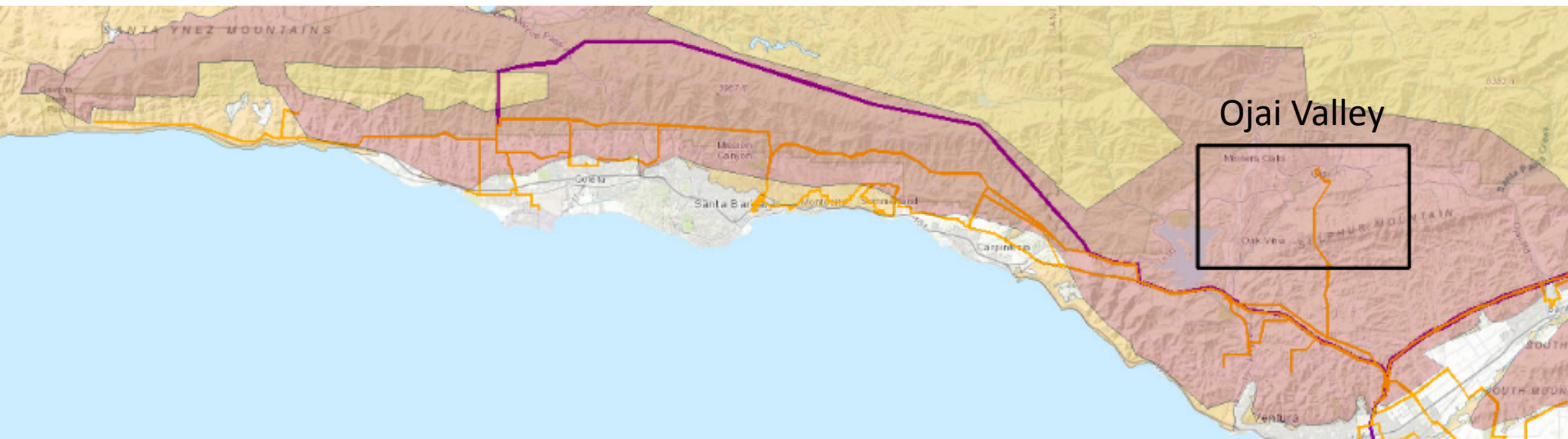


The Community Microgrid solution to grid restrained communities



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To accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise

A Community Microgrid is a new approach for designing and operating the electric grid, stacked with local renewables and staged for resilience.

Key features:

- A targeted and coordinated local grid area served by one or more distribution substations
- High penetrations of local renewables and other Distributed Energy Resources (DER) such as energy storage and demand response
- Staged capability for ongoing renewables-driven power backup for critical and prioritized loads across the grid area
- A solution that can be readily extended throughout a utility service territory – and replicated into any utility service territory around the world

