384.1 Acres Of Land	)	CITY AND COUNTY OF
Within The State Land Use Agricultural	)	HONOLULU PLANNING
District At Kawailoa, North Shore,	)	COMMISSION TO APPROVE
O`ahu, Hawai`i, Tax Map Keys:	)	THE STATE SPECIAL USE PERMIT
6-1-005: Portion Of 1 and 6-1-006:	)	PETITION WITH MODIFICATIONS
Portion Of 1	)	
	)	

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER APPROVING THE RECOMMENDATION OF THE CITY AND COUNTY OF HONOLULU PLANNING COMMISSION TO APPROVE THE STATE SPECIAL USE PERMIT PETITION WITH MODIFICATIONS

The State of Hawai`i Land Use Commission ("LUC"), having examined the complete record of the City and County of Honolulu Planning Commission ("Planning Commission") proceedings on the State Special Use Permit ("SUP") Petition ("Petition") filed by Kawailoa Solar, LLC ("Applicant"),[1] to construct a 50-megawatt

[1] The Applicant is wholly owned by Kawailoa Solar Holdings, LLC, which was wholly owned by First Wind Solar Portfolio, LLC ("First Wind Solar"). In turn, First Wind Solar was owned by First Wind Holdings, LLC, which was acquired by SunEdison, LLC, as were its subsidiaries.

solar energy facility and accessory uses and structures (collectively "SEF" or "Project") on approximately 384.1 acres of land within the State Land Use Agricultural District, identified as Tax Map Keys ("TMKs"): 6-1-005: portion of 1 and 6-1-006: portion of 1, at Kawailoa, North Shore, O`ahu, Hawai`i ("Petition Area"), and upon consideration of the matters discussed therein, at its meeting on June 9, 2015, hereby makes the following findings of fact, conclusions of law, and decision and order:

FINDINGS OF FACT

PROCEDURAL MATTERS

1. On November 7, 2014, Kawailoa Solar, LLC, the Applicant herein, filed the Petition with the City and County of Honolulu Department of Planning and Permitting ("DPP") (File No. 2014/SUP-6), pursuant to section 205-6, Hawai`i Revised Statutes ("HRS"), and section 15-15-95 *et seq*., Hawai`i Administrative Rules ("HAR").[2]

[2] Pursuant to section 205-50(b), HRS, the Petition was referred to the State of Hawai`i Department of Agriculture ("DOA") and Office of Planning ("OP") for review and comment given the Important Agricultural Lands ("IAL") designation of the Petition Area. The DOA recommended that a condition be imposed requiring that the Applicant and its successors and/or assigns establish a sheep pasture operation or other agricultural enterprise on the Petition Area in compliance with Act 55, Session Laws of Hawai`i ("SLH") 2014, for the duration of the SEF's operation. OP commented that concerns will remain about the statewide challenge of seeking a balance between maintaining the availability of high quality agricultural lands and promoting renewable energy sources such as solar facilities on lands within the State Land Use Agricultural District. OP also raised concerns that the agricultural component of "agri-voltaic" projects may not be implemented as represented and may become a negligible aspect of the development. OP recommended that should the Petition be granted, the requirements of section 205-4.5(a)(21)(A), (B), and (C), HRS, relating to (i) compatible agricultural activities; (ii) proof of financial security for decommissioning; and (iii) decommissioning requirements be included as conditions of approval.

2. On April 1, 2015, the Planning Commission considered the Petition. There was no public testimony provided at the hearing. The Planning Commission subsequently continued the matter to its next scheduled meeting.

3. After due deliberation at its continued hearing on April 15, 2015, the Planning Commission recommended approval of the Petition to the LUC, subject to ten conditions.

4. On May 8, 2015, the LUC received a copy of the decision and a portion of the record of the Planning Commission's proceedings on the Petition. On June 3, 2015, the LUC received the remaining portion of the record consisting of the adopted transcripts of the Planning Commission's proceedings.

5. On June 5, 2015, the Applicant filed its Proposed Order Adopting the City and County of Honolulu Planning Commission's Findings of Fact, Conclusions of Law, and Decision and Order ("Proposed Order").

6. On June 9, 2015, the LUC met in Honolulu, Hawai`i, to consider the Petition.[3] Randall Sakumoto, Esq.; Marguerite Nozaki, Esq.; Wren Wescoatt; and Crystal Kua appeared on behalf of the Applicant. Richard Lewallen, Esq., and Raymond Young were also present on behalf of the DPP. Rodney Funakoshi entered an

[3] At the beginning of the meeting, Commissioner Scheuer disclosed that he had previously worked for the landowner of the Petition Area as well as with the Applicant's counsel, but that he believed there was no conflict and that he could be impartial in the proceeding. There were no objections to Commissioner Scheuer's participation in the meeting.

appearance on behalf of OP.[4] At the meeting, the Applicant provided an overview of the Project, including a discussion of the Project relative to the SUP guidelines under section 15-15-95(c), HAR. Following the presentation by the Applicant, the LUC raised questions about the operation and impacts of the SEF. Upon further questioning, the Applicant noted the various concerns expressed by the community about the Project. OP then summarized its position on the Petition as well as its written comments on the Applicant's Proposed Order. Discussion then ensued on the Applicant's Proposed Order by the Applicant, DPP, and OP.

Thereafter, a motion was made and seconded to approve the Application with modifications as proposed by the Applicant and OP and with further modifications the LUC staff deems appropriate to conform to the record and chapter 205, HRS. There being a vote tally of 7 ayes, the motion passed.[5]

DESCRIPTION OF THE PROPERTY

7. The Petition Area is located approximately 6,000 feet south of Waimea Beach Park and approximately four miles northeast of Hale`iwa Town. It consists of eight separate sites that total approximately 382.2 acres.[6]

---

[4] At the meeting, OP filed written comments on the Applicant's Proposed Order.

[5] There are currently seven sitting commissioners on the LUC. The two remaining seats are vacant.

