

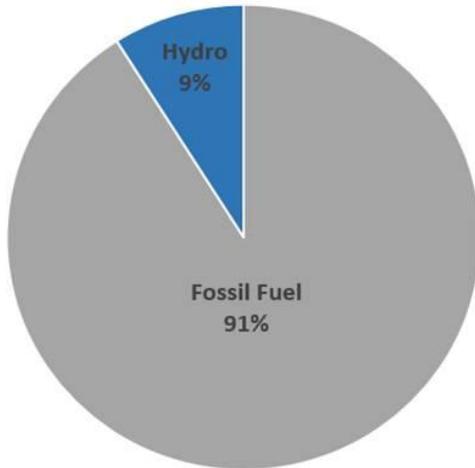


# KIUC Community Meeting West Kauai Energy Project

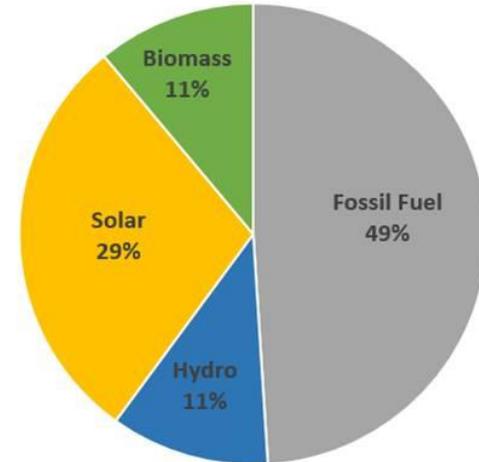
October 21, 2019

# Where Kauai Gets Its Power

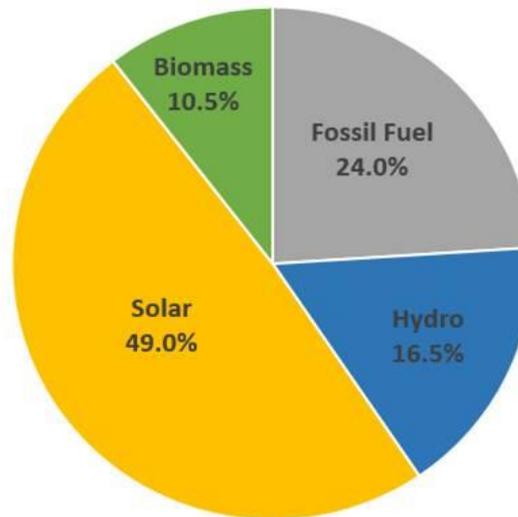
Fuel Mix - 2009



Fuel Mix - YTD September 2019



Projected Fuel Mix - 2025

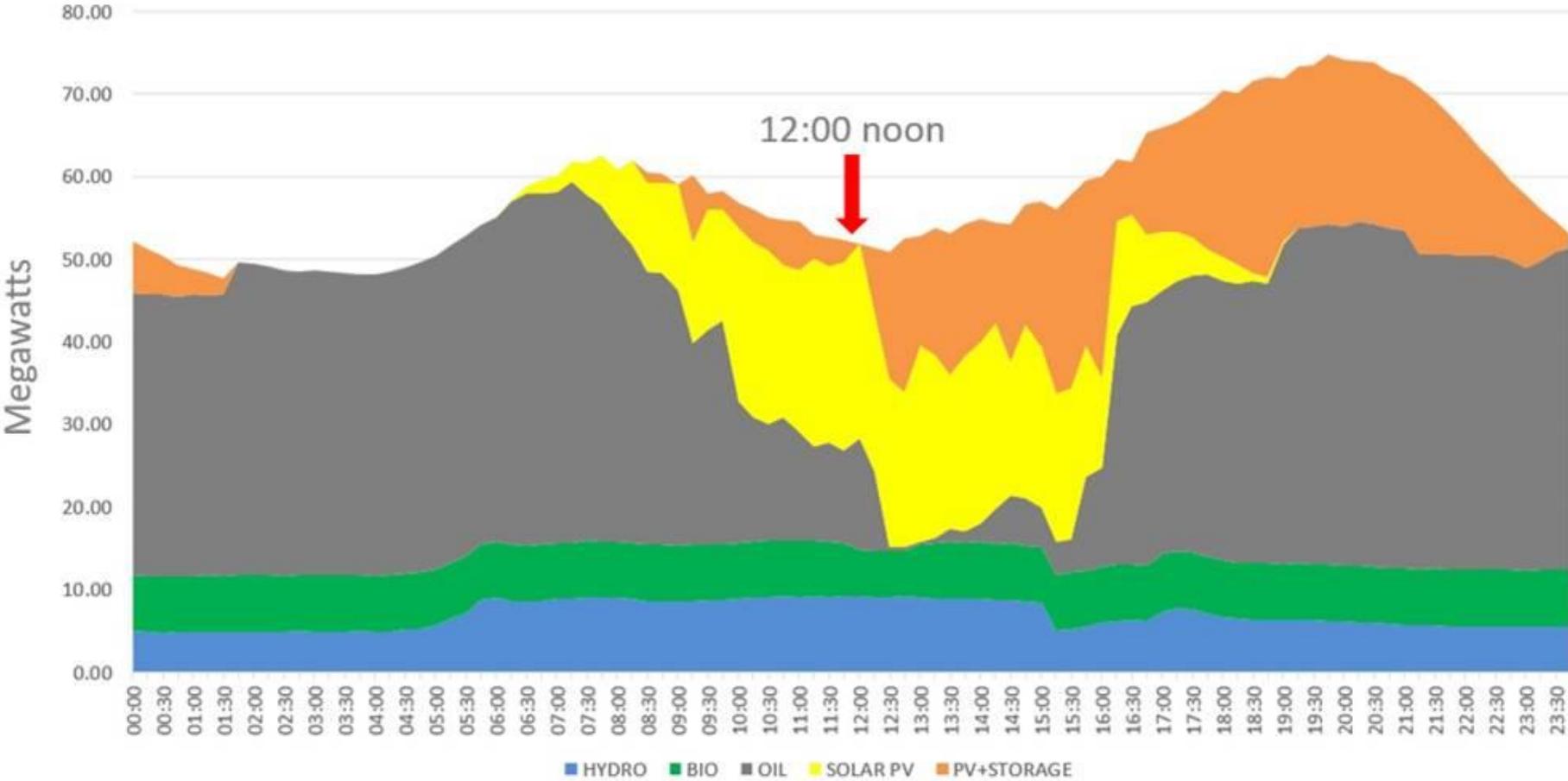


# Kauai's Renewable Challenge

- 50% of Kauai's demand for electricity will soon be met with solar
- Solar and battery limitations
  - Sun dependent
  - Short duration storage
- Bulk storage through reservoirs
- Energy generation diversification



# KIUC Daily Dispatch June 19, 2019



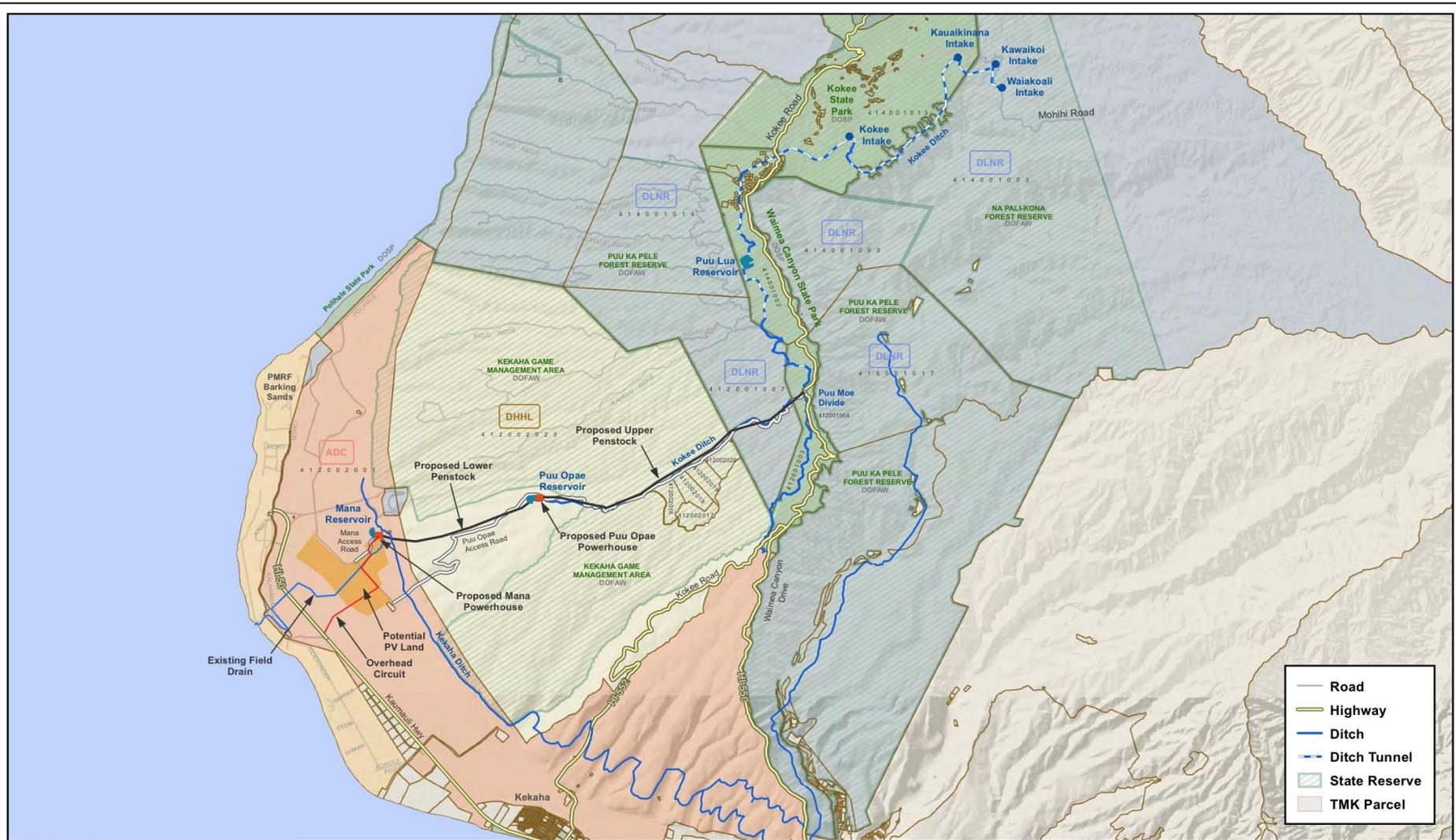
12:00 noon



# Integrated Energy Project Proposal

---

- 25 MW renewable energy for Kauai
  - Pumped storage
  - Solar direct to grid
  - Store and release flow through hydro
- 85 – 90 GWh annual generation, 15 – 20% of KIUC's total
- Irrigation delivery through project
- Primary project components
  - Kokee diversion & ditch repairs and upgrades
  - Rehabilitation of Puu Lua, Puu Opae, and Mana reservoirs
  - Two new sections of buried pipeline
  - Two new powerhouses/one new substation
  - New solar facilities – up to 40 MW dc



