PAEAHU SOLAR PROJECT

Public Open House Posters

October 30, 2018

Kihei Community Recreation Centre, Kihei, HI

INNERGEX | Renewable Energy. Sustainable Development.

Welcome

PULE HO‘OMAIKA‘I

E ho mai!
E ho mai ka ÿike mai luna mai ë,
O nä mea huna noÿeau o nä mele ë,
E ho mai! E ho mai! E ho mai!

Grant knowledge from above
of hidden things, the wise things
that are concealed in the chants.
Grant us, grant us, grant us.

PULE HOʻOMAIKAʻI

Kahu Kealahou Alika Manaʻo and thoughts about the commitment Innergex has made to renewable energy and sustainable development.

Whether you are kamaʻāina (born and raised on Maui) or malihini (newcomer), the name Maui is one that is familiar throughout Polynesia. Within the mythic tradition of Hawaiʻi, there is the story of Maui, the demigod.

The story is told of how Maui lassoed the sun and slowed its journey across the sky each day. He did not do it for his own benefit or for any desire to call attention to himself.

He did so that there would be enough time in the day for the taro to be planted and harvested; so that the kapa or bark cloth to be made. What Maui did, he did for the benefit of the people. He harnessed the energy of the sun for a day's work. There are no lassoes today but we know the commitment to renewable energy includes harnessing the energy of the sun through the construction of solar panels.

I am almost certain if Maui were with us today, he would find the new technologies that are being developed baffling. But he would understand the need to harness the energy of the sun and other sources of energy without destroying the world in which we all live. Whether or not you believe the story of Maui is literally true, what is true is that our care for the land, the air and the skies ought to be of benefit to all of humankind.

PULE HOʻOMAIKAʻI

The Blessing

Our families and our communities here in Hawaiʻi represent a diversity of cultures and religious traditions – Christian, Buddhist, Jewish, Muslim, Hindu and many others.
Whatever our beliefs or traditions may be, we gather here as people of good will.

The blessing is simple.

He pomaikaʻi nei au i kēia ʻaha halawai o Paeahu Solar Project iloko ka inoa o ka ʻUhane o ke Akua.
We offer a blessing for this gathering for the Paeahu Solar Project in the name of spirit of God.
Mahalo ke Akua. Mahalo nā kūpuna. Mahalo nā aumakuka.

Aloha e! Aloha e! Aloha e!

- Kahu Kealahou Alika

TODAY'S OBJECTIVES

1. Share information on the proposed solar project
2. Gather your feedback
3. Answer your questions

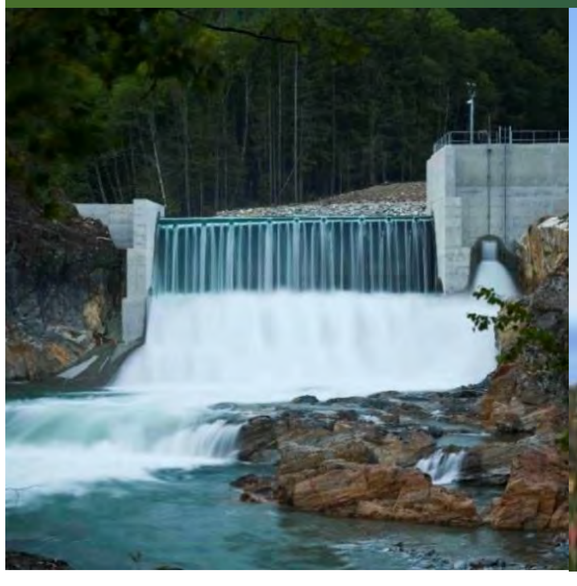
INNERGEX RENEWABLE ENERGY INC.

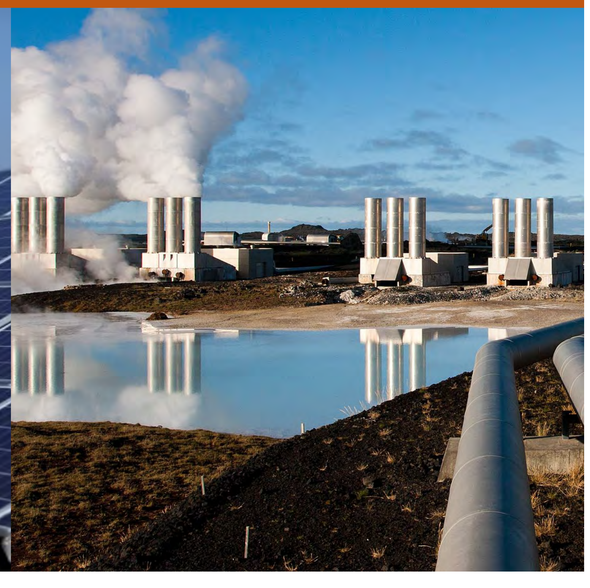
Innergex Renewable Energy Inc. is a global renewable energy player that develops, acquires, owns and operates hydroelectric facilities, solar farms, wind farms and geothermal facilities.

Innergex carries out operations in Canada, the United States, France, Chile and Iceland.

