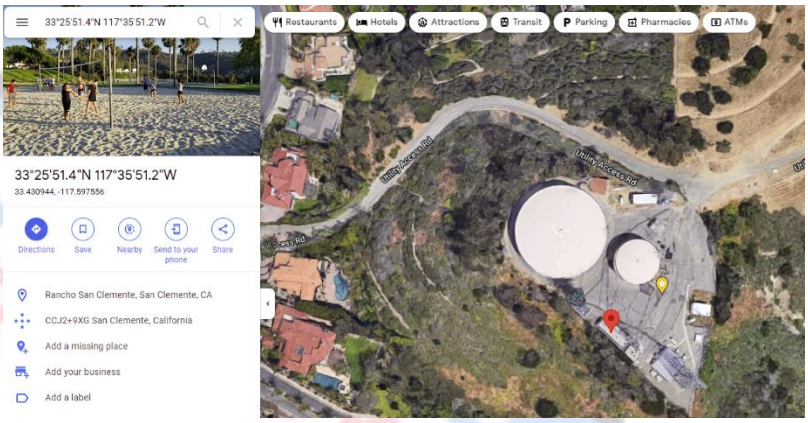
Tri-Cities RACES Emergency Data Network Facility Plan

San Clemente Summit

Summary:

San Clemente Summit is the highest point in the city, and the only confirmed location that has a line-of-sight link to communications facilities on Saddleback Mountain. The equipment listed below, installed consistent with the instructions, should enable a high-speed data link to existing strategic facilities in our region, and provide a backbone for the emergency network in San Clemente.



The equipment is all currently owned by Bill Kreutinger, KM6SLF, Technical Director of Tri-Cities RACES. No regular access to the San Clemente Summit facility would be required, though occasional access may be requested on an as-needed basis. All equipment is configured, tested, and ready for deployment upon approval. As configured, the system should remain operational during a power outage for up to 8 hours. Based on the frequencies used, none of the equipment is expected to cause any harmful interference. If any harmful interference is detected, there are steps that can be taken to address it.

Equipment:

Designator	Part/Model#	Description	Purpose
A	PBE-M5-620-US	High-Gain 5GHz Dish	Connection to Saddleback
	PAK-620	Precision Alignment Kit	
B	AM-5G20-90	5 GHz, 90º Sector Antenna	Connection to SC Nodes
	M5R	M5 Rocket	
C	KM6SLF-SCS	PoE & Backup power kit	Powering A & B
D	KM6SLF-CAM	PTZ Camera	Firewatch and other activities
		Power adapter box	

Installation Instructions:

Shielded ethernet cables of appropriate lengths and cable ties are not listed but will be required for installation.

Assembly A should be positioned on a mast on the North or East side and needs to be pointed at 6 degrees from North

Assembly B should be positioned on a mast on the North or West side, and needs to be pointed at 318 degrees from North

Assembly C should be located inside the city-owned building at San Clemente Summit. It will need to be located near a power outlet.

Assembly D should be secured to the back of one or the other antenna masts, or to any suitable position on the antenna tower convenient for the installer.

Interconnect Instructions:

Assemblies A, B & D each have one Ethernet cable connection, which must be connected to ports 2, 3 and 4 on the Tycon TP-SW5 attached to assembly C. If available, Internet can be connected to the uplink port on the Tycon TP-SW5.

Assembly C contains LiFePO4 batteries and will maintain operation of connected equipment for several hours during potential power outages. It should be plugged in to an AC outlet for normal operation.

Photos & Links:

Assembly A: Dish Antenna

https://dl.ubnt.com/datasheets/powerbeam/PowerBeam_DS.pdf

Assembly B: Sector Antenna

https://dl.ui.com/datasheets/airmaxsector/airMAX_Sector_Antennas_DS.pdf

Assembly C: Power & Interconnect Box

Assembly D: Generic PTZ IP Camera

Antenna tower at San Clemente Summit