[6] The ninth site, consisting of approximately 1.9 acres of Ashley Road, is proposed to contain approximately 550 linear feet of underground electrical line, which the DPP deemed a permissible use within the State Land Use Agricultural District, and therefore not subject to an SUP. This effectively

8. The Kawailoa wind energy generation system is located between and around the Petition Area.

9. With the exception of the wind farm, there is no other development near the Petition Area. The surrounding areas support a variety of uses, including diversified agriculture, conservation, and military operations.

10. The Petition Area is owned by the Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools.

11. The Petition Area is currently vacant. It was formerly used for sugarcane cultivation. As part of a large sugar plantation, the Petition Area and surrounding areas consist of agricultural fields located atop a series of tablelands interspersed with gulches formed by intermittent drainages. The topography ranges from relatively flat or moderately sloping in the agricultural fields to steeply sloping in the gulches. Elevations range from 200 feet above sea level ("ASL") to 1,280 feet ASL, which equates to an average grade of approximately 7 percent.

12. Local climatic conditions in the area are characteristic of lowland areas on the windward side of O`ahu, with relatively constant temperatures and persistent northeast tradewinds. The average annual rainfall over a 30-year period (1981-2010) is approximately 55 inches. The monthly average ranges between

---

reduced the acreage of the Petition Area from approximately 384.1 acres (as identified in the Petition) to its current approximately 382.2 acres.

approximately 2.8 inches and 7 inches. Minimum temperatures range from 60.1°F to 69.4°F, while maximum temperatures range from 79.1°F to 87.6°F.

13. The Petition Area is accessible via Ashley Road, a gated and private roadway that is maintained for the existing wind farm. It connects to Kamehameha Highway. There is no public access to the Petition Area.

14. By Findings of Fact, Conclusions of Law, and Decision and Order issued on March 5, 2015, the LUC designated the Petition Area as well as other lands in Kawailoa and Punalu`u as IAL under Docket No. DR14-52/Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools.

15. The Petition Area includes soils classified by the Land Study Bureau's ("LSB") detailed land classification as overall (master) productivity rating class A, B, C, and E lands. The majority of the Petition Area consists of class B lands, with significantly smaller acreages consisting of, in decreasing order, class C, E, and A lands. The approximately 1.9 acres of land beneath Ashley Road where subsurface improvements of approximately 550 linear feet of underground electrical line are planned consist of class A and B lands.

16. The Natural Resource Conservation Service classifies the soil types on the Petition Area as belonging to the Wahiawā Series (Wahiawā silty clay, 3 to 15 percent slopes) and Leilehua Series (Leilehua silty clay, 2 to 12 percent slopes).

Permeability of these soils is moderately rapid. Runoff is slow to medium, and the erosion hazard is slight to moderate.

17. Under the Agricultural Lands of Importance to the State of Hawai`i ("ALISH") classification system, the soils on the Petition Area consists of prime lands, which are best suited for the production of food, feed, forage, and fiber crops. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when properly managed (including water management).

18. The Petition Area is designated as Agriculture by the North Shore Sustainable Communities Plan.

19. The Petition Area is zoned AG-1 Restricted Agricultural District.

20. The Petition Area is located outside of the City and County of Honolulu Special Management Area.

DESCRIPTION OF THE PROPOSED USE

21. The purpose of the SEF is to produce clean, low-cost renewable energy for the island of O`ahu. Large solar photovoltaic ("PV") systems are capable of generating electricity for a cost that is substantially less than Hawaiian Electric Company's ("HECO") "avoided cost" to produce the same electricity using fossil fuel without the greenhouse gas emissions from burning that fuel. Based on the projected output of the SEF over a 27-year period, the SEF is expected to produce the energy to

power the equivalent of 15,000 households and save consumers approximately $200 million compared to HECO's current avoided cost. Further, the SEF will prevent the burning of millions of barrels of oil and millions of tons of CO_2 from entering the atmosphere.

22. Sites 1 through 7 of the SEF will primarily contain horizontal single-axis tracking, ground-mounted panels. Site 1 will also include an electrical substation. Site 8 will contain the second of the two proposed electrical substations. The panels are proposed to face approximately due south, and are expected to extend approximately 4' 6" to 9' 6" off the ground on average. Each panel will generate power at 1,000 volts. In addition to the panels, the SEF will include electrical equipment, such as combiner boxes, collector lines, inverters, weather monitoring stations, and switch gear, as needed, to increase the electrical voltage and aggregate the generated electricity for transmittal via the collector system.

23. The collector system will consist of a network of direct buried underground collection circuits connecting to two electrical substations located on Sites 1 and 8. These Mauka and Makai substations are proposed to provide for the termination of the collector lines, transform the electricity to 46,000 volts, and connect to the existing HECO Mauka and Makai switchyards, both of which were constructed as part of the nearby wind farm project. HECO's Mauka switchyard provides for

interconnection with the HECO's Waialua-Kuilima 46 kilovolt ("kV") sub-transmission line, while HECO's Makai switchyard provides for interconnection with HECO's existing Waialua-Kahuku 46 kV sub-transmission line. The SEF will need to interconnect with both sub-transmission lines.

24. The design of the two substations will consist of an open switchrack with free-standing steel structures, occupying an area of approximately 150 feet by 180 feet. An 8-foot high chain-link perimeter fence is expected to enclose the substations. It is envisioned that new electrical equipment will be installed within each of the existing HECO switchyards to support interconnection of the SEF. An existing fiber optic cable will provide telecommunications.

25. Ashley Road is expected to serve as the main entry point to the SEF as it currently does to the existing wind farm. A series of new interior service gravel roads will need to be constructed within the Petition Area to facilitate construction and allow access for ongoing operations and maintenance. The Applicant plans to construct perimeter fencing around the various sites.

26. In addition to the SEF, the Applicant represents that it will establish or will be actively seeking to establish a compatible agricultural operation on the Petition Area within one year of the commencement of the commercial operation of the SEF in compliance with Act 55, SLH 2014, which requires that the area occupied by

solar energy facilities be made available for compatible agricultural activities. The Applicant proposes to make available the lands for compatible agricultural activities at a lease rate that is at least 50 percent below the fair market rent for comparable properties as required by section 205-4.5(a)(21)(A), HRS, for the duration of the commercial energy generation operations. The Applicant plans to lease the lands for the pasturage of sheep, and has already executed a Letter of Intent to Kualoa Ranch Hawai`i, Inc. ("Kualoa Ranch"), to initiate this process.[7] Under the terms of the lease, the tenant will have use of the fencing and roadways as well as other infrastructure at the Petition Area.