### Project Overview

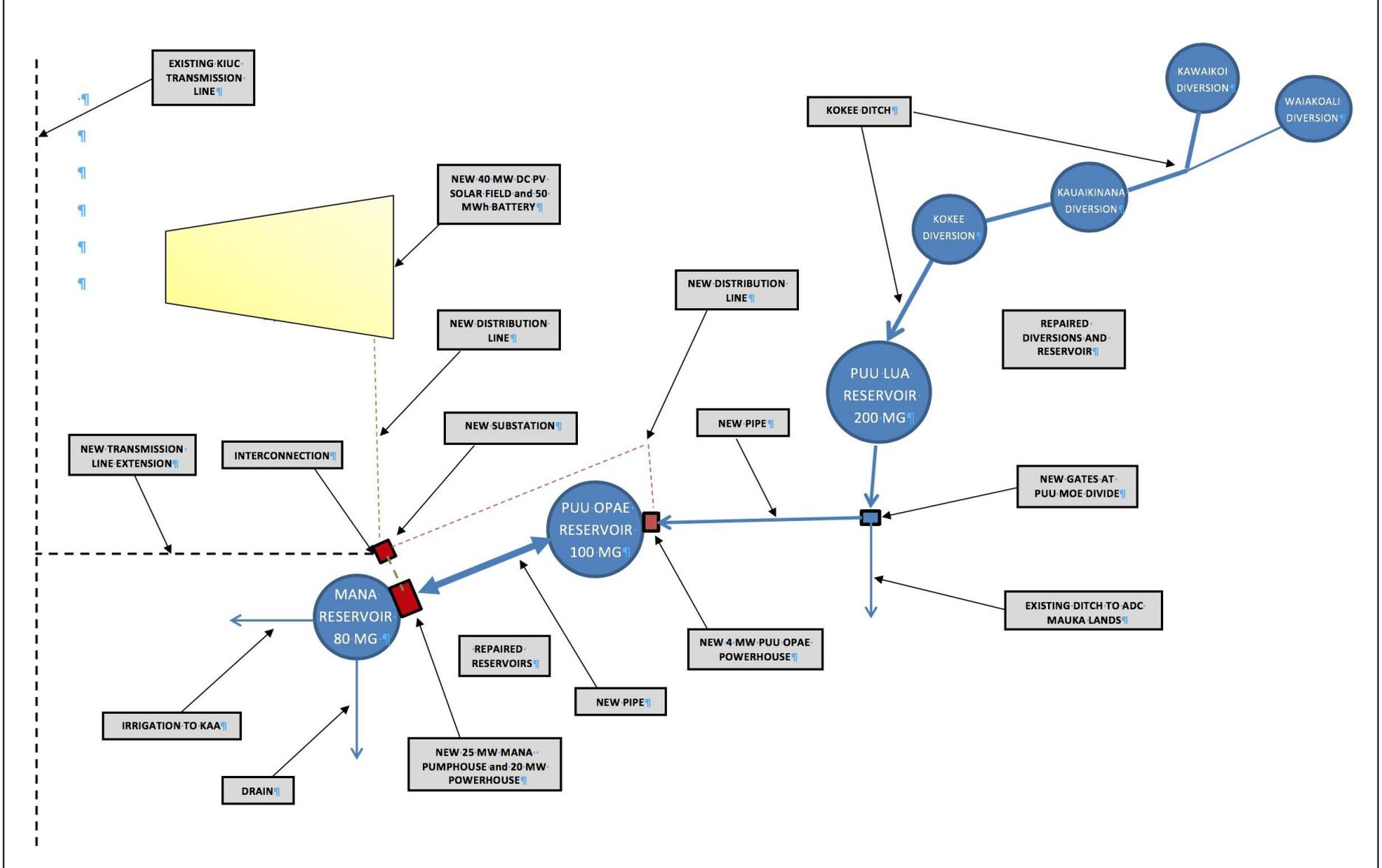
April 02, 2018

### Puu Opae Energy Project

© Joule Group, LLC

0 3 Miles





# Puu Lua Reservoir after Rehabilitation



# Puu Opae Reservoir – During Sugar Operation

---



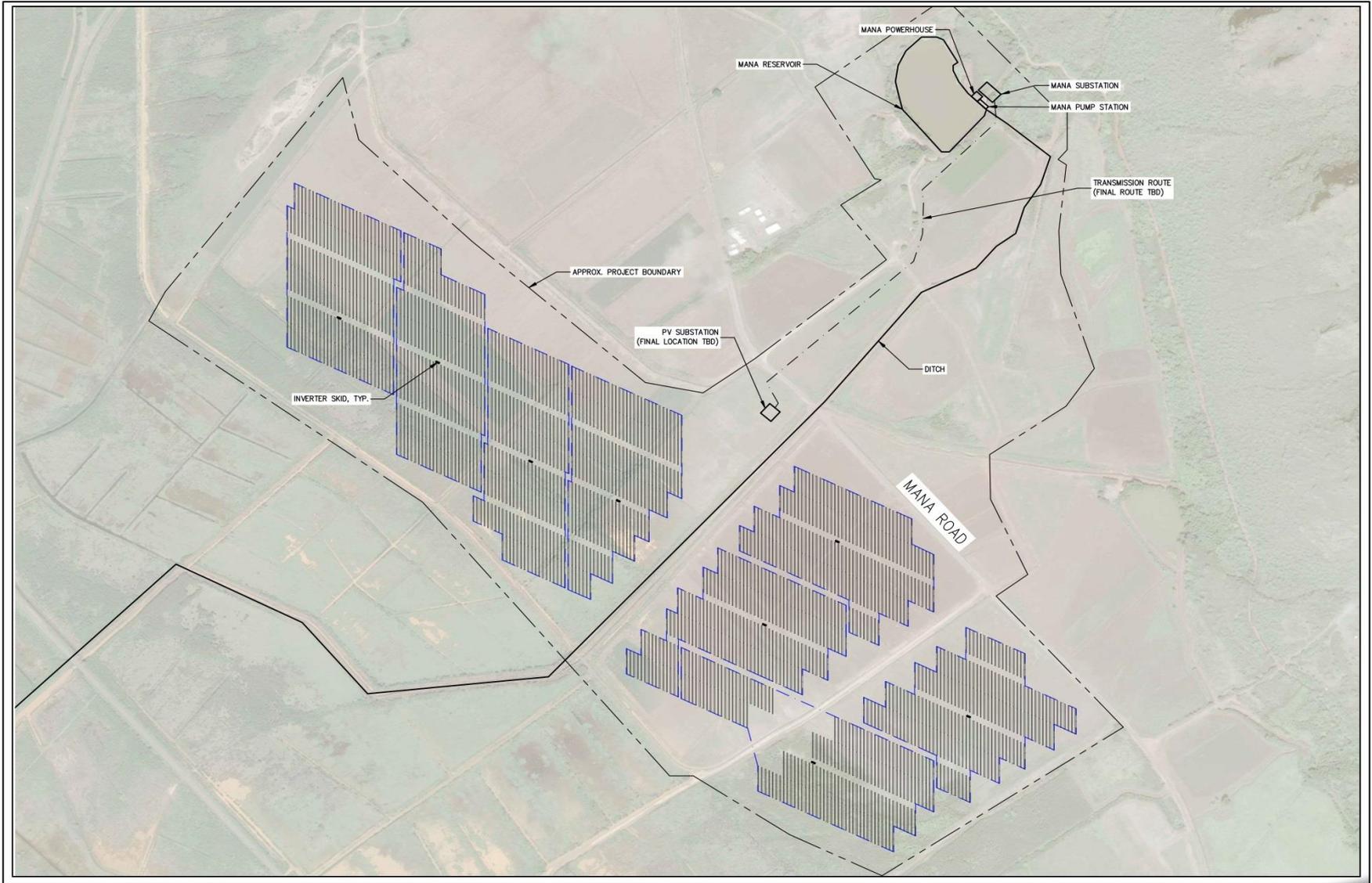
# Mana Reservoir – During Sugar Operations



# Solar Field Location

---





# Project Activities

---

- RFQ and RFP process completed, contractor selected mid 2018
- KIUC Board approved contract with McMillen Jacobs for design and construction
- Phased approach
  - Four phases – 3 engineering phases and construction
  - Commencement of each phase subject to KIUC Board approval
- Anticipated start of construction in 2021

# Project Activities

---

- Fieldwork
  - Land surveys
  - Geotechnical surveys
  - Engineering
- Completion of 30 – 60% engineering before end of November
- Environmental disclosure document
  - Public scoping meeting date to be announced
  - Studies included
  - DLNR Land Division is receiving agency
- Ongoing meetings with regulatory agencies, land owners and community members

# Studies Conducted

---

- Stream Studies and Habitat Assessment
- Puu Lua Reservoir Survey and Assessment
- Cultural Impact Statement
- Archaeological Literature Review and Field Inspection
- Flora and Fauna Survey
- Socio-Economic Survey
- Hydrology analyses
- Geotechnical surveys
- Solar data collection

# Potential Impacts During Construction

---

- Anticipated 18 month construction schedule
  - Dry and wet season work
  - Multiple teams working in different areas simultaneously
- Increased traffic on roads
- Puu Lua Reservoir
  - Closed during construction – approximately 6 months
  - Loss of one fishing season
  - Ditch flow will be routed through by-pass ditch
- Diversion Repairs
  - Approximately 2 - 4 weeks at each structure
  - Waiakoali and Kawaikoi campgrounds may be closed or have limited access

# Potential Impacts During Construction

---

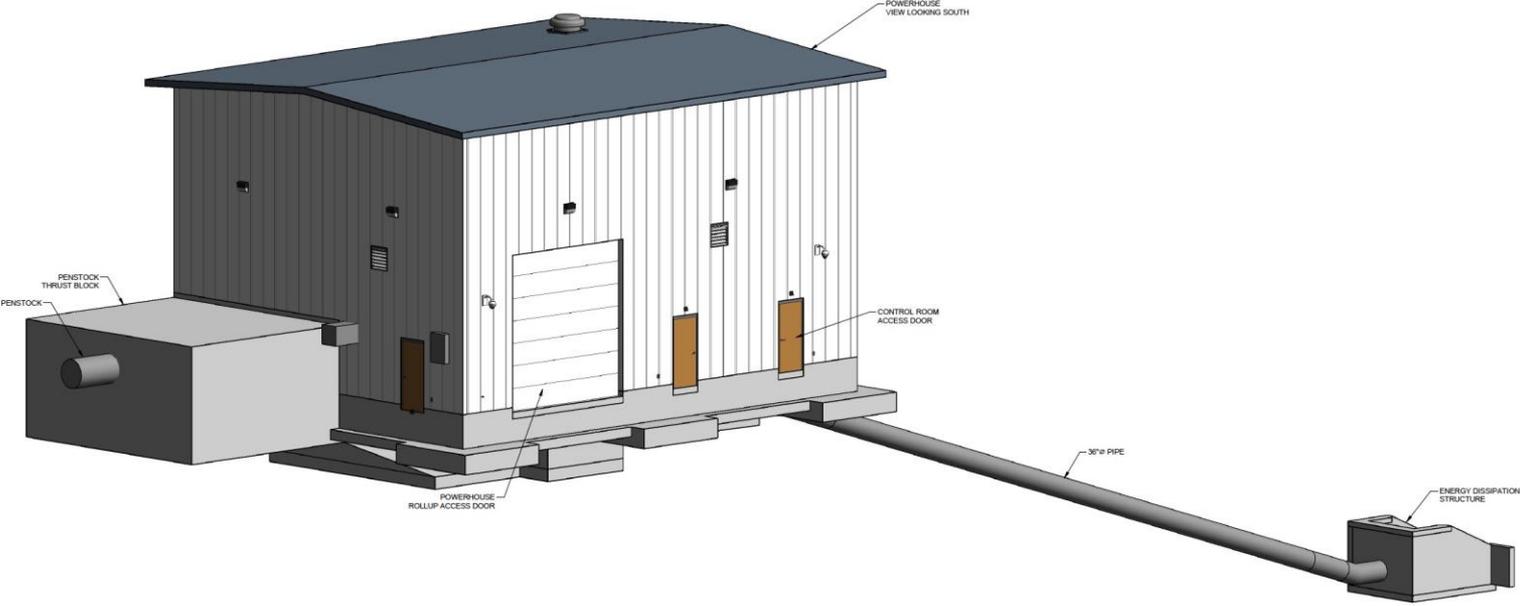
- Water for irrigation on DHHL lands will be provided through alternate means during construction, if necessary
- Potential for dust – dust control measures will be in place
- Potential noise during day from heavy equipment use
- Many temporary jobs available for local contractors
- Some specialized imported labor crews will be located on west side
  - Temporary housing opportunities
  - Local business opportunities

# Waiakoali Diversion - Current

---



# Powerhouse at Puu Opaе



ISOMETRIC 2 - EXTERIOR

# Community and Agricultural Benefits

---

- Water is returned to streams at diversions
- Rehabilitation and long term maintenance of reservoirs and Kokee ditch system
- Support for agriculture and food sustainability on west side
- Enables DHHL to utilize Puu Opaе mauka lands
  - Water
  - Roads
  - Power
- Improvement and maintenance of access roads – including to Puu Lua Reservoir
- Fire suppression support

# Island Benefits

---

- Member-owned legacy project that will store and generate power inexpensively and reliably
- Rate stabilization
- Bulk storage resource
- Approximately 15 - 20% of island power
- Generates when solar isn't available
- Increased electrical grid system stability and reliability
- Increased number of jobs available during the construction phase

# Mahalo and Questions

---