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July 5, 2024

VIA EMAIL

Chair Hardy Bullock
Vice Chair Heidi Hall
Supervisors Ed Scofield,
Lisa Swarthout, and Susan Hoek
Nevada County Board of Supervisors
950 Maidu Avenue, Suite 200
Nevada City, California 95959

Re: Response to Appeal of Approved Wireless Facility, Application CUP23-0015
Telecommunications Facility, 20896 Dog Bar Road
Board of Supervisors Agenda Item 67, July 9, 2024

Dear Chair Hardy, Vice-Chair Hall, and Supervisors:

We write on behalf of Verizon Wireless to ask that you uphold the Zoning Administrator's approval a proposed wireless facility camouflaged as a pine tree in an agricultural zone in western Nevada County (the "Approved Facility"). Located over 400 feet west of Dog Bar Road and surrounded by established trees of similar height, the Approved Facility will fill a significant gap in Verizon Wireless service in the area. The Approved Facility satisfies all requirements of the Nevada County Code of Ordinances (the "Code"), including the findings for a conditional use permit.

The appeal filed by Kristin Phalen *et al.* ("Appellants") does not uncover any contradiction with the Code, and does not present any substantial evidence to warrant denial of the Approved Facility, as required by the federal Telecommunications Act. Further, denial of the Approved Facility would constitute a prohibition of service in violation of the Telecommunications Act, according to both established federal case law and Federal Communications Commission ("FCC") regulations. We urge you to reject the appeal and approve the Approved Facility.

I. The Approved Facility

The Approved Facility has been thoughtfully designed to minimize any impact on the surrounding area. Verizon Wireless proposes to conceal its antennas within a 129-foot tower facility camouflaged as a pine tree, installed near the center of a 14-acre parcel. The antennas will be concealed within faux foliage and branches, and branches will extend

beyond and above the antennas, providing a realistic tapered crown. The treepole will be placed within a 900-square foot lease area, surrounded by a chain link fence fitted with earth-tone privacy slats and topped with barbed wire, totaling eight feet in height. The equipment area will also contain network cabinets and a standby diesel generator to provide continued service during power outages and emergencies. Electric and telecommunications utilities serving the Approved Facility will be routed underground. There will be space on the tower for future collocation of antennas by another wireless carrier.

Photosimulations of the Approved Facility are attached as Exhibit A. A radio frequency exposure report prepared by Dtech Communications, attached as Exhibit B, confirms that the Approved Facility will operate well below the FCC's radio frequency exposure limits.

II. The Approved Facility Satisfies All Requirements for Approval.

As confirmed by the Zoning Administrator, the Approved Facility satisfies all Code requirements. A communication tower is allowed in the AG-General Agricultural zone with a conditional use permit. Code Table L-II 2.3.D. The Approved Facility will employ an alternative support structure, designed to resemble a pine tree, which will conceal and camouflage the antennas. Code § L-II 3.8(E)(4). With ample screening by established trees of similar height nearby in all directions, the Approved Facility will blend with the surrounding forested environment so as to be effectively unnoticeable. Code § L-II 3.8(E)(1)(b). There will be space on the tower for collocation of antennas by another wireless carrier, as required, minimizing the need for additional towers in the area. Code § L-II 3.8(G)(1). Located over 180 feet from the closest property line, the Approved Facility will be set back well over 100 percent of its total height of 129 feet.

The Approved Facility also satisfies the findings for approval of a conditional use permit. Code § L-II 5.5.2(C). Of note, the camouflaged pine tree design and location among existing trees is consistent with the Code's design goals and standards, and the Approved Facility will be compatible with surrounding uses because it will be unstaffed and generate no traffic aside from occasional maintenance visits. Installed near the center of a 14-acre property, and set back over 180 feet from the nearest property line, the site is adequate in size and shape to accommodate the Approved Facility and make appropriate transitions to nearby properties. The Approved Facility is also consistent with the Nevada County General Plan, notably because it will provide a technologically current high-speed broadband transmission system connecting local residents to national networks. General Plan Policy 1.7.18.

In sum, the Approved Facility satisfies all County requirements for approval.

III. The Appeal Does Not Raise Any Substantial Evidence to Support Denial.

Under the federal Telecommunications Act, a local government’s denial of a wireless facility application must be based on “substantial evidence.” *See* 47 U.S.C. § 332(c)(7)(B)(iii). As interpreted under controlling federal court decisions, this means that denial must be based on requirements set forth in local regulations and supported by evidence in the record. *See Metro PCS, Inc. v. City and County of San Francisco*, 400 F.3d 715, 725 (9th Cir. 2005) (denial of application must be “authorized by applicable local regulations and supported by a reasonable amount of evidence”).

Appellants raise several objections, but does not present any substantial evidence that would warrant denial. We respond to Appellants’ objections below.

A. The Approved Facility Design Minimizes Visual Impact.

Appellants vaguely reference “adverse impacts” to the property located across Dog Bar Road to the east. However, Verizon Wireless designed the Approved Facility in compliance with Code requirements to minimize the visibility of wireless facilities. As noted above, the pine tree design will conceal and camouflage the antennas, and with established trees of similar height nearby, the Approved Facility will blend with the surrounding forested environment. Code §§ L-II 3.8(E)(1)(b), L-II 3.8(E)(4). Appellants raise one Code requirement that new towers that are placed on exposed ridgelines or that silhouette against the sky be installed on a site with existing communication facilities. Code § L-II 3.8(E)(1)(a). However, that is inapplicable because the Approved Facility will be located on a small forested hill, not an exposed ridgeline, and the underlying tower structure will be concealed by faux pine branches and nearby trees, so its silhouette will not be readily identifiable as a communication facility. The photosimulations provide evidence of the minimal visual impact posed by the Approved Facility.

In contrast, Appellants’ vague claims of “adverse impacts” are not supported by substantial evidence. Such generalized concerns or opinions about aesthetics or compatibility with a neighborhood do not constitute substantial evidence upon which a local government can deny a wireless facility permit. *See City of Rancho Palos Verdes v. Abrams*, 101 Cal. App. 4th 367, 381 (2002). This ground for appeal must be rejected.

B. The Approved Facility Is Designed for Collocation to Minimize the Number of Towers in the Area.

Contrary to Appellants’ claim, the Approved Facility will minimize the number of towers within the County. This is because the proposed tower is designed to accommodate collocation of additional antennas by another wireless carrier. Code § L-II 3.8(G)(1). Verizon Wireless did not identify any existing wireless carrier facilities within 2.2 miles, so the Approved Facility is situated to provide new, reliable wireless service where currently lacking. This ground for appeal overlooks the benefit of a collocatable facility, and must be rejected.

C. Verizon Wireless Provided Evidence of the Need for the Approved Facility.

Appellants wrongly claim that Verizon Wireless did not submit evidence of the need for the Approved Facility, and therefore the Code prohibits approval. Referenced Code Section L-II 3.8(D)(1) is an application submittal requirement, which requests “Detailed information to justify the need for the proposed tower site, i.e., search ring, the desired service area, technical reasons for the proposed tower height and specific site selection standards.” Verizon Wireless satisfied this Code submittal requirement by providing coverage maps showing a significant gap in service coverage in western Nevada County, as well as an Alternatives Analysis reviewing nearby properties. This Code provision does not serve as a potential finding of denial, and the findings for a conditional use permit do not require a demonstration of need. Appellants exaggerate the meaning of this Code provision, and because Verizon Wireless provided the requested information, this ground for appeal must be dismissed.