Established in 1990

Head Office in Canada

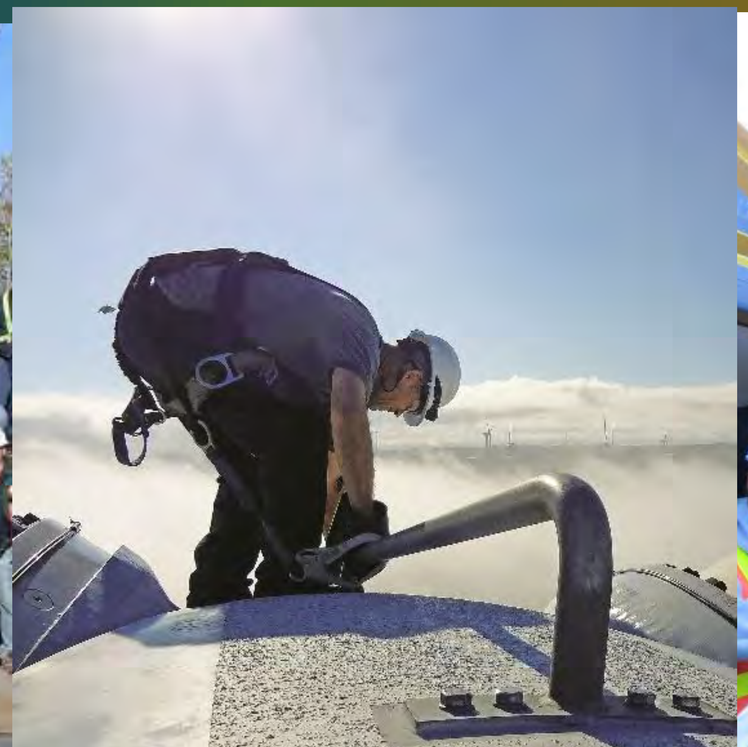




INNERGEX | Renewable Energy. Sustainable Development.

INNERGEX VALUES

Integrity	Transparency	Responsibility	Collaboration
1	2	3	4



RENEWABLE ENERGY IN HAWAI'I

The State of Hawaii has set a goal to achieve 100% renewable energy generation by 2045

In 2017, 34% of electricity used by Maui Electric Company customers came from renewable energy sources.

By 2022 Hawaiian Electric Companies is seeking to add 390 MW of renewable energy to their energy mix through a competitive procurement process.

Of that, Maui Electric Company is seeking to add

100 MW

PAEAHU AS A PLACE

The proposed project area, is part of the ahupua'a of Paeahu. This ancient place name tells the story of many rows of stacked rock (ahu) along these lands. Ahu were used to dry fish, plant sweet potatoes or as ceremonial markers. Mahalo to the late Ed Lindsey for preserving a record of this place and Kahu Alika for sharing the importance of place names.

ahupua'a: land division, usually extending from the uplands to the sea.

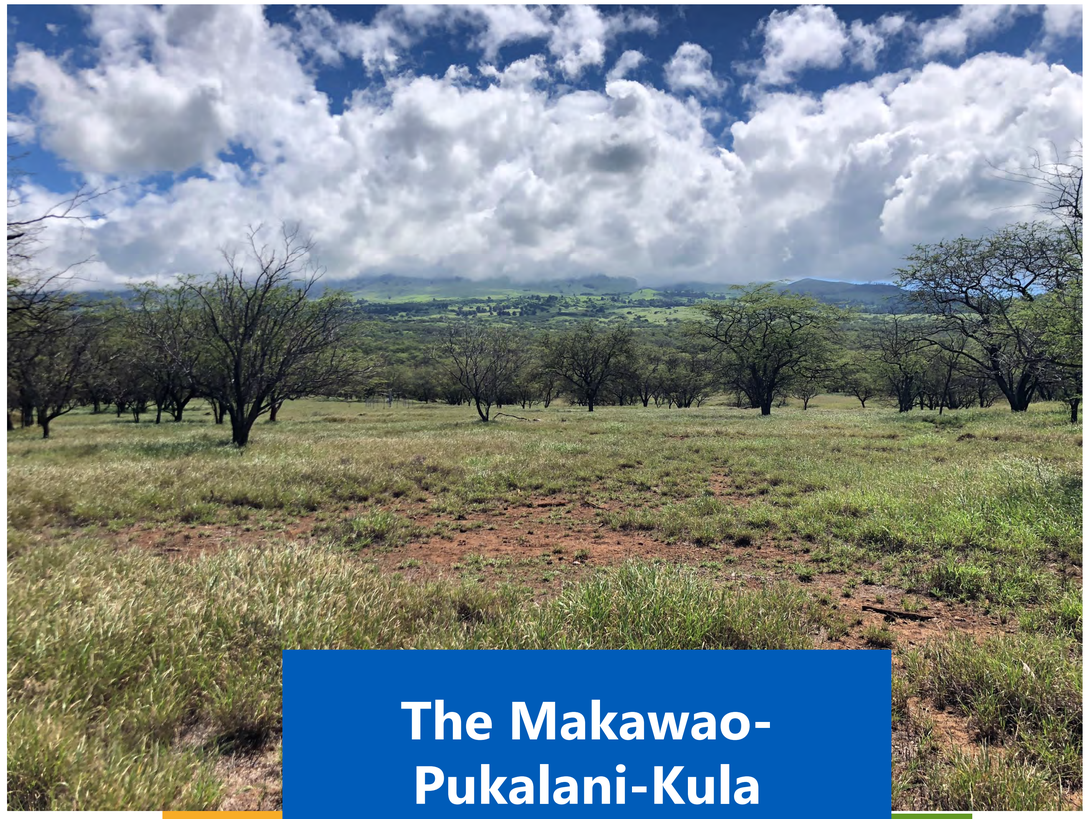
Once, these rows of stacked rock played an important role in the sustainable future of the community. Today, the rows of solar panels will allow the proposed project to use the bountiful natural resources found in Paeahu to the benefit of future generations.

WHY HERE?

Maui is blessed with an abundance of renewable energy potential including energy from the sun. Ulupalakua Ranch is ideally situated to host a solar project as it is an area rich in solar resource potential.

Additionally, there is an existing Maui Electric substation within 0.5 miles of the proposed project area minimizing the amount of transmission line required to connect to the grid.

