



Rincon Solar Microgrids

DECEMBER 17, 2020



THE RINCON RESERVATION & COMMUNITY

- ◆ The Rincon Reservation was established in 1875 and is located in southern California. The Reservation encompasses approximately 5,000 acres of land within the San Luis Rey River Watershed.
- ◆ The Reservation is considered a rural area of unincorporated, north central San Diego County and includes a broad range of wildlife species and vegetation communities.





THE RINCON RESERVATION & COMMUNITY

- ◆ Approximately 1,800 residents and a few small businesses are scattered throughout the Reservation, as well as Harrah's Resort Southern California which includes a 1,065 room, two 21-story hotel towers, an events center, and a gaming casino with 8 associated restaurants, a spa, and parking for patrons.
- ◆ The historic and current land uses surrounding the Reservation include agricultural, residential, and gaming, along with a small amount of light industrial.



Past Activities

- **1 MW of solar at Harrah's Resort Southern California (HRSC)**
- **Various energy efficiency measures installed at HRSC**
- **STEM Li-Ion BESS installed at HRSC (2018)**
- **Rincon Strategic Energy and Resiliency Plan (2019)**

Project Objectives



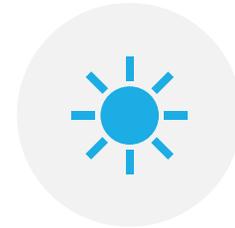
**INCREASE
RESILIENCE**



**LOWER ENERGY
COSTS**



**ENERGY
INDEPENDENCE**



CLEAN ENERGY

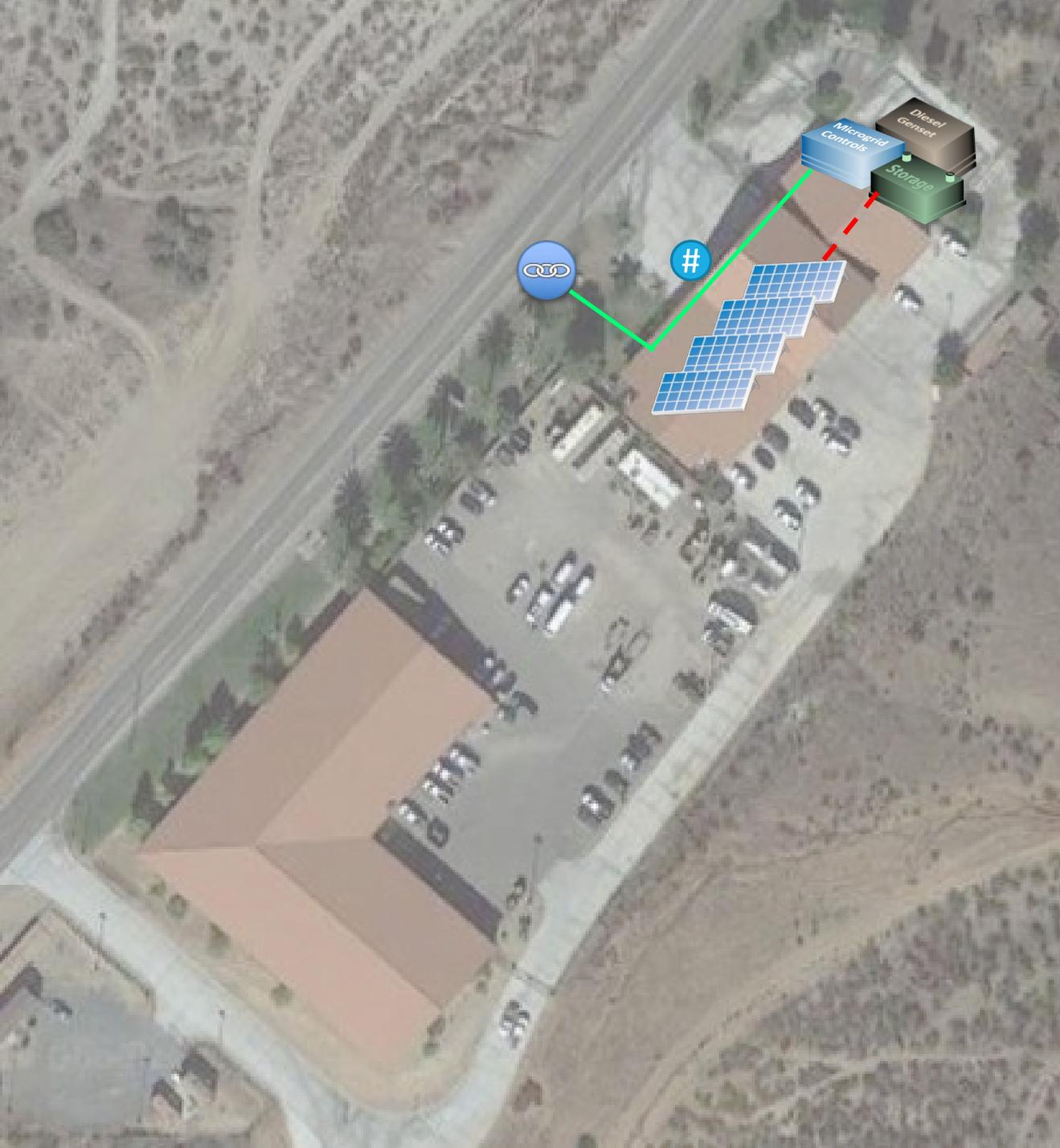