We note that in separate exhibits pertaining to their appeal, Appellants include an example of Verizon Wireless’s online coverage map (www.verizon.com/coverage-map). This marketing map includes a disclaimer that it is “a general prediction of where we expect to deliver outdoor service” and “is not a guarantee of coverage, contains areas of no service, and may not reflect actual customer performance.” The marketing map does not account for the precise coverage mapping that Verizon Wireless engineers use to design networks to provide new in-building and in-vehicle coverage. The engineers use actual network performance data to accurately measure existing service levels in the field. A federal district court determined that marketing coverage maps are not equivalent to these system design tools, which establish the need for a new facility. *See Los Angeles SMSA Limited Partnership v. City of Los Angeles*, 2021 WL 3741539, 12 (C.D. Cal. 2021); *see also T-Mobile West Corporation v. City of Huntington Beach*, 2012 WL 4867775, 11, ¶ 78 (C.D. Cal. 2012).

Appellants’ exhibits also include a document prepared by the FCC regarding its own wireless coverage standards, but that applies only to the FCC’s own initiatives such as addressing the digital divide (mobility fund). The FCC does not evaluate individual coverage gaps for proposed wireless facilities.

D. The Approved Facility Will Comply with the FCC’s Radio Frequency Exposure Guidelines, and Property Values Are Not a Decision Factor.

Appellants allege that the Approved Facility “will inflict a substantial loss to the financial value” of their home, likely a veiled reference to concern over radio frequency emissions. Pursuant to the federal Telecommunications Act, the County cannot consider the environmental effects of radio frequency emissions in its decision because the Approved Facility will comply with the FCC’s exposure guidelines. 47 U.S.C. § 332(c)(7)(B)(iv). The Dtech Communications radio frequency exposure report, attached as Exhibit B, confirms that radio frequency exposure anywhere at ground level will be no

more than 0.4 percent—or 250 times below—the FCC’s general population exposure limit.

Moreover, federal law bars efforts to circumvent preemption of health concerns through proxy concerns such as 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) (“Thus, direct or indirect concerns over the health effects of RF emissions may not serve as substantial evidence to support the denial of an application”); *see also Calif. RSA No. 4, d/b/a Verizon Wireless v. Madera County*, 332 F. Supp. 2d 1291, 1311 (E.D. Cal. 2003).

Property values are not a factor of the Code’s findings for approval of a conditional use permit. Appellants raise an irrelevant and preempted topic, and this ground for appeal must be dismissed.

In sum, Appellants raise no evidence—let alone the substantial evidence required by federal law—to warrant denial of the Approved Facility. In contrast, Verizon Wireless has supplied ample evidence to support approval of a conditional use permit. The Board should dismiss the appeal and approve the facility.

IV. Denial Would Constitute an Unlawful Prohibition of Service.

A local government’s denial of a wireless facility permit violates the “effective prohibition” clause of the federal Telecommunications Act if the wireless provider can show two things: (1) that it has a “significant gap” in service; and (2) that a 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). If a provider proves both elements, the local government *must* approve the facility, even if there is substantial evidence to deny the permit under local land use provisions (which there is not in this case). This is because the provider has met the requirements for federal preemption; 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.

As confirmed by the coverage maps attached as Exhibit C, there is a significant gap in Verizon Wireless service coverage in western Nevada County around Dog Bar Road near Feather Way. This area includes agricultural land and residences. The coverage maps show a lack of in-building mid-band AWS coverage in the area. There is also a lack of in-vehicle AWS coverage along Dog Bar Road, with average daily traffic of 1,564 vehicles per *Nevada County 2022 Traffic Counts*, as well as other local roads. The mid-band AWS frequency provides coverage similar to the other mid-band frequencies, PCS and C-Band. These mid-band frequencies are essential for reliable service because they constitute the vast majority of Verizon Wireless’s available frequency bandwidth and provide needed voice and data capacity. Verizon Wireless also uses certain limited-capacity low-band frequencies in the area.

The coverage gap is a result of the distance of existing Verizon Wireless facilities (Red Frog 2.7 miles northeast, Colfax 2.2 miles southeast, Lime Kiln 3.9 miles west), as well as substantial intervening terrain in western Nevada County, which blocks signal. The Approved Facility will provide new, reliable service coverage to an area of 2.6 square miles where currently lacking in the vicinity.

Exhibit C also includes a TrueCall data map showing the average Verizon Wireless signal levels received by user devices in the area over a four-day period June 27-30, 2024, from 7:00 a.m. to 9:00 p.m. User devices report the signal level (RSRP) to the network, and Verizon Wireless uses its TrueCall tool to analyze this data and optimize system performance. The data represents the RSRP of the strongest frequency assigned by the network to a user device, and may include some Verizon Wireless limited-capacity low-band frequencies. The user data map shows how service levels are inadequate throughout the gap area, with a near-complete lack of in-building and in-vehicle service in the area around Dog Bar Road near Feather Way.

Verizon Wireless reviewed four alternative locations, and the *Alternatives Analysis* attached as Exhibit D confirms that the Approved Facility is the least intrusive, feasible means to fill the gap. No existing wireless carrier facilities were identified within 2.2 miles of the Approved Facility, so collocation is not a feasible option. The surrounding area is entirely zoned AG–General Agricultural, with the closest residential zone one mile distant to the northwest along Wolf Creek Road.

For wireless carriers to establish a prohibition of service case, federal law does not require that a proposed facility be the “only” alternative, but rather that no feasible alternative is less intrusive based on local regulations. *See Metro PCS, Inc. v. San Francisco*, 400 F.3d at 734-35. To avoid federal preemption, the County would need to raise another alternative that is available, technologically feasible, and less intrusive than the Approved Facility according to the County Code, then allow Verizon Wireless to review that alternative. *T-Mobile v. Anacortes*, 572 F.3d at 998-999.

In a 2018 order, the FCC determined that the Ninth Circuit’s two-part test is too narrow, and confirmed that a wireless carrier need not show an insurmountable barrier, or even a significant gap, to prove a prohibition of service. *See Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, Declaratory Ruling and Third Report and Order, 33 FCC Rcd. 9088, ¶¶ 35, 38 (September 27, 2018). Instead, “a state or local legal requirement constitutes an effective prohibition if it ‘materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.’” *Id.*, ¶ 35. State or local regulations are preempted if they materially inhibit “densifying a wireless network, introducing new services, or otherwise improving service capabilities.” *Id.*, ¶ 37. The FCC determined that the coverage gap approach is incompatible where new wireless facilities are installed to add network capacity. *Id.*, ¶ 40.

In adopting and applying the FCC’s “materially inhibit” standard to a monopole facility, a federal appeals court recently confirmed, “not only does ‘insufficiency in

coverage’ ordinarily entitle a provider to a variance but so does insufficiency in network capacity, 5G services, or new technology.” *Cellco Partnership v. White Deer Township Zoning Hearing Board*, 74 F.4th 96, 106 (3rd Cir. 2023).