27. The Applicant is confident that the SEF and a large sheep pasture can be co-located on the same land to the mutual benefit of both operations. There is local demand for fresh, grass-fed lamb in restaurants, stores, and farmers' markets. There is also a need on O`ahu for affordable pasture acreage to graze sheep and support the startup of a viable sheep ranch.

28. Construction of the SEF is expected to commence in January 2016 and be completed within ten months. To qualify for the 30 percent federal investment tax credits for solar energy projects, which credits make the SEF financially feasible, the

[7] In its Preliminary Agricultural Plan, the Applicant provided alternatives in the event Kualoa Ranch does not lease the Petition Area. The contingencies identified by the Applicant include leasing the Petition Area to another sheep rancher, grazing lowline cattle, raising free-range poultry, and beekeeping.

Applicant must have the SEF in commercial operations before the end of 2016. The Applicant intends to sell the energy generated by the SEF to HECO.

29. Once constructed, the SEF will be a primarily passive operation for both solar power generation and ranching. Power generation is generally expected to occur between 9:00 a.m. and 4:00 p.m. based on solar intensity. Normal operation of the SEF will not require onsite personnel, and therefore the SEF will not be manned on a daily basis.

30. The SEF will be co-located with the existing Kawailoa wind farm. The two operations will complement each other, as one will be generating energy during times when the other technology is not generating clean energy. The SEF will add diversity to the generation resources on the North Shore, enabling more consistent and productive electrical output throughout the year.

31. The SEF is projected to have an operational life of approximately 25 to 30 years. The SEF may be re-powered with new equipment or decommissioned. Decommissioning will involve the removal of all above ground structures, including the panels, transformers, and substation equipment, and all below ground structures and foundations to a depth of 36 inches below grade. As required by section 205-4.5(a)(21)(C), HRS, the Applicant plans to return the Petition Area to its pre-SEF condition following decommissioning. Most of the materials are planned to be either

salvaged or recycled. It is envisioned that most of the material will be shipped to a recycling facility on the mainland, while the remaining materials will be disposed of by a contractor at authorized sites. Decommissioning is planned to take place within 12 months of the conclusion of operation or the useful life of the SEF. Based on industry estimates of removal costs and salvage value of recycled materials, the projected cost to decommission the SEF is approximately $4 million.

32. Pursuant to section 205-4.5(a)(21)(B), HRS, the Applicant will put financial security in place to cover the estimated cost of decommissioning. Decommissioning security will be provided in the form of a parent guaranty, letter of credit, or some other acceptable form of security prior to the date of commencement of commercial generation.

33. In addition to a State SUP, the SEF will also require a Conditional Use Permit, Minor, and grading and building permits.

IMPACTS UPON THE RESOURCES OF THE AREA

Agricultural Resources

34. The Petition Area includes soils classified by the LSB's detailed land classification as overall (master) productivity rating class A, B, C, and E lands. The majority of the Petition Area consists of class B lands, with significantly smaller acreages consisting of, in decreasing order, class C, E, and A lands. The approximately

1.9 acres of land beneath Ashley Road where subsurface improvements of approximately 550 linear feet of underground electrical line are planned consist of class A and B lands.

35. The Natural Resource Conservation Service classifies the soil types on the Petition Area as belonging to the Wahiawā Series (Wahiawā silty clay, 3 to 15 percent slopes) and Leilehua Series (Leilehua silty clay, 2 to 12 percent slopes). Permeability of these soils is moderately rapid. Runoff is slow to medium, and the erosion hazard is slight to moderate.

36. Under the ALISH classification system, the soils on the Petition Area consists of prime lands, which are best suited for the production of food, feed, forage, and fiber crops. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when properly managed (including water management).

37. In conjunction with the SEF, the Applicant will establish or will actively seek to establish a compatible agricultural operation on the Petition Area within one year of the commencement of the commercial operation of the SEF. The Applicant proposes to make available the lands for compatible agricultural activities at a lease rate that is at least 50 percent below the fair market rent for comparable properties as required by section 205-4.5(a)(21)(A), HRS, for the duration of the

commercial energy generation operations. The Applicant has already executed a Letter of Intent to Kualoa Ranch to lease the Petition Area for the pasturage of sheep. Alternatives to raising sheep on the Petition Area have been identified in the event such endeavor does not succeed.

38. Following decommissioning of the SEF, the Petition Area will be returned to substantially the same condition as existed prior to the establishment of the SEF, enabling future agricultural use of the Petition Area.

Archaeological and Cultural Resources

39. ASM Affiliates, Inc., prepared an Archaeological Inventory Survey ("AIS") of the Petition Area in November 2014. Minor revisions to the AIS were subsequently done in January 2015. The AIS involved research of historical and archaeological resources and documents. The Petition Area was used for plantation agriculture and contains fields, plantation roadways, and other related infrastructure. A complete pedestrian survey of the Petition Area was undertaken and previously recorded Site 50-80-04-7171 and newly recorded Site 50-80-04-7716 (both ditch complexes related to plantation-era activities) were documented. Both sites were significant to the extent that they have yielded, or are likely to yield, information important for research on prehistory or history. No historic properties were deemed to

be affected and archaeological monitoring to address inadvertent finds was recommended.

40. The State of Hawai`i Department of Land and Natural Resources ("DLNR"), Historic Preservation Division ("SHPD"), subsequently determined that no historic properties will be affected by the SEF, and that it concurred with the Applicant's proposed archaeological monitoring during construction to ensure proper documentation and treatment of any inadvertent finds, including possible additional features related to Sites -7171 and -7716.

41. As requested by the SHPD, the Applicant plans to submit an archaeological monitoring plan to the SHPD for its review and acceptance prior to any ground disturbing activities.

