



February 7, 2024

Kittitas County Community Development Services  
411 N. Ruby Street  
Suite 2  
Ellensburg, WA 98926

**RE:** Atlas Tower 1, LLC Administrative Conditional Use Application (ACU-23-00003) – Response to Appellant Briefing Comments

Section 1:

1. Network Coverage – Please find the justification letter attached from the carrier (Exhibit A)
2. “The proposed use essential or desirable” – Cell phone service has become critical for use in many situations such as emergency services. Most households do not use landlines, but rather cell phones for their phone communication.
3. Property Values – Please see the attached FAQ for helpful information regarding cell towers and their impacts to home values.

Section 2:

1. Atlas has no comment. This is in reference to the county sending notice.

Section 3:

1. Page 21- broadband.map.fcc.gov and coverage is fine. Broadband is internet.
2. Page 22 – Kittitas asked if it was possible to move the tower to the west in effort to try and get it out of the neighbor’s direct sight. The county asked if we could move it maybe 20’. I talked to our construction manager and after looking at it all, we were able to determine that we could in fact move it 25’. We updated the design and submitted it. Revisions 1, 2, and 4 are irrelevant to this.
3. Page 22 (#6 Concern of Location)-Please find the justification letter attached (Exhibit A)
4. Our search ring is set up for .5 – 1 mile radius. When we don’t receive responses or the carrier does not approve of potential locations we expand our ring in effort to find a sight that the carrier could potentially approve.
5. Page 23-Leases sent no response/dead mailers. 2<sup>nd</sup> image is 5 responses to leases sent including current location (preferred by carrier) (Exhibit B)

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## Section 4:

1. We can't comment to specific characters of how the properties are zoned.

## Section 5:

1. See Exhibit A
2. Page 40 - referenced [broadband.map.fcc.gov](http://broadband.map.fcc.gov) and coverage is fine. Broadband is internet.
3. Page 41-44 – Atlas can't comment to comments about KCCDS code
4. Page 45-47 – Atlas can't comment to comments about KCCDS code

## Section 6:

1. Page 50-53 - Atlas can't comment to comments on behalf of KCCDS
2. Page 55 – Atlas addressed Marguaita Marrs comments in my response, to the neighborhood comments, on September 19, 2023.
  - a. I have provided an FAQ sheet with some helpful information regarding cell towers and their impacts to home values.
  - b. I am not able to respond to questions about the code
  - c. Concerns with the visual aesthetics:
    - i. We will have our design updated to reflect the use of a compatible color to camouflage the tower. I have attached color swatches for you to review and choose which color is preferred.
  - d. Health Concerns:
    - i. Please find the attached document with additional information regarding health concerns.
  - e. Concern cell companies are permitted to go another 20' once built without permission (section 6409)
    - i. Section 6409 does not give the right to extend the tower 20' without anyone's permission. Our tower is designed to handle 4 carriers. If the carrier needs to extend the tower 20' to provide better service, they would have to do the following
      1. Confirm there is not enough space for their antenna on the existing pole
      2. Prove to the FCC that an extension is necessary
      3. Carriers will have to provide justification for the additional height
      4. Review from the local government is required
  - f. Concern of location. Atlas shopping for any owner who will allow this on their property
    - i. The process for site selection comes from the carrier needing to cover a certain area.

The carrier will give us a lat/long to work from, which Atlas will first check for zoning correct parcels .5-1 mile from their pinned location. Atlas then sends out leases in the range, and as we receive inquiries from willing landowners, will submit these options to the carrier to review.

The carrier ultimately chooses the location that works for them based on their coverage objective. So our process, is parcels that meet zoning and tower height

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we are looking for, and to have a ground lease with a willing landowner. We are happy to get more coverage justification from the carrier if need.

3. Page 56 - KCCDS posted all comments on a website so all could view. Atlas watched for new comments on a regular basis to make sure we had responded to every comment in one document.

## Section 7:

1. There will be a reliance on wireless services for years to come.
2. Atlas Tower will be responsible for removal of the tower within 30 days should there ever be the need to remove it due to lack of use.
3. Page 124 – Atlas Tower does not build their towers without an anchor tenant.

