



San Jacinto Mountain Area Traveler Emergency Communications Expansion Project Proposal



Prepared for:

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San Jacinto Mountain Area Traveler Emergency Communications Committee
A sub-committee of the Mountain Area Safety Task Force

Executive Summary

On December 11, 2017 a meeting of concerned stakeholders was held regarding the state of the traveler's advisory radio network in the San Jacinto Mountain Region of Riverside County. Present at the meeting were representatives of the Riverside County Board of Supervisors third district, Riverside County Executive Office, the Emergency Management Department, Riverside County Fire/CALFIRE RRU, Idyllwild Fire Protection District (IFPD), RVC Fire Information Technology and the local amateur radio group, Mile High Radio Club. During this meeting the group unanimously agreed that (1), the range and reliability of the current traveler's advisory system is insufficient to meet its intended purpose and (2), all concerned parties attach sufficient importance to this issue to explore options for improving the system and that it is in the best interest of the San Jacinto Mountain communities, the traveling public and the County Riverside to have a reliable emergency broadcast signal capable of reaching the entire mountaintop.

The group tasked the Mountain Area Safety Task Force (MAST) with exploring viable options. A sub-committee consisting of the Riverside County Emergency Management Department (EMD), Idyllwild Fire Protection District (IFPD) and the Mile-High Radio Club (MHRC) was formed and tasked with determining the feasibility of expanding the current broadcast signal to reach the desired coverage area. The committee concluded that there are several viable options and that the quickest and most economical solution is to incorporate and expand existing broadcast infrastructure. The committee is recommending a multi-step project.

Current Conditions

Radio station WNKI-578("the Station") broadcasts on the AM spectrum at 1610 with a broadcast strength of 10 watts. The broadcast equipment and primary antenna are located at the Idyllwild Fire Protection District at 54160 Maranatha Dr, Idyllwild, CA 92549. The IFPD holds the FCC license required to operate the radio station while the daily operations of the station including maintenance and cyclic equipment replacement has been delegated to the Mile-High Radio Club, (MHRC) a local amateur radio club that works closely with IFPD on community preparedness projects. MHRC is a recognized 501(c)(3) charitable organization and maintains the radio station through donations to the non-profit.

The mountainous terrain combined with the winding nature of the highways in this area severely limits the range and reliability of the existing AM signal. Broadcasting at 10 watts the range of the radio signal extends to the north approximately 1.5 miles to the community of Pine Cove and approximately 2 miles south to Mountain Center along State Highway 243. Beyond these communities the signal becomes weak, is overtaken by static and quickly fades away. During a declared emergency the Federal Communications Commission (FCC) allows public safety related radio stations to temporarily broadcast at up to 50 watts without requiring a waiver. The station is currently capable of broadcasting at 30 watts. Neither of these wattage increases would adequately overcome the terrain issues that are currently preventing the desired coverage.