42. A Cultural Impact Assessment ("CIA") was prepared for the nearby Kawailoa wind energy generation system in June 2011. The CIA included the entire ahupua`a of Kawailoa and Kamananui as part of its cultural survey area. Based on the CIA, there was evidence of fishing, gathering, and the cultivation of a variety of crops in the Kawailoa ahupua`a by Native Hawaiians. There was also evidence of subsequent plantation-era commercial sugarcane cultivation, which dramatically altered the natural landscape during the last two decades of the 19th century. The

sugarcane fields were left fallow after the termination of the Waialua Sugar Company in 1998.

43. There have been no specific valued natural and cultural resources identified in the Petition Area. No evidence has been identified to demonstrate that traditional and customary cultural practices are currently being exercised in the Petition Area.

Flora and Fauna

44. SWCA Environmental Consultants prepared a Natural Resource Assessment of the Petition Area and surrounding areas. Biological Resources Surveys prepared by Robert W. Hobdy for the Kawailoa wind energy generation system were also utilized in assessing the impacts of the SEF on the biological resources of the area.

45. The Petition Area consists almost entirely of non-native, weedy plant species. The only native species was `uhaloa, a common species found throughout the State. The most abundant species on the Petition Area is Guinea grass, an introduced species. No state or federally listed threatened, endangered, or candidate plant species have been recorded on the Petition Area. No designated (or proposed) critical habitat exists. The construction of the SEF is not anticipated to adversely affect the botanical resources on the Petition Area.

46. Of the 26 species of birds observed on the Petition Area and surrounding areas, four are native or winter migrants to the State: the Black-crowned night heron, the Pacific golden-plover, the endangered Newell's shearwater, and the Hawaiian duck-mallard hybrid. It is also possible that the endangered Hawaiian petrel transits the land. Nesting habitat for the seabird species does not exist on the Petition Area. Although there are no open water features or mudflats on the Petition Area, several endangered waterbirds have been observed at nearby waterbodies and/or flying over the Kawailoa area, and could transit the area while moving between nearby habitat. Such waterbirds include the Hawaiian stilt, Hawaiian coot, and the Hawaiian moorhen. The Hawaiian duck-mallard hybrid could also occasionally fly over from Kaua`i.

47. Although the anti-reflective solar panels are not expected to lead to bird collisions, the Applicant agreed to train operations personnel at the Petition Area to document and report any downed wildlife encountered during routine site inspections. Training will include recognizing protected species and establishing standardized protocols for documenting and reporting occurrences of downed wildlife to the U.S. Fish and Wildlife Service ("USFWS") and the DLNR, Division of Forestry and Wildlife ("DOFAW").

48. The endangered, native Hawaiian hoary bat has been documented flying in the Kawailoa area. Bat activity has been detected in essentially all habitats in the area, including clearings, along roads, along the edges of tree lines, in gulches, and at irrigation ponds. The bats appear to use these features for travelling and foraging. Consistent with the recommendations of the USFWS and the DOFAW, the Applicant will avoid disturbing, removing, or trimming woody plants greater than 15 feet tall during the birthing and pup rearing season. In addition, the Applicant represents that the perimeter fencing will not include barbed wire that could inadvertently snag bats. Any observations of the hoary bat in the Petition Area will be reported to the DOFAW.

49. The Applicant will consult with the DOFAW and the USFWS throughout the planning process to determine if a threatened or endangered species is likely to be impacted by the Project. In conjunction with the USFWS and the DOFAW, appropriate protocols for the construction and operation of the SEF to monitor and mitigate risks to protected species will be developed.

50. The Applicant will keep the USFWS and the DOFAW apprised of any changes to the SEF to determine if there could be potential impacts to a threatened or endangered species.

Groundwater Resources

51. The Applicant does not plan to utilize groundwater as a source of water supply for the SEF. A minimal amount of water will be required for the occasional irrigation of landscaping, the periodic cleaning of the solar panels, and to support the co-located ranching operations. Water will be available from rainwater catchment equipment, onsite irrigation ponds, or transported to the Petition Area via truck. No hook-up to the municipal water system is anticipated.

Visual Resources

52. Views of the SEF from publicly accessible locations in the neighboring areas are expected to be minimal based on the low profile of the solar arrays and the existing topography and vegetation surrounding the Petition Area.

53. Solar panels are designed to reflect approximately 2 percent of incoming sunlight. Panels are typically designed with anti-reflective glass front surfaces to capture and retain as much of the solar spectrum as possible. In general, solar module glass has less reflectivity than water or window glass. A reflectivity study conducted for the SEF evaluated the potential for glare at 14 locations surrounding the Petition Area, including Wheeler and Dillingham Airfields and various roadways and residential areas. Based on the study, none of the observation points will have potential

glare. The potential for significant glare-related impacts is unlikely, and any glare would be of short duration and barely perceptible to aviators.

54. The State of Hawai`i Department of Transportation ("DOT"), Airports Division, noted that if glint or glare does create a hazardous condition for pilots, the Applicant must be prepared to immediately mitigate the hazard, upon notification by the Airports Division or the Federal Aviation Administration ("FAA"). In the event the SEF creates a hazardous condition for pilots, the Applicant will immediately initiate steps to mitigate the hazard upon notification by the appropriate authorities.

ENVIRONMENTAL QUALITY

Air Quality

55. During construction of the SEF, exhaust from increased vehicular traffic and fugitive dust from construction activity will generate short-term impacts. Temporary Best Management Practices ("BMPs"), including dust fences, windbreaks, watering of disturbed areas, and other soil management measures, will be implemented. BMPs will be identified and included on the erosion control plans that are required for grading and erosion control permit approvals issued by the State and City and County. Construction activities at the Petition Area will comply with the regulations for fugitive dust control in section 11-60.1, HAR

56. The SEF will not generate direct air emissions. Operation and maintenance activities may result in minimal amounts of fugitive dust or tailpipe emissions from vehicular traffic and landscape maintenance. Adverse impacts to air quality are not anticipated.