## Section 8:

1. Page 126-136 – attachments are referring to government funded high speed internet to provide access to everyone.

DocuSigned by:  
  
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2/9/2024

**EXHIBIT A**

## BLAZING SKY RF Documentation

### Overview:

Verizon Wireless strives to provide excellent wireless service for our customers with a network of cell sites that allows our customers to reliably place and receive mobile phone calls. In this particular case, Verizon Wireless trying to provide and enhance coverage in the areas in city of Ellensburg, in Kittitas County, within an area roughly located between East side of Kittitas Reclamation District Rd and West side of Umptanum Rd and offloading the capacity of sites which are north from the proposed sites. Development of the proposed site entails placing nine antennas on an existing tower in the area. Providing coverage to our residential customers, along with continued growth in our customer base and call traffic in this area has dictated the need for the proposed site.

### Coverage:

In order to provide excellent service, which Verizon Wireless defines as  $-75$  dBm, the antenna height and site location need to provide a line of sight to the roads, offices, and homes where our customers work and reside. A total of Nine antennas are being proposed to be installed on the existing tower with the antenna tip height of 100' in order to provide the necessary radio frequencies supporting all of Verizon Wireless voice and data services.

One key feature of the new cell site will be providing strong in-building coverage to the surrounding business and residential areas. Strong in-building coverage is often the most difficult goal to attain because of the degradation of the Radio Frequency (RF) signal through the building itself. A RF signal will quickly drop off when it must travel through solid obstacles such as tree foliage or buildings. For this reason an antenna height that is greater than the existing tree and building clutter is required to provide a better, less obstructed view of the intended coverage area. Early cellular designs placed cell sites with tall towers on top of hills. This provided cellular companies the ability to cover the most area possible with very few cell sites. As cellular subscriber numbers have increased this has meant that these high cell sites have been forced to provide service to a large number of subscribers in a large area. Cellular design has evolved so that multiple, shorter cell sites, located near high traffic, high population areas are now favored. This allows for a single cell site to provide service for more subscribers in a smaller area. This ultimately results in fewer dropped calls and access failures for the user because the serving cell site is located closer providing a stronger RF signal.

Because of surrounding vegetation and the rolling terrain features of the proposed coverage area, a taller height would be preferable, as an obstruction before antennas degrades or block signal levels to our customers. While a taller height is desired, antenna tip height of 100' feet is the minimum height necessary for the proposed site to provide adequate levels of coverage to the surrounding area.

There is a chance that our customers will not have a line of sight to antennas at the proposed location due to obstacles. Verizon Wireless is proposing to install Remote Radio Units (RRU's) at the antennas in order to amplify signal levels to improve the quality service for our customers due to degradation of signals due to obstacles between customers and antennas on the tower. Verizon Wireless has a frequency license in 700 MHz, PCS, AWS and C bands. In order to provide excellent service, Verizon Wireless would need to install a separate antenna for each frequency band in three directions that would require a total of 12 antennas. However, Verizon has proposed to install nine antennas on an existing tower in the area in order to minimize the visual impact of the site.

### **Propagation Maps:**

There are several methods for determining where coverage gaps exist within a given network of wireless sites. One of these is through the use of propagation maps. The propagation map is a computer simulation of the strength of Verizon Wireless signals at a given height and location in the context of the network. Propagation maps are one tool for determining whether a proposed site will meet the coverage objective and what antenna height is needed to provide robust service for Verizon Wireless customers. The radio propagation tool is designed to take factors such as terrain and tree coverage into account, and is calibrated with drive test data so that it depicts a reliable estimate of coverage that would be provided by a proposed site.

The below propagation maps show three levels of service, designated as the following colors:

Green = -75 dBm, a level of service adequate for providing reliable coverage inside a building

Yellow= -85 dBm, a level of service adequate for providing reliable coverage outdoors or inside a car

Blue= > -95 dBm, unreliable signal strength, not capable of reliably making and holding a call

No color- areas without Verizon Wireless service

Exhibit 1A is a propagation map that shows the existing level of coverage in the proposed service area in the context of surrounding Verizon Wireless sites.