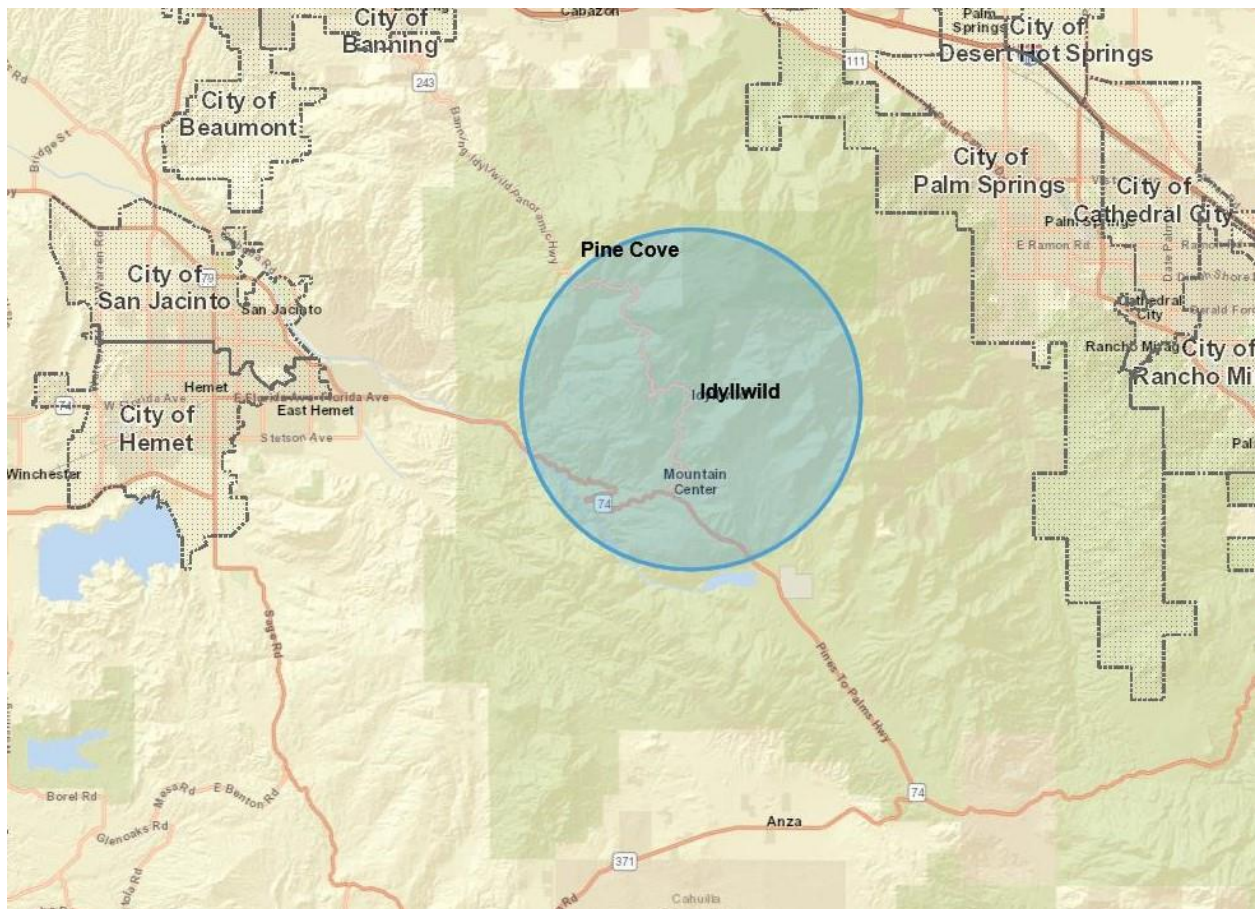
Mission Statement

The agreed upon mission statement of this sub-committee is to: “Propose a system to broadcast routine and emergency public safety information and instructions that can alert both residents and visitors to hazards in the San Jacinto Mountains along State Highways 243 and 74 between the communities of Poppet Flats and Pinyon Pines.”

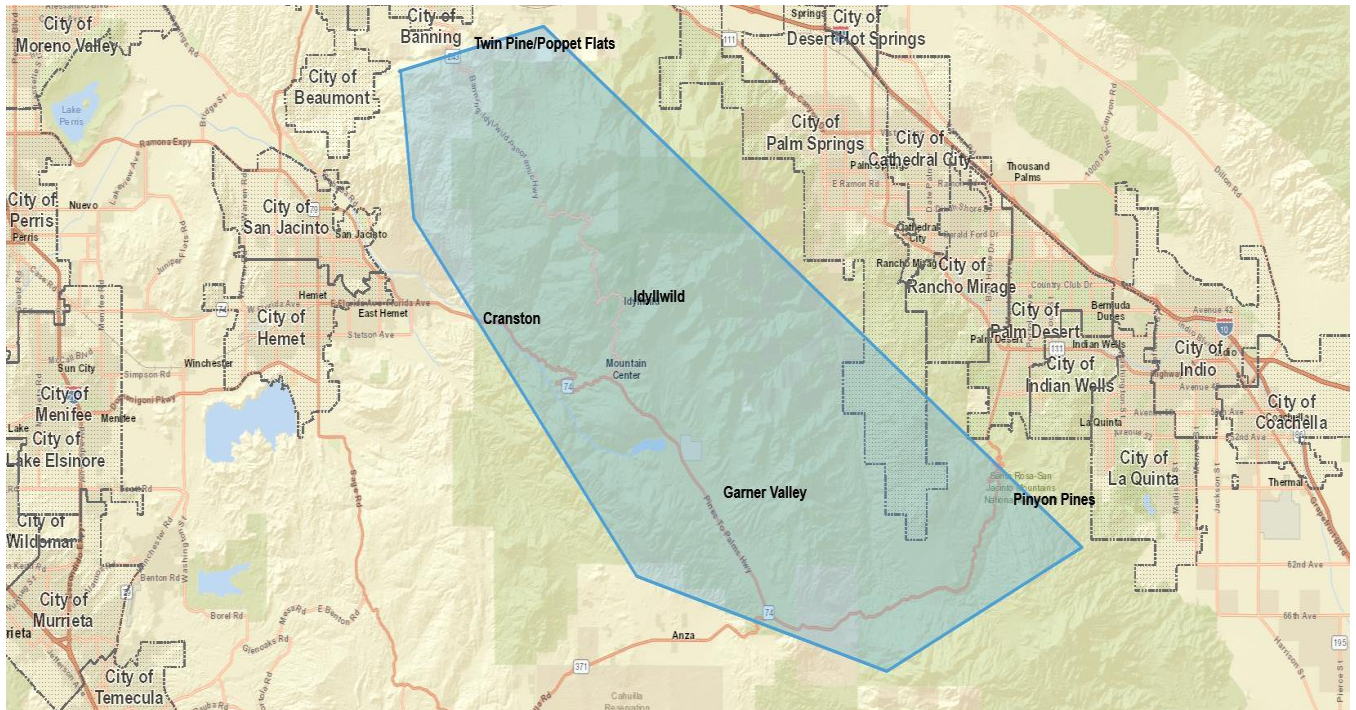
Desired Coverage Area

The desired coverage area begins north of Idyllwild near the community of Twin Pines, located along State Highway 243 near Mt. Edna Rd. It proceeds south along Hwy 243, traversing Idyllwild and following Hwy 243 until it terminates in the community of Mountain Center and intersects with Hwy 74. The area continues along Hwy 74 south to the community of Pinyon Pines.

Current WNKI-578 Coverage



Proposed WNKI-578 Coverage Area



Project Outline

Because this project will require the installation and testing of multiple repeater sites it is recommended that it be completed in phases to ensure that each successive phase is compatible with the previous work and that the system operates as designed. Phases 1 and 2 are currently underway by MHRC operating the station in agreement with IFPD.

Assumptions and Constraints

Assumptions:

Idyllwild Fire Protection District shall retain ownership of the FCC license including the responsibility to maintain it in good standing along with any waivers or upgrades that may be required to maintain operations upon completion of the project.

Radio equipment currently installed and in use for the operation of WNKI-578 shall remain the property of either IFPD or MHRC, respectively. Maintenance and replacement cycles will remain the responsibility of these entities. Radio equipment includes but is not limited to receiving/transmitting equipment, power supplies, storage racks, antenna(s) and required cabling.

The County of Riverside shall retain exclusive ownership of any equipment purchased by the county in relation to this project, to include maintenance and replacement cycles.

Daily broadcast content will be the responsibility of IFPD and/or MHRC and will be in the form of PSA's and other preparedness related topics.

The Riverside County Emergency Management Department (EMD) is the recognized Emergency Management Agency for the County and as such retains the right to over-ride routine broadcast content during an emergency.

During emergency operations EMD will have direct access to change broadcast content. This can be via internet access, wireless communications or by physically uploading messaging into the transmitting equipment. If EMD is not in unified command during an incident that requires the use of WNKI-578 content control reverts to the public information officer assigned by the incident commander.

Prior to beginning operations Riverside County and IFPD will have a memorandum of understanding (MOU) that outlines the agreed upon responsibilities of all involved parties.

Standard Operating Guidelines agreed upon by all involved parties will be established prior to beginning operations.

Constraints:

Acquisition of appropriate sites for retransmission equipment.

Conclusion

In any disaster effective, accurate communications on multiple levels is vital. In the direst of scenarios, when communications are more important than ever, damage to modern hi-tech communications systems has in many instances effectively removed vital emergency communications. Within the previous 15 years there are three stark examples of this: Hurricane Katrina, The Great East Japan Earthquake (and subsequent Fukushima Nuclear Disaster) and Hurricane Sandy. It was clearly demonstrated during these three recent disasters that what the public needed was extremely localized information that told them to either evacuate or shelter in place, where to seek shelter, the location of relief supplies to include food and water and lastly where they could locate family and friends. The worse the disaster the greater the public's need for practical information needed to live day-to-day.

On the local level the San Jacinto Mountain Communities have been subjected to several recent disasters during which the expanded capabilities of the local traveler's advisory radio system would have been a very useful communications tool. The Esperanza Fire (2006), the Mountain Fire (2013) and the Silver Fire (2013) all caused evacuations, road closures and resulted in the loss of both lives and homes.

The Riverside County Emergency Management Department has multiple avenues of broadcasting evacuation warnings and additional vital emergency information to the public. These include a reverse-911 type system, multiple social media outlets and the Federal IPAWS system that allows every cellular phone within a designated area to be sent important life safety information. During recent wildland fires in Central California it was shown that rapidly moving fires destroyed multiple cellular phone towers, quickly rendering these hi-tech systems inoperative. Under the theory of "Hi Tech/Low Tech/No Tech" disaster communications the AM radio broadcast definitively falls under the "Low Tech" category. It is a robust analog system that when correctly deployed will complement our existing capabilities by providing a potentially isolated population with vital life safety information.