The Paeahu Solar Project will enable Maui to reduce its dependency on expensive imported oil, help the State achieve its renewable energy goals and provide a reliable and stable source of electricity to consumers both during the day and at night.



The Makawao-Pukalani-Kula Community Plan contains objectives and policies encouraging renewable energy development of utility installations.

PAEAHU SOLAR PROJECT

The Paeahu Solar Project is a proposed 15 MW solar photovoltaic + 60 MWh battery storage project located on Ulupalakua Ranch, in South Maui.

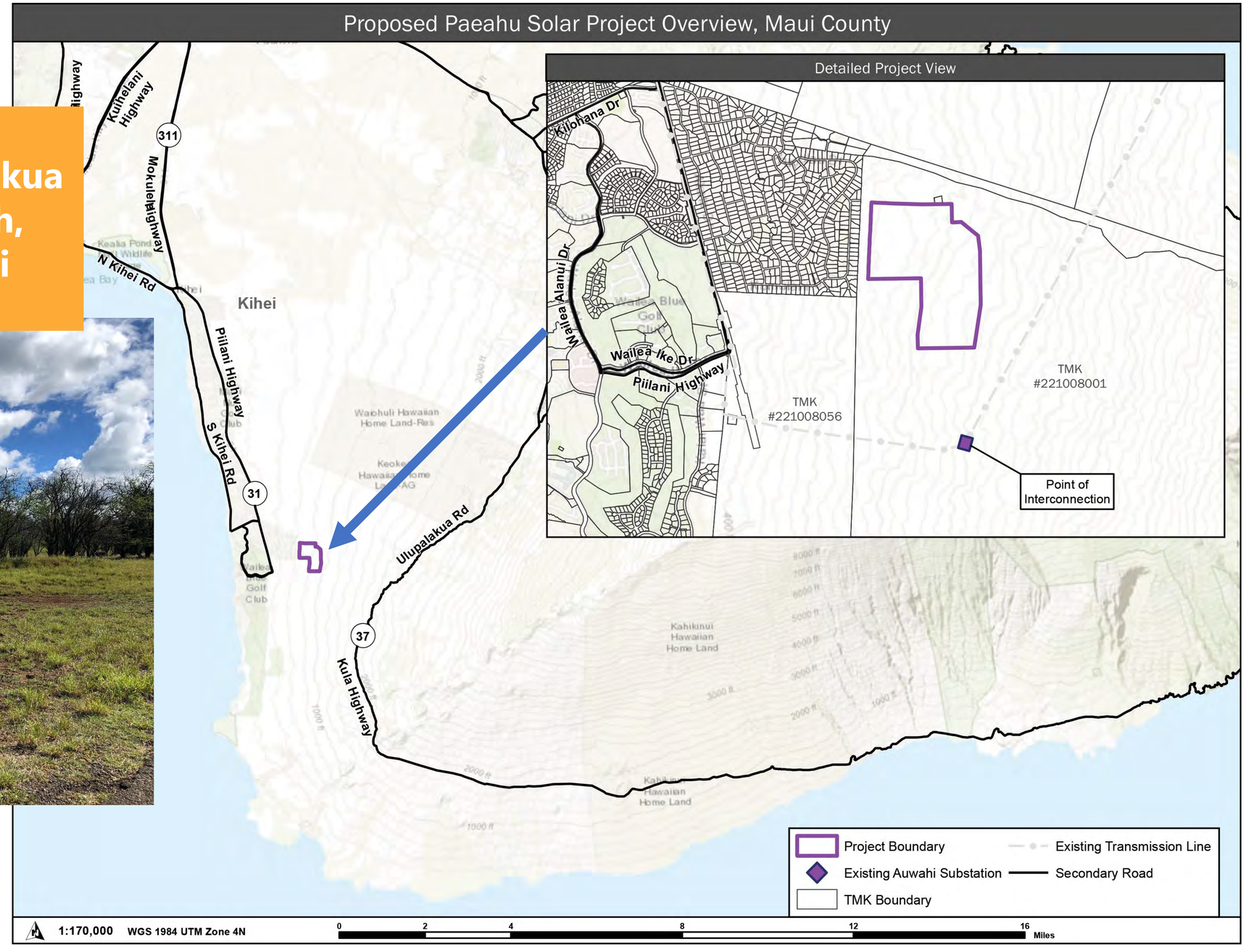
~49,000
High efficiency solar panels

Enough to power ~7,300 homes

The project was submitted to Maui Electric Company as part of a request for proposals for renewable energy projects and is currently under negotiations for a contract.

PROJECT AREA

Ulupalakua Ranch, Maui



SOLAR ENERGY

The sun is a highly stable and predictable resource, which makes solar technology correspondingly reliable and easy to use. The sun's energy is converted directly into electricity by a PV solar panel, named after the "photovoltaic" phenomenon, where light energy, in the form of photons, can be converted to electricity using certain materials that naturally generate a flow of electrons when exposed to light.

As this process requires no fuel or moving parts, it creates no emissions during operations. As a result, solar energy is one of the cleanest, most renewable forms of energy around.