Because Verizon Wireless has satisfied the two-part test to prove a prohibition of service, it has necessarily met the more flexible standard set forth in the FCC’s order. The evidence proves at a minimum that the Approved Facility will improve service in western Nevada County, densify the network with another facility, and add network capacity. Thus, denial of the application would “materially inhibit” Verizon Wireless’s ability to compete in a fair and balanced legal and regulatory environment, effectively prohibiting service in violation of the Telecommunications Act.

In sum, according to both Ninth Circuit and FCC standards, Verizon Wireless has established that denial of the Approved Facility would constitute an unlawful prohibition of service.

Conclusion

Verizon Wireless has worked diligently to identify the ideal location and design for a new wireless facility to serve western Nevada County. With a camouflaged pine tree design and ample tree cover in the area, the Approved Facility will pose minimal visual impact, and it is consistent with all County standards and the findings for approval of a conditional use permit. The Approved Facility will bring much-needed reliable Verizon Wireless service to the local area, benefitting residents, visitors, and emergency personnel. We strongly encourage you to deny the appeal, and to approve the Approved Facility.

Very truly yours,



Paul B. Albritton

cc: Kit Elliott, Esq.
Brian Foss
David Nicholas

Schedule of Exhibits

- Exhibit A:** Photosimulations
- Exhibit B:** Radio Frequency Exposure Compliance Report
- Exhibit C:** Coverage Maps
- Exhibit D:** Alternatives Analysis



DOG BAR

2089 DOG BAR ROAD GRASS VALLEY CA 95949



VIEW 1



EXISTING



PROPOSED LOOKING SOUTHWEST FROM DOG BAR ROAD

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



EXISTING



PROPOSED LOOKING SOUTHWEST FROM DOG BAR ROAD





EXISTING



PROPOSED

LOOKING NORTHWEST FROM DOG BAR ROAD



YOUR RE SAFETY PARTNER

RADIO FREQUENCY ELECTROMAGNETIC FIELDS EXPOSURE REPORT

PRE-Activation

Prepared for Verizon

Site Name: Dog Bar
Site ID: 5000918136
Site Type: Monopine

Located at:

20896 Dog Bar Rd
Grass Valley, CA 95949
Latitude: 39.089128 / Longitude: -121.003269

Report Date: 10/30/2023
Report By: Christopher Stollar, P.E.

Based on FCC Rules and Regulations, Verizon is compliant.

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1.0 EXECUTIVE SUMMARY

Dtech Communications, LLC (“Dtech”) has been retained by Sequoia Deployment Services, Inc., contractors to Verizon, to determine whether its wireless communications facility complies with the Federal Communications Commission (“FCC”) Radio Frequency (“RF”) Safety. This report contains a computer-simulated analysis of the Electromagnetic Fields (“EMF”) exposure resulting from the facility. The analysis also includes assessment of existing wireless carriers on site, where information is provided. The table below summarizes the results at a glance:

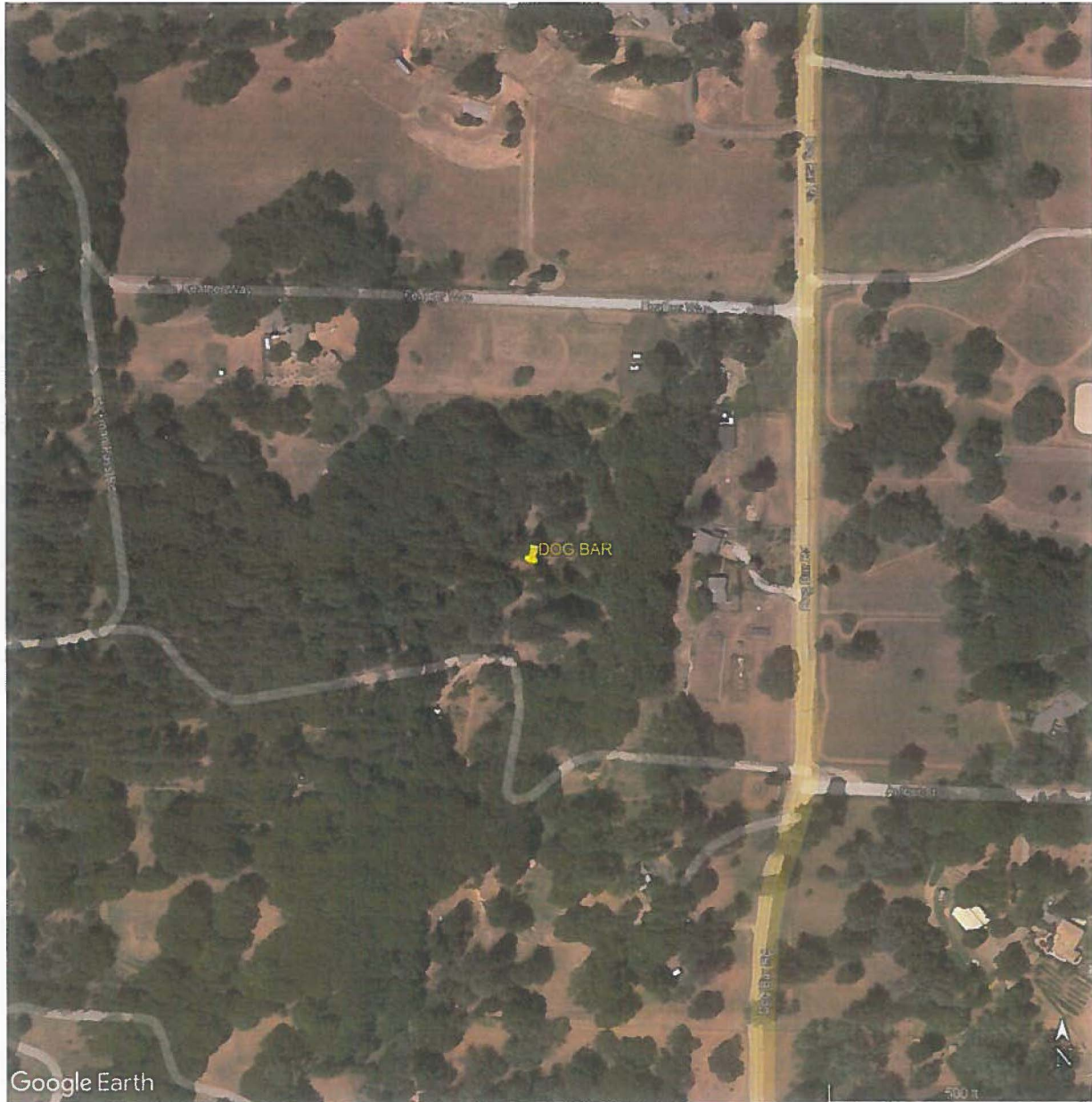
Table 1: EMF Summary

Verizon	Summary
Access Type	Gate
Access to antennas locked	Optional
RF Sign(s) @ access point(s)	NA
RF Sign(s) @ antennas	NA
Barrier(s) @ sectors	NA
Max EMF simulated level for Verizon on Ground	0.4% General Population
Clearance Distance from Face of Verizon’s Antennas	88 Feet

2.0 SITE DESCRIPTION

The wireless telecommunication facility is located on the ground. The facility consists of 1 wireless carrier(s) or operator(s): Verizon. The antennas are typically grouped into sectors pointing in different directions to achieve the desired areas of coverage. Verizon's antennas are mounted on a monopine tower.

