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May 19, 2015

VIA EMAIL AND FEDEX

Chair Janet Wolf
Vice Chair Peter Adam
Supervisors Doreen Farr,
Salud Carbajal and Steve Lavagnino
Board of Supervisors
Santa Barbara County
105 East Anapamu Street
Santa Barbara, California 93109

Re: Verizon Wireless Application #14CUP-00000-00024
Telecommunications Facility, 1867 Mora Avenue, Santa Ynez
Board of Supervisors Agenda, June 2, 2015

Dear Chair Wolf, Vice Chair Adam and Supervisors:

We write on behalf of our client Verizon Wireless to ask that you follow the well-reasoned recommendation of planning staff, uphold the approval of the Planning Commission and deny the appeal filed by William and Gwendolyn Cates (“Appellants”) of Verizon Wireless’s proposed placement of a stealth treepole wireless facility in east Santa Ynez Valley (the “Approved Facility”). Verizon Wireless has worked diligently to identify a location and design that will serve east Santa Ynez Valley with the least impacts to the community. In all, a total of 15 alternate sites were reviewed. The preferred alternative involves placing nine antennas on a 50 foot stealth treepole designed to resemble a broadleaf tree.

As described below, the appeal must be rejected under federal law. Appellants’ primary objections are based upon the fear of radio frequency emissions which are preempted by federal law. Further, Verizon Wireless has provided uncontroverted substantial evidence that the Approved Facility fully complies with all requirements for approval under the Santa Barbara County Land Use & Development Code (the “Code”). In addition, it will provide needed improvements to Verizon Wireless network capacity in the area, and there is no less intrusive feasible alternative. For these reasons, denial of the application would violate the federal Telecommunications Act. We strongly encourage you to follow planning staff’s recommendation and affirm the Planning Commission’s carefully considered approval.

I. The Project

The Approved Facility has been thoughtfully designed to minimize aesthetic impact to nearby residents and the adjacent community. Verizon Wireless proposes to erect a 50 foot stealth treepole designed to resemble a broadleaf tree. Nine panel antennas will be mounted to the treepole at a height of 42 feet and faux tree branches projecting beyond and above the antennas will provide antenna screening. Radio equipment cabinets will be housed in a 194 square foot equipment shelter located next to the treepole, and a standby generator with a 132 gallon diesel tank will provide backup power in case of emergencies. Following the recommendation of the Central Board of Architectural Review (the "CBAR"), Verizon Wireless's entire facility will be enclosed within a hog wire fence with wooden posts, with a privet hedgerow screening the equipment area from the property to the north. The Approved Facility is set back over 560 feet from Mora Avenue to the east, and existing structures and landscape screen the equipment from view of any nearby roadway. A grove of taller mixed trees adjacent to the Approved Facility will screen the treepole from vantage points east and south, and provide a backdrop into which the treepole will blend when viewed from other directions. Photosimulations of the Approved Facility are attached as Exhibit A.

A report by Hammett & Edison, Inc., Consulting Engineers, dated May 8, 2015 (the "H&E Report"), attached as Exhibit B, confirms that radio-frequency ("RF") emissions from the facility will fully comply with Federal Communications Commission ("FCC") guidelines. A noise study conducted by Bollard & Associates dated July 30, 2014 (the "Bollard Report"), attached as Exhibit C, concludes that the Approved Facility will comply with the standards of the Santa Barbara County Comprehensive Plan Noise Element. The facility will not generate significant traffic. In short, the Approved Facility will not have significant adverse impacts of any kind.

II. The Approved Facility Fully Complies with All Code Requirements.

As confirmed in the Planning Commission Staff Report for the March 11, 2015 Planning Commission hearing, the Approved Facility meets all requirements for approval under the Code. The pertinent zone height limit is 35 feet, but the Planning Commission approved the 50-foot height of the treepole as that is allowed with a conditional use permit for a Tier 4 facility under Code § 35.44.010(B). With taller trees located adjacent to the proposed treepole and elsewhere in the vicinity, and ground equipment screened by existing structures and landscaping with new utilities conduit placed underground, the Approved Facility satisfies the standards and policies of the Santa Barbara County Comprehensive Plan and Santa Ynez Valley Community Plan regarding visual resources. As noted, the Approved Facility is consistent with Comprehensive Plan Noise Element. The Approved Facility allows for collocation by a future wireless carrier tenant per Code §§35.44.010(D)(2)(c) and 35.44.010(E)(3). The Approved Facility complies with all setback and access road requirements of the Code, and no trees or vegetation will be removed. Development Review Division staff found the Approved Facility to be exempt

from review under the California Environmental Quality Act as construction of a small structure (CEQA Guidelines §15303) and minor alteration of land (CEQA Guidelines §15304), and the Planning Commission affirmed these exemptions.

The CBAR conducted a site visit and also has reviewed the project at three meetings, considering various designs including a water tower. Ultimately, the CBAR determined that a for a facility of 50 feet—the height found necessary by Verizon Wireless radio frequency engineers to provide sufficient service to the Significant Gap—a treepole design was optimal from an aesthetic viewpoint. Verizon Wireless will incorporate faux bark into the design per the CBAR’s request, as well as recommended screening, landscaping and light shielding elements.

Verizon Wireless’s Approved Facility complies with all requirements of the Code, the Comprehensive Plan and Santa Ynez Valley Community Plan, and incorporates the recommendations of the CBAR.

III. Federal Law Compels Approval of the Approved Facility

Verizon Wireless is licensed by the FCC to provide wireless telecommunications services throughout the United States, including Santa Barbara County. The siting of wireless communications facilities (“WCFs”), including the one at issue here, is governed by federal law. While reserving to local jurisdictions control over the siting, placement and modification of WCFs, the federal Telecommunications Act (the “TCA”) places “certain limitations on localities’ control over the construction and modification of WCFs.” *Sprint PCS Assets, LLC v. City of Palos Verdes Estates*, 583 F.3d 716, 721 (9th Cir. 2009). Specifically, the TCA preserves local control over land use decisions, subject to the following explicit statutory restrictions:

- The local government must act on a permit application within a reasonable period of time (47 U.S.C. §332(c)(7)(B)(ii));
- Any denial of an application must be in writing and supported by substantial evidence contained in a written record (47 U.S.C. §332(c)(7)(B)(iii));
- The local government may *not* regulate the placement, construction, or modification of WCFs on the basis of the environmental effects of radio frequency emissions to the extent such facilities comply with the FCC’s regulations concerning such emissions (47 U.S.C. §332(c)(7)(B)(iv));
- The local government may not unreasonably discriminate among providers of functionally equivalent services (47 U.S.C. §332(c)(7)(B)(i)(I)); and

- The local government’s decision must not “prohibit or have the effect of prohibiting the provision of personal wireless services” (47 U.S.C. §332(c)(7)(B)(i)(II)).

With this legal framework in mind, we address below the specific federal law issues before the City Council with respect to this application.

IV. Substantial Evidence for Approval, Lack of Substantial Evidence for Denial

As interpreted under controlling federal court decisions, the “substantial evidence” requirement means that a local government’s decision to deny a WCF application must be “authorized by applicable local regulations and supported by a reasonable amount of evidence (i.e., more than a ‘scintilla’ but not necessarily a preponderance).” *Metro PCS, Inc. v. City and County of San Francisco*, 400 F.3d 715, 725 (9th Cir. 2005). In other words, a local government must have specific reasons that are both consistent with the local regulations and supported by substantial evidence in the record to deny a wireless facility permit.

While a local government may regulate the placement of WCFs based on aesthetics, it must have specific reasons that are both consistent with the local regulations and supported by substantial evidence in the record. Generalized concerns or opinions about aesthetics or compatibility with a neighborhood do not constitute substantial evidence upon which a local government could deny a permit. *See City of Rancho Palos Verdes v. Abrams*, 101 Cal. App. 4th 367, 381 (2002).