Noise

57. Ground-mounted inverters and transformers make a humming noise during daytime hours when the solar array generates electricity. This sound is typically inaudible in areas approximately 50 to 150 feet from the boundary of the array. There may be some sound generated from switching gear associated with the power substation, but this is expected to be minimal. Another noise source would include mowers and string trimmers used for vegetation control. None of these are expected to be audible from the nearest residences, which are approximately 0.7 miles from the Petition Area.

Water Quality

58. The solar panels do not generate pollution that would impact groundwater or surface water. No chemical agents will be used to clean the panels. The Applicant will employ BMPs to address potential impacts of the development of the SEF to water quality and comply with all necessary permit requirements prior to

construction, including National Pollution Discharge Elimination System permit coverage for construction-related stormwater.

ADEQUACY OF PUBLIC SERVICES AND FACILITIES

Roadways

59. Ashley Road, a private road with gated ingress/egress off Kamehameha Highway, provides access to the Petition Area. Maintenance and inspection of the SEF, including supplemental mowing, landscaping, panel cleaning, and electrical maintenance, will occur irregularly with employees driving on a network of internal gravel roads throughout the Petition Area. No centralized parking facilities are planned.

Water

60. The City and County of Honolulu Board of Water Supply ("BWS") does not service the Petition Area. A minimal amount of water will be required for the occasional irrigation of landscaping, the periodic cleaning of the solar panels, and to support the co-located ranching operations. Water will be available from rainwater catchment equipment, onsite irrigation ponds, or transported to the Petition Area via truck. No hook-up to the municipal water system is anticipated.

Drainage

61. The Petition Area generally slopes mauka to makai down from elevations of 1,280 feet to 200 feet with an average slope of approximately 7 percent. It

is located in Flood Zone D, an area where flood hazards are undetermined. Existing runoff currently discharges through sheet flow or shallow concentrated flow into swales onto adjacent downstream properties. The solar panels are proposed to be located in the flatter, more gradually sloped areas on the ridgelines and away from the steep ravines that lead to the valleys below.

62. Clearing, grubbing, and grading will be required for placement of the solar panels, equipment, facilities, access driveways, fencing, and vegetated buffer. Site grading will be limited to smoothing out localized high or low spots, and earthwork volumes and related construction costs will be minimized by optimal placement of the PV racks by following the existing grades and elevations.

63. To address grading and erosion control regulations, the Applicant intends to implement temporary BMPs during construction and permanent BMPs thereafter. Temporary erosion control BMPs, which would be implemented in a phased manner through grading increments, may encompass the following: (1) preservation of natural vegetation; (2) minimizing area of clearing and grubbing; (3) vegetated buffers; (4) temporary soil stabilization with grass and/or mulch; (5) silt fences/fiber filtration tubes; (6) gravel bag berms/check dams; (7) stabilized construction entrances; (8) sediment traps and basins; (9) temporary diversion swales and ditches; and (10) water application and/or dust screens.

64. Permanent BMPs will include (1) final stabilization of exposed soils through landscaping or installation of impervious surfaces including pavement and buildings; (2) infiltration trenches; (3) dry wells and sumps; (4) grass swales and ditches; (5) filter strips; and (6) sediment traps and basins.

65. Impacts from impervious infrastructure such as concrete equipment pads, control structures, substations, and micro-pile/pier foundations are expected to be minimal as a result of their even distribution throughout the Petition Area, slight leveling of driveway areas, and use of raised gravel driveways.

66. Onsite stormwater will be directed away from equipment pads and any other structures to minimize erosion. Drainage channels with velocity reduction controls will be constructed in which water will flow to stormwater basins and/or other volume control facilities if required. The volume control facilities will be situated at downstream locations and will discharge out with non-erosive velocities back into the natural drainage features.

67. Any offsite flows will be diverted around the Petition Area or through it so as to not impact the existing drainage paths and the proposed construction. If required, diversion channels will be constructed with check dams, drop structures, or other velocity reducing controls and flow back into the natural drainage features.

68. It is anticipated that the SEF will not result in a significant pre-development to post-development increase in stormwater flows. Nevertheless, while the grassed areas below the solar panels would be exempt from complying with the low impact development ("LID") requirement of the City and County of Honolulu as they would be considered an acceptable permanent BMP, other areas that could be considered disturbed or developed, as identified above, will need to comply with the LID requirements.

Wastewater

69. Normal operation of the SEF will not require permanent onsite personnel; therefore, no permanent wastewater facilities will be required.

Solid Waste

70. Construction and operation of the SEF is not expected to generate a significant amount of solid waste. During construction, all waste will be temporarily stored onsite and periodically transported and properly disposed of. Little to no waste will be generated during operation of the SEF. As such, refuse collection services will not be adversely affected.

Police and Fire Protection

71. The SEF will not require additional police protection. The Petition Area is only accessible via a private and gated agricultural road.

72. Any building permits will be circulated to the Honolulu Fire Department ("HFD") for review. Any firefighting infrastructure required by the HFD may be imposed at that time.

Schools

73. The SEF is not expected to affect any school facilities in the region.

CONFORMANCE WITH THE COASTAL ZONE MANAGEMENT PROGRAM

74. The SEF generally conforms to the applicable objectives, policies, and guidelines of the Coastal Zone Management program under chapter 205A, HRS.

CONFORMANCE WITH THE SUP GUIDELINES

75. The SEF generally meets the SUP guidelines provided in section 15-15-95(c), HAR, as follows:

1. The use shall not be contrary to the objectives sought to be accomplished by chapters 205 and 205A, HRS, and the rules of the LUC.

   The SEF is an unusual and reasonable use of agricultural land. The Petition Area was formally used for pineapple cultivation and is currently vacant. Utility scale PV facilities currently require a large amount of relatively gently sloping terrain in proximity to an existing electrical grid such as that provided by the Petition Area. The SEF will be co-located with the existing Kawailoa wind farm, which will complement each other during times when the other technology is not generating clean energy. The SEF will add diversity to the generation resources on the North Shore, enabling more consistent and productive electrical output

throughout the year. In compliance with section 205-4.5(a)(21)(A), HRS, the Applicant proposes to continue agricultural use of the Petition Area by utilizing the land under the solar panels for sheep pasturage. The sheep will provide vegetation control and a food source. The land will be made available at a lease rate that is at least 50 percent below the fair market rent for comparable properties. As required by section 205-4.5(a)(21)(C), HRS, decommissioning will occur within 12 months of the conclusion of the operation or useful life of the SEF. A decommissioning plan has been prepared, which calls for the removal of all aboveground structures, including panels, transformers, and substation equipment, as well as removal of all below ground structures and foundations to a depth of 36 inches below grade. Following decommissioning, the Petition Area will be returned to substantially the same condition as existed prior to the establishment of the SEF as required. In addition, the Applicant will put financial security in place to cover the estimated cost of decommissioning in compliance with section 205-4.5(a)(21)(B), HRS.