2.1 Site Map



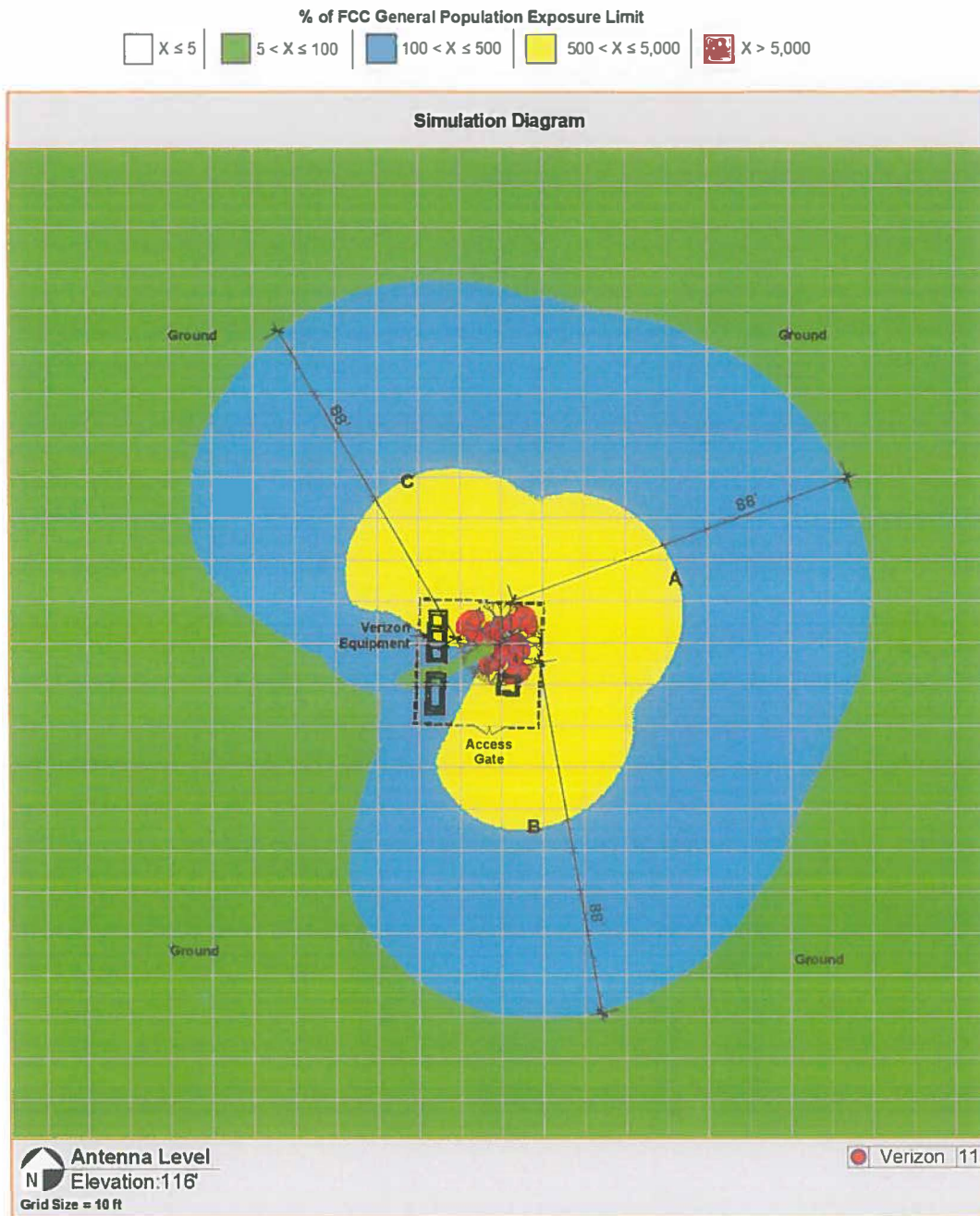
2.2 Antenna Inventory

The table below reflects the technical specifications provided by our clients and/or gathered from physical field surveys where applicable. This final configuration, including power settings and antenna orientations must be maintained to remain in compliance with FCC guidelines. For co-locators or nearby transmitters, conservative estimates are used for purposes of a cumulative study where information is not provided or available.

Table 2: Site Technical Specifications

Antenna ID	Antenna Num	Operator	Antenna Mfg	Antenna Model	Type	Frequency (MHz)	Orientation (°T)	Horizontal BWidth (°)	Antenna Aperture (ft)	Antenna Gain (dBd)	Total Input Power (Watts)	Total ERP (Watts)	Bottom Tip Height Above Ground (Z) (ft)	Bottom Tip Height Antenna Level (Z) (ft)
A1	1	Verizon	Ericsson	AIR6419	Panel	3700	70	11	2.4	23.5	320	70837	118.8	0.0
A2	2	Verizon	Commscope	NHH-65C-R2B	Panel	746	70	65	8.0	13.6	120	2737	116.0	0.0
A2	2	Verizon	Commscope	NHH-65C-R2B	Panel	880	70	62	8.0	13.7	120	2833	116.0	0.0
A2	2	Verizon	Commscope	NHH-65C-R2B	Panel	1965	70	66	8.0	15.7	240	8961	116.0	0.0
A3	3	Verizon	Commscope	NHH-65C-R2B	Panel	746	70	65	8.0	13.6	120	2737	116.0	0.0
A3	3	Verizon	Commscope	NHH-65C-R2B	Panel	880	70	62	8.0	13.7	120	2833	116.0	0.0
A3	3	Verizon	Commscope	NHH-65C-R2B	Panel	2120	70	62	8.0	16.3	240	10218	116.0	0.0
B1	4	Verizon	Ericsson	AIR6419	Panel	3700	170	11	2.4	23.5	320	70837	118.8	0.0
B2	5	Verizon	Commscope	NHH-65C-R2B	Panel	746	170	65	8.0	13.6	120	2737	116.0	0.0
B2	5	Verizon	Commscope	NHH-65C-R2B	Panel	880	170	62	8.0	13.7	120	2833	116.0	0.0
B2	5	Verizon	Commscope	NHH-65C-R2B	Panel	1965	170	66	8.0	15.7	240	8961	116.0	0.0
B3	6	Verizon	Commscope	NHH-65C-R2B	Panel	746	170	65	8.0	13.6	120	2737	116.0	0.0
B3	6	Verizon	Commscope	NHH-65C-R2B	Panel	880	170	62	8.0	13.7	120	2833	116.0	0.0
B3	6	Verizon	Commscope	NHH-65C-R2B	Panel	2120	170	62	8.0	16.3	240	10218	116.0	0.0
C1	7	Verizon	Ericsson	AIR6419	Panel	3700	330	11	2.4	23.5	320	70837	118.8	0.0
C2	8	Verizon	Commscope	NHH-65C-R2B	Panel	746	330	65	8.0	13.6	120	2737	116.0	0.0
C2	8	Verizon	Commscope	NHH-65C-R2B	Panel	880	330	62	8.0	13.7	120	2833	116.0	0.0
C2	8	Verizon	Commscope	NHH-65C-R2B	Panel	1965	330	66	8.0	15.7	240	8961	116.0	0.0
C3	9	Verizon	Commscope	NHH-65C-R2B	Panel	746	330	65	8.0	13.6	120	2737	116.0	0.0
C3	9	Verizon	Commscope	NHH-65C-R2B	Panel	880	330	62	8.0	13.7	120	2833	116.0	0.0
C3	9	Verizon	Commscope	NHH-65C-R2B	Panel	2120	330	62	8.0	16.3	240	10218	116.0	0.0
D1	10	Verizon	Unknown	Unknown	Dish	10000	0	2	6.0	38.0	-	2000	107.0	-9.0
D2	11	Verizon	Unknown	Unknown	Dish	10000	155	2	6.0	38.0	-	2000	107.0	-9.0