As set forth above, Verizon Wireless has provided substantial evidence to show that the Approved Facility complies with all requirements of the Code, Comprehensive Plan and Santa Ynez Valley Community Plan. Among other evidence, photosimulations demonstrate minimal aesthetic impacts. The H&E Report confirms that the Approved Facility will operate below the FCC’s exposure limits, and the Bollard Report confirms compliance with the Comprehensive Plan Noise Element. In contrast, Appellants have provided no evidence – let alone the substantial evidence required by federal law – to support denial of the Approved Facility.

V. Radio Frequency Emissions Comply with FCC Standards

Local governments are specifically precluded under the federal statute from considering any alleged health or environmental effects of RF emissions of proposed WCFs “to the extent such facilities comply with the FCC’s regulations concerning such emissions.” 47 U.S.C. §332(c)(7)(B)(iv). As set forth in the H&E Report referenced above, the Approved Facility fully complies with applicable FCC guidelines and will operate far below all applicable FCC public exposure limits. Indeed, the H&E Report calculates that the maximum exposure anywhere at ground level is a mere 1.3% of the applicable FCC public limit.

Moreover, federal preemption goes beyond decisions that are explicitly based on RF emissions. It also bars efforts to skirt such preemption through some proxy such as aesthetics or property values. *See, e.g., AT&T Wireless Servs. of Cal. LLC v. City of Carlsbad*, 308 F. Supp. 2d 1148, 1159 (S.D. Cal. 2003) (in light of federal preemption, “concern over the decrease in property values may not be considered as substantial evidence if the fear of property value depreciation is based on concern over the health effects caused by RF emissions”); *Calif. RSA No. 4, d/b/a Verizon Wireless v. Madera County*, 332 F. Supp. 2d 1291, 1311 (E.D. Cal. 2003) (“complaints about property values were really a proxy for concerns about possible environmental effects of RF [emissions], which cannot provide the basis to support a decision”). Where, as here, a WCF has been shown to fully comply with FCC guidelines, neither health concerns nor any proxy for health concerns can justify denial of the Approved Facility.

VI. Approval is Required in Order to Avoid Unlawful Prohibition of Service

A local government violates the “effective prohibition” clause of the TCA if it prevents a wireless provider from closing a “significant gap” in coverage by the least intrusive means. This issue involves a two-pronged analysis: (1) whether the provider has demonstrated the existence of a “significant gap” in service; and (2) whether the proposed facility is the “least intrusive means,” in relation to the land use values embodied in local regulations, to address the gap. *See T-Mobile USA, Inc. v. City of Anacortes*, 572 F.3d 987 (9th Cir. 2009); *see also T-Mobile West Corp. v. City of Agoura Hills*, 2010 U.S. Dist. LEXIS 134329 (C.D. Cal. 2010).

Recent case law has confirmed that inadequate network *capacity* to provide reliable wireless service may constitute a “significant gap” in coverage to the same extent as inadequate coverage. *See Nextel v. City of Mt. Vernon*, 361 F.Supp.2d 336 (S.D.N.Y. 2005) (summary judgment for wireless carrier on a claim of “prohibition of service” based on a demonstration of inadequate capacity).

If a provider demonstrates both the existence of a significant gap, and that the proposed facility meets the “least intrusive means” standard, the local government is *required* to approve the facility, even if there would otherwise be substantial evidence to deny the permit under local land use provisions. This is because the requirements for federal preemption have been satisfied; i.e., denial of the permit would “have the effect of prohibiting the provision of personal wireless services.” 47 U.S.C. §332(c)(7)(B)(1)(ii); *T-Mobile v. Anacortes*, 572 F.3d at 999. For the local jurisdiction to avoid such preemption, it must show that another alternative is available, that it is technologically feasible, and that it is “less intrusive” than the proposed facility. *T-Mobile v. Anacortes*, 572 F.3d at 998-999.

A. Verizon Wireless Has Demonstrated a Significant Gap in Service.

Verizon Wireless has documented the need for improved network capacity in east Santa Ynez Valley (the “Significant Gap”). The Significant Gap is fully documented in the Verizon Wireless Necessity Case of Radio Frequency Design Engineer Dewayne Bonham attached as Exhibit D (the “RF Engineer’s Statement”). The RF Engineer’s Statement explains that there is rapidly increasing usage of Verizon Wireless’s network in the east Santa Ynez Valley area and that the existing site providing wireless service to the area is already experiencing “cell exhaustion” resulting in call blocking, dropped calls and a lack of access to the network during periods of peak usage. This compromises the Verizon Wireless network in the east Santa Ynez Valley area until additional capacity is added. Earlier this year, Mr. Bonham was asked to meet with the Santa Barbara County Public Safety Dispatch Center to review deficiencies with Verizon Wireless service used by County first responders, particularly in the east Santa Ynez Valley area. The concerns of the Dispatch Center clearly confirm the Significant Gap in Verizon Wireless service.

Having established a Significant Gap in coverage, Verizon Wireless has met the first prong of the two-part test required to presumptively establish a prohibition of service under federal law.

B. The Alternatives Analysis Confirms that the Approved Facility is the Least Intrusive Means to Fill the Identified Significant Gap in Verizon Wireless Service.

In an effort to fill the identified Significant Gap, Verizon Wireless evaluated a total of 15 locations as shown in the comprehensive Alternatives Analysis attached as Exhibit E. The result of this analysis is that the Approved Facility’s location – the most preferred under the Code – is the least intrusive means of providing wireless service to the identified coverage gap.

When comparing the Approved Facility to other potential alternatives, it is important to note that federal law does not require that a site be the “only” alternative, but rather that no feasible alternative is less intrusive than the Approved Facility. *MetroPCS v. San Francisco*, 400 F.3d at 734-35. In this case, as explained in the Alternatives Analysis, there is no feasible location that would be less intrusive than the Approved Facility.

In short, Verizon Wireless has identified a significant gap in coverage and has shown that the Approved Facility is the least intrusive means to address it, based on the values expressed in the Code. Under these circumstances, Verizon Wireless has established the requirements for federal preemption such that denial of the permit would constitute an unlawful prohibition of service.

VII. Response to Appeal

Appellants raise several grounds for appeal, none of which present the substantial evidence required under federal law to warrant denial of Verizon Wireless's application.

1. Verizon Wireless Provided Ample Accurate Evidence to Warrant Approval by the Planning Commission.

Appellants charge that Verizon Wireless's presentation to the Planning Commission on March 11, 2015 was rushed and did not address concerns that they raise in their subsequent appeal. As detailed in the thorough Staff Report provided to Planning Commissioners before the hearing, which was based on evidence provided to staff well in advance, the Approved Facility complies with the Code, Comprehensive Plan and Santa Ynez Valley Community Plan.

Whereas Appellants—whose property is over one-quarter mile north of the Approved Facility—refer to larger parcels in the vicinity as more appropriate site alternatives, the depth of the rectangular five-acre parcel of the Approved Facility allows the facility to be set back over 560 feet from the nearest public roadway, Mora Avenue to the east. The Approved facility is also set back over 800 feet from the next nearest public roadway, Baseline Avenue to the south, and numerous structures, dense trees and landscaping help screen the facility from those roadways.

Following the recommendation of the CBAR, Verizon Wireless designed its treepole to resemble a broadleaf tree, and it will be placed near a grove of nearby trees of mixed varieties and greater heights. These design and location choices will prevent the treepole from intruding into the skyline when viewed from public viewing places, as required by the Comprehensive Plan, and will minimize impacts to views from public roadways and viewpoints in accordance with the Santa Ynez Valley Community Plan. The stealth effect of the treepole camouflage and placement is demonstrated in the photosimulations reviewed by the Planning Commissioners. Appellants claim that nearby deciduous trees will not screen Verizon Wireless's treepole in winter (though only certain of those trees are leafless for a few months each year). In addition, both the CBAR and the Planning Commission preferred a treepole design. Indeed, the Planning Commission explicitly specified a broadleaf tree design. As directed by the Planning Commission in their modification of Condition of Approval 3, Verizon Wireless will return to the CBAR for final approval. The CBAR will conduct field matching of colors and materials "to ensure their compatibility with the surrounding area."¹

Appellants' concerns for raptors, orioles, owls, coyotes, horses, frogs and wetlands are unsubstantiated, and the Planning Commission Staff Report addressed the consistency of Verizon Wireless's proposal with the Santa Ynez Valley Community Plan

¹ See Planning Commission memo to Verizon Wireless, March 18, 2015, pp. 2-3.

policies regarding biological resources and with the Comprehensive Plan Noise Element. As referenced below, Appellants' concerns are mere proxies for fears regarding the health effects of RF emission that are pre-empted by federal law and cannot be grounds for denial of the Approved Facility.