2. <u>The proposed use would not adversely affect surrounding property</u>.

The land immediately adjoining the Petition Area is used for a wind energy generation facility. Other surrounding lands are used for diversified agriculture, open space, and military training. The nearest residential areas are located along Kamehameha Highway and in the Pūpūkea Country zoning district, approximately 0.7 miles to the west and one mile to the north, respectively.

Impacts to air quality from the operation of the SEF are not anticipated to impact surrounding properties. Any noise

impacts from construction and maintenance of the SEF will be short term.

With respect to the visual impacts of the SEF, minimal impacts are expected based on the Applicant's view study. Finally, the Applicant has proposed BMPs to control erosion as well as to address potential impacts to water quality and noise and emission levels.

3. The proposed use would not unreasonably burden public agencies to provide roads and streets, sewers, water, drainage, and school improvements, and police and fire protection.

The SEF will not unreasonably impact transportation, wastewater, water, and drainage infrastructure nor school, fire, and police services.

Access to the Petition Area is via a private access road with gated ingress/egress off Kamehameha Highway. Maintenance and inspection of the SEF, including supplemental mowing, landscaping, panel cleaning, and electrical maintenance, will occur irregularly with employees driving on a network of internal gravel roads throughout the Petition Area. No centralized parking facilities are planned.

Normal operation of the SEF will not require permanent onsite personnel; therefore, no permanent wastewater facilities will be required.

The Petition Area is not serviced by the BWS. A minimal amount of water will be required for the occasional irrigation of landscaping, the periodic cleaning of the solar panels, and to support the co-located ranching operations. Water will be available from rainwater catchment equipment, onsite irrigation ponds, or transported to the

Petition Area via truck. No hook-up to the municipal water system is anticipated.

The Petition Area is currently overgrown with a mix of grasses, shrubs, and trees and is well drained. The SEF is not expected to adversely impact the existing drainage patterns, which generally sheet flow into the surrounding gullies. No residential uses are planned and the individual sites within the SEF will be completely fenced.

Additional police services are not warranted as the Petition Area will only be accessible via a private and gated agricultural road. With respect to fire protection, building permits for the SEF will be circulated to the HFD for review, and any firefighting infrastructure required by the HFD may be imposed at that time.

4. Unusual conditions, trends, and needs have arisen since the district boundaries and rules were established.

Large-scale solar energy facilities on O`ahu are a recent development as a result of the availability of tax incentives and the increasing cost of traditional fossil fuels. This has made their development an economically viable alternative to plantation agriculture. The trend to use large areas of land for energy generation was not anticipated at the time the State Land Use Law was established.

5. The land upon which the proposed use is sought is unsuited for the uses permitted within the district.

The Petition Area is considered good quality agricultural land that is suitable for uses permitted within the district. To the extent that the Petition Area will also be made available for compatible agriculture activities consistent with

the statutory requirement under section 205-4.5(a)(21)(A), HRS, there will be little loss of high quality agricultural land.

RULINGS ON PROPOSED FINDINGS OF FACT

Any of the proposed findings of fact submitted by any party not already ruled upon by the LUC by adoption, or rejected by clearly contrary findings of fact, are hereby denied and rejected.

Any conclusion of law herein improperly designated as a finding of fact should be deemed or construed as a conclusion of law; any finding of fact herein improperly designated as a conclusion of law should be deemed or construed as a finding of fact.

CONCLUSIONS OF LAW

1. The LUC has jurisdiction over this matter pursuant to section 205-6, HRS, and section 15-15-95 *et seq*. HAR.

2. Based upon the record of the proceedings before the Planning Commission, and pursuant to section 205-6, HRS and section 15-15-95 *et seq*., HAR, the LUC finds that the recommendation of the Planning Commission to approve a State SUP for the Petition Area, consisting of approximately 382.2 acres of land in the State Land Use Agricultural District at Kawailoa, North Shore, O`ahu, Hawai`i, identified as TMKs: 6-1-005: portion of 1 and 6-1-006: portion of 1, generally meets the guidelines for

determining an "unusual and reasonable use" within the State Land Use Agricultural District.

3. Article XI, section 1, of the Hawai`i State Constitution requires the State to conserve and protect Hawai`i's natural beauty and all natural resources, including land, water, air, minerals, and energy sources, and to promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

4. Article XI, section 3, of the Hawai`i State Constitution requires the State to conserve and protect agricultural lands, promote diversified agriculture, increase agricultural self-sufficiency, and assure the availability of agriculturally suitable lands.

5. Article XII, section 7, of the Hawai`i State Constitution requires the LUC to protect Native Hawaiian traditional and customary rights. The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural, and religious purposes and possessed by ahupua`a tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.

6. The State and its agencies are obligated to protect the reasonable exercise of customarily and traditionally exercised Native Hawaiian rights to the extent

feasible. *Public Access Shoreline Hawai`i v. Hawai`i County Planning Commission*, 79 Hawai`i 425, 903, P.2d 1246, *certiorari denied*, 517 U.S. 1163, 116 S.Ct. 1559, 134 L.Ed.2d 660 (1996).

7. The LUC is empowered to preserve and protect customary and traditional rights of Native Hawaiians. *Ka Pa`akai O Ka `Aina v. Land Use Commission*, 94 Hawai`i 31, 7 P.3d 1068 (2000).