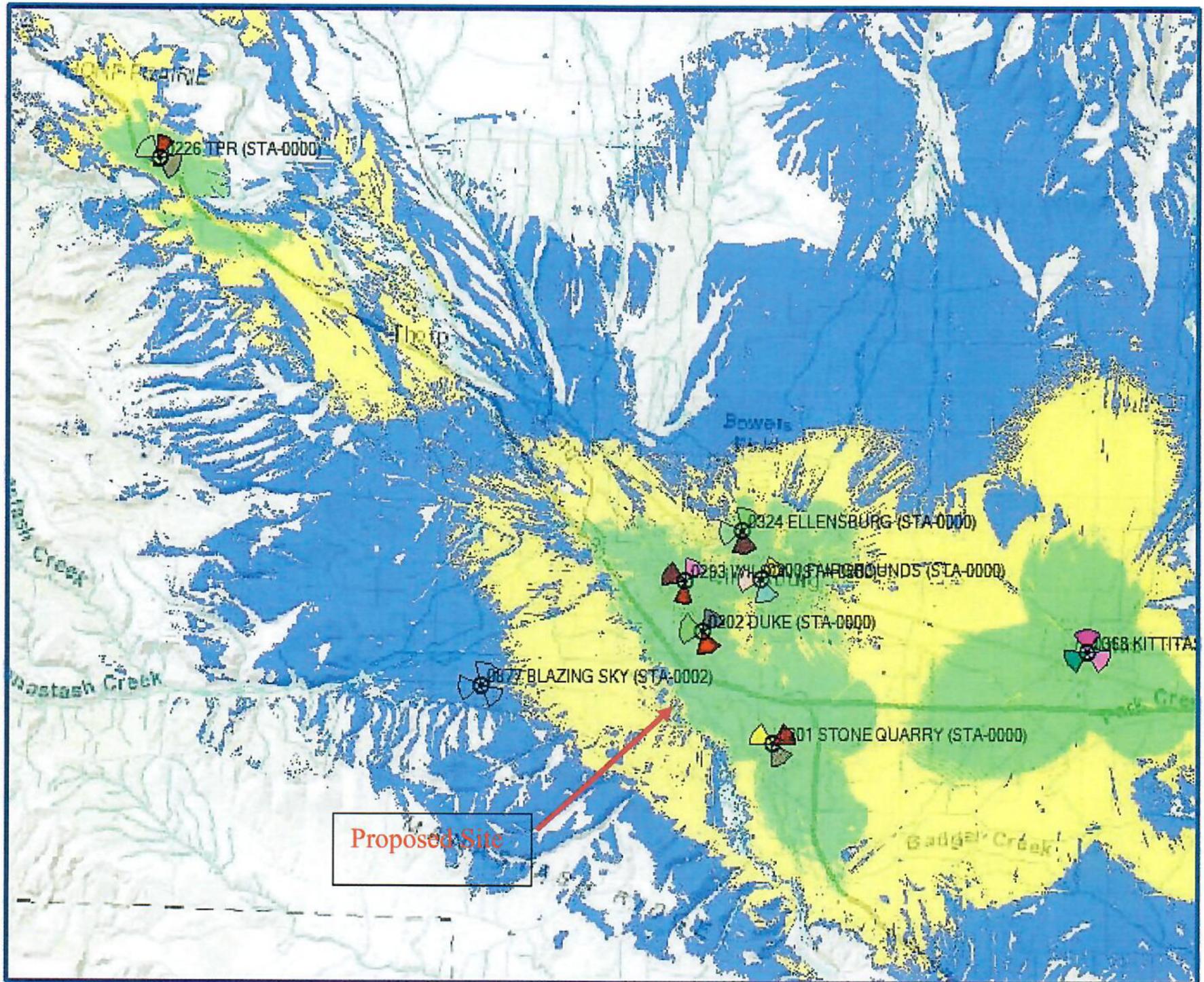