2. The Approved Facility Is the Least Intrusive Alternative Under the Values Expressed in the Code.

Appellants attempt to discredit Verizon Wireless's site selection process and propose several unworkable alternate locations for the Approved Facility, including Camp 4 and Casey Avenue as well as locations west of Highway 154, specifically the Santa Ynez Airport and Chumash Casino Resort. As described in Verizon Wireless's Alternatives Analysis, Verizon Wireless investigated 15 locations, including all locations raised by Appellants. Each feasible alternative was evaluated with respect to the preferences identified by Santa Barbara County in the Code to identify the least intrusive feasible alternative based upon those preferences. In each case, Verizon Wireless balanced the feasibility of the alternative with the anticipated RF propagation required to serve the Significant Gap. The Approved Facility is the only location that provides sufficient radio frequency propagation through the least intrusive feasible means. Appellants' assertion that Verizon Wireless failed to adequately evaluate alternative locations is simply in error.

3. Verizon Wireless's Approved Facility Is Allowed under the Code Chapter Regulating Telecommunications Facilities.

Appellants' comparison of the Approved Facility parcel to parcels found to be unavailable in the Rancho Estates subdivision fails to consider that the Rancho Estates is subject to restrictive covenants recorded against its parcels which forbid commercial activities and would preclude a commercial wireless facility. The Approved Facility parcel is not encumbered by any such restrictions, and under Code Chapter 35.44, *Telecommunications Facilities*, it is allowed upon approval of a conditional use permit which was the action of the Planning Commission. Appellants suggested locations west of Highway 154, specifically, the Santa Ynez Airport and Chumash Casino Resort 2.3 miles distant from the Approved Facility. As referenced in the Alternatives Analysis, the airport and casino are far west of Verizon Wireless's service objective, and indeed Verizon Wireless already operates a facility that is located 0.1 miles north of the airport and 0.25 miles northeast of the casino. Accordingly, Verizon Wireless did not pursue these locations as part of its Alternatives Analysis. As referenced above, Verizon Wireless conducted an exhaustive review of available alternatives described in the Alternatives Analysis with the conclusion that the Approved Facility is the least intrusive for providing service to the identified Significant Gap.

4. Treepole Height Is Required for Radio Frequency Propagation.

Appellants allege that Verizon Wireless desires a 50 foot treepole only to leave room for other carriers underneath its antennas. While the Code does direct wireless carriers to avail their facilities to other carriers (and specifies certain parameters for allowing collocation such as equitable cost basis), the 50 foot height was determined by Verizon Wireless radio frequency engineers to be the minimum height that can achieve sufficient radio frequency propagation to provide necessary enhancements to network capacity in the area. The height limit for wireless facilities under the Code is 100 feet in the inland area; however, Verizon Wireless recognizes that the necessary height of 50 feet minimizes visual impacts.

5. Concerns over Radio Frequency Emissions and Decrease in Property Values are Pre-empted by Federal Law.

As noted above, concerns over the decrease in property value from a new wireless facility are generally a proxy for fear of radio frequency emissions which are pre-empted from consideration by the County under 47 U.S.C. §332(c)(7)(B)(iv). Appellants' claim that aesthetic impacts from the Approved Facility will depreciate property values is similarly negated by Planning Commission Finding 2.1.7 that the Approved Facility will be compatible with and subordinate to the rural and scenic character of the area, and by special telecommunication facility findings. These include Finding 2.2.1, that the Approved Facility is compatible with surrounding development; Finding 2.2.2, that it is located to minimize visibility from public view; and Finding 2.2.3, that it blends into the surrounding environment. Appellants present no evidence that the Approved Facility will cause any depreciation in property values, because there is none.

6. The Approved Facility Fully Complies with County Noise Requirements.

Appellants raise concerns over potential noise generated by the Approved Facility and attempt to discredit data provided regarding noise. The Bollard Report referenced above was commissioned by Verizon Wireless for submittal to the County and was conducted by an independent expert. The Bollard Report evaluated noise levels anticipated from HVAC units and also from the generator, which is operational only during emergencies and during brief testing.² The report concluded that noise levels will comply with County standards contained in the Comprehensive Plan Noise Element. As further assurance that the facility will operate well within noise limits, Verizon Wireless will install acoustical fencing inside the north-facing fence in accordance with Condition of Approval 36 added by the Planning Commission.³

² Testing generally occurs once per week during the middle of the day.

³ Planning Commission memo at 3-4.

Despite raising numerous arguments, Appellants provide no evidence, let alone the substantial evidence required under federal law for denial of a wireless facility. In contrast, Verizon Wireless has provided ample evidence to support denial of the appeal and upholding the Planning Commission approval.

Conclusion

Verizon Wireless has worked diligently over the last several years to identify the ideal location and design for a facility to serve east Santa Ynez Valley. The resulting Approved Facility represents the least intrusive means to address the gap in network capacity. Bringing Verizon Wireless service to this area is essential to the health, safety, and welfare of residents, travelers, and emergency services providers in the surrounding community. We strongly encourage you to follow the recommendations of planning staff, affirm the Planning Commission approval, and deny the appeal.

Very truly yours,

A handwritten signature in black ink, appearing to read "Paul Albritton", written in a cursive style.

Paul B. Albritton

cc: Joyce Gerber
Michael Ghizzoni, Esq.

Schedule of Exhibits

- Exhibit A: Photosimulations
- Exhibit B: H&E Report
- Exhibit C: Bollard Report
- Exhibit D: Statement of Verizon Wireless RF Engineer Dewayne Bonham
- Exhibit E: Alternatives Analysis



EAST SANTA YNEZ VALLEY

1867 MORA AVENUE SANTA YNEZ, CA 93460



VIEW 1



LOCATION

©2014 Google Maps



EXISTING



PROPOSED

LOOKING SOUTHWEST FROM MORA AVENUE

ACCURACY OF PHOTO SIMULATION BASED UPON INFORMATION PROVIDED BY PROJECT APPLICANT.

Exhibit A



EAST SANTA YNEZ VALLEY

1867 MORA AVENUE SANTA YNEZ, CA 93460



VIEW 2



LOCATION

©2014 Google Maps



EXISTING



PROPOSED

LOOKING NORTHEAST FROM BASELINE AVENUE

ACCURACY OF PHOTO SIMULATION BASED UPON INFORMATION PROVIDED BY PROJECT APPLICANT.



EAST SANTA YNEZ VALLEY

1867 MORA AVENUE SANTA YNEZ, CA 93460



VIEW 3



LOCATION

©2014 Google Maps



EXISTING



PROPOSED

LOOKING NORTHWEST FROM BASELINE AVENUE

ACCURACY OF PHOTO SIMULATION BASED UPON INFORMATION PROVIDED BY PROJECT APPLICANT.



EAST SANTA YNEZ VALLEY

1867 MORA AVENUE SANTA YNEZ, CA 93460



VIEW 4



LOCATION

©2014 Google Maps



EXISTING



PROPOSED

LOOKING NORTHWEST FROM MORA AVENUE

ACCURACY OF PHOTO SIMULATION BASED UPON INFORMATION PROVIDED BY PROJECT APPLICANT.

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 276849 “East Santa Ynez Valley”) proposed to be located at 1867 Mora Avenue in Santa Ynez, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas on a tall pole, configured to resemble a broadleaf tree, to be located at 1867 Mora Avenue in Santa Ynez. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. A summary of the FCC’s exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm ²	1.00 mW/cm ²
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky.