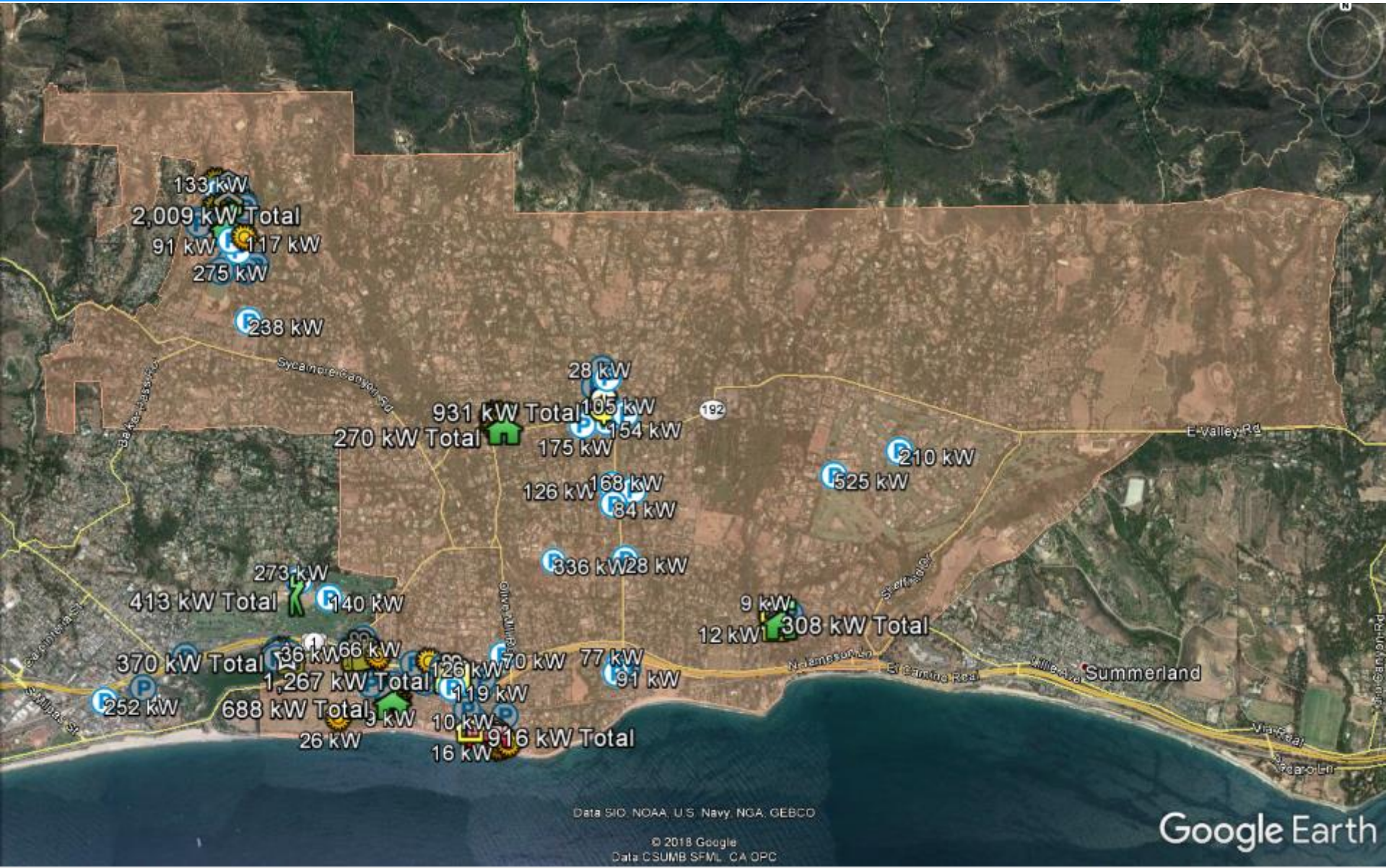


The GLP is the perfect opportunity for a comprehensive Community Microgrid



The Goleta Load Pocket (GLP) spans 70 miles of California coastline, from Point Conception to Lake Casitas, encompassing the cities of Goleta, Santa Barbara (including Montecito), and Carpinteria. Because the GLP is a highly transmission-vulnerable, disaster-prone region, the GLP Community Microgrid is being designed to deliver an unparalleled trifecta of economic, environmental, and resilience benefits to the area. To achieve indefinite renewables-driven backup power that provides 100% protection to the GLP against a complete transmission outage (“N-2 event”), **200 megawatts (MW) of solar and 400 megawatt-hours (MWh) of energy storage** needs to be sited within the GLP.