SCALABILITY

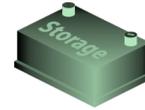
Protecting Essential Facilities

System	Facility Details	Type	Essential Purposes	Resource Type and Capacity
Fire Station Microgrid	13,600 ft ² , built in 2006	Residential fire station, 911 emergency dispatch center, and EOC	Fire protection, rescue, and 911 emergency dispatch for the Rincon Reservation and neighboring communities through mutual aid agreements.	PV 100 kW (new) Diesel 420 kW (existing) BESS 50 kW / 50 kWh (new)
Resort Area Microgrid (HRSC, WWTP, Travel Plaza)	Resort: 1,284,619 ft ² , built in phases between 2001 and '04 WWTP: 1,500 ft ² , built in 2000 Travel Ctr.: 5,071 ft ² , built in 2012	- Tribally owned casino-resort complex; - WWTP; - Multi-use travel plaza	Emergency public shelter, emergency operations center (EOC), and emergency response and evacuation staging areas; WWTP; food, essentials, and fuel for emergency vehicles and standby generators at fresh water pumping stations etc.	Carport PV 2,000 kW (new) Ground PV 1,000 kW (existing) Diesel 2,000 kW (existing) Diesel 500 kW (new) BESS 2,400 kW / 600 kWh (new)
Rincon Government Center	143,000 ft ² , built in 2018	Tribal Government Center, Tribal Police Station	Tribal Police, First Response, Emergency Public Shelter, Emergency Operations Management, EV Charging	PV 276 kW (new) Diesel 150 kW (existing) BESS 140 kW / 560 kWh (new)