**Verizon Wireless • Proposed Base Station (Site No. 276849 “East Santa Ynez Valley”)
1867 Mora Avenue • Santa Ynez, California**

Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, “Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation,” dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna’s radiation pattern is not fully formed at locations very close by (the “near-field” effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the “inverse square law”). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Verizon, including zoning drawings by MST Architects, Inc., dated March 6, 2015, it is proposed to install nine Andrew directional panel antennas – three Model LNX-6514DS-A1M and six Model HBXX-6517DS-VTM – on a new 50-foot pole, configured to resemble a broadleaf tree, to be sited near the northwest corner of the property located at 1867 Mora Avenue in Santa Ynez. The antennas would employ no downtilt, would be mounted at an effective height of about 42 feet above ground, and would be oriented in groups of three toward 90°T, 210°T, and 330°T, to provide service in all directions. The maximum effective radiated power in any direction would be 12,000 watts, representing simultaneous operation at 4,950 watts for AWS, 4,510 watts for PCS, and 2,540 watts for 700 MHz service; no operation on cellular frequencies is presently proposed from this site. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.012 mW/cm², which is 1.3% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any nearby building* is 1.2% of the public exposure limit. It should be noted that these results include several “worst-case” assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

* Located at least 170 feet away, based on photographs from Google Maps.



**Verizon Wireless • Proposed Base Station (Site No. 276849 “East Santa Ynez Valley”)
1867 Mora Avenue • Santa Ynez, California**

No Recommended Mitigation Measures

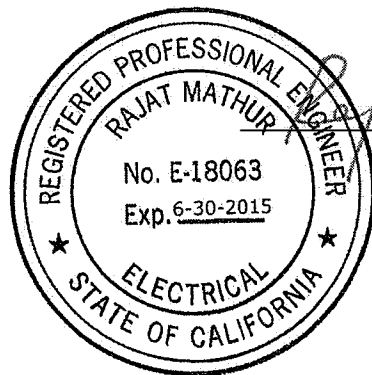
Due to their mounting locations and height, the Verizon antennas would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that Verizon will, as an FCC licensee, take adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned’s professional opinion that operation of the base station proposed by Verizon Wireless at 1867 Mora Avenue in Santa Ynez, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-18063, which expires on June 30, 2015. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.



Rajat Mathur
Rajat Mathur, P.E.
707/996-5200

May 8, 2015

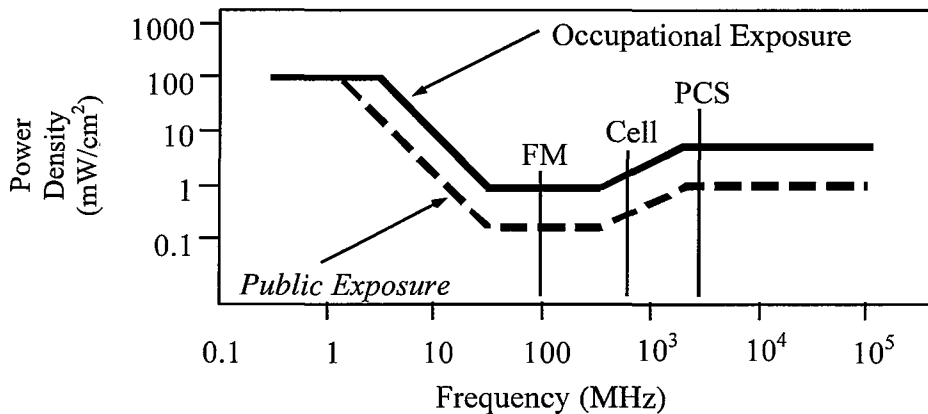


FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements (“NCRP”). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, “Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency Applicable Range (MHz)	Electromagnetic Fields (f is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.



RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm²,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm²,

where θ_{BW} = half-power beamwidth of the antenna, in degrees, and

P_{net} = net power input to the antenna, in watts,

D = distance from antenna, in meters,

h = aperture height of the antenna, in meters, and

η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm²,

where ERP = total ERP (all polarizations), in kilowatts,

RFF = relative field factor at the direction to the actual point of calculation, and

D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.



Environmental Noise Analysis

East Santa Ynez Valley Cell Site

Santa Barbara County, California

BAC Job # 2014-180

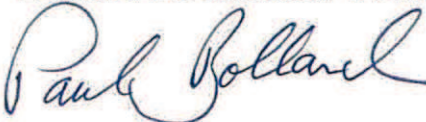
Prepared For:

Complete Wireless Consulting

Attn: Ms. Marnie Carter
2009 V Street
Sacramento, CA. 95818

Prepared By:

Bollard Acoustical Consultants, Inc.



Paul Bollard, President

July 30, 2014



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S.B. COUNTY (NORTH)
PLANNING & DEVELOPMENT

Introduction

The East Santa Ynez Valley Verizon Wireless Unmanned Telecommunications Facility Project (project) proposes the construction of a faux broadleaf tree, the installation of a pre-fabricated cellular equipment shelter, and the installation of an emergency diesel standby generator, all within a lease area located at 1867 Mora Avenue, Santa Ynez (Santa Barbara County), California. The equipment shelter external HVAC units and the emergency diesel standby generator have been identified as primary noise sources associated with the project. Please see Figure 1 for the general site location. The studied site design is dated July 3, 2014.

Bollard Acoustical Consultants, Inc. has been contracted by Complete Wireless Consulting, Inc. to complete an environmental noise assessment regarding the proposed project cellular equipment operations. Specifically, the following addresses daily noise production and exposure associated with operation of the project emergency generator and external HVAC equipment.

Please refer to Appendix A for definitions of acoustical terminology used in this report.

Criteria for Acceptable Noise Exposure

Santa Barbara County General Plan

Santa Barbara County has adopted a Noise Element as part of the General Plan. The guidelines contained in the Noise Element of the Santa Barbara County General Plan state that exterior and interior noise environments of 65 dB and 45 dB L_{dn}, respectively, are considered satisfactory for residential uses.

Figure 1
East Santa Ynez Valley Cell Tower Site - Santa Barbara County, California
Project Area and Nearest Noise-Sensitive Receivers



Legend

- Nearest Noise-Sensitive Receivers (triangle with #)
- Proposed Wireless Facility (red line)

BOLLARD
Acoustical Consultants

Scale (feet)

0 100 200



Project Noise Generation

Sources and Reference Noise Levels

Noise exposure from the proposed project HVAC units is expected to be approximately 67 dB (L_{eq}) at a distance of 10 feet from the equipment. This reference noise level of 67 dB at 10 feet is based on a Bard WA3S1 Wall-Mount Step Capacity Air Conditioner, which is reportedly similar to the type of equipment being proposed at the project site.

The generator which is proposed at this site would only operate during emergencies (power outages) and brief daytime periods for periodic maintenance/lubrication. A Generac Industrial Power Systems Model SD030 is proposed for use at this facility to maintain cellular service during emergency power outages. The noise emissions of this generator vary depending on the type of enclosure provided with the generator. The following reference noise levels at a measurement distance of 23 feet from the operating generator are provided by the equipment manufacturer (see Appendix B):

- Open Set 82 dBA
- Standard Enclosure 77 dBA
- Level 1 Acoustic Enclosure 70 dBA
- Level 2 Acoustic Enclosure 68 dBA

The project emergency generator would be tested during daytime hours only, and even then only for brief periods of time. The emergency generator would only operate at night during power outages. It is expected that nighttime operation of the project emergency generator would be exempt from the County's exterior noise exposure criteria due to the need for continuous cellular service provided by the project equipment.

Predicted Facility Noise Levels at Nearby Sensitive Receptors

As indicated in Figure 1, the project equipment maintain a separation of 190-350 feet from the noise-sensitive land uses identified as receivers 1-4. To predict cellular facility noise emissions relative to the Noise Element 65 dB L_{dn} exterior noise standard at those nearest residences, the number of hours per day the equipment would be in operation must be known. For the purpose of this analysis, the HVAC units were conservatively assumed to be operating continuously for 24 hours. The proposed generator was conservatively assumed to be operating continuously for a one-hour period during daytime hours for routine maintenance. In addition, the generator was assumed to be equipped with the standard enclosure resulting in a reference noise level of 77 dB at 23 feet.

Assuming standard spherical spreading loss (-6 dB per doubling of distance), project-equipment noise exposure at the closest receivers was calculated and the results of those calculations are presented in Table 1.

Table 1
Summary of Project-Related Noise Exposure at Nearest Residences
East Santa Ynez Valley Verizon Wireless Telecommunications Facility Project

Nearest Receiver ¹	Distance from Cellular Equipment (feet)	Predicted Exterior Noise Levels, L _{dn} (dBA)		
		HVAC ²	Generator ^{3,4}	Combined
1	270	45	42	47
2	290	44	41	46
3	350	43	40	44
4	190	48	45	50

Notes:

1. Receiver locations can be seen in Figure 1.
2. HVAC L_{dn} was calculated by conservatively assuming 24 continuous hours of operation.
3. Generator L_{dn} was calculated by conservatively assuming 1 hour of continuous operation (testing and maintenance) during daytime hours.
4. Standard Enclosure generator noise levels were utilized for this analysis (77 dB at 23 feet).

The Table 1 analysis results indicate the combined project L_{dn} values of 44-50 dB L_{dn} would satisfy the County's 65 dB L_{dn} noise level standard. As a result, no additional noise mitigation measures would be warranted for these aspects of the project.

Conclusions

Based on the equipment noise level data and analyses presented above, project-related equipment noise exposure is expected to satisfy the applicable Santa Barbara County noise exposure limits at the closest noise-sensitive receiver locations. As a result, no additional noise mitigation measures would be warranted for this project.

This concludes our environmental noise assessment for the proposed East Santa Ynez Valley Cell Tower Site in Santa Barbara County, California. Please contact BAC at (916) 663-0500 or paulb@bacnoise.com with any questions or requests for additional information.

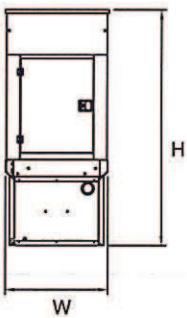
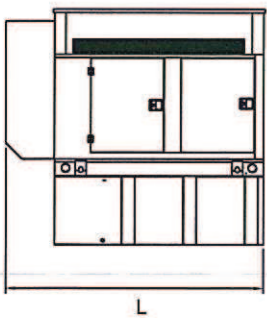
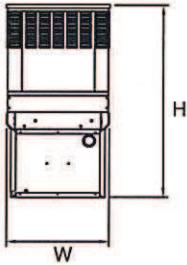
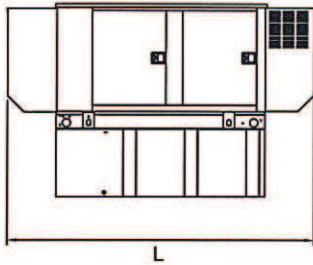
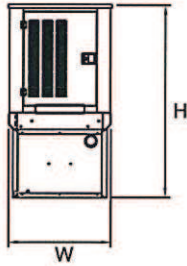
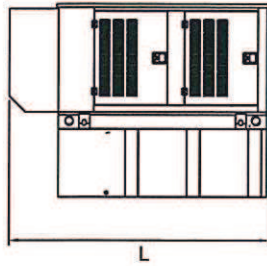
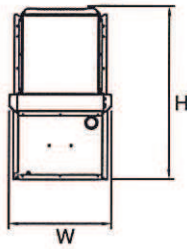
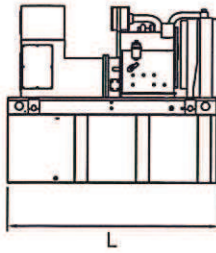
Appendix A Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Masking	The amount (or the process) by which the threshold of audibility for one sound is raised by the presence of another (masking) sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level.
RT₆₀	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.



SD030

dimensions, weights and sound levels



OPEN SET

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBa*
NO TANK	-	76	38	46	2060	82
20	54	76	38	59	2540	
48	132	76	38	71	2770	
77	211	76	38	83	2979	
109	300	93	38	87	3042	

STANDARD ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBa*
NO TANK	-	95	38	50	2362	77
20	54	95	38	63	2842	
48	132	95	38	75	3072	
77	211	95	38	87	3281	
109	300	95	38	91	3344	

LEVEL 1 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBa*
NO TANK	-	113	38	50	2515	70
20	54	113	38	63	2995	
48	132	113	38	75	3225	
77	211	113	38	87	3434	
109	300	113	38	91	3497	

LEVEL 2 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)	L	W	H	WT	dBa*
NO TANK	-	95	38	62	2520	68
20	54	95	38	75	3000	
48	132	95	38	87	3230	
77	211	95	38	99	3439	
109	300	95	38	103	3502	

*All measurements are approximate and for estimation purposes only. Weights are without fuel in tank. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

Tank Options

- MDEQ OPT
- Florida DERM/DEP OPT
- Chicago Fire Code OPT
- IFC Certification CALL
- ULC CALL

Other Custom Options Available from your Generac Industrial Power Dealer

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.



Verizon Wireless Cell Site Necessity Case – East Santa Ynez Valley

Prepared by Verizon Wireless
RF Engineering
Dewayne Bonham

Exhibit D



Introduction:

There are two main drivers that prompt the creation of a cell site project, coverage and/or capacity. Most sites provide a mixture of both, but increasingly some sites are pure capacity.

Coverage is the need for expanded service often requested by our customers or emergency services personnel. While this initially meant providing coverage in vehicles, as usage patterns have shifted this now means improving coverage inside of buildings and in residential areas.

Capacity is the need for more bandwidth of service. In the simplest form this means a cell site can handle a limited number of voice calls, data mega bites, or total number of active users. When any one of these limits are met the user experience within the coverage area of that cell quickly starts to degrade during the busier hours of use.



Coverage is best shown in coverage maps. We use tools that take into account terrain, vegetation, building types, and cell site specifics to show predictions of the existing coverage and what we expect to see with a given cell site. The prediction models make some assumptions such as that the antennas are above the nearby ground clutter (Buildings and vegetation). Once the antennas fall below the ground clutter the models become inaccurate and cannot tell that specific trees or buildings are blocking the RF signal. Due to this, modeling of tower height requirements is frequently not accurate and misleading.



Capacity is best shown in graphs of usage growth and projected exhaustion. We utilize sophisticated programs to model current usage growth and project it into the future to determine when additional capacity will be required. The algorithms that predict capacity growth output numbers that are not easily explained. Since it takes 2-3 years on average to complete a cell site project, we have to be looking about 3 years into the future to meet future customer demand.

While data capacity may not seem urgent, beginning in 2014 voice traffic will begin to migrate from the older 3G voice technology to 4G VoLTE (Voice over IP). This will add additional load to the 4G data network. Since voice is delay sensitive, exhaustion of the data network can cause degradation of voice calls including 911 calls.



“Why do you need a site here???”

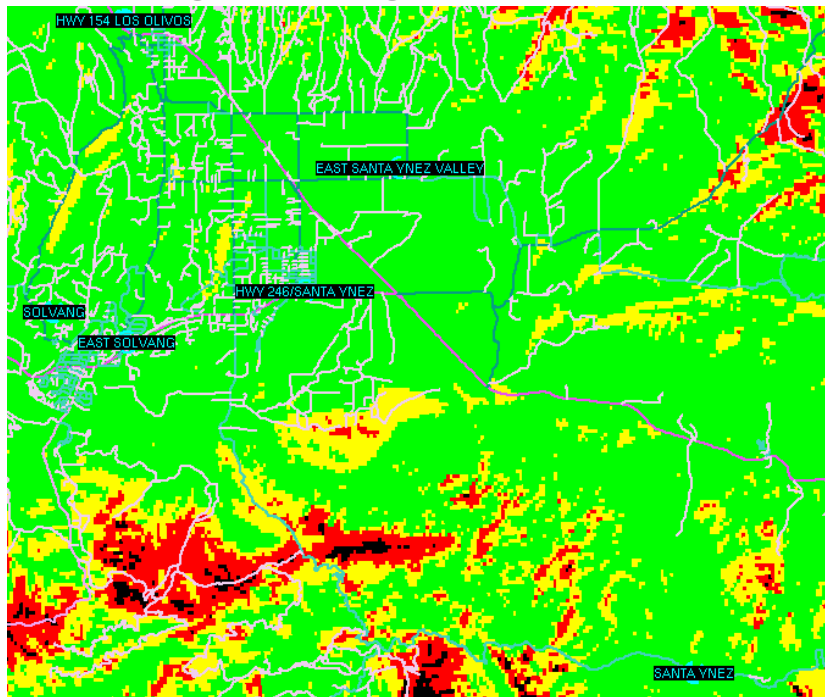
A good capacity cell will be close to the user population and have the traffic evenly spread around the site. When we cannot get a location that accomplishes being close to the customers and central to the usage, we end up having to build additional cells to meet the demands for service. Capacity sites are generally lower in height than a coverage site with a full cell needing to be above the ground clutter (buildings, trees, & etc.) and a small cell being one that is at or below the ground clutter.

Where our customers use their wireless devices continues to evolve. While we once needed to cover highways and business districts, we are seeing increasing issues with high growth in residential areas. Current statistics show that about 1 of 3 American households no longer have a landline phone. To serve this need we have to increase the cells we have in or very near residential areas.

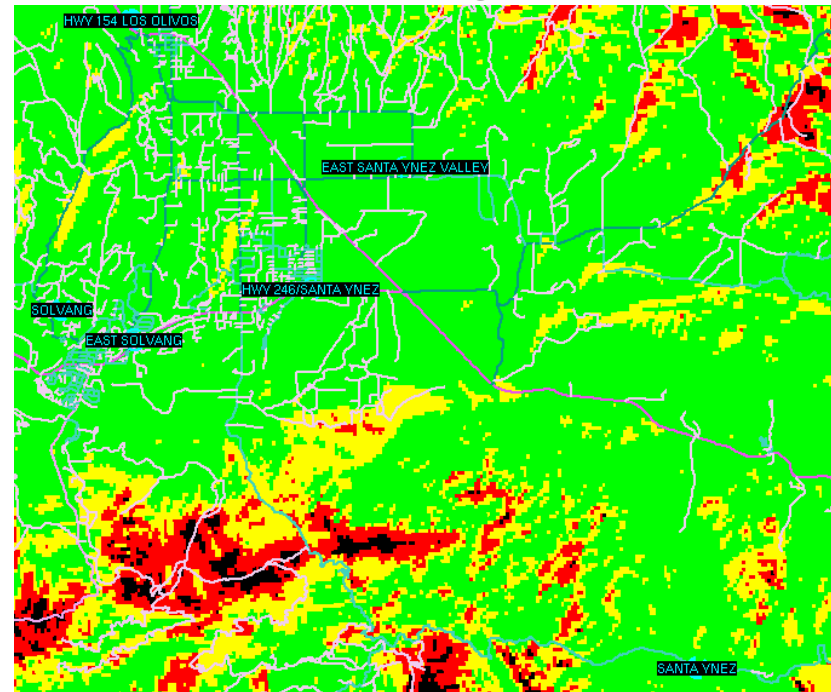


Need Case for: East Santa Ynez Valley

Existing Coverage



Proposed Coverage



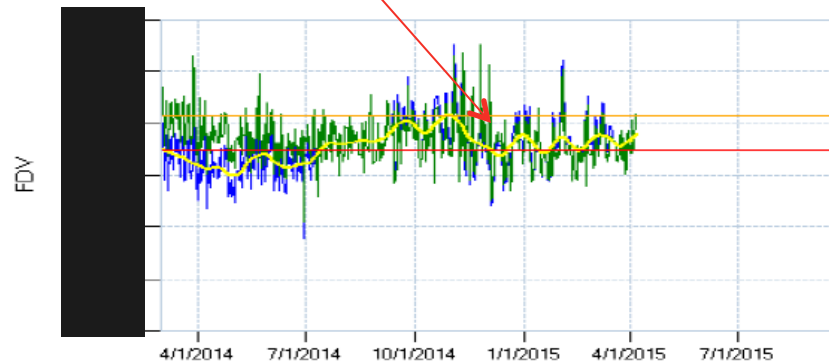
The proposed East Santa Ynez Valley site is a capacity site which will add needed capacity to support the residential areas of the eastern Santa Ynez Valley. The primary objective of this site is to support the rapid growth in residential 4G data use we are seeing in this community.

Green=Good In-Building, **Yellow**= Good In-Vehicle, **Red**=Good on-Street.



Need Case for: East Santa Ynez Valley

The green line shows FDV (Forward Data Volume). Red line is the threshold where significant service degradation is seen. The yellow line is the trend.



Summary: The existing Santa Ynez site cannot support the volume of data traffic in the large area of Santa Ynez Valley it covers. This is a mountain top “voice coverage” site we attempted to use to provide data services however the site quickly exhausted.

Detail below.

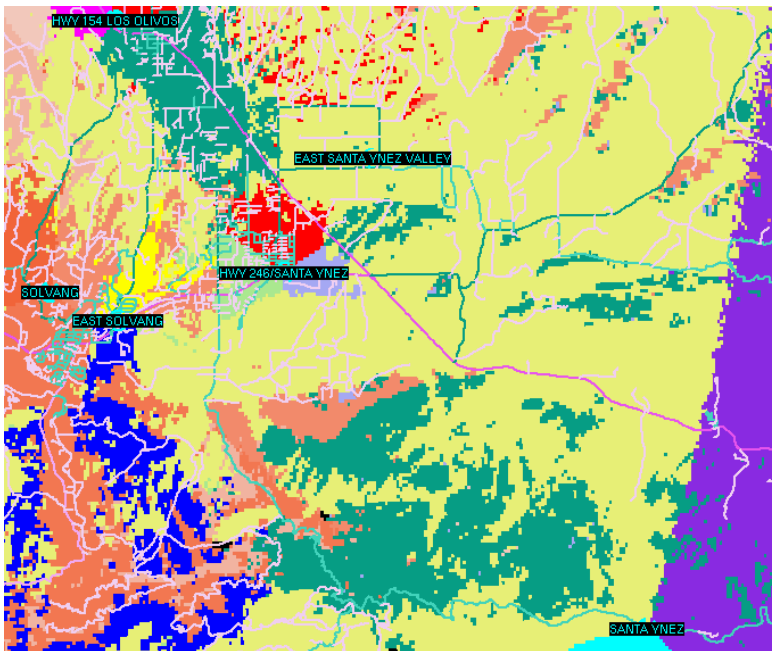
The graph above shows FDV (Forward Data Volume). FDV is the total MB of data flowing through the cell it can rise just above the red line then reaches a limit and data delivery is delayed. With voice traffic transitioning from the old 3G technology to the new 4G technology we will see further increases in 4G traffic. Since the 4G network will be carrying 911 calls and is used extensively in support of police and fire emergency response it is critical that we do not allow service quality to degrade. We have already been called before the Santa Barbara emergency dispatch to explain how we plan to address the failure of data service in areas of Santa Barbara County. The Santa Ynez Valley was one of their key complaints as they are already having issues due to the capacity limitations in this area.

To aid in resolving this, we propose to add a 3 sector cell site as proposed in Santa Ynez Valley to remove this area from the existing high site and improve data service in this portion of the community.

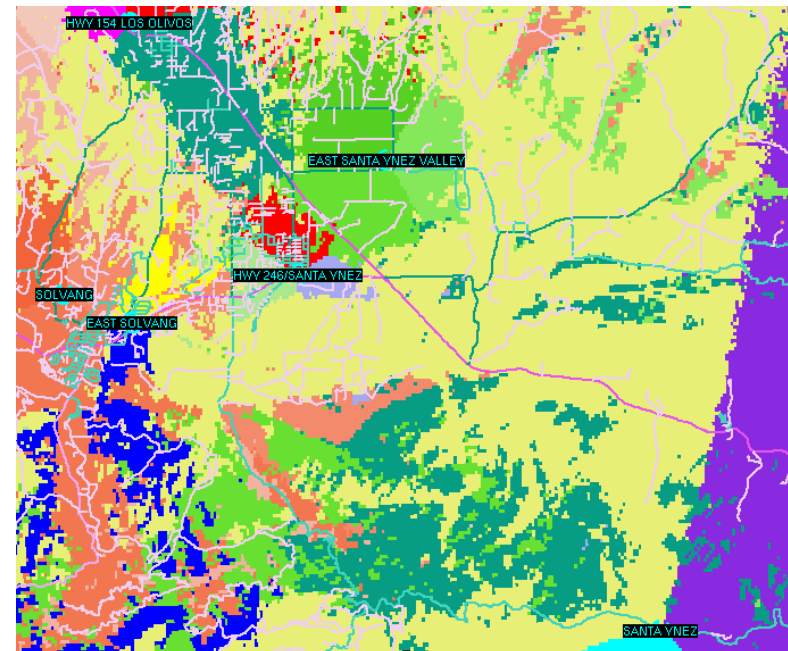


Need Case for: East Santa Ynez Valley

Best Server without East Santa Ynez Valley



Best Server with East Santa Ynez Valley



The plots above show the best server or sectors that cover this area. The light yellow area is covered by the mountain top Santa Ynez site. This 4200' elevation site is in complete overload. This project will improve service by offloading residential traffic onto a new cell which will improve data service for the users within this new sites footprint.

Alternatives Analysis

Verizon Wireless
East Santa Ynez Valley



1867 Mora Avenue, Santa Ynez

May 19, 2015

**Summary of Site Evaluations
Conducted by Complete Wireless Consulting
Compiled by Mackenzie & Albritton LLP**

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Map of Alternatives

I. Executive Summary

Verizon Wireless has identified a significant gap in network service in east Santa Ynez Valley in unincorporated Santa Barbara County. Based on a review of 15 site alternatives as set forth in the following analysis, Verizon Wireless believes that placement of a 50 foot monopole facility disguised as a broadleaf tree on a five acre parcel distant from residences (the “Proposed Facility”) constitutes the least intrusive alternative for providing Verizon Wireless service to the identified gap based on the values expressed in the Santa Barbara County Land Use & Development Code (the “Code”).

II. Significant Gap

The significant gap in Verizon Wireless network capacity in the vicinity of east Santa Ynez Valley. The accelerating increase in the use of voice and data wireless services has led to capacity exhaustion of the existing Verizon Wireless network in the area, compromising network accessibility, reliability and data speeds. The antenna sector of the existing Verizon Wireless facility serving the area, located nearly eight miles to the southeast, has reached capacity exhaustion, and Verizon Wireless must place an additional facility in the vicinity of east Santa Ynez Valley in order to provide reliable voice and data services to the area. The identified “significant gap” in network capacity is more fully described in the Verizon Wireless Necessity Case of Radio Frequency Engineer Dewayne Bonham (the “Significant Gap”).

III. Methodology

Once a significant gap has been determined, Verizon Wireless seeks to identify a location and design that will provide required coverage and capacity through the “least intrusive means” based upon the values expressed by local regulation. In addition to seeking the “least intrusive” alternative, sites proposed by Verizon Wireless must be feasible. In this regard, Verizon Wireless reviews the radio frequency propagation, elevation, height of any existing structures, available electrical and telephone utilities, access, and other critical factors such as a willing landlord in completing its site analysis. Wherever feasible, Verizon Wireless seeks to identify opportunities that allow placement of camouflaged or stealth wireless facilities to minimize visual impacts to surrounding properties.

The Code establishes the priority for wireless facility design and location in unincorporated Santa Barbara County. Under the Code development standards, collocation on existing structures is required where available with only certain exceptions. See Code §35.44.010(D)(2)(c). A conditional use permit is required to place new facilities in non-residential zones, except where collocated, or where height limits and a 300 foot residential setback are met. See generally Code §35.44.010(C) and Table 4-16. Additional development standards clearly favor sites that do not disrupt scenic view corridors and that minimize aesthetic impacts through screening, camouflage and landscaping. See generally Code §35.44.010(D). The code encourages wireless providers to allow for future collocation by other providers. §§35.44.010(D)(2)(c), 35.44.010(E)(3).

IV. Analysis

Verizon Wireless first investigated collocation opportunities on other existing telecommunication sites and facilities in the east Santa Ynez Valley area, but identified no facilities in the vicinity. Verizon Wireless next sought locations where a new freestanding facility could be placed with issuance of a conditional use permit from the County. Verizon Wireless RF engineers discounted a number of locations based on insufficient radio frequency propagation, but strongly favored one location which provides excellent radio frequency propagation with minimal aesthetic impacts.

In their appeal, appellants of the Proposed Facility suggested locations west of Highway 154, specifically the Santa Ynez Airport and Chumash Casino Resort 2.3 miles distant from the Proposed Facility. The airport and casino are far west of Verizon Wireless's service objective, and in fact, Verizon Wireless already operates a facility that is located 0.1 miles north of the airport and 0.25 miles northeast of the casino. Accordingly, Verizon Wireless did not pursue these locations as part of this Alternatives Analysis.

The results of this analysis are as follows:

1. Merchant Property (Proposed Facility)

Address: 1867 Mora Avenue

Elevation: 710 feet

Zoning: AG



Verizon Wireless proposed to place a 50 foot tall treepole facility, disguised as a broadleaf tree, at the rear of this nearly five acre parcel which supports a horse corral and a residence. A grove of mixed taller trees immediately adjacent to the treepole will provide screening when viewed from various vantage points. The treepole will be placed between a 190 square foot equipment shelter and a backup generator to provide power in case of emergencies, and these will be surrounded by a hog wire fence with wooden posts. Screened by existing structures and landscape elements, and set back over 560 feet from Mora Avenue, the Proposed Facility will not be visible from any nearby roadways. Verizon Wireless followed the recommendations of the Central Board of Architectural Review in incorporating a row of privet hedgerow next to the equipment area to screen it from the neighboring property to the north. Per the Code's direction, Verizon Wireless's treepole will allow for collocation of additional wireless carrier antennas. This location is of sufficient distance from topographic obstructions that could impede radio frequency signal propagation, and is situated in a location that allows for service including areas north and east. The Proposed Facility provides excellent radio frequency propagation that will provide needed network capacity relief to the Verizon Wireless network. This is Verizon Wireless's preferred location for placement of a wireless facility to serve the Significant Gap.

- 2. Segal Family Trust Property**
Address: 1880 Mora Avenue
Elevation: 710 feet
Zoning: AG



Verizon Wireless investigated this 26 acre parcel located 0.1 miles east of the Proposed Facility across Mora Avenue. An 80-foot topographic rise begins just east of this location. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would not be as effective in propagating signal to the east as the Proposed Facility, due to the topographic rise.

Additionally, a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent a wireless facility from adequately serving those areas.

Verizon Wireless approached the property owner to discuss a lease, but having reached an impasse on lease terms, Verizon Wireless was unable to successfully conclude negotiations of a lease agreement. With neither the ability to fully serve the Significant Gap nor a willing landlord, this is not a feasible location for Verizon Wireless's facility.

- 3. Grossman Property**
Address: 1940 Mora Avenue
Elevation: 720 feet
Zoning: AG



Verizon Wireless investigated this 28 acre parcel located 0.25 miles northeast of the Proposed Facility. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent it from adequately serving those areas. Further, Verizon Wireless sent a letter of interest to the property owner with a proposal for a wireless facility, but received no response. With neither the ability to fully serve the Significant Gap nor a willing landlord, this is not a feasible location for Verizon Wireless's facility.

4. **Lazzara Property**
Address: 2050 Mora Avenue
Elevation: 750 feet
Zoning: AG



Verizon Wireless investigated this 28 acre parcel located 0.3 miles northeast of the Proposed Facility. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent it from adequately serving those areas.

Further, Verizon Wireless sent a letter of interest to the property owner with a proposal for a wireless facility, and received a response indicating initial interest. However, upon follow-up to arrange a site visit, the property owner withdrew their interest in pursuing negotiations. With neither the ability to fully serve the Significant Gap nor a willing landlord, this is not a feasible location for Verizon Wireless's facility. In their appeal, appellants of the Proposed Facility suggest that Verizon Wireless failed to explore alternative site locations on Casey Avenue, however, this proposed location is adjacent to Casey Avenue.

5. **Peabody Property**
Address: 2100 Mora Avenue
Elevation: 745 feet
Zoning: AG



Verizon Wireless investigated this six acre parcel located 0.4 miles northeast of the Proposed Facility. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location is located to the northeast of the Proposed Facility, which creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent it from adequately serving those areas. Lacking the ability to fully serve the Significant Gap, this is not a feasible location for Verizon Wireless's facility. In their appeal, appellants of the Proposed Facility suggest that Verizon Wireless failed to explore alternative site locations on Casey Avenue, however, this proposed location is adjacent to Casey Avenue.

- 6. Geran Trust Property**
Address: 2110 Mora Avenue
Elevation: 760 feet
Zoning: AG



Verizon Wireless investigated this ten acre parcel located 0.4 miles northeast of the Proposed Facility. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location is located to the northeast of the Proposed Facility, which creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent it from adequately serving those areas.

Further, Verizon Wireless sent a letter of interest to the property owner with a proposal for a wireless facility, but received no response. With neither the ability to fully serve the Significant Gap nor a willing landlord, this is not a feasible location for Verizon Wireless's facility.

7. **Reece Property**
Address: 2120 Mora Avenue
Elevation: 760 feet
Zoning: AG



Verizon Wireless investigated this five acre parcel located 0.5 miles northeast of the Proposed Facility. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location is located to the northeast of the Proposed Facility, which creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent it from adequately serving those areas.

Further, Verizon Wireless sent a letter of interest to the property owner with a proposal for a wireless facility, but received no response. With neither the ability to fully serve the Significant Gap nor a willing landlord, this is not a feasible location for Verizon Wireless's facility.

- 8. ETAM, Inc. Property**
Address: 4399 Roblar Avenue
Elevation: 800 feet
Zoning: AG



Verizon Wireless investigated this 119 acre hillside parcel located one mile northeast of the Proposed Facility. Verizon Wireless was unable to negotiate a lease agreement with the landlord, who expressed concerns about encumbrances on the property and suggested the Verizon Wireless seek other locations. Lacking a willing landlord, this is not a feasible location for Verizon Wireless's facility.

- 9. Jett Property**
Address: 1862 Mora Avenue
Elevation: 750 feet
Zoning: AG



Verizon Wireless investigated this 56 acre property located 0.4 miles east of the Proposed Facility. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location is located to the east of the Proposed Facility, which creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent it from adequately serving those areas.

Verizon Wireless sent a letter of interest to the property owner with a proposal for a wireless facility, but received no response. With neither the ability to fully serve the Significant Gap nor a willing landlord, this is not a feasible location for Verizon Wireless's facility.

10. Falkenburg Property #1

Address: Unaddressed Property on Baseline Avenue

Elevation: 780 feet

Zoning: AG



Verizon Wireless investigated this 19 acre parcel located 0.25 miles southeast of the Proposed Facility. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location is located to the northeast of the Proposed Facility, which creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent it from adequately serving those areas.

Verizon Wireless sent a letter of interest to the property owner with a proposal for a wireless facility, but received no response. With neither the ability to fully serve the Significant Gap nor a willing landlord, this is not a feasible location for Verizon Wireless's facility.

- 11. Falkenburg Property #2**
Address: 4545 Baseline Avenue
Elevation: 710 feet
Zoning: AG



Verizon Wireless investigated this 18 acre parcel located 0.1 miles southeast of the Proposed Facility. An 80-foot topographic rise begins to the east of this location. Verizon Wireless radio frequency propagation modeling demonstrates that a facility at this location would not be as effective in propagating signal to the east as the Proposed Facility, due to the topographic rise.

Additionally, a facility at this location would be less effective in providing coverage and capacity offload than the Proposed Facility due to the angle at which it propagates into the canyons to the northwest. This location creates an angle that causes radio frequency shadowing in populated areas of these canyons and would prevent it from adequately serving those areas.

Verizon Wireless sent a letter of interest to the property owner with a proposal for a wireless facility, but received no response. With neither the ability to fully serve the Significant Gap nor a willing landlord, this is not a feasible location for Verizon Wireless's facility.

12. Camp 4, Santa Ynez Band of Chumash Indians

Address: Baseline Avenue

Elevation: 760 feet

Zoning: AG



Verizon Wireless investigated this 1,390-acre property located one-half mile southeast of the Proposed Facility, a large former ranch with uneven terrain. The property was recently acquired by the Santa Ynez Band of Chumash Indians, which has sought to place the land in federal trust to incorporate into the tribe's reservation. In reviewing the property, Verizon Wireless found that necessary power and telephone utilities were not available. Construction a facility would require laying thousands of feet of underground conduit as well as developing an access road. In evaluating the feasibility of such new conduit and a new access road, Verizon Wireless anticipated that the Santa Ynez Band of Chumash Indians would not agree to these extensive improvements due to the disruption to the land. Generally, environmental review by the Planning Department seeks to limit ground disturbance in this area as evidenced by Planning Commission Condition of Approval 5 requiring the monitoring of trenching for archaeological remains. Lacking available utilities and access, and facing the likely objection to extensive trenching based on environmental impacts, this is not a feasible location for Verizon Wireless's facility.

- 13. Jones Property**
Address: 4825 Baseline Avenue
Elevation: 815 feet
Zoning: AG



Verizon Wireless investigated this parcel located one mile east of the Proposed Facility. The property lies within the Rancho Estates subdivision, and is subject to the CC&Rs of the Rancho Estates homeowners' association, which prohibit commercial activity such as a commercial wireless facility. Verizon Wireless was unable to obtain an amendment to the CC&Rs excepting a wireless facility. Due to this restriction on the property, this is not a feasible location for Verizon Wireless's facility.

14. Lewis Family Trust Property

Address: 1875 Sky Drive

Elevation: 825 feet

Zoning: AG



Verizon Wireless investigated this five acre parcel located 1.25 miles east of the Proposed Facility. The property lies within the Rancho Estates subdivision, and is subject to the CC&Rs of the Rancho Estates homeowners' association, which prohibit commercial activity such as a commercial wireless facility. Verizon Wireless was unable to obtain an amendment to the CC&Rs excepting a wireless facility. Due to this restriction on the property, this is not a feasible location for Verizon Wireless's facility.

15. Santa Ynez Rancho Estates Mutual Water Company Tanks

Address: Sky Drive

Elevation: 935 feet

Zoning: AG



Verizon Wireless investigated this one acre parcel supporting two private water company tanks 1.3 miles northeast of the Proposed Facility. The access road from Sky Drive is a private road controlled by San Lorenzo Seminary. Verizon Wireless approached the seminary seeking an access easement agreement, however the Seminary was unwilling to grant access. Lacking access to this parcel, this is not a feasible location for Verizon Wireless's facility. During mediation, appellants of the Proposed Facility identified the Seminary property as a likely alternative for the Proposed Facility, however, the Seminary's stated objection to providing access to Verizon Wireless indicates that a facility on Seminary property is infeasible.

Conclusion

Verizon Wireless investigated 15 locations for the placement of its wireless facility to serve a Significant Gap in network capacity in the east Santa Ynez Valley. Based upon the preferences identified in the Santa Barbara County Land Use & Development Code, the Proposed Facility, placing a camouflaged treepole on a large parcel distant from public roadways, clearly constitutes the least intrusive location for Verizon Wireless's facility under the values expressed by Santa Barbara County ordinances.

**Verizon Wireless
East Santa Ynez Valley
Santa Barbara County
Locations of Sites
Proposed and Alternatives**