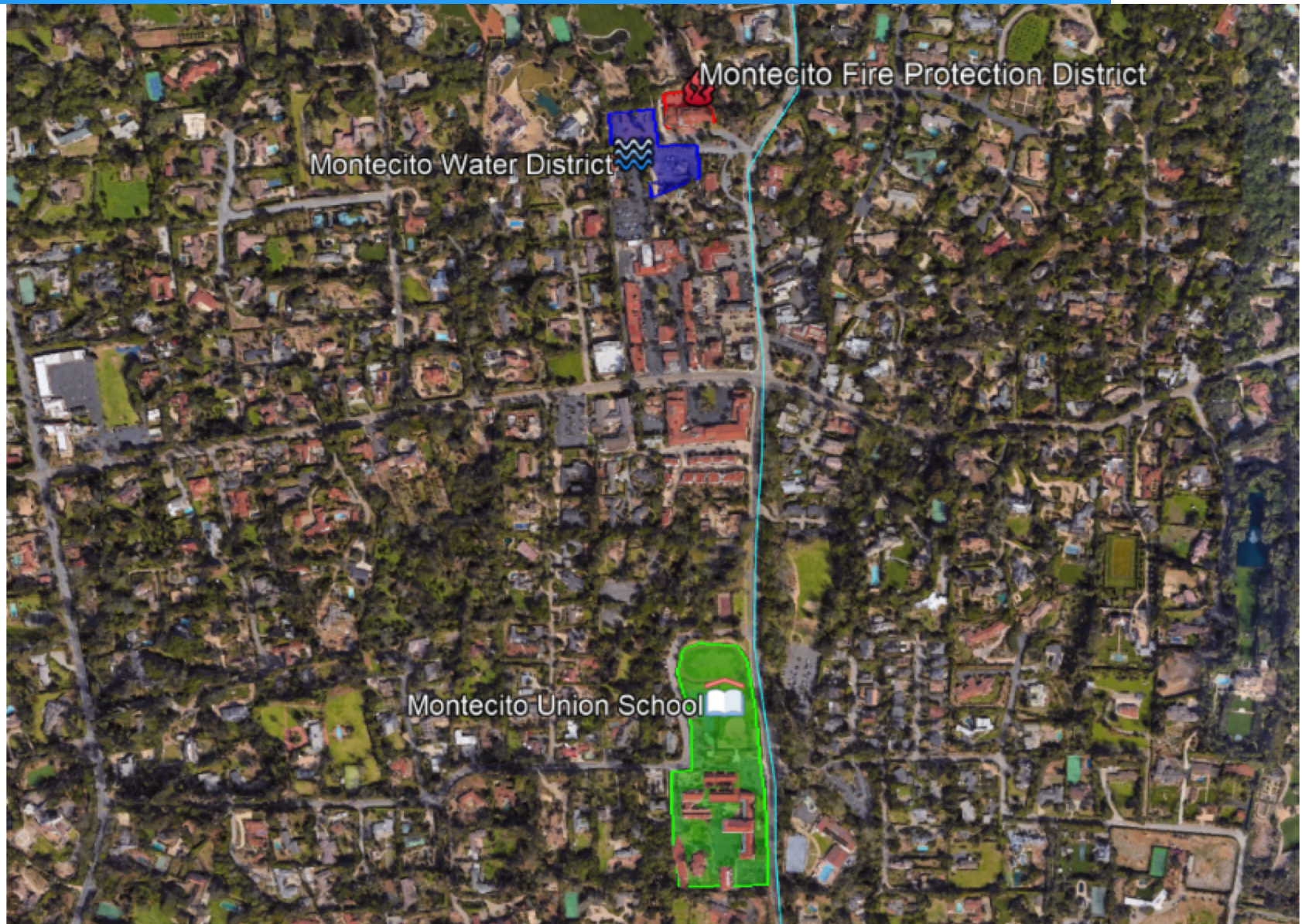
Solar Siting Survey (SSS) for Montecito



Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2018 Google
Data CSUMB SFML CA OPC

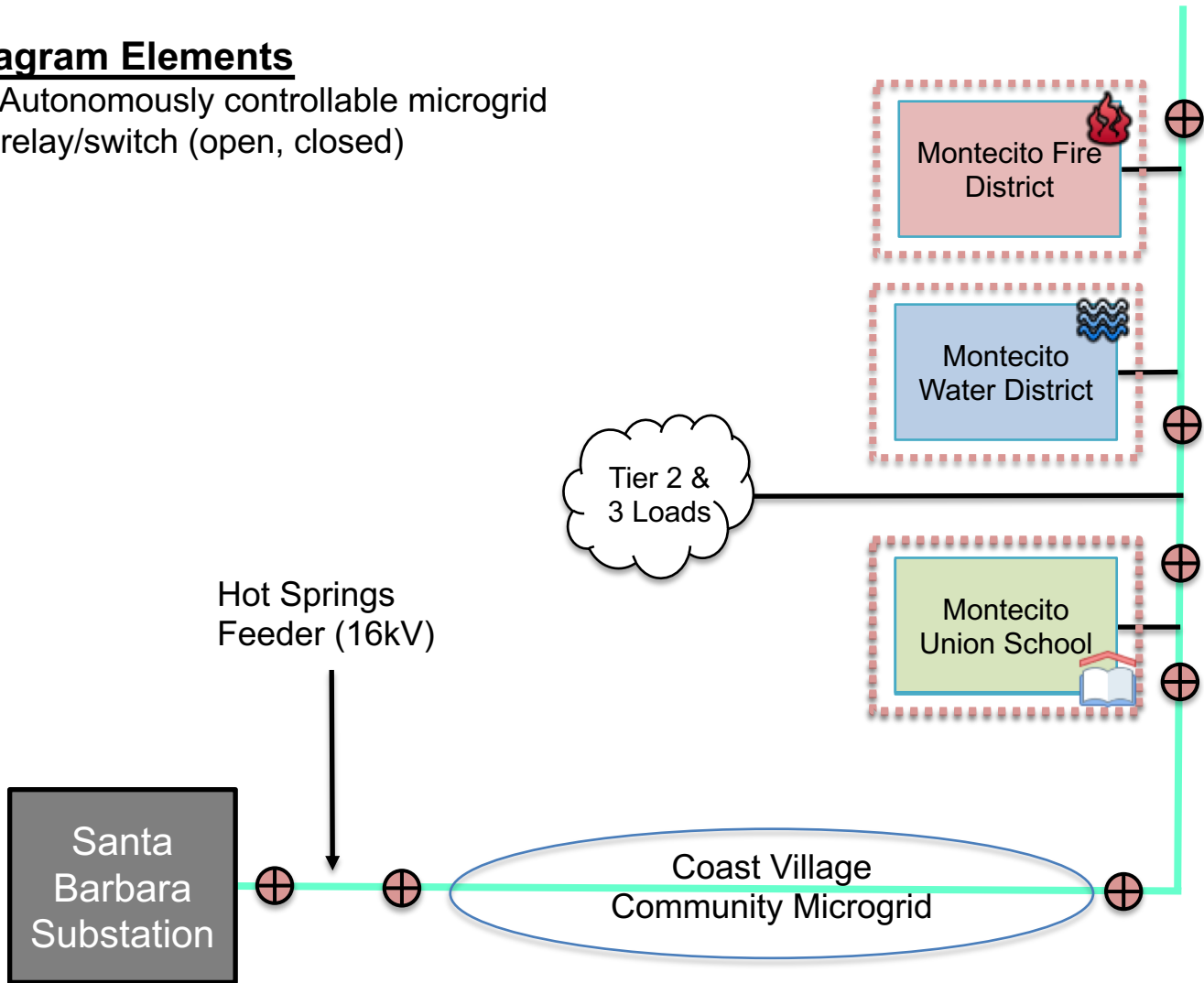
Google Earth

Upper Village Emergency Response and Emergency Sheltering Clusters



Upper Village Community Microgrid block diagram

Diagram Elements
Autonomously controllable microgrid relay/switch (open, closed)



Montecito Community Microgrid – Overview

Overall Goal is to provide renewables-driven energy resilience to critical community facilities in Montecito and to showcase the benefits of Community Microgrids for communities around the world.

Initial Building Block - Phase 1

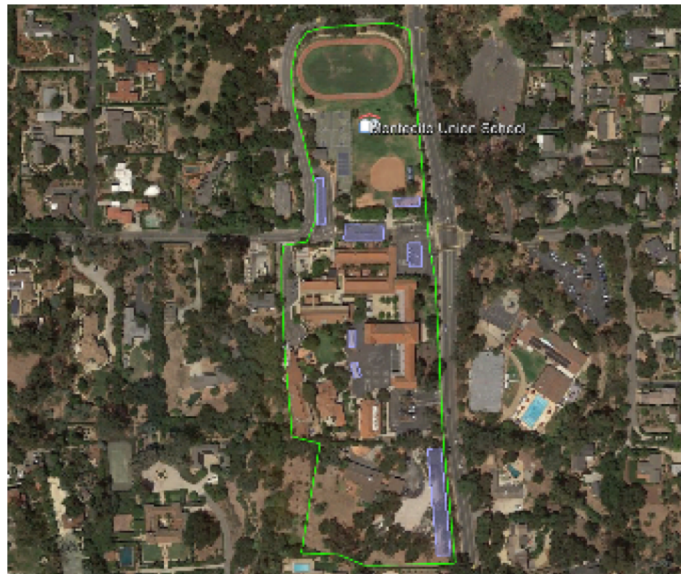
Facilities:

- Montecito Fire Protection District headquarters
- Montecito Water District headquarters
- Montecito Union School

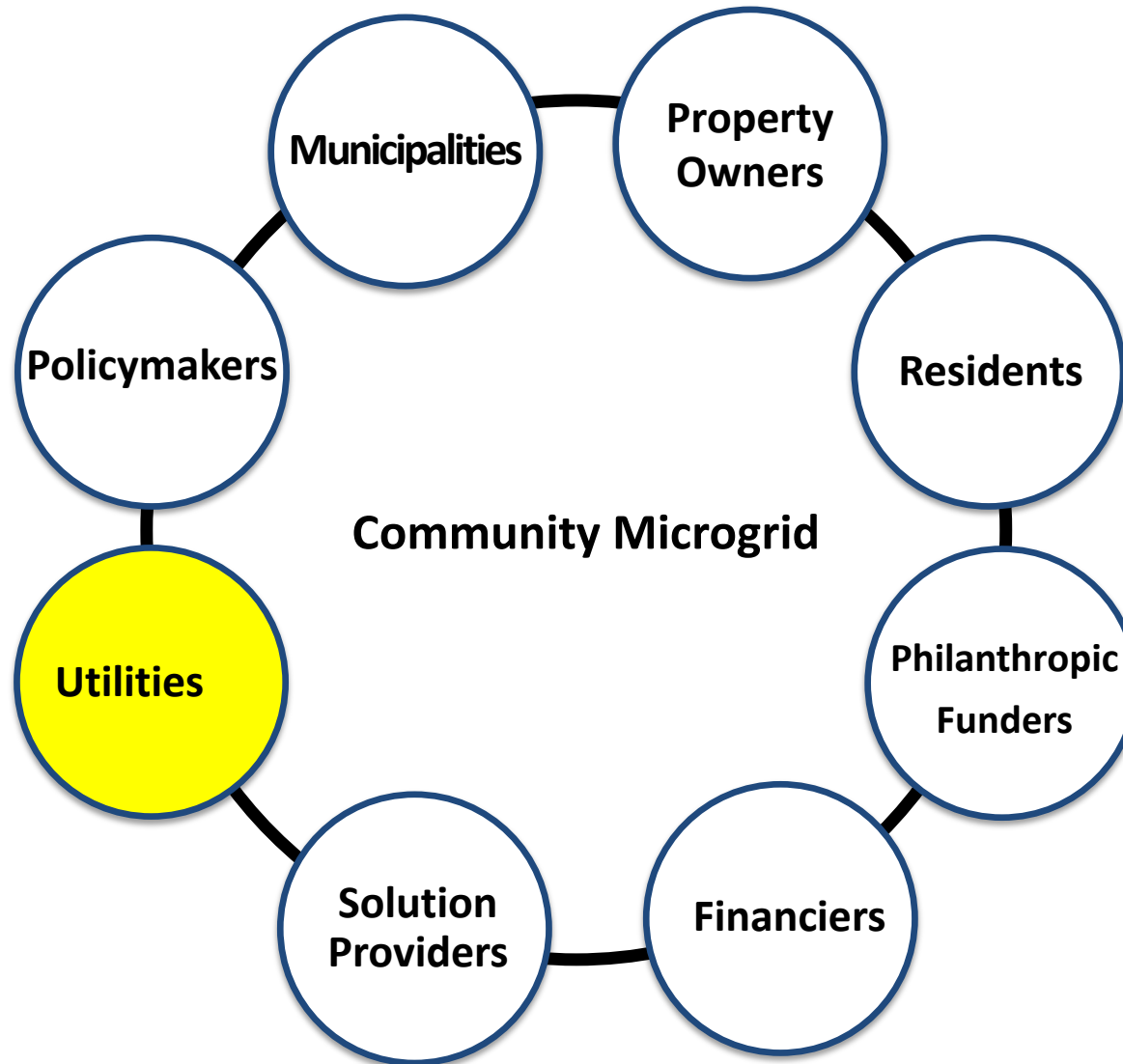
Phase 1 Solution includes solar parking canopies and energy storage to deliver renewables-driven energy resilience.