Fire Station Microgrid



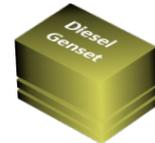
100 kW Solar PV System



132 kWh Battery
Energy Storage System



Microgrid and BMS Controls



Diesel Generator



Point of Interconnection



Meter

*Grey icons are existing DER components to be integrated into microgrid system



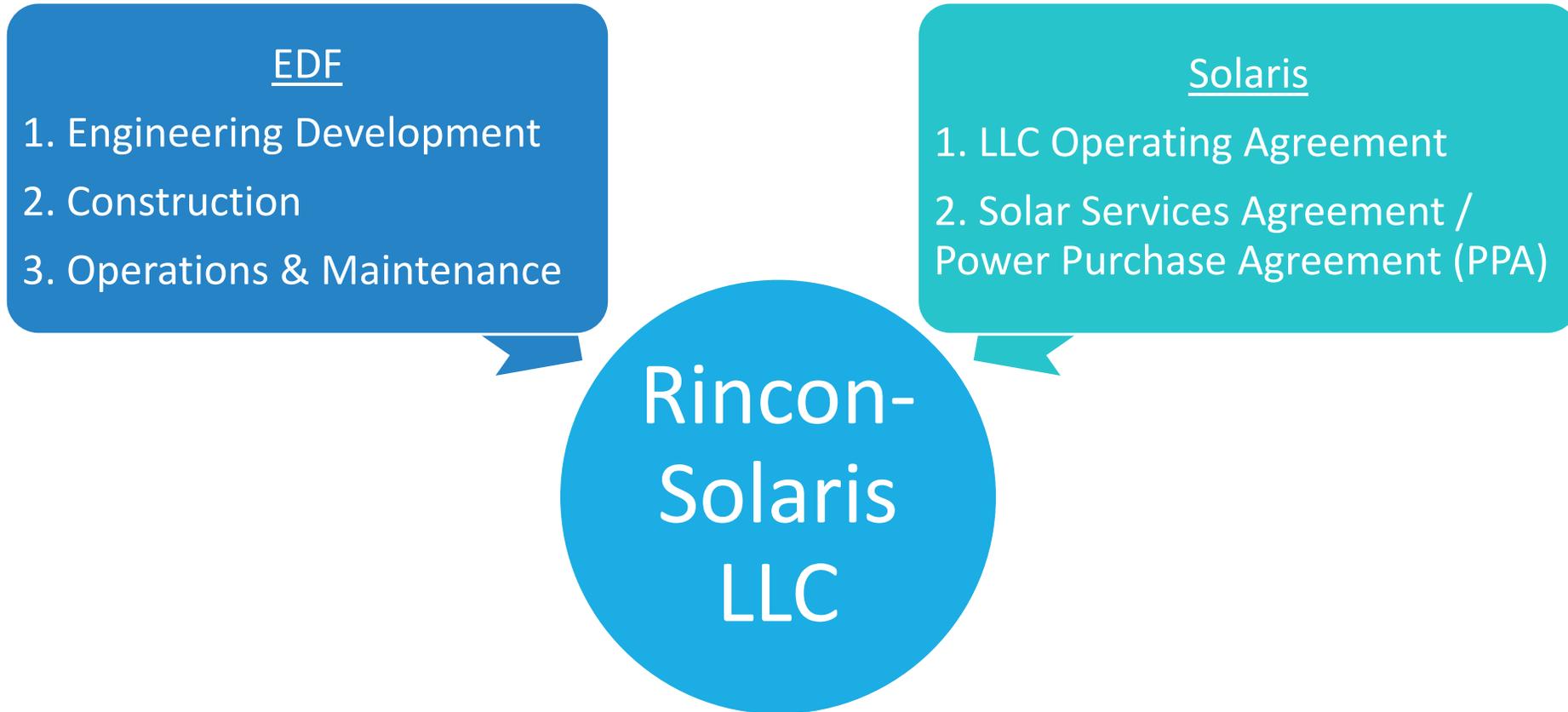
- # Building Electric Meter
- # Controls and Service Panel
- PV Site (New)
- BESS Location (New)
- Diesel Genset (Existing)
- EV Charger (Existing)
- Point of Interconnection
- Microgrid Bus (New)

#	Resource	Capacity
1	PV Rooftop 1	79.9 kW
2	PV Rooftop 2	11 kW
3	PV Canopy	199.3 kW
4	BESS	140-175 kW 696 kWh
5	Diesel Genset	150 kW
6	Controls	-

Microgrid Project Partners

<p>Engineering Procurement Construction</p>	<p>Tax Equity Financing Partner</p>
 <p>The logo for EDF Renewables features an orange stylized flower icon to the left of the text "edf" in blue and "renewables" in a smaller blue font below it.</p>	 <p>The logo for Solaris Energy features a blue stylized solar panel icon above the text "Solaris" in blue and "Energy" in yellow.</p>
<p>Legal Support</p>	<p>Project Mgmt/Owner's Rep/Technical</p>
 <p>The logo for Godfrey Kahn S.C. features the text "GODFREY" in blue above "KAHN S.C." in blue, with a small brown square icon to the left of "KAHN".</p>	 <p>The logo for Prosper Sustainably features a green circular icon with a white bar chart and a green arrow pointing up, to the left of the text "Prosper" in blue and "Sustainably" in green.</p>

Microgrid Project Agreements



Project Status & Accomplishments

ACTIVITY
1. Select design build contractor and financier
2. Negotiate and finalize DBC & financing contracts
3. Complete engineering design and permitting
4. Complete project construction and commissioning
4A. Install, commission, and deploy backup generator
4B. Install, commission, and deploy microgrid infrastructure
4C. Install, commission, and deploy new solar and storage
5. Operations & Maintenance, Performance Monitoring and Reporting

Lessons Learned

- **Leveraging resources to secure more resources**
- **Tax equity financing opportunities and challenges**
 - Obstacles with other financing options
- **Define owner's project requirements before design engineering**
- **Single EPC versus multiple contractors**
- **High electrical infrastructure costs**
- **Complexity → necessity of engineering before EPC contract**

THANK YOU! QUESTIONS?

Josh Simmons

President, Principal Consultant, Attorney

Prosper Sustainably

(805) 617-5685

jsimmons@prospersustainably.com

www.prospersustainably.com