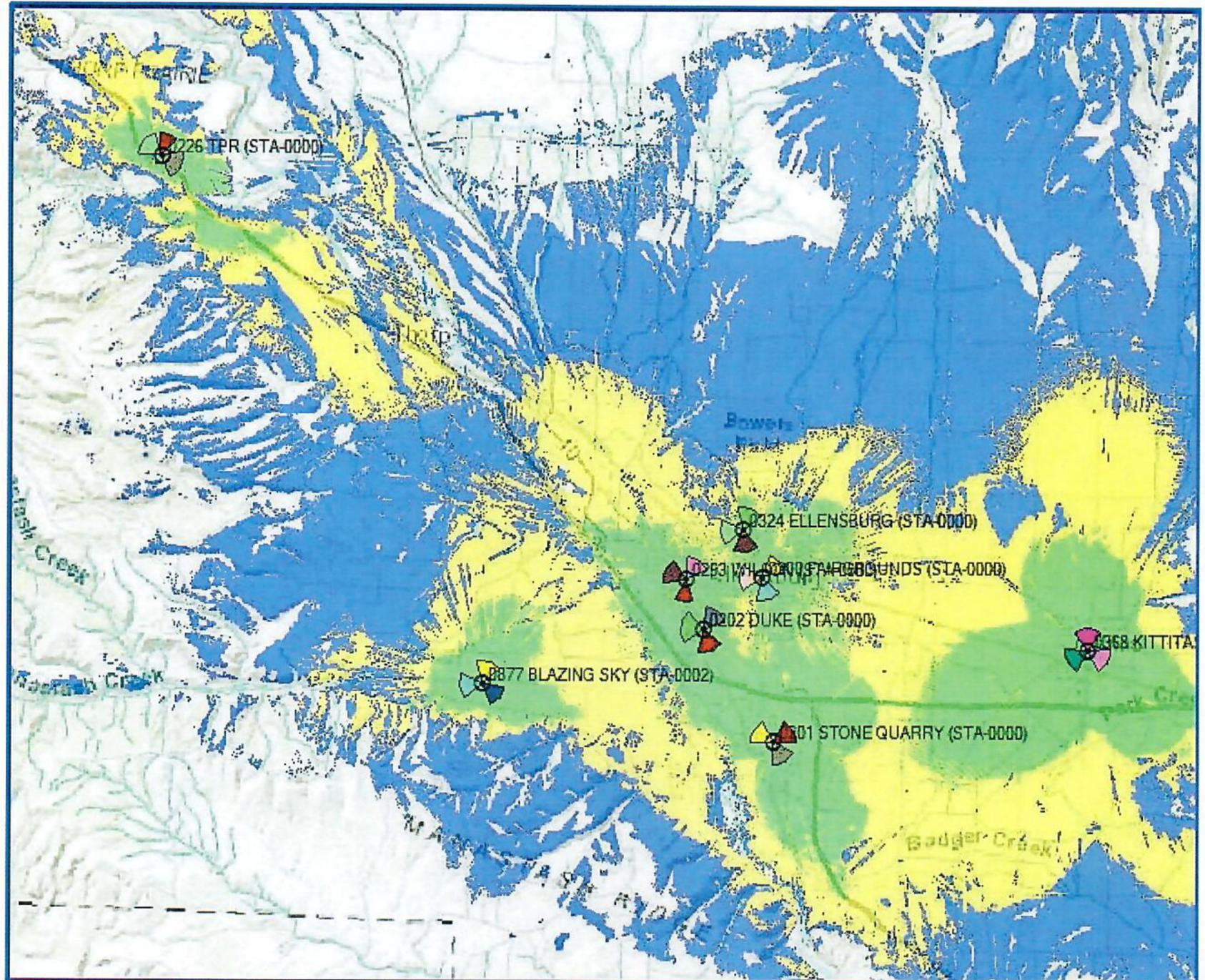


Exhibit 1B shows the level of service that would be provided with the proposed site.



**Capacity:**

An additional function of some wireless sites is to provide additional capacity in an area. The capacity of wireless networks is limited by the number of available antennas and the radios associated with those antennas. When a mobile user attempts to make a call on a wireless network where capacity is limited by these factors, the resulting busy signal can be very frustrating. To remedy capacity issues, additional antenna sites are added to an area to provide additional calling capacity for Verizon Wireless customers.

**Antenna Diversity:**

Antenna diversity, also known as space diversity, is one method of enhancing wireless signal to improve the quality and reliability of a wireless link. Often, in cluttered environments such as the environment surrounding the subject site, there is not a clear line of sight between the antennas and customers' handsets. In these cases, the signal may be reflected along multiple paths before it finally reaches the receiver. These deflections can result in phase shifts, time delays, attenuations, and signal distortion that the customer may experience as an echo or warbling in the signal, or the signal dropping altogether.

Antenna diversity is especially effective at remedying these types of issues because multiple antennas provide several "observations" of the same signal. Each antenna will experience a different interference environment. So, for example, if one antenna is experiencing a deep fade, it is likely that another antenna in the same sector will have sufficient signal. Providing signal diversity then, is absolutely necessary for providing robust signal at the proposed location.

The flush mounting of antennas on an antenna support facility is sometimes viable. But in some cases – as in this case - it is simply not an option. Flush mounting of antennas at this proposed facility would not provide the required spatial diversity gain with antennas mounted at the same rad center. Flush mounting of antennas would require use of a lower rad center for some frequency bands reducing the effective operation of the site. We would not be able to cover some Verizon customers or provide lower quality of service to Verizon customers than other carriers since other carriers may have higher rad center of antennas and they can use spatial diversity gain if their antennas are mounted on the same rad centers for all frequency bands. In this sense, the flush mount antenna may cause a competitive disadvantage.

**Interference Certification**

Verizon Wireless comply all FCC regulation that Verizon Wireless' antennas usage will not interfere with other adjacent or neighboring transmission or reception functions of other communications facilities, as Verizon Wireless will only use frequencies that Verizon Wireless has a license from FCC.

The table below Verizon Wireless frequency licenses per FCC call signs.

**Wireless E- 911**

Approximately 230,000 Wireless 911 calls are made every day nationwide, and this number continues to increase. (source: CTIA, the Wireless Association) Wireless E-911 service depends on reliable signal strength and a fairly dense network of antenna sites in order to function effectively. Because of our federally-mandated obligation to provide wireless E-911 service, signal reliability is paramount. Using multiple antennas with spatial diversity is an effective way to decrease the number of drop-outs and lost connections to ensure that coverage in this area is robust and reliable.

Service	Call Signs	Tx (MHz)	Rx (MHz)
LTE (PCS)	WRJG298	1950-1965	1870-1885
LTE (700)	WQJQ694	746-757	776-787
LTE (AWS)	WQGB231, WQGD476, WQVU575	2120-2140	1720-1740
LTE-TDD (C Band)	WRNG679, WRNG680, WRNG681	3700.000-3760.000	3700.000-3760.000
LTE-TDD (C Band)	WRNG682, WRNG683, WRNG684	3760.000-3820.000	3760.000-3820.000
LTE-TDD (C Band)	WRNG685, WRNG686, WRNG687	3820.000-3880.000	3820.000-3880.000

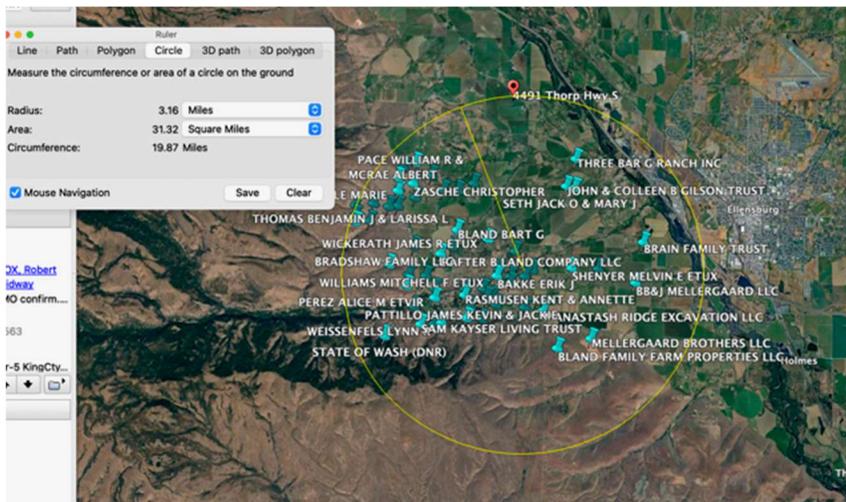
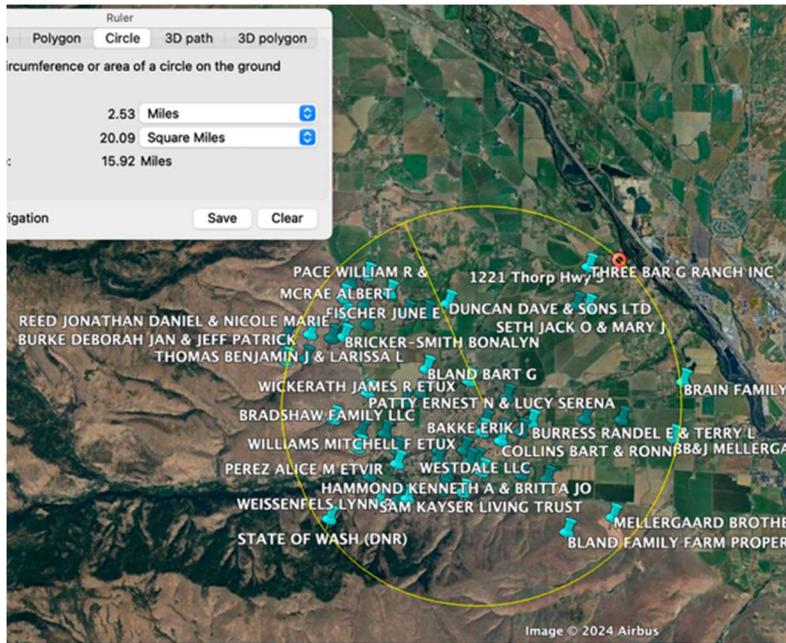
**Summary:**

In summary, the proposed site with antenna tip height of 100' would help Verizon to fill the coverage gap and add capacity in the neighborhood. In addition, Verizon has proposed to install a total of (9) antennas on an existing tower in the area in order to minimize the visual impact of the site.

Sincerely,  
*Praful Poudel*

Praful Poudel  
Verizon Wireless  
Pacific Northwest  
Network Department – System Performance





**Certificate Of Completion**

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Subject: Complete with DocuSign: Responses to appeal comments.pdf	
Source Envelope:	
Document Pages: 3	Signatures: 1
Certificate Pages: 1	Initials: 0
AutoNav: Enabled	Envelope Originator: Sandra Layton sandra layton427@gmail.com
Envelope Stamping: Enabled	IP Address: 63.248.63.80
Time Zone: (UTC-06:00) Central Time (US & Canada)	

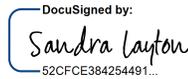
**Record Tracking**

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**Signer Events**

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sandra layton427@gmail.com  
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**Signature**

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Signature Adoption: Pre-selected Style  
Using IP Address: 63.248.63.80

**Timestamp**

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Signed: 2/9/2024 5:22:49 PM  
Freeform Signing

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Not Offered via DocuSign

**In Person Signer Events**

**Signature**

**Timestamp**

**Editor Delivery Events**

**Status**

**Timestamp**

**Agent Delivery Events**

**Status**

**Timestamp**

**Intermediary Delivery Events**

**Status**

**Timestamp**

**Certified Delivery Events**

**Status**

**Timestamp**

**Carbon Copy Events**

**Status**

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**Notary Events**

**Signature**

**Timestamp**

**Envelope Summary Events**

**Status**

**Timestamps**

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**Payment Events**

**Status**

**Timestamps**