8. Section 205-4.5(a)(21), HRS, permits SEFs on lands with soil classified by the LSB's detailed land classification as overall (master) productivity rating B or C for which an SUP is granted pursuant to section 205-6, HRS; provided that:

(A) The area occupied by the SEFs is also made available for compatible agricultural activities at a lease rate that is at least 50 percent below the fair market rent for comparable properties;

(B) Proof of financial security to decommission the facility is provided to the satisfaction of the appropriate county planning commission prior to date of commencement of commercial generation; and

(C) SEFs shall be decommissioned at the owner's expense according to the following requirements:

(i) Removal of all equipment related to the SEF within 12 months of the conclusion of operation or useful life; and

(ii) Restoration of the disturbed earth to substantially the same physical condition as existed prior to the development of the SEF.

DECISION AND ORDER

Having duly considered the complete record in this matter and the oral arguments presented by the Applicant in this proceeding, the LUC, through a motion having been duly made and seconded at a meeting conducted on June 9, 2015, in Honolulu, Hawai`i, and the motion having received the affirmative votes required by section 15-15-13, HAR, and there being good cause for the motion, hereby APPROVES the recommendation of the Planning Commission approving a State SUP for the Petition Area, consisting of approximately 382.2 acres of land in the State Land Use Agricultural District at Kawailoa, North Shore, O`ahu, Hawai`i, identified as TMKs: 6-1-005: portion of 1 and 6-1-006: portion of 1, and approximately shown on Exhibit "A" attached hereto and incorporated by reference herein, subject to the following conditions:

1. Usable lands of the Petition Area, including areas under PV panels, shall be made available for compatible agricultural use at a lease rate that is at least 50 percent below the fair market rent for comparable properties, as long as the Project is in operation. Compatible agricultural operations shall be established, or Applicant shall be actively seeking to have such operations established, within 6 months of the start of commercial power generation. Extensions to this deadline may be granted by the Director of the DPP for unforeseen extenuating circumstances.

2. If at any time during the term of the SUP no compatible agricultural operations exist on the usable lands of the Petition Area for 6 months, the Applicant shall notify the Planning Commission and the Director of the DPP in writing within 30 days of the end of the 6-month period. If requested by the Planning Commission, the Applicant shall attend a meeting of the Planning Commission and submit a report to the Planning Commission detailing the Applicant's actual and reasonable efforts to actively seek the establishment of compatible agricultural operations on the usable lands of the Petition Area. The Planning Commission shall determine whether probable cause exists to re-evaluate the SUP and to hold a hearing pursuant to Section 2-49 of the Rules of the Planning Commission. Extensions to the 6-month deadline may be granted by the Planning Commission for unforeseen extenuating circumstances.

3. The Applicant shall submit for review and obtain the approval of the following from the Director of the DPP, prior to the issuance of a grading or building permit:

a. A survey map accompanied by a metes and bounds description of the approved Petition Area.

b. A site plan showing the area required under Condition 1, above, relating to the minimum land area to be made available for compatible agricultural use.

4. Prior to the closing of the building permit for the SEF, the Applicant shall submit to the DPP proof of financial security, such as a posted letter of credit or similar mechanism from a creditworthy financial institution, in favor of the owner of the land subject to the SUP, in the amount of four million dollars ($4,000,000.00), which security shall remain in place for the duration of the operation of the Project, with evidence of same provided to the Director of the DPP on an annual basis, to decommission the Project and restore the Petition Area to substantially the same physical condition as existed prior to the development of the SEF.

The Applicant shall decommission the SEF, including the removal of all equipment related to the SEF, within twelve (12) months following the termination of operations of the SEF. A change in Project ownership or a change in ownership of the land subject to the SUP, which warrants a new proof of financial security to decommission the Project, shall be submitted to the DPP for processing through the Planning Commission, within three (3) months of the ownership change.

5. The Applicant shall comply with the recommendations of the USFWS and the DOFAW regarding the protection of the endangered Hawaiian hoary

bat and endangered and threatened Hawaiian waterbird and shorebird species at the Petition Area.

6. The Applicant shall establish the Project within two (2) years of the date of the LUC's Decision and Order approving the SUP. Requests for extension of this deadline shall be submitted to the Director of the DPP prior to the expiration of the deadline. The LUC may grant an extension to the deadline to establish the Project due to unforeseen circumstances that were beyond the control of the Applicant. This SUP shall be valid for a period of thirty-five (35) years from the date of the LUC's Decision and Order approving the SUP, subject to further extensions upon a timely request for extension filed with the Planning Commission at least one-hundred twenty (120) days prior to the SUP's expiration.

7. On or before December 31 of each year that the SUP is in effect, the Applicant or its successor shall file an annual report to the LUC, OP, and the DPP that demonstrates the Applicant's compliance with conditions of the SUP.

8. Major modifications to: (1) the Project plans, including but not limited to significant increases in the number of PV panels; (2) amendments to the conditions of approval; (3) significant expansions of the approved area; or (4) change in uses stated herein, shall be subject to the review and approval of the Planning Commission and the LUC. Minor modifications including minor additions to accessory

uses and structures, and new incidental uses and structures in the approved area are subject to review and approval by the Director of the DPP.

9. The Applicant and/or landowner shall notify the Director of the DPP of:

a. Any change or transfer of licensee on the Petition Area;

b. Any change in uses on the Petition Area;

c. Termination of any uses on the Petition Area; and/or

d. Transfer in ownership of the Petition Area.

The Planning Commission, in consultation with the Director of the DPP, shall determine the disposition of this SUP, and the facilities permitted herein.

10. Enforcement of the conditions of the SUP shall be pursuant to the Rules of the Planning Commission, including the issuance of an order to show cause as to the reason the SUP should not be revoked if the Planning Commission has reason to believe that there has been a failure to perform the conditions imposed herein.

11. If the PV array creates a hazardous condition for pilots or motorists, the facility operator shall immediately mitigate the hazard upon notification by the DOT, Airports Division, or the FAA.

12. The Applicant shall submit an archaeological monitoring plan to the SHPD for review and acceptance prior to any ground disturbing activities.

13. In the event that historic resources, including human skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes, are identified during demolition and/or construction activities, all work shall cease in the immediate vicinity of the find, the find shall be protected from additional disturbance, and the SHPD and O`ahu Island Burial Council shall be contacted immediately. Without any limitation to any other condition found herein, if any burials or archaeological or historic sites are discovered during the course of construction of the SEF, all construction activity in the vicinity of the discovery shall stop until the issuance of an archaeological clearance from the SHPD that mitigation measures have been implemented to its satisfaction.

14. The Applicant shall develop and operate the SEF, including the implementation of measures to mitigate potential impacts of the Project, in substantial compliance with the representations made to the Planning Commission and the LUC as reflected in this Decision and Order. Such mitigation measures include, but are not limited to, the use of temporary and permanent BMPs to ensure that the development and operation of the SEF do not result in an increase in stormwater runoff that adversely impacts downstream properties. Failure to so develop the Petition Area may result in revocation of the SUP.

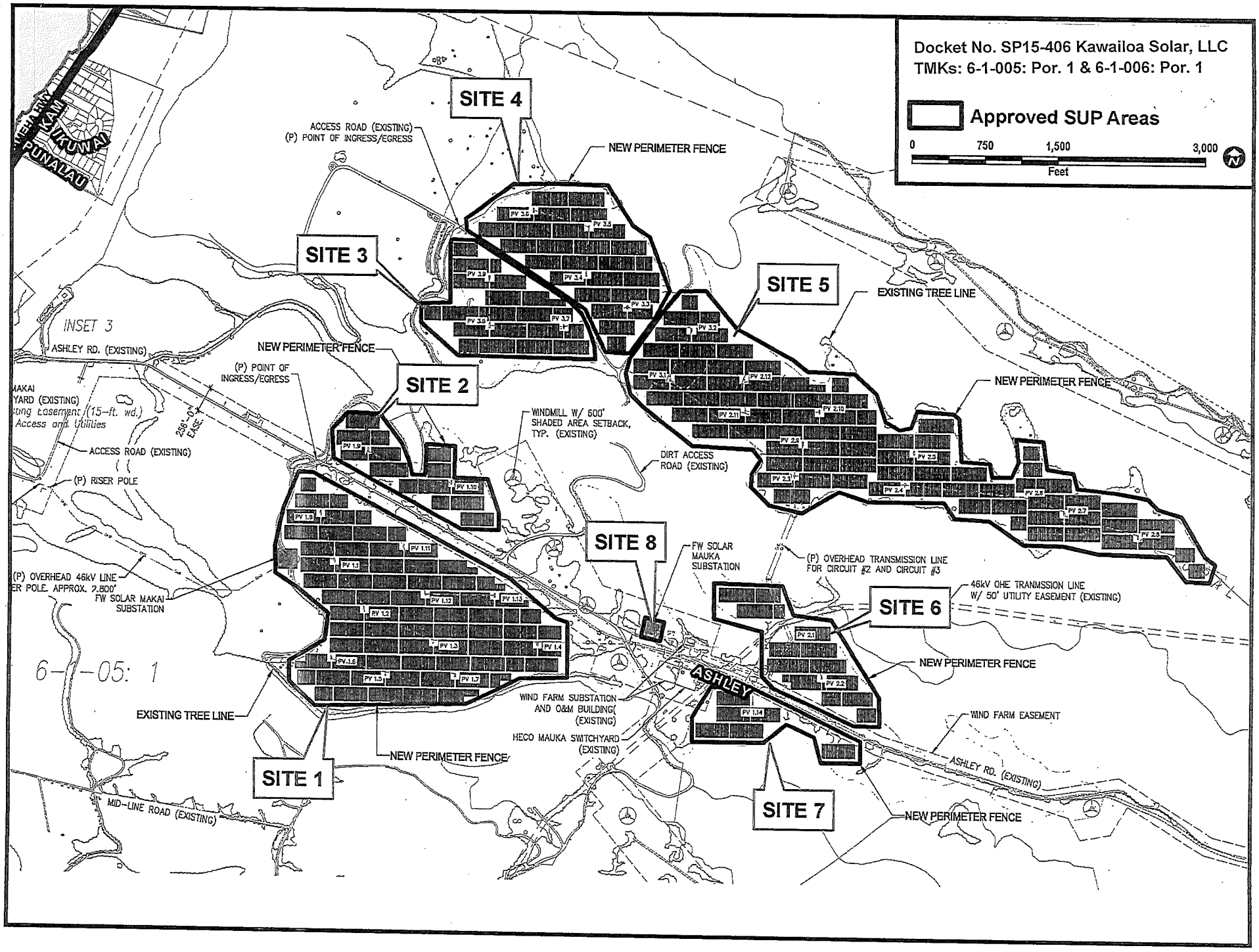
Docket No. SP15-406 Kawailoa Solar, LLC
TMKs: 6-1-005: Por. 1 & 6-1-006: Por. 1
Approved SUP Areas
0
750
1,500
3,000
Feet
SITE 1
SITE 2
SITE 3
SITE 4
SITE 5
SITE 6
SITE 7
SITE 8
ACCESS ROAD (EXISTING)
(P) POINT OF INGRESS/EGRESS
NEW PERIMETER FENCE
EXISTING TREE LINE
INSET 3
ASHLEY RD. (EXISTING)
(P) POINT OF INGRESS/EGRESS
WINDMILL W/ 600' SHADED AREA SETBACK, TYP. (EXISTING)
DIRT ACCESS ROAD (EXISTING)
ACCESS ROAD (EXISTING)
(P) RISER POLE
(P) OVERHEAD 46kV LINE
FW SOLAR MAKAI SUBSTATION
FW SOLAR MAUKA SUBSTATION
(P) OVERHEAD TRANSMISSION LINE FOR CIRCUIT #2 AND CIRCUIT #3
46kV OHE TRANMSSION LINE W/ 50' UTILITY EASEMENT (EXISTING)
ASHLEY
WIND FARM SUBSTATION AND O&M BUILDING (EXISTING)
HECO MAUKA SWITCHYARD (EXISTING)
WIND FARM EASEMENT
ASHLEY RD. (EXISTING)
MID-LINE ROAD (EXISTING)
6-1-05: 1

EXHIBIT "A"