Montecito Fire and Water District

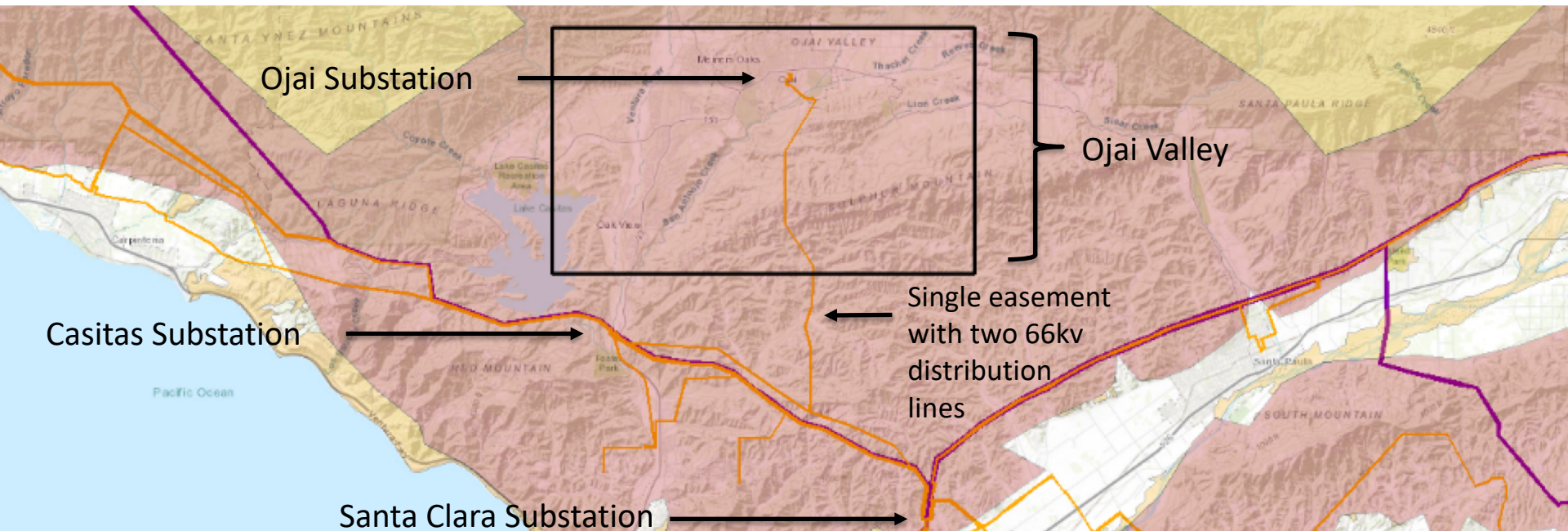


Montecito Union School



Ojai Valley Load Pocket

- A single easement carrying two 66kv distribution lines on the same poles, which provide the majority of power to the Ojai Valley, feed into the Ojai Substation from the Santa Clara and Casitas Substations.
- Beyond the vulnerable distribution lies the same single transmission easement vulnerability that haunts the GLP.
- Entire Ojai Valley is within **Tier 3 (Extreme) Fire Threat areas**, which are areas with the highest risk for utility associated wildfires.



1. Create a Solar Siting Survey (SSS) for the Ojai Valley
2. Identify multiple prospective Community Microgrid (CM) clusters that include critical facilities
3. Produce a conceptual design for the highest preference CM cluster

Questions?

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