Project Support Statement

Applicant: TowerCo, LLC. with Verizon Wireless
Site Name: Freshwater Ln.
Location: 250 Misty Hill Rd, Eureka, CA 95503
APN: 403-081-013

Introduction & Facility Description

The demand for wireless communication continues to grow across Northern California. Reliable access to wireless networks has become vital as individuals increasingly rely on handheld and mobile devices as their primary method of communication. Verizon Wireless constantly seeks to improve its wireless network through industry-leading techniques and innovative solutions in order to respond to high levels of wireless network traffic and user demand. This proposal for a new wireless telecommunications facility represents a joint effort between Verizon and TowerCo who are an essential part of the effort to continuously improve wireless infrastructure for both current and potential customers. The facility proposed is designed to comply with all applicable standards set forth in the Humboldt County Code and represents the least intrusive means for Verizon Wireless to close a significant gap in network coverage in the area.

This proposal is for a new wireless telecommunications located at 250 Misty Hills Lane. It will stand 150' tall and will hold a top CL of 148' with a total of (9) nine antennas. The project includes a 45' x 45' lease area with a 8' tall wood fence at the lease area perimeter. Within this compound, Verizon will place an emergency stand-by 30kw diesel generator with a 210-gallon fuel tank and associated equipment. A total of 4 redwood trees will be removed with a trunk circumference of 6",12", 24" and 26" to accommodate construction. Trenching will be done to place both the power and telco conduit paths. Any part crossing asphalt will be compacted to 95% and slurry backfield. These details are laid out on the survey and site plans provided with this application. The area inside the lease area will be landscaped with gravel to ensure that any vegetation will not be an issue or cause any hazards.

We opted for a monopole structure instead of a monotree design. This choice ensures that future wireless carriers can collocate on this facility, providing more space for vertical lease area on the structure. Moreover, the monopole structure results in a lower overall height for the facility, as a monotree design would require approximately 10% additional height, making it a total of 165' to account for the "natural" looking tree crown.

Need for Facility

Verizon Wireless is dedicated to enhancing wireless communication services in Humboldt County through the development of a new telecommunications facility. Currently, this region experiences significant connectivity challenges, including dropped calls, blocked calls, and insufficient signal strength to support reliable data transmission. These issues have been substantiated by empirical network call quality data, as well as feedback from Verizon Wireless customers, local businesses, and travelers in the area.

To address these concerns, TowerCo has proposed the construction of a new tower that will significantly improve service for Verizon subscribers. In addition, this facility will strengthen emergency communication capabilities, resolve capacity constraints, and eliminate a critical gap in coverage along this part of Humboldt County.

The proposed coverage area includes residential, commercial, retail, and recreational uses in the City of Eureka and Humboldt County, as well as highways and arterial roads leading to and from The City of Eureka. Providing service to this area is particularly challenging due to the diverse topography and dense morphology. This proposed location, situated atop a mountain, provides an ideal location for wireless signals to reach greater distances. The parcels on the mountain are typically 5 to 20 acres, providing opportunities to meet setbacks. The large parcels also create a natural buffer that reduces visual impact from neighboring parcels. Given the heavily varied terrain in this part of the county, with having trees in height from 125'-160', having sufficient elevation is crucial to avoid the need for multiple towers at lower elevations to achieve the same coverage. More towers in the lower elevations would be more visually intrusive. In addition, the parcel size for the land uses in the lower elevations are generally smaller with greater structure density than the parcels in the hills where our site is proposed. Due to the smaller, more dense parcels, the lower elevation offers extraordinarily little opportunity to meet setbacks from buildings and property lines for a new telecommunications structure.

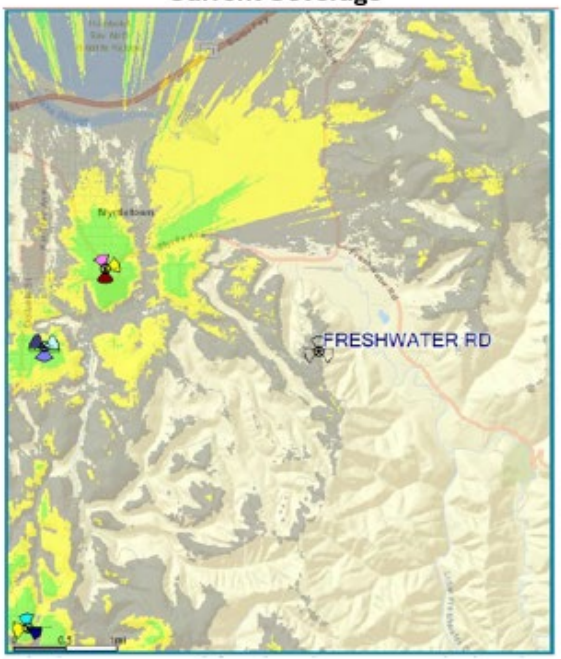
To analyze the coverage and capacity solutions that drive network design, Verizon Wireless uses a proprietary radio frequency propagation prediction tool and a variety of topography, morphology and clutter data sets to predict the coverage and signal strength and analyze network design. These tools are extensive and sophisticated but can still only produce a computer-generated model of how a frequency may propagate and cannot accurately present incremental changes in antenna heights on a structure. For this reason, we have provided two propagation maps below at 35' and 150' which is the height that Verizon radio frequency engineers have determined, in their professional opinion and experience, will satisfy the coverage and capacity gaps their network is currently experiencing.

- Green: until -85 dBm. This signal threshold represents a level of service adequate for providing reliable coverage inside a building. It provides good indoor and outdoor service.

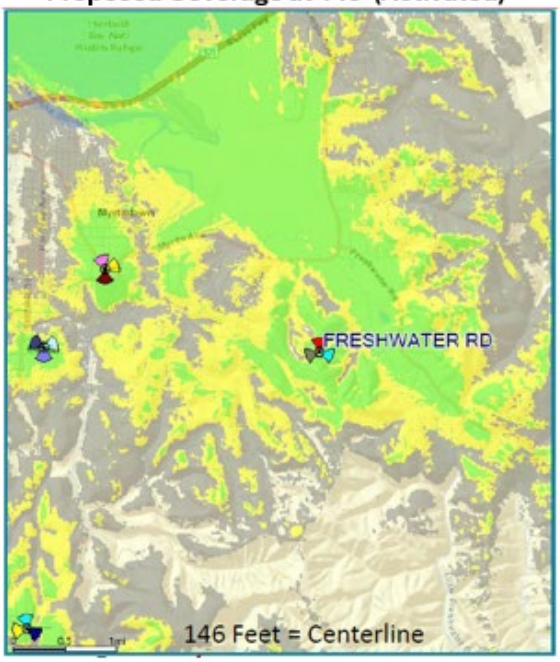
- Yellow: until -95 dBm. This signal threshold represents a level of service adequate for providing reliable coverage outdoors or inside a car, but indoor or in-building coverage is unreliable. It provides good outdoor and in-car service but inadequate indoor service as QOS will be (or start getting) hampered.

- Light Grey: until -120 dBm. This signal threshold represents a signal quality that is unreliable when making and/or holding a call. Very slow latency and data speeds. Both outdoor and indoor QOS will be unreliable.

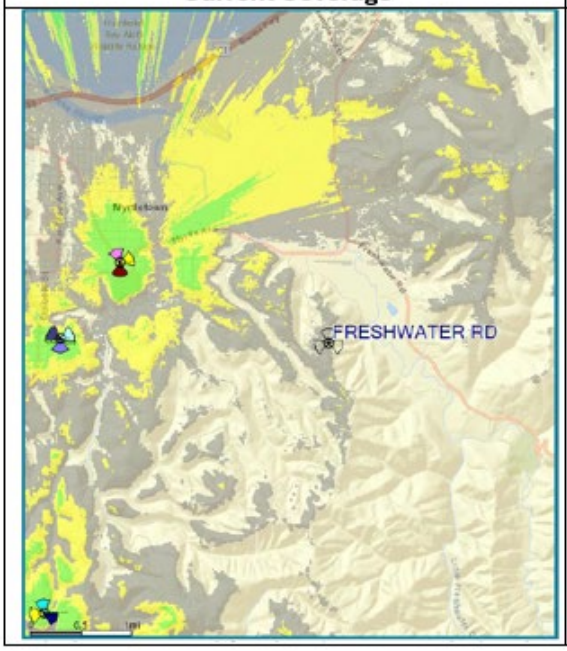
Current Coverage



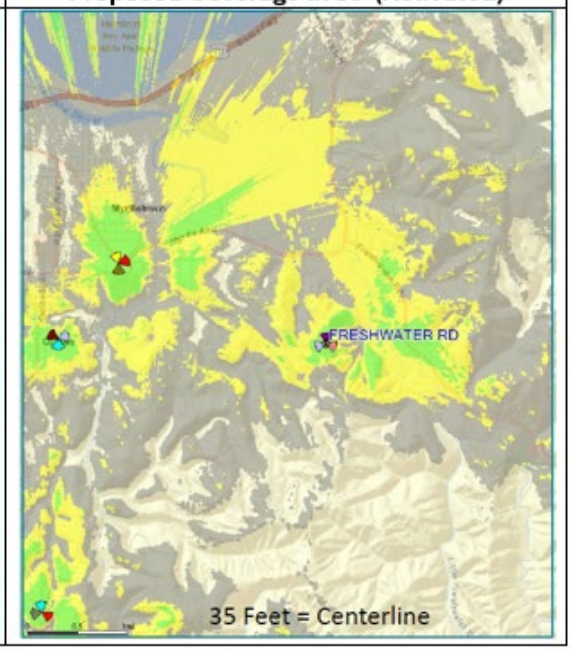
Proposed Coverage at 146' (Activated)



Current Coverage



Proposed Coverage at 35' (Activated)



As shown in these coverage maps, the target area is filled with a green, indicating far greater indoor coverage within the target area, as well as the surrounding vicinity. Larger versions of these coverage maps are provided with this application.

Safety Benefits of Improved Wireless Service

Verizon offers its customers multiple services such as voice calls, text messaging, mobile email, picture/video messaging, mobile web, navigation, broadband access, and E911 services. Mobile phone use has become an extremely important tool for first responders and serves as a back-up system in the event of a natural disaster.

Public Benefits of Improved Wireless Service

Modern life has become increasingly dependent upon wireless communications. Wireless access is critical to many facets of everyday life, such as safety, recreation, and commerce. This site will allow current and future Verizon Wireless customers to have access to wireless services in the areas shown on the Coverage Plots included in this application. Additionally, this site will serve as a backup to the existing landline service in the area and will provide improved wireless communication, which is essential to first responders, community safety, local businesses, and area residents. As a backup system to traditional landline phone service, mobile phones have proven to be extremely important during natural disasters and other catastrophes.

Collocation Statement

TowerCo has designed this facility to be able to support the equipment for up to three additional carriers. Other carriers are welcome to collocate with TowerCo as there is both room on the tower and within the compound.

Operations & Maintenance

This proposed site is unmanned and requires no on-site personnel. Visitation to the site by a service technician for routine maintenance may occur up to once per month. The proposed site is entirely self-monitored and connected directly to a central office where sophisticated computers alert personnel to any equipment malfunction. Because the wireless facility is unmanned, there are no regular hours of operation and no impact to existing local traffic patterns. No water or sanitation services are required. The facility itself operates 24/7.

Emergency Stand-by Generator

Verizon Wireless installs a standby generator and batteries at all of its cell sites. The generator and batteries serve a vital role in Verizon Wireless' emergency and disaster preparedness plan. In the event of a power outage, Verizon Wireless' communications equipment will first transition over to the backup batteries. The batteries can run the site for approximately 8 hours, depending upon the demand placed upon the equipment. Should the power outage extend beyond the capacity of the batteries, the backup generator will automatically start and recharge the batteries. This two-stage backup plan is an extremely important component of every Verizon Wireless communications site. The standby generator is operated for approximately 10-15 minutes per week for maintenance purposes. During construction of the facility, which typically lasts around two months, acceptable noise levels will not be exceeded.

Lighting

Unless tower lighting is required by the Federal Aviation Administration (FAA), the only lighting on the facility will be shielded lights inside the lease area for safety.

Construction Schedule

The construction of the facility will be in compliance with all local rules and regulations. The crew size will range from two to ten individuals. The construction phase of the project will last approximately two months and will not exceed acceptable noise levels. The applicant will adhere to the Northern Spotted Owl schedule to meet any environmental requirements.

Compliance with FCC Standards

Verizon Wireless complies with all Federal Communications Commission (FCC) rules governing construction requirements, technical standards, interference protection, power and height limitations and radio frequency standards. A radio frequency (RF) report has been prepared by independent licensed engineering firm EBI Consulting, demonstrating that the Verizon facility has been designed to comply with FCC requirements. In addition, Verizon complies with all FAA rules on site location and operation.

Notice of Actions Affecting This Development Permit

In accordance with California Government Code Section 65945(a), TowerCo, LLC. And Verizon Wireless requests notice of any proposal to adopt or amend the: general plan, specific plan, zoning ordinance, ordinance(s) affecting building or grading permits that would in any manner affect this development permit. Any such notice may be sent to: Steve Proo , 2009 V Street, Sacramento, CA 95818.