

DEPARTMENT OF PLANNING AND PERMITTING
OF THE CITY AND COUNTY OF HONOLULU.

STATE OF HAWAII

IN THE MATTER OF THE APPLICATION OF)
WAIAWA PV, LLC)
FOR A)
SPECIAL USE PERMIT)

FILE NO. 2014/SUP-3

FINDINGS OF FACT, CONCLUSIONS
OF LAW, AND RECOMMENDATION

LAND USE COMMISSION
STATE OF HAWAII
2015 JAN -2 A 8:19

I. APPLICATION

A. Basic Information

APPLICANT	:	Waiawa PV, LLC
OWNER	:	Castle & Cooke Homes Hawaii, Inc.
LOCATION	:	East of H-2 Interstate Highway and Approximately 1,000 Feet North of Mililani Memorial Park (Exhibit 1)
TAX MAP KEY	:	9-5-003: Portion of Parcel 004
AREA OF SPECIAL USE AND SITE PLAN	:	Approximately 313 Acres ¹ (Exhibit 2)
RECORDATION	:	Land Court
STATE LAND USE DISTRICT	:	Agricultural (Exhibit 3)
CENTRAL OAHU SUSTAINABLE COMMUNITIES PLAN	:	Agricultural and Preservation
EXISTING ZONING	:	AG-1 Restricted Agricultural District (Exhibit 4)

¹ On December 29, 2014, the Applicant submitted a map (Exhibit No. 24) which shows a revised Special Use Permit request area resulting from the removal of an area reserved for a future reservoir. A revised acreage for the Special Use Permit area requested was not provided.

LAND STUDY BUREAU RATING	:	Overall Master Productivity Rating of Class "B" (Exhibit 5)
EXISTING USE	:	Agriculture (Pasture)
SURROUNDING LAND USE	:	Agriculture, Open Space, Highway, Cemetery

- B. Proposal. Waiawa PV, LLC (Applicant) proposes to construct a 47-megawatt photovoltaic (PV) energy generation facility (Project) on a 313-acre portion (Petition Area) of a 525-acre parcel. The Project will consist of south-facing, ground-mounted PV panels mounted on fixed-tilt blocks. The panels are mounted generally about 4 ½ feet to 9 ½ feet above existing grade, with each panel generating power at 1,000 volts (V). The PV system will include other electrical equipment such as combiner boxes, below surface collector lines, inverters, transformers, weather monitoring stations, and switch gear. The Project will also include a switchyard and a substation within the Petition Area to be operated by Hawaiian Electric Company (HECO).

The on-site substation would allow energy generated by the PV facility to be transmitted into the existing HECO electrical transmission system. The proposed substation and switchyard, known as the Akau Substation, would be located next to the existing Kahe-Wahiawa 138 kilovolt (kV) transmission line, which traverses the Project site. The substation would be an open switch-rack design, with free-standing steel structures.

The substation and switchyard may each include an enclosed and unmanned control building (up to 20 feet in height) to house electrical equipment for controls, metering, and communication. Communications with the facility may be via underground fiber optic cable or a point-to-point microwave antenna mounted to a new communication tower within HECO's switchyard. In total, the substation and switchyard would occupy an area approximately 291 feet by 463 feet in area and be enclosed by an 8-foot high perimeter fence.

In addition, the Applicant proposes to construct internal gravel roadways and security fencing encompassing the Petition Area. Landscaping will be planted along certain sections of the H-2 Interstate Highway (H-2) to mitigate visual impacts. A new reservoir is proposed in the Petition Area by Castle & Cooke Homes Hawaii, Inc., but is not part of the Project. The reservoir is a permitted use within the State Land Use (SLU) Agricultural District.

In accordance with Act 55, 2014 Session Laws of Hawaii, which creates a new Subsection 205-4.5(a)(21), of the Hawaii Revised Statutes (HRS), the Applicant, through its parent company First Wind², intends to lease portions of the subject parcel to a local ranch to raise sheep. The Applicant submitted, as part of the Special Use Permit (SUP) application, a Letter of Intent to lease the property to a local ranching business to pasture sheep on the site. The lease would commence after the Project is operational and would be at a lease rent rate of no more than 50 percent of the fair market rate for

² Waiawa PV, LLC is a wholly owned subsidiary of Waiawa PV Holdings, LLC, which is a wholly owned subsidiary of First Wind Portfolio, LLC, which is a wholly owned subsidiary of First Wind Holdings, LLC. The application references First Wind (d.b.a. Waiawa PV, LLC) as the entity proposing the Project.

similar agricultural properties. The lease would also provide the rancher with use of the fencing and roadways and other infrastructure at the project site.

The Project, also referred to as a solar energy facility (SEF), will not be manned on a regular basis. On occasion, maintenance staff will be onsite to clean the panels, effect repairs as needed, and supplement grass and brush removal to maintain clear access to sunlight. No parking areas will be required for maintenance of the Project. However, a portable restroom unit(s) may be needed for use during operations and maintenance.

The Applicant anticipates that upon receiving all land use and building permit approvals, construction, operation, and decommissioning of the SEF would be completed in 35 years.

Energy generated by the PV panels will be sold to HECO.

- C. Environmental Impact Statement. The instant application to establish the Project is not subject to environmental disclosure requirements of Chapter 343, HRS.

II. FINDINGS OF FACT

- A. Site Description and Surrounding Uses. The Petition Area is situated on the east side of H-2, north of the Ka Uka Boulevard interchange. The irregular shaped parcel has an elevation ranging from approximately 720 feet above sea level near H-2, to approximately 940 feet at the east end of the site. The topography of the parcel is gently sloping where the proposed PV panels are to be located and transitions to steep gulches along the northern and southern edges of the property (Kipapa Gulch and Panakauahi Gulch, respectively).

This area is comprised of former agricultural fields that were previously cultivated with pineapple. Currently, the Petition Area is used for cattle grazing. There are no structures within the site. Mililani Memorial Park lies approximately one-fourth mile south of the Petition Area, across Panakauahi Gulch. The southernmost extent of the Mililani Mauka residential subdivision lies across Kipapa Gulch, approximately one-half mile to the north. A new 768-acre, mixed-use development known as Koa Ridge Makai, is planned along the west side of H-2.

Access to the site is via Pineapple Road, which connects to Ka Uka Boulevard. Pineapple Road crosses H-2 via an overpass and leads to the Petition Area's eastern boundary. There is no public access to the site. First Wind has an option to purchase the Petition Area and associated access across Pineapple Road.

- B. Climate and Wind Patterns. There is no current climate data for the Petition Area. The closest community where there is current data is Wahiawa located about 3 miles to the northwest. According to data provided by the National Oceanic & Atmospheric Administration, the climate in Wahiawa is warm during summer with temperatures averaging in the mid 70's and mild during winter with temperatures averaging in the mid 60's. The warmest month of the year is September with an average high of 89, while the coldest month of the year is February with an average low of 66. Average annual rainfall ranges from about 42 to 60 inches.

C. Soil Type and Quality of Agricultural Land

1. United States Department of Agriculture. According to the U. S. Department of Agriculture Soil Conservation Service, the following soil types are found in the Petition Area:

Wahiawa silty clay, 0 to 3 percent slopes (WaA) and Wahiawa silty clay, 3 to 8 percent slopes (WaB). Soils in this series are well-drained and found on uplands. In a representative profile, the surface layer is very dusky red silty clay, about 12 inches thick; the subsoil is about 48 inches thick and is dark reddish-brown with a subangular blocky structure. Permeability is moderately rapid. Runoff is slow, and the erosion hazard is no more than slight. WaA and WaB have a Capability Classification I (few limitations restricting use) if irrigated, and IIc (moderate limitations because of climate) if non-irrigated. This soil is used for pineapple, sugarcane, pasture, and home sites.

In addition to the Wahiawa series, a smaller area adjacent to Kipapa Gulch is classified in the Manana series: Manana silty clay, 3 to 8 percent slopes (MpB) and Manana silty clay, 8 to 15 percent slopes (MpC). This series consists of well-drained soils on uplands. The Capability Classification of MpB is IIe (soils subject to moderate erosion if cultivated and not protected), irrigated or non-irrigated. These two soil types are used for pineapple, sugarcane, and pasture. The site also contains Manana Silty Clay Loam, 12 to 25 percent slopes (MpD2), eroded. This soil is similar to Manana silty clay loam except that it is moderately steep, eroded, and with a silty clay texture. Runoff is rapid and erosion hazard is severe. This soil is used for pineapple, sugarcane, and homesites.

The site also contains small amounts of Heleman Silty Clay, 30 to 90 percent slopes on adjacent gullies that surround portions of the site.

2. Agricultural Lands of Importance to the State of Hawaii. The Agricultural Lands of Importance in the State of Hawaii (ALISH) Map, prepared by the State Department of Agriculture (DOA), classify lands into three categories: 1) Prime Agricultural Land, 2) Unique Agricultural Land, and 3) Other Important Agricultural Land. About 40 percent of the site located on the western portion is comprised of Prime Agricultural Lands and the balance located on the eastern portion of the site is comprised of Unique Agricultural Lands. Prime Agricultural Lands 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). Unique Agricultural Lands are those other than Prime Agricultural Lands with qualities that favor production of high-value food crops when properly managed.
3. Land Study Bureau Classification. The Petition Area comprises of Class B soils, according to the Land Study Bureau (LSB) overall master productivity rating system. The LSB rating system is based on the agricultural productivity of soils throughout the State, accounting for characteristics such as texture, slope, salinity, erodibility, and rainfall. The productivity ratings are used to designate each area as Class A, B, C, D, or E, with Class A representing the most productive soils and Class E representing the least productive soils.

- D. Agency Comments. The following government agencies provided significant substantive comments on the SUP application. A summary of their comments are as follows:

Table 1 – Summary of Agency Comments

Source	Comments Summary
U. S. Fish & Wildlife Service	<p>The federally endangered Hawaii hoary bat may forage and roost in the Project area. Young bats may be left unattended in trees while parents forage during the breeding season and clearing the site for the Project may lead to inadvertent bat kills. Trees over 15 feet high should not be disturbed during birthing and pup rearing season (June 1 through September 15) and land clearing should be timed accordingly. Barbed wire should not be used on fencing due to the potential snagging of these bats.</p> <p>Birds have been known to be attracted to PV panels due to their resemblance as water bodies. Bird injuries and mortalities have been recorded at California PV projects and the State has many federally endangered bird species including Hawaiian coot, Hawaiian stilt, Hawaiian gallinule, Hawaiian duck, and the Hawaiian goose. Bird activity at the site should be monitored and personnel educated about potential for inadvertent harm to important bird species.</p>
State Department of Agriculture	<p>Supports existing farming operations and those seeking to start new farming enterprises. Also supports solar energy operations in combination with compatible local food production pursuant to Act 55. The site may qualify as Important Agricultural Lands pursuant to Chapter 205, HRS. Recommends a condition that the property include an established sheep operation or other agricultural enterprise in compliance with Act 55 for the duration of the solar generation facility.</p>
State Land Use Commission	<p>Recommends conditions of SUP approval to reflect requirements of Section 205-4.5(a)(21)(A), (B), and (C), HRS; submittal of an archaeological assessment with mitigation measures approved by the State Historic Preservation Division (SHPD) prior to SUP approval; provide a date by which the Project begins construction, duration of the Project, conditions of cessation, and annual reports to track progress and adherence to conditions of approval, as conditions of the SUP.</p>
State Office of Planning	<p>No objections but statewide concerns remain with regards to seeking a balance in maintaining the availability of high quality agricultural lands while promoting renewable energy resources on agricultural lands.</p> <p>The site was previously proposed for reclassification to the Urban District for the Koa Ridge Mauka development but was denied by the Land Use Commission.</p> <p>Requirements of Section 205-4.5(a)(21)(A), (B), and (C), HRS should be included as conditions of the permit should it be approved. The archaeological assessment should be approved by the SHPD, prior to commencement of construction of the Project. No major glare, noise, or nuisance is anticipated by the Project. Long-term adverse impacts on the surrounding area are not anticipated. The temporal nature of solar energy facilities provide the opportunity to restore the site for agricultural uses following decommissioning.</p>

Source	Comments Summary
State Department of Transportation	<p>Airports Division – Project site subject to overflights from aircraft flying between north and south portions of Oahu and from circling in hold patterns for air traffic reasons; PV systems can create a hazardous condition for a pilot due to possible glint and glare reflected from PV array; acknowledges glint and glare analysis for aircraft approaching Wheeler Army Airfield but glint and glare could occur for other aircraft flights in the vicinity of the Project area. If PV array creates hazardous conditions for pilots, the Applicant must be prepared to immediately mitigate hazard upon notification by the Airports Division or the Federal Aviation Administration.</p> <p>Highways Division – Still conducting its review and the Statewide Transportation Office will notify DPP of further comments.</p>
Honolulu Fire Department	Provide a Fire Department access road to within 150 feet of any building and a water supply system capable of supplying the required fire flow protection to all premises upon which facilities or buildings are constructed; on-site hydrants and mains capable of supplying the required fire flow shall be provided where facilities are located beyond 150 feet of a water supply.

Other government agencies contacted included the following, but did not provide comments as of the date of this Report:

City: Department of Transportation Services (DTS)

State: Department of Business, Economic Development & Tourism (DBEDT)
Department of Land and Natural Resources (DLNR)

Federal: Federal Aviation Administration (FAA)
Department of the Army
U. S. Department of Agriculture Soil Conservation Service

All comments are included in Attachment 1.

Note: Additional information submitted on December 15, 2014, by the Applicant relating to Federal Aviation Administration requirements, Ka Paakai discussion, civil considerations, magnetic fields and audible noise, and construction traffic assessment, was accepted into the record by the Planning Commission at its hearing of December 17, 2014.

- E. Community Concerns. Copies of the SUP application were transmitted to the Pearl City Neighborhood Board (NB) No. 21, the Mililani/Waipio/Melemanu NB No. 25, and the Mililani Mauka/LaunaniValley NB No. 35. The Pearl City NB No. 21 issued a resolution in support of the Project. Neighborhood Boards Nos. 25 and 35 did not provide written comments on the SUP application. However, the Applicant obtained support for the Project from NB No. 25 on January 22, 2014. The Project was also presented to NB No. 35 on January 21, 2014.

Tin Roof Ranch, Blue Planet Foundation, Pacific Resource Partnership, Castle & Cooke, Hawaii, and Hawaii Renewable Energy Alliance also provided comments in support of the Project.

All of the above community comments are attached in Attachment 1.

III. ANALYSIS

A. Laws and Public Policies

1. Land Use Law, Chapter 205, HRS. The Petition Area is within the SLU Agricultural District.

Section 205-6, HRS, allows the "county planning commission to permit certain unusual and reasonable uses within the agricultural and rural districts other than those for which the district is classified... The county planning commission may, under such protective restrictions as may be deemed necessary, permit the desired use, but only when the use would promote the effectiveness and objective of this chapter."

In determining whether a proposed use is deemed "unusual and reasonable," Section 2-45 of the Planning Commission Rules established five guidelines (five tests) to be applied. These guidelines are also found in Title 15-15, of the Hawaii Administrative Rules for the SLU Commission.

The Director finds that the proposal to allow the SEF meets the requirements of Chapter 205. The five guidelines of Section 2-45 of the Planning Commission Rules are as follows:

Guideline 1: Such use shall not be contrary to the objectives sought to be accomplished by the State Land Use Law and Regulations.

Pursuant to Section 205-4.5(a)(21), HRS, solar energy facilities proposed on SLU Agricultural District lands rated Class B or C by the LSB are permitted to exceed the maximum land of 10 percent of the area of a parcel, or 20 acres, whichever is the lesser, if granted a SUP, provided that the Project is made subject to three conditions:

- a. The area occupied by the solar energy facilities 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. Solar energy facilities shall be decommissioned at the owner's expense according to the following requirements:

- (i) Removal of all equipment related to the solar energy facility within twelve 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 solar energy facility.

The Project and its accessory uses and structures occupy approximately 313 acres, which is about 60 percent of the parcel's land area, which is almost wholly rated as Class B lands by the LSB. Thus, a SUP is required.

The Applicant submitted, as part of its application materials, information relating to the provision of land area occupied by PV panels for compatible agricultural use at a lease rent of 50 percent below market value, a preliminary description of its plan for decommissioning estimated at \$4 million.

The proposed Project is not contrary to the objectives sought to be accomplished by the SLU Law and regulations. The proposal may be considered an unusual but reasonable use of agricultural lands. Under current technology, utility scale PV facilities utilize solar panels to collect and distribute generated energy require large amounts of relatively gentle terrain, sited in close proximity to an existing electrical grid. The site was formally used for pineapple cultivation and is currently in pasture use. The Applicant proposes to continue agricultural use of the site by making available the area under the PV panels for sheep pasturage and the Applicant submitted a Letter of Intent between the Applicant and Tin Roof Ranch to pasture sheep on the property. The sheep will be beneficial to the Project for vegetation control and provide a food source in compliance with the intent of Act 55.

Currently, the Planning Commission and the SLU Commission have no rules to implement the provisions of Act 55. Such rules would better define and implement the intent of Act 55 and perhaps clarify what lands are to be made available for compatible agricultural use. On its face value, the statutory provision requiring that lands occupied by the SEF be made available for compatible agriculture, cannot be fully met as the substation, switchyard, communications building, and other accessory structures, cannot be used for compatible agriculture because the lands occupied by these structures would be completely built upon. Thus, compatible agricultural activities on these portions of the Petition Area are not possible or practical. To address this, the Director of the Department of Planning and Permitting (DPP) recommends that the Applicant submit an agricultural site plan showing the area set aside for compatible agricultural use, as a condition of SUP approval.

With respect to the Applicant's proof of financial security to fund the decommissioning of the Project after its useful life, the Applicant did not provide evidence of financial security. The Applicant suggested decommissioning efforts could be funded by its parent company and the required proof of financial security could be in the form of a Letter of Credit.

Assuming that the parent company providing the Letter of Credit is associated with the Project during its entire useful life, the Letter of Credit could be an

acceptable method to show proof of financial security. However, in many instances, the owner of the Project or the entity backing the Letter of Credit, or any other form of proof of financial security, may change ownership multiple times given the length of the development's useful life. With each change in ownership, a new Letter of Credit or other form of proof of financial security, should be provided, to be in compliance with Act 55. Any one of these companies, including the Applicant, may become insolvent and it's possible that no other company is willing to acquire the Project leading to abandonment. Thus, compliance with decommissioning requirements, may ultimately be the responsibility of the landowner, should the Project, in the future, be abandoned. And, the landowner, or future landowners and assignors of the Petition Area, may also be financially unable to fund decommissioning should there be unforeseen extenuating circumstances.

The City and County of Honolulu (City) is charged with enforcing statutory requirements of Chapter 205, HRS. Therefore, the Director of Planning and Permitting would place the "burden of proof" upon the Applicant to provide documentation which shows that it has the financial ability to decommission the Project and return the Petition Area to a condition prior to establishment of the Project, as a condition of SUP approval.

According to Act 55, proof of financial security is to be "provided to the satisfaction of the appropriate county planning commission prior to date of commencement of commercial generation". Therefore, the Planning Commission is being required to determine whether the proof of financial security submitted by the Applicant, and each subsequent owner, satisfies the intent of Act 55. As there are no rules to implement this provision of Act 55, for each and every change of ownership, a new proof of financial security should be submitted before the Planning Commission for determination. In addition, the Director of Planning and Permitting would be requested to provide a recommendation on the acceptability of the proof of financial security.

The Office of Planning (OP) and SLU Commission recommend conditions of SUP approval relating to removal of all equipment within 12 months of cessation and restoration of the site to substantially the same physical condition as existed prior to development of the Project. The removal of the Project and restoration of the Petition Area are statutory requirements and a condition of SUP approval to address statutory requirements is not necessary.

Based on the information submitted and materials to be submitted in compliance with the recommended conditions of approval, the Project is deemed consistent with the SLU Law which seeks to encourage the use of lands for uses best suited for the site.

With respect to protection of endangered species and their habitats, the U. S. Fish & Wildlife Service (USFWS) raised concerns that the Project may adversely impact breeding Hawaiian hoary bats and endangered or migratory birds. The USFWS indicated that bats and their young may forage in the site and surrounding area and recommends suspending any disturbance of trees over 15 feet in height until after breeding and pup-rearing season which runs from June 1 through September 15. The USFWS stated that barbed wire fencing may

snag avifauna and recommends avoiding barbed wire fencing. The USFWS also indicates that birds have been known to mistake PV panels from bodies of water and flying into the panels could result in unintended bird kills, injuries, or predation of injured birds. USFWS recommends an on-site monitoring of bird activity and coordination with the USFWS to assist in minimizing impacts.

To protect endangered species and migratory birds, the Applicant should consult with the USFWS.

Guideline 2: The desired use would not adversely affect surrounding property.

The Project site is surrounded by vacant agricultural land and overgrown terrain. Small farms occupy certain parcels north and south of the site. The DOA did not indicate the Project would have an adverse impact on surrounding agricultural uses.

The nearest residential areas to the Project are the southernmost portion of Mililani Mauka (approximately 0.5 mile to the north, across Kipapa Gulch) and the eastern most portion of Mililani Town (approximately 0.6 mile to the west, across the H-2 Freeway). Other than private views of a portion of the panels, which is not protected under government regulations, adverse impacts are not anticipated on nearby homes.

The Waiahole Ditch, an open ditch that transports irrigation water from Windward to Central Oahu, runs along the Project's southern boundary. Waiahole Ditch could serve as a source of irrigation water for on-site agricultural operations. No impacts are anticipated on this water source as a result of the Project.

Noise or odors are not anticipated to adversely affect surrounding properties. Short-term noise impacts may result from supplemental grass trimming by mechanical means.

A portion of the Project at the mauka-most end lies above the 50-inch rainfall isohyet. Consistent with the recommendations of the 2007 Central Oahu Watershed Study, the evaluation of the 2002 Central Oahu Sustainable Communities Plan, and its ongoing five-year comprehensive review, Best Management Practices (BMP) will maintain or improve rainfall retention and ground water infiltration at the Project site, protect against stream erosion, and sedimentation. BMP are standards of the City's grading ordinance and a condition of the SUP approval regarding the implementation of BMP is not necessary.

The Applicant submitted a view study with simulations showing minimal impacts on public roadways, parks, or other public spaces. The switchyard and substation, which is located about a mile from the H-2, contain vertical structures including 20- to 30-foot high electrical racks and structures, communications and electrical equipment buildings, fencing, and an 80-foot high communications tower, were not shown on the simulations. At this distance, the switchyard and substation would have a minimal impact on views from H-2. Naupaka and Kou plants will be planted along the property's western boundary to screen any views

of the Project not already screened by existing vegetation. Undesirable views of the switchyard and substation may be addressed during the Conditional Use Permit Minor (CUP) review. A condition of SUP approval is not required.

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

The Project would not unreasonably burden public agencies to provide roads, sewers, drainage, schools, police, and fire protection based on the following:

Traffic - Access to the Petition Area is via a private access road known as Pineapple Road with ingress/egress off Ka Uka Boulevard across from the Costco Waipio complex. This dirt road leads through an existing farm and crosses H-2 Freeway about 1.4 miles north of the Ka Uka Boulevard/H-2 Freeway Interchange before leading into the Project site.

Periodic maintenance and inspection of the solar facilities (including supplemental mowing, landscaping, panel cleaning, and electrical maintenance) would occur irregularly where employees would drive to various locations throughout the site on a network of internal gravel roads. No centralized parking facilities are planned.

The DTS and the State Department of Transportation (DOT) Highways Division did not provide any comments. Therefore, a condition of approval relating to roadway infrastructure is not required.

Wastewater - Normal operation of the facility would not require onsite personnel. Therefore, the site would not be permanently manned and no permanent wastewater facilities would be required.

Water Supply - The Project site is not serviced by the Honolulu Board of Water Supply. A future reservoir is being proposed by the landowner. The Applicant indicates that the reservoir is not part of their Project even though it is located in the Petition Area. Reservoirs are a permitted use and there is no impact on the SUP if included in the Petition Area.

Small amounts of water would be required for occasional irrigation of landscaping, as well as occasional cleaning of the solar panels. Water would be available either from rainwater catchment equipment or transported in via truck. No hook-up to the municipal water system is planned.

Drainage, School Improvements, Fire, and Police Protection - The Project is being proposed on gently sloping, former pineapple cultivation lands which are currently overgrown with tall non-native grasses, fiddlewood, and albizia trees. Staff observed 10- to 15-foot high koa trees on the Petition Area. The area appears well drained and the development of a SEF is not anticipated to change existing drainage patterns which generally sheet flow into the surrounding gullies. No residential use is being proposed and the SEF will be completely fenced on its perimeter. As the Petition Area is only accessible via a private and gated agricultural road, additional police protection services are not anticipated.

The Honolulu Fire Department (HFD) provided standard comments with respect to the provision of fire protection infrastructure. In a telephone conversation between the DPP and the HFD Fire Prevention Bureau, the HFD staff recognized that the Project did not contain buildings or facilities that would normally be subject to the provision of fire fighting infrastructure. Building permits for the Project would be circulated to the HFD for review. Any fire fighting infrastructure required by the HFD may be imposed at that time. Therefore, recommendations of the HFD need not be included as conditions of SUP approval.

The Applicant did not provide information on the potential for brush fires. Sheep pasturing and other compatible agricultural areas in the Petition Area should minimize brush fire potential. However, surrounding lands may be susceptible to brush fires and the Project could sustain damage from off-site fires. The Applicant plans to establish roadways or setbacks between the PV panels and the Project's fence line to minimize impacts from wildfires beyond the Petition Area. A condition of SUP approval is not necessary.

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

Large-scale solar energy facility development on Oahu is a recent phenomena as tax incentives and the increasing cost for traditional fuels have contributed to a growing industry for large- and small-scale PV installations, in addition to other alternative and renewable energy solutions such as wind, geothermal, hydroelectric, biofuels, and natural gas. As of December 2013, HECO reports that there are no utility scale PV projects in the Central Oahu to North Shore areas where most of the high quality agricultural lands are located. The DPP is aware of several large-scale (over 10 megawatts) projects under review for approval in the Central Oahu and other areas, as follows:

Table 2 – Proposed Utility-Scale PV Projects in Agricultural Land per Hawaii State Energy Office (SEO) Webpage

Project Name	Capacity Megawatts	Location	Approx. Acreage	Land Rating*
Waiawa Solar Farm (SunEdison)**	115	Waiawa, Central Oahu	655	Primarily A & B
Hoohana Solar LLC**	46	Royal Kunia, Central Oahu	124	Primarily A
Mililani South Solar Park	35	South of Mililani, Central Oahu	72	D
Kawailoa Solar, LLC	50	Kawailoa, North Shore	304	Primarily B & C
Ka La Nui Solar Project	15	Waianae at Mountain View Dairy, Waianae	76	E
Eurus Waianae Solar	30	Waianae, mauka of Uluwehi	195	E
Totals	291		1,426	

*LSB types A, B, C, D, or E

** SLU Urban District

Due to the reduction in panel costs and government subsidies, large-scale PV has become a viable economic alternative to plantation agriculture. These solar

energy projects typically have long-term leases commensurate to the hardware's expected life. Thereafter, the panels may be removed and recycled or replaced by newer panels, subject to a modification of the SUP, should the Project owner exercise its options to extend energy production beyond the projected life of the Project. The trend to use large areas of land for energy generation was not anticipated at the time the SLU Law was being established. And, the local cost for energy from fossil fuels continue to rise and is presently two to four times the cost for energy as the U. S. mainland³.

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

The parcel is rated good quality agricultural land and is suitable for uses permitted within the district. The subject land is presently used for a small scale cattle ranch. Section 205-4.5(a)(21), HRS, allows the granting of a SUP for the proposed SEF provided that certain conditions are met. One of these conditions require that the same lands be made available for compatible agriculture should an SUP be granted for a SEF. Thus, the statutory requirement to retain lands subsequently approved for a SEF, for the dual purpose of energy and agricultural production, results in little loss of high quality agricultural land. Therefore, the Petition Area is essentially available to the uses permitted in Section 204-4.5(a)(1), (2), and (3), HRS, and thus suitable for the establishment of the Project.

The Applicant proposes to establish a sheep farm and has explored alternative agriculture operations should the sheep farm prove infeasible. In addition, the Applicant states it will comply with decommissioning requirements of Section 205-4.5(a)(21)(C), HRS.

The DOA supports solar energy operations in combination with compatible local food production. The DOA, along with the OP, commented that the Applicant should comply with the intent of Act 55, SLH 2014, and recommends that a condition of approval be imposed to require that the Applicant, and its successors/assignors establishes a compatible agricultural enterprise on the site for the duration of the SEF operation. This is recommended as a condition of SUP approval.

2. Hawaii State Plan. The Hawaii State Plan (Chapter 226, HRS, as amended) provides the overall theme, goals, objectives, policies, and priority guidelines for statewide planning. The proposal is consistent with the following objectives and policies of the Hawaii State Plan:

Section 226-7: Objectives and policies for the economy--agriculture.

(a) *Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:*

(2) *Growth and development of diversified agriculture throughout the State.*

³ Source: U. S. Energy Information Administration.

- (3) *An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.*
- (b) *To achieve the agriculture objectives, it shall be the policy of this State to:*
 - (2) *Encourage agriculture by making best use of natural resources.*

The Project proposes to incorporate compatible agricultural uses within the same site as the PV panels by pasturing sheep around and under the panels which has the dual purpose of providing food in the form of lamb meat, and by limiting vegetation growth from pasturing sheep. The dual use of the Project site would contribute to the growth of diversified agriculture and make best use of the underlying natural resource.

Section 226-18: Objectives and policies for facility systems--energy.

- (a) *Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:*
 - (1) *Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;*
 - (2) *Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased;*
 - (3) *Greater energy security and diversification in the face of threats to Hawaii's energy supplies and systems; and*
 - (4) *Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use.*
- (b) *To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand.*
- (c) *To further achieve the energy objectives, it shall be the policy of this State to:*
 - (1) *Support research and development as well as promote the use of renewable energy sources.*

The proposal supports the energy goals of the State Planning Act, Chapter 226, HRS by providing alternative fuel-sourced energy, that is capable of contributing to the needs of the people and support energy self-sufficiency. Operation of the Project also contributes to the reduction of greenhouse gases by offering a "clean" energy alternative to fossil fuel based energy production.

- 3. City General Plan. The General Plan consists of comprehensive objectives and policies that outline the City's long-range development goals. The proposed Project conforms to the following objectives and policies of the City's General Plan as cited below:

Energy

Objective A – To maintain an adequate, dependable, and economical supply of energy for Oahu residents

Policy 3 – Support programs and projects which contribute to the attainment of energy self-sufficiency on Oahu.

The Project would contribute toward energy self-sufficiency by converting solar energy to electricity and reduce the amount of fossil fuels needed to provide Oahu's energy needs.

4. Central Oahu Sustainable Communities Plan (COSCP).

- a. Urban Community Boundary (UCB). The site is located outside the COSCP's UCB that was established to provide long-term protection from urbanization of Prime and Unique Agricultural Lands and for preservation of open space while providing adequate land for residential, commercial, and industrial uses needed in Central Oahu for the foreseeable future. The intent is to prevent urban zoning beyond this boundary.

The Applicant does not propose to establish urban type zoning in order to develop the Project. The proposal is to establish the use via a SUP that is best suited for SEFs on large open spaces in the Agricultural District, and does not result in an urban type zone change. An urban zone change would designate the site from an agricultural use to permit the proposal in an urban setting. In the instant case, the Project could be removed and the land returned to agriculture after its useful life. In addition, a majority of the site is being made available for compatible agricultural use as a sheep pasturing operation. Thus, the Project is consistent with the intent of the UCB.

- b. Agriculture Designation. The Project site is located within areas designated by the COSCP as Agriculture and Preservation. The agriculture policies and guidelines protect Prime and Unique Agricultural Lands designated under ALISH, from urban development as they are among the best in the State. These lands are supported by an extensive, well-developed agricultural infrastructure, and are near the major transportation hub for export markets. The Applicant's plans for sheep pasturing addresses both the need to retain these lands in agricultural use and the maintenance of undergrowth by establishing a compatible agricultural use in the area of the PV panels, in accordance with Section 205-4.5(a)(21), HRS.

The Project site is currently used for cattle pasture. The cattle ranching will be replaced by a new tenant (presently in negotiations with Tin Roof Ranch) who proposes to raise hair sheep on the site. The Project will also be designed to protect the surrounding environment through appropriate design measures and the adherence to relevant health and safety requirements of the Department of Health and the Environmental Protection Agency.

- c. **Scenic Resources and Scenic Views.** Portions of the site are visible from the H-2 Freeway and views of the site and the background Koolau Mountains are shown on the Open Space Map as protected panoramic views.

The Applicant proposes landscaping along H-2 to screen any views of the Project from passing motorists. Therefore, with appropriate landscaping as represented by the Applicant, the Project is consistent with relevant provisions of the COSCP. A condition of SUP approval addressing landscaping is not required and any unanticipated view impacts will be further reviewed under the CUP.

5. **Land Use Ordinance.** The Project is located within the AG-1 Restricted Agricultural District. It is considered a "Utility Installation, Type 2" facility and is subject to obtaining a CUP.
6. **Special Management Area (SMA).** The Project site is located outside of the SMA and a Special Management Permit is not required.
7. **Coastal Zone Management (CZM).** All lands of the State, including the area extending seaward of the shoreline to the seaward limits of the State's jurisdiction, are included in the CZM Area.

The proposal is consistent with the CZM objectives and policies as follows:

- (3) *Scenic and open space resources*
- (A) *Identify valued scenic resources in the CZM area;*
- (B) *Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- (C) *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- (D) *Encourage those developments that are not coastal dependent to locate in inland areas.*

The site is located on Oahu's central plain, far away from the shoreline. Landscaping will screen the Project from views along the H-2.

- (8) *Public participation*
- (A) *Promote public involvement in CZM processes;*
- (B) *Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and*

- (C) *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

The Applicant made presentations about its proposal to the area's neighborhood boards. In addition, the SUP application is available online at the DPP's webpage. Based on the above analysis, the Director finds that the proposed Project is in compliance with the objectives and policies of the CZM Program.

- B. Archaeological Resources. The Applicant's consultant prepared a draft archaeological assessment in August 2014. The assessment involved research of historical and archaeological resources and documents. Pedestrian inspection of the Project area by the DPP confirmed the findings of the background research. Because the site was used for pineapple production from the 1900s to the 1970s, subsurface testing was not performed. The archaeological consultant concluded that no historic properties, cultural deposits, or cultural material were identified within the proposed Project area and that the Project will not have a significant impact on any known historic properties.

The SHPD did not provide comments as of the date of this Report. The SLU Commission recommended that an approved archaeological assessment and mitigation measures be provided prior to SUP approval so that appropriate conditions of SUP approval can be determined. The OP recommended that an archaeological assessment be approved by SHPD before commencement of construction of the Project. A CUP and ministerial permits for the Project will be needed before the start of construction. The Applicant's archaeological assessment shows that no historic properties, cultural deposits, or cultural material were identified within the Petition Area, and an archaeological assessment and mitigation measures, approved by SHPD, is not necessary at this time. Therefore, a condition of SUP approval to require a SHPD approved archaeological assessment is not recommended.

An approved archaeological assessment could be required during review of the CUP, should SHPD provide comments that are contrary to the assessment's conclusions. Should cultural resources be uncovered during site work, the Applicant is required to comply with Section 106 of the National Historic Preservation Act and with Section 6E, HRS.

- C. Social Impacts. The Project will have minimal impact on population increases or decreases in the area and minimal adverse impact, if any, on the area's farming community. Positive impacts of the Project would result in an increase in energy produced by a renewable source for use by the Island's businesses and residences. The establishment on a sheep pasturing operation, should it be successful, would add to the supply of lamb meat for consumption.
- D. Decommissioning and Restoration. According to Section 205-4.5(a)(21)(C), HRS the Applicant is required to remove all equipment related to the solar energy facility within 12 months of the conclusion of operations or useful life, and restore the disturbed earth to substantially the same physical condition as existed prior to the development of the SEF⁴.

⁴ Act 55 provides no timeframe for the restoration of the disturbed earth to substantially the same physical condition as existed prior to development of the SEF.

The Applicant indicates that the Project is expected to have an operational life of approximately 35 years. Thereafter, the facility may be re-powered with new equipment or decommissioned, and the site reclaimed. Should the Applicant decide to renew the SEF with a modern system, the Applicant must obtain a new SUP or modify the existing approvals to extend its deadline to decommission, and reclaim the site.

Decommissioning would involve removal of all above ground structures, including the panels, transformers, and substation equipment, as well as removal of all below-ground structures and foundations to a depth of 36 inches below grade. It is anticipated that most of the materials would be either salvaged or recycled, with the majority of this material likely being shipped to a recycling facility on the mainland. The remaining materials would be disposed of by the contractor at authorized sites in accordance with applicable laws. Site restoration would be based on site-specific requirements and techniques commonly employed at the time of decommissioning. It is expected to include grading, spot replacement of topsoil, removal of gravel, and revegetation of all disturbed areas with an appropriate hydroseed mix, such that the physical conditions of the Project site would be comparable to the existing conditions prior to construction of the Project.

The Applicant is required to comply with Section 205-4.5(a)(21)(C), HRS, and a condition of SUP approval is not required.

- E. Glint and Glare. The Applicant's consultant prepared a glint and glare study in accordance with the FAA's recommendations. PV 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. The consultant study indicates that some adjacent areas may experience some degree of glare, but this would only occur during a portion of the year and for very short durations (e.g., 15 to 45 minutes per day). The study concludes that while glare may be visible during these short periods, the effects would be mitigated by the distance of the Project from publically accessible areas, intervening structures, and vegetation (including the proposed landscaping that would be installed as part of the Project). Potential effects on aircraft approaching Wheeler Army Airfield are expected to be barely perceptible.

The DOT indicates in their comments that glint and glare may affect other aircraft within the vicinity of the Petition Area beyond the typical flight paths used by aircraft approaching Wheeler Army Airfield. DOT also added that the Applicant should be prepared to immediately mitigate hazardous conditions due to glint and glare upon notification by the DOT Airports Division or the FAA.

IV. CONCLUSION

The proposal addresses the energy goals of the State and City.

Approval of the SEF, along with the integration of compatible agricultural uses, addresses the requirements of Section 205-4.5(a)(21)(A), HRS relating to the provision of the Project site for compatible agriculture.

The proposal is also in compliance with relevant State and City policies and no adverse infrastructure impacts are anticipated. Thus, the proposed Project to allow a SEF on high quality agricultural land is "unusual and reasonable" as set forth in Chapter 205-6, HRS, and the five guidelines established by the Planning Commission, pursuant to Section 2-45 of the "Rules of the Planning Commission."

V. RECOMMENDATION

The Director of the Department of Planning and Permitting recommends that Special Use Permit (SUP) Application File No. 2014/SUP-3, for a solar energy facility on approximately 313 acres, Portion of Parcel 4 (Tax Map Key 9-5-003: 004), be approved, 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 within one year of the start of power generation. Extensions to this deadline may be granted by the Director of the DPP for unforeseen extenuating circumstances.
2. 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.
3. The Applicant shall submit to the DPP, proof of financial security to decommission the Project and restore the Petition Area to substantially the same physical condition as existed prior to the development of the solar energy facility. Planning Commission approval of the proof of financial security shall be obtained prior to the issuance of grading or building permits, whichever occurs the sooner.

A change in Project ownership or its affiliates, 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 months of the ownership change.
4. As needed, the Applicant shall work with the U. S. Fish & Wildlife Service regarding the protection of endangered or migratory bird activity at the Petition Area.
5. The Applicant shall establish the Project within two years of the date of the State Land Use Commission'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 Planning Commission may grant an extension to the deadline to establish the Project due to unforeseen circumstances that were beyond the control of the Applicant.

6. 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 DPP that demonstrates the Applicant's compliance with conditions of the SUP.
7. 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 State Land Use Commission. 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.
8. The Applicant and/or landowner shall notify the Director of the DPP of:
 - a. Any change or transfer of licensee on the property;
 - b. Any change in uses on the property;
 - c. Termination of any uses on the property; and/or
 - d. Transfer in ownership of the property.

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

9. 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.

Dated at Honolulu, Hawaii this 30th day of December 2014.

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
STATE OF HAWAII

By 
George I. Atta, FAICP
Director

Attachment