Figure 2: Plan (bird's eye) view map of results compared to FCC's General Population MPE (Maximum Permissible Exposure) Limits for a typical 6-foot person. White represents areas where exposure levels are calculated to be at or below 5%; Green- between 5% & 100% (below MPE limits); blue, yellow & red – greater than 100% (exceeds MPE limits). Individuals can safely occupy areas in white and green for indefinite amount of time; whereas areas in blue, yellow & red must be restricted to RF trained personnel who has been made fully aware of potential for exposure, has control and knows how to reduce their exposure with the use of personal protection equipment or has the ability to power down the transmitters.



4.0 CONCLUSION

4.1 Results

For a typical 6-foot person standing in accessible areas on the ground, calculations for Verizon's site resulted in exposure levels below the FCC's most stringent General Population MPE Limits.

At antenna elevation, the highest calculated exposure level is above the FCC's General Population MPE Limits near the Verizon antenna(s). The overexposed areas extend 88-feet from the front face of the Verizon antenna(s). There are no other buildings or surrounding structures at antenna elevation within the overexposed areas. Beyond these areas, exposure levels are predicted to be below the FCC's most stringent General Population MPE Limits.

The antennas are mounted on a tall tower and therefore not accessible by the general public. It is presumed that Verizon employees and contractors are aware of the transmitting antennas and will take appropriate precautions when working near them.

4.2 Recommendation(s)

Further actions are not required.

4.3 Statement of Compliance

Based on the above results, analysis and recommendation(s), it is the undersigned's professional opinion that Verizon's site is compliant with the FCC's RF Safety Guidelines.

4.4 Engineer Certification

This report has been prepared by or under the direction of the following Registered Professional Engineer: Darang Tech, holding California registration number 16000. I have reviewed this report and believe it to be both true and accurate to the best of my knowledge.



Appendix A: Background

Dtech uses the FCC's guidelines described in detail in Office of Engineering & Technology, Bulletin No. 65 ("OET-65") "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields". The table below summarizes the current Maximum Permissible Exposure ("MPE") safety limits classified into two groups: General population and Occupational.

Table 3: FCC MPE Limits (from OET-65)

Frequency (Mhz)	General Population/ Uncontrolled MPE (mW/cm ²)	Averaging Time (minutes)	Occupational/ Controlled MPE (mW/cm ²)	Averaging Time (minutes)
30 - 300	0.2	30	1.0	6
300 - 1500	Frequency (Mhz)/1500 (0.2 – 1.0)	30	Frequency (Mhz)/300 (1.0 – 5.0)	6
1500 - 100,000	1.0	30	5.0	6

General population/uncontrolled limits apply in situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment, and may not be fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment, and those persons have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

It is important to understand that the FCC guidelines specify *exposure* limits not *emission* limits. For a transmitting facility to be out of compliance with the FCC's RF safety guidelines an area or areas where levels exceed the MPE limits must, first of all, be in some way *accessible* to the public or to workers. When accessibility to an area where excessive levels is appropriately restricted, the facility or operation can certify that it complies with the FCC requirements.

Appendix B: Measurement and/or Computer Simulation Methods

Spatial averaging measurement technique is used. An area between 2 and 6 feet, approximately the size of an average human, is scanned in single passes from top to bottom in multiple planes. When possible, measurements were made at very close proximity to the antennas and inside the main beam where most of the energy is emitted. The spatial averaged values were recorded. A result higher than 100% exceeds the FCC's General Population MPE Limits.

Dtech uses an industry standard power density prediction computer Model¹ to assess the worse-case, cumulative EMF impact of the surrounding areas of the subject site. In addition, the analysis is performed at 100% duty cycle-all transmitters are active at all times and transmitting at maximum power. In addition, lower interiors (if applicable), were analyzed 10-feet below roof level with a 10dB deck attenuation. For purposes of a cumulative study, nearby transmitters are included where possible. The result is a surrounding area map color-coded to percentages of the applicable FCC's MPE Limits.

Appendix C: Limitations

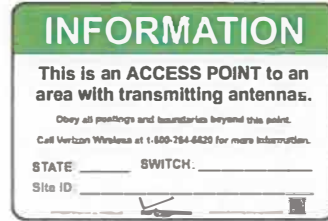
The conclusions in this document rendered by Dtech are based solely upon the information collected during the site survey and/or furnished by our Client which Dtech believes is accurate and correct. Dtech, however, has no responsibility should such Client provided information prove to be inaccurate or incorrect. Third party specification estimates used for cumulative computer simulation purposes, where applicable, are based on common industry practices and our best interpretation of available information. Data, results and conclusions in this document are valid as of its date. However, as mobile technologies continuously change, these data, results and conclusions may also be at variance with such future changes. Dtech has no responsibility to update its survey or report to account for such future technology changes. This document was prepared for the use of our Client only and cannot be utilized by any third party for any purpose without Dtech's written consent. Dtech shall have no liability for any unauthorized use of this document and any such unauthorized user shall defend, indemnify and hold Dtech and its owners, directors, officers and employees harmless from and against any liability, claim, demand, loss or expense (including reasonable attorney's fees) arising from such unauthorized use.

¹ Roofmaster(tm)

Appendix D: Sample Verizon² RF Advisory Signs



GUIDELINES Sign



NOC INFORMATION Sign



NOTICE Sign



CAUTION Sign



CAUTION Stay-Back Sign



WARNING Sign




² The above signage is for reference only. Actual signs may be updated in accordance to Verizon RF policy

Dog Bar Site

Coverage Maps

July 2, 2024

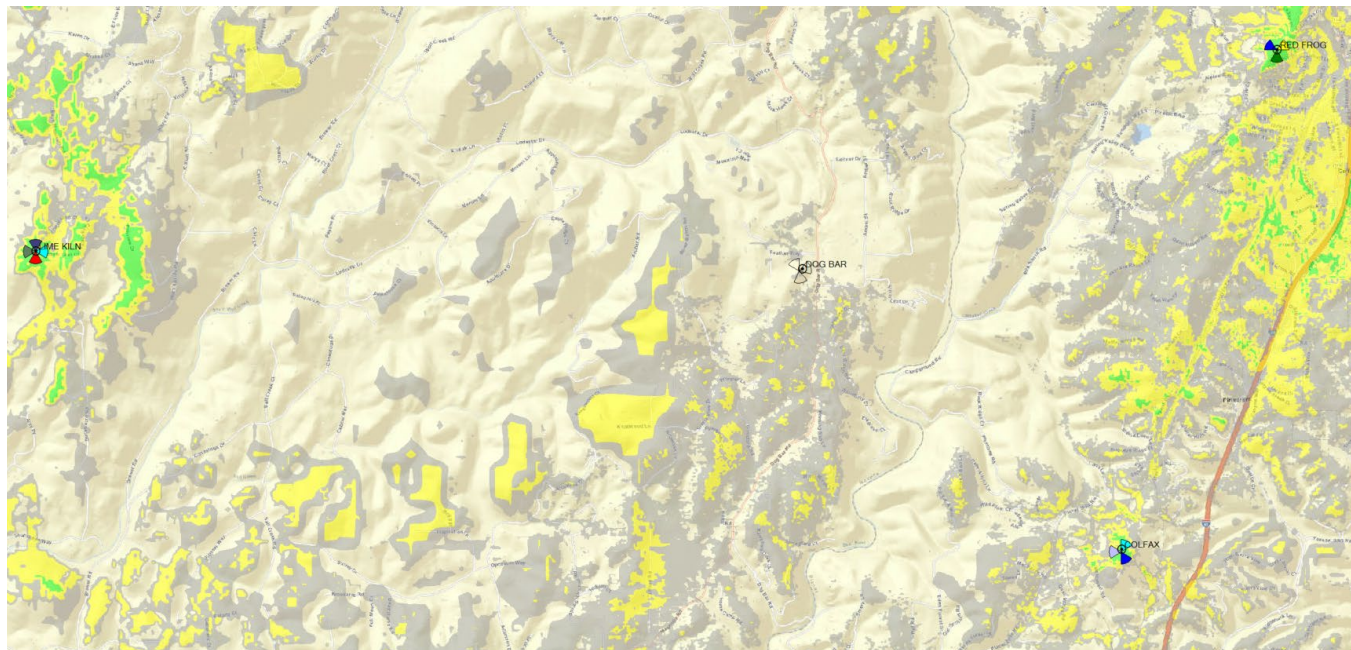
Referenced signal receive power (RSRP) is a measurement of signal level in decibel milliwatts (dBm), which is a negative number that decreases due to distance and other factors. The RSRP coverage thresholds are:

-  **In-building** ≥ -85 dBm. Green depicts good coverage that meets or exceeds thresholds for reliable network coverage in homes and vehicles.
-  **In-vehicle** ≥ -95 dBm. Yellow depicts reliable in-vehicle coverage only.
-  **Outdoor** ≥ -105 dBm. Gray depicts reliable outdoor service only.

White areas do not receive reliable service levels.



Existing AWS Coverage Map

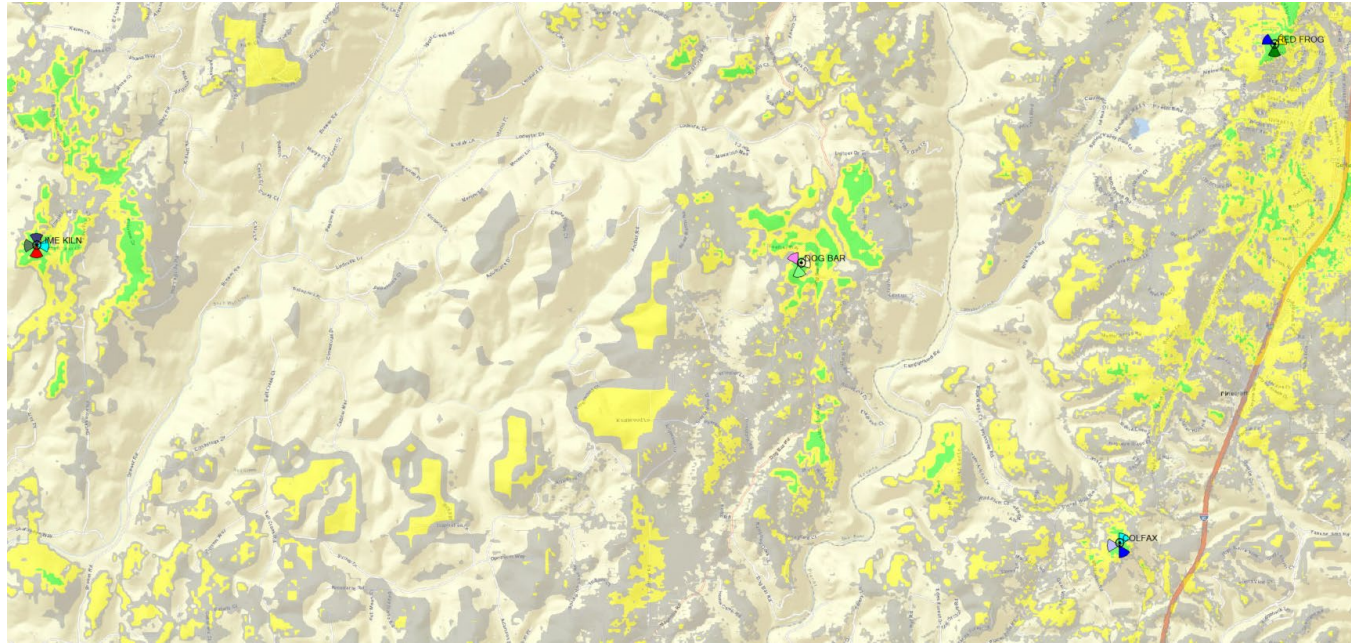


Legend

LTE: RSRP - Coverage

- In-Building Coverage (dBm) ≥ -85
- In-Vehicle Coverage (dBm) ≥ -95
- Outdoor Coverage (dBm) ≥ -105

After AWS Coverage Map

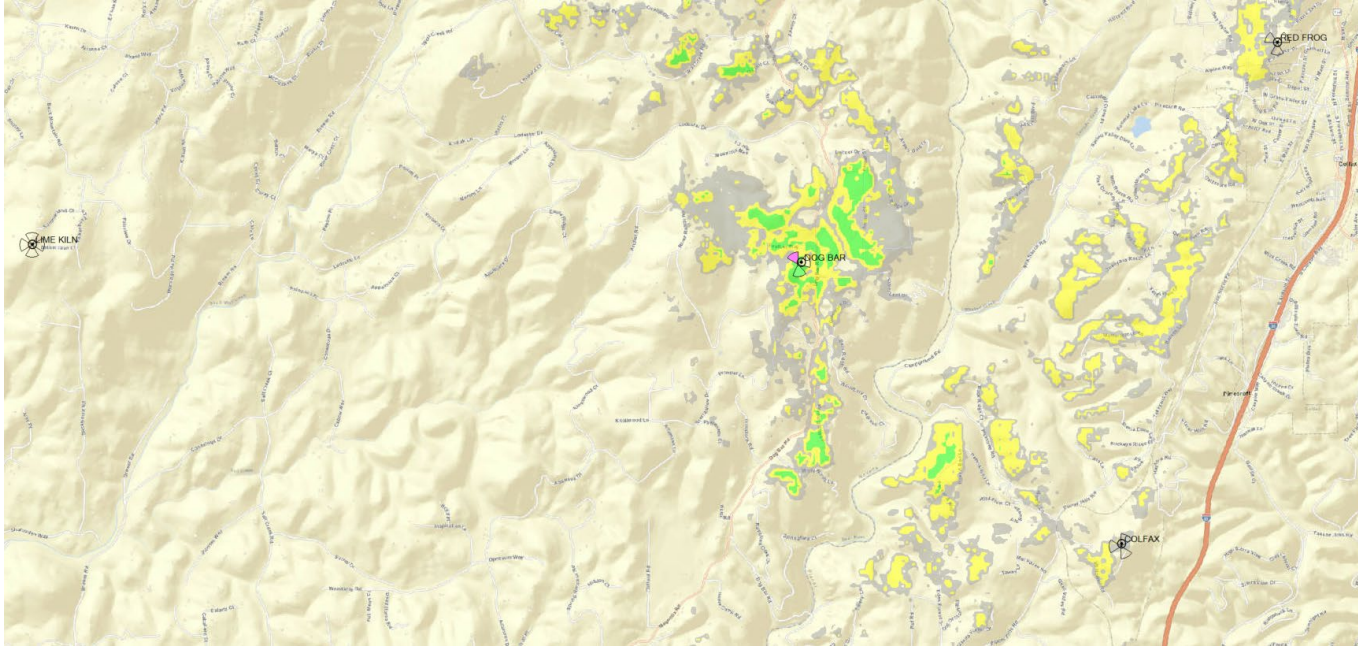


Legend

LTE: RSRP - Coverage

- In-Building Coverage (dBm) ≥ -85
- In-Vehicle Coverage (dBm) ≥ -95
- Outdoor Coverage (dBm) ≥ -105

Dog Bar AWS Coverage Map

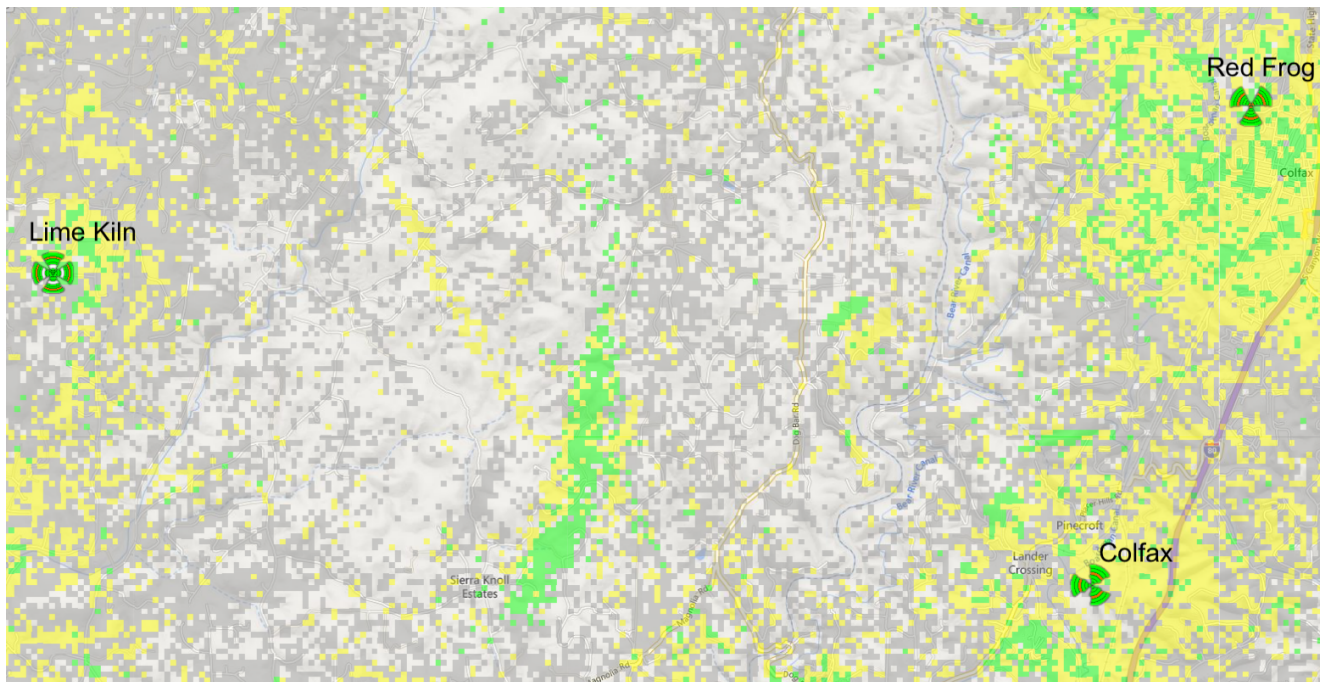


Legend

LTE: RSRP - Coverage

- In-Building Coverage (dBm) ≥ -85
- In-Vehicle Coverage (dBm) ≥ -95
- Outdoor Coverage (dBm) ≥ -105

Dog Bar TrueCall Data Map



*June 27-30, 2024
7:00 a.m.—9:00 p.m.*

Legend

LTE: RSRP - Coverage

- In-Building Coverage (dBm) ≥ -85
- In-Vehicle Coverage (dBm) ≥ -95
- Outdoor Coverage (dBm) ≥ -105

Alternative Candidate Analysis

Verizon Wireless
Dog Bar
20896 Dog Bar Rd.
Grass Valley, CA 95949



October 24, 2023

Summary of Site Evaluations
Conducted by: Sequoia Deployment Services Inc.

I. Summary

Verizon Wireless has Identified a significant gap in its Long Term Evolution (LTE) wireless service in some areas of Grass Valley community of Nevada County, California. The objective of the proposed facility is to provide enhanced coverage in the forestry area populated with residential near Bear River Park west of Highway 80.

II. Methodology

Once a significant coverage/capacity gap is determined, Verizon Wireless seeks to identify a site that will provide a solution through the “least intrusive means” based upon Verizon Wireless’s experience with designing similar facilities and working within local regulations. In addition to seeking the “least intrusive” alternative, sites proposed by Verizon Wireless must be feasible. In this regard, Verizon Wireless reviews the topography, radio frequency propagation, elevation, height, 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 collocation opportunities that allow placement of wireless facilities with minimal impacts.

The County of Nevada establishes the guidelines for wireless facility design and location, encouraging co-location to reduce the overall number of freestanding facilities throughout the County. The County prefers towers that blend in with the surrounding existing natural and man-made environment. Based upon these site location and design preferences established in the County’s code, priority has been given to the Dog Bar property for this proposed facility. A Use Permit review and approval process are required to place a new wireless facility at this location.

II. Analysis

For the past twenty four months, Verizon Wireless has sought to identify and lease a suitable location for its new wireless facility to serve the Grass Valley community. As collocation of facilities is generally required where available, Verizon Wireless sought collocation sites which could provide radio frequency propagation to address the Coverage/Capacity Gap. There were no viable candidates available within the search area already existing or feasible for collocation. No other non-residential buildings with substantial height exists within the search ring. As such, the Verizon Wireless search moved to candidates within the ring where a freestanding design might be feasible. Four other candidates were identified: Amber Dog, Dog Dip 2079, Dog Feather and Dog Hill. Each of these properties was closely evaluated and none of these properties were viable.

The following is a summary of the additional sites reviewed within the search area:

Site Name / Property Owner	Property Address	Landlord Interest	RF Acceptance	Additional Zoning Notes
Amber Dog	21055 Dog Bar Rd.	Yes	No	RF could not meet objective from this location and rejected site.
Dog Dip 2079	Dog Bar Rd	Yes	No	RF could not meet objective from this

				location and rejected site.
Dog Feather	20714 Dog Bar Rd	No	No	RF could not meet objective from this location and rejected site.
Dog Hill	20648 Dog Bar Rd	Maybe	No	RF could not meet objective from this location and rejected site.

A more detailed analysis of the specific candidates is below.

Summary of Candidates Reviewed

Primary Candidate

Dog Bar Rd.

20896 Dog Bar Rd.

Grass Valley, CA 95949

Required Height: 129 feet

Zoned: AG-20

Design: Monopine

Dog Bar Rd.



The Dog Bar Rd. property has been chosen as the primary candidate for the Grass Valley telecommunications facility. This location is within the search ring issued by Verizon Wireless radio frequency engineers and was deemed a feasible location by the engineer. Designed as a pine tree, this location serves as the least visible and best to blend into the surrounding area. The height needed to address the gap in coverage/capacity was the lowest of all candidates at 129 feet. The property owner has agreed to lease space to Verizon for the facility because, as an emergency service provider, they see the need for improved coverage in the area. The primary use of this property is not sensitive to the addition of a telecommunication facility use on it.

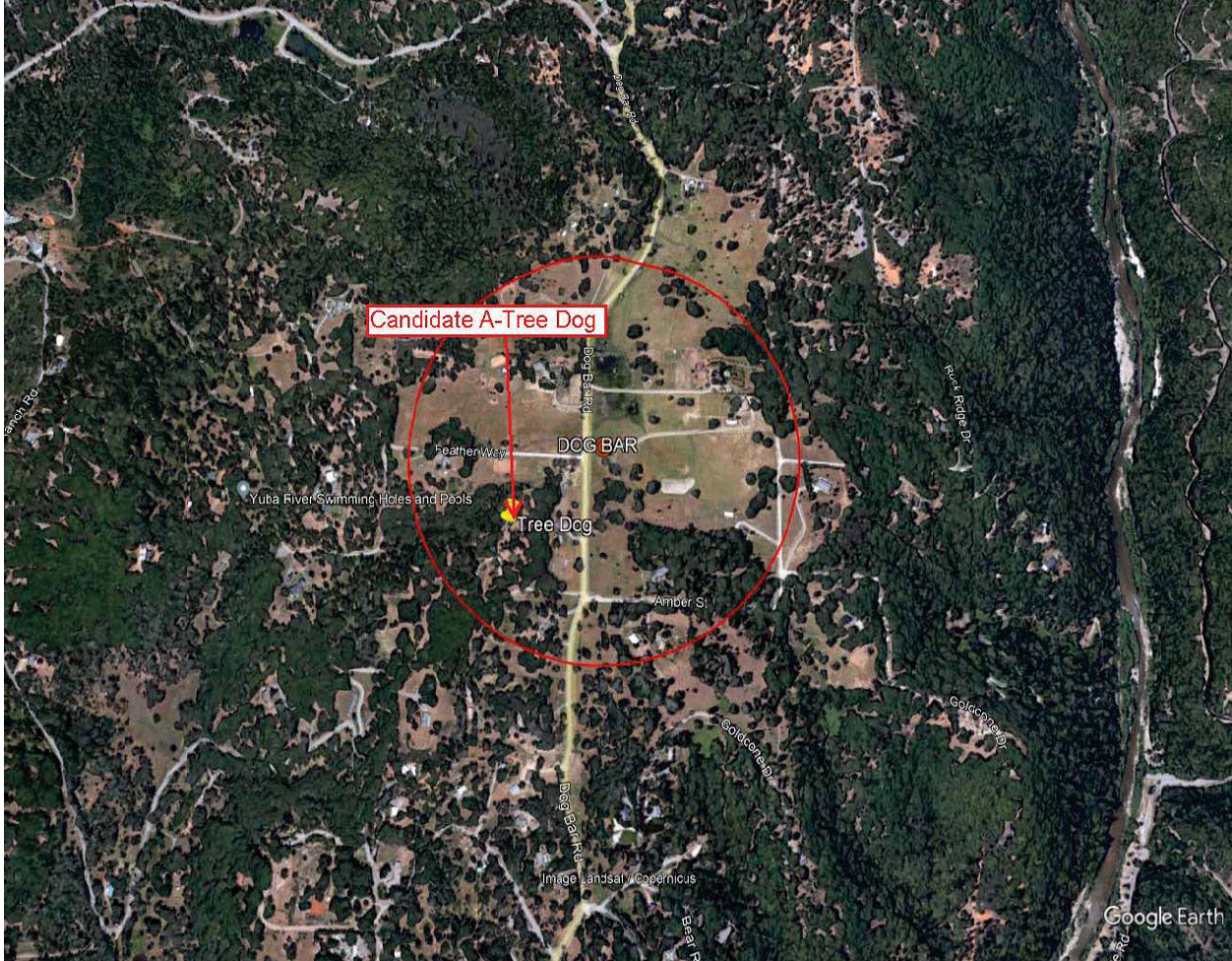
- 1. Amber Dog**
21055 Dog Bar Rd, Grass Valey
Required Height: 150'
Site Type: New Facility – Freestanding Monopole Design

- 2. Dog Dip 2079**
Lats/Long: 39.09015803 -120.9999478
Required Height: Approximately 150'
Site Type: New Facility – Freestanding Monopine Design

- 3. Dog Feather**
20714 Dog Bar Rd
Required Height: Approximately 150'
Site Type: New Facility – Freestanding monopole/monopine design.

- 4. Dog Hill**
20648 Dog Bar Rd
Required Height: Approximately 150'
Site Type: New Facility – Freestanding monopole/monopine design

Aerial View
Locations of Possible Candidates
within the Search Ring



Conclusion

Verizon Wireless evaluated four site alternatives within the identified significant coverage/capacity gap over the last twenty four months, including a complete evaluation of these alternatives. Based on the analysis and evaluation, Verizon Wireless concludes that the proposed monopine site at a maximum height of 129 feet is the least intrusive means to address the significant gap in coverage/capacity, and to address the community's wireless needs. This conclusion arises primarily from the fact that the proposed facility at 20896 Dog Bar Rd. is the only location where there is both a willing property owner to lease space, meets RF's objectives and a location on the property which allows the monopine to blend in with the natural surroundings and with little or no visual or noise impacts and is therefore preferred under the guidelines of the County of Nevada.