Innergex currently owns interests in 4 solar photovoltaic and 1 solar thermal farms

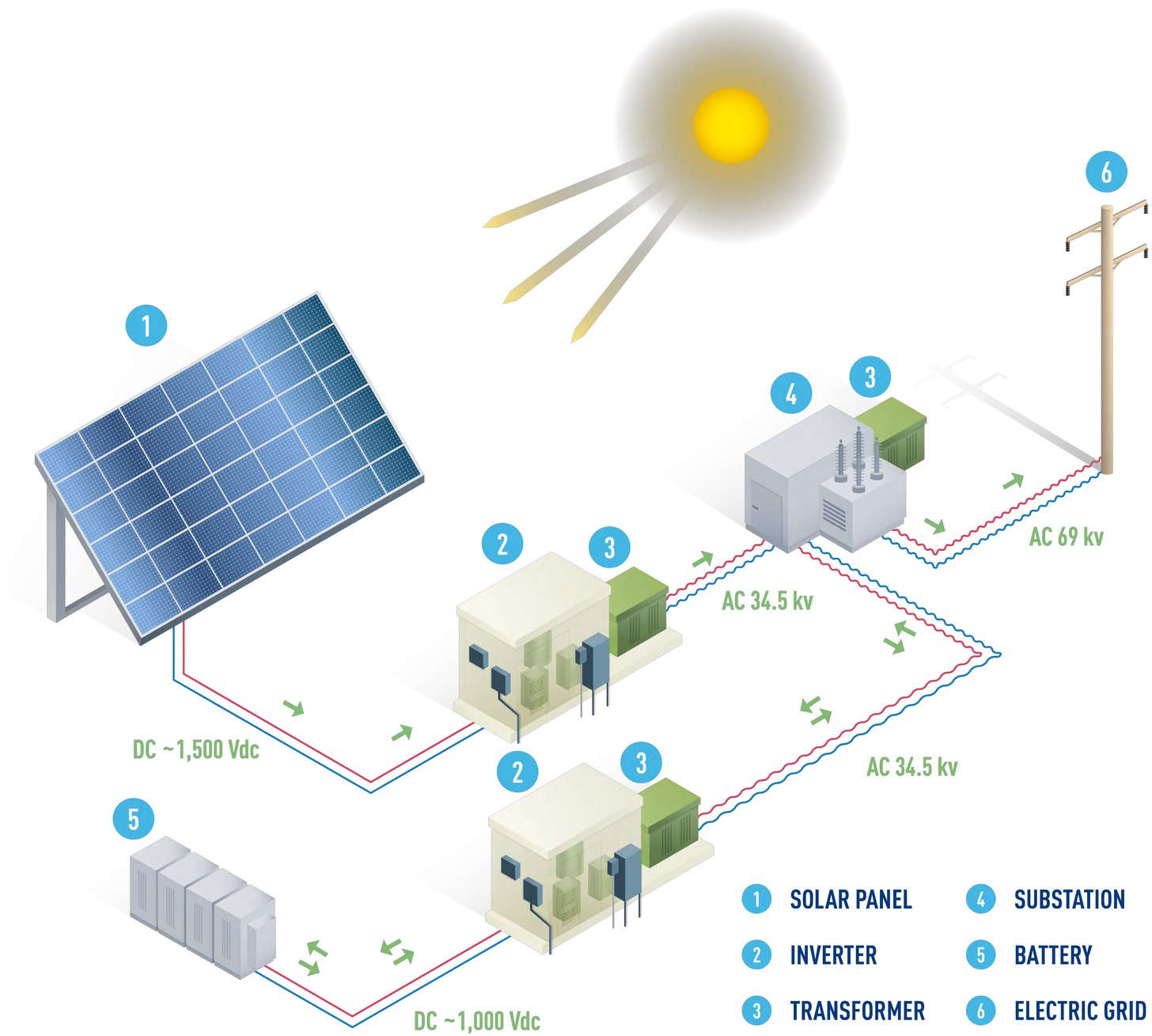
United States	Canada	Chile
334 MW	33 MW	9 MW

HOW WILL THE PROJECT WORK?

Photovoltaic solar panels collect energy from the sun to generate electricity.

The power generated can either charge the batteries or send power to the main grid.

The batteries charge from the solar array during daylight hours and send power to the grid when it needs it most, day or night.



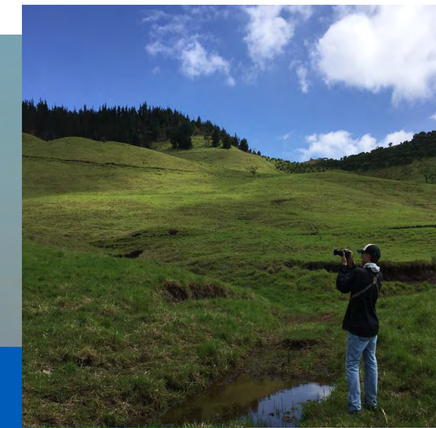
ENVIRONMENTAL STUDIES

Detailed wildlife and site-specific surveys and studies will be completed to assess potential Project impacts, required mitigation, design limitations, and to refine required permitting criteria.

General Plant and Wildlife Surveys

Visual Impact Analysis

Invertebrate Survey: Blackburn Sphinx Moth Survey



Pre-construction Biological Clearance Surveys

Phase 1 Environmental Site Assessment

Determination of Wetlands and Waters

Invertebrate Survey: Yellow-faced Bee Survey

Noise Modeling

Traffic Impact Assessment

ARCHAEOLOGICAL AND CULTURAL STUDIES

Important aspects to consider before finalizing the design and building of a project are the potential archaeological, cultural and historical properties the project could impact.

Archaeological Inventory Survey

- Archival research
- Surface survey
- Test excavations
- Data analysis
- Reporting

Cultural Impact Assessment

- Archival research of and historical cultural practices
- Ethnographic and oral history interviews
- Reporting

BENEFITS

We have three community benefit strategies for sharing benefits with the local community that reflect the economics of the Project.

Local supplier procurement and employment	Community contribution	Community event sponsorships and participation

CONSTRUCTION PHASES

1 Land preparation and roadwork

2 Foundations and underground cabling

3 Install support racks and solar panels

4 Electrical substation and transmission line

5 Battery storage installation

6 Fencing and commissioning

EQUIPMENT

Solar Panel

High efficiency panels that are 400+ watts provide optimal energy production and minimize the footprint of the solar project

Solar Single-Axis Trackers

Increase energy output by 10-20% compared to fixed tilt foundations and have proven reliability under severe weather conditions

Battery Storage

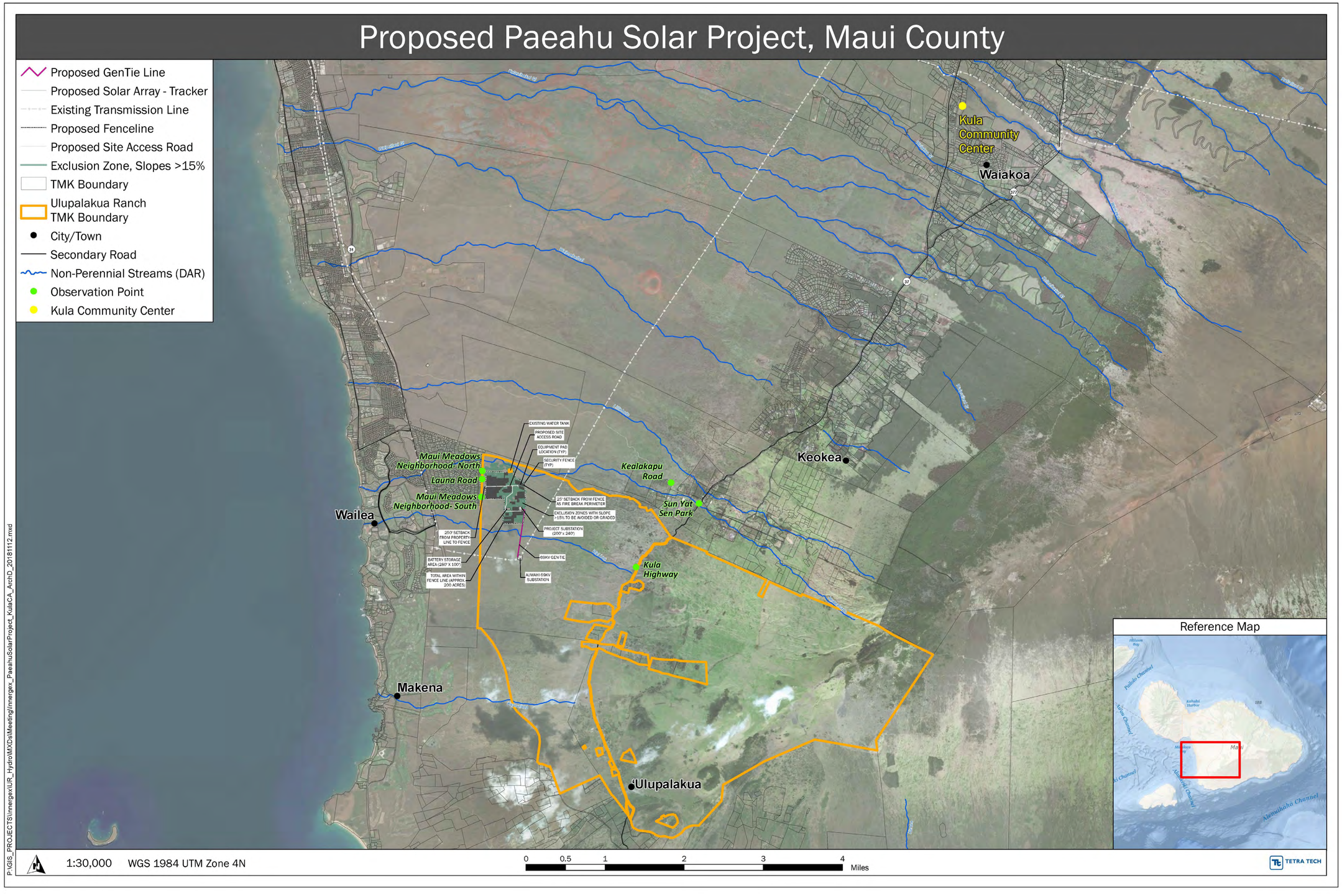
Lithium-ion battery storage improves grid resiliency with major benefits such as load shifting to deliver power when it is needed most

TIMELINE

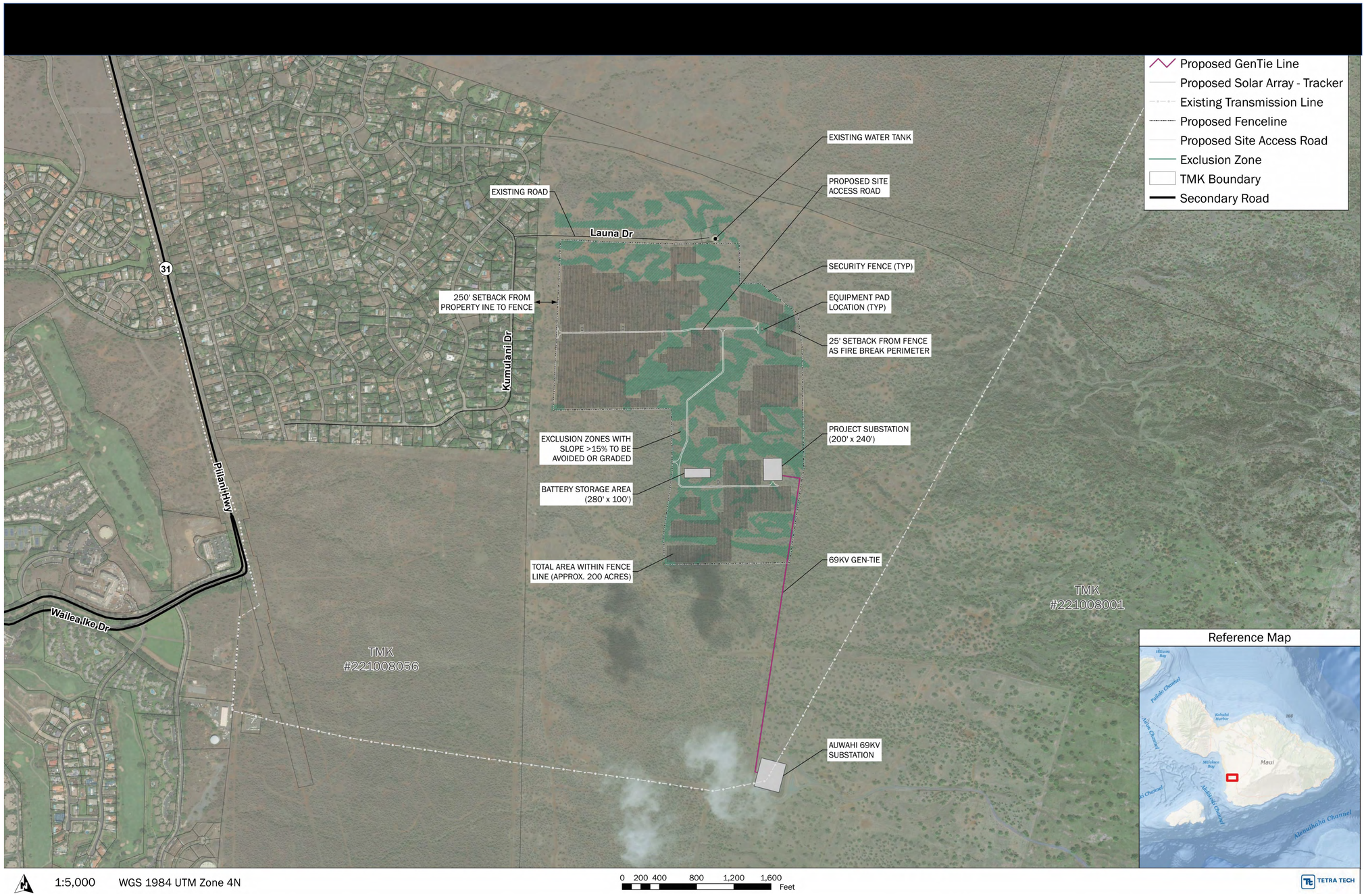
- **February 2018** Request for Proposal Issued ✓
- **April 2018** Request for Proposal Bids Submission ✓
- **June 2018** Short List Group Notification and Best and Final Offer ✓
- **September 2018** Final Award Group Selection and Contract Negotiations Begin ✓
- **December 2018** Execute Power Purchase Agreement (PPA)
- **2019** Public Utilities Commission Approval of the PPA
- **2019-2021** Complete Archaeological and Cultural Surveys, Environmental and Technical Studies and Obtain Permits and Approvals
- **Q3 2021** Estimated Construction Start
- **Q2 2022** Commercial Operation Date
- **Operation**: 25-Year PPA Timeframe

COMMUNITY ENGAGEMENT IS ONGOING THROUGHOUT THE ENTIRE PROCESS.

PROJECT OVERVIEW



PRELIMINARY PROJECT OVERVIEW



This conceptual layout is based on topographic data. Initial public feedback on setback and solar array height concerns have been taken into account (i.e. we have increased the buffer between the property boundary and the project fence line as well as reduced the height of the tracker system). The next version of the layout will incorporate archaeological, cultural, environmental and technical study results as well as balancing economic and social perspectives. At times, these various considerations may conflict with each other but we will strive to make development decisions that appropriately balance these considerations, with the intent of developing the best possible project.

The photograph above has been cropped to show a wide angle view with the below photograph's area shown in yellow.

The photograph shows the view toward the Project area from Sun Yat Sen Park. From this observation point, the area would not be visible because the solar field would be completely screened by rolling terrain and vegetation indicated by the blue shading.

PAEAHU SOLAR PROJECT

PHOTO SIMULATION

Sun Yat Sen Park

VICINITY MAP

Photograph Information

Time of photograph: 10:11 AM
Date of photograph: 10-6-2018
Weather condition: Mostly Sunny
Viewing direction: West
Latitiude: 20° 41' 28.95" N
Longitude: 156° 22' 43.17" W
Photo Location: Photo taken from the parking lot of Sun Yat Sen Park, located northwest of the Kula Highway and Kealakapu Road intersection, and approximately 2 miles southwest of Keokea.

The photograph above has been cropped to show a wide angle view with the below photograph's area shown in yellow.

The photograph shows the view toward the Project area from Kula Highway. Travelers along Kula Highway would have unobstructed views of the Project area. The simulated view depicts the solar panels that would be visible from this location.

PAEAHU SOLAR PROJECT

PHOTO SIMULATION

Kula Highway

VICINITY MAP

Photograph Information

Time of photograph: 11:14 AM
Date of photograph: 10-6-2018
Weather condition: Mostly Sunny
Viewing direction: Northwest
Latitiude: 20° 40' 47.53" N
Longitude: 156° 23' 28.00" W
Photo Location: Photo taken from along Kula Highway approximately 1.1 miles south of Sun Yat Sen Park, and approximately 2.6 miles east of Wailea.

The photograph above has been cropped to show a wide angle view with the below photograph's area shown in yellow.

The photograph shows the view toward the Project area from Launa Road approximately 260 feet east of Kumalani Drive at the eastern edge of the Maui Meadows neighborhood. From this observation point, the area would be mostly screened by rolling terrain and vegetation. The simulated view depicts the solar panels that would be visible from this location.

PAEAHU SOLAR PROJECT

PHOTO SIMULATION

Launa Road

VICINITY MAP

Photograph Information

Time of photograph: 4:12 PM
Date of photograph: 10-6-2018
Weather condition: Sunny
Viewing direction: East
Latitiude: 20° 41' 52.78" N
Longitude: 156° 25' 15.02" W
Photo Location: Photo taken from Launa Road in the Maui Meadows neighborhood, approximately 0.7 miles east of Piilani Highway.

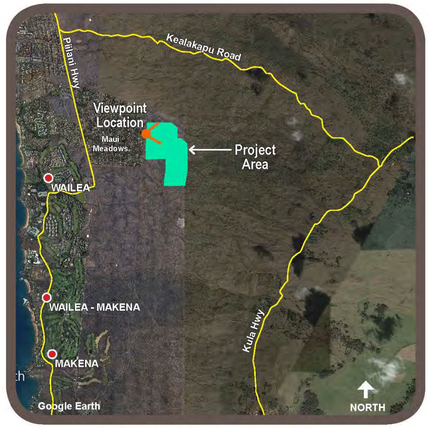
The photograph above has been cropped to show a wide angle view with the below photograph's area shown in yellow.

The photograph was taken using a drone at an elevation of approximately 607 feet AMSL, representing views from the upper story windows of the adjacent residence, looking east towards the Project area. The simulated view depicts the solar panels that would be visible from this location.

PAEAHU SOLAR PROJECT

PHOTO SIMULATION

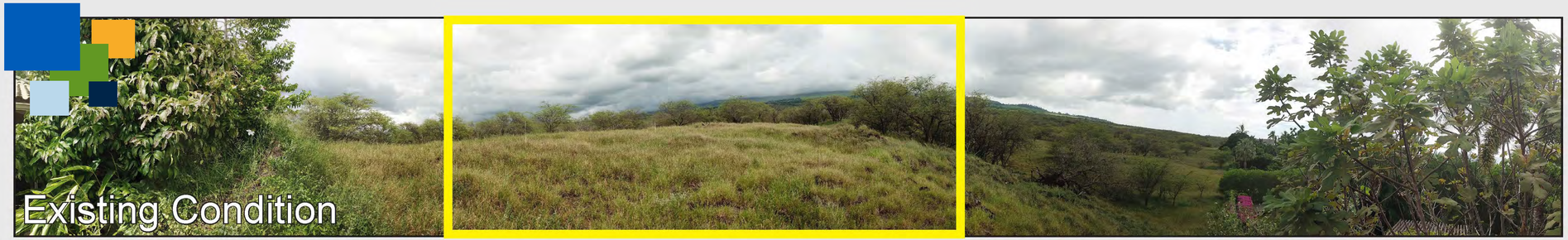
Maui Meadows Neighborhood - North



VICINITY MAP

Photograph Information

Time of photograph: 10:39 AM
Date of photograph: 10-6-2018
Weather condition: Sunny
Viewing direction: East
Latitiude: 20° 41' 47.34" N
Longitude: 156° 25' 15.24" W
Photo Location: Photo taken from the eastern fence line near the northern portion of the Maui Meadows neighborhood, approximately 550 feet south of Launa Drive.



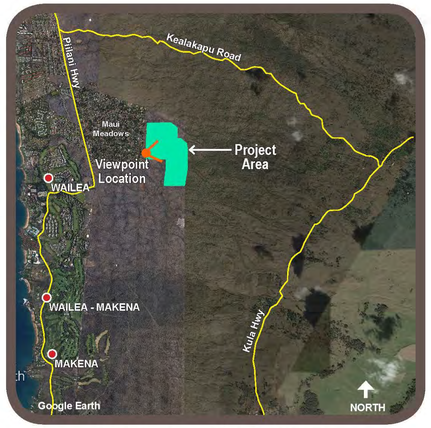
The photograph above has been cropped to show a wide angle view with the below photograph's area shown in yellow.

The photograph was taken using a drone at an elevation of approximately 676 feet AMSL, representing views from the upper story windows of the adjacent residence, looking east towards the Project area. The simulated view depicts the solar panels that would be visible from this location. The solar panels are shown standing vertically with a height of 7 feet.

PAEAHU SOLAR PROJECT

PHOTO SIMULATION

Maui Meadows Neighborhood - South

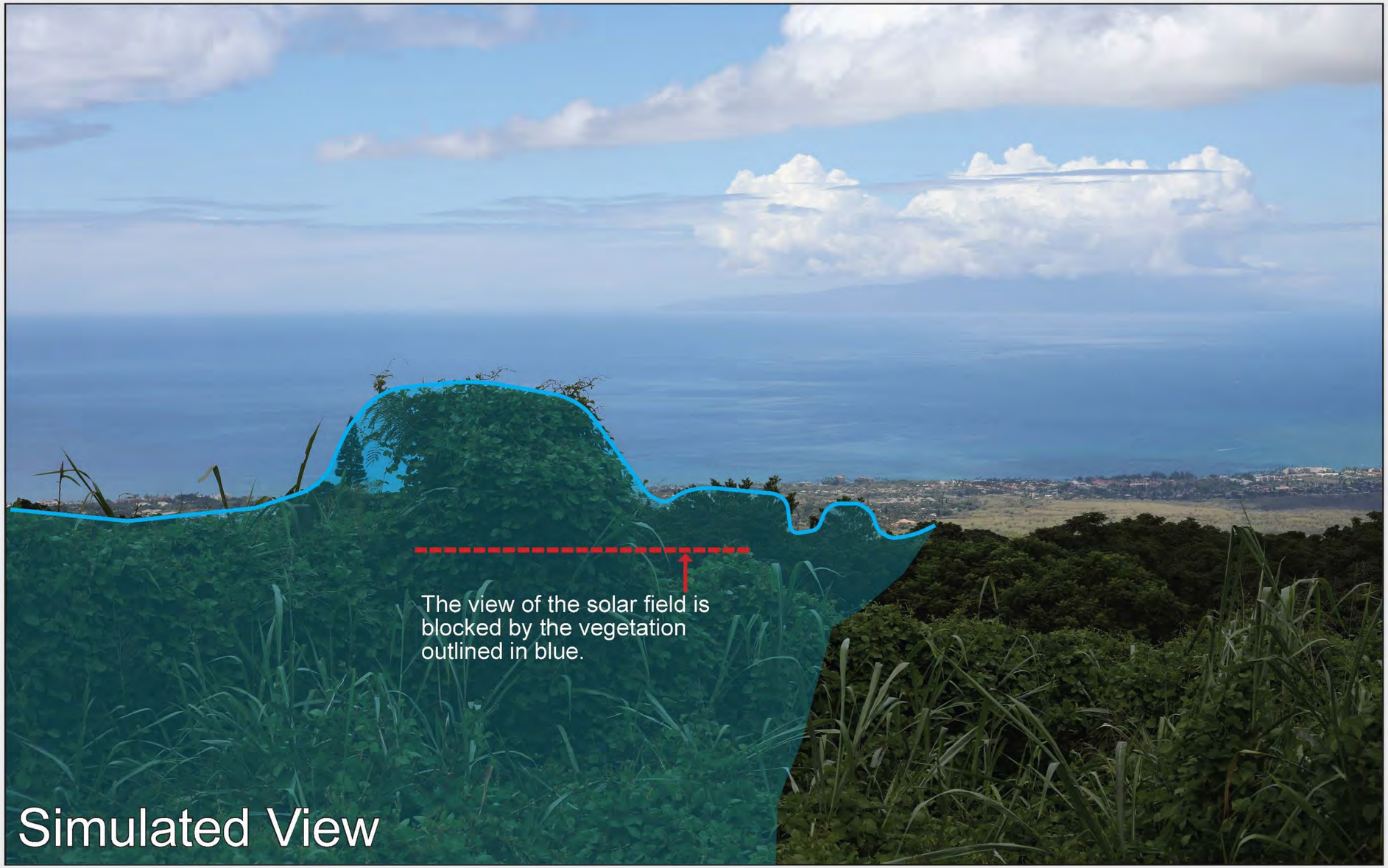


VICINITY MAP

Photograph Information

Time of photograph: 2:20 PM
Date of photograph: 10-6-2018
Weather condition: Overcast
Viewing direction: East
Latitiude: 20° 41' 35.65" N
Longitude: 156° 25' 15.93" W
Photo Location: Photo taken from the eastern fence line near the northern portion of the Maui Meadows neighborhood, approximately 0.3 miles south of Launa Drive.

The photograph above has been cropped to show a wide angle view with the below photograph's area shown in yellow.



The photograph shows the view toward the Project area from along Kealakapu Road. From this observation point, the area would not be visible because the solar field would be completely screened by terrain and vegetation indicated by the blue shading.

PAEAHU SOLAR PROJECT

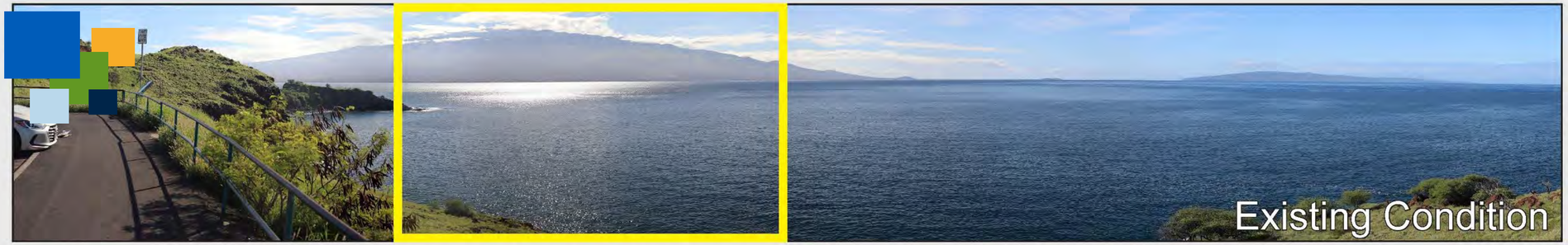
PHOTO SIMULATION

Kealakapu Road

VICINITY MAP

Photograph Information

Time of photograph: 12:06 PM
Date of photograph: 10-6-2018
Weather condition: Mostly Sunny
Viewing direction: West
Latitiude: 20° 41' 43.03" N
Longitude: 156° 23' 2.56" W
Photo Location: Photo taken from along Kealakapu Road, approximately 0.5 miles northwest of Kula Highway, and approximately 2 miles southwest of Keokea.



The photograph above has been cropped to show a wide angle view with the below photograph's area shown in yellow.

The photograph shows the view toward the Project area from the Honoapiilani Highway lookout. Travelers along Honoapiilani Highway would have unobstructed views of the Project area. The simulated view depicts the solar panels that would be visible from this location. The location of the Project area is highlighted in the white box in the photo above.

PAEAHU SOLAR PROJECT

PHOTO SIMULATION

Honoapiilani Highway Lookout

VICINITY MAP

Photograph Information

Time of photograph: 8:42 AM
Date of photograph: 10-6-2018
Weather condition: Mostly Sunny
Viewing direction: Southeast
Latitiude: 20° 46' 30.86" N
Longitude: 156° 32' 10.15" W
Photo Location: Photo taken from the Honoapiilani Highway lookout located approximately 2 miles southwest of Maalaea.

Mahalo.

Your opinion is important!

Please provide us with your feedback by filling out the form or submit your comments at **hawaiisolar@innergex.com**

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