



RECORD No. 217 25 - 000293 For Office Use Only PLNG

**Crook County Community Development
Planning Division**

300 NE 3rd Street, Room 12, Prineville Oregon 97754

541-447-3211

plan@crookcountyor.gov

www.co.crook.or.us

SITE PLAN REVIEW - ADMINISTRATIVE



PROPERTY OWNER

Last Name: ALEXANDER First Name: THOMAS
Mailing Address: P.O. Box 61
City: POWELL BUTTE State: OR Zip: 97753
Day-time phone: (541) 604-1258 Cell Phone: (541) 604-1258
Email: _____

AGENT / REPRESENTATIVE

Last Name: Telschow First Name: Sarah
Mailing Address: 5200 SW Meadows Road, Suite 150
City: Lake Oswego State: OR Zip: 97035
Day-time phone: (206) 979-6268 Cell Phone: (206) 979-6268
Email: stelschow@acomconsultinginc.com

PROPERTY LOCATION

Township 15S South, Range 14E East WM, Section 14, Tax lot 15141400-00100-14931
Size of property: 67.12 Acres Zoning: Exclusive Farm Use (EFU3) - Powell Butte Area
Physical address: No address assigned
Subdivision name, if applicable: N/A

FLOOD ZONE

Is the property located within a Flood Zone? Yes _____ No ☒
If yes, submit a "Special Flood Hazard Area Development Permit".

DETAILED EXPLANATION: Describe the proposed use of the property or structure.

Please see the Project Description for detailed information about the proposed use.

STAFF WILL PROVIDE A LIST OF STANDARDS AND CRITERIA THAT WILL NEED TO BE ADDRESSED

Structure #1

Is this structure Existing or Proposed? (Circle one)

Building Use: Telecommunication Facility

Size: 1st floor N/A sq. ft. and 2nd floor N/A sq. ft.

Height: 150' (158' overall) ft. to eave Number of stories: N/A

Personal use: Yes _____ No X Commercial Use: Yes X No _____

Is this structure a **cargo container**? Yes _____ No X

Is this an addition to an existing accessory structure: Yes _____ No X

If yes, what is the existing accessory structure size: N/A sq. ft.

Will there be:

Bedrooms? Yes _____ No X

Plumbing? Yes _____ No X

Electrical? Yes X No _____

Mechanical? Yes X No _____

Structure #2

Is this structure Existing or Proposed? (Circle one)

Building Use: _____

Size: 1st floor _____ sq. ft. and 2nd floor _____ sq. ft.

Height: _____ ft. to eave Number of stories: _____

Personal use: Yes _____ No _____ Commercial Use: Yes _____ No _____

Is this structure a **cargo container**? Yes _____ No _____

Is this an addition to an existing accessory structure: Yes _____ No _____

If yes, what is the existing accessory structure size: _____ sq. ft.

Will there be:

Bedrooms? Yes _____ No _____

Plumbing? Yes _____ No _____

Electrical? Yes _____ No _____

Mechanical? Yes _____ No _____

If there are more than 2 structures, please attach an additional page.

ON-SITE SEPTIC – WASTEWATER: Will there be a bedroom? Yes _____ No X

_____ Approved Soil Site Evaluation # N/A

_____ Approved Authorization Notice # N.A

DOMESTIC WATER Will the structure have water? Yes _____ No X

If yes, water will be supplied by:

_____ An existing or proposed individual well

_____ 4 to 14 dwellings on one well State regulated system

_____ Shared well (Number of dwellings _____)

_____ Other: Please explain _____

_____ Community Water System: Name _____

Community Water System Authorization

Print Name: _____ Daytime phone: _____

Authorization Signature: _____ Date: _____

Access / Road Approach: Indicate the access used for the subject property (Check One Only)

☒ **County Maintained Road:** (submit copy of approved access, or apply for approach permit)

_____ **Public Road:** (submit copy of approved access, or apply for approach permit)

_____ **Private Road / Easement:** (provide legal recorded documentation)

_____ **Oregon Department of Transportation:** (submit copy of approved ODOT permit)

_____ **City Street:** (need authorization for access: contact City of Prineville, Public Works)

IRRIGATION WATER RIGHT:

Please indicate the location of all existing water rights, number of acres, and proposed division of water rights, if applicable. This application must be signed off prior to submitting to Planning Department.

A) Does the property have Irrigation Water Right? Yes N/A No N/A

WATER MASTER SIGNATURE: _____ **DATE:** _____

Print Name Clearly: _____ Phone (____) ____ - ____

IRRIGATION DISTRICT SIGNATURE: _____ **DATE:** _____

Print Name Clearly: _____ Phone: (____) ____ - ____

COMMENTS: _____

Notice to all applicants: The Crook County Community Development, Planning Division is required to review all applications for accuracy and determine the adequacy of information needed to make a decision. Crook County Code (C.C.C.) allows 30 days to determine whether the application is complete. If the Planning Division determines that your application is incomplete, you will be requested in writing or email to provide the necessary missing information, and a decision on your application will be postponed until the information is received. Make sure your application is complete. The burden of proof lies with the applicant.

SIGNATURES

I agree to meet the standards governing the laws as outlined in the State of Oregon's OAR, ORS, Crook County Code, and Crook County – Prineville Comprehensive Plan. I agree that all the information contained in this application is true to the best of my knowledge.

Property Owner Signature: Thomas W. Alexander Date 1/24/25

Print name: THOMAS W ALEXANDER

Property Owner Signature: _____ Date _____

Print name: _____

Agent/Representative Signature: Sarah Telschow, AICP Digitally signed by Sarah Telschow, AICP
Date: 2025.08.08 09:27:33 -07'00' Date 8/8/2025

Print name: Sarah Telschow



Crook County Community Development
300 NE 3rd Street, Prineville, OR 97754
Phone: (541) 447-3211 Fax: (541) 416-2139
Email: plan@crookcountyor.gov

AGENT AUTHORIZATION FORM

Let it be known:

Acom Consulting Inc.

has been retained to act as my authorized agent in submitting and managing the applications and information for the development of my property.

Select the appropriate processes:

- ☒ Pre application conference
- ☒ Land Use/Planning applications
- ☒ Building applications and permits

Tax Map # (13 digit/letter combination): 15141400-00100-14931

Physical address or TBD and road name: SW Williams Road

Property owner name: Thomas Alexander

Mailing Address: P.O. Box 61 Powell Butte, OR 97753

Phone: (541) 604-1258 email address: alexander_sarah_powellbutte@outlook.com

Property Owner/s Signature: Thomas Alexander Date: 9/15/25

NOTE:

- If the property is owned by an entity, include the names of all the authorized signers.
- If a Corporation: Provide the name of the President, or other authorized signor and provide a copy of the bylaws or an operation agreement that verifies authorization to sign on behalf of the entity.
- If an LLC: Provide either an operating agreement or a Certificate of Trust
- If a Trust: Provide the name of the current Trustee (s) and supporting document that verifies authorization to sign on behalf of the entity

Agent name and business name: Acom Consulting Inc. (Agent for Harmoni Towers and Verizon Wireless)

Mailing Address: 5200 SW Meadows Road, Suite 150, Lake Oswego, OR 97035

Phone: (206) 979-6268 email address: stelschow@acomconsultinginc.com

Signature: Sarah Telschow, AICP Digitally signed by Sarah Telschow, AICP
Date: 2025.08.28 14:37:26 -07'00' Date: 8/28/2025

The cost of the above actions, if not satisfied by the agent, are the responsibility of the property owner. This authorization expires 12 months from the owner's signature, or at the time the selected applications and processes are final, whichever is sooner.

Expiration date: _____



AGENT AUTHORIZATION

To Whom This May Concern:

Re: Agent Authorization

This letter is to confirm that Acom Consulting Inc. is hereby an authorized agent to represent Verizon Wireless.

Please accept this letter as confirmation of agent status.

Rena Dinkelspiel

Print Name


Rena Peyton (Jan 28, 2025 11:11 CST)

Signature

SR RE Specialist

Print Title (if applicable)

01/28/2025

Date

PROJECT DESCRIPTION

INTRODUCTION

Harmoni Towers and Verizon Wireless (hereafter referred to as “Verizon”) are collaborating on this project.

Verizon is a wireless telephone company operating throughout the United States of America. Verizon is licensed to operate in the United States by the Federal Communications Commission (FCC). Verizon is currently expanding its network in the Crook County area to provide improved telephone service and provide wireless capacity to its subscribers. Harmoni Towers provides and manages wireless infrastructure assets throughout the United States.

This proposal describes the proposed project's scope by providing specific information regarding the project location, zoning, specifications, and required services.

Harmoni Towers and Verizon (the “Applicants”) desire to work with Crook County to ensure that this project is consistent with local ordinances and zoning regulations while providing wireless coverage to Verizon’s customers and providing critical communication services for emergency, business, and personal use.

Project Goals

The Ditch Rider site is needed to increase capacity along Highway 126 between Redmond and Prineville and expand coverage to the Powell Butte community. Without these improvements, customer experience in the area will continue to decline. Over the years, residents on the north side of Powell Butte have reported poor service. To better serve its customers, Verizon plans to enhance network performance in rural areas of Crook County by adding the proposed site to strengthen overall coverage.

Please see the enclosed Verizon Wireless Radio Frequency (RF) letter, RF Justification Letter from Biwabkos Consultants LLC, Alternate Site Analysis by Biwabkos Consultants LLC, and Drive Test Report by Biwabkos Consultants LLC for more detailed information regarding site justification. Verizon aims to achieve its network goals in full compliance with all Crook County policies and ordinances.

Application Request Plan

The Applicants are requesting the following approval as part of this Application:

- Site Plan Review

GENERAL PROJECT DESCRIPTION

Project Overview

The Applicants propose a new one hundred fifty-foot (150') monopole with an overall height of one hundred fifty-eight feet (158') to accommodate a new telecommunication facility near 3450 SW Williams Road, Powell Butte, Oregon (Parcel Number 15141400-00100-14931).

The proposed telecommunication facility consists of a new one hundred fifty-foot (150') monopole with an overall height of one hundred fifty-eight feet (158'), nine (9) panel antennas, auxiliary equipment, three (3) equipment cabinets that house radio equipment and/or batteries, and a 30kw diesel backup generator. Please see Sheet A-2.1 for additional information.

Verizon proposes to lease equipment space on the property. Harmoni Towers has secured a lease with the owners that will allow for the construction and maintenance of this facility, necessary utility connections, and provisions for access to the site.

Facility Specifications

- Antennas - Verizon proposes to attach nine (9) new panel antennas to the proposed monopole with an overall height of one hundred fifty-eight feet (158'). Please see Sheet A-3 for additional information.
- Auxiliary Equipment - Verizon proposes to attach the following auxiliary equipment to the monopole: remote radio units (RRU), surge protector/OVP, and hybrid cables. Please see Sheet A-3 for additional information.
- Equipment Cabinets - The cabinet contains radio equipment and/or batteries. The proposed nickel-cadmium (Ni-CD) batteries do not exceed 75 kWh capacity as outlined in Section 608 Stationary Storage Battery System in the International Fire Code (IFC). Verizon's equipment will meet all applicable noise standards and fire requirements.
- Color - The tower will be steel with a non-reflective finish.
- Facility Maintenance - The facility is typically serviced once a month, with one or two employees on-site for an average of four hours to perform preventive maintenance. If an issue arises, a maintenance crew is dispatched to the site immediately.
- Generator - Verizon proposes to install a 30-kW generator with a 190-gallon diesel tank to provide emergency backup power. The generator will be located within the designated equipment area and will comply with all applicable fire and noise regulations.

GENERAL SITE ANALYSIS

Zoning General Plan Designation

The site is zoned Exclusive Farm Use (EFU3) - Powell Butte Area. According to the Crook County Zoning Ordinance Section 18.16.010 Use Table, a transmission tower less than 200 feet in height that qualifies as a utility facility necessary for public service is allowed in the EFU3 zone, subject to site plan review:

	Use	Use Type	Review Procedure	Subject To
6.4	Utility facilities necessary for public service, including associated transmission lines as defined in ORS 469.300 and wetland waste treatment systems but not including commercial facilities for the purpose of generating electrical power for public use by sale or transmission towers over 200 feet in height.	STS	Notice and Opportunity for Hearing	18.16.015(15)

Crook County Zoning Ordinance Section 18.124.110(1)(a), which addresses the specific approval process for Transmission Towers, also provides that a transmission tower less than 200 feet in height is allowed in the EFU3 zone, subject to site plan review:

(1) Applicability. Height Restrictions for Transmission Towers/Site Plan Review and Conditional Use.

(a) In EFU and Forest Zones. Transmission towers less than 200 feet in height or siting on a colocation facility shall be by site plan review based upon the standards contained within this section. New towers proposed to be greater than 200 feet in height shall be by conditional use, pursuant to this section. Nothing herein shall preclude any uses permitted outright under ORS 215.213(1)(d) or 215.283(1)(d).

The proposed new transmission tower is less than two hundred feet (200') in height and is located within the EFU3 zone. The Applicants are submitting this Site Plan Review Application for review and approval pursuant to Crook County Zoning Ordinance Sections 18.16.010, Use Table 6.4, and Section 18.124.110(1)(a)

Utility Facilities Necessary for Public Service – Exclusive Farm Use (EFU3)

ORS 215.283(1)(c), ORS 215.275(2), OAR 660-033-0130(16)(a), and Crook County Zoning Ordinance Section 18.16.015(15) provide the approval criteria for determining if a transmission tower qualifies as a utility facility necessary for public service.

ORS 215.283(1) provides in relevant part:

The following uses may be established in any area zoned for exclusive farm use:

- (c) Utility facilities necessary for public service, including wetland waste treatment systems but not including commercial facilities for the purpose of generating electrical power for public use by sale or transmission towers over 200 feet in height. A utility facility necessary for public service may be established as provided in:

- (A) ORS 215.275 (Utility facilities necessary for public service); or

Oregon courts and LUBA have previously determined that a telecommunication facility qualifies as a utility facility necessary for public service if it satisfies the criteria in ORS 215.275(2). *Seeberger v. Yamhill County*, 56 Or LUBA 656, 659 (2008); *Sprint PCS v. Washington County*, 186 Or App 470 (2003). ORS 215.275(2) provides the exclusive criteria for determining if the wireless communication facility is a “utility facility necessary for public service” under these provisions and local governments cannot impose additional approval standards or criteria. *Brentmar v. Jackson County*, 321 Or 481, 496 (1995); *Sprint PCS v. Washington County*, 186 Or App at 476; *Seeberger v. Yamhill County*, 56 Or LUBA at 659. The Applicant is entitled to a considerable amount of discretion in determining the objectives for the facility and alternatives sites that do not meet those objectives are not “reasonable alternatives” under ORS 215.275(2). *Sprint PCS v. Washington County*, 186 Or App at 480-81.

ORS 215.275 provides as follows:

- (1) A utility facility established under ORS 215.213 (Uses permitted in exclusive farm use zones in counties that adopted marginal lands system prior to 1993) (1)(c)(A) or 215.283 (Uses permitted in exclusive farm use zones in nonmarginal lands counties) (1)(c)(A) is necessary for public service if the facility must be sited in an exclusive farm use zone in order to provide the service.

- (2) To demonstrate that a utility facility is necessary, an applicant for approval under ORS 215.213 (Uses permitted in exclusive farm use zones in counties that adopted marginal lands system prior to 1993) (1)(c)(A) or 215.283 (Uses permitted in exclusive farm use zones in nonmarginal lands counties) (1)(c)(A) must show that reasonable alternatives have been considered and that the facility must be sited in an exclusive farm use zone due to one or more of the following factors:

(a) Technical and engineering feasibility;

(b) The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;

(c) Lack of available urban and nonresource lands;

(d) Availability of existing rights of way;

(e) Public health and safety; and

(f) Other requirements of state or federal agencies.

(3) Costs associated with any of the factors listed in subsection (2) of this section may be considered, but cost alone may not be the only consideration in determining that a utility facility is necessary for public service. Land costs shall not be included when considering alternative locations for substantially similar utility facilities. The Land Conservation and Development Commission shall determine by rule how land costs may be considered when evaluating the siting of utility facilities that are not substantially similar.

(4) The owner of a utility facility approved under ORS 215.213 (Uses permitted in exclusive farm use zones in counties that adopted marginal lands system prior to 1993) (1)(c)(A) or 215.283 (Uses permitted in exclusive farm use zones in nonmarginal lands counties) (1)(c)(A) shall be responsible for restoring, as nearly as possible, to its former condition any agricultural land and associated improvements that are damaged or otherwise disturbed by the siting, maintenance, repair or reconstruction of the facility. Nothing in this section shall prevent the owner of the utility facility from requiring a bond or other security from a contractor or otherwise imposing on a contractor the responsibility for restoration.

(5) The governing body of the county or its designee shall impose clear and objective conditions on an application for utility facility siting under ORS 215.213 (Uses permitted in exclusive farm use zones in counties that adopted marginal lands system prior to 1993) (1)(c)(A) or 215.283 (Uses permitted in exclusive farm use zones in nonmarginal lands counties) (1)(c)(A) to mitigate and minimize the impacts of the proposed facility, if any, on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmlands.

OAR 660-033-0130(16)(a) and Crook County Zoning Ordinance Section 18.16.015(15) reference and implement the same approval criteria set forth in ORS 215.275.

As previously noted, a telecommunication facility qualifies as a utility facility necessary for public service if it satisfies the criteria in ORS 215.275(2). The proposed telecommunication

facility is clearly a utility facility necessary for public service because it will provide infrastructure that is essential to the public. The proposed facility will provide critical communication services including emergency response (911 calls), law enforcement, fire protection, and medical services.

To demonstrate the proposed telecommunication facility is “necessary,” the Applicants must show that reasonable non-EFU zoned alternatives have been considered and that the facility must be sited in the EFU due to one or more of the factors in ORS 215.275(2). The Applicants are only required to consider alternative sites that are outside the EFU zone and are not required to consider alternative EFU-zoned properties. *Dayton Prairie Water Assn. v. Yamhill County*, 170 Or App 6, 11 (2000).

Prior to filing the Application, the Applicants considered multiple alternative non-EFU zone options and determined that none of these options are feasible and/or can satisfy the coverage and capacity objectives for this site. The following is a summary of the reasons why these alternative non-EFU zone options are not feasible or cannot satisfy the coverage and capacity objectives for this site.

Evaluation of Alternative Sites

Co-location Options Reviewed:

The Applicants initially considered collocating this facility on an existing tower in the area. Based on the Applicants’ review of the FCC and the FAA documents, there are no existing wireless communications support structures in the immediate vicinity to locate this facility. The closest tower is over four miles away. As explained below, none of the existing towers in the area can satisfy the coverage and capacity objectives of this site, or they are not feasible because they already have Verizon antennas located on them. The Applicants evaluated and ruled out the following co-location options for the following reasons.

Alternative Site #1 – Sprint American Tower Corporation Tower:

- The Sprint/American Tower Corporation one hundred ninety-six feet (196’) lattice tower located southeast of the project site on parcel # 1515210000400 is located approximately 4.28 miles from the proposed site. This location is identified as Alternate Site #1 in the Alternate Site Analysis by Biwabkos Consultants LLC. Co-locating on this tower will not achieve the coverage or capacity objectives for this site. As noted in the Alternate Site Analysis: “This alternative provides reduced coverage in comparison to the proposed site and does not satisfy the coverage and capacity objectives for this site” and “Alternate 1 – ATC tower located 4.27 miles to the East does not provide the same level of service in the coverage objective and does not provide the offload to the neighbors to the East and South.”

Verizon Wireless Tower – Wiley - Parcel # 1615000000800:

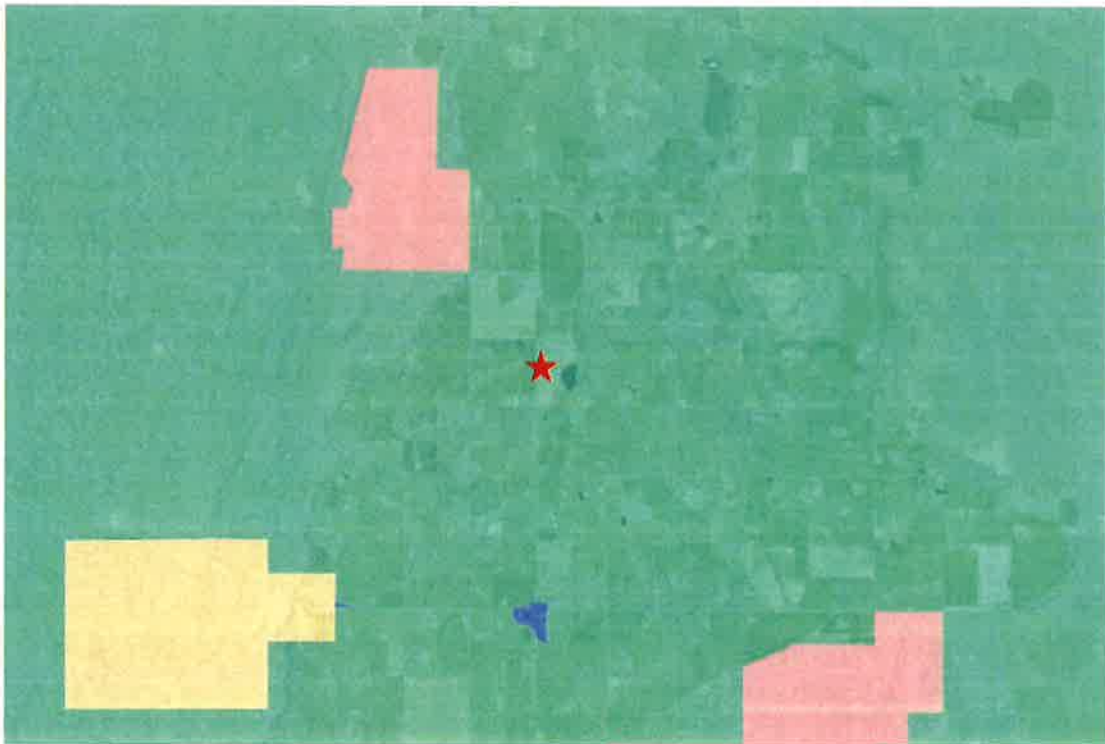
- The guyed tower located southeast of the project site on parcel # 1615000000800 already accommodates Verizon Wireless antennas. As explained in the RF Justification Letter from Biwabkos Consultants LLC: “Adding antennas to the neighbor sites located to the South will not provide the power per link or the throughput per link needed to resolve the issue.”

Verizon Wireless Tower – Powell Butte South – Parcel # 1614150001400:

- The tower located southwest of the project site at 13300 SW Shumway Road (Parcel # 1614150001400) already accommodates Verizon Wireless antennas. As explained in the RF Justification Letter from Biwabkos Consultants LLC: “Adding antennas to the neighbor sites located to the South will not provide the power per link or the throughput per link needed to resolve the issue.”

Alternative Non-EFU Sites Reviewed:

The Applicants considered several alternative non-EFU zoned properties, but none of these other sites can satisfy the coverage and capacity objectives for this project. All the properties surrounding the proposed site are zoned Exclusive Farm Use 3 (EFU3). The closest differently zoned area is Rural Residential (R5), located approximately one mile northwest of the project site. The map below shows the Crook County zoning designations near Powell Butte:



- Exclusive Farm Use 3 (EFU3)
- Rural Residential (R5)
- Powell Butte Rural Residential (PBR20)
- Rural Service Center (RSC)

The Applicants evaluated and ruled out the following non-EFU zoned properties for the following reasons.

Alternate Site #2 – Powell Butte Rural Residential (PBR20):

- The Powell Butte Rural Residential (PBR20) area, located southwest of the proposed site, was evaluated as Alternate Site #2 in the Alternate Site Analysis by Biwabkos Consultants LLC. However, this location does not meet the project's coverage or capacity requirements. The Alternate Site Analysis states that this site "...provides reduced coverage in comparison to the proposed site and does not satisfy the coverage and capacity objectives..." Additionally, it is situated, "...too close to the neighbor sites to the South and will not provide the service needed to the North."

Alternate Site #3 – Rural Residential (R5) Northwest:

- Rural Residential (R5) zone to the northwest of the proposed location was reviewed as Alternate Site #3. According to the Alternate Site Analysis by Biwabkos Consultants LLC, this site is too far north and "...does not provide the offload to the neighbor sites to the South". The report concludes that the site offers less coverage than the proposed location and does not meet the service goals for coverage and capacity.

Alternate Site #4 – Rural Residential (R5) Southeast:

- Rural Residential (R5) designated zoning to the southeast proposed site was analyzed as Alternate Site #4 in the Alternate Site Analysis by Biwabkos Consultants LLC. This location was found to be unsuitable because it is too near existing southern facilities and "...and will not provide the service needed to the North". The Alternate Site Analysis also notes that this site provides inferior coverage compared to the proposed site and does not fulfill the project's technical requirements.

Alternate Site #5 – Rural Service Center (RSC):

- The Rural Service Center (RSC) to the south was considered as Alternate Site #5. According to the findings in the Alternate Site Analysis by Biwabkos Consultants LLC, this site is also too close to nearby southern sites and does not "... provide the service needed to the North." As with the other alternate locations, this option results in diminished coverage and fails to meet the project's capacity and service objectives.

The proposed site was selected because it is the only feasible option that can satisfy Verizon's coverage and capacity objectives for this project. Therefore, the facility must be sited in an exclusive farm use zone and reasonable alternatives are not available based on the factors set forth in ORS 215.275(2)(a), (b) and (c).

The proposed wireless telecommunication facility has been carefully designed and strategically located to ensure it does not interfere with existing agricultural practices. The tower has been located on a portion of the property that is not actively farmed.

The proposal will not impact any of the surrounding farmlands, cause a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmlands. The facility is a passive use that does not generate emissions, excessive noise, or physical obstructions that could disrupt farming activities, does not require any alterations to current agricultural operations, and will not impact irrigation, land use patterns, or equipment access.

Development Standards – Exclusive Farm Use (EFU3) – Powell Butte Area

Although a utility facility necessary for public service is not subject to local approval standards or criteria beyond those set forth in ORS 215.275, the proposal does comply with the applicable County development standards as explained below. Crook County Zoning Ordinance Section 18.16.075 provides the following setback requirements:

All dwellings and structures approved pursuant to Table 1 shall be sited in accordance with this section.

- (1) Lot Size Standards. Lot size shall be consistent with the requirements of CCC 18.16.070.
- (2) In an EFU zone, the minimum setback of a structure shall be as follows:
 - (a) Front setback shall be:
 - (i) Twenty feet from the property line for a property fronting on a local minor collector or marginal access street.
 - (ii) Thirty feet from a property line fronting on a major collector ROW.
 - (iii) Eighty feet from an arterial ROW unless other provisions for combining accesses are provided and approved by the county.
 - (b) Each side setback shall be a minimum of 20 feet from property line, except corner lots where the side yard on the street side shall be a minimum of 30 feet.
 - (c) Rear setback shall be a minimum of 25 feet from property line.
 - (d) If a parcel in the EFU zone is nonbuildable as a result of the setback requirements, the reviewing authority may consider a variance in accordance with Chapter 18.164 CCC from the land owner to adjust the setback requirements to make the parcel buildable. (Ord. 336 § 6 (Exh. E), 2023; Ord. 309 § 2 (Exh. C), 2019)

The subject parcel size is 67.12 acres. The proposed telecommunication facility meets the Exclusive Farm Use (EFU3) setback requirements. The proposed setbacks are as follows:

- North (Side) – 1,470'
- East (Rear) – 769'
- South (Side) – 1,164'
- West (Front) – 100'

Please see Sheet A-1 in the enclosed plans for more detailed information.

Signs

Although a utility facility necessary for public service is not subject to local approval standards or criteria beyond those set forth in ORS 215.275, the proposal does comply with the applicable County sign standards as explained below. Crook County Zoning Ordinance Section 18.124.040 provides:

In addition to the standards and limitations set forth in this title, signs shall be installed in accordance with applicable regulations of state and federal

agencies. No sign will hereafter be erected, moved or structurally altered without being in conformity with the provisions of this title. Official traffic control signs and instruments of the state, county or municipality are exempt from all provisions of this title.

- (1) All outdoor signs shall be in compliance with the provisions of this title and the provisions of Chapter 377 ORS when applicable.
- (2) No outdoor sign permitted by Chapter 377 ORS shall be erected within 300 feet of a residential dwelling without written consent of the owner and/or occupant of said dwelling.
- (3) No sign shall be placed as to interfere with visibility or effectiveness of any official traffic sign or signal, or with driver vision at any access point or intersection.
- (4) No sign shall cause glare, distraction or other driving hazards within a street or road right-of-way.
- (5) No sign shall shine directly upon a residential dwelling or otherwise create a nuisance.
- (6) In addition to the limitations on signs as provided by subsections (1) through (5) of this section, additional sign restrictions may be required as determined by the planning commission in approving conditional uses, as provided by Chapter 18.160 CCC. (Ord. 280 § 15 (Exh. O), 2015; Ord. 18 § 4.070, 2003)

No signs will be on site unless required by Crook County, the State of Oregon, the FCC, or the FAA.

Submittal Requirements

Although a utility facility necessary for public service is not subject to local approval standards or criteria beyond those set forth in ORS 215.275, the proposal does comply with the applicable County submittal requirements as explained below. Crook County Zoning Ordinance Section 18.124.110(3) provides the following submittal requirements:

Submittal Requirements. An application for a transmission tower in either an EFU zone or a forest zone shall include:

- (a) A copy of the executed lease from the owner of the site of the property where the tower will be located;

Please see the enclosed copy of the memorandum of lease.

- (b) A copy of the applicant's Federal Communications Commission license. A copy of this document will not be required to be submitted if applicant is not a personal wireless service provider, and is seeking approval only for a support structure for a wireless telecommunications facility;

Please see the enclosed copy of Verizon Wireless's FCC license.

- (c) For a new tower, a map that shows the applicant's search area for the proposed site and the properties within the search ring, including locations of existing telecommunications towers or monopoles;

Please see the enclosed Verizon Wireless Radio Frequency (RF) letter, RF Justification Letter from Biwabkos Consultants LLC, Alternate Site Analysis by Biwabkos Consultants LLC, and Drive Test Report by Biwabkos Consultants LLC. Additionally, please review the above Evaluation of Alternative Sites on pages 6-8.

- (d) For a new tower, a copy of the written notice of the required neighborhood meeting and a certificate of mailing showing that the notice was mailed to the list of property owners falling within the notice area designated under CCC 18.124.110(2);

Please see the copy of the written notice and copies of the required neighborhood meeting which adheres to the following requirements outlined in Crook County Zoning Ordinance Section 18.124.110(2)(b):

Neighborhood Meeting. Prior to submitting an application for a transmission tower, the applicant shall provide notice of and hold a meeting with interested owners of the property nearby to a potential facility location. Notice shall be in writing and shall be mailed no less than 10 days prior to the date set for the meeting to owners of record of property within a notice area of 2,000 feet of the boundary of the property on which the applicant proposes to establish a tower or monopole greater than 30 feet in height. For the purpose of this section, the property on which an applicant proposes to establish a transmission tower includes the lot of record on which the applicant will locate the facility and all contiguous lots of record held in common ownership. The applicant shall notify the owners of record of a minimum of 20 properties located within 660 feet of the affected property. If the number of owners of property notified in the notice area does not equal at least 20, the applicant shall notify the owners of record of property within the next increment of 660 feet from the initial notice area until the number of owners of property notified reaches at least 20. The applicant shall also provide a copy of this notice to the planning department.

The mailing list of owners within 2,000 feet of the subject property was obtained from Crook County GIS.

- (e) For a new tower, a transcript of the neighborhood meeting or copies of the audiotape recordings of the meeting. The applicant shall also submit a list of attendees, including the date, time, and location of the meeting;

Please see the copy of the audio recording, list of attendees, and the date, time, and location of the required neighborhood meeting.

- (f) A site plan showing the location of the proposed facility and its components. The site plan shall also identify the location of the existing and proposed landscaping, any equipment shelters, utility connections, and fencing proposed to enclose the facility, and lighting if any is proposed. Describe primary and emergency energy sources proposed for the cell tower;

Please see the enclosed plans, including the site plans and elevations.

- (g) A copy of the design specifications, including photographs or manufacturer's graphic representations of proposed colors, and an elevation of an antenna array proposed with the facility, and lighting, if any, for the facility;

Please see the enclosed photo simulations.

- (h) An elevation drawing of the facility and a photographic simulation of the facility showing how it would fit into the landscape. The elevation drawing shall be drawn to scale and show the existing trees adjacent to the proposed facility and show the height of such trees from existing grade to the highest portion of each tree. This documentation shall include any support structure, transmission equipment including antennas and microwave dishes, and any ground-based equipment cabinets or shelters;

Please see the enclosed plans, including the site plans and elevations.

- (i) A copy of a letter of determination from the Federal Aviation Administration or the Oregon Department of Transportation - Aeronautics Division as to whether any requirements, including but not limited to aviation lighting, would be required for the proposed facility. Such letter of determination shall be submitted prior to issuance of a decision by the county planning authority;

No aviation lighting is required for the proposed tower. Please see the enclosed FAA determination and the Oregon Department of Aviation (ODAV) determination letters.

- (j) An agreement and security in accordance with CCC 17.40.080 and 17.40.090 for removal of any support structure and any ground-based equipment or accessory structures, such as equipment buildings and security fences;

A Removal Agreement will be provided before the final approval in accordance with CCC 17.40.080 and 17.40.090.

- (k) Proof that the applicant is not able to collocate similar telecommunication structures on existing transmission facilities or locate on existing structures;

Please see the provided Verizon Wireless Radio Frequency (RF) letter, RF Justification Letter from Biwabkos Consultants LLC, Alternate Site Analysis by Biwabkos Consultants LLC, and Drive Test Report by Biwabkos Consultants LLC. Additionally, please review the above Evaluation of Alternative Sites on pages 6-8.

- (l) In the event that the applicant plans to develop more than one tower in Crook County, the applicant shall simultaneously submit a tentative plan for future tower site development in the county.

The Applicants are unable to provide a tentative plan for future tower site development in the County for several reasons. The Applicants do not have a tentative plan for future tower site development in the County and providing one now would conflict with the County

requirements to consider certain colocation options and alternative sites before proposing a new tower. Submitting such a tentative plan into the public record would conflict with the Applicants need to protect proprietary and confidential business information. The County is not entitled to require such a tentative plan because a utility facility necessary for public service is not subject to local approval standards or criteria beyond those set forth in ORS 215.275.

FCC Time Period Guidelines

On November 18, 2009, the FCC issued a Declaratory Ruling (FCC-09-99A1) that created periods of time under the Telecommunications Act (TCA) in which zoning authorities must act upon siting applications filed by wireless carriers or be in violation of the TCA. Specifically, the timelines are as follows: ninety (90) days for co-locations and one hundred fifty (150) days for all other sites including new towers. Please see the FCC Declaratory Ruling 09-99A1 for more detailed information.

Federal Requirements

Verizon's proposed telecommunication facility will meet or exceed current standards and regulations of the FAA, the FCC, and any other agency of the Federal government with the authority to regulate towers and antennas.

Verizon's site will conform to all FAA/FCC regulations, and because the maximum ERP is less than two thousand (2,000) watts and/or the height of the facility is greater than ten meters (10m), an environmental evaluation of radio frequency emissions is exempted per CFR Title 47 Part 24, Subpart E.

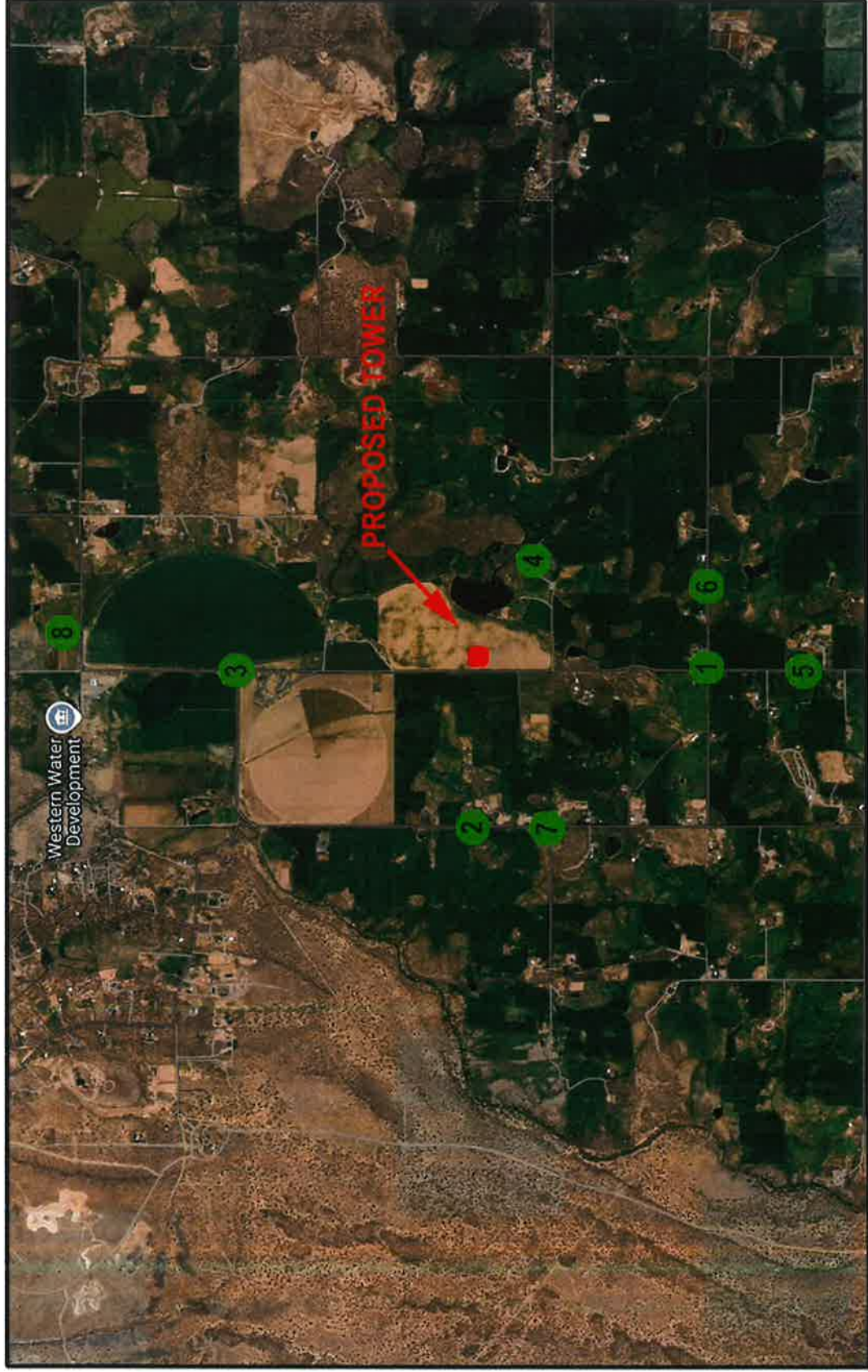
Verizon Wireless has a license from the FCC to provide wireless telecommunication services throughout Oregon State.



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR

PHOTO SIM LOCATIONS



TIM BRADLEY IMAGING



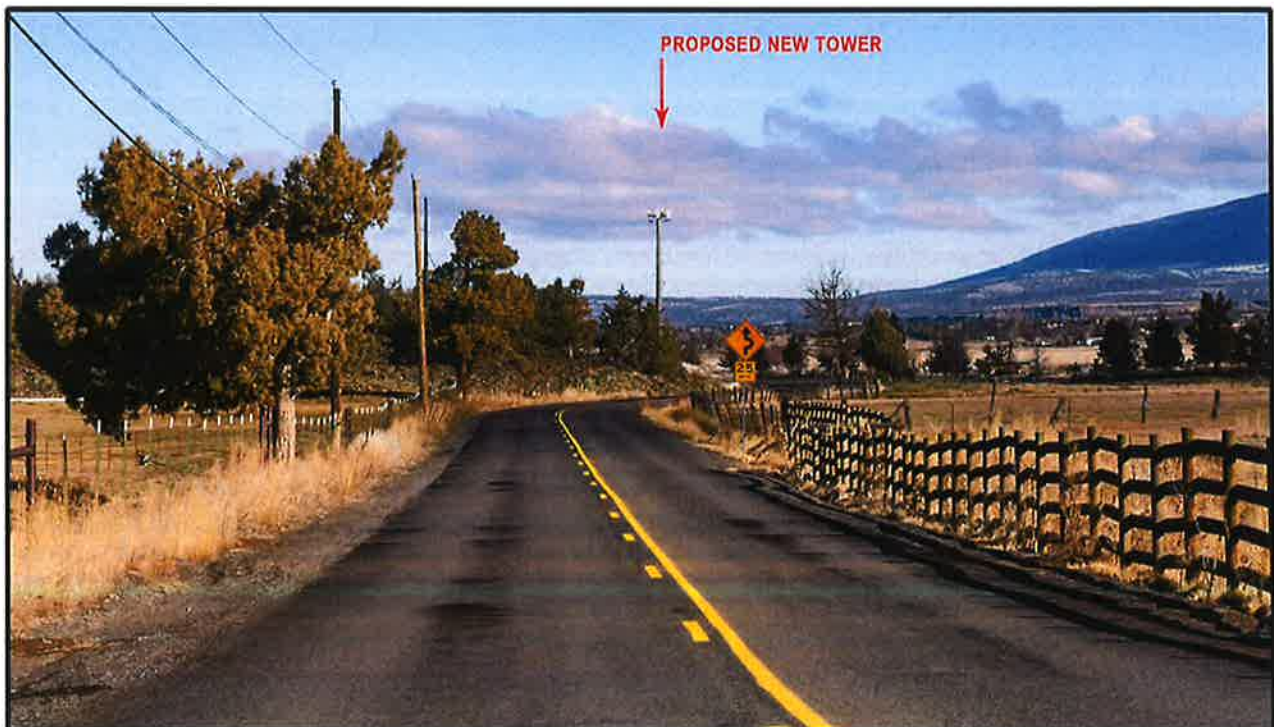
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #1
LOOKING NORTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



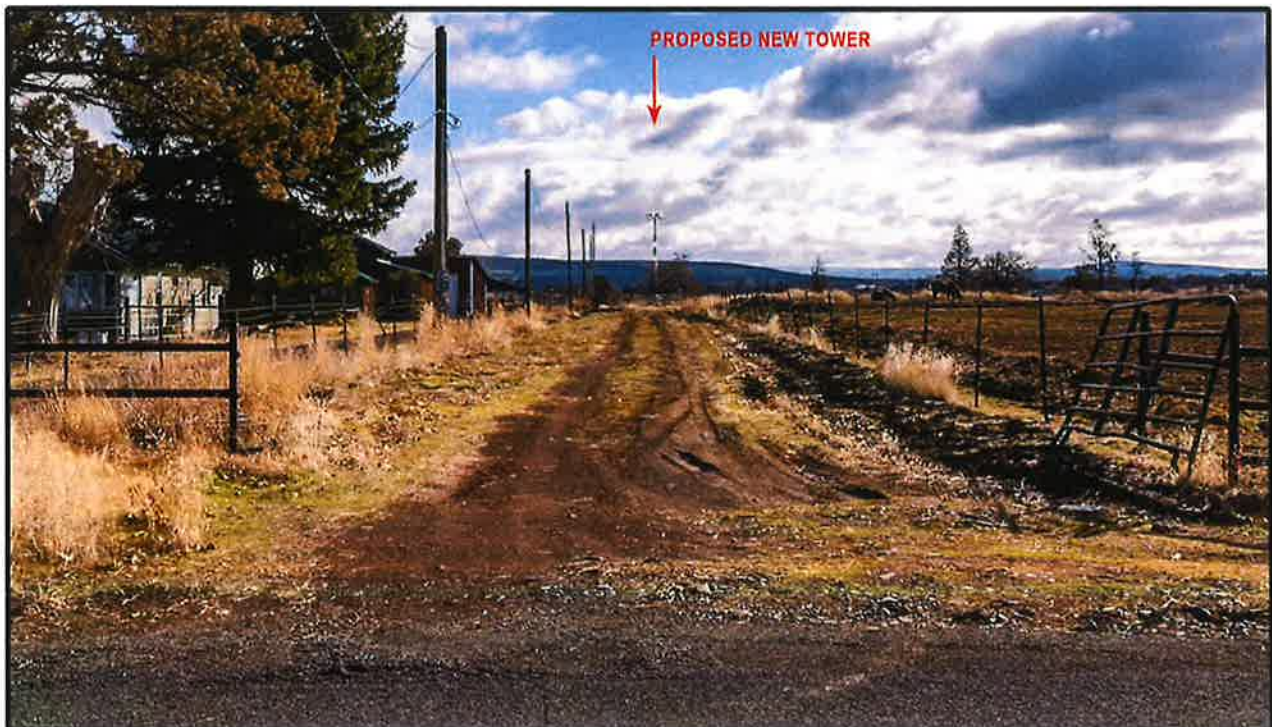
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #2
LOOKING EAST ON SW REIF RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #3
LOOKING SOUTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

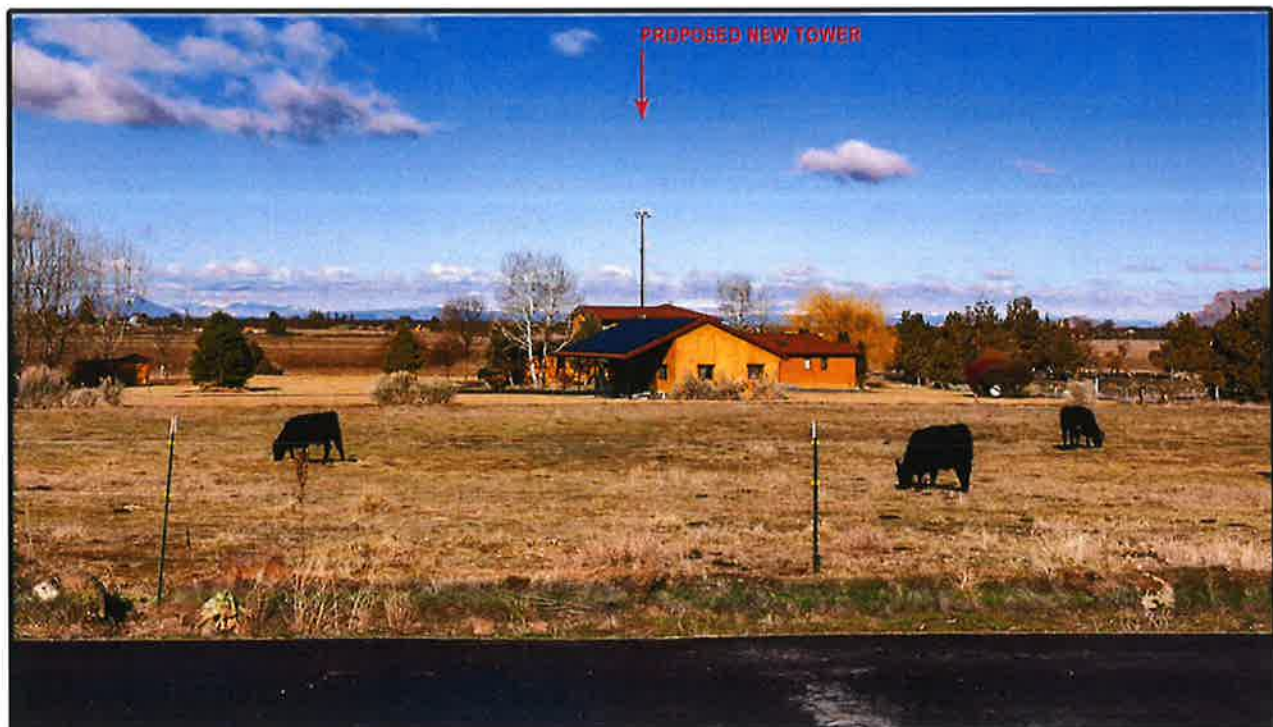
3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #4

LOOKING NORTHWEST FROM 3694 SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #5
LOOKING NORTHWEST DIXON RD.



PROPOSED

TIM BRADLEY IMAGING



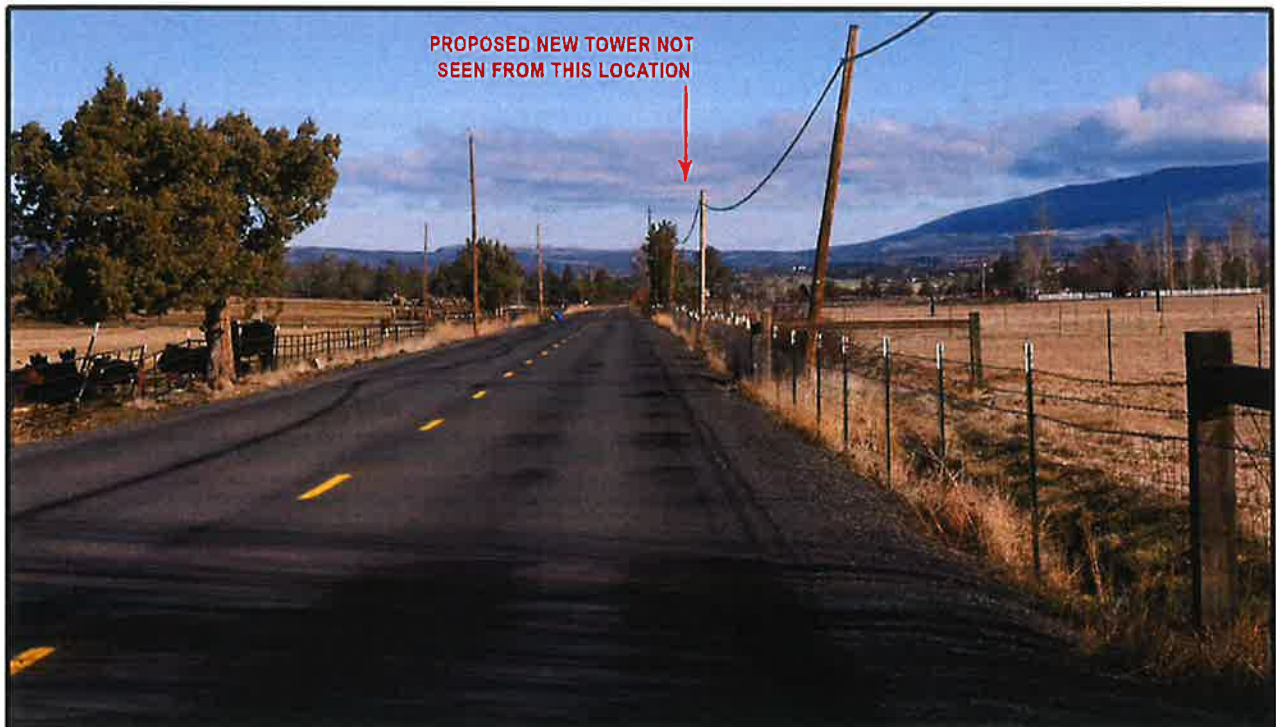
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #6
LOOKING NORTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

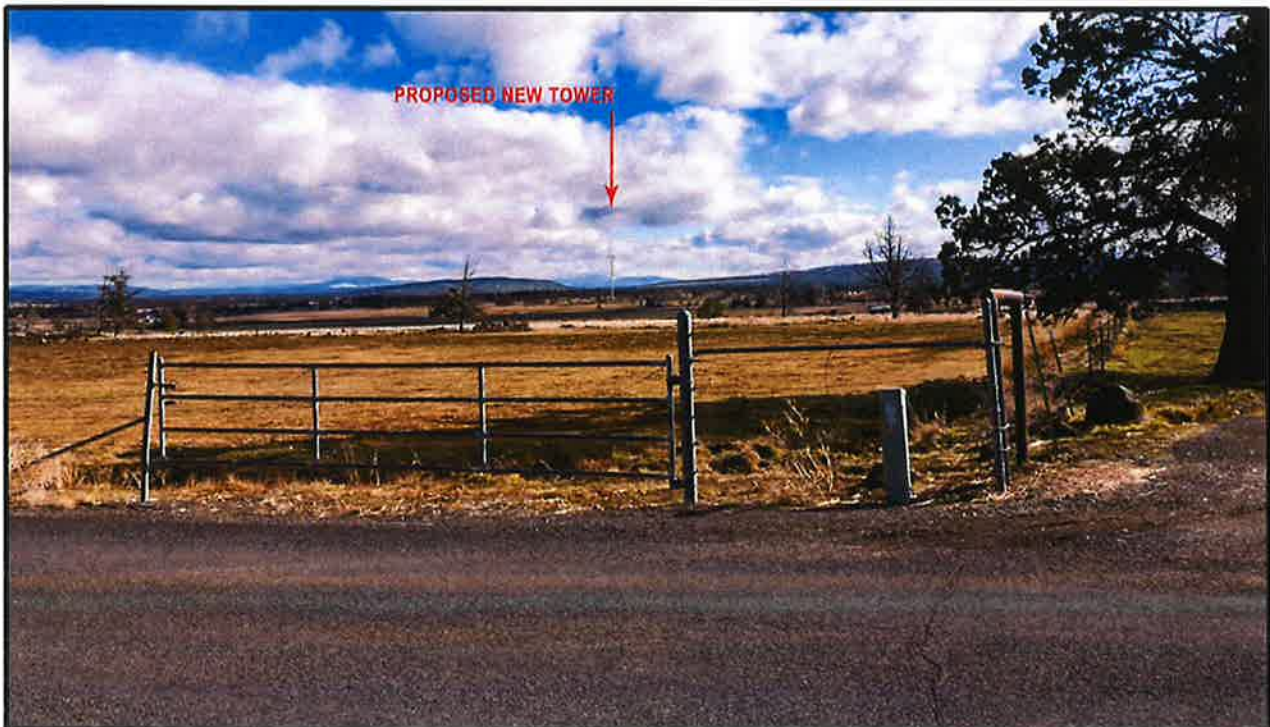
3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #7

LOOKING NORTHEAST ON SW REIF RD. & HACKER RD.



PROPOSED

TIM BRADLEY IMAGING



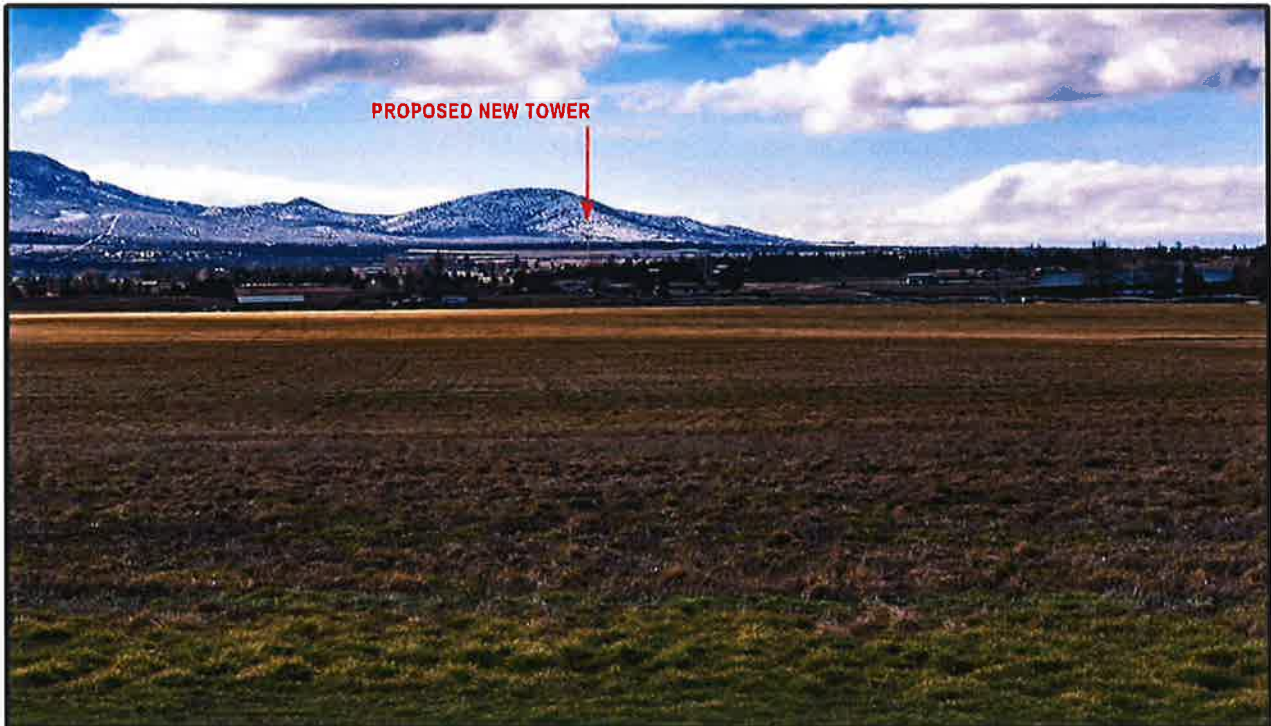
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #8
LOOKING SOUTH ON HUSTON LAKE RD.



PROPOSED

TIM BRADLEY IMAGING

TIM BRADLEY IMAGING

Date: March 6, 2025

Re: Balloon Test and Photo Simulations
DITCHRIDER
3450 SW Williams Rd, Powell Butte, OR

To: Sarah Telschow
ACOM

On March 6, 2025, a 4 foot red diameter balloon was raised to 150 feet above ground level at the proposed location of the new tower from 10 AM to 11 AM.

The height of the balloon is checked with a laser rangefinder. This number corresponds to the height and location of the proposed tower.

Photos are taken from several vantage points to determine the visibility of the proposed tower. Photo simulations are produced using these photos. The "before" shots of demonstrate the "as is" view of the camera when inflated. The 4 foot red balloon is a known size and utilize for determining the size of the 8 foot antennas for placement on the proposed tower in completion of the photo simulations as required.

TBI has specialize in photo simulations and balloon testing for the wireless telecom industry since 1998.

Thank you,



Tim Bradley
Tim Bradley Imaging

Cell Phone: 253-279-7716
AirPhotoOne@comcast.net



Radio Frequency Exposure

RF Safety and NIER Analysis Report

06/05/2025

Site: Ditch Rider

Powell Butte, OR

Prepared for: Verizon

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1. Certification

This report, prepared by Telecom Technology Services, Inc. for **Verizon**, is intended to document compliance and evaluate power density levels as outlined in the report. The computations, analysis, and resulting report and conclusions were based on applicable FCC guidelines and regulations for maximum permissible exposure to humans consistent with FCC OET Bulletin 65, Edition 97-01.

Additionally, Telecom Technology Services, Inc. certifies that the assumptions are valid, and that the data used within Telecom Technology Services control are accurate, including information collected as part of Telecom Technology Services field surveys. Telecom Technology Services, Inc. does not however certify the accuracy or correctness of any data provided to Telecom Technology Services, Inc. for this analysis and report by Verizon or other third parties working on behalf of Verizon.

I certify that the attached RF exposure analysis and report is correct to the best of my knowledge, and all calculations, assumptions and conclusions are based on generally acceptable engineering practices:



SIGNED, 13 AUG 2025
EXPIRES, 31 DEC 2025

Tim Alexander,
PE

Digitally signed by Tim Alexander, PE
DN: cn=Tim Alexander, PE, o=Proteus
Power Engineering, ou,
email=proteuspower@outlook.com, c=US
Date: 2025.08.13 17:42:01 -07'00'

Report Prepared by: Pulkit Bansal, 06/04/2025.
Report Reviewed by: Kosha Shah, 06/04/2025.

2. Executive Summary

This report provides the results of an RF power density analysis performed for **Verizon** at site **Ditch Rider** in accordance with the Federal Communications Commission (FCC) rules and regulations for RF emissions described in OET Bulletin 65, Edition 97-01.

This report addresses RF safety for two classified groups defined by OET Bulletin 65: Occupational/ Controlled and General Population/ Uncontrolled. Based on the analysis, this site will be **Compliant** with FCC rules and regulations and Verizon's Signage and Barrier Policy if the mitigation details provided in Table 1 are implemented.

Final Compliant Configuration						
	GUIDELINES	NOTICE	CAUTION	WARNING	NOC INFO	BARRIER/MARKER
Access Point(s)	☒ [1]	☐ []	☐ []	☐ []	☒ [1]	☐
Alpha	☐ []	☐ []	☐ []	☐ []	☐ []	☐
Beta	☐ []	☐ []	☐ []	☐ []	☐ []	☐
Gamma	☐ []	☐ []	☐ []	☐ []	☐ []	☐

NOTE: The table represents either the signage/barriers installed / removed **OR** items required by the market (if mitigation is not installed by consultant/vendor).

Specialty Sign Detail

Location	N/A
Access Point	N/A
Alpha	N/A
Beta	N/A
Gamma	N/A

NOTE: The tables above represent **EXISTING** compliance items implemented at this location.

Notes/ Additional Compliance Requirements(s):

NOC & Guidelines need to be posted at all the access points to the site.

Table 1: Mitigation Requirements for Compliance

2.1 Conclusion and Recommendations

- The results of the analysis indicate that the power density levels in the generally accessible areas on Ground level will not exceed the FCC's MPE limit for General Population environments.
- The max theoretical % MPE (General Public) is 2.8% at the Ground Level.
- As per FCC guidelines, the tower installation meets FCC regulation and site is compliant for general population.

Note: Modifications to the site; and/or increases in channel counts or power levels exceeding those listed in this report will require additional evaluation to determine compliance.

3. Introduction

The purpose of this analysis and report is to evaluate the cumulative power density levels of all non-excluded antennas located on the site and identify any areas of concern that require mitigation. This report also assesses the site's compliance with FCC OET Bulletin 65; "Guidelines for Human Exposure to Radio-frequency Electromagnetic Fields".

The power density simulation performed for this site utilized IXUS® analysis software. All antennas were assigned an operating frequency and transmit power and were deemed to be operating at 100% of their configured output power.

3.1 *Site Description:*

Site Name	DITCH RIDER
Address	3450 SW WILLIAMS ROAD POWELL BUTTE, OR 97753
Latitude	44° 16' 10.124" N
Longitude	121° 1' 3.216" W
Structure Type	Monopole
Structure Height	± 150' AGL
Co-Locators/ Other Antennas	NA
BTS Equipment Location	Verizon equipment is located on Ground.

3.2 *Site Configuration Being Modeled*

- This is a Monopole application where Verizon antennas are mounted to the pole with frames.
- This is a Three sector site supporting LTE at 700, 850, 1900, 2100(AWS1/3) MHz and C-Band for all sectors.
- The rad center of antennas for all three sectors (150'), Monopole (150') and Ground (0') are based on the CD and Google Earth. These values must be verified on the site audit for the post study.
- Grid size 10 foot.

4. Predictive Analysis Details

For purposes of this analysis, IXUS® was configured to provide an output based on the appropriate MPE limit(s) published in the FCC's guidelines. The antenna information was loaded into IXUS®, an MPE predictive analysis tool by Alpha wave Mobile Network Products (Pty) Ltd.

4.1 Analysis Locations:

Number of Elevations Analyzed: 2

- Antenna Level (150')
- Ground (0')
- Bird Eye View
- Elevation Level

4.2 Antenna Inventory

The following table contains the technical data used to simulate the power density that may be encountered with all antennas simultaneously operating at full rated power with the exception of any excluded antennas cited in this document. If co-locator's antennas exist and specific antenna details could not be secured, generic antennas, frequencies, and transmit powers were used for modeling. The assumptions used are based on past experience with communications carriers.

Antenna Inventory

ID	Carrier NAME	Antenna model	Mech. Tilt (°)	Azimuth (°)	ID Sub		Elec. Tilt (°)	HBW (°)	V BW (°)	Total power (Watts)	Gain (dBd)	ERP (Watts)	Rad center
					Frequency band								
1	Verizon	AIR 3283	0	350	PCS1900		2	121.7	13.3	240	20.41	28376.14	150
1	Verizon	AIR 3283	0	350	LTE 2100(AWS1/3)		2	121.1	12	240	21.01	30283.86	150
2	Verizon	AIR 8419 B77D Envelope	0	350	3700		Default	104.7	27.6	320	22.35	43666.66	150
3	Verizon	NHH-55C-R2B	0	0	LTE 700		0 to 11	56	8.7	120	14.55	3421.22	150
3	Verizon	NHH-55C-R2B	0	0	LTE 850		0 to 11	52	7.8	120	14.45	3343.35	150
4	Verizon	NHH-55C-R2B	0	0	LTE 700		0 to 11	56	8.7	120	14.55	3421.22	150
4	Verizon	NHH-55C-R2B	0	0	LTE 850		0 to 11	52	7.8	120	14.45	3343.35	150
5	Verizon	AIR 3283	0	120	PCS1900		2	121.7	13.3	240	20.41	28376.14	150
5	Verizon	AIR 3283	0	120	LTE 2100(AWS1/3)		2	121.1	12	240	21.01	30283.86	150
6	Verizon	AIR 8419 B77D Envelope	0	110	3700		Default	104.7	27.6	320	22.35	43666.66	150
7	Verizon	NHH-55C-R2B	0	120	LTE 700		0 to 11	56	8.7	120	14.55	3421.22	150
7	Verizon	NHH-55C-R2B	0	120	LTE 850		0 to 11	52	7.8	120	14.45	3343.35	150
8	Verizon	NHH-55C-R2B	0	120	LTE 700		0 to 11	56	8.7	120	14.55	3421.22	150
8	Verizon	NHH-55C-R2B	0	120	LTE 850		0 to 11	52	7.8	120	14.45	3343.35	150
9	Verizon	MX08FRO840-02	0	200	LTE 700		2 to 12	42	9	120	15.45	4209.02	150
9	Verizon	MX08FRO840-02	0	200	LTE 850		2 to 12	37	8.3	120	15.85	4615.1	150
10	Verizon	MX08FRO840-02	0	200	LTE 700		2 to 12	42	9	120	15.45	4209.02	150
10	Verizon	MX08FRO840-02	0	200	LTE 850		2 to 12	37	8.3	120	15.85	4615.1	150
11	Verizon	AIR 8419 B77D Envelope	0	230	3700		Default	104.7	27.6	320	22.35	43666.66	150
12	Verizon	AIR 3283	0	200	PCS1900		2	121.7	13.3	240	20.41	28376.14	150
12	Verizon	AIR 3283	0	200	LTE 2100		2	121.1	12	240	21.01	30283.86	150

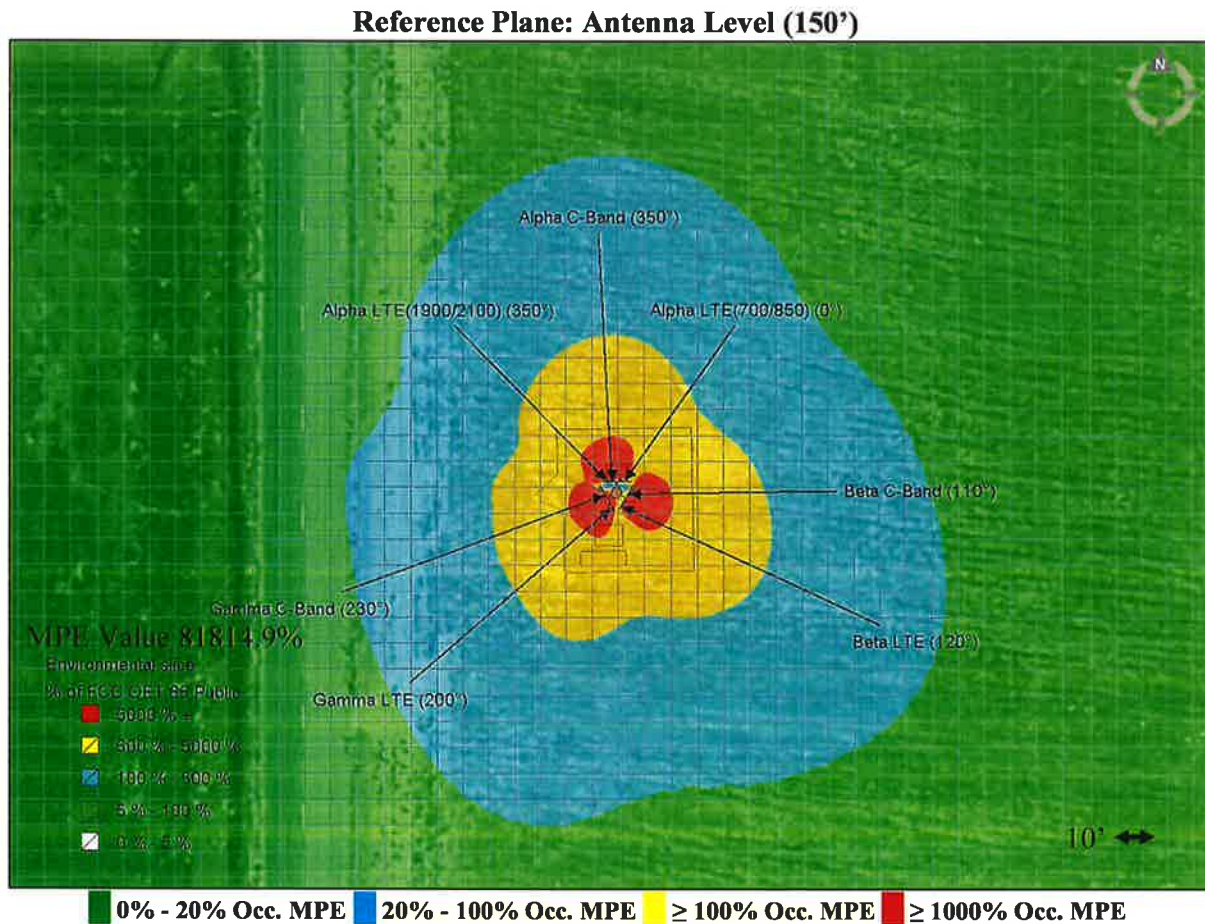
4.3 RF Emissions Diagram(s) - All Transmitters

The following Diagram(s) represent the theoretical spatially averaged Maximum Permissible Exposure (MPE) percentages that are expected for each study's elevation. An additional 1% Occupational MPE Limit (5% General Population MPE limit) is included to demonstrate where Verizon is a significant contributor to the accessible areas where multiple carriers' transmitters may be present.

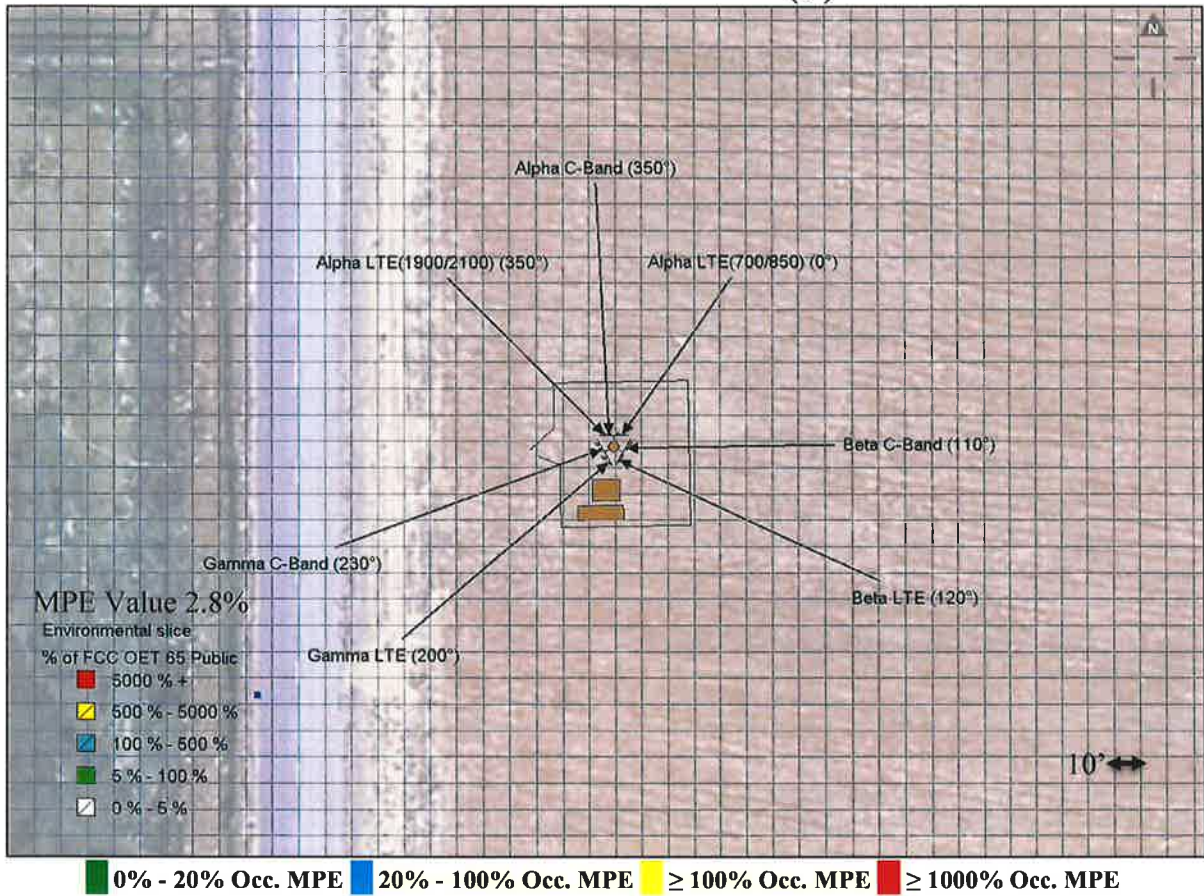
NA

4.4 RF Emissions Diagram(s) - Verizon Transmitters *Only*

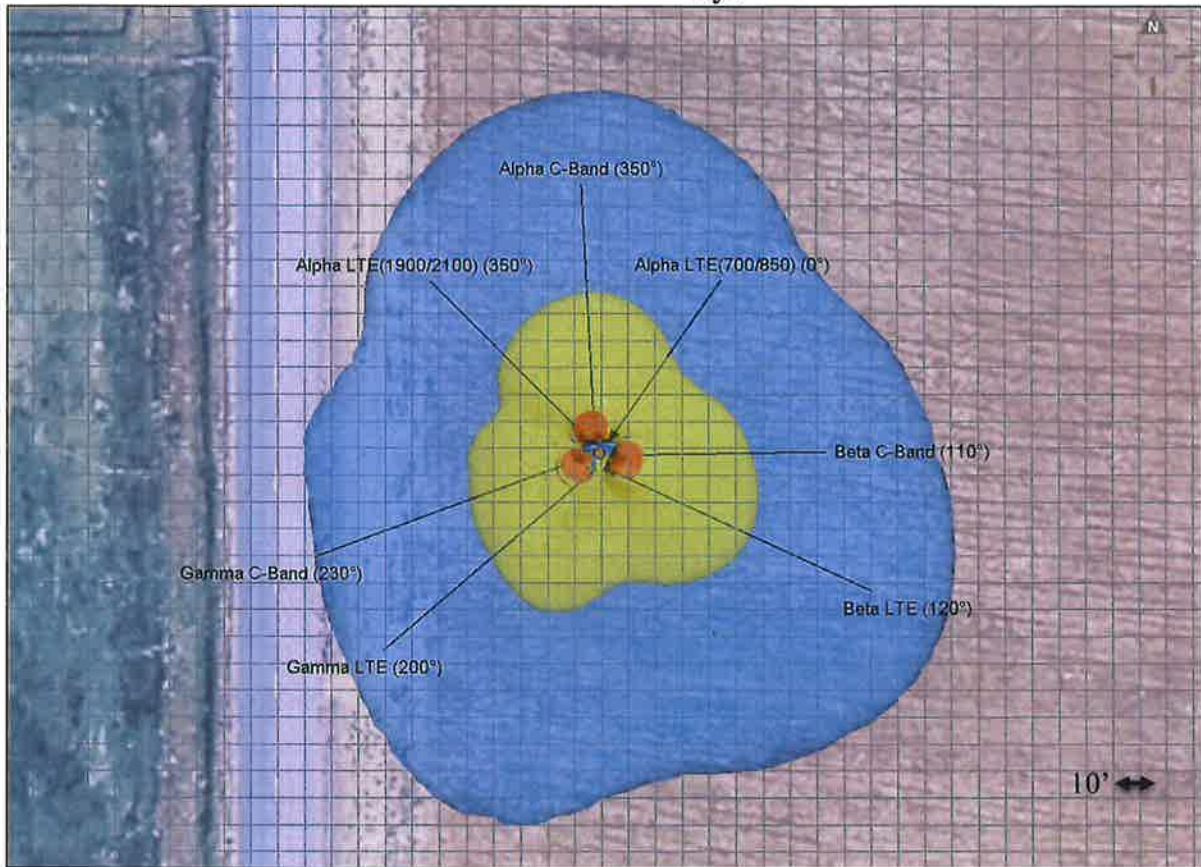
The following Diagram(s) represent the theoretical spatially averaged Maximum Permissible Exposure (MPE) percentages that are expected for each study's elevation. An additional 1% Occupational MPE Limit (5% General Population MPE limit) is included to demonstrate where Verizon is a significant contributor to the accessible areas where multiple carriers' transmitters may be present.



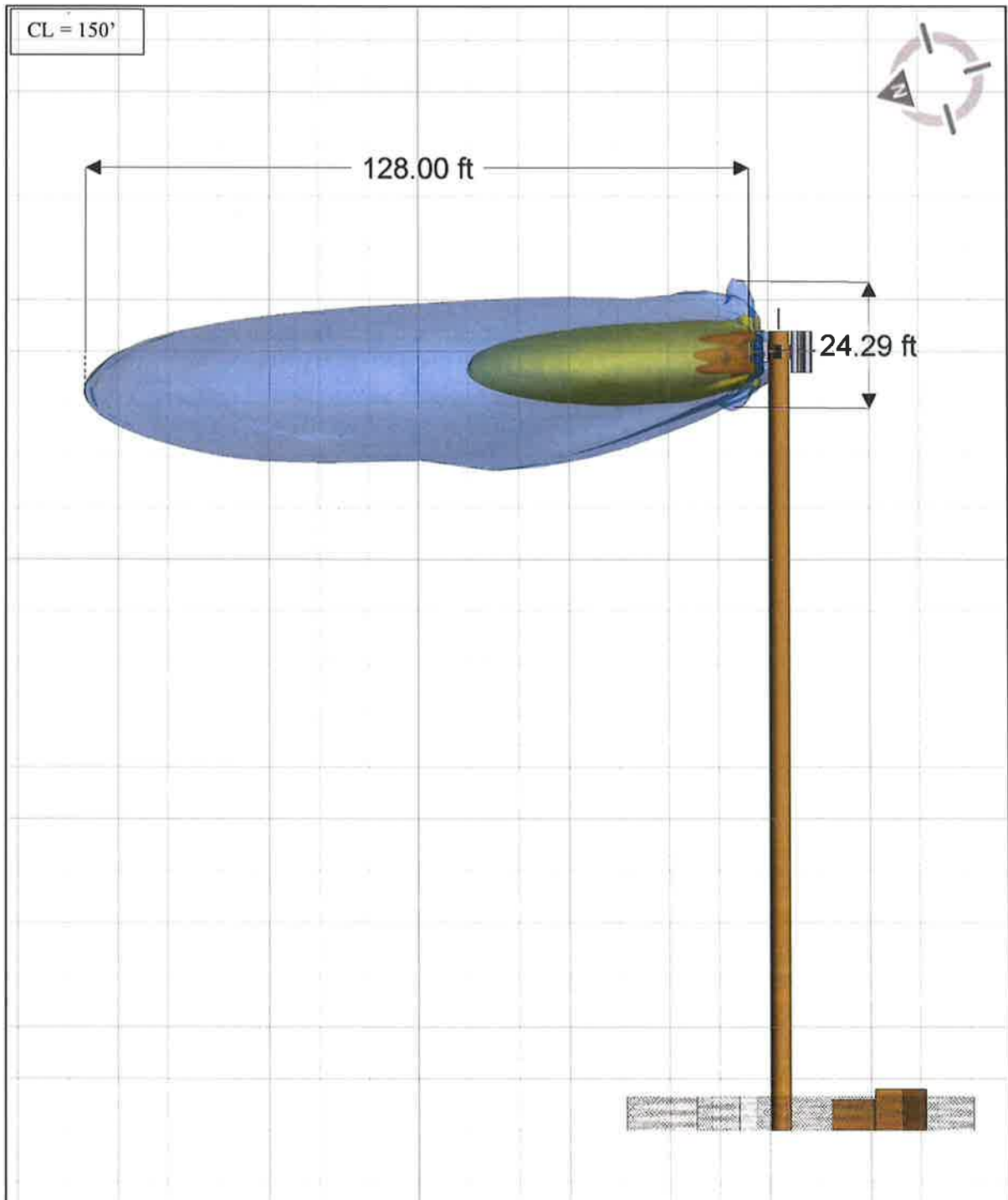
Reference Plane: Ground Level (0')



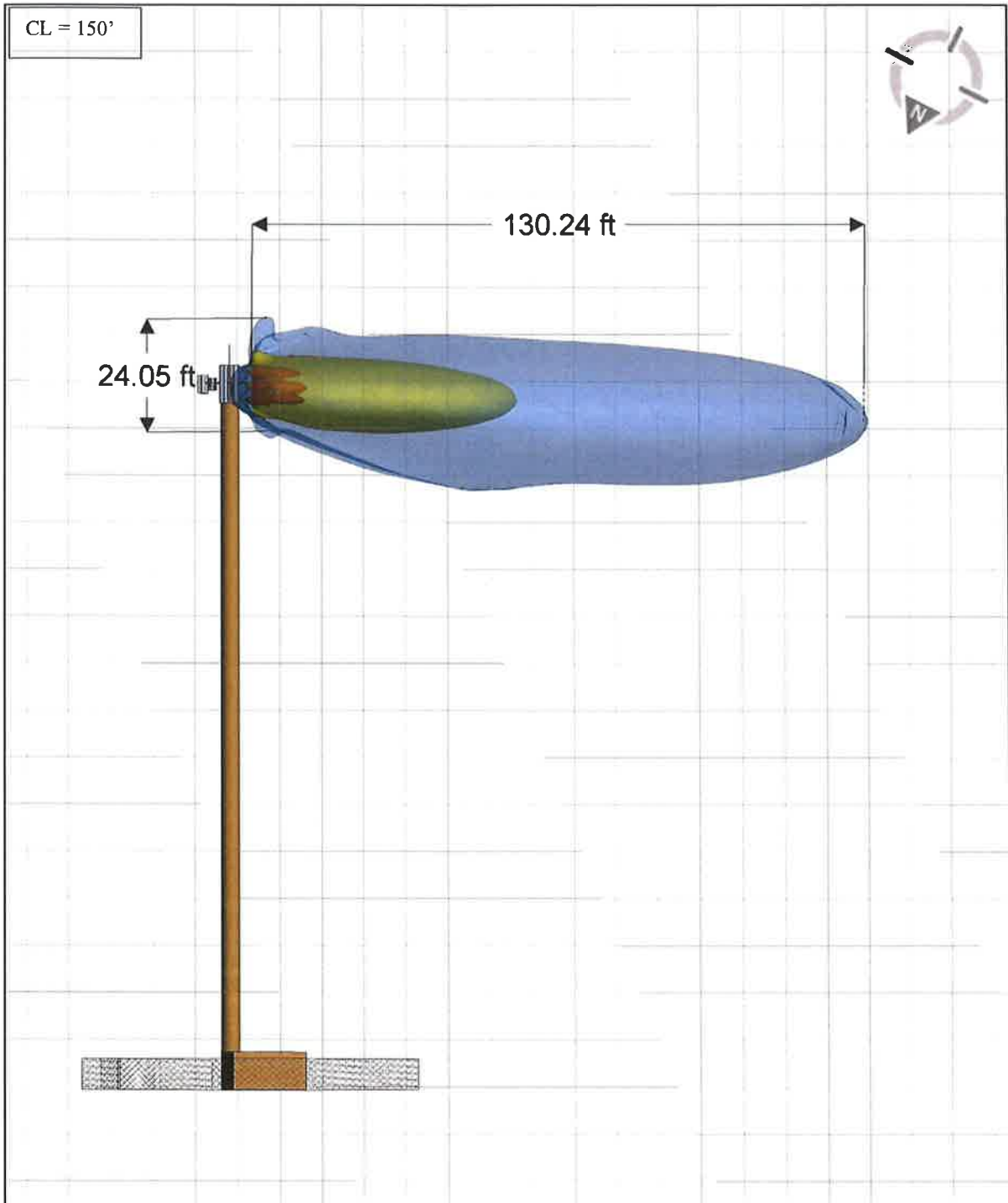
Reference Plane: Bird Eye view



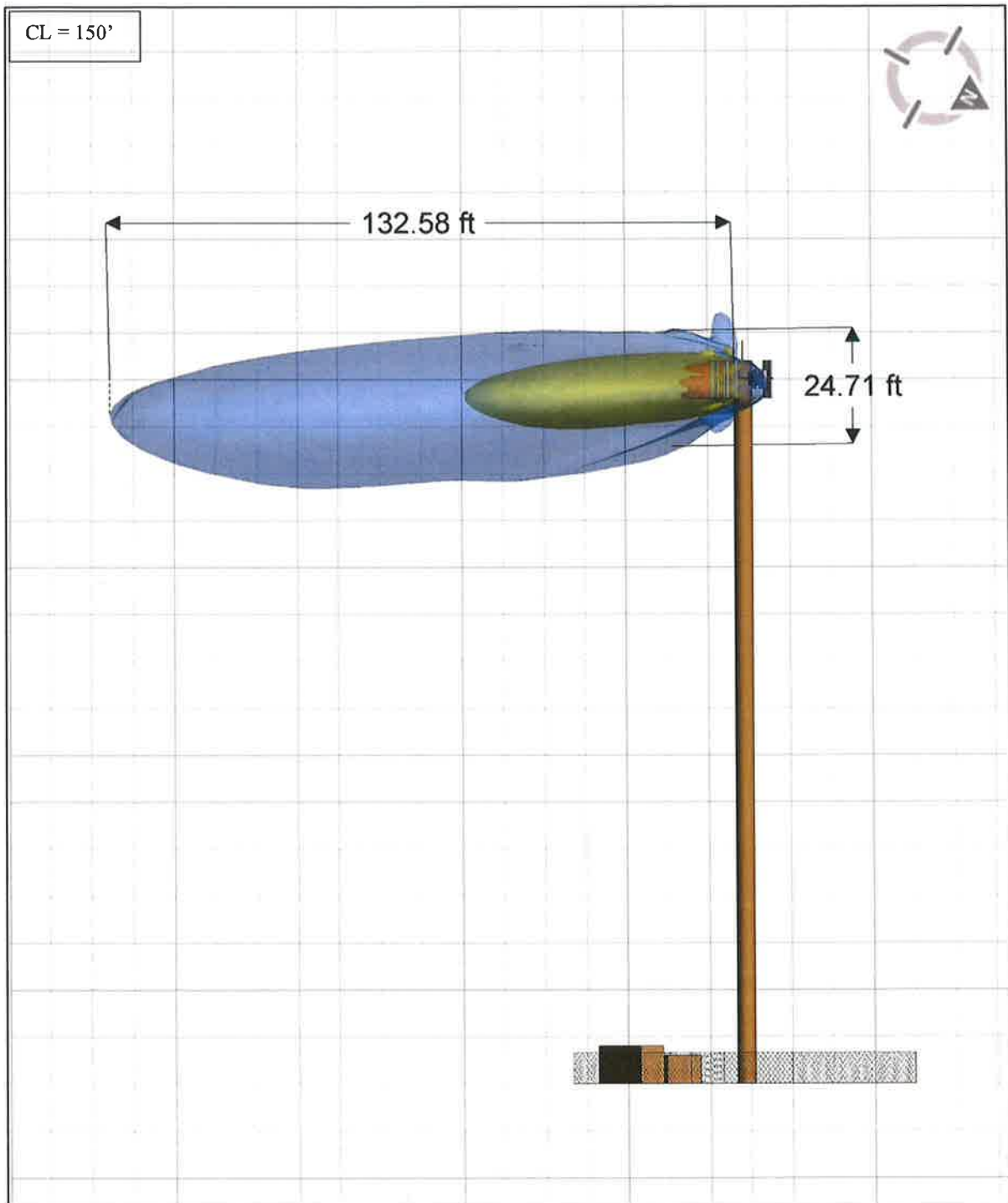
Reference Plane: Elevation Level (Alpha Sector)



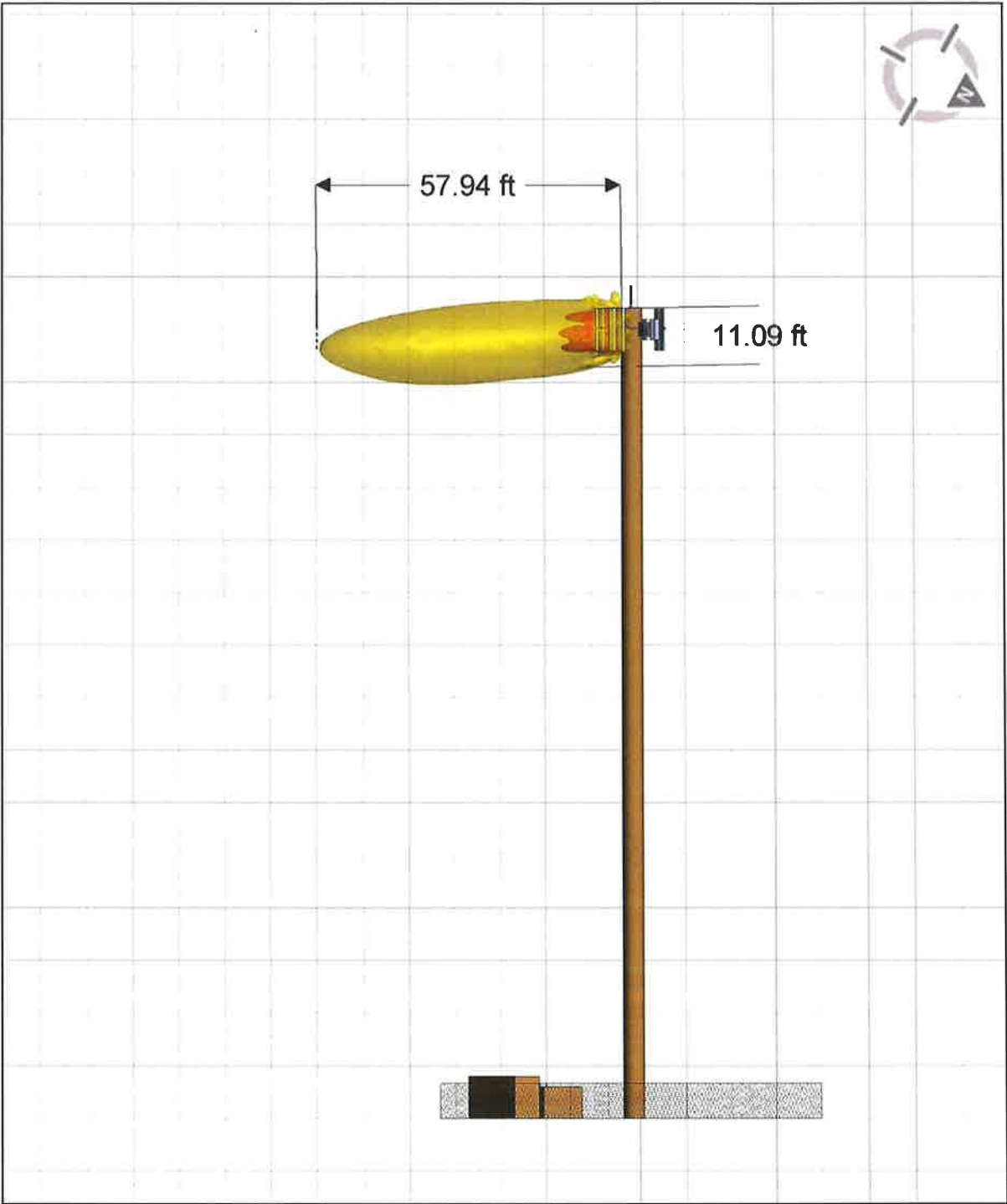
Reference Plane: Elevation Level (Beta Sector)



Reference Plane: Elevation Level (Gamma Sector)



Reference Plane: Pole Elevation Level



5. Signage/ Mitigation

5.1 Signage/ Barrier Detail

Final Compliant Configuration						
	GUIDELINES	NOTICE	CAUTION	WARNING	NOC INFO	BARRIER/MARKER
Access Point(s)	☒ [1]	☐ []	☐ []	☐ []	☒ [1]	☐
Alpha	☐ []	☐ []	☐ []	☐ []	☐ []	☐
Beta	☐ []	☐ []	☐ []	☐ []	☐ []	☐
Gamma	☐ []	☐ []	☐ []	☐ []	☐ []	☐

NOTE: The table represents either the signage/barriers installed / removed OR items required by the market (if mitigation is not installed by consultant/vendor).

Specialty Sign Detail

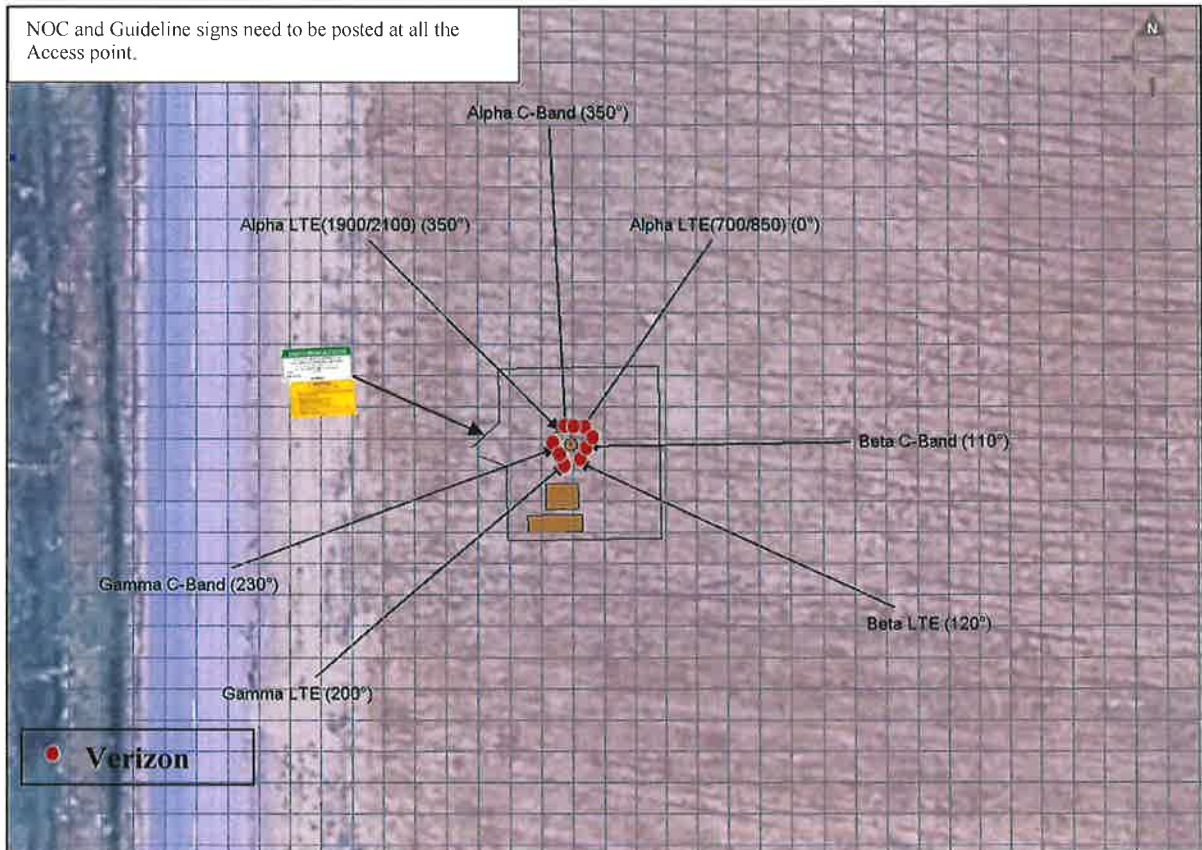
Location	N/A
Access Point	N/A
Alpha	N/A
Beta	N/A
Gamma	N/A

NOTE: The tables above represent EXISTING compliance items implemented at this location.

Notes/ Additional Compliance Requirements(s):
NOC & Guidelines need to be posted at all the access points to the site.

Table 2: Mitigation Requirements for Compliance

5.2 Signage/ Barrier Diagram



6. Conclusions and Recommendations

- The results of the analysis indicate that the power density levels in the generally accessible areas on **Ground** level will not exceed the FCC's MPE limit for General Population environments.
- The max theoretical % MPE (General Public) is **2.8%** at the **Ground Level**.
- As per FCC guidelines, the tower installation meets FCC regulation and site is compliant for general population.

Note: Modifications to the site; and/or increases in channel counts or power levels exceeding those listed in this report will require additional evaluation to determine compliance.

7. Appendix A: FCC Compliance and RF Safety Policies

In August of 1997, the FCC published OET Bulletin 65 Edition 97-01 to regulate methods for evaluating compliance with FCC guidelines for human exposure to radiofrequency (RF) electromagnetic fields. The FCC guidelines for human exposure to RF electromagnetic fields incorporate two categories of limits; namely “Controlled” (a.k.a. Occupational) and “Uncontrolled” (a.k.a. General Public). The guidelines offer suggested methods for evaluating fixed RF transmitters to ensure that the controlled and uncontrolled limits deemed safe by the FCC for human exposure are not exceeded.

OET Bulletin 65 recommended guidelines are intended to allow an applicant to “make a reasonably quick determination as to whether a proposed facility is in compliance with the limits.” In addition, the guidelines offer alternate supplementary considerations and procedures such as field measurements and more detailed analysis that should be used for multiple emitter situations.

These guidelines define RF as emissions in the frequency range of 300 kHz to 100 GHz. The FCC define Maximum Permissible Exposure (MPE) limits within this frequency range based on limits recommended by the National Council on Radiation Protection and Measurement, the Institute of Electrical and Electronics Engineers (IEEE), and by the American National Standards Institute (ANSI).

The specific MPE limits defined by the FCC are as follows:

Limits for Occupational/Controlled Exposure				
Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/Cm ²]	Averaging Time E ^2, H ^2 or S [minutes]
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	900/f ² *	6
30 - 300	61.4	0.163	1	6
300 - 1,500	-	-	f/300	6
1,500 - 100,000	-	-	5	6

Limits for General Population/Uncontrolled Exposure				
Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/Cm ²]	Averaging Time E ^2, H ^2 or S [minutes]
0.3 - 3.0	614	1.63	100*	30
3.0 - 30	842/f	2.19/f	180/f ² *	30
30 - 300	27.5	0.073	0.2	30
300 - 1,500	-	-	f/1500	30
1,500 - 100,000	-	-	1	30

f = frequency

*Plane-wave equivalent power density

The FCC states that “Occupational/ Controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for Occupational/ Controlled exposure also apply in situations when an individual is transient through a location where Occupational/ Controlled limits apply provided he or she is made aware of the potential for exposure.”

For General Population/ Uncontrolled limits, the FCC states that “General Population/ Uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not fully be aware of the potential for exposure or cannot exercise control over their exposure.”

For purposes of this analysis, all limits are evaluated against the Power Density limits.

Typical guidelines for determining whether Occupational/ Controlled limits can be applied include ensuring the environment (such as a rooftop) as limited/controlled access via locked doors or physical barrier that are preferably controlled by a landlord that is aware of the situation and can inform anyone going through the locked door of the existence of the RF emissions. Such notification/awareness is typically accomplished by means of signage on the door, or other access to the area of concern, as well as signage on or near the antennas. Examples of such signs include the following:

[illegible]

NOC INFORMATION Information signs are used as a means to provide contact information for any questions or concerns. They will include specific cell site identification information and the Verizon Wireless Network Operations Center phone number.	 The image shows a green rectangular sign with the word 'INFORMATION' in white at the top. Below it, in smaller text, it says 'This is an ACCESS POINT to an area with transmitting antennas. See location of antennas on the map.' At the bottom, there are two lines for 'E911' and '911' with blank spaces for input, and the Verizon logo at the very bottom.
--	---

Standards for when to use each of the above signs for Occupational situations are as follows:

No sign required: <20% of Occupational MPE
Blue Sign, Notice: 20% to <100% of MPE
Yellow Sign, Caution: 100% to <1000% of MPE
Red Sign, Warning: ≥1000% of MPE

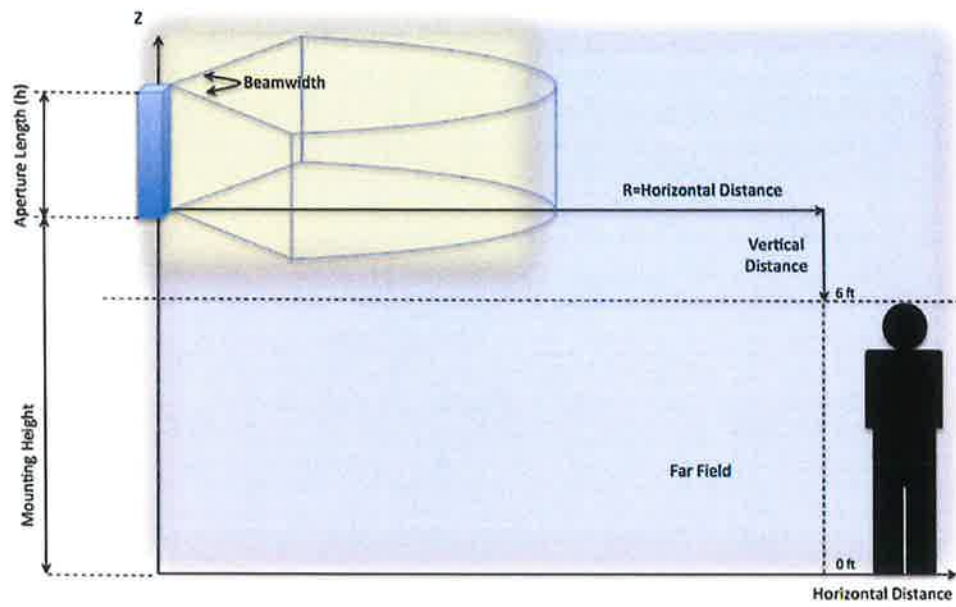
All MPE references are to the FCC Occupational limits.

8. Appendix B: Overview of IXUS

The IXUS electromagnetic field (EMF) calculation software is used to assess all the RF field levels presented in this study. IXUS (<https://ixusapp.com/>) is a software product of Alphawave Mobile Network Products (Pty) Ltd, who specialize in electromagnetic software and systems.

IXUS software uses a fast and accurate EMF calculation tool that allows for the determination of radio-frequency (RF) field strength in the vicinity of radio communication base stations (RBS) and transmitters. At its core, the IXUS EMF calculation module implements field evaluation techniques detailed in the ITU-T K.61, CENELEC 50383, and IEC62232 specifications. The calculation of EMF results at any point in 3-D space is achieved by either a synthetic ray tracing technique, a conservative cylindrical envelope method, or through full-wave EM simulation results obtained from a computational electromagnetic software tool, FEKO (<https://www.altair.com/feko/>). The selection of the solution method is determined by the antenna being considered. The ray tracing method is an advanced computation method described in IEC 622324. The power is summed from elemental sources representing the individual components of the antenna. These elemental sources are selected by an analysis of the proposed antennas and their manufacturers datasheets. Ray tracing algorithms typically overestimate RF field strength due to absorption of RF energy in the ground, building walls and other man-made structures. One advantage of the ray tracing model is it is valid in both the radiating near-field and the far-field regions relative to the antenna.

All antenna models that are used in the IXUS modeller undergoes a rigorous verification process, whereby manufacturer data obtained from datasheets or pattern information is compared to that of the IXUS antenna model, during the synthesis process. IXUS provides technical information on more than 4,000 antenna models from various manufacturers at its portal for antenna emissions modelling. The list is updated on a regular basis by the company's antenna engineers.



9. References

FCC (1997). “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields”; Federal Communications Commission; Office of Engineering and Technology, OET Bulletin 65, Edition 97-01, August.

Alphawave Mobile Network Products (Pty) Ltd. IXUS User Guide (2024) & Webinar (2021)

10. Limited Warranty

Telecom Technology Services, Inc. warrants that this analysis was performed in good faith using the methodologies and assumptions covered in this report and that data used for the analysis and report were obtained by Telecom Technology Services, Inc. employees or representatives via site surveys or research of Verizon's available information. In the event that specific third-party details were not available, best efforts were made to use assumptions that are based on industry experience of various carriers' standards without violating any confidential information obtained under non-disclosure terms.

Telecom Technology Services, Inc. also warrants that this analysis was performed in accordance with industry acceptable standards and methods.

There are no other warranties, express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose, relating to this agreement or to the services rendered by Telecom Technology Services hereunder. In no event shall Telecom Technology Services be held liable to Verizon, or to any third party, for any indirect, special, incidental, or consequential damages, including but not limited to loss of profits, loss of data, loss of good will, and increased expenses. In no event shall Telecom Technology Services be liable to Verizon for damages, whether based in contract, tort, negligence, strict liability, or otherwise, exceeding the amount payable hereunder for the services giving rise to such liability.

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
 CELLCO PARTNERSHIP
 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
 ALPHARETTA, GA 30022

Call Sign WRNG732	File Number
Radio Service PM - 3.7 GHz Service	

FCC Registration Number (FRN): 0003290673

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date
Market Number PEA213	Channel Block A1	Sub-Market Designator 0	
Market Name Bend, OR			
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WRNG732

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
---------------	--------------------	--------------------------	------------------------------	---------------

REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
 CELLCO PARTNERSHIP
 5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
 ALPHARETTA, GA 30022

Call Sign WRNG732	File Number
Radio Service PM - 3.7 GHz Service	

FCC Registration Number (FRN): 0003290673

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date
Market Number PEA213	Channel Block A1		Sub-Market Designator 0
Market Name Bend, OR			
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

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Licensee Name: CELLCO PARTNERSHIP

Call Sign: WRNG732

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2025-ANM-1002-OE

Issued Date: 07/28/2025

HARMONI TOWERS, LLC-CHADR
CHAD RUMSEY
6210 Ardrey Kell Road
Suite 450
Charlotte, NC 28277

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Monopole OR0005306 Ditch Rider
County, State: Crook, Oregon

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
OR0005306 Ditch Rider	44-16-21.14N	121-1-03.56W	3005 Ft	158 Ft	3163 Ft

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Emissions from this site must be in compliance with the parameters set by collaboration between the FAA and telecommunications companies and reflected in the FAA 5G C band compatibility evaluation process (such as power, frequencies, and tilt angle). Operational use of this frequency band is not objectionable provided the Wireless Providers (WP) obtain and adhere to the parameters established by the FAA 5G C band compatibility evaluation process. **Failure to comply with this condition will void this determination of no hazard.**

See attachment for additional condition(s) or information.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This determination expires on 01/28/2027 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at 1-817-222-5935, or kenneth.patterson@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-ANM-1002-OE.

Signature Control No: 647671805-671494943

kenneth.patterson@faa.gov

Specialist

(DNE)

Attachment(s)
Additional Information
Frequency Data
Map(s)

cc: FCC

BASIS FOR DECISION

Part 77 authorizes the FAA to evaluate a structure or object's potential electromagnetic effects on air navigation, communication facilities, and other surveillance systems. It also authorizes study of impact on arrival, departure, and enroute procedures for aircraft operating under visual or instrument flight rules, as well as the impact on airport traffic capacity at existing public use airports. Broadcast in the 3.7 to 3.98 GHz frequency (5G C band) currently causes errors in certain aircraft radio altimeters and the FAA has determined they cannot be relied upon to perform their intended function when experiencing interference from wireless broadband operations in the 5G C band. The FAA has adopted Airworthiness Directives for all transport and commuter category aircraft equipped with radio altimeters that prohibit certain operations when in the presence of 5G C band

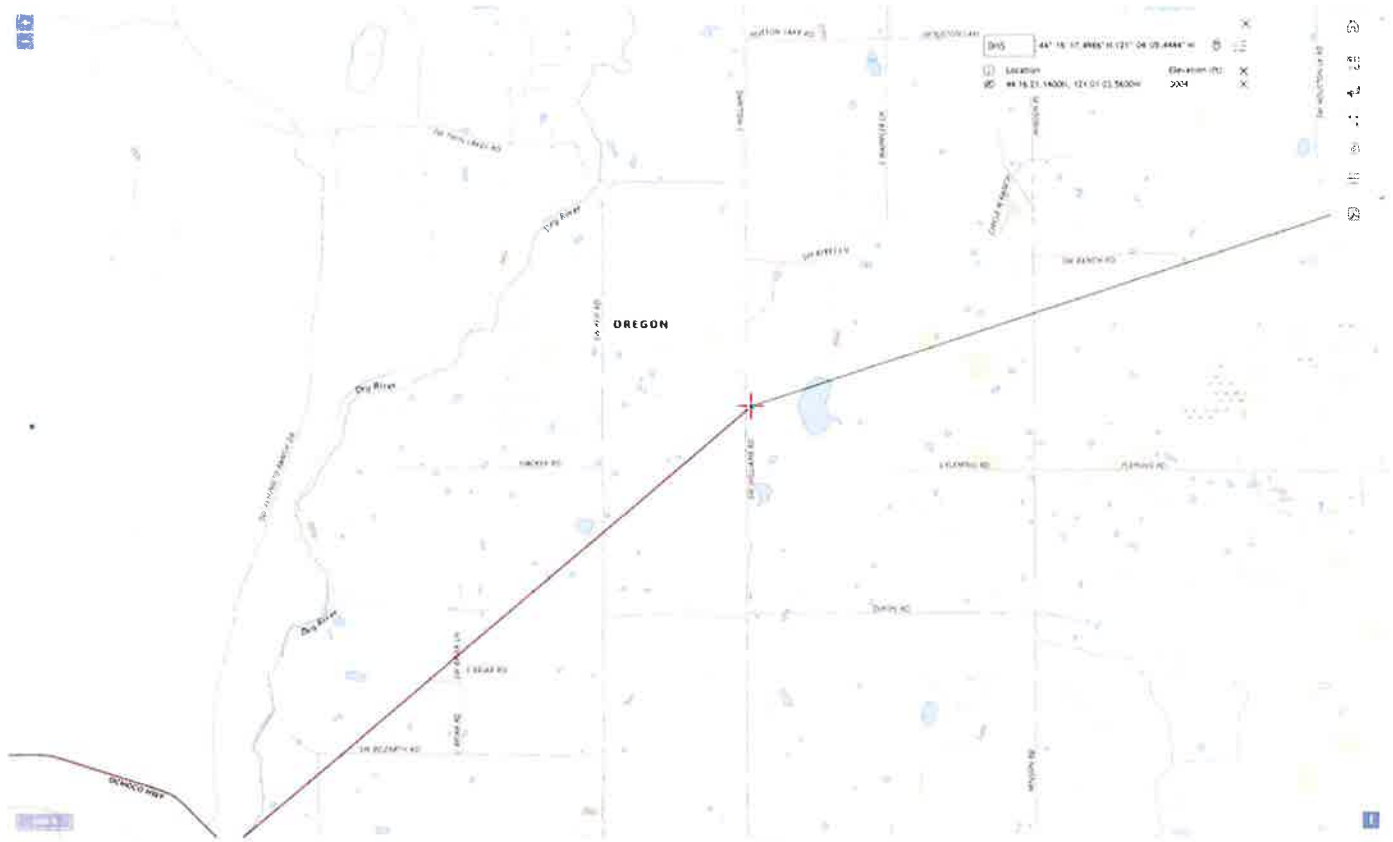
This determination of no hazard is based upon those mitigations implemented by the FAA and operators of transport and commuter category aircraft, and helicopters operating in the vicinity of your proposed location. It is also based on telecommunication industry and FAA collaboration on acceptable power levels and other parameters as reflected in the FAA 5G C band evaluation process.

The FAA 5G C band compatibility evaluation is a data analytics system used by FAA to evaluate operational hazards related to aircraft design. The FAA 5G C band compatibility evaluation process refers to the process in which the telecommunication companies and the FAA have set parameters, such as power output, locations, frequencies, and tilt angles for antenna that mitigate the hazard to aviation. As the telecommunication companies and FAA refine the tools and methodology, the allowable frequencies and power levels may change in the FAA 5G C band compatibility evaluation process. Therefore, your proposal will not have a substantial adverse effect on the safe and efficient use of the navigable airspace by aircraft provided the equipment and emissions are in compliance with the parameters established through the FAA 5G C band compatibility evaluation process.

Frequency Data for ASN 2025-ANM-1002-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	42	dBW
6	7	GHz	55	dBW
10	11.7	GHz	42	dBW
10	11.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
21.2	23.6	GHz	42	dBW
21.2	23.6	GHz	55	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	824	MHz	500	W
806	901	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2310	MHz	2000	W
2305	2360	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W
3700	3980	MHz	3280	W
3700	3980	MHz	1640	W

Verified Map for ASN 2025-ANM-1002-OE







Oregon

Tina Kotek, Governor

Oregon Department of Aviation

3040 25th Street SE
Salem, OR 97302-1125

Office: 503-378-4880

Fax: 503-373-1688



July 1, 2025

Benjamin Freeman, Harmoni Towers, LLC
6210 Ardrey Kell Rd, Ste. 450
Charlotte, NC 28277
Benjamin.Freeman@harmonitowers.com

Subject: Determination Letter Regarding the Construction or Alteration of a Communication Tower at 158 Feet in Height Located in Crook County, Oregon

ODAV Aviation Reference Number(s): 2025-ODAV-120-OE
Proponent/Representative's Identifier: 3400 Block SW Williams Rd, Powell Butte
FAA Aeronautical Study Number(s) (ASN), if Provided: 2025-ANM-1002-OE¹

The Oregon Department of Aviation (ODAV) has conducted an aeronautical study for the proposed construction. The structure does not exceed FAR Part 77.9 (a, b or c) nor Obstruction Standards of OAR 738-070-0100.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. Any changes to the original application will void this determination. Any future construction or alteration to the original application will require a separate notice to ODAV.

Unless it is otherwise extended, revised, or terminated, this determination will expire 18 months after its effective date, regardless of whether the proposed construction or alteration has been started, or on the date the proposed construction or alteration is abandoned, whichever is earlier.

Findings & Mitigation:

- ☒ We do not object with conditions to the construction described in this proposal. This determination does not constitute ODAV approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.
- ☐ Marking and lighting are required for aviation safety. It shall be installed and maintained in accordance with FAA Advisory Circular 70/7460-1M.
- ☐ The proposed structure should be lowered to a height that is no longer an obstruction to the imaginary surfaces set forth in FAA FAR 77.
- ☐ The proposed obstruction should be relocated outside the airport primary and horizontal surface FAA FAR 77.

Sincerely,

Brandon Pike, Aviation Planner

¹ Any FAA ASN listed in this letter is provided by the proponent and/or their representative, and may not be accurate. It is included only for cross-referencing purposes.

Prepared by and Return To:
PI Tower Development LLC
Attn: Real Estate Administration
6210 Ardrey Kell Road, Suite 450
Charlotte, North Carolina 28277

Site ID: OR0005306
Site Name: Ditch Rider
County: Crook
State: Oregon

MEMORANDUM
OF
LEASE

This Memorandum of Lease is entered into on this 23 day of January, 2025, by and between Alexander Ranch LLC, an Oregon limited liability company, having a mailing address of 5270 SW Reif Road, Powell Butte, Oregon 97753 (hereinafter referred to as "Landlord") and PI Tower Development LLC, a Delaware limited liability company having a mailing address of 6210 Ardrey Kell Road, Suite 450, Charlotte, North Carolina 28277 (hereinafter referred to as "Tenant").

1. Landlord and Tenant entered into a Lease Agreement ("Agreement") on the 23rd day of January, 2025, for the purpose of installing, operating and maintaining a communication facility and other improvements. All of the foregoing is set forth in the Agreement.
2. The initial lease term will be Five (5) years commencing on January 23rd, 2025 with Seventeen (17) successive automatic Five (5) year options to renew.
3. The portion of the land being leased to Tenant and associated easements are described in Exhibit 1 annexed hereto.
4. The Agreement gives Tenant a right of first refusal in the event Landlord receives a bona fide written offer from a third party seeking any sale, conveyance, assignment or transfer, whether in whole or in part, of any property interest in or related to the Premises, including without limitation any offer seeking an assignment or transfer of the Rent payments associated with the Agreement or an offer to purchase an easement with respect to the Premises.
5. This Memorandum of Lease is not intended to amend or modify and shall not be deemed or construed as amending or modifying, any of the terms, conditions or provisions of the Agreement, all of which are hereby ratified and affirmed. In the event of a conflict between the provisions of this Memorandum

of Lease and the provisions of the Agreement, the provisions of the Agreement shall control. The Agreement shall be binding upon and inure to the benefit of the parties and their respective heirs, successors, and assigns, subject to the provisions of the Agreement.

IN WITNESS WHEREOF, the parties have executed this Memorandum of Lease as of the day and year first above written.

"LANDLORD"

Alexander Ranch LLC
an Oregon limited liability company

By: Thomas W. Alexander
Print Name: THOMAS W. ALEXANDER
Its: OWNER
Date: 12/29/24

CORPORATE ACKNOWLEDGMENT

STATE OF Oregon)
COUNTY OF Crook) ss:



I CERTIFY that on December 29, 2024, Thomas W Alexander
[name of representative] personally came before me and acknowledged under oath that he or she:

- (a) is the Owner [title] of Alexander Ranch LLC, the corporation named in the attached instrument,
- (b) was authorized to execute this instrument on behalf of the corporation and
- (c) executed the instrument as the act of the corporation.

Shelley Knutz #1021620
Notary Public: Shelley Knutz
My Commission Expires: 2/6/2026

"TENANT"

PI Tower Development LLC.
A Delaware limited liability company

By: Nancy Venturelli
Print Name: Nancy Venturelli
Its: Director,
Date: Contracts Administration
1/23/25

TENANT ACKNOWLEDGMENT

STATE OF North Carolina

COUNTY OF Mecklenburg

On the 23 day of January, 2025, before me personally appeared Nancy Venturelli who acknowledged under oath that he/ she is the Director, Contracts Admin of PI Tower Development LLC, the Tenant named in the attached instrument, and as such was authorized to execute this instrument on behalf of the Tenant.

Emily Jenkins
Notary Public: Emily Jenkins
My Commission Expires: 9/28/26



EXHIBIT 1

DESCRIPTION OF PREMISES

Page 1 of 2

to the Memorandum of Lease dated January 23, 2025, by and between Alexander Ranch LLC, an Oregon limited liability company, as Landlord, and PI Tower Development LLC, a Delaware limited liability company, as Tenant.

*A 50' by 50' (2500 sf) parcel of land for the tower compound being located around the base of the tower along with any and all access and utility easements being 20 feet in width, all being a portion of the parent tract (see attached warranty deed for legal description of parent tract, if available). The legal description of the Leased Premises shall be determined by survey and shall thereafter replace this **Exhibit 1**.*

The parent parcel is described as follows:

PARCEL 2 OF PARTITION PLAT NO. 1996-07, RECORDED FEBRUARY 16, 1996 IN PARTITIONS MF NO 125815 AND CORRECTED BY MF NO. 125541, RECORDS OF CROOK COUNTY, OREGON AND BEING A PORTION OF PARCEL 2 OF PARTITION PLAT NO. 1994-18, RECORDED SEPTEMBER 9, 1994 IN PARTITIONS MF NO. 117101, RECORDS OF CROOK COUNTY, OREGON, LOCATED IN SECTIONS 11 AND 14, TOWNSHIP 15 SOUTH RANGE 14 EAST OF THE WILLAMETTE MERIDIAN, CROOK COUNTY, OREGON.

151414 TL 100 REF. #889 CODE 1

151411 TL 104 REF. #13844 CODE 1

The Premises and Easements are described and/or depicted as follows:



NOTES:

1. THIS EXHIBIT MAY BE REPLACED BY A LAND SURVEY AND/OR CONSTRUCTION DRAWINGS OF THE PREMISES ONCE RECEIVED BY TENANT.
2. ANY SETBACK OF THE PREMISES FROM THE PROPERTY'S BOUNDARIES SHALL BE THE DISTANCE REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES.
3. WIDTH OF ACCESS ROAD SHALL BE THE WIDTH REQUIRED BY THE APPLICABLE GOVERNMENT AUTHORITIES, INCLUDING POLICE AND FIRE DEPARTMENTS.
4. THE TYPE, NUMBER AND MOUNTING POSITIONS AND LOCATIONS OF ANTENNAS AND TRANSMISSION LINES ARE ILLUSTRATIVE ONLY. ACTUAL TYPES, NUMBERS AND MOUNTING POSITIONS MAY VARY FROM WHAT IS SHOWN ABOVE.

OR0005306
DITCH RIDER

3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

MDG LOCATION ID: 5000360581 / FUZE ID: 17324979

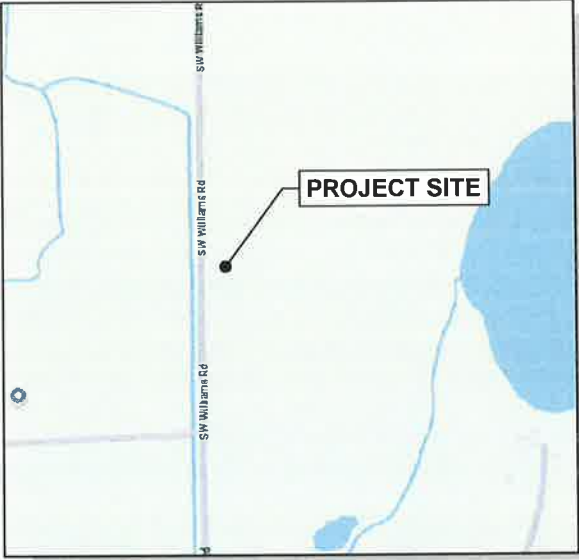


PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

VICINITY MAP



AREA MAP



PROJECT CONTACT LIST

PROPERTY OWNER:

ALEXANDER RANCH, LLC
THOMAS W. ALEXANDER
LINDA JO ALEXANDER
P.O. BOX 61
POWELL BUTTE, OR 97753
PHONE: (707) 498-7062

TOWER OWNER:

HARMONI TOWERS
6210 ARDREY KELL RD SUITE 450
CHARLOTTE, NC 28277-4864
(501) 621-0521

IMPLEMENTATION CONTACT:

NATE KUHN
VERIZON WIRELESS
5430 NE 122ND AVENUE
PORTLAND, OR 97230
PHONE: (971) 808-8187
nathaniel.kuhn@verizonwireless.com

SITE ACQUISITION:

SARAH BLANCHARD
ACOM CONSULTING, INC
5200 SW MEADOWS RD, SUITE 150
LAKE OSWEGO, OR 97035
PHONE: (503) 310-0544
sarah.blanchard@acomconsultinginc.com

STRUCTURAL ENGINEER:

WELLS L. HOLMES, S.E.
VECTOR STRUCTURAL ENGINEERING
651 W GALENA PARK BLVD, SUITE 101
DRAPER, UT 84020
PHONE: 801.990.1775

APPLICANT:

HARMONI TOWERS
10801 EXECUTIVE CENTER DRIVE
SHANNON BUILDING, SUITE 100
LITTLE ROCK, AR 72211
(501) 621-0521

A&E CONSULTANT:

RICK MATTESON
ACOM CONSULTING, INC
5200 SW MEADOWS RD
SUITE 150
LAKE OSWEGO, OR 97035
PHONE: (425) 209-6723
rick.matteson@acomconsultinginc.com

ZONING / PERMITTING:

SARAH TELSCHOW
ACOM CONSULTING, INC
5200 SW MEADOWS RD, SUITE 150
LAKE OSWEGO, OR 97035
PHONE: (206) 979-6268
stelschow@acomconsultinginc.com

ELECTRICAL ENGINEER:

DEAN P. LEVORSEN, P.E.
VECTOR STRUCTURAL ENGINEERING
651 W GALENA PARK BLVD, SUITE 101
DRAPER, UT 84020
PHONE: 801.990.1775

DRAWING INDEX

T-1	COVER SHEET
T-2	GENERAL NOTES AND SYMBOLS
T-3	GENERAL NOTES
LS-1	TOPOGRAPHICAL SURVEY
LS-2	TOPOGRAPHICAL SURVEY
A-1	PROPOSED OVERALL SITE PLAN
A-2	PROPOSED ENLARGED SITE PLAN
A-2.1	PROPOSED EQUIPMENT PLAN
A-3	PROPOSED NORTH & WEST ELEVATIONS
SD-1	SITE DISTANCE EXHIBIT

DRIVING DIRECTIONS

FROM VERIZON WIRELESS OFFICE - PORTLAND, OR:

HEAD SOUTHWEST ON NE 122ND AVE TOWARD NE WHITAKER WAY. TURN LEFT ONTO I-84 E / US-30 E TOWARD HOOD RIVER / TROUTDALE / I-84 EAST / US-30 EAST. TAKE THE RAMP ON THE LEFT FOR I-84 E / US-30 E. AT EXIT 16, HEAD RIGHT ON THE RAMP FOR NE 238TH DR TOWARD 238TH DR. / WOOD VILLAGE TURN RIGHT ONTO NE 238TH DR TOWARD ANIMAL SHELTER / GRESHAM / HALSEY ST / MT. HOOD. BEAR RIGHT ONTO NE 242ND DR. KEEP STRAIGHT TO GET ONTO NE HOGAN DR. BEAR LEFT ONTO NE BURNSIDE RD. CONTINUE ON SE BURNSIDE RD. CONTINUE ON US-26 E / SE MOUNT HOOD HWY. TURN LEFT ONTO OR-126 / SE EVERGREEN AVE. TURN LEFT ONTO SW WILLIAMS RD. SITE IS LOCATED ON YOUR RIGHT SIDE.

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT CONDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

OREGON STATE AND LOCAL BUILDING CODES WITH THE FOLLOWING REFERENCE CODE:

- 2021 IBC, STANDARDS AND AMENDMENTS - 2022 OSSC
- 2022 OREGON MECHANICAL SPECIALTY CODE (OMSC)
- 2021 IFC, STANDARDS AND AMENDMENTS - 2022 OFC
- 2021 UPC, STANDARDS AND AMENDMENTS - 2021 OPSC
- 2023 NEC, STANDARDS AND AMENDMENTS - 2023 OESC

ACCESSIBILITY REQUIREMENTS FOR PERSONS WITH DISABILITIES:

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. ACCESSIBILITY IS NOT REQUIRED.

PROJECT INFORMATION

CODE INFORMATION:

JURISDICTION: CROOK COUNTY
ZONING CLASSIFICATION: EFU3 (EXCLUSIVE FARM USE - POWELL BUTTE AREA)
CONSTRUCTION TYPE: II-B
OCCUPANCY: UTILITY
PROPOSED BUILDING USE: TELECOM

SITE LOCATION (NAVD88):

GROUND ELEVATION: 3004.8'
STRUCTURE HEIGHT: 150.0' (TOP OF MONOPOLE)

GEODETIC COORDINATES (NAD83):

LATITUDE: 44.272539° (44° 16' 21.1421" N)
LONGITUDE: -121.017655° (121° 01' 03.5571" W)

LEASE AREA SIZE:

2,500 S.F.

PARCEL SIZE:

67.12 ACRES

PARCEL NUMBER:

1514140000100

SCOPE OF WORK

VERIZON WIRELESS PROPOSES TO INSTALL RADIO EQUIPMENT AND DIESEL GENERATOR ON A CONCRETE PAD WITHIN A NEW 50' x 50' HARMONI FENCED WIRELESS FACILITY. PROPOSED INSTALLATION OF (12) ANTENNAS AND ANCILLARY EQUIPMENT ON AN ANTENNA MOUNT ATTACHED TO A NEW 150.0' MONOPOLE.

DO NOT SCALE DRAWINGS. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND ADVISE CONSULTANTS OF ANY ERRORS OR OMISSIONS. NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL. ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION. ALL DRAWINGS AND SPECIFICATIONS REMAIN THE PROPERTY OF ACOM CONSULTING.

CLIENT:



A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:



OR0005306
DITCH RIDER

3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

COVER SHEET

T-1

J:\MUNICIPAL BUILDINGS - ONE DITCH RIDER (HARMONITOWERS DITCH RIDER).DWG 10/25/2015 10:25:25 AM

GENERAL NOTES

- WORK SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. ALL NECESSARY LICENSES, CERTIFICATES, ETC., REQUIRED BY AUTHORITY HAVING JURISDICTION SHALL BE PROCURED AND PAID FOR BY THE CONTRACTOR.
- ACOM HAS NOT CONDUCTED, NOR DOES IT INTEND TO CONDUCT ANY INVESTIGATION AS TO THE PRESENCE OF HAZARDOUS MATERIAL, INCLUDING, BUT NOT LIMITED TO, ASBESTOS WITHIN THE CONFINES OF THIS PROJECT. ACOM DOES NOT ACCEPT RESPONSIBILITY FOR THE INDEMNIFICATION, THE REMOVAL, OR ANY EFFECTS FROM THE PRESENCE OF THESE MATERIALS. IF EVIDENCE OF HAZARDOUS MATERIALS IS FOUND, WORK IS TO BE SUSPENDED AND THE OWNER NOTIFIED. THE CONTRACTOR IS NOT TO PROCEED WITH FURTHER WORK UNTIL INSTRUCTED BY THE OWNER IN WRITING.
- ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE PROPOSED, UNLESS OTHERWISE NOTED. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP. THE CONTRACTOR SHALL REPAIR OR REPLACE AT HIS EXPENSE ALL WORK THAT MAY DEVELOP DEFECTS IN MATERIALS OR WORKMANSHIP WITHIN SAID PERIOD OF TIME OR FOR ONE YEAR AFTER THE FINAL ACCEPTANCE OF THE ENTIRE PROJECT, WHICHEVER IS GREATER.
- THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND UTILITIES AT THE JOB SITE BEFORE WORK IS STARTED. NO CLAIMS FOR EXTRA COMPENSATION FOR WORK WHICH COULD HAVE BEEN FORESEEN BY AN INSPECTION, WHETHER SHOWN ON THE CONTRACT DOCUMENTS OR NOT, WILL BE ACCEPTED OR PAID.
- THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND CONDITIONS AT THE JOB SITE WHICH COULD AFFECT THE WORK UNDER THIS CONTRACT. ALL MANUFACTURERS RECOMMENDED SPECIFICATIONS, EXCEPT THOSE SPECIFICATIONS HEREIN, WHERE MOST STRINGENT SHALL BE COMPLIED WITH.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE SIZE AND LOCATION OF ALL OPENINGS FOR STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL, OR ARCHITECTURAL WORK.
- THE CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATIONS OF ANY AND ALL MECHANICAL, ELECTRICAL, PLUMBING, OR STRUCTURAL ELEMENTS, AND THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE ARE MET. NOTIFY THE CONSULTANT OF ANY CONFLICTS. THE CONSULTANT HAS THE RIGHT TO MAKE MINOR MODIFICATIONS IN THE DESIGN OF THE CONTRACT WITHOUT THE CONTRACTOR GETTING ADDITIONAL COMPENSATION.
- DO NOT SCALE THE DRAWINGS. DIMENSIONS ARE EITHER TO THE FACE OF FINISHED ELEMENTS OR TO THE CENTER LINE OF ELEMENTS, UNLESS NOTED OTHERWISE. CRITICAL DIMENSIONS SHALL BE VERIFIED AND NOTIFY THE CONSULTANT OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEAN UP OF ALL TRADES AND REMOVE ALL DEBRIS FROM THE CONSTRUCTION SITE. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE BUILDING, SITE, AND ANY OTHER SURROUNDING AREAS TO A BETTER THAN EXISTING CONDITION.
- THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC. ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES.
- THE CONTRACTOR SHALL MEET ALL OSHA REQUIREMENTS FOR ALL INSTALLATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING CONSTRUCTION AND REPAIR ALL DAMAGES TO BETTER THAN PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DAMAGE TO THE BUILDING SITE OR ANY ADJACENT STRUCTURES AROUND THE PROJECT. THE CONSULTANT SHALL BE SOLE AND FINAL JUDGE AS TO THE QUALITY OF THE REPAIRED CONSTRUCTION. ANY ADDITIONAL MODIFICATIONS WHICH MUST BE MADE SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- WHERE ONE DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS, EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS OR REFERRED TO IN THE SPECIFICATIONS, UNLESS NOTED OTHERWISE.
- WHERE PROPOSED PAVING, CONCRETE SIDEWALKS OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION SO THE ENTIRE STRUCTURE SHALL HAVE A SMOOTH TRANSITION.
- THE CONTRACTOR SHALL MODIFY THE EXISTING FLOORS, WALL, CEILING, OR OTHER CONSTRUCTION AS REQUIRED TO GAIN ACCESS TO AREAS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL, OR STRUCTURAL MODIFICATIONS. WHERE THE EXISTING CONSTRUCTION DOORS, PARTITIONS, CEILING, ETC., ARE TO BE REMOVED, MODIFIED, OR REARRANGED OR WHERE THE EXPOSED OR HIDDEN MECHANICAL, ELECTRICAL, SYSTEMS ARE ADDED OR MODIFIED, THE GENERAL CONTRACTOR SHALL REPAIR, PATCH AND MATCH ALL EXISTING CONSTRUCTION AND FINISHES OF ALL FLOORS WALLS AND CEILINGS. WHERE CONCRETE MASONRY CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL TOOTH IN ALL PROPOSED CONSTRUCTION TO MATCH THE EXISTING BOND. WHERE CONCRETE CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL VERIFY THE EXACT DETAILS TO BE USED FOR CONSTRUCTION. ALL WORK SHALL BE COVERED UNDER THE GENERAL CONTRACT.

- VERIFY ALL EXISTING DIMENSIONS PRIOR TO PERFORMING WORK.
- VERIFY LOCATION OF ALL BURIED UTILITIES PRIOR TO ANY EXCAVATION.
- IN RAWLAND CONDITIONS, TOWER FOUNDATION STRUCTURAL STEEL TO BE GROUNDED PRIOR TO CONCRETE POUR. TOWER FOUNDATION STRUCTURAL STEEL TO BE CONNECTED TO PERMANENT GROUND ROD PRIOR TO TOWER ERECTION. TOWER GROUND MUST BE MAINTAINED AT ALL TIMES.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING FOR COMMERCIAL POWER IMMEDIATELY UPON AWARD OF CONTRACT. THE GENERAL CONTRACTOR IS REQUIRED TO KEEP ALL DOCUMENTATION RECEIVED FROM THE POWER COMPANY, ACKNOWLEDGING APPLICATION FOR POWER, WRITTEN AND VERBAL DISCUSSIONS WITH THE POWER COMPANY, ETC.
- THE GENERAL CONTRACTOR SHALL OBTAIN WRITTEN CONFIRMATION OF THE EXPECTED DATE OF COMPLETION OF THE POWER CONNECTION FROM THE POWER COMPANY.
- IF THE POWER COMPANY IS UNABLE TO PROVIDE THE POWER CONNECTION BY OWNER'S REQUIRED DATE, THE GENERAL CONTRACTOR SHALL PROVIDE AND MAINTAIN A TEMPORARY GENERATOR UNTIL THE POWER COMPANY CONNECTION IS COMPLETED. COSTS ASSOCIATED WITH THE TEMPORARY GENERATOR TO BE APPROVED BY THE OWNER.
- IF THE GENERAL CONTRACTOR FAILS TO TAKE NECESSARY MEASURES AS DESCRIBED IN NOTES 19, 20 AND 21 ABOVE, THE GENERAL CONTRACTOR SHALL PROVIDE A TEMPORARY GENERATOR AT NO COST TO THE OWNER.
- PLANS PART OF THIS SET ARE COMPLEMENTARY. INFORMATION IS NOT LIMITED TO ONE PLAN. DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT, WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY THE OWNER ON OTHER PROJECTS OR EXTENSION TO THIS PROJECT EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT. THESE PLANS WERE PREPARED TO BE SUBMITTED TO GOVERNMENTAL BUILDING AUTHORITIES FOR REVIEW FOR COMPLIANCE WITH APPLICABLE CODES AND IT IS THE SOLE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR TO BUILD ACCORDING TO APPLICABLE BUILDING CODES.
- IF CONTRACTOR OR SUB-CONTRACTOR FIND IT NECESSARY TO DEViate FROM ORIGINAL APPROVED PLANS, THEN IT IS THE CONTRACTOR'S AND THE SUB-CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE ARCHITECT WITH 4 COPIES OF THE PROPOSED CHANGES FOR HIS APPROVAL BEFORE PROCEEDING WITH THE WORK. IN ADDITION THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY APPROVALS FROM THE BUILDING AUTHORITIES FOR THE PROPOSED CHANGES BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY INSPECTIONS AND APPROVALS FROM BUILDING AUTHORITIES DURING THE EXECUTION OF THE WORK.
- IN EVERY EVENT, THESE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS SHALL BE INTERPRETED TO BE A MINIMUM ACCEPTABLE MEANS OF CONSTRUCTION BUT THIS SHALL NOT RELIEVE THE CONTRACTOR, SUB-CONTRACTOR, AND/OR SUPPLIER/MANUFACTURER FROM PROVIDING A COMPLETE AND CORRECT JOB WHEN ADDITIONAL ITEMS ARE REQUIRED TO THE MINIMUM SPECIFICATION. IF ANY ITEMS NEED TO EXCEED THESE MINIMUM SPECIFICATIONS TO PROVIDE A COMPLETE, ADEQUATE AND SAFE WORKING CONDITION, THEN IT SHALL BE THE DEEMED AND UNDERSTOOD TO BE INCLUDED IN THE DRAWINGS. FOR EXAMPLE, IF AN ITEM AND/OR PIECE OF EQUIPMENT REQUIRES A LARGER WIRE SIZE (I.E. ELECTRICAL WIRE), STRONGER OR LARGER PIPING, INCREASED QUANTITY (I.E. STRUCTURAL ELEMENTS), REDUCED SPACING, AND/OR INCREASED LENGTH (I.E. BOLT LENGTHS, BAR LENGTHS) THEN IT SHALL BE DEEMED AND UNDERSTOOD TO BE INCLUDED IN THE BID/PROPOSAL. THESE DOCUMENTS ARE MEANT AS A GUIDE AND ALL ITEMS REASONABLY INFERRED SHALL BE DEEMED TO BE INCLUDED.
- THESE CONTRACT DOCUMENTS AND SPECIFICATIONS SHALL NOT BE CONSTRUED TO CREATE A CONTRACTUAL RELATIONSHIP OF ANY KIND BETWEEN THE ARCHITECT AND THE CONTRACTOR.

LINE/ANTENNA NOTES

- ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLES SHALL CONFORM TO ASTM A307 OR ASTM A36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MIN. DIA. BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED FROM THE PLANE. ALL EXPOSED FASTENERS, NUTS, AND WASHERS SHALL BE GALVANIZED OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS UNLESS OTHERWISE NOTED. ALL ANCHORS INTO CONCRETE SHALL BE STAINLESS STEEL.
- NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY MAGNETIC NORTH AND NOTIFY CONSULTANT OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.
- PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
- THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS.
- MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS TO BE A MIN. OF 8" RADIUS.
- FOR GROUNDING TO BUILDING FRAME AND HATCH PLATE GROUND BARS. USE A TWO-BOLT HOLE NEMA DRILLED CONNECTOR SUCH AS T&B 32007 OR APPROVED EQUAL.
- FOR ALL EXTERNAL GROUND CONNECTIONS, CLAMPS AND CADWELDS, APPLY A LIBERAL PROTECTIVE COATING OR AN ANTI-OXIDE COMPOUND SUCH AS "NO-OXIDE A" BY DEARBORN CHEMICAL COMPANY.
- REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY THERMO-WELDING. USE ERICO T-319 GALVANIZING BAR/COLD GALVANIZING PAINT.
- SEAL ALL CONDUIT PENETRATIONS INTO MODULAR BUILDING WITH A SILICONE SEALANT AND ALL CONDUIT OPENINGS.
- ANTENNAS AND COAX TO BE PROVIDED BY VERIZON WIRELESS, CONTRACTOR TO COORDINATE DELIVERY.

PROJECT INFORMATION

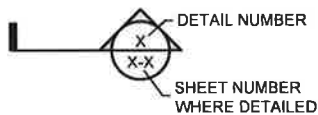
- THIS IS AN UNMANNED FACILITY AND RESTRICTED ACCESS EQUIPMENT AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
- VERIZON WIRELESS CERTIFIES THAT THIS TELEPHONE EQUIPMENT FACILITY WILL BE SERVICED ONLY BY VERIZON WIRELESS EMPLOYEE SERVICE PERSONNEL FOR REPAIR PURPOSES ONLY. THIS FACILITY IS UNOCCUPIED AND NOT DESIGNED FOR HUMAN OCCUPANCY THUS IT IS NOT OPEN TO THE PUBLIC.
- THIS FACILITY WILL CONSUME NO UNRECOVERABLE ENERGY.
- NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
- NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
- NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.
- VERIZON WIRELESS MAINTENANCE CREW (TYPICALLY ONE PERSON) WILL MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

LEGEND

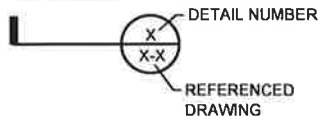
ABBREVIATIONS:

(E) EXISTING
(P) PROPOSED

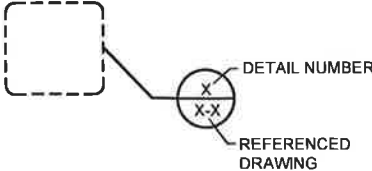
BUILDING/WALL/DETAIL SECTION:



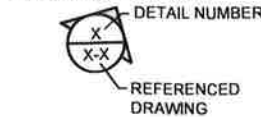
REFERENCE:



LARGE SCALE DETAIL:



ELEVATION REFERENCE:



IMPORTANT NOTICE

THE EXISTING CONDITIONS REPRESENTED HEREIN ARE BASED ON VISUAL OBSERVATIONS AND INFORMATION PROVIDED BY OTHERS. ACOM CONSULTING CANNOT GUARANTEE THE CORRECTNESS NOR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN AND ASSUMES NO RESPONSIBILITY THEREOF. CONTRACTOR AND HIS SUB-CONTRACTORS SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AS REQUIRED FOR PROPER EXECUTION OF PROJECT. REPORT ANY CONFLICTS OR DISCREPANCIES TO THE CONSULTANT PRIOR TO CONSTRUCTION.

PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	01/30/25	JL	90% P2D REVIEW
B	03/19/25	RM	CLIENT COMMENTS
C	05/16/25	KM	CLIENT COMMENTS
D	08/08/25	KM	100% F2D REVIEW

CLIENT:

verizon

ARE CONSULTANT, SITE ACQUISITION AND PERMITTING:

Acom
CONSULTING, INC

HARMONITOWERS

VECTOR
ENGINEERS

OR0005306
DITCH RIDER

3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

GENERAL NOTES
AND SYMBOLS

T-2

A:\HOME\W SITE BUILDING - 0566 DITCH RIDER (HARMONITOWERS DITCH RIDER) HEADQUARTERS (0566 P2D) (0566-0566-0566)

GENERAL STRUCTURAL NOTES
1. CONTRACTOR SHALL FIELD VERIFY SITE OR LAYOUT RESTRICTIONS, SITE CONDITIONS, DIMENSIONS, AND ELEVATIONS BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF VECTOR STRUCTURAL ENGINEERING, LLC PRIOR TO BEGINNING PROJECT. ALL WORK SHALL BE PERFORMED USING ACCEPTED CONSTRUCTION PRACTICES. 2. NO FIELD MODIFICATIONS MAY BE MADE WITHOUT EXPRESS WRITTEN CONSENT FROM THE ENGINEER OF RECORD. ENGINEER OF RECORD ASSUMES NO RESPONSIBILITY FOR THE STRUCTURE IF ALTERATIONS AND/OR ADDITIONS ARE MADE TO THE DESIGN AS SHOWN IN THESE DRAWINGS. 3. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH ALL LOCAL CODES, REGULATIONS, AND ORDINANCES AS WELL AS STATE DEPARTMENT OF INDUSTRIAL REGULATIONS AND DIVISION OF INDUSTRIAL SAFETY (OSHA) REQUIREMENTS. 4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT ALL WORK TO THE BEST OF HIS/HER ABILITY AND SKILL. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, AND SEQUENCES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT. 5. THE CONTRACTOR SHALL VERIFY, COORDINATE, AND PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR OTHER SUPPORTS FOR ALL ITEMS REQUIRING SAME, WHETHER SHOWN OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, FORMWORK, ETC., AND SHALL CONFORM TO ALL NATIONAL, STATE, AND LOCAL ORDINANCES AND CODES, IN ORDER TO SAFELY EXECUTE ALL STAGES OF WORK TO COMPLETE THIS PROJECT. 6. IT IS THE INTENT OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION OF THE STRUCTURE SHOWN. 7. CONTRACTOR ASSUMES RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES. THIS REQUIREMENT APPLIES CONTINUOUSLY, AND IS NOT LIMITED TO NORMAL WORKING HOURS. 8. CONTRACTOR TO HOLD ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT. 9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN. THE CONTRACTOR IS FINANCIALLY RESPONSIBLE FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK ON THIS PROJECT. 10. WEATHER PROOFING AND/OR FLASHING TO BE PROVIDED BY CONTRACTOR AS REQUIRED. 11. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE ARCHITECT/ ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED. 12. THESE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS, AND PEDESTRIANS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT/ ENGINEER SHALL NOT INCLUDE INSPECTION OF SUCH ITEMS. 13. ALL STRUCTURAL MEMBERS, HARDWARE, & FASTENERS TO BE STEEL, U.N.O. 14. CONTRACTOR TO VERIFY SUITABILITY OF EQUIPMENT AND CLIENT TOLERANCE FOR ANTICIPATED DIFFERENTIAL MOVEMENT OF STRUCTURES DUE TO FROST HEAVE, SETTLEMENT, AND OTHER FACTORS. 15. ALL ASPECTS OF THE EXISTING STRUCTURE ARE ASSUMED TO BE IN GOOD CONDITION, FREE FROM DAMAGE OR DETERIORATION. CONTRACTOR TO VERIFY CONDITION OF STRUCTURE AND INFORM VECTOR OF ANY DAMAGED STRUCTURAL MEMBERS.

DESIGN CRITERIA
1. THE DESIGN CRITERIA FOR THIS STRUCTURE IS AS FOLLOWS: A. STANDARDS AND DESIGN CODES: BUILDING CODE: INTERNATIONAL BUILDING CODE, 2021 EDITION (2021 IBC) B. FOUNDATION ANALYSIS/DESIGN IS BY OTHERS AND IS TO BE BASED ON SITE-SPECIFIC GEOTECHNICAL RECOMMENDATIONS OR CODE PRESCRIBED PRESUMPTIVE SOIL PARAMETERS AS APPROVED BY THE JURISDICTION.

STRUCTURAL STEEL
1. ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW: WIDE FLANGE: ASTM A992 GR. 50 RECT/SQ. HSS: ASTM A500 GR B (46 ksi) PIPE: ASTM A53 GR. B ANGLES, CHANNELS, PLATES: ASTM A36 STEEL TO STEEL BOLTS ASTM F3125 GR. A325N BOLTS FOR GRATING CLIPS: ASTM A307 SCREWS: SAE GR. 5 (OR EQUIVALENT) PLATES: ASTM A36 2. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM F2329. FIELD MODIFICATIONS ARE TO BE COATED WITH ZINC ENRICHED PAINT. 3. ALL WELDING TO BE PERFORMED USING E70XX ELECTRODES AND SHALL CONFORM TO AISC. WHERE FILLET WELDS SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC MANUAL OF STEEL CONSTRUCTION. PAINTED SURFACES SHALL BE TOUCHED UP. ALL WELDING SHALL BE PERFORMED IN AN APPROVED SHOP BY WELDERS CERTIFIED IN ACCORDANCE WITH AWS D1.1. NO FIELD WELDING PERMITTED. 4. ALL STRUCTURAL BOLTS SHALL BE TIGHTENED PER THE "TURN OF THE NUT" METHOD AS DEFINED BY AISC. HOLES TO RECEIVE BOLTS SHALL BE 1/16" LARGER THAN NOMINAL BOLT DIAMETER, U.N.O.

SPECIAL INSPECTION
1. CONTRACTOR SHALL PROVIDE REQUIRED SPECIAL INSPECTIONS PERFORMED BY AN INDEPENDENT INSPECTOR, APPROVED BY CARRIER AND THE GOVERNING JURISDICTION, AS REQUIRED BY CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE FOR THE FOLLOWING: A. PERIODIC THIRD PARTY SPECIAL INSPECTIONS SHALL BE REQUIRED FOR THE FOLLOWING: A.A. PERIODIC FOR HIGH STRENGTH (A325 AND A490) BOLT INSTALLATIONS, IF UTILIZED A.B. PERIODIC SPECIAL INSPECTION OF CONCRETE FORMS AND CONCRETE AND REINFORCEMENT PLACEMENT A.C. CONTINUOUS FOR ALL RETROFIT ANCHORS IN CONCRETE 2. PROVIDE SPECIAL INSPECTIONS FOR OTHER ITEMS NOTED ON DRAWINGS TO CONFIRM COMPLIANCE WITH CONTRACT DOCUMENTS. 3. STEEL FABRICATION SHALL BE DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. 4. SPECIAL INSPECTION IS NOT REQUIRED FOR WORK OF A MINOR NATURE OR AS WARRANTED BY CONDITIONS IN THE JURISDICTION AS APPROVED BY THE BUILDING OFFICIAL. THUS, SPECIAL INSPECTION ITEMS ABOVE MAY BE WAIVED AS DEEMED APPROPRIATE BY THE BUILDING OFFICIAL. 5. THE SPECIAL INSPECTOR SHALL PROVIDE A COPY OF THE REPORT TO THE OWNER, ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL. 6. STRUCTURAL OBSERVATION NOT REQUIRED.

CONCRETE
1. ALL PHASES OF WORK PERTAINING TO THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318 LATEST APPROVED EDITION) WITH MODIFICATIONS AS NOTED IN THE DRAWINGS AND SPECIFICATIONS. 2. REINFORCED CONCRETE DESIGN IS BY THE "ULTIMATE STRENGTH DESIGN METHOD", ACI 318-(LATEST EDITION) 3. SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTHS AND TYPES: LOCATION IN STRUCTURE STRENGTH PSI GRADE BEAMS 3000 FOOTINGS 3000 4. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL WITH THE FOLLOWING REQUIREMENTS: a. COMPRESSIVE STRENGTH AT AGE 28 DAYS AS SPECIFIED ABOVE. b. LARGE AGGREGATE-HARDROCK, ¾" MAXIMUM SIZE CONFORMING TO ASTM C-33 c. CEMENT-ASTM C-150, TYPE TYPE II PORTLAND CEMENT d. MAXIMUM SLUMP 5-INCHES, MAX WATER CEMENT RATIO: 0.45 e. AIR ENTRAINING AGENT TO BE USED FOR CONCRETE EXPOSED TO FREEZING TEMPERATURES. TOTAL AIR CONTENT TO BE 6% f. NO ADMIXTURES, EXCEPT FOR ENTRAINED AIR, AND AS APPROVED BY THE ENGINEER. 5. CONCRETE MIXING OPERATIONS, ETC. SHALL CONFORM TO ASTM C-94 6. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI STANDARD 514 AND PROJECT SPECIFICATIONS. 7. CLEAR COVERAGE OF CONCRETE OVER OUTER REINFORCING BARS SHALL BE AS FOLLOWS: CONCRETE POURED DIRECTLY AGAINST EARTH - 3 INCHES CLEAR, STRUCTURAL SLABS - 3/4 INCHES CLEAR (TOP AND BOTTOM), FORMED CONCRETE WITH EARTH BACK FILL - 2 INCHES CLEAR. CLEAR COVER FOR ALL REINFORCEMENT IN PRECAST CONCRETE MEMBERS FABRICATED IN A PLANT CONTROLLED ENVIRONMENT TO BE 1-1/2" MIN. FOR UP TO # 4 REINFORCING BARS, UNLESS NOTED OTHERWISE.

8. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE. 9. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING THAT MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED EXCEPT AS SHOWN. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS. 10. CONDUIT OR PIPE SIZE (O.D.) SHALL NOT EXCEED 30% OF SLAB THICKNESS AND SHALL BE PLACED BETWEEN THE TOP AND BOTTOM REINFORCING, UNLESS SPECIFICALLY DETAILED OTHERWISE. CONCENTRATIONS OF CONDUITS OR PIPES SHALL BE AVOIDED EXCEPT WHERE DETAILED OPENINGS ARE PROVIDED. 11. PRECAST CONCRETE SHALL BE FABRICATED IN AN APPROVED SHOP IN A PLANT CONTROLLED ENVIRONMENT. REINFORCEMENT SPECIFIED IS MINIMUM ONLY. DESIGN AND VERIFICATION OF PRECAST MEMBERS, INCLUDING EMBEDS, FOR LOADS TO DUE LIFTING AND TRANSPORTATION IS THE RESPONSIBILITY OF THE PRECASTER. 12. MODULUS OF ELASTICITY OF CONCRETE, WHEN TESTED IN ACCORDANCE WITH ASTM C-460, SHALL BE AT LEAST THE VALUE GIVEN BY THE EQUATIONS IN SECTION 8.5.1 OF ACI 318 FOR THE SPECIFIED 28-DAY STRENGTH. 13. SHRINKAGE OF CONCRETE, WHEN TESTED IN ACCORDANCE WITH ASTM C-157, SHALL NOT EXCEED 0.0004 INCHES/INCH. 14. CONCRETE PLACED IN COLD WEATHER CONDITIONS SHALL BE IN ACCORDANCE WITH ACI 306 (LATEST EDITION)

REINFORCING STEEL
1. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615 GRADE 60. 2. ALL REINFORCING BAR BENDS SHALL BE MADE COLD 3. MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 6 INCHES OR ONE FULL MESH AND ONE HALF, WHICH EVER IS GREATER. 4. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE. 5. REBAR SPLICES ARE TO BE: CLASS "B" 6. REINFORCING SPLICES SHALL BE MADE ONLY WHERE INDICATED ON THE DRAWINGS. 7. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING OR NUMBER AS THE VERTICAL REINFORCING, RESPECTIVELY.

POST-INSTALLED ANCHORS
1. USE, INSTALLATION, EMBEDMENT DEPTH, AND DIAMETER OF EXPANSION/WEDGE OR ADHESIVE ANCHORS IN HARDENED CONCRETE OR CMU SHALL CONFORM TO ICC REPORT & MANUFACTURER'S RECOMMENDATIONS. 2. MAINTAIN CRITICAL EDGE DISTANCE SPECIFIED IN ICC REPORT AS A MINIMUM, U.N.O. IN THESE DRAWINGS 3. LOCATE AND AVOID CUTTING EXISTING REBAR OR TENDONS WHEN DRILLING HOLES IN ELEVATED CONCRETE SLABS, CONCRETE WALLS, OR CMU.

PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	01/30/25	JL	90% P2D REVIEW
B	03/19/25	RM	CLIENT COMMENTS
C	05/16/25	KM	CLIENT COMMENTS
D	08/08/25	KM	100% P2D REVIEW

CLIENT:

verizon

A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:

Acom
CONSULTING, INC

HARMONITOWERS

VECTOR
ENGINEERS

OR0005306
DITCH RIDER

3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

GENERAL
NOTES

T-3

ALL EXISTING CONDITIONS REFLECTED IN DRAWINGS ARE DERIVED FROM SURVEY BY CHINOOK SURVEYS, DATED 01/30/25, PREVIOUS AS-BUILT DRAWINGS AERIAL IMAGES, PHOTOS AND FIELD VERIFIED DATA.

O.	DATE	DRAWN	REVISION
A	01/30/25	JL	90% PZD REVIEW
B	03/19/25	RM	CLIENT COMMENTS
C	05/18/25	KM	CLIENT COMMENTS
D	08/08/25	KM	100% FZD REVIEW



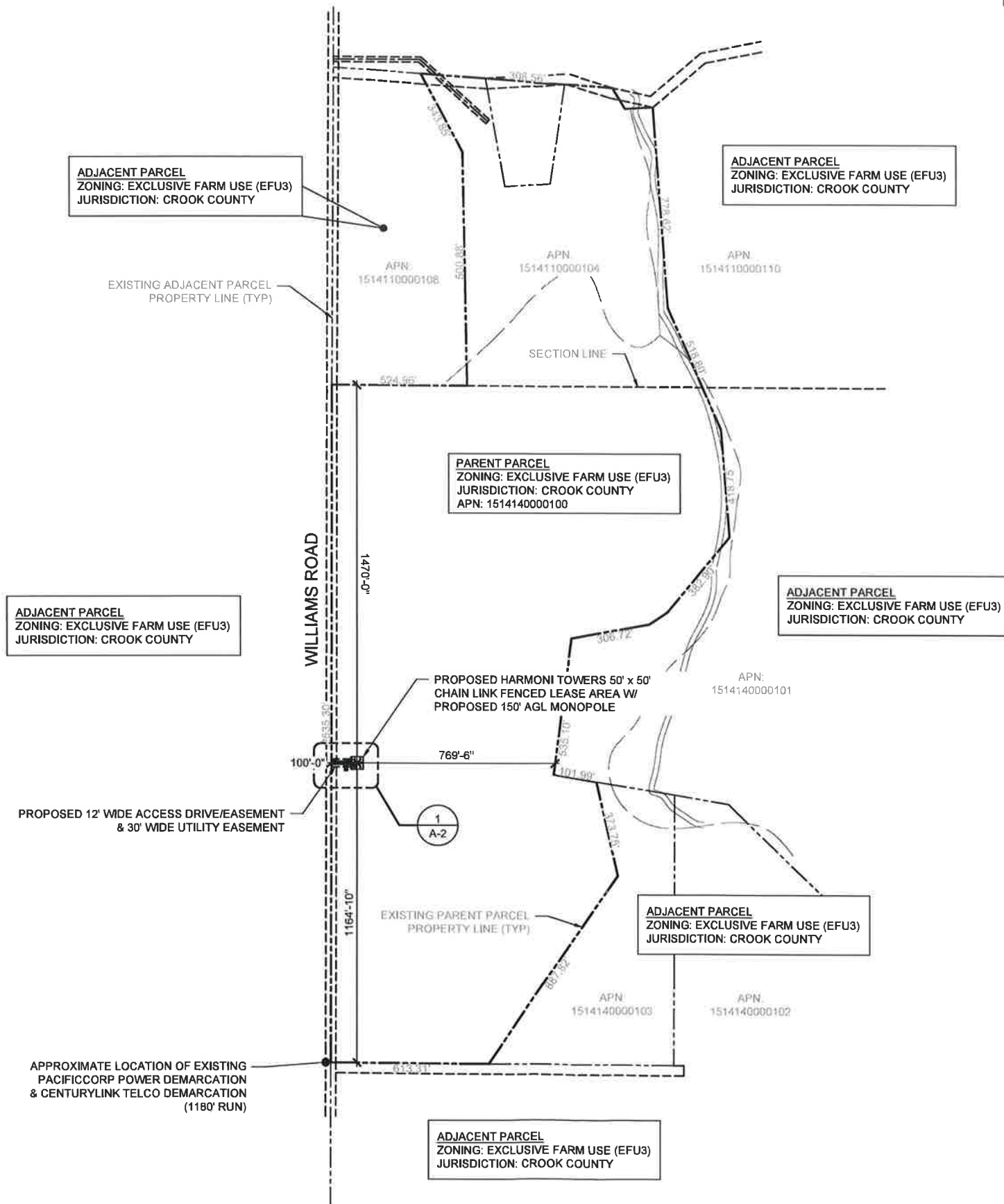
3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753



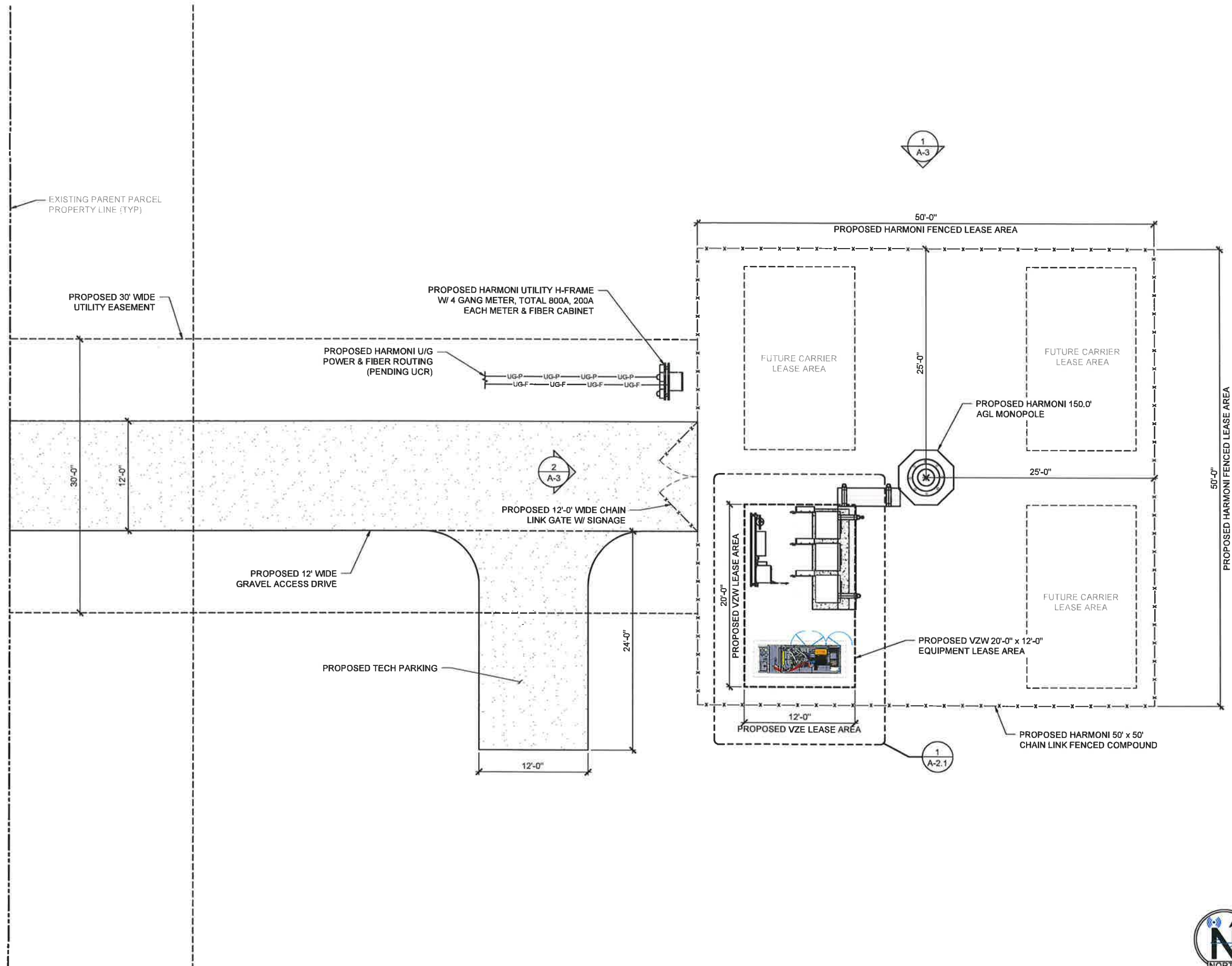
22"x34" SCALE: 1" = 250'-0"
11"x17" SCALE: 1" = 500'-0"



PROPOSED OVERALL SITE PLAN 1



A: NEW SITE - BUE DS 3/16 - OR05 DITCH RIDER - HARMONITOWERS DITCH RIDER - PERMIT 103M FZD-03-05-36 DWG



PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

NO	DATE	DRAWN	REVISION
A	01/30/25	JL	90% PZD REVIEW
B	03/19/25	RM	CLIENT COMMENTS
C	05/16/25	KM	CLIENT COMMENTS
D	08/08/25	KM	100% FZD REVIEW



**OR0005306
DITCH RIDER**
3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

**PROPOSED
ENLARGED
SITE PLAN**

A-2

PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

Q.	DATE	DRAWN	REVISION
A	01/30/25	JL	90% PZD REVIEW
B	03/19/25	RM	CLIENT COMMENTS
C	05/16/25	KM	CLIENT COMMENTS
D	08/08/25	KM	100% FZD REVIEW

CLIENT:



E&E CONSULTANT, SITE ACQUISITION AND PERMITTING.



Acom
CONSULTING, INC

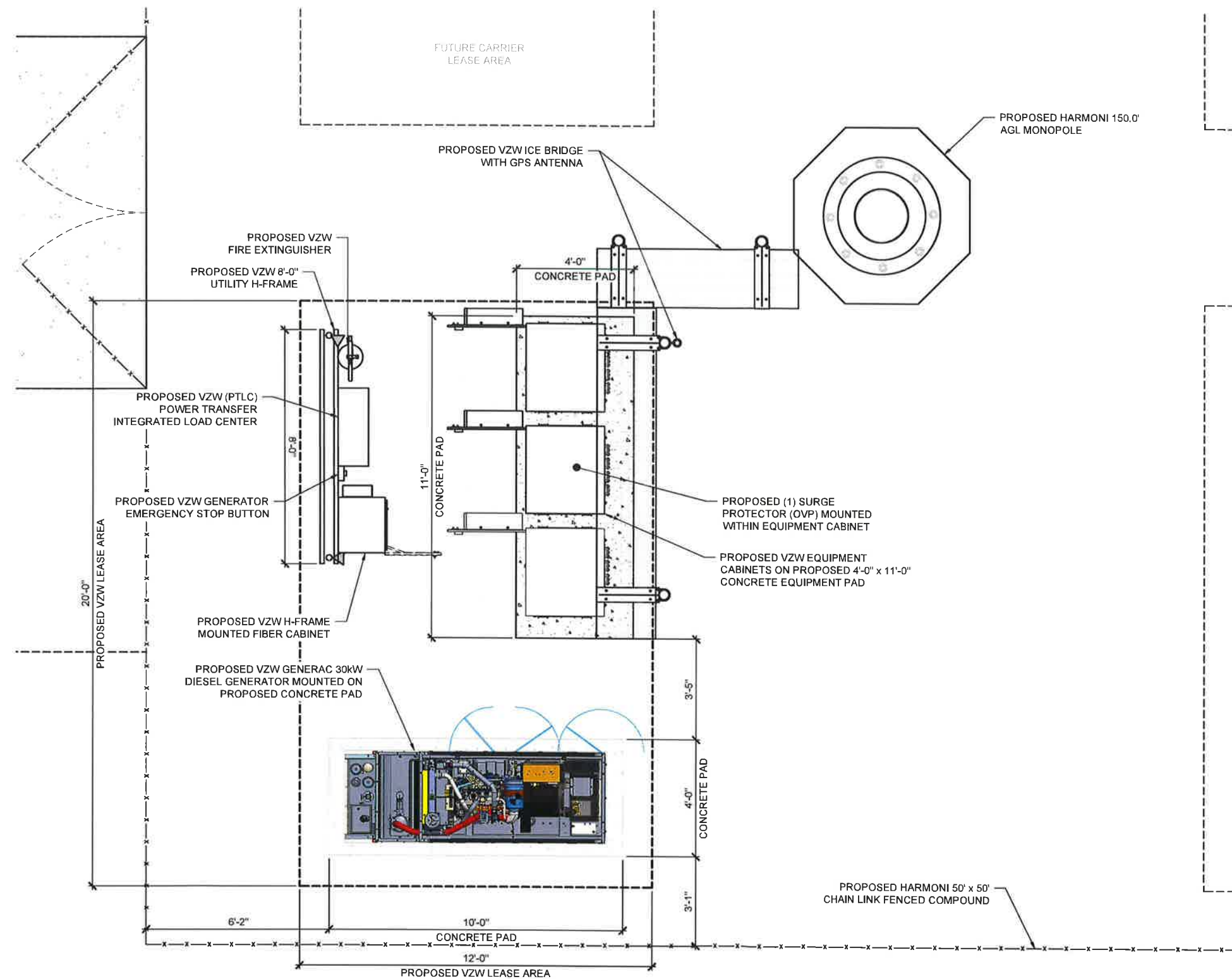


OR0005306
DITCH RIDER

3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

PROPOSED EQUIPMENT PLAN

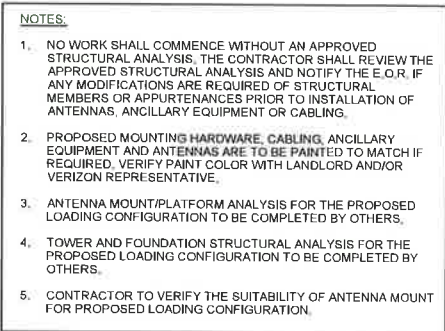
A-2.1



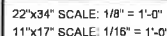
22"x34" SCALE: 1/2" = 1'-0"
11"x17" SCALE: 1/4" = 1'-0"

PROPOSED COMPOUND PLAN	1
------------------------	---

1



1



2

NO.	DATE	DRAWN	REVISION
A	01/30/25	JL	90% P2D REVIEW
B	03/19/25	RM	CLIENT COMMENTS
C	05/16/25	KM	CLIENT COMMENTS
D	08/08/25	KM	100% F2D REVIEW

CLIENT:

verizon

A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:

 **Acom**
CONSULTING, INC



HARMONITOWERS



OR0005306
DITCH RIDER
3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

ELEVATIONS

A-3

Proposed Ditch Rider Site

Created By:
Tom Fergusson
RF Engineer
4/7/2025



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Objective

Verizon has listened to customer complaints, measured the signal strength and monitored our capacity and found Verizon needs to add capacity along Highway 126 between Redmond and Prineville and coverage to the Powell Butte Community. At one time, customers measured the strength of a network by making phone calls and listening to the quality of the call. Now it's how well they can they send and receive information to their smartphone. It could be a voice call but more likely data information. If the customer lives on the edge of coverage or in a high interference (multiple sites covering the same area) zone when cell sites are at exhaustion they see a noticeable difference when they try to retrieve the information they are requesting, especially as the demand increases throughout the day. Edge customers request a greater share of a cells resources so during high demand the cell cannot provide the resources to an edge customer in a timely fashion. At some point, when the site is nearing exhaustion, it starts to impact the ability to make and receive calls for these edge customers as the site shrinks its coverage. Fortunately the network has not reached this point yet as described. If capacity is not added the customer experience will degrade. Over the years, Powell Butte customers that live on the north side of Powell Butte have complained about their service as they are in the shadow of our cell coverage even though they are very close to the site as the hill itself is blocking the signal. Verizon would like to deliver a great experience to its customers with plans to strengthen the network into areas of rural Cook County by adding new cell sites.

This document will analyze Verizon's 700 and 850 MHz bands as they can cover large areas but as the signal density goes up with this new site, Crook County residences will be able to capitalize with the super fast speed that the higher bands provide. The proposed site was identified to provide these services to the Powell Butte Community and also offload the existing sites traffic so other not served by this new site will see the traffic from their site drop and be able to serve them .

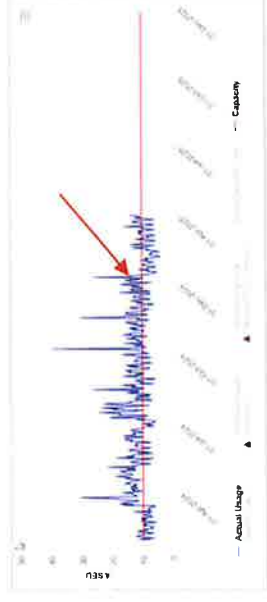


Capacity

ASEU or Average Scheduled Eligible User is one way that Verizon measures the existing capacity on a sector. This metric was created to measure the delay a user experiences while waiting for a request. A good way to think of this is at the line of a grocery store, as the number of shoppers line up to buy groceries, the longer a shopper will have to wait to buy the groceries. At some point, the store will open another lane to reduce the line thus decreasing the wait time. In Verizon's case, the new lane is a new cell site. The graphs to the left, ASEU is blue while the red is the limit where Verizon would like keep the traffic under the limit. These graphs represent the low band carrier which are the carriers that travel far but cannot carry as much traffic as higher frequency bands.

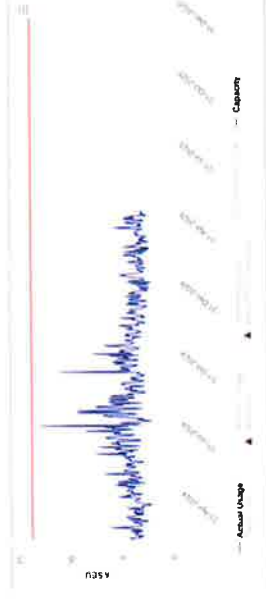


McCain



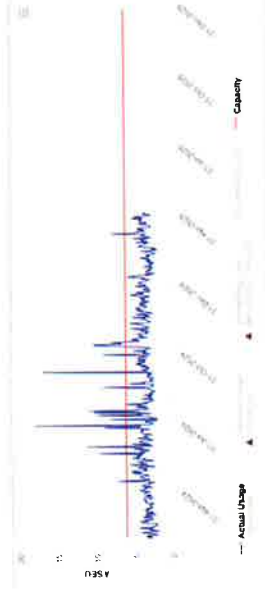
McCain is on top of Grizzly Mountain eleven miles to the north of the proposed site. It's far away but due to its height above average terrain, it is extremely tall so it can serve great distances but also causes interference to other sites that reduce the capacity the neighboring sites. Verizon did add the last remaining low band carrier shown by the red arrow but had little effect in solving the problem. Adding the proposed offload will have a significant offload to McCain. Verizon will be able to minimize the footprint using antenna down tilt thus decreasing the traffic that will provide future growth.

Wiley



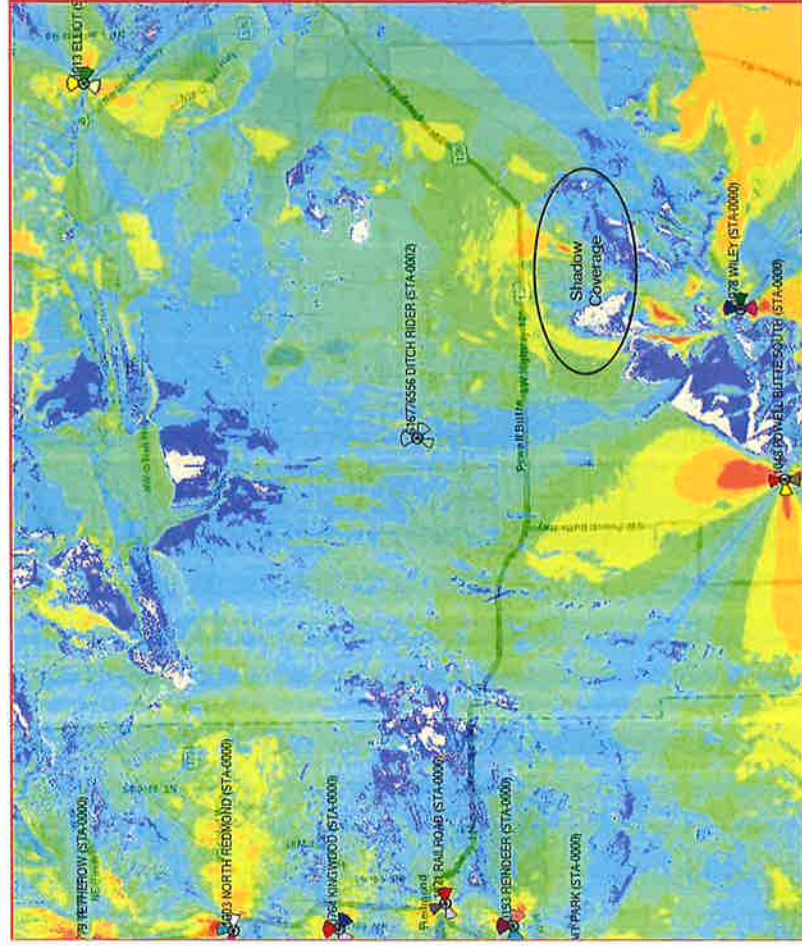
Wiley is on top of Powell Butte and has plenty of capacity at this time. The site does see an increase in traffic during the summer months but still in good shape. This sector is not a driver for the proposed site but it will see some benefits as sites with less traffic operate better.

Powell Butte South



Powell Butte South is on the west slope of Powell Butte. Its considered tall. Notice during the summer months, the sector was exhausted at times. If Verizon does nothing, the exhaustion will increase until Verizon builds an offload site.

Figure 1 Current Low-Band C/I



This is a C/I (Carrier to Interference) plot. The greater the C/I the faster the speed but as the interference increases, the site has to send a more robust data stream so the mobile can read the data. This data stream is less efficient so the wait time for the requested data increase. As the traffic increases, the interference increases thus slowing down the transfer of data. The site is placed in a low C/I. The customer in the blue area will always have slower speeds but at peak traffic times, will see a much degraded experience. A new site will solve the issue in this area.

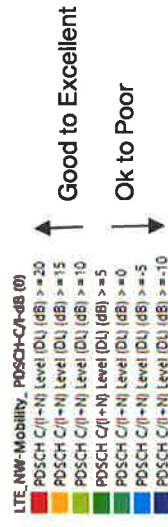
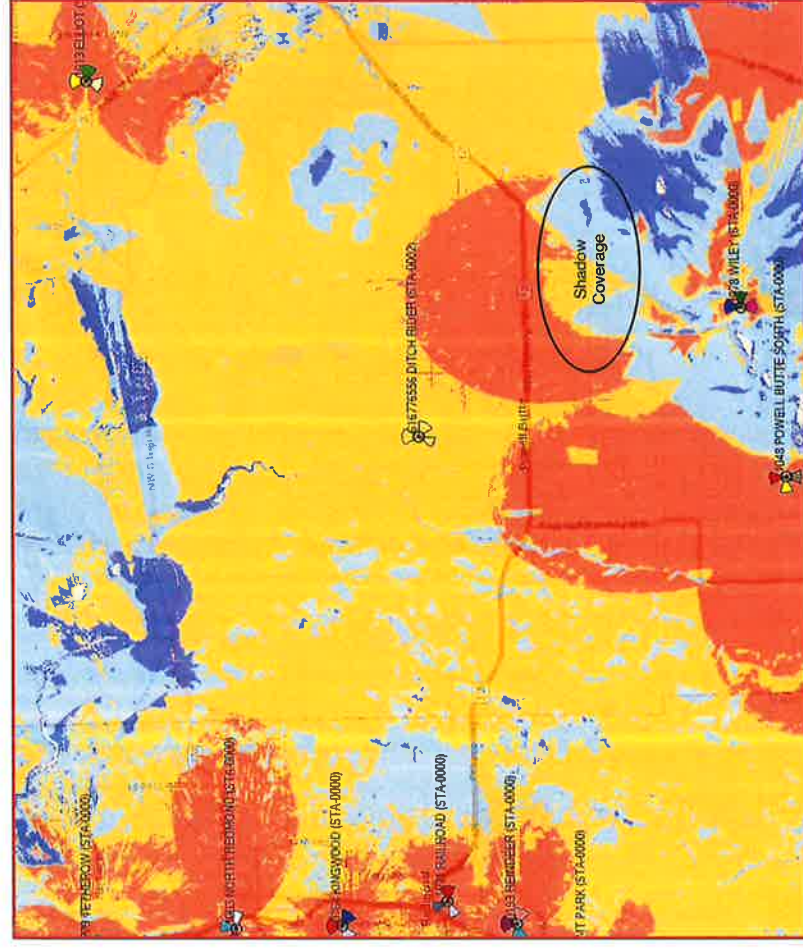


Figure 2 Low-band Current Coverage

Overall, the signal strength is good to excellent. If Verizon did not have any exhausted sectors, this design would work just fine but will struggle as sites have diminished capacity. One area where the coverage is poor due to the shadowing created by the Powell Butte itself is shown. This has generated customer complaints in the past.



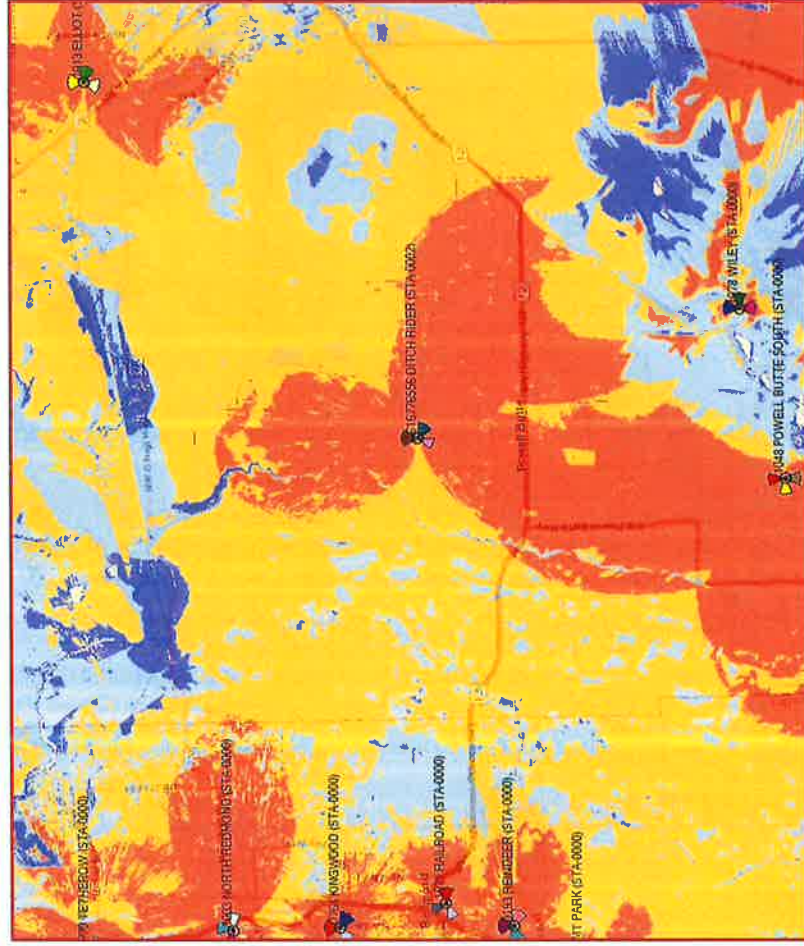
Generally how to read the RSRP Signal Strength:

Red - Good indoor and great outdoor coverage
Orange - Ok indoor and great outdoor coverage
Light Blue - Poor indoor and ok outdoor coverage
Dark Blue - Poor indoor and outdoor coverage



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Figure 1 Low-band Current Coverage w/ Propose Site



LTE_NW-Mobility_RSRP-dBm (0)

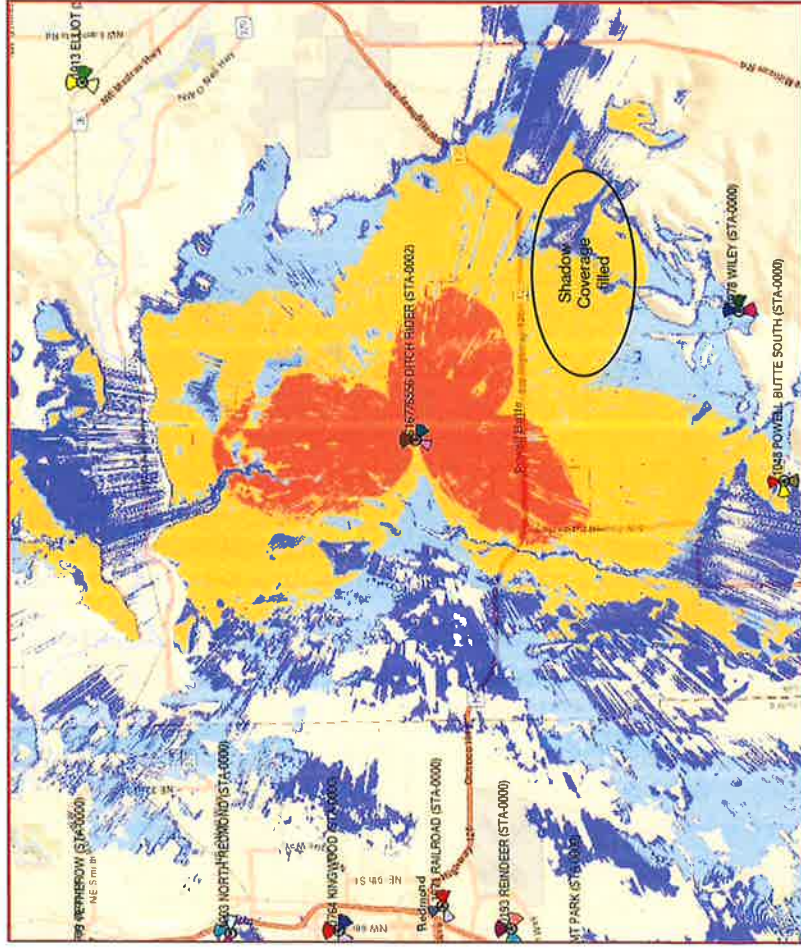
- RSRP Level (DL) (dBm) > = -75
- RSRP Level (DL) (dBm) > = -85
- RSRP Level (DL) (dBm) > = -95
- RSRP Level (DL) (dBm) > = -105

Adding in the proposed site will provide greater density signal and provide the needed capacity. Verizon will need to optimize the sites in the area to maximize the C/I as too much overlap causes the interference to go up that does degrade the speed and capacity. The optimization will happen after the proposed site is turned up.



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Figure 1 Low-band Propose Site Coverage



LTE_NW-Mobility_RSRP-dBm (0)

Red	RSRP Level (DL) (dBm) > -75
Yellow	RSRP Level (DL) (dBm) > -85
Blue	RSRP Level (DL) (dBm) > -95
Dark Blue	RSRP Level (DL) (dBm) > -105

The proposed site coverage design minimizes interference into Redmond but maximize coverage so that both Powell Butte South and Wiley's coverage can be minimized. Eventually, Wiley's northern sector will be turned down due to its height advantage. It causes a lot of interference to many sites. Also notice how the proposed site fills in much of the shadowed area.



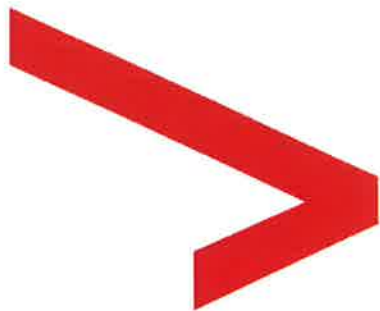
Verizon confidential and proprietary. Unauthorized disclosure, reproduction or other use prohibited.

Conclusion

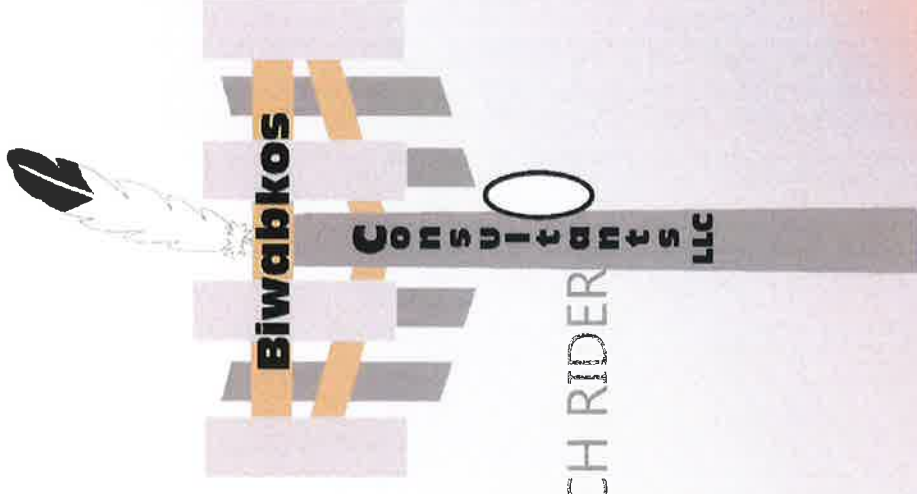
As Verizon looks to increase its signal strength and reduce the interference into areas of rural Crook County with poor performance. New locations must be added to the network over time. The proposed site will significantly reduce Verizon's troubled area in the Powell Butte area plus provide fixed wireless access(home internet) for the many residences in the area. If approved, the existing communication will provide a better customer experience than the current network as shown and offer new services that are not being offered in this area today.



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WIRELESS NETWORK CONSULTING



Harmoni OR0005306 Ditch Rider / Verizon DITCH RIDER
Coverage and Capacity Site

RF DESIGN ANALYSIS

2025

Coverage vs Capacity

Capacity is providing bandwidth or processing capacity to service the customers in the area.

- Areas where large numbers of users are in a specific geographic areas
- Areas where users are demanding higher data rates for services
- Areas with a large amount of indoor users

Coverage is providing service where service does not exist, calls drop, or “no service” .

- Areas where sites are farther apart
- Areas where terrain or buildings block signals
- Areas where indoor service is low or nonexistent

Objective of new site

Capacity

- Provide additional bandwidth for customers in the area surrounding the proposed site
- Provide better throughput for indoor users in the area
- Offload sites to the West and South that are over capacity

Coverage

- Provide coverage in the rural area North of Highway 126
- Provide coverage along SW Williams Road and feeder roads

Why is this site important?

- 96% of Americans own a Cellular Phone
- 57% of American Homes rely exclusively on cellular phones
- 84% or more of 9-1-1 emergency calls are made from wireless devices

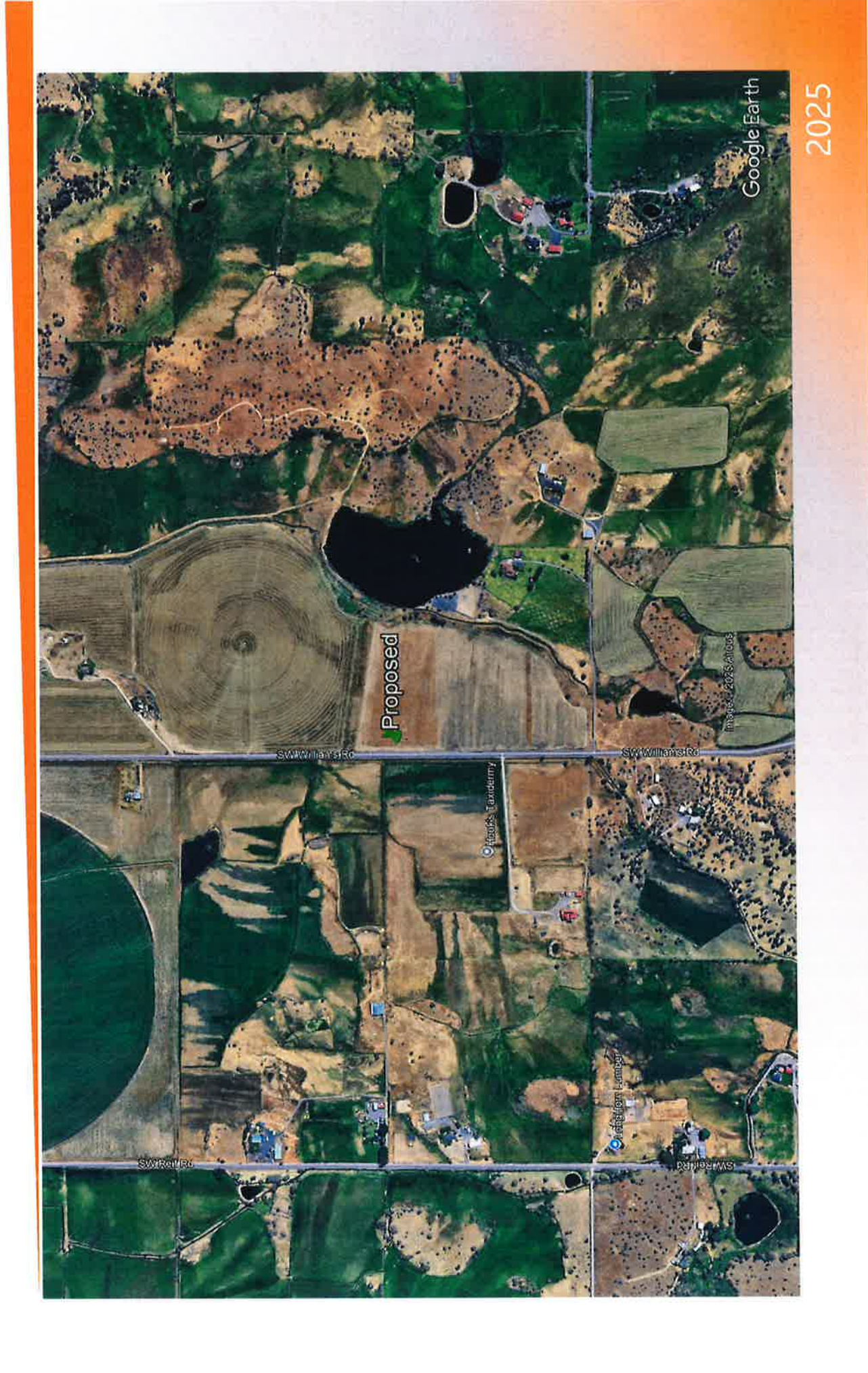
Proposed Site

150' Monopole

- With 8' of appurtenances
- 3450 SW Williams Road Powell Butte, OR 97753
 - Latitude: 44.272539 N (NAD83)
 - Longitude: -121.017655 W (NAD83)
 - Ground Elevation: 3004.8' (NAVD88)
 - Anchor tenant is Verizon
- Antenna Centerline at 150' AGL

Why here?

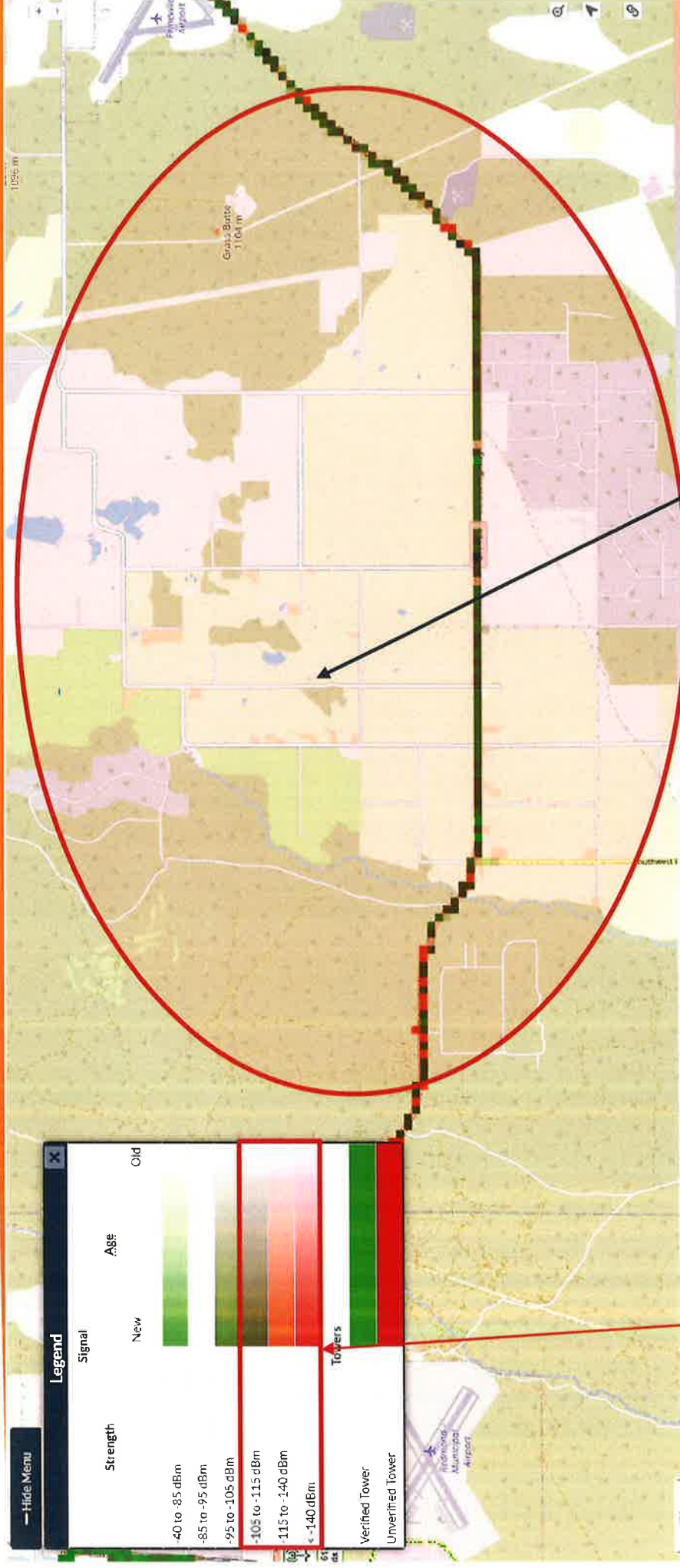
- † Surrounding area has lack of quality services
- † All (3) carriers are lacking quality service in the area
- † Many of the users' mobiles are reporting low quality connections from Crowd Source (Open Signal, CellMapper and, Ookla data).
- † Significant growth in wireless network utilization in the rural areas of Oregon.
- † Sites to the South are over capacity (throughput limitations)
- † The existing Verizon neighbors do not provide adequate coverage or service around where the proposed is located. Adding antennas to the neighbor sites located to the South will not provide the power per link or the throughput per link needed to resolve the issue



Distance from proposed to Verizon neighbor sites



Verizon CellMapper



Less than on Street Coverage

The area in the red circle is what the proposed site would impact

This area is showing less than in-vehicle service in the area

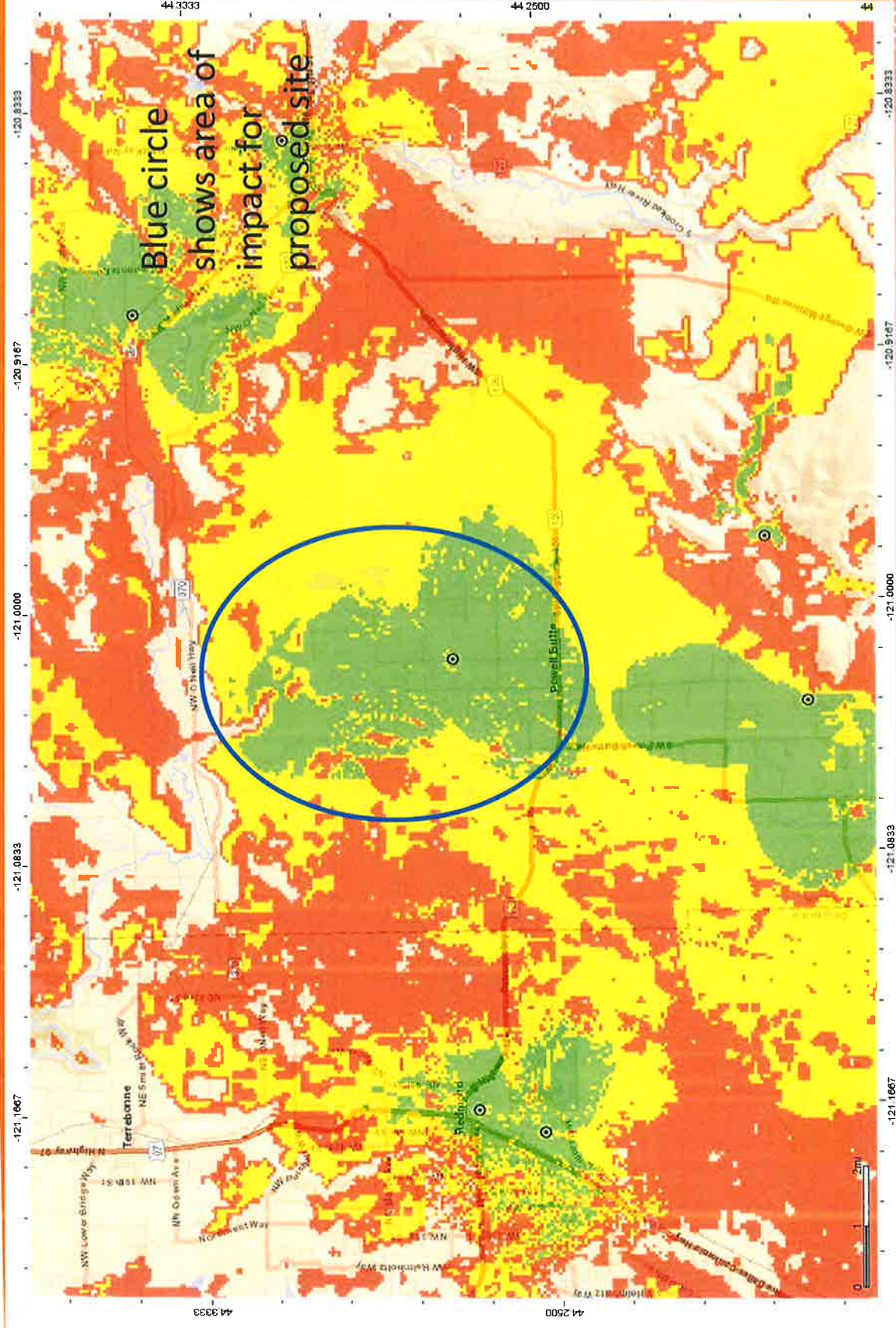
2025

LEGEND	
Indoor	>= -85 dbm
In-Vehicle	>= -95 dbm
On-Street	>= -106 dbm



Verizon RSRP

LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm



500

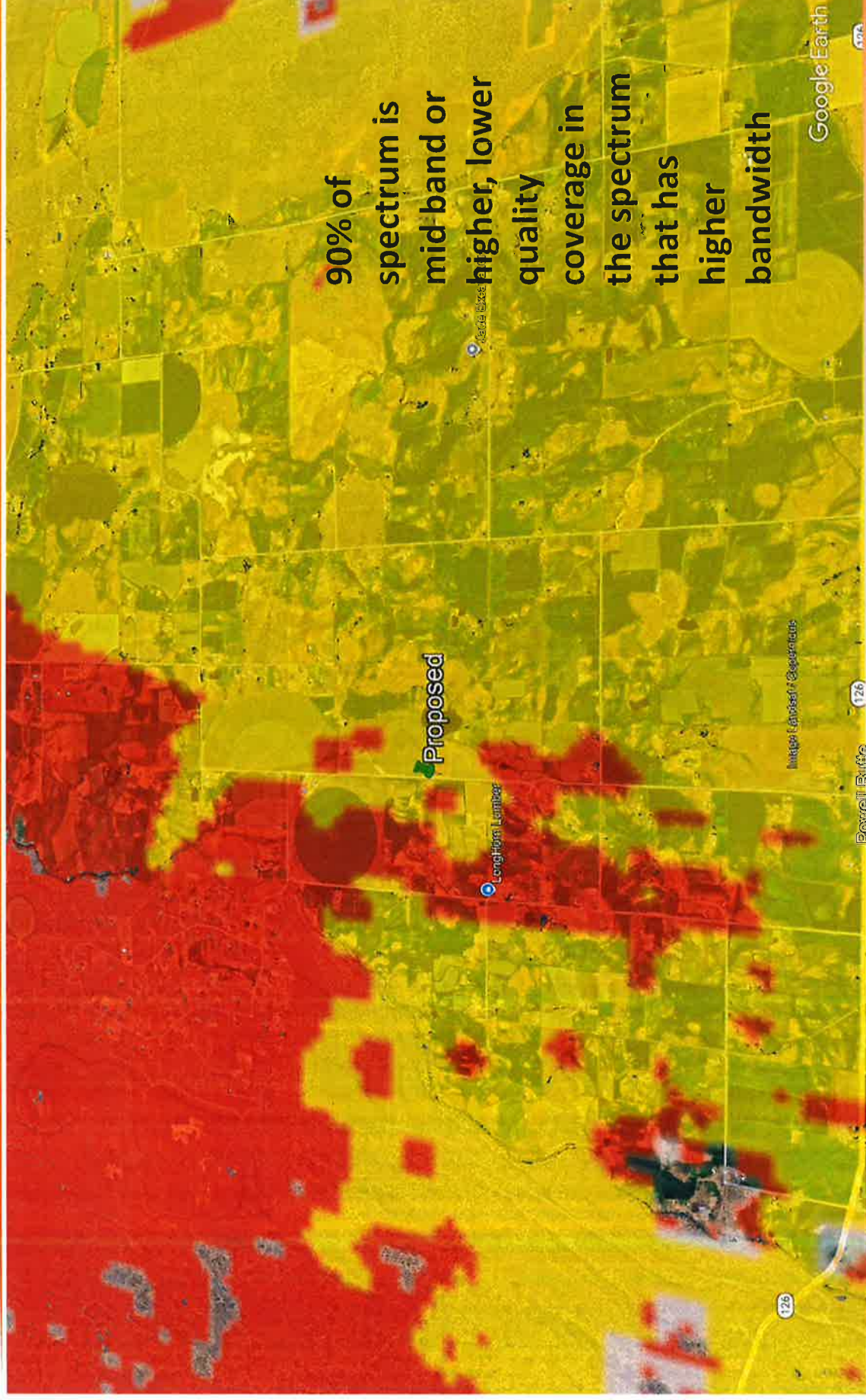




Verizon RSRP

Current Coverage 2024 zoomed

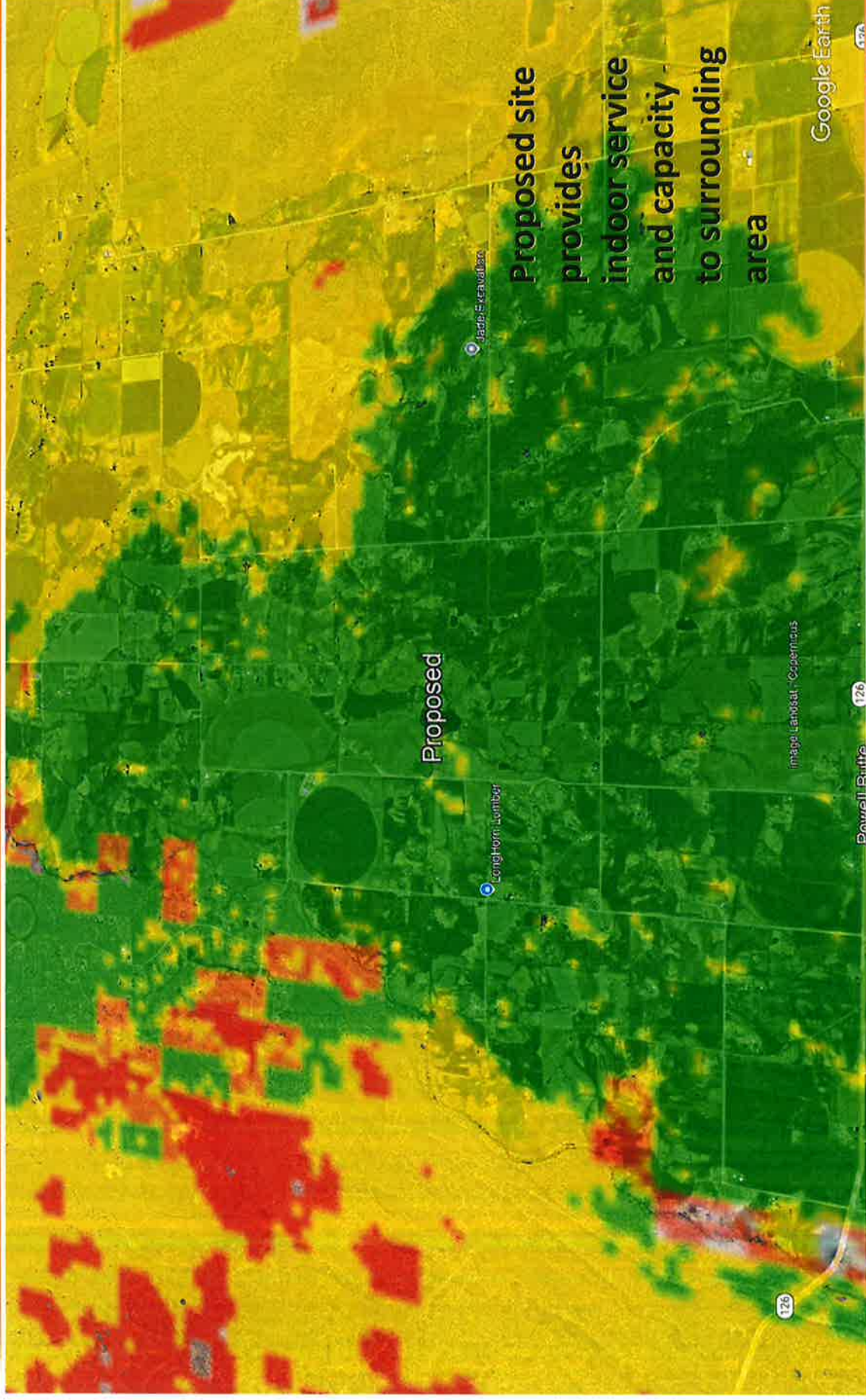
LEGEND	
	Indoor ≥ -85 dbm
	In-Vehicle ≥ -95 dbm
	On-Street ≥ -106 dbm



Verizon RSRP

Proposed Coverage - zoomed

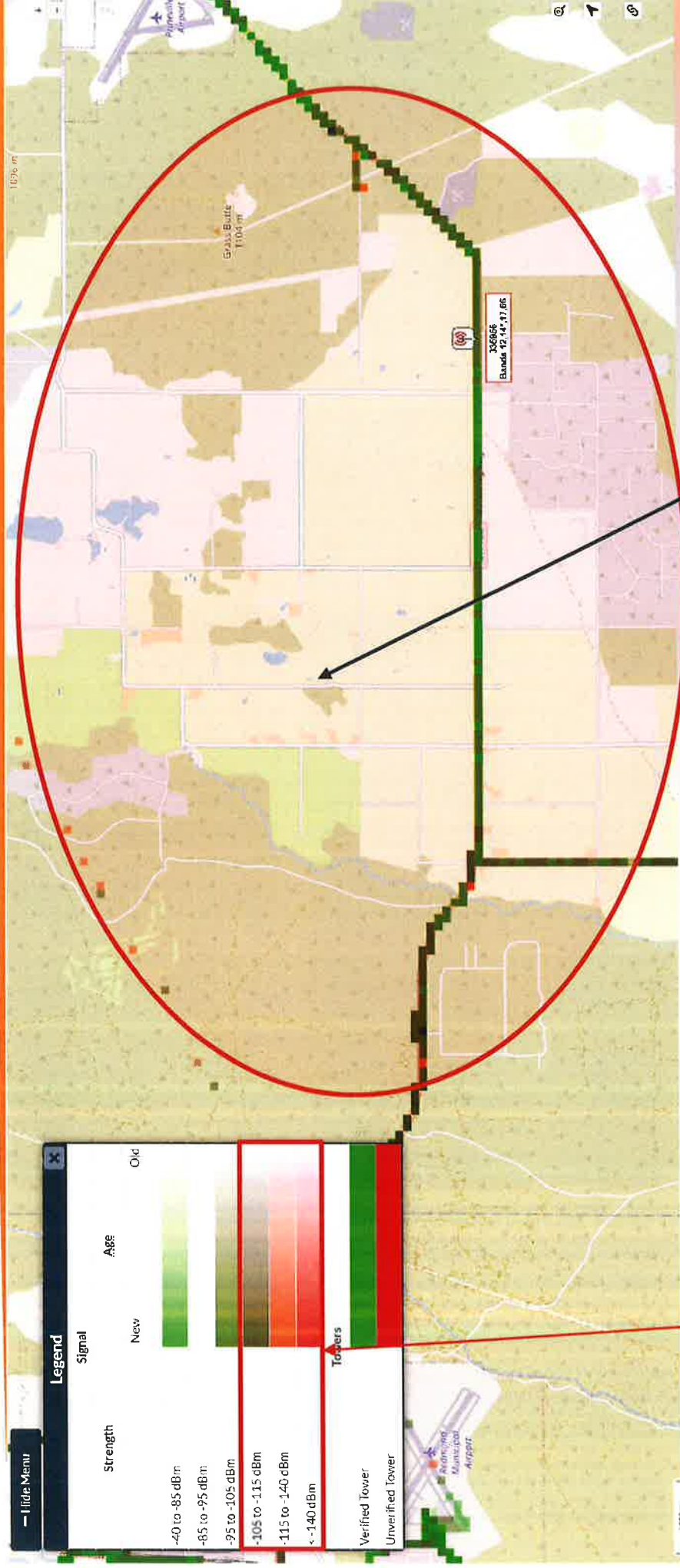
LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm



Distance from proposed to AT&T neighbor sites



AT&T CellMapper



Less than on Street Coverage

Proposed Site

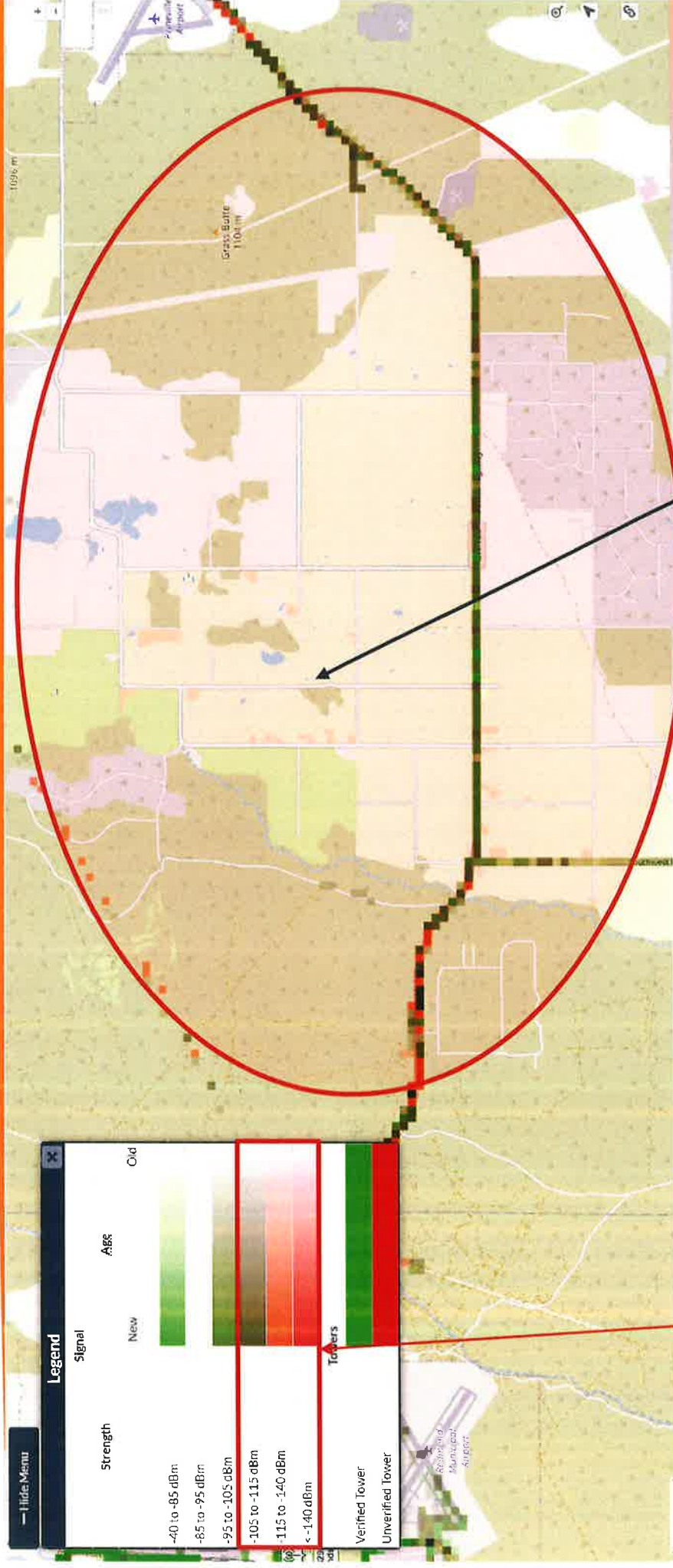
The area in the red circle is what the proposed site would impact

This area is showing less than outdoor service in the area

Distance from proposed to T-Mobile neighbor sites



T-Mobile CellMapper



Less than on Street Coverage

The area in the red circle is what the proposed site would impact

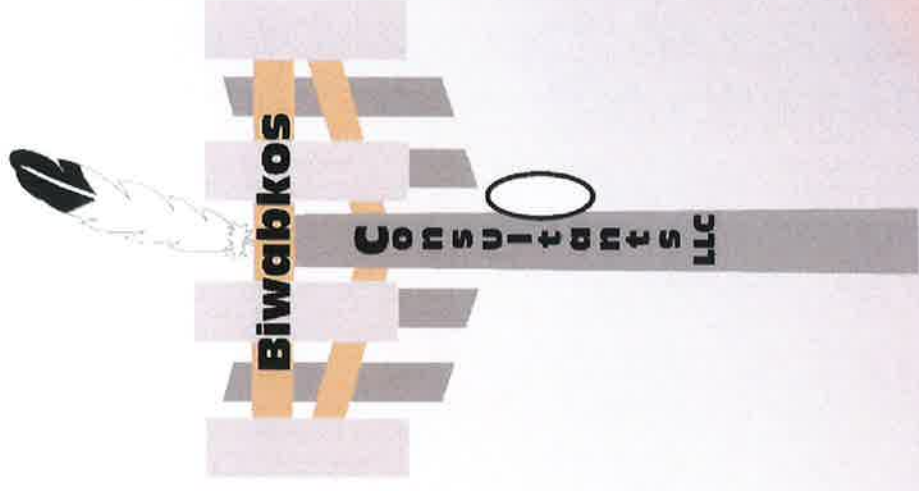
This area is showing less than outdoor service in the area

Proposed Site

Conclusion / Recommendation

- † Poor service quality along SW Williams Road and Dixon Road as well as all feeder roads
- † A lack of throughput and quality along Hwy 126 and area North and South of Hwy 126
- † A lack of quality throughput per subscriber in the area
- † The existing sites are over capacity and need offload from a new site
- † Other carriers have the same level of service in the area and the tower will most likely be collocated with other tenants who will need the height
- † **Recommend approval of the proposed tower at the height requested**

WIRELESS NETWORK CONSULTING



Harmoni Towers OR0005306 Ditch Rider
Verizon DITCH RIDER Site
Capacity and Coverage Site

ALTERNATE SITE ANALYSIS

2025

Alternate Site

- Requested to review alternative tower and other locations
- Sprint tower is approximately 4.28 miles away from proposed on a bearing of 100 degrees
- Primary objective of proposed is to provide coverage and offload surrounding site sectors of capacity for users in the Rural area

Distance from proposed to Verizon neighbor sites



Alternate Site #1

- † Sprint Tower
- † FCC Registration # 1223367
- † 196' Self Support Tower owned by American Tower Corporation
- † Highest Height available 180' AGL
- † Coordinates
 - 44.272539 Latitude
 - -121.017655 Longitude
- Ground Elevation – 3276' AMSL

Alternate locations 2-5

† Raw Ground locations

† Alt 2 PBR20 SW

- 44.251558 Latitude
- -121.055474 Longitude

† Alt 3 R5 NW – 13717 SW Houston Lake Road

- 44.292288 Latitude
- -121.017980 Longitude

† Alt 4 R5 SE

- 44.241103 Latitude
- -120.983582 Longitude

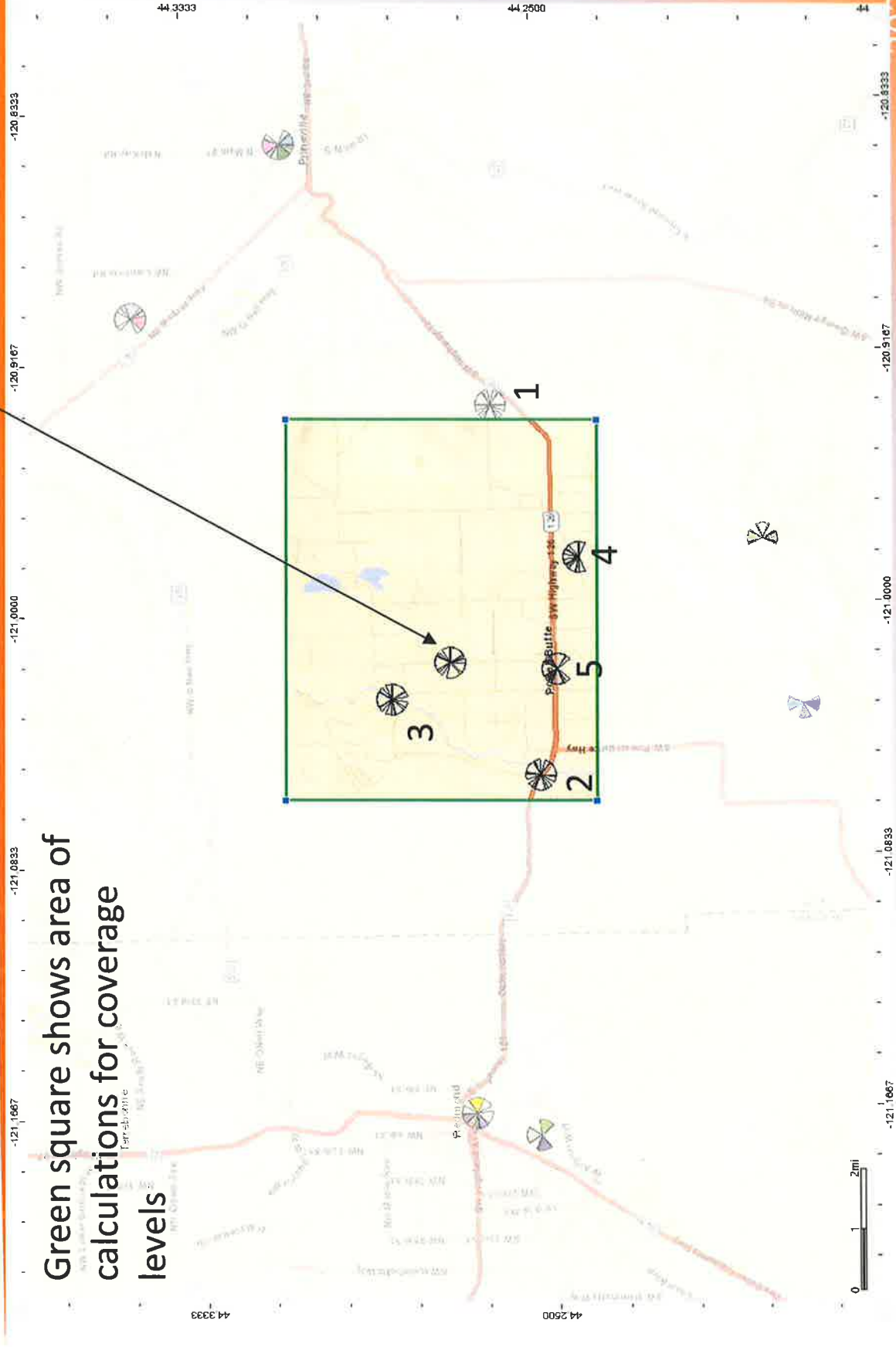
† Alt 5 RSC S

- 44.246958 Latitude
- -121.020533 Longitude

Focus Zone

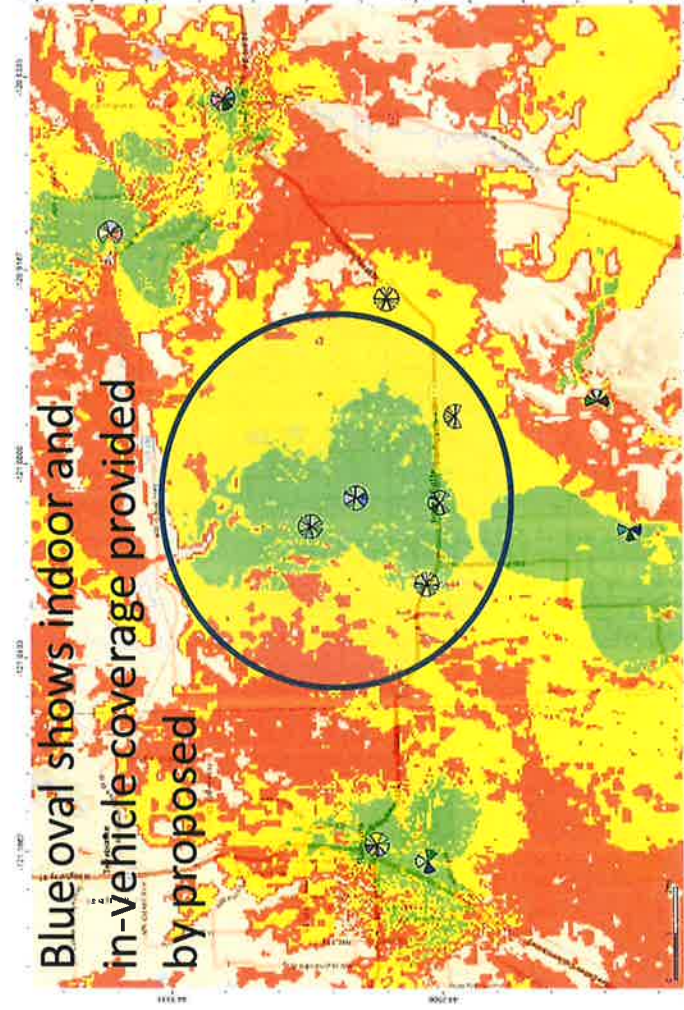
Green square shows area of
calculations for coverage
levels

Proposed



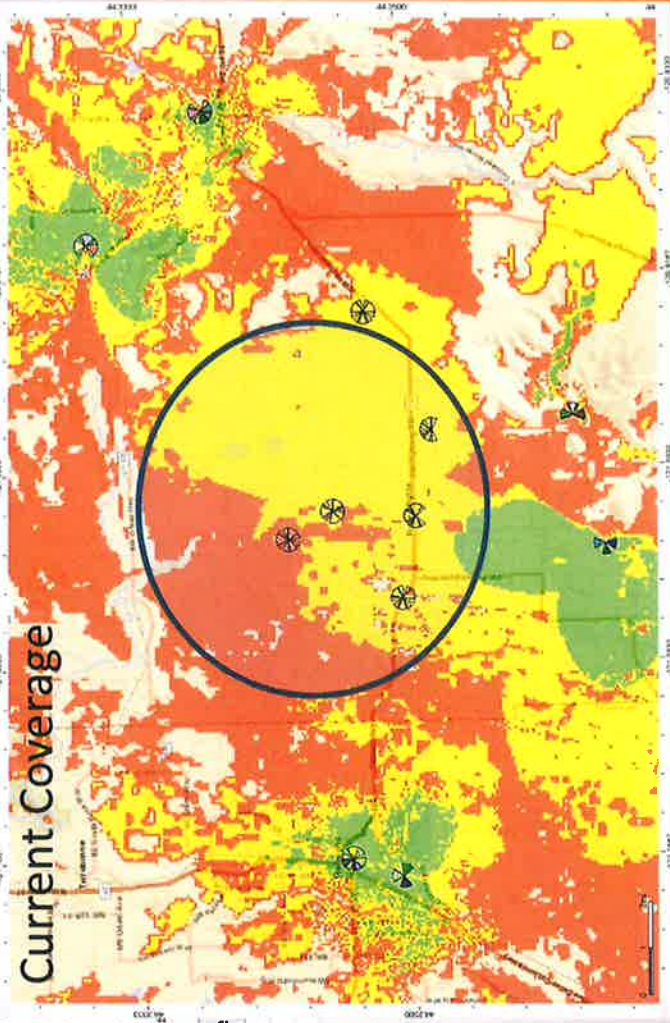
RSRP Coverage Proposed vs Current

LEGEND	
	Indoor ≥ -85 dbm
	In-Vehicle ≥ -95 dbm
	On-Street ≥ -106 dbm



Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dbm) ≥ -85	82.682126	82.133659	100	99.3
		RSRP Level (DL) (dbm) ≥ -95		33.559486	40.9	40.6
		RSRP Level (DL) (dbm) ≥ -106		78.603561	95.7	95.1
				82.133659	100	99.3

Upper table shows proposed site showing **33.59** square kilometers are covered with indoor service vs lower left table current coverage showing **0.0** square kilometers covered with indoor service.



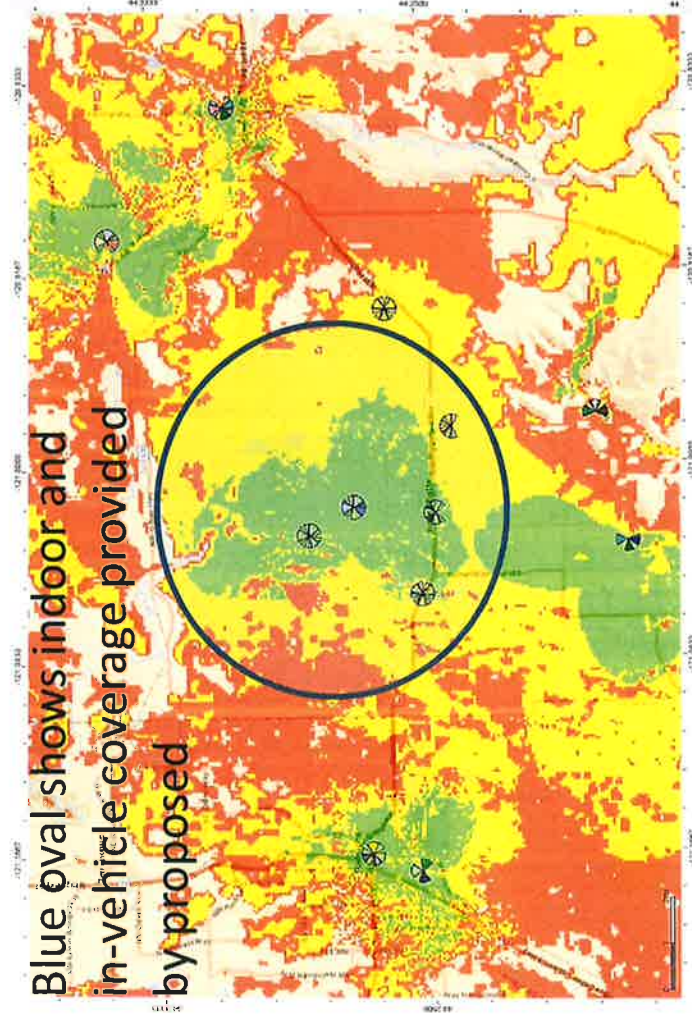
Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dbm) ≥ -85	82.682126	81.804184	100	98.9
		RSRP Level (DL) (dbm) ≥ -95		64.261269	78.6	77.7
		RSRP Level (DL) (dbm) ≥ -106		81.804184	100	98.9

RSRP Coverage – 180' AGL

Proposed vs Alternate 1 (ATC)

LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm

Blue oval shows indoor and in-vehicle coverage provided by proposed

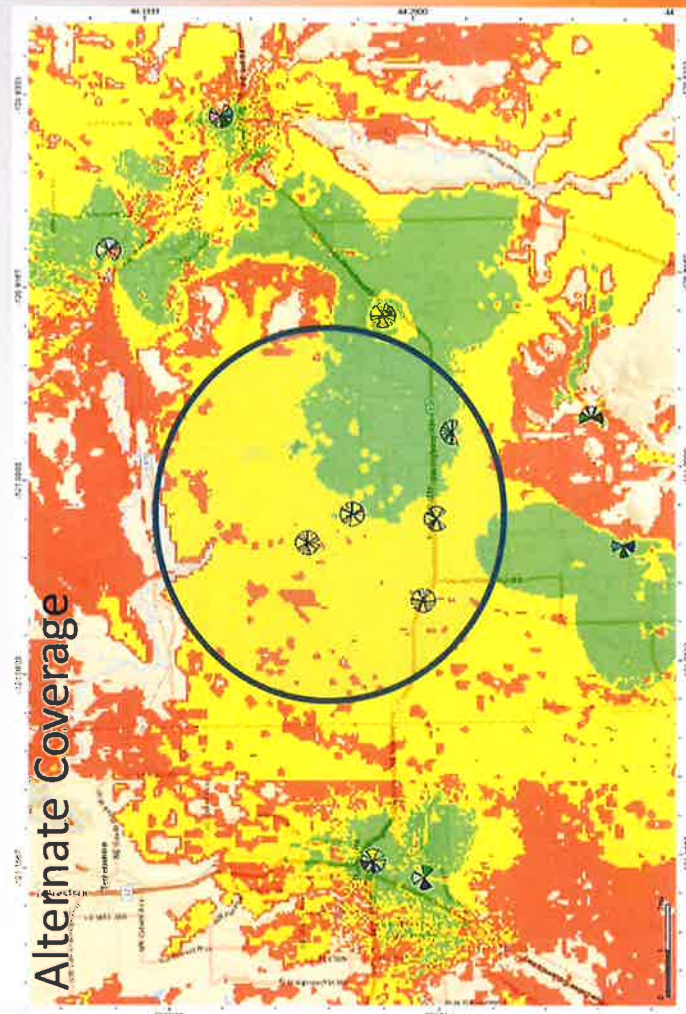


Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.133659	100	99.3
		RSRP Level (DL) (dBm) >= -95		33.559486	40.9	40.6
		RSRP Level (DL) (dBm) >= -106		78.603561	95.7	95.1
				82.133659	100	99.3

Upper table shows proposed site showing

33.55 square kilometers of indoor service vs
lower left table current coverage showing
27.07 square kilometers of indoor service a
20% reduction in coverage for the alternate.

Alternate Coverage



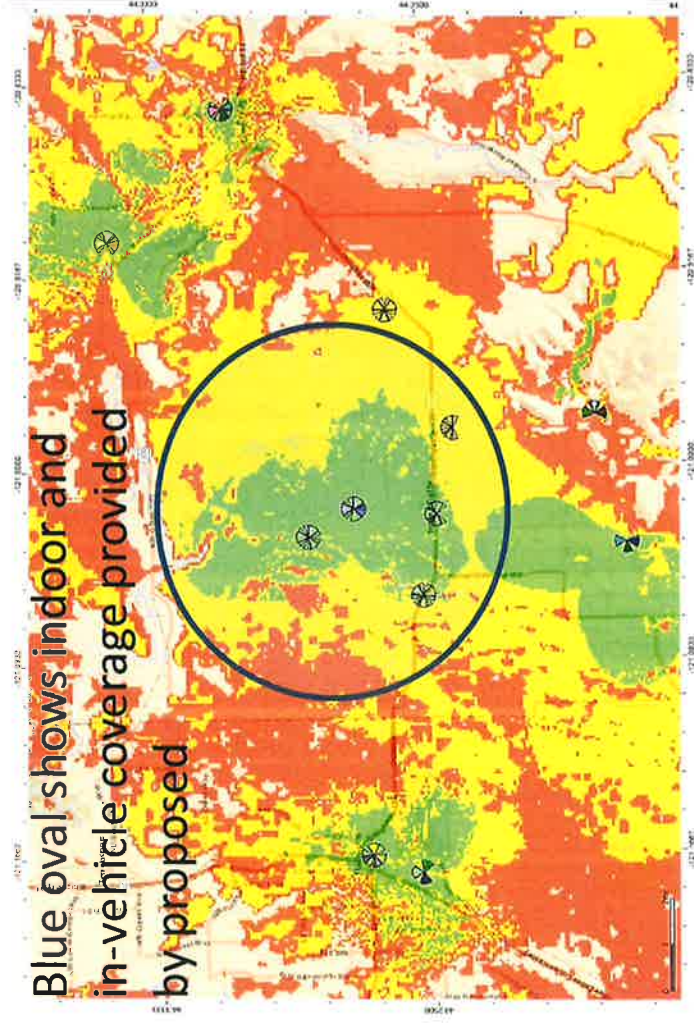
Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.328667	100	99.6
		RSRP Level (DL) (dBm) >= -95		27.077551	32.9	32.7
		RSRP Level (DL) (dBm) >= -106		79.444061	96.5	96.1
				82.328667	100	99.6

This alternative provides reduced coverage in comparison to the proposed site and does not satisfy the coverage and capacity objectives for this site.

RSRP Coverage – 180' AGL

Proposed vs Alternate 2 (PBR20)

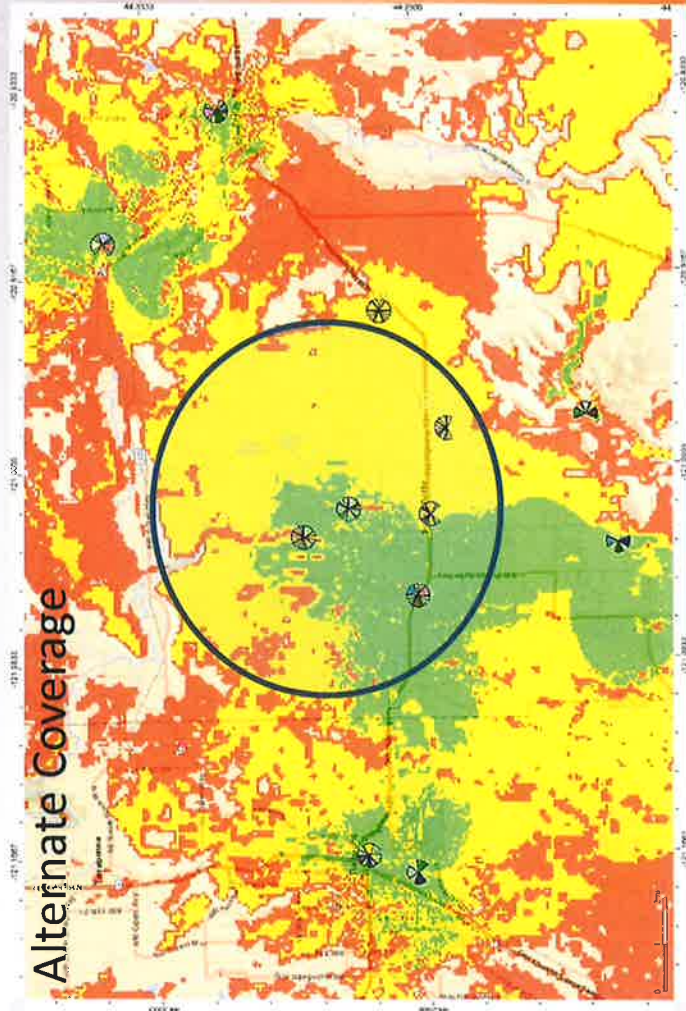
LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm



Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.133659	100	99.3
		RSRP Level (DL) (dBm) >= -95		33.559486	40.9	40.6
		RSRP Level (DL) (dBm) >= -106		78.603561	95.7	95.1
				82.133659	100	99.3

Upper table shows proposed site showing
33.55 square kilometers of indoor service vs
lower left table current coverage showing
22.24 square kilometers of indoor service a
34% reduction in coverage for the alternate.

Alternate Coverage



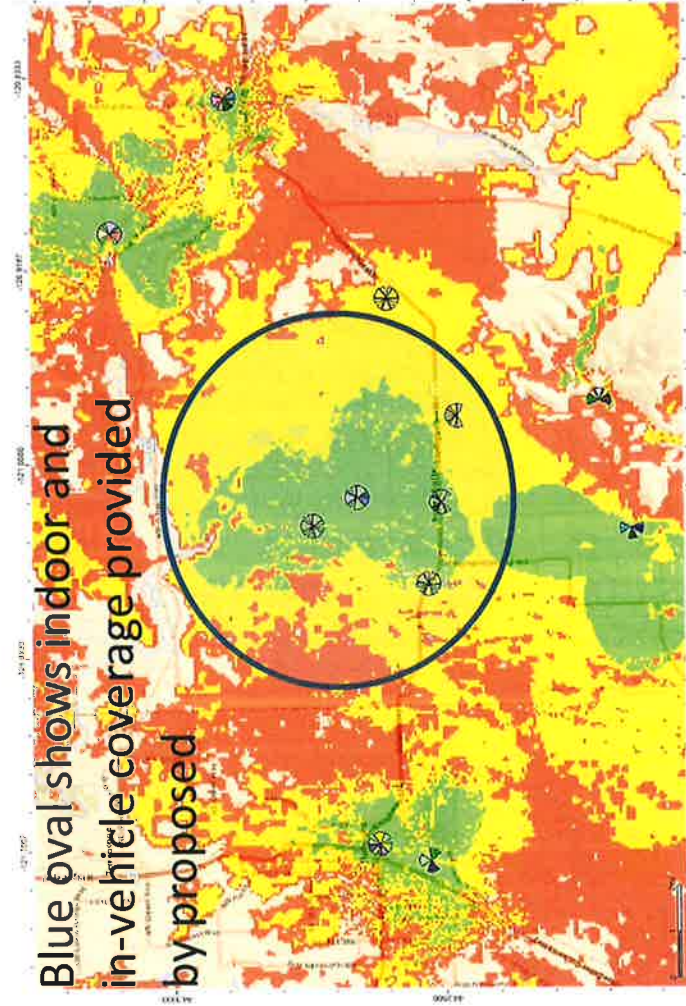
Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.207626	100	99.4
		RSRP Level (DL) (dBm) >= -95		22.242994	27.1	26.9
		RSRP Level (DL) (dBm) >= -106		78.912872	96	95.4
				82.207626	100	99.4

This alternative provides reduced coverage in comparison to the proposed site and does not satisfy the coverage and capacity objectives for this site.

RSRP Coverage – 180' AGL

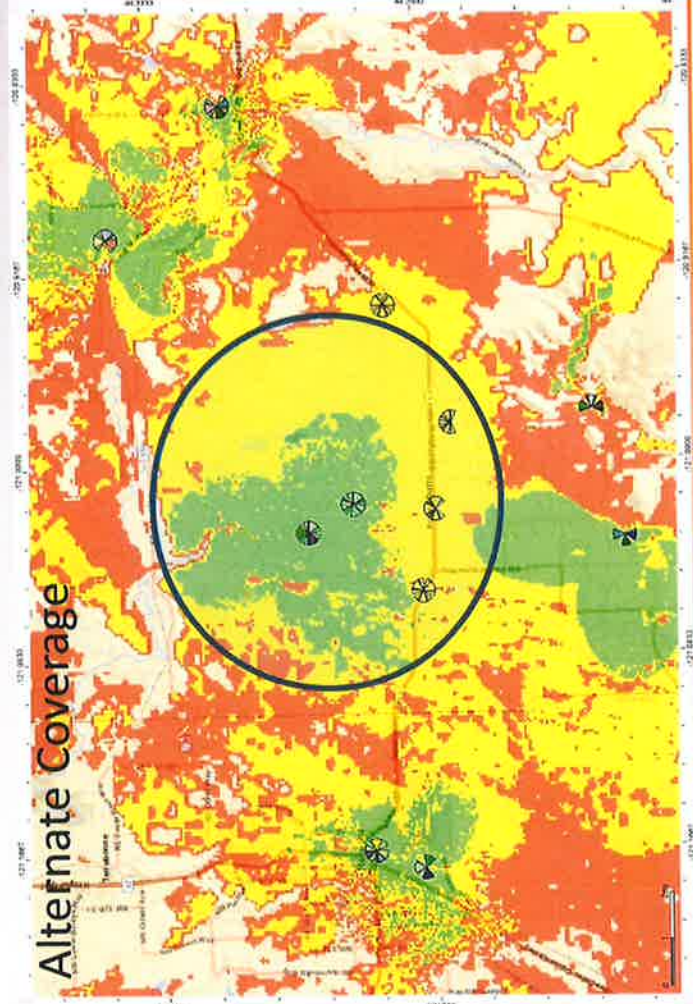
Proposed vs Alternate 3 (R5 NW)

LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm



Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.133659	100	99.3
		RSRP Level (DL) (dBm) >= -95		33.559486	40.9	40.6
		RSRP Level (DL) (dBm) >= -106		78.603561	95.7	95.1
				82.133659	100	99.3

Upper table shows proposed site showing
33.55 square kilometers of indoor service vs
lower left table current coverage showing
28.23 square kilometers of indoor service a
16% reduction in coverage for the alternate.



Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.214348	100	99.4
		RSRP Level (DL) (dBm) >= -95		28.234079	34.3	34.1
		RSRP Level (DL) (dBm) >= -106		80.284561	97.7	97.1
				82.214348	100	99.4

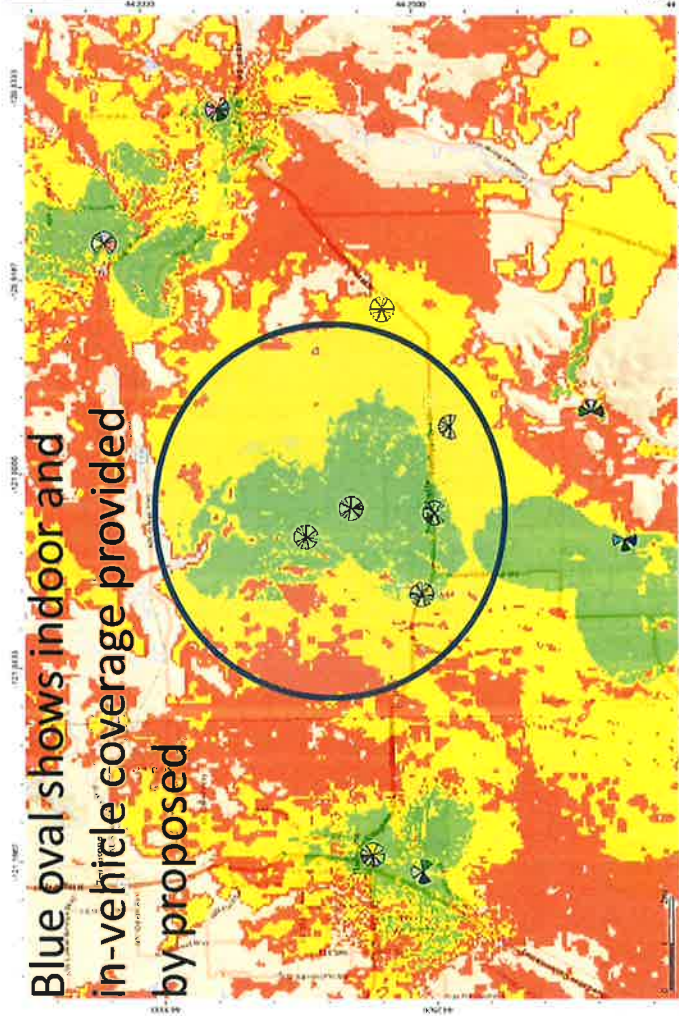
This alternative provides reduced coverage in comparison to the proposed site and does not satisfy the coverage and capacity objectives for this site.

RSRP Coverage – 180' AGL

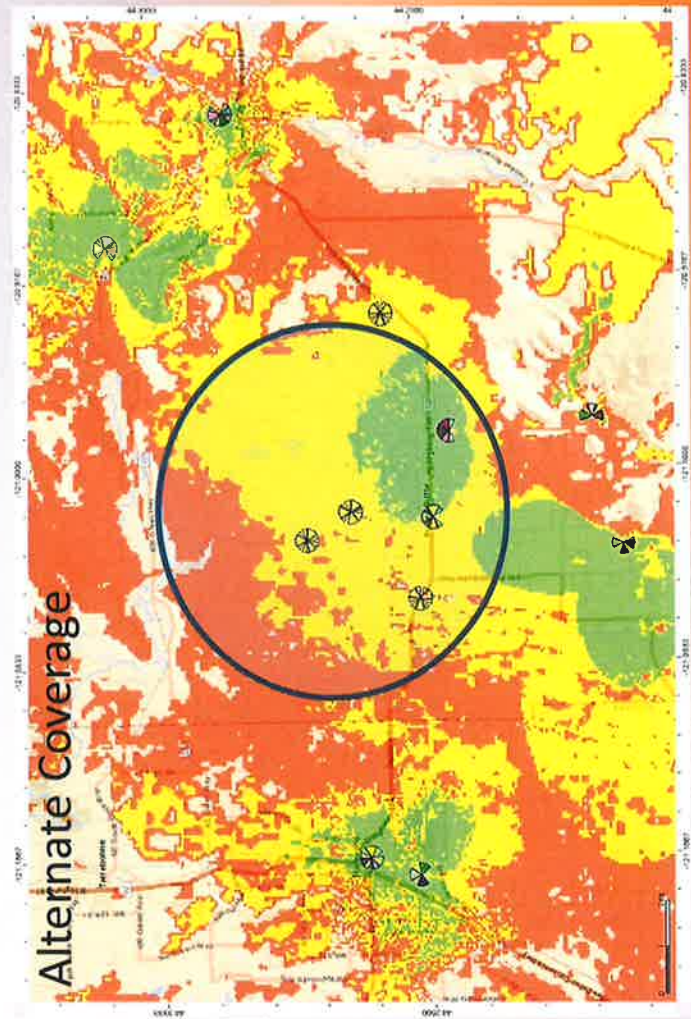
Proposed vs Alternate 4 (R5 SE)

LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm

Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone RSRP	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.133659	100	99.3
		RSRP Level (DL) (dBm) >= -95		33.559486	40.9	40.6
		RSRP Level (DL) (dBm) >= -95		78.603561	95.7	95.1
		RSRP Level (DL) (dBm) >= -106		82.133659	100	99.3



Upper table shows proposed site showing
33.55 square kilometers of indoor service vs
lower left table current coverage showing
15.51 square kilometers of indoor service a
54% reduction in coverage for the alternate.



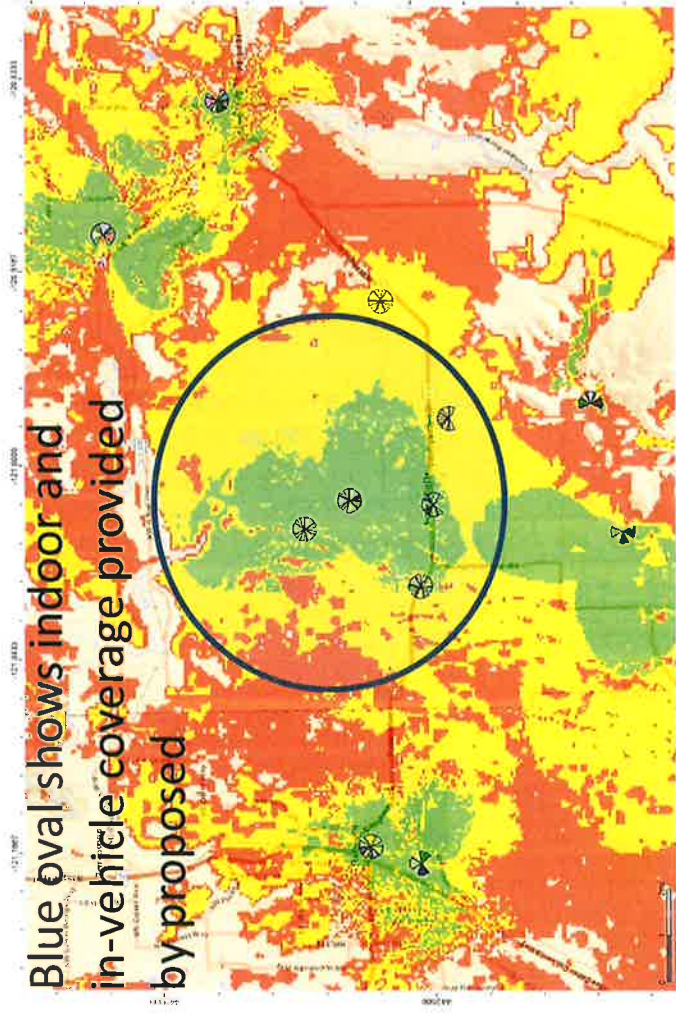
Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone RSRP	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.100044	100	99.3
		RSRP Level (DL) (dBm) >= -95		15.518993	18.9	18.8
		RSRP Level (DL) (dBm) >= -95		72.478004	88.3	87.7
		RSRP Level (DL) (dBm) >= -106		82.100044	100	99.3

This alternative provides reduced coverage in comparison to the proposed site and does not satisfy the coverage and capacity objectives for this site.

RSRP Coverage – 180' AGL

Proposed vs Alternate 5 (RSCs)

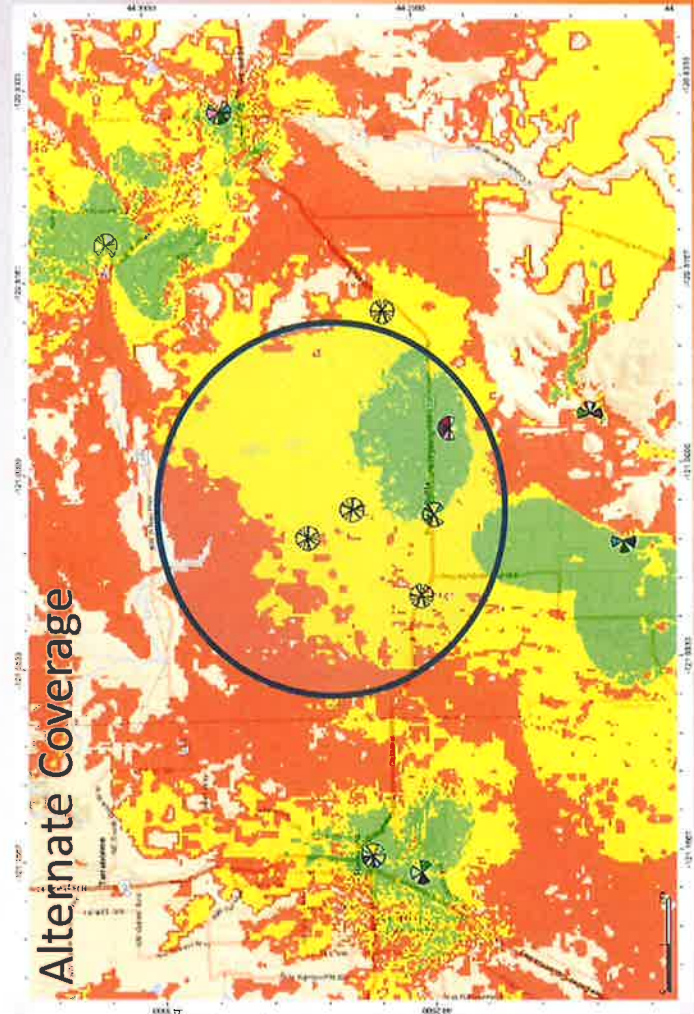
LEGEND	
	Indoor >= -85 dbm
	In-Vehicle >= -95 dbm
	On-Street >= -106 dbm



Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.133659	100	99.3
		RSRP Level (DL) (dBm) >= -95		33.559486	40.9	40.6
		RSRP Level (DL) (dBm) >= -106		78.603561	95.7	95.1
				82.133659	100	99.3

Upper table shows proposed site showing
33.55 square kilometers of indoor service vs
lower left table current coverage showing
17.89 square kilometers of indoor service a
47% reduction in coverage for the alternate.

Alternate Coverage



Zone	Prediction	Legend	Zone Surface (km ²)	Surface (km ²)	% of Covered Area	% Focus Zone
Focus Zone	RSRP	RSRP Level (DL) (dBm) >= -85	82.682126	82.140388	100	99.3
		RSRP Level (DL) (dBm) >= -95		17.89929	21.8	21.6
		RSRP Level (DL) (dBm) >= -106		78.287537	95.3	94.7
				82.140388	100	99.3

This alternative provides reduced coverage in comparison to the proposed site and does not satisfy the coverage and capacity objectives for this site.

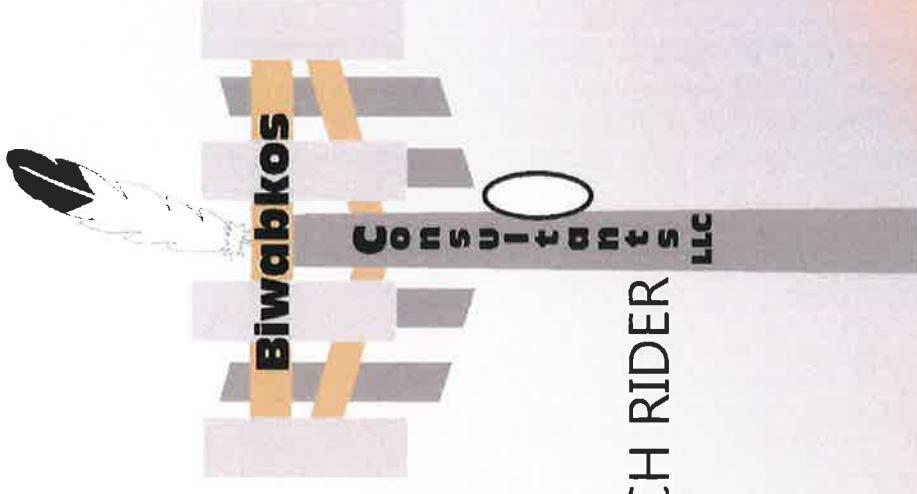
Analysis

- † Proposed – Provides the offload needed to the surrounding neighbor sites and meets the coverage objective
- † Alternate 1 – ATC tower located 4.27 miles to the East does not provide the same level of service in the coverage objective and does not provide the offload to the neighbors to the East and South
- † Alternate 2 – PBR20 SW alternate is located too close to the neighbor sites to the South and will not provide the service needed to the North
- † Alternate 3 – R5 NW – 13717 SW Houston Lake Road – Site is farther to the North and does not provide the offload to the neighbor sites to the South
- † Alternate 4 – R5 SE alternate is located too close to the neighbor sites to the South and will not provide the service needed to the North
- † Alternate 5 – RSC S alternate is located too close to the neighbor sites to the South and will not provide the service needed to the North

Conclusion

- † American tower site to the East is farther away from the target area and will not satisfy the coverage objective for this site or adequately offload the overloaded sites.
- † The raw ground sites provide reduced coverage and do not satisfy the coverage and capacity objectives for this site
- † Recommend approval of the proposed site as the alternate sites do not satisfy the coverage and capacity objectives for this site.

WIRELESS NETWORK CONSULTING



Harmoni OR0005306 Ditch Rider / Verizon DITCH RIDER
Coverage and Capacity Site

DRIVE TEST REPORT

07/28/2025

Certification

This analysis and report was completed by Steven Kennedy a Radio Frequency Engineer with over 35 years of experience in Wireless Network Engineering.

I certify that the attached RF analysis and report is correct to the best of my knowledge, and all calculations, assumptions and conclusions are based on generally acceptable engineering practices



Steven E Kennedy

Drive Test Overview

† This test was performed to show what the coverage is in the field to validate the propagation models and show the carriers signal strength around the proposed site

† A roof mount external antenna and GPS antenna was utilized with an industry standard scanner (PCTEL G-Flex Scanner)

† A 2nd scanner (WilsonPro Cellular Network Scanner 5G Kit-910060) was used in a stationary location to review the active channels in the area and validate against the PCTEL blind scan

† Active call testing was performed by (3) phones, (1) each on AT&T, T-Mobile and Verizon networks and performing a download throughput test

† Drive tests were performed on July 24th, 2025.

† The scanner processed signal detail from AT&T, T-Mobile and Verizon networks

† The drive route was created based on the primary coverage objective for the site as well as the propagation of the proposed

Blind Scan

A "blind scan" was completed at a stationary location that has visibility to all (3) major carriers to decode active channels in the area prior to drive testing

The drive test scanner gear decodes the following for each channel:

- Date/Time
- GPS Coordinates
- Cell ID/PCI
- For Sync, Reference Signal and, Physical Broadcast Channel (PBCH)
 - Reference Signal Received Power (RSRP)
 - Reference Signal Received Quality (RSRQ)
 - Signal to Interference & Noise Ratio (SINR)

To show the signal levels, this report will focus on the RSRP from the transmitters as this is the value that shows the coverage from the sites

The bands/channels shown in this deck are:

- 700MHz & 850MHz low band
- 1900MHz & 2100MHz mid band

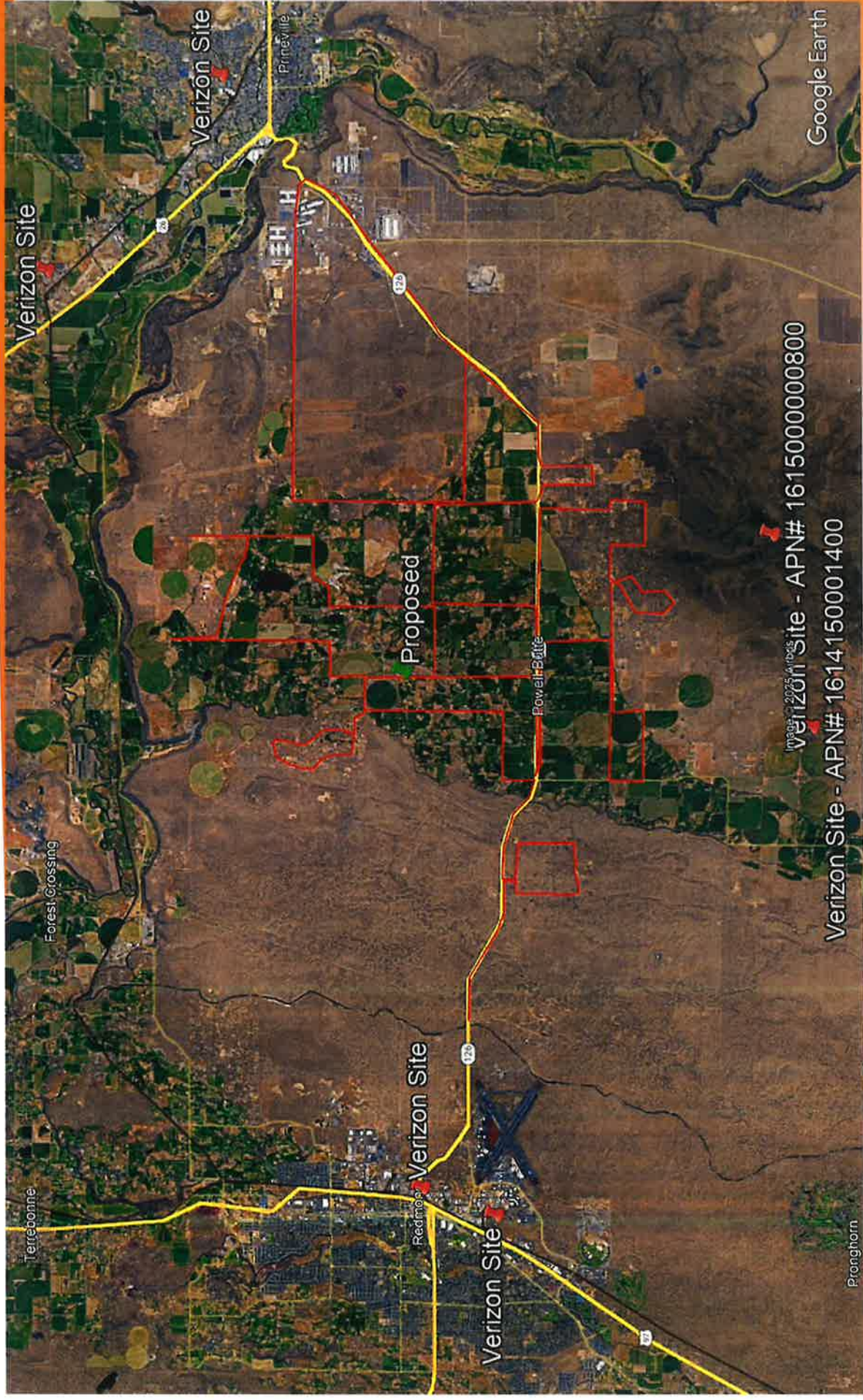
Frequency Bands/Channels

Below are the active frequency bands and channels for the area

Carrier	Frequency		Downlink Frequency (MHz)	Channel Bandwidth (MHz)	EARFCN
	Technology	Band			
AT&T	4G	12	700	10	5110
AT&T	4G	14	700	10	5330
AT&T	4G	25	PCS	15	8565
AT&T	4G	66	AWS1	10	2000
AT&T	4G	66	AWS3	5	66661
AT&T	5G	48	CBRS	40	633408
AT&T	5G	77	C-Band	80	656736
T-Mobile	5G	71	600	10	126500
T-Mobile	4G	12	700	5	5035
T-Mobile	4G	25	PCS	5	8065
T-Mobile	4G	66	AWS3	20	66786
T-Mobile	5G	41	BRS	90	40756
Verizon	4G	13	700	10	5230
Verizon	4G	5	850	10	2560
Verizon	4G	4	AWS	10	2100
Verizon	5G	77	C-Band	40	653952
Verizon	5G	77	C-Band	100	648672

EARFCN – EUTRA Absolute radio-frequency channel number
 Over 90% of the spectrum utilized by wireless operators are mid or high band spectrum.

Drive Test Route Overview



Verizon Site - APN# 1615000000800

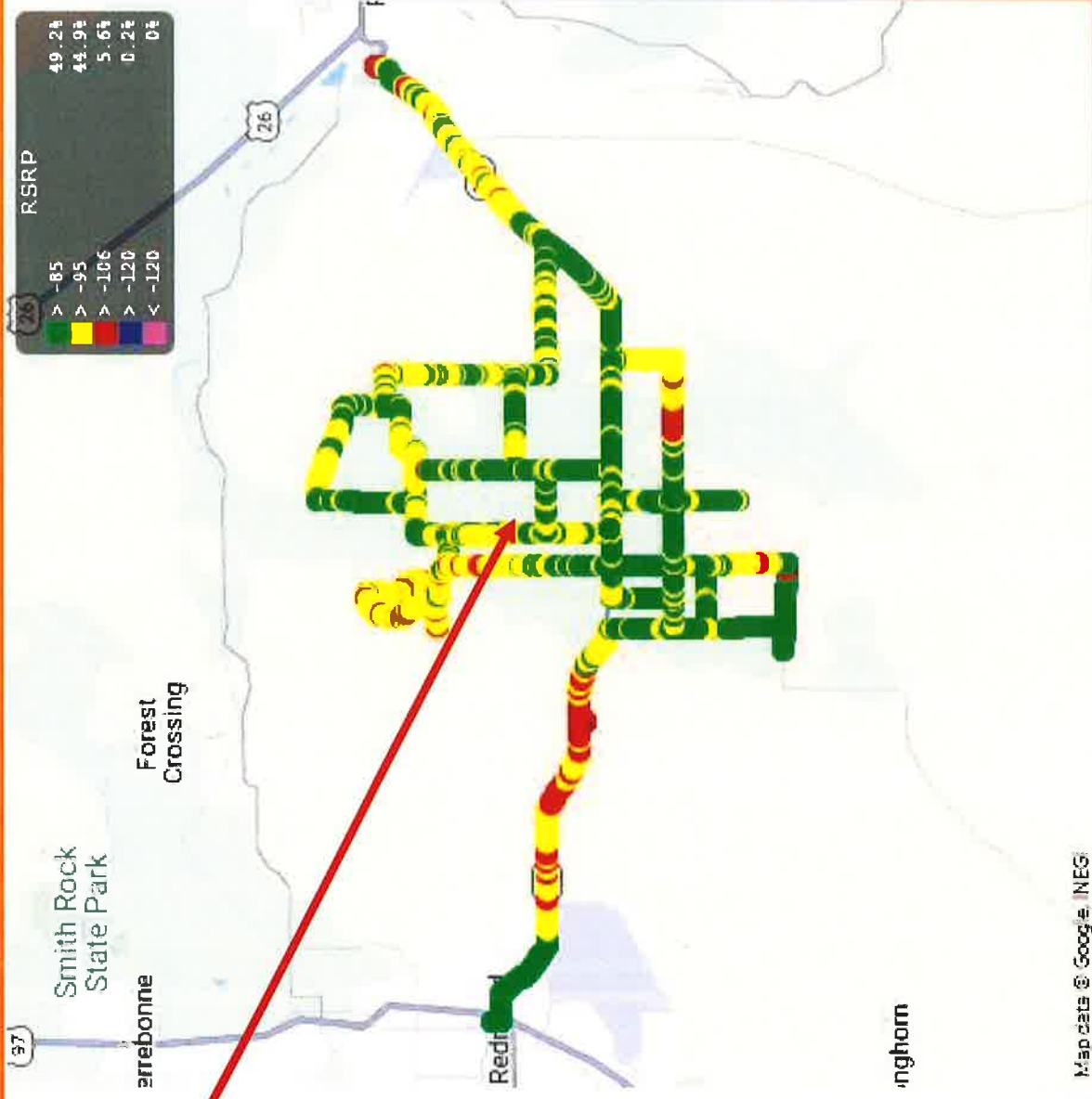
Verizon Site - APN# 1614150001400

2010

Verizon 751 MHz channel

Scanner Data - Overview

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (<-106 to -120 dbm)
	Low to No Service (<-120 dbm)

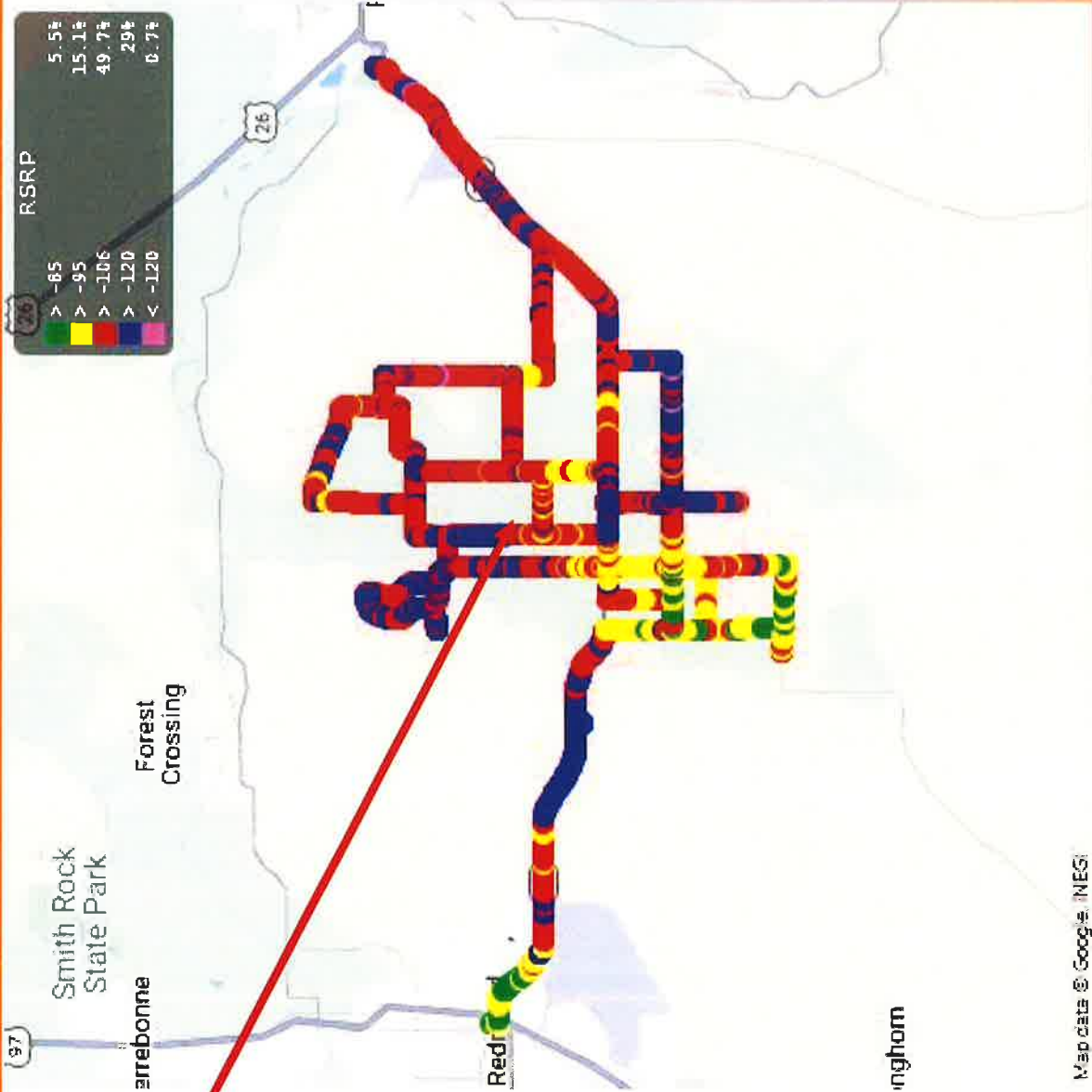


Proposed Site

This is RSRP and shows coverage for In-Vehicle & Outdoor on the NW and West sides of the drive route, there is indoor service to the East and South

Verizon 2100 MHz channel Scanner Data - Overview

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (< -106 to -120 dbm)
	Low to No Service (< -120 dbm)



Proposed Site

This is RSRP and shows coverage for Outdoor and Marginal on the NW and West sides of the drive route, there is In-Vehicle and Outdoor to the East and South

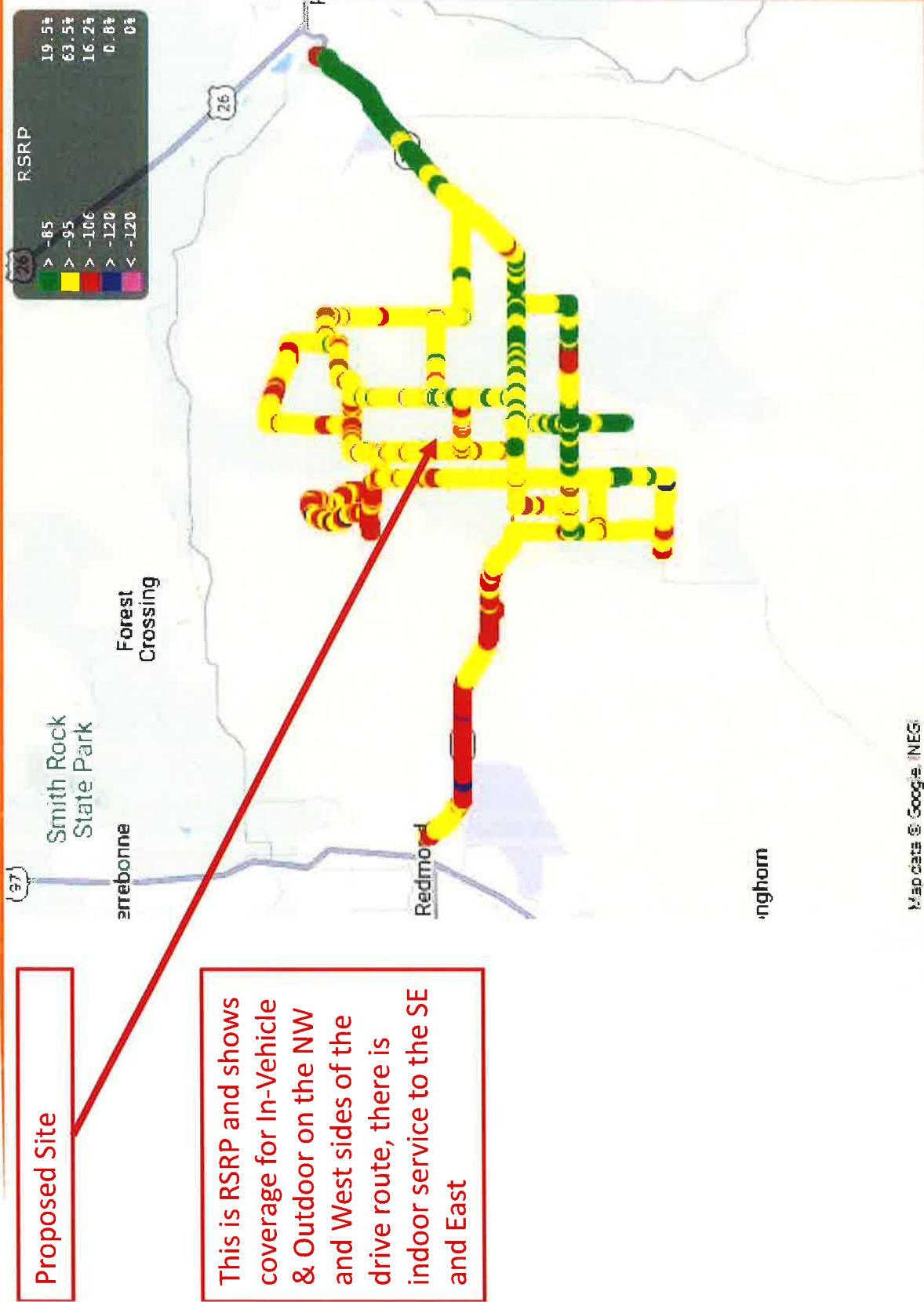
Distance from proposed to AT&T neighbor sites



AT&T 739MHz channel

Scanner Data - Overview

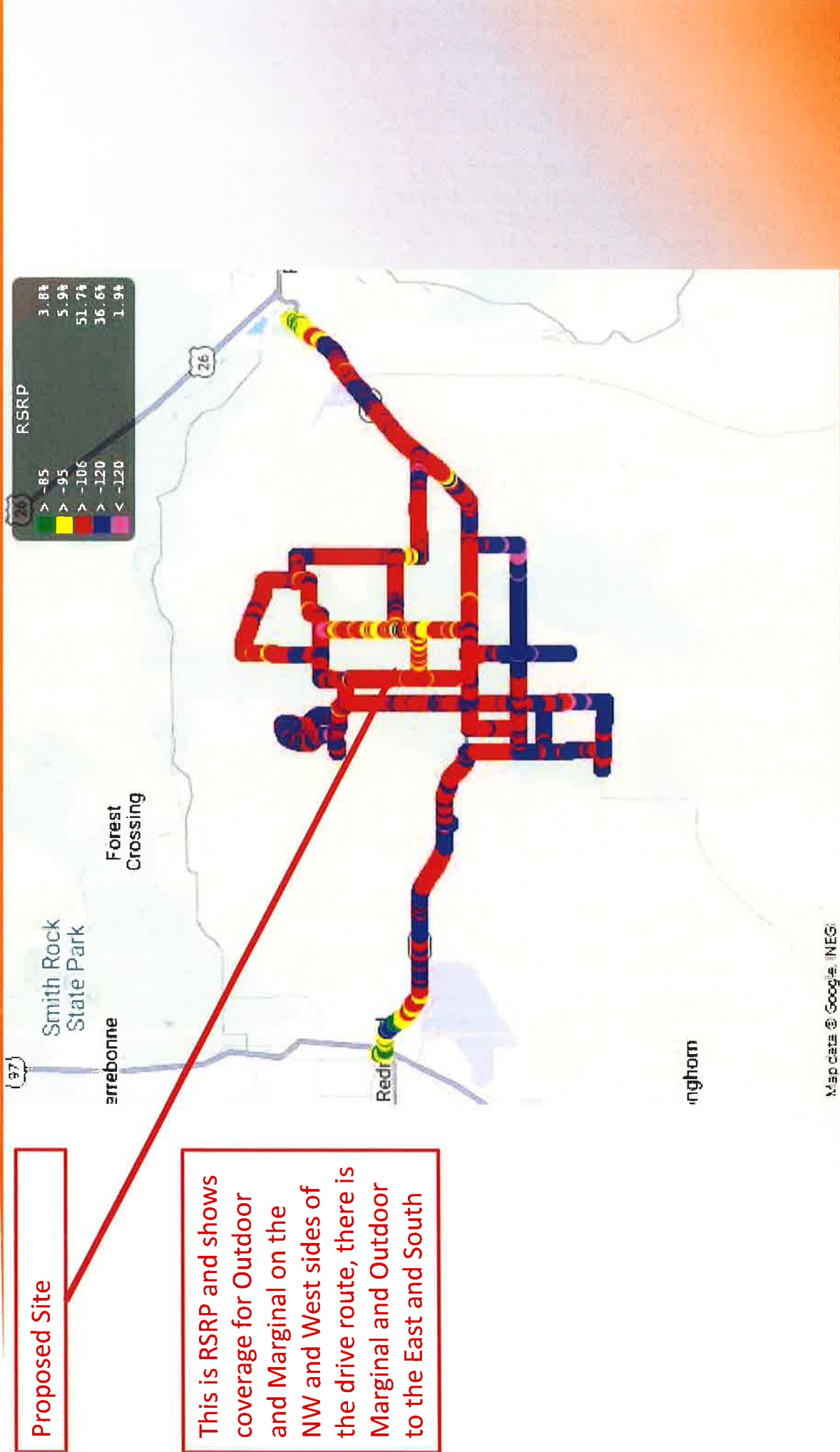
LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (<-106 to -120 dbm)
	Low to No Service (<-120 dbm)



AT&T 2115MHz channel

Scanner Data - Overview

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (< 106 to -120 dbm)
	Low to No Service (<-120 dbm)



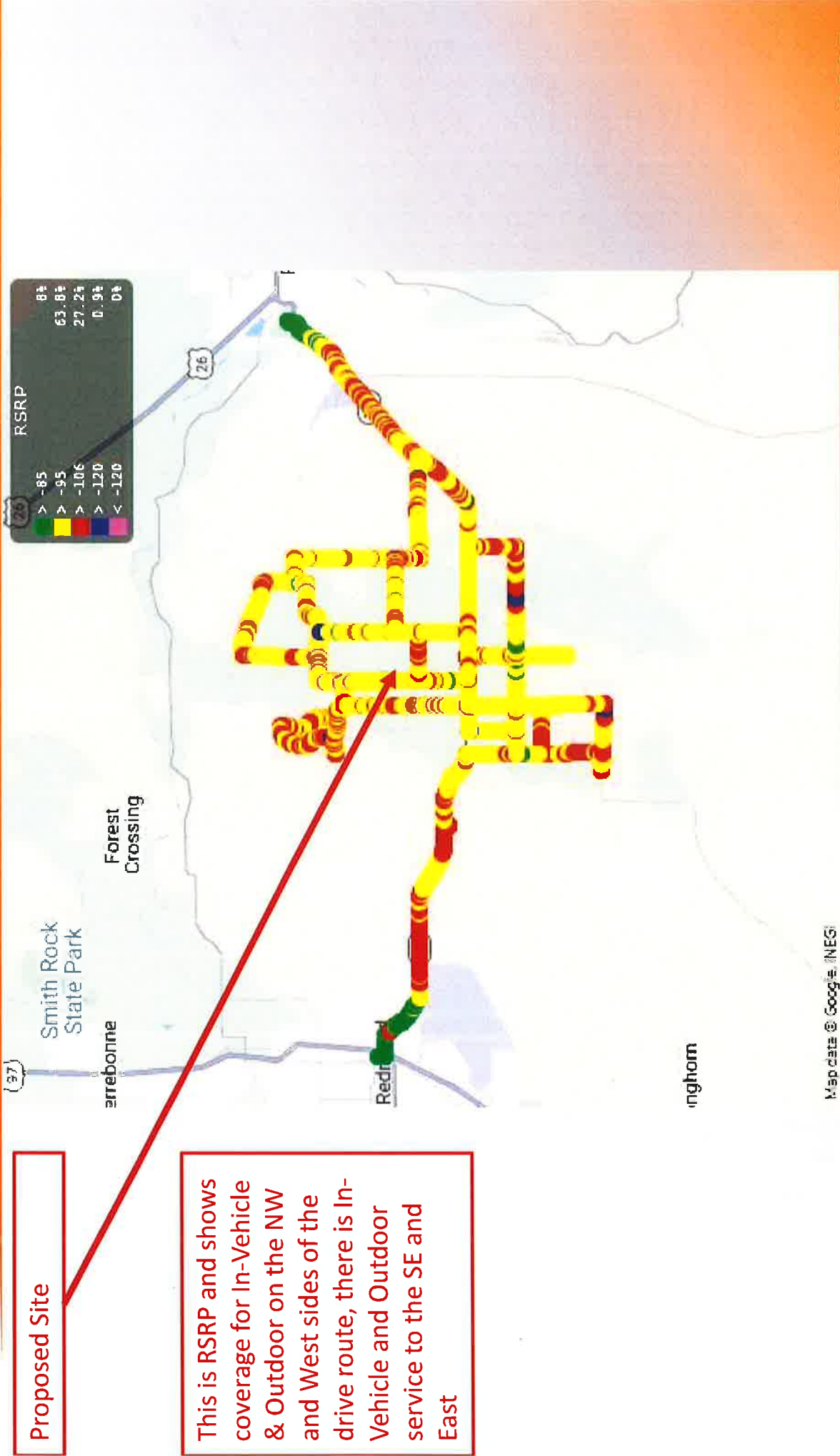
Distance from proposed to T-Mobile neighbor sites



T-Mobile 731.5MHz channel

Scanner Data - Overview

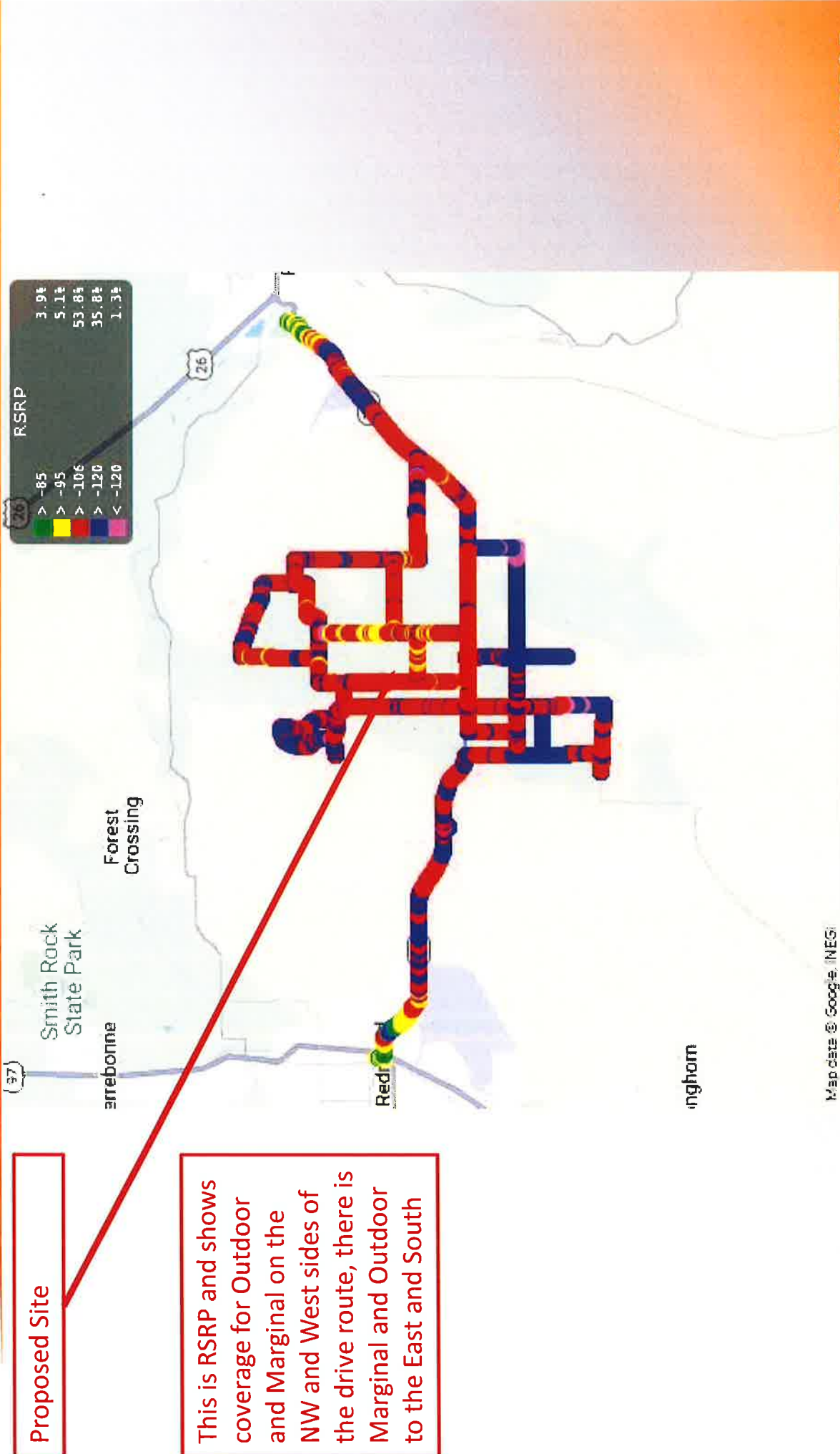
LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (<-106 to -120 dbm)
	Low to No Service (<-120 dbm)



T-Mobile 2145MHz channel

Scanner Data - Overview

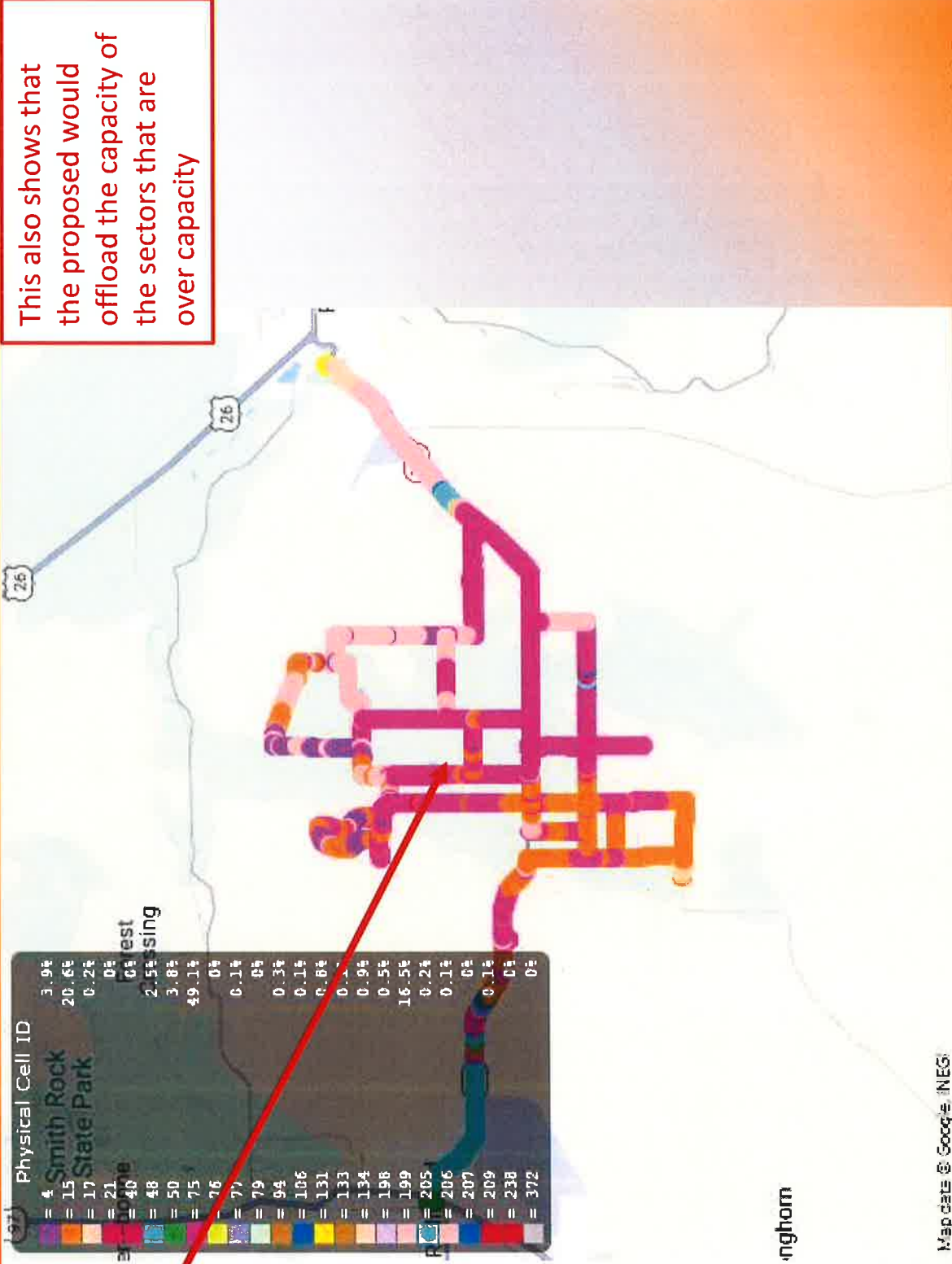
LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (< 106 to -120 dbm)
	Low to No Service (<-120 dbm)



Active Call Testing - Verizon

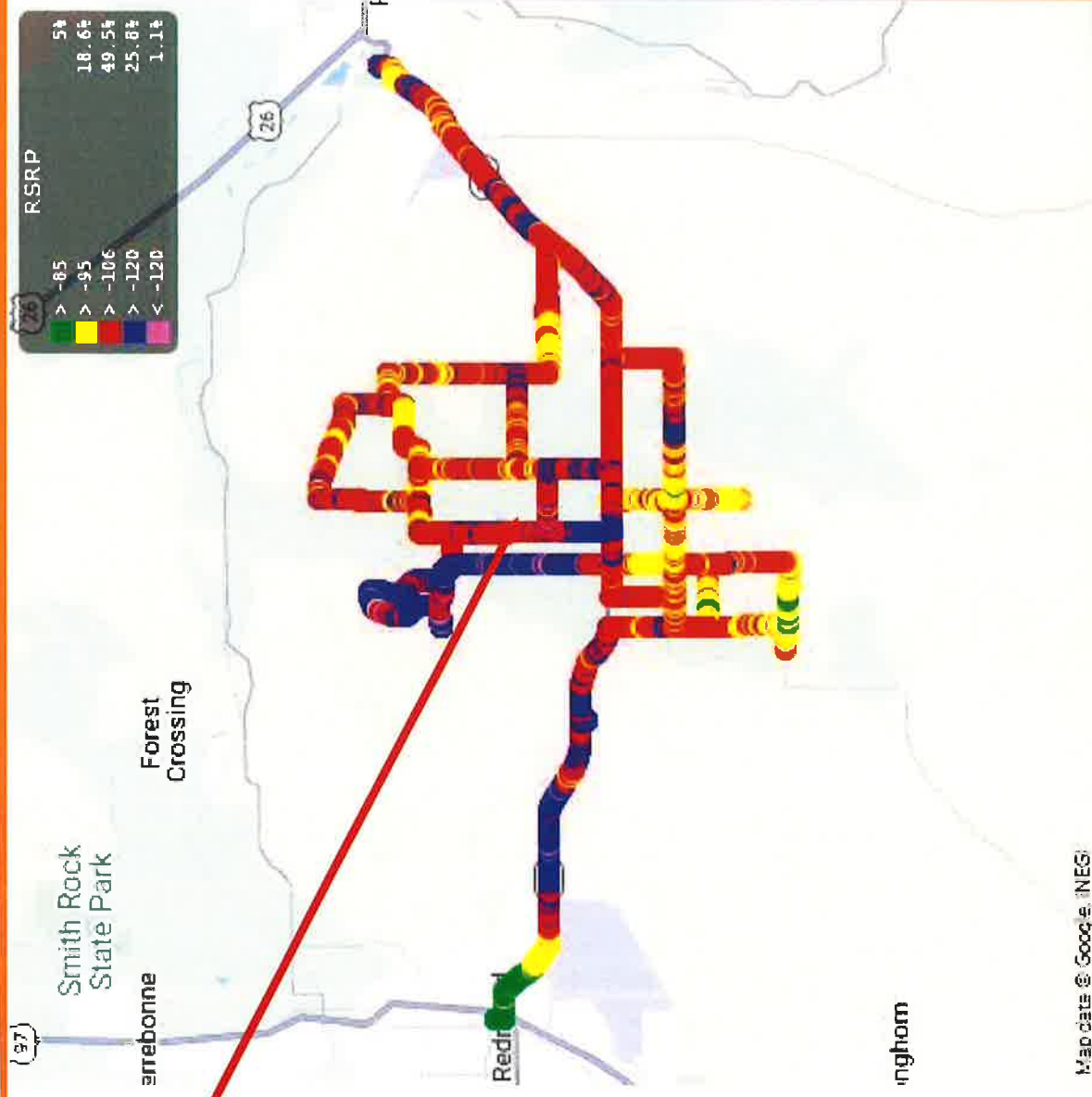
Physical Cell ID

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (<-106 to -120 dbm)
	Low to No Service (<-120 dbm)



Active Call Testing - Verizon RSRP

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (<-106 to -120 dbm)
	Low to No Service (<-120 dbm)

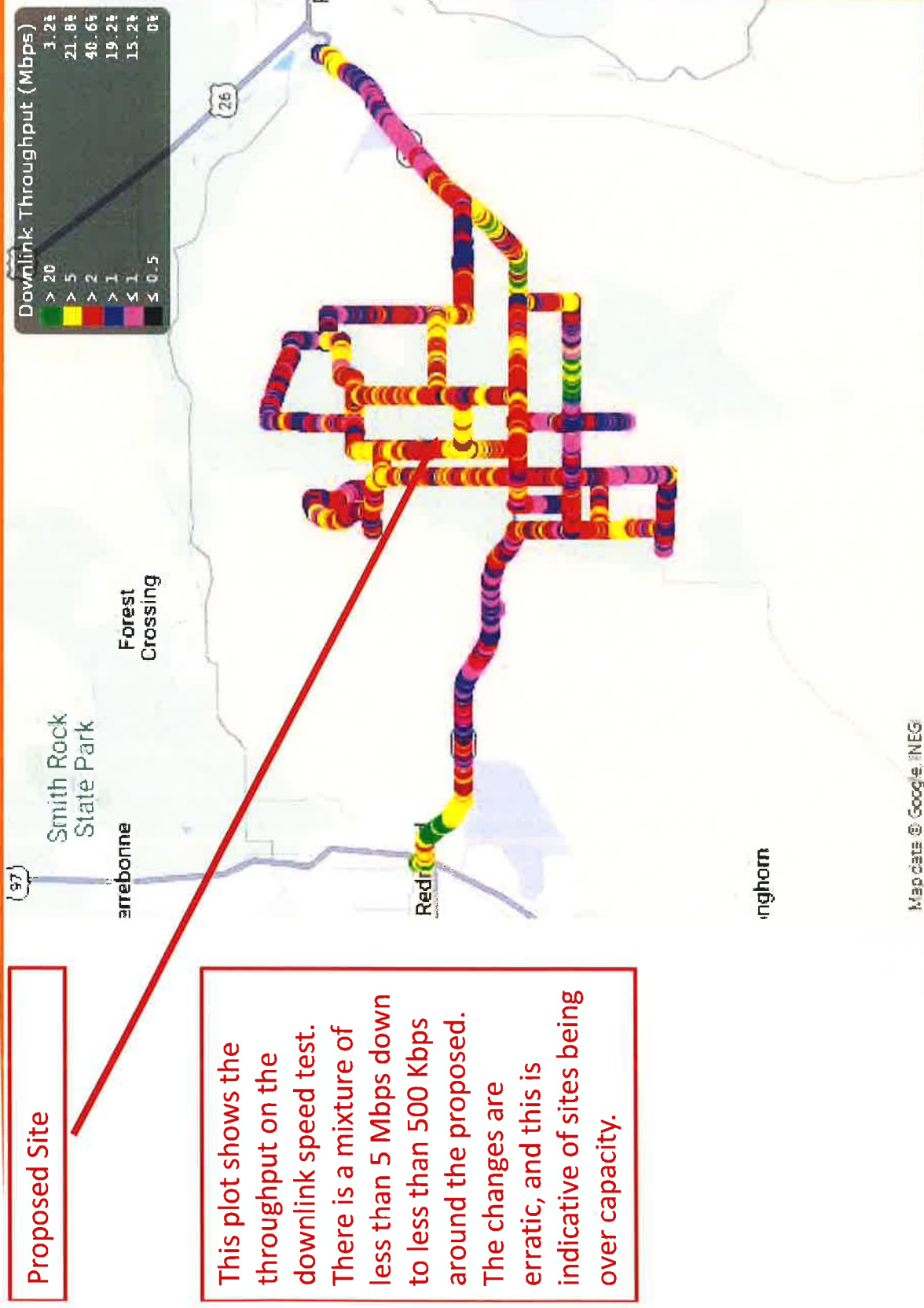


Proposed Site

This plot shows the Received Signal Reference Power (RSRP) for the Verizon phone. Note that the service level around the proposed is a mix of Low, Marginal and Outdoor service

Active Call Testing - Verizon

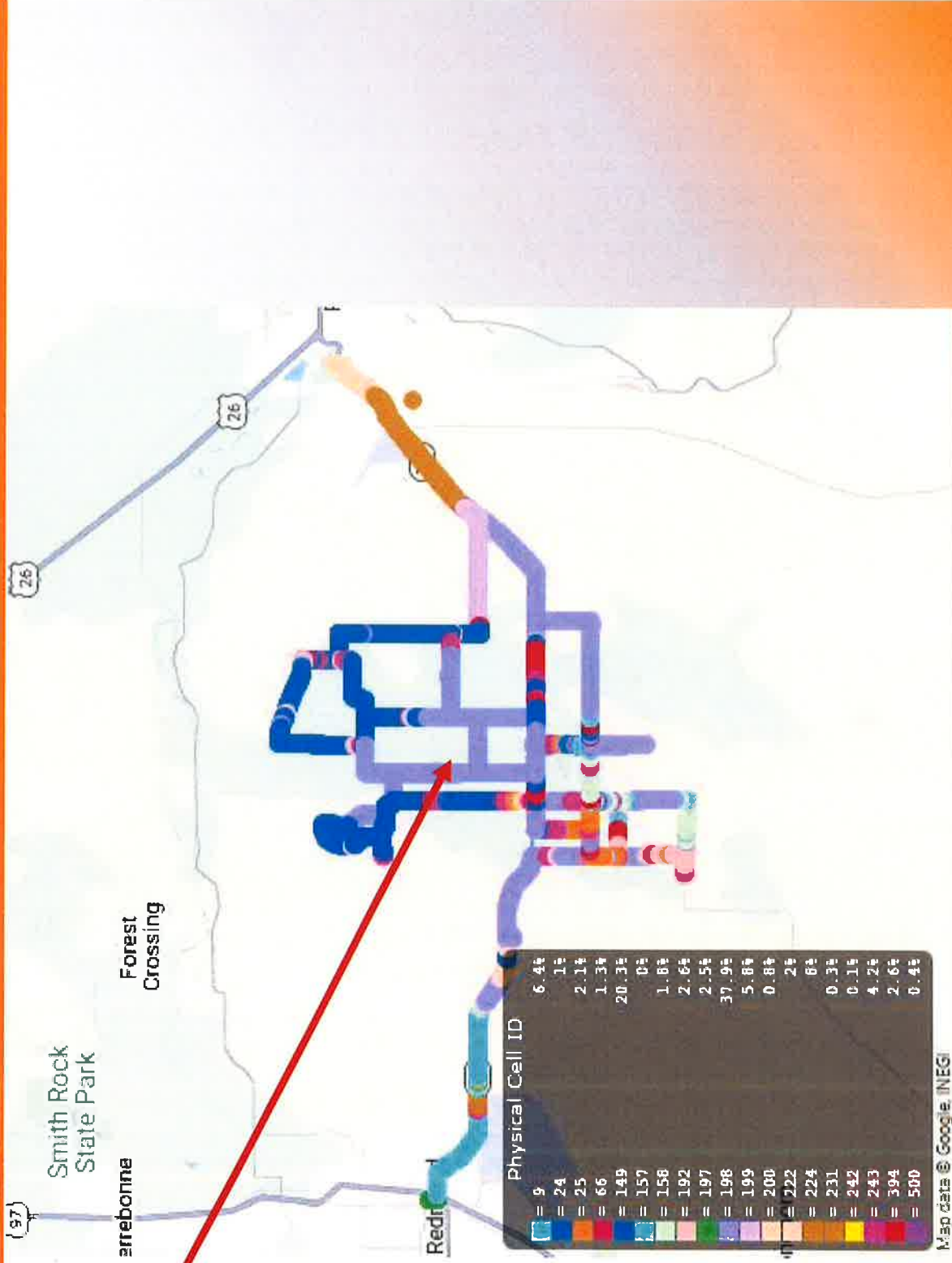
Throughput



Active Call Testing – AT&T

Physical Cell ID

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (< -106 to -120 dbm)
	Low to No Service (< -120 dbm)



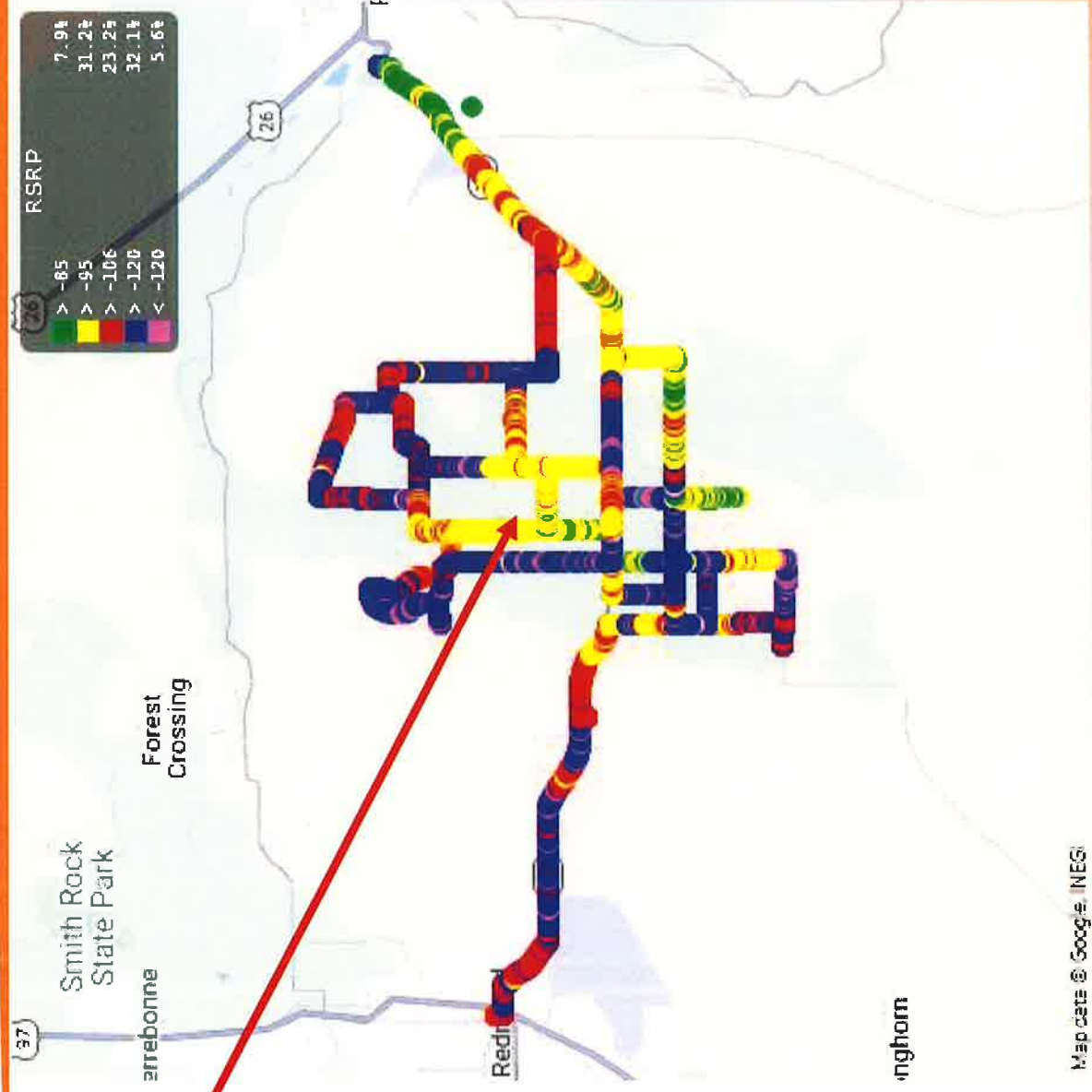
Proposed Site

This plot is the different sectors that service a particular area. Note that the SW there is no dominant sector providing service and to the NW (2)(blue & purple) sectors are providing service. This is indicative of no dominant service in the SW and a mix of services in the NE the mobiles do not have a good server as the mobile is on cell edge of the various sites

Active Call Testing – AT&T

RSRP

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (<-106 to -120 dbm)
	Low to No Service (<-120 dbm)



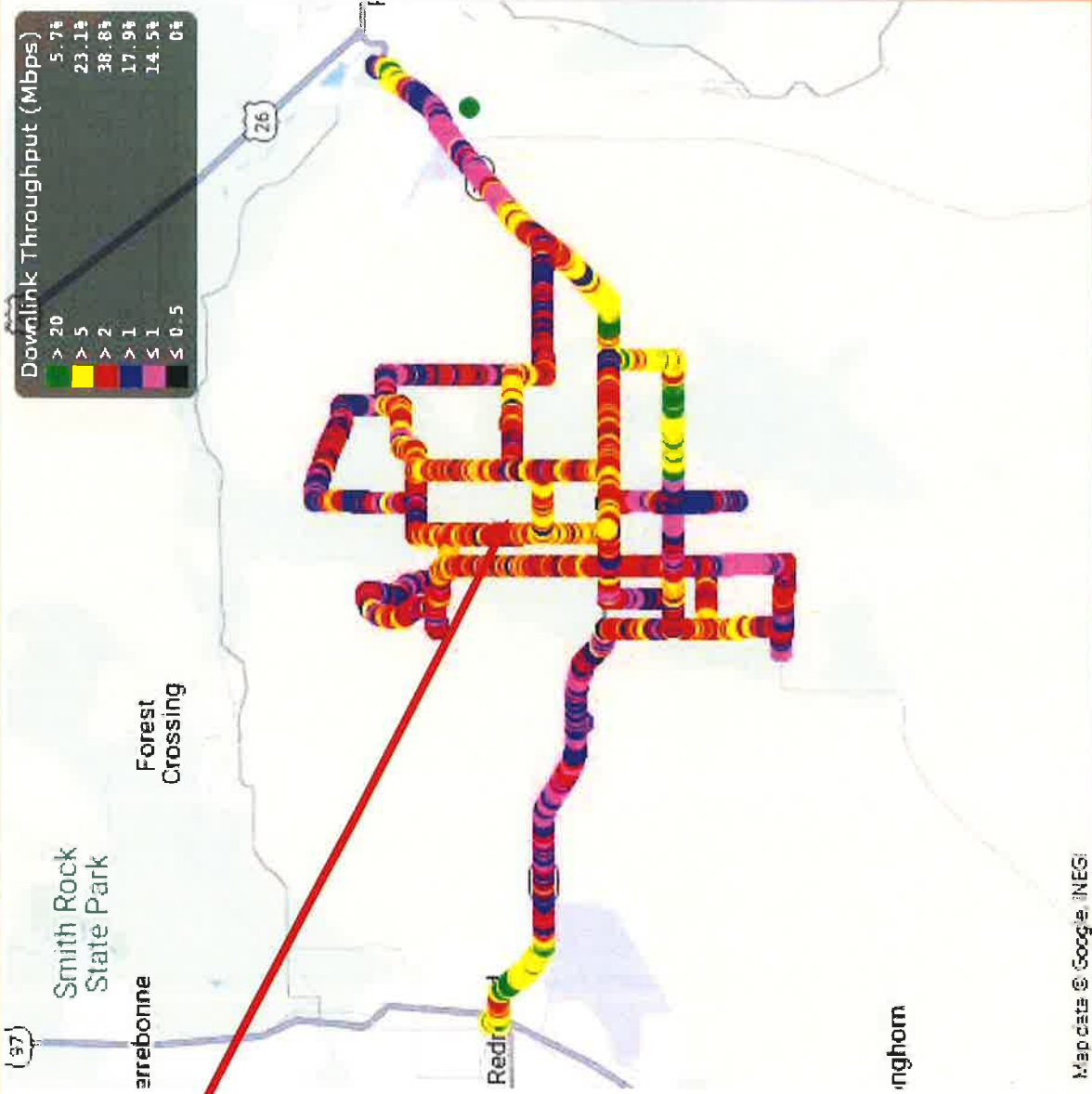
Proposed Site

This plot shows the Received Signal Reference Power (RSRP) for the AT&T phone. Note that in the area around the proposed has a mix of Low, Marginal, Outdoor and In-Vehicle levels.

Active Call Testing – AT&T

Throughput

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (< -106 to -120 dbm)
	Low to No Service (< -120 dbm)

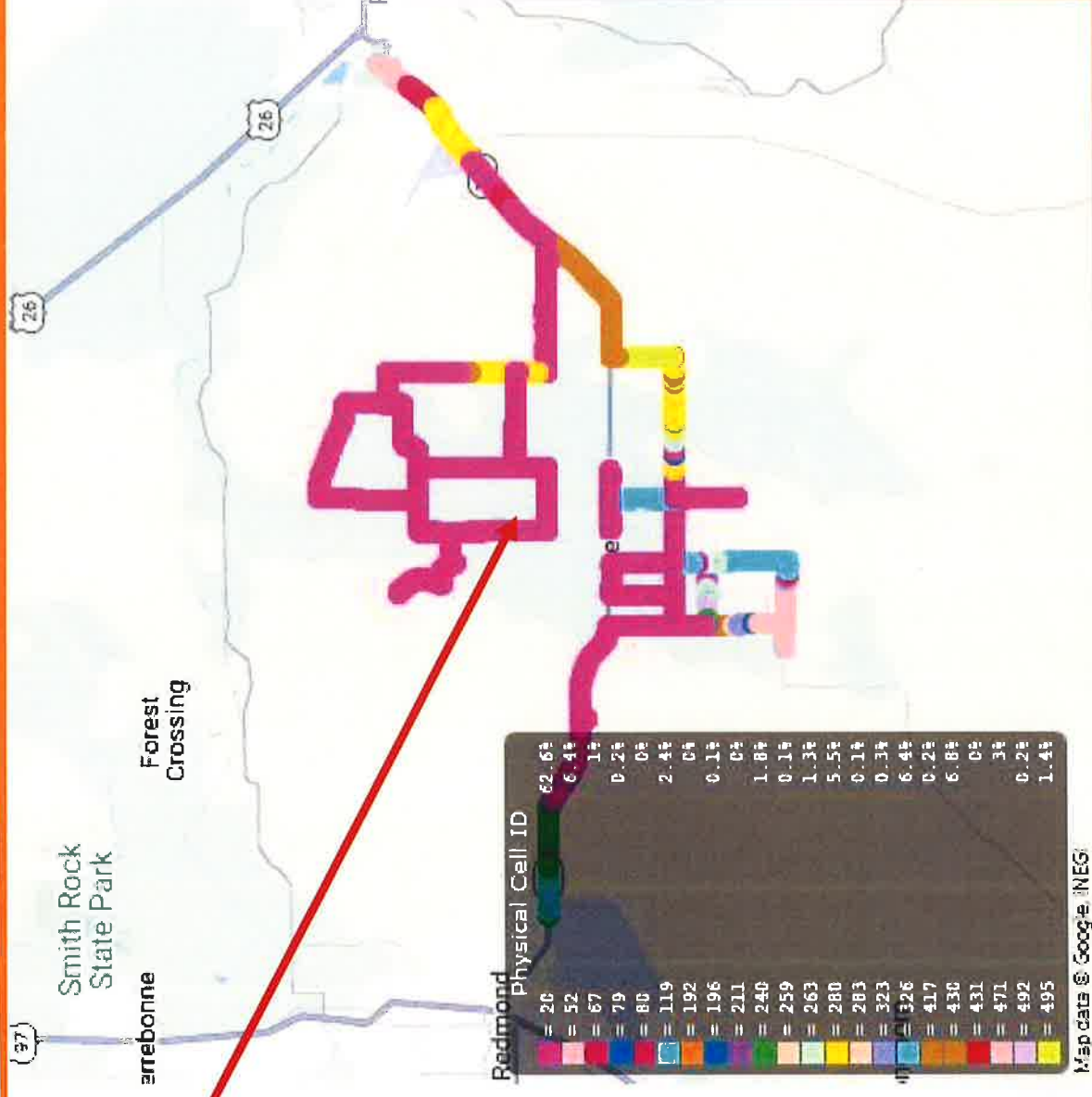


Proposed Site

This plot shows the throughput on the downlink speed test. There is a mixture of less than 5 Mbps down to less than 500 Kbps around the proposed. The changes are erratic, and this is indicative of sites being over capacity and no dominant server

Active Call Testing – T-Mobile Physical Cell ID

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (<-106 to -120 dbm)
	Low to No Service (<-120 dbm)

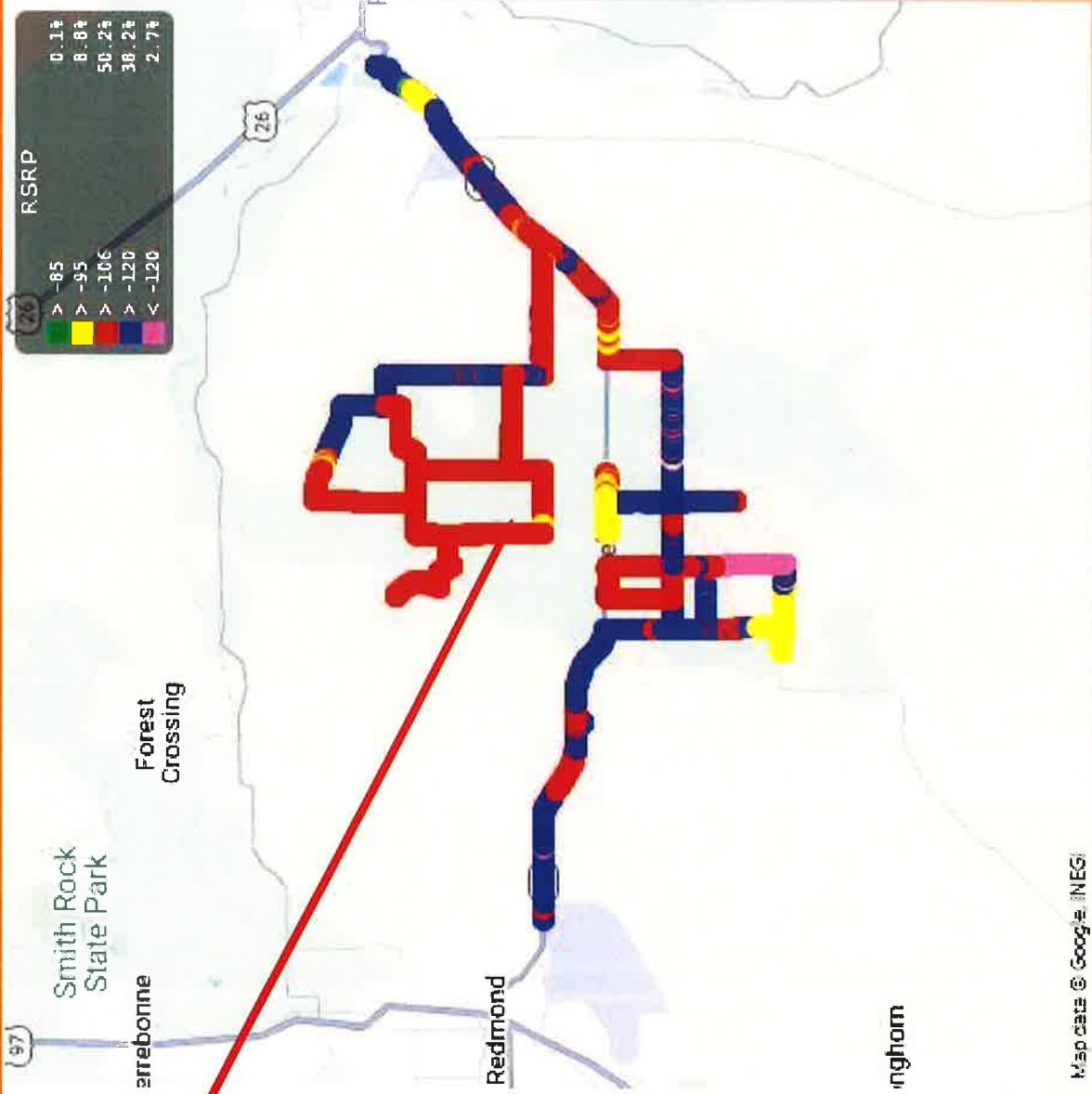


Proposed Site

This plot is the different sectors that service a particular area. Note that the SW there is no dominant sector providing service and to the NW 1 sector (Magenta) is providing service. To the South there is a mixture of sectors providing service

Active Call Testing – T-Mobile RSRP

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (< -106 to -120 dbm)
	Low to No Service (<-120 dbm)

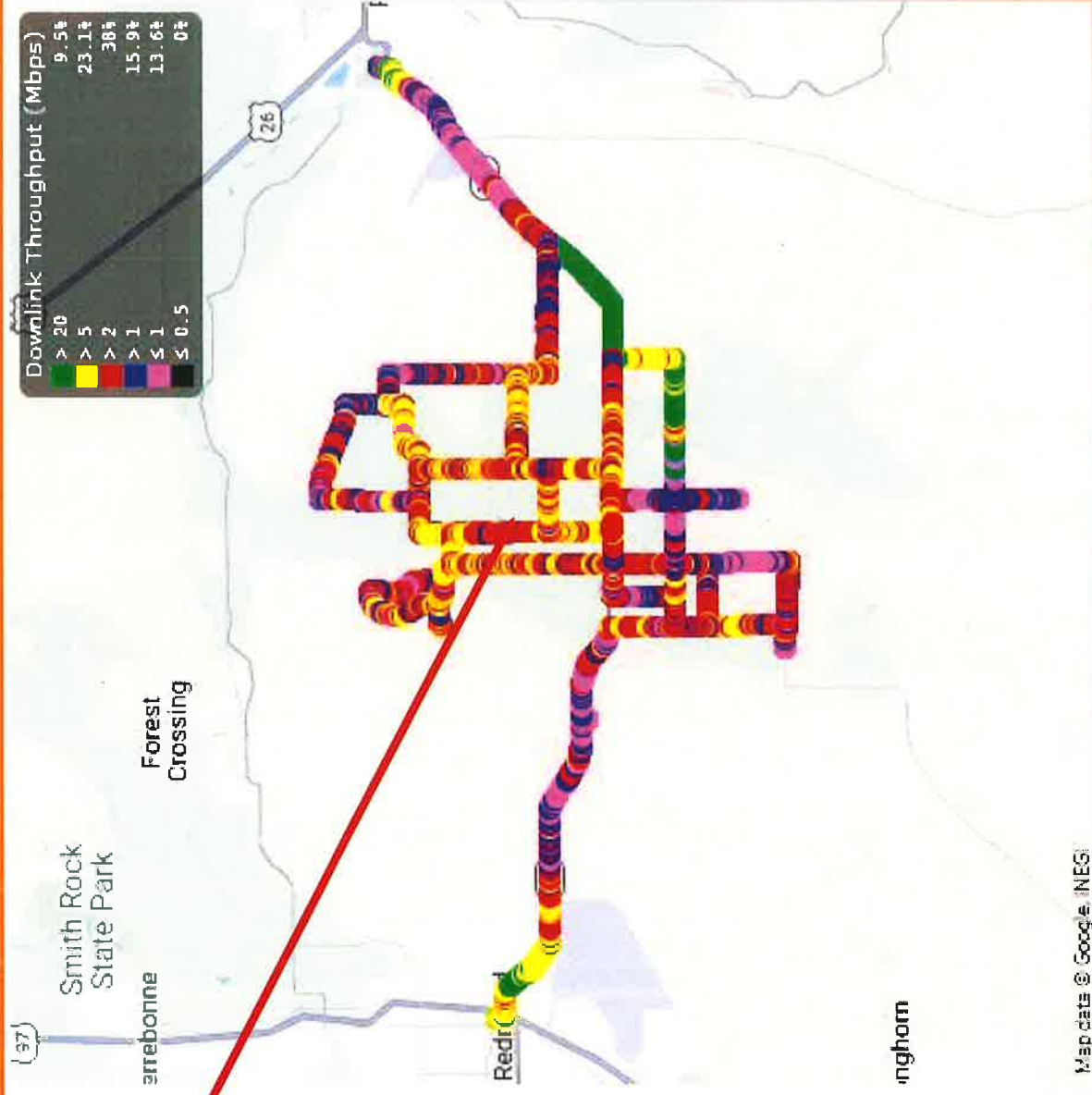


Proposed Site

This plot shows the Received Signal Reference Power (RSRP) for the T-Mobile phone. Note that in the area around the proposed has a mix of Marginal, Outdoor and In-Vehicle levels.

Active Call Testing – T-Mobile Throughput

LEGEND	
	In-Building (-85 dbm)
	In-Vehicle (-95 dbm)
	Outdoor (-106 dbm)
	Marginal (<-106 to -120 dbm)
	Low to No Service (<-120 dbm)



Proposed Site

This plot shows the throughput on the downlink speed test. There is a mixture of less than 5 Mbps down to less than 500 Kbps around the proposed. The changes are erratic, and this is indicative of sites being over capacity and no dominant server

Conclusion

- † The Scanner recorded frequency bands for AT&T, Verizon and, T-Mobile in the area.
- † The existing sites do not provide the level of service needed in the area. A lack of quality throughput per subscriber in the area
- † The throughput levels on the active call testing all the way down to 500 kbps. The existing sites are over capacity and need offload from a new site
- † Other carriers have the same level of service in the area and the tower will most likely be collocated with other tenants who will need the height
- † **Recommend approval of the proposed tower at the height requested**

Appendix

Frequency Bands

† For both 4G and 5G there are FCC allocated bands

† 4G –

https://en.wikipedia.org/wiki/LTE_frequency_bands

† 5G –

https://en.wikipedia.org/wiki/5G_NR_frequency_bands

RSRP

† RSRP is short for Reference Signal Received Power, used when measuring LTE networks. A cellular phone or another LTE-equipped device would display signal strength in RSRP, measured 0dBm (best signal) to -110dBm (weakest/no signal). An RSRP of -95dBm would be a strong signal whereas -115dBm would be very weak. Many devices show RSSI for LTE connections along with RSRP, but RSRP is a better indicator of LTE signal strength.

† Sources

- <https://5gstore.com/blog/2021/04/08/understanding-rssi-rsrp-and-rsrq/>
- <https://blog.solidsignal.com/tutorials/what-is-rsrp/>

RSRQ (a ratio using RSRP)

† RSRQ is Reference Signal Received Quality. This again only applies to LTE networks and is a measure of the signal quality of a cellular connection. RSRQ is typically displayed in a range from 0dB (highest quality) to -20dB (lowest quality). Typically better signal quality results in a more reliable connection.

† Sources

- <https://5gstore.com/blog/2021/04/08/understanding-rssi-rsrp-and-rsrq/>
- <https://blog.solidsignal.com/tutorials/what-is-rsrp/>

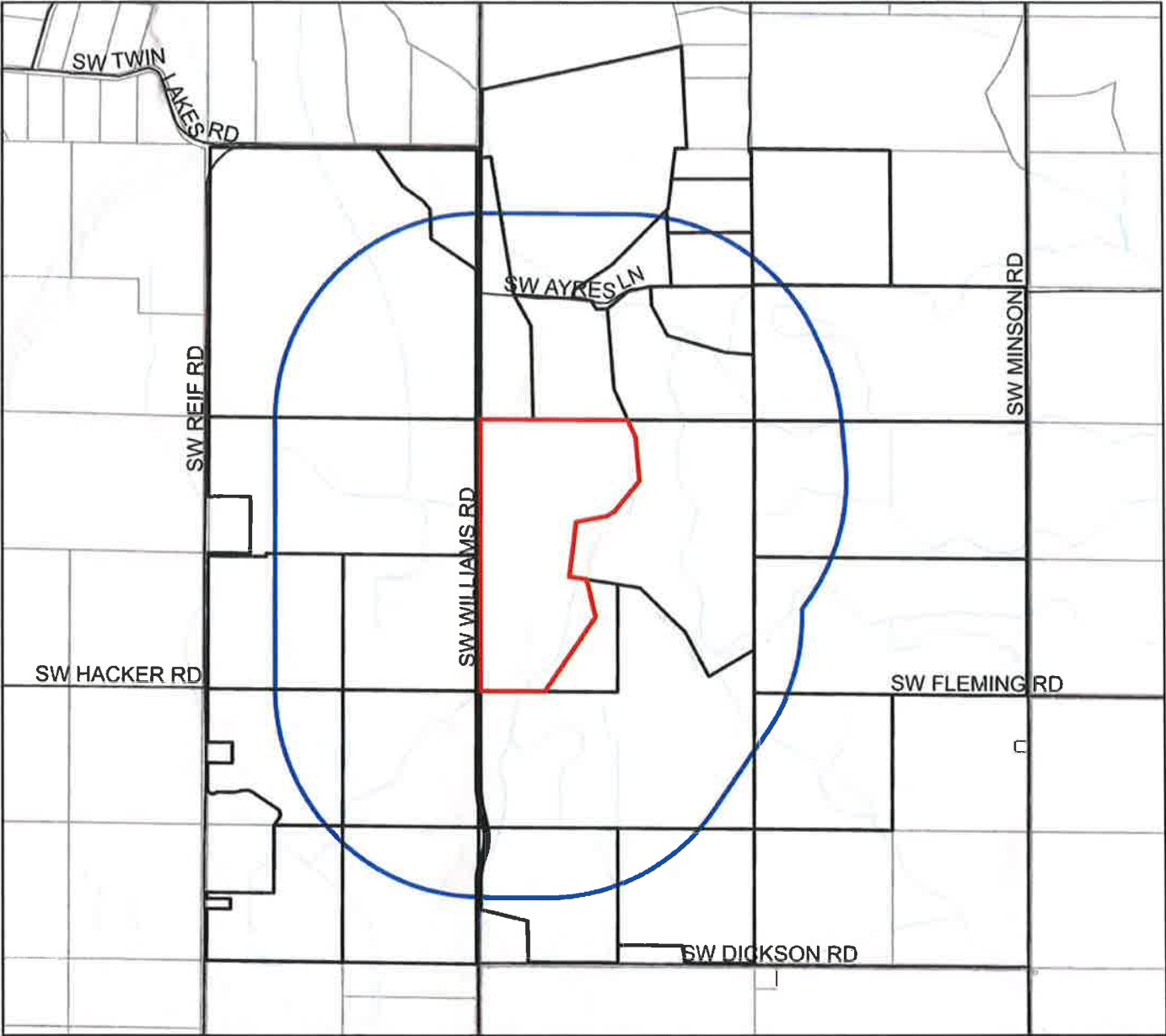
SINR (a ratio using RSRP)

† SINR (Signal to Interference & Noise Ratio) measures signal quality: the strength of the wanted signal compared to the unwanted interference and noise. Mobile network operators seek to maximize SINR at all sites to deliver the best possible customer experience, either by transmitting at a higher power, or by minimizing the interference and noise.

† Sources

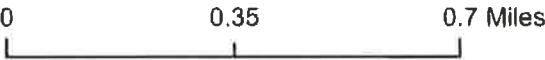
- <https://5gstore.com/blog/2021/04/08/understanding-rssi-rsrp-and-rsrq/>
- <https://isointl.com/sinr-optimization/>

Crook County Properties | Mailing List



Legend

- Taxlot 1514140000100
- Buffer 2000'
- Taxlots within Buffer
- Crook County Taxlots



Disclaimer: CROOK COUNTY MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER. THE COUNTY IS NOT RESPONSIBLE FOR POSSIBLE ERRORS, OMISSIONS, MISUSE, OR MISINTERPRETATION. COUNTY DIGITAL INFORMATION IS PREPARED FOR REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED, AND IS NOT INTENDED FOR SURVEY OR ENGINEERING PURPOSES OR THE AUTHORITATIVE AND/OR PRECISE LOCATION OF BOUNDARIES, FIXED HUMAN WORKS, AND/OR THE SHAPE AND CONTOUR OF THE EARTH. NO REPRESENTATION IS MADE CONCERNING THE LEGAL STATUS OF ANY APPARENT ROUTE OF ACCESS IDENTIFIED IN DIGITAL OR HARDCOPY MAPPING OF GEOSPATIAL INFORMATION OR DATA. DATA FROM THE CROOK COUNTY ASSESSOR'S OFFICE MAY NOT BE CURRENT. DATA IS UPDATED AS SCHEDULES AND RESOURCES PERMIT. PLEASE NOTIFY CROOK COUNTY GIS OF ANY ERRORS (541) 416-3910.



Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

Property Owner
12502 SW FLEMING RD
Powell Butte OR, 97753

Property Owner
4322 SW REIF RD
Powell Butte OR, 97753-1829

Property Owner
12501 SW FLEMING ROAD
Powell Butte OR, 97753-1804

Property Owner
12512 SW CORNETT LOOP
Powell Butte OR, 97753-2109

Property Owner
12855 SW AYRES LN
Powell Butte OR, 97753

Property Owner
12993 SW DICKSON RD
Powell Butte OR, 97753-1545

Property Owner
13275 SW AYRES LN
Powell Butte OR, 97753

Property Owner
13431 SW DICKSON RD
Powell Butte OR, 97753-1545

Property Owner
2221 SW WAMPLER LN
Powell Butte OR, 97753-1865

Property Owner
3063 SW MINSON RD
Powell Butte OR, 97753-1805

Property Owner
3068 SW REIF RD
Powell Butte OR, 97753-1827

Property Owner
3367 SW WILLIAMS RD
Powell Butte OR, 97753

Property Owner
3424 SW REIF ROAD
Powell Butte OR, 97753-1827

Property Owner
3690 SW WILLIAMS RD
Powell Butte OR, 97753

Property Owner
3698 SW REIF ROAD
Powell Butte OR, 97753-1829

Property Owner
3976 SW SAM SNEAD CT
Redmond OR, 97756

Property Owner
4021 S BAJA WAY
Boise ID, 82701-4428

Property Owner
4301 SW WILLIAMS RD
Powell Butte OR, 97753

Property Owner
4470 SW REIF RD
Powell Butte OR, 97753-1829

Property Owner
PO BOX 1213
Redmond OR, 97756

Property Owner
PO BOX 36
Powell Butte OR, 97753

Crook County Planning Department
300 NE 3rd St, Room 12
Prineville, OR 97754

ANNOUNCEMENT NEIGHBORHOOD MEETING

Dear Interested Property Owner,

The Crook County Zoning Ordinance requires a neighborhood meeting with nearby property owners before a wireless telecommunications facility can be submitted for permitting. This meeting is intended to provide project information, address questions, and collect feedback from the community.

Neighborhood Meeting - Date, Time, and Location

Date of meeting: **Sunday, May 4, 2025**

Time of meeting: **5:30 pm to 7 pm**

Location of meeting: **Powell Butte Community Center**
8404 SW Reif Road
Powell Butte, OR 97753

Site Location

Site Address - near 3450 SW Williams Road, Powell Butte, Oregon
Parcel Number - 15141400-00100-14931



Attachments

The following items have been attached to provide additional information regarding the project:

- Survey and Comment Form with the provided Self-Addressed Stamped Envelope
- Photo Simulations and Map
- Site Plan
- Elevations

Project Scope

Verizon Wireless is working to improve cellular coverage in the area north of Powell Butte in Crook County. This project aims to increase capacity along Highway 126 between Redmond and Prineville and expand coverage to the Powell Butte community. Without these improvements, customer experience in the area will continue to decline. Over the years, residents on the north side of Powell Butte have reported poor service. There are no existing wireless communications support structures in the immediate vicinity for Verizon Wireless to locate this facility. The closest tower is over four miles away. To better serve its customers, Verizon plans to enhance network performance in rural areas of Crook County by adding the proposed site to strengthen overall coverage.

The proposed telecommunication facility consists of a new lattice tower with an overall height of one hundred fifty-eight feet (158'), nine (9) antennas, auxiliary equipment, three (3) equipment cabinets that house radio equipment and/or batteries, and a 30kw diesel backup generator. The tower would be built to accommodate other wireless providers.

Harmoni Towers and Verizon Wireless are collaborating on this proposed telecommunication project. Verizon is a wireless telephone company operating throughout the United States of America. Verizon is licensed to operate in the United States by the Federal Communications Commission (FCC). Harmoni Towers provides and manages wireless infrastructure assets throughout the United States.

Contact Information

If you have any questions or concerns in the meantime, please contact Sarah Telschow, the representative for Verizon Wireless and Harmoni Towers, using the contact information below.

Sarah Telschow - Agent for Verizon Wireless and Harmoni Towers
5200 SW Meadows Road, Suite 150
Lake Oswego, OR 97035
Phone: (206) 979-6268
E-mail – stelschow@acomconsultinginc.com

Cc: Property owners within 2,000 feet of the proposed project
Crook County Planning Department

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☐ Yes, Supportive

☐ No, Not Supportive

☐ Unsure

Please provide comments:

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☐ No

☐ Unsure

Please provide comments:

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name -

Address -

E-mail -

Your input is greatly appreciated. Thank you!



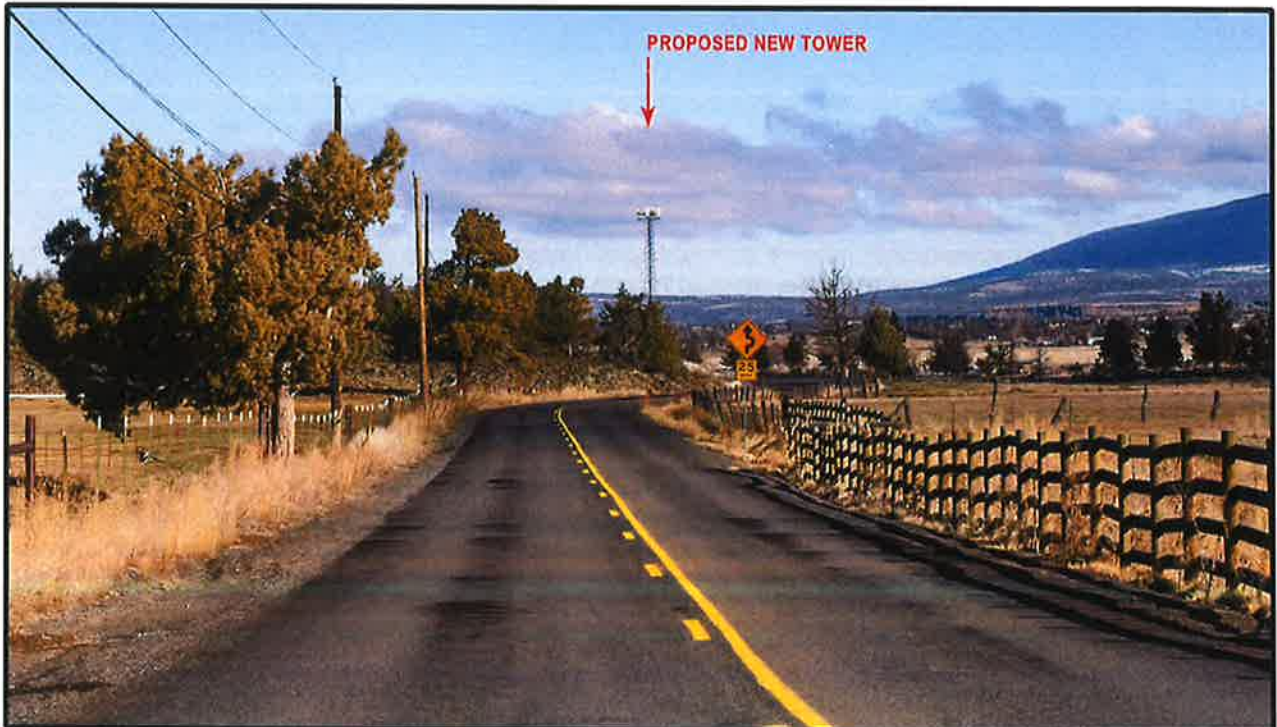
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #1
LOOKING NORTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



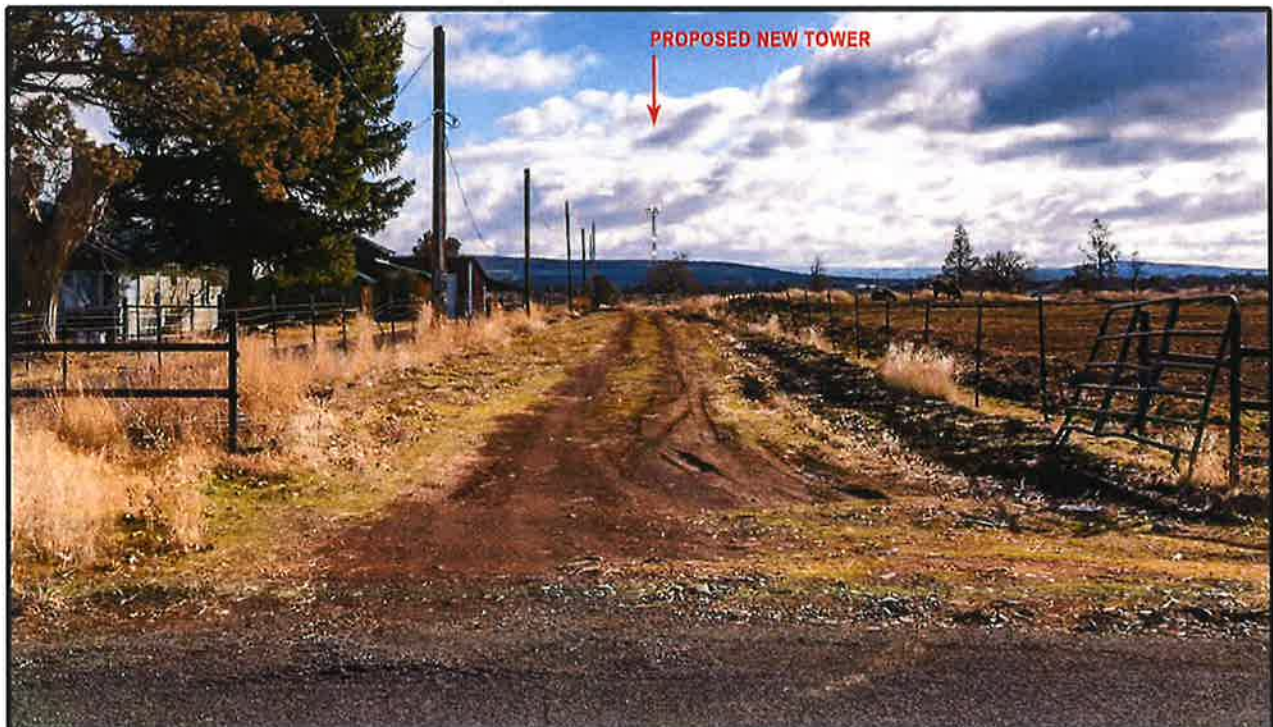
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #2
LOOKING EAST ON SW REIF RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #3
LOOKING SOUTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

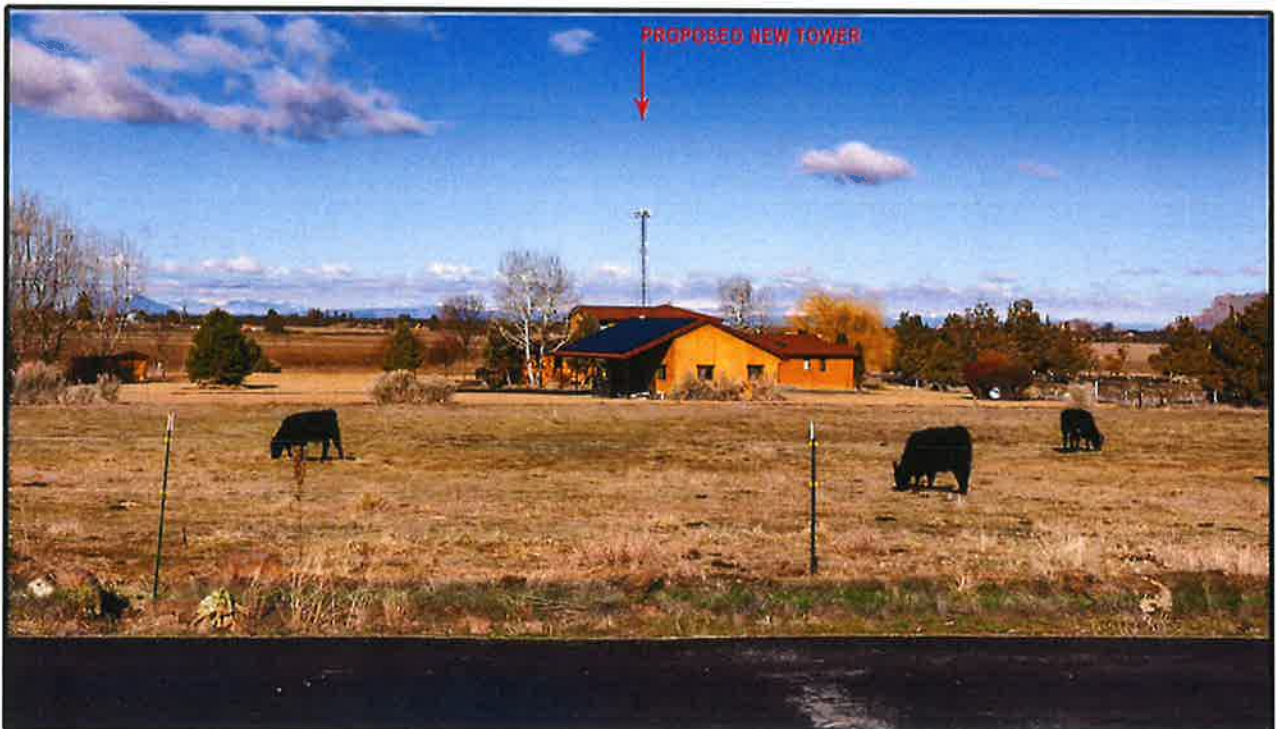
3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

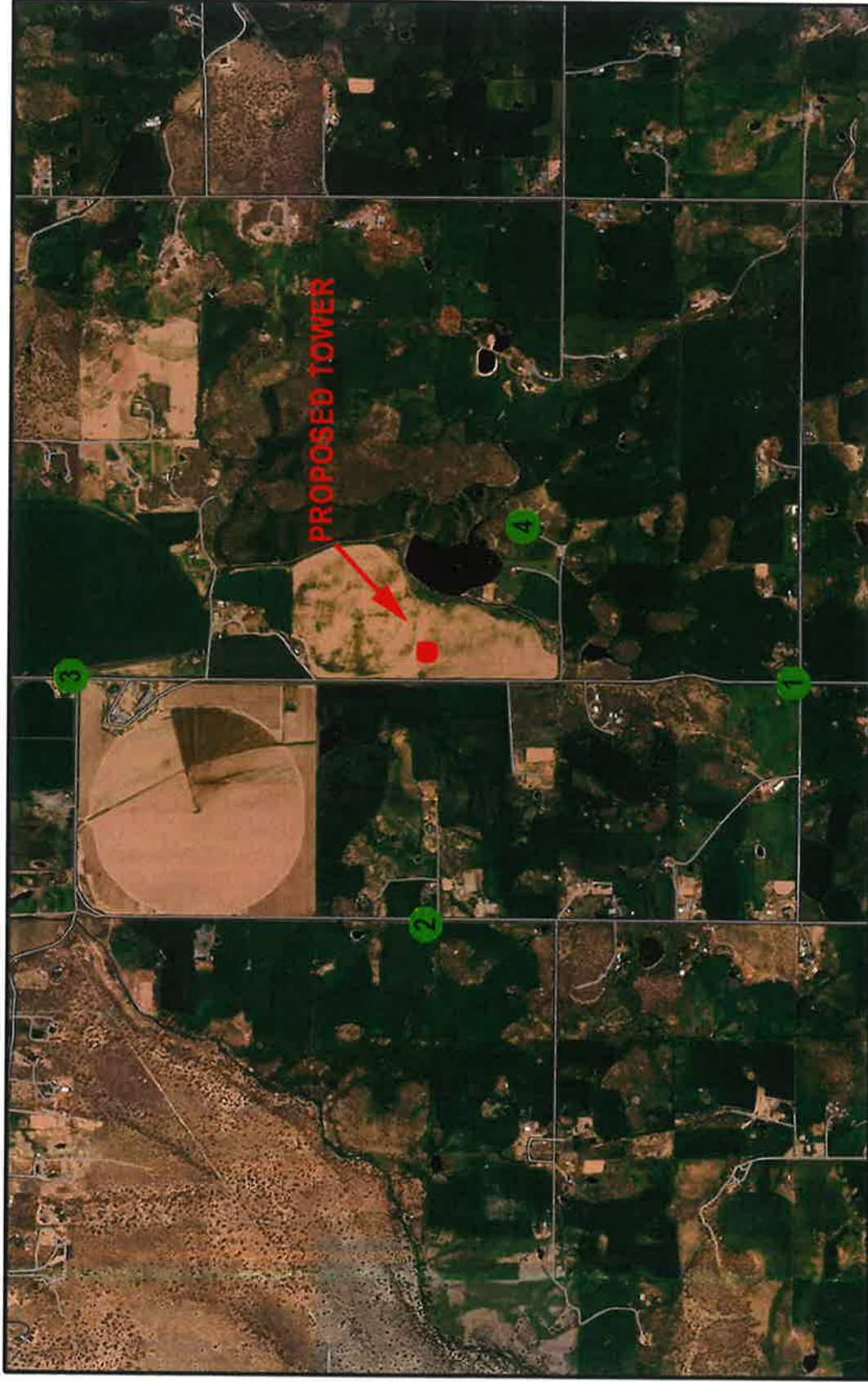
VIEW #4

LOOKING NORTHWEST FROM 3694 SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



TIM BRADLEY IMAGING

PHOTO SIM LOCATIONS

verizon

DITCH RIDER
3450 SW WILLIAMS RD, POWELL BUTTE, OR



5200 SW Meadows Road, Suite 150
Lake Oswego, OR 97035

Acom Consulting, Inc.
Attn. Sarah Telschow (OR6 Ditch Rider)
5200 SW Meadows Road, Suite 150
Lake Oswego, OR 97035

Tax Lot Number	Physical Address	
1514140000405	4301 SW WILLIAMS RD, POWELL BUTTE, OR 97753	4301 SW WILLIAMS
1514110000600	13000 SW AYRES LN, POWELL BUTTE, OR 97753	4021 S BAJA WAY,
1514130000401	12502 SW FLEMING RD, POWELL BUTTE, OR 97753	12502 SW FLEMING
1514140000301	3424 SW REIF RD, POWELL BUTTE, OR 97753	3424 SW REIF ROAD
1514140000302	3698 SW REIF RD, POWELL BUTTE, OR 97753	3698 SW REIF ROAD
1514110000104	13304 SW AYRES LN, POWELL BUTTE, OR 97753	3976 SW SAM SNE
1514110000107	2555 SW WILLIAMS RD, POWELL BUTTE, OR 97753	PO BOX 1213, RED
1514110000108	2760 SW WILLIAMS RD, POWELL BUTTE, OR 97753	4021 S BAJA WAY,
1514130000200	3063 SW MINSON RD, POWELL BUTTE, OR 97753	3063 SW MINSON
1514110000104	2756 SW WILLIAMS RD, POWELL BUTTE, OR 97753	3976 SW SAM SNE
1514140000305	3367 SW WILLIAMS RD, POWELL BUTTE, OR 97753	3367 SW WILLIAMS
1514110000116	12855 SW AYRES LN, POWELL BUTTE, OR 97753	12855 SW AYRES L
1514130000300	12501 SW FLEMING RD, POWELL BUTTE, OR 97753	12501 SW FLEMING
1514140000102	3694 SW WILLIAMS RD, POWELL BUTTE, OR 97753	PO BOX 36, POWEL
1514140000103	3690 SW WILLIAMS RD, POWELL BUTTE, OR 97753	3690 SW WILLIAMS
1514140000201	3068 SW REIF RD, POWELL BUTTE, OR 97753	3068 SW REIF RD I
1514140000601	13431 SW DICKSON RD, POWELL BUTTE, OR 97753	13431 SW DICKSON
1514140000700	12993 SW DICKSON RD, POWELL BUTTE, OR 97753	12993 SW DICKSON
1514110000105	2221 SW WAMPLER LN, POWELL BUTTE, OR 97753	2221 SW WAMPLER
1514110000106	2309 SW WILLIAMS RD, POWELL BUTTE, OR 97753	PO BOX 1213 RED
1514110000108	2490 SW WILLIAMS RD, POWELