



111 S. King Street
Suite 170
Honolulu, HI 96813
808.523.5866
www.g70.design

LETTER OF TRANSMITTAL

2021/ELOG-438
doc. # 2006003

2021 MAR -5 PM 1:33

DEPT OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

TO:	City & County of Honolulu Department of Planning and Permitting 650 South King Street, 7 th Floor Honolulu, HI 96813		
ATTENTION:	Dean Uchida, Director		
DATE:	03/05/2021	LOCATION:	
PROJECT:	Mahi Solar	PROJECT NO:	220029-01
SUBJECT:	Special Use Permit Application	NO. OF PAGES:	1
EMAIL/FAX:			
WE ARE SENDING:	<input checked="" type="checkbox"/> ATTACHED <input type="checkbox"/> UNDER SEPARATE		
THE FOLLOWING ITEMS:	<input type="checkbox"/> ORIGINAL <input type="checkbox"/> COPY <input type="checkbox"/> E-MAIL <input type="checkbox"/> FAX <input type="checkbox"/> PRINTS <input type="checkbox"/> SHOP DWGS <input type="checkbox"/> SPECIFICATIONS <input type="checkbox"/> CHANGE ORDERS <input type="checkbox"/> LETTER <input checked="" type="checkbox"/> DOCUMENT <input type="checkbox"/> FILES <input checked="" type="checkbox"/> OTHER		
TRANSMITTED AS CHECKED:	<input type="checkbox"/> FOR APPROVAL <input type="checkbox"/> FOR YOUR USE <input checked="" type="checkbox"/> AS REQUESTED <input type="checkbox"/> FOR REVIEW AND COMMENT		
COPIES	DATE	NO.	DESCRIPTION
1	03/05/12		Response Letter (File No. 2020/ELOG-2517, 2020/SUP-7)
2	March 2021		Mahi Solar Special Use Permit Application, Revised – 2 Hard Copies
1	March 2021		CD containing PDF of Mahi Solar Special Use Permit Application, Revised

Aloha Mr. Uchida,

The following information is provided in response to your letter dated February 5, 2021 (File No. 2020/ELOG-2517, 2020/SUP-7) requesting additional information and clarification on the Petition. The subject SUP Petition has also been revised to include additional information as appropriate, and is enclosed. Please contact me at (808) 330-4419 if you have questions or need additional information.

Thank you,
Tracy Camuso, AICP
Associate Principal



2021 MAR -5 PM 1:33
DEPT OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

111 S. King Street March 5, 2021
Suite 170
Honolulu, HI 96813 Mr. Dean Uchida, Director
808.523.5866 City and County of Honolulu
www.g70.design Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, HI 96813

Attention: Mr. Franz Kraintz

Subject: Special Use Permit Petition by Mahi Solar, LLC
Tax Map Keys (TMKs) (1) 9-2-001: 020 (por.) and (1) 9-2-004: 003 (por.), 006
(por.), 010 (por.), and 012 (por.)
Kunia, O'ahu, Hawai'i

Dear Director Uchida:

Thank you for your review of the Special Use Permit (SUP) Petition for the Mahi Solar Project (Project) submitted to your office on December 23, 2020. The following information is provided in response to your letter dated February 5, 2021 (File No. 2020/ELOG-2517, 2020/SUP-7) requesting additional information and clarification on the Petition. The subject SUP Petition has also been revised to include additional information as appropriate, and is enclosed with this letter.

Notably, the Project layout has been updated since the December 23, 2020 submittal to your office. The substation/switchyard/battery energy storage system (BESS) have been relocated due to further engineering considerations and the SUP boundary has been adjusted to better accommodate the project. Please refer to *Appendix B* of the enclosed SUP Petition for the proposed site layout.

Please find additional information and responses to your questions below:

1. Thank you for the information provided by the U.S. Energy Information Administration. The statistic has been revised in *Section 3.1* of the SUP Petition.
2. The Petition area and sub-areas has been revised throughout the application including label identification referred to as follows: Areas 1, 2A, 2B, 2C, 3, 4A, 4B, 4C, and 5. The SUP Petition and drawings in *Appendix B* have also been updated to reflect this. Data regarding each of the areas is broken down to the sub-area level and aggregate totals are provided.
3. Under the Ownership section, labeling for *Table 4.1* has been corrected.

4. Additional information under the "Ownership" discussion of *Section 3.2* has been included to discuss the approved Conditional Use Permit (CUP) (minor) for Joint Development of TMKs (1) 9-2-004:003, 006 (por.), 012 (por.) (File No. 2020/CUP-48). The CUP for Joint Development was Approved by the Department of Planning and Permitting (DPP) on February 18, 2021.
5. *Section 3.2* of the Petition has been expanded to discuss the current amount of actively farmed areas, undeveloped and fallow agricultural land, and overgrown natural vegetation. Of the 620-acre SUP area, actively farmed areas on the project site include the cultivation of approximately 98.8 acres for diversified crops (Areas 4B and 4C) and 207.2 acres for the cultivation of seed corn (Areas 2B, 2C, 3, and 4A). Approximately 109.9 acres are undeveloped, fallow agricultural land (Areas 1, 2A, 4B, and 5) and 204.1 acres are overgrown natural vegetation.
6. We understand that many of the project components described in *Section 3.4* are permitted uses within the State Land Use Agricultural District. Approximately 98.7 acres of the project is located within Land Study Bureau (LSB) Class D and E lands. The acreage for permitted uses located on LSB Class D and E lands have not been deducted from the 620-acre SUP area for the purposes of streamlining the boundaries and simplification of applicable project acreage identification.
7. *Table 4.1* has been added to *Section 4.2.2* and reflects the total acreage of project lands that comprise each of the soil types in the LSB rating system.
8. Numerous examples of agrivoltaic projects around the world demonstrate the exciting opportunities of the practice; however, it is important order to identify crops that will work well in Hawai'i's unique growing conditions. Therefore, the Hawai'i Agricultural Research Center (HARC) will be conducting active trials of different crops off-site at an existing solar farm project in Mililani in a collaboration with Clearway Energy over the next 24 months. The trials will also enable HARC to gather data about the conditions and microclimates of the solar PV installation to better inform farming efforts, for example the solar irradiance under and between the rows of panels.

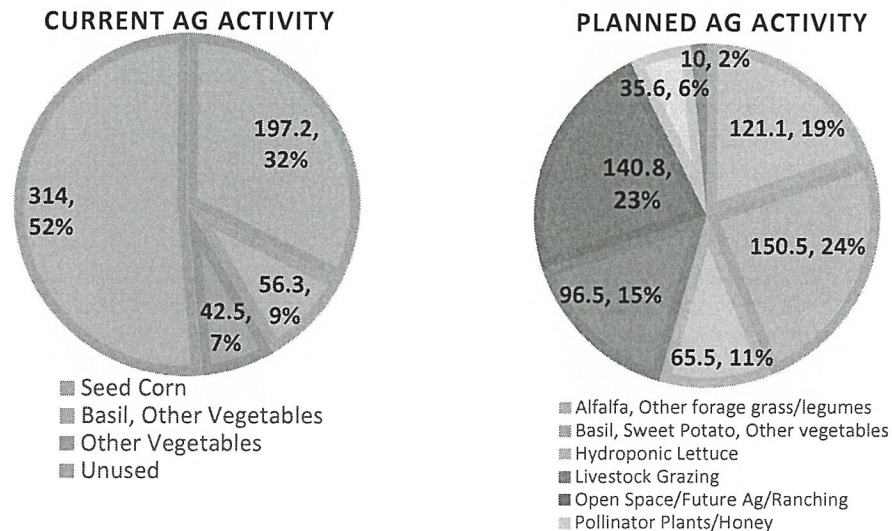
The Project involves the permitted use of approximately 69.5 acres of Important Agricultural Land (IAL). Approximately 29.3 acres of IAL land is located within Area 1 of the project, identified by TMK (1) 9-2-004: 012. This land was voluntarily designated by Hartung Brothers and approved on June 1, 2018 (LUC Docket DR18-61). Additionally, 40.2 acres are located within Area 5, which is identified by TMK (1) 9-2-001:020. These lands were also voluntarily designated by Monsanto and approved on November 15, 2017 (LUC Docket No. DR17-59). Additionally, 305.6 acres of the SUP area have been identified by the DPP in the O'ahu IAL Mapping Project, August 2018. The City and County of Honolulu's IAL map has been adopted by the Honolulu City Council (Resolution 18-233, CD1, FD1) and is currently before the LUC. *Section 4.2.4* has been expanded to include discussion of existing and proposed IAL lands within the SUP area, and *Figures 4.4 and 4.5* modified accordingly.

As the Project involves IAL lands and lands proposed for IAL designation, the *Section 5.4* of the SUP Petition has been updated to include a discussion of how the Project will implement the policies for IAL articulated in HRS Section 205-43.

9. We understand DPP’s concern relating to the net loss of land in active crop production. However, the project will not result in a loss of crop production, it will actually increase the use of agricultural lands for farming on the site. Of the 620-acre SUP area, 306 acres of land is currently in active agricultural production, primarily for seed corn production. Of this 306 acres, 98.8 acres are currently in active food production. A portion of Area 4B is currently used to grow basil, and Area 4C is used to cultivate other vegetables. Approximately 314 acres of the SUP area consists of land that is not currently being used for agricultural activity.

As part of the Mahi Solar project, approximately 610 acres will be utilized for agricultural activities, including 488.9 acres for food production. The project will also increase the use of IAL lands for agricultural activity. Approximately 69.5 acres of the SUP area is located within lands designated as IAL, none of which is currently used for agricultural activity. The Mahi Solar Agrivoltaics Program is planning to utilize all of this land for pollinator plants/honey and open space/future agriculture/ranching, thereby increasing agricultural production on IAL lands. See *Section 4.2.4* of the SUP Petition for further discussion.

The charts below present a comparison of the current agricultural activity at the site compared to the planned agricultural activity:



The Project's Agricultural Plan in *Appendix C* has been updated to include the proposed agricultural activities at the site. These include the following: livestock grazing; pollinator plants/honey; hydroponic lettuce; alfalfa, other forage grass/legumes; basil, sweet potato, and other vegetables; and open space/future agricultural activity/ranching. *Table 3.3* of the SUP Petition and *Table 1* of *Appendix C, Agricultural Plan*, provides a breakdown of the proposed acreage allotted for each activity. Several stakeholders have expressed their intention to undertake agricultural activities at the site, including the HARC, Hartung Brothers (alfalfa forage), and O'ahu Grazers (livestock grazing). HARC has also documented interest from Kunia Country Farms (hydroponic lettuce), Alluvion (nursery products), Fat Law Farms (basil), and Island Bee Removals (honey production). Letters of intent for several of these activities are appended to *Appendix C, Agricultural Plan*. The table below presents a preliminary table of likely uses for the project area:

Area #	Acreage	IAL	Planned Ag Activity	Potential Yield/Year	Planned Food Production	Planned Infrastructure
1	63.3	No	Livestock Grazing	\$70,000	Yes	Water, Fencing, Roads
2a	33.2	No	Livestock Grazing	\$56,000	Yes	Water, Fencing, Roads
2b	5.7	No	Pollinator plants/Honey	TBD	Yes	Water, Fencing, Roads
2c	4.9	No	Pollinator plants/Honey	TBD	Yes	Water, Fencing, Roads
3	65.5	No	Hydroponic Lettuce	\$3,800,000	Yes	Water, Electricity
4a	121.1	No	Alfalfa, Other forage grass/legumes	\$450,000	No	Water, Fencing, Roads
4b	56.3	No	Basil, Sweet Potato, Other vegetables	\$562,500	Yes	Water, Fencing, Roads
4b	51.7	No	Basil, Sweet Potato, Other vegetables	\$637,500	Yes	Water, Fencing, Roads
4c	42.5	No	Basil, Sweet Potato, Other vegetables	\$300,000	Yes	Water, Fencing, Roads
5	25	Yes	Pollinator plants/Honey	TBD	Yes	Fencing, Roads
Open Space/Future Ag/Ranching	140.8	Yes	Open Space/Future Ag/Ranching	TBD	Yes	Water, Fencing, Roads
TOTAL (acres)	610				488.9	

Mahi Solar has consulted with many key organizations and businesses, including farmers, beekeepers, and ranchers in developing an informed plan for co-locating solar photovoltaic (PV) energy generation and agricultural activities together at the site to carry out the Agrivoltaics Program. The purpose of the program is to increase agricultural productivity on the land used for the project, increase the acreage used for agriculture in the region, increase the use of IAL within the project site, and share the results of what works with both the solar and agriculture industries. The program is not experimenting during the project, it is active trials of farming practices under particular conditions that will result in the successful development of farming and energy generation for years to come. Mahi Solar's Agrivoltaics Program is the first step to achieving an energy and food security system, that will serve as a model for the development of future solar projects in Hawai'i.

10. HARC will play a key role in implementation of the Agrivoltaics Program. They are currently conducting farming trials of different crops off-site at an existing solar farm project in Mililani in a collaboration with Clearway Energy. HARC will study what types of solar-compatible farming could be grown successfully at a commercial scale at the Mahi Solar project. With their knowledge and association of current agricultural operations in Kunia, including the growing of leafy greens and herbs, HARC is an ideal partner for the initial phase of the Agrivoltaics Program to test, monitor, and report on potential agricultural activities. HARC's off-site demonstrations will likely occur from now until 2023 when the Mahi Solar project is fully constructed.

HARC will also be involved with the -data collection and sharing phase of Mahi Solar. During the farming operations, HARC will collect data associated with agricultural activities to understand best practices of solar and crop production and communicate results to the solar and agricultural industries.

The Agrivoltaics Program will also include coordination with local agricultural organizations and agencies to share information and best practices with farmers, including the U.S. Department of Agriculture, Hawai'i Department of Agriculture, O'ahu Soil and Water Conservation District, HARC, Hawai'i Farm Bureau, Agricultural Leadership Foundation, Agriculture Foundation of Hawai'i, University of Hawai'i College of Tropical Agriculture and Human Resources, as well as individual farms and others in the farming community.

HARC has prepared a Solar White Paper outlining its initial research plan and has committed its participation in the first phase of the Agrivoltaics Program, as documented in Appendices A and C of the Agricultural Plan (*Appendix C* of the SUP Petition).

11. Each property owner will not be implementing its own Agricultural Plan. The Agricultural Plan prepared for the Mahi Solar project provides a comprehensive plan that incorporates all lands within the SUP area. Longroad Energy will lease the site from the various landowners as articulated in *Table 3.1*. Of the 620 acres SUP area, approximately 610 acres is estimated for agricultural activities, with the remaining 10 acres allocated for high-voltage equipment and not suitable for farming. The lands

leased by Longroad Energy will not be made into a single lot for purposes of the Agricultural Plan. Rather, plots will be licensed directly to farmers from the Applicant.

12. Chain link fencing up to 8 feet tall will be installed as indicated in the site plan drawings provided in *Appendix B* of the SUP Petition. Most of the fencing will not include barbed wire; only fencing around the high-voltage substation/switchyard/BESS yard require barbed wire at the top for safety and security reasons. This is typically required at any high voltage facility.
13. Longroad Energy is conducting supplemental outreach with cultural practitioners and others who have ties to the area to discuss Pohakea Trail's historic location and status. Consultation with SHPD is also ongoing, and they will be notified of the findings of this outreach. If the Pohakea Trail is located definitively, it will be accounted for in the Project's site plan, with trail access provided for, as appropriate.
14. The project is not within an active approach or landing zone. Based on the project's location and the results of the Glare Study provided in *Appendix H* of the SUP Petition, Federal Aviation Administration and Hawai'i Department of Transportation-Airports Division concurrence was not deemed necessary.
15. An Archaeological Inventory Survey (AIS) has been completed for the project and is included in the SUP Petition as *Appendix F*. Coordination with the State Historic Preservation Division (SHPD) has also been conducted through meetings held on September 9, 2020 and February 16, 2021 to discuss the proposed project. Coordination with SHPD will continue to occur as the AIS is reviewed.
16. The landscaping plan has been updated to reflect increased density in landscaping treatments planted at closer intervals to allow for continuous low visual screening. The low visual screening will be placed on top of the five-foot tall berm along Kunia Road, which will provide additional screening height. The screening around the substation/switchyard/BESS area is constrained as it must adhere to a certain height requirements for security and safety reasons related to the high voltage nature of the equipment. See *Appendix A* of the SUP Petition, *Figures 12 through 23*.
17. All clearing of suitable habitat for 'elepaio and Hawaiian hoary bat will occur within the appropriate clearing windows as per U.S. Fish and Wildlife Service (USFWS) guidelines. 'Elepaio tree habitat may also be cleared during the breeding season with a biological clearance from a qualified field surveyor that determines that no nests are present, in accordance with USFWS guidelines. A more detailed description of the specific guidelines has been provided in *Appendix B* of the *Mahi Solar Project Biological Resources Report* prepared by SWCA Environmental Consultants (see *Appendix D* of the SUP Petition).
18. Discussion of the State of Hawai'i Agribusiness Development Corporation's (ADC) proposed improvements to the Waiāhole District Irrigation System in Kunia have been included to *Section 6.2* of the SUP Petition. Applicant is in communication with

Mr. Dean Uchida
Director
March 5, 2021
Page 7 of 7

ADC, and all proposed construction for the Mahi Solar project will take place outside of the ADC's proposed improvements. Future design work for the project will ensure that the 138 kilovolt lines extending from the substation to the transmission lines are located to the west of the ADC's proposed new reservoir site.

With this additional information and revisions to the Mahi Solar SUP Petition, we believe the application can now be accepted for further processing by your office. Should you have any additional questions, please contact me at (808) 523-5866.

Sincerely,

GROUP 70 INTERNATIONAL, INC., dba G70

A handwritten signature in black ink, appearing to read 'Tracy Camuso', written in a cursive style.

Tracy Camuso, AICP
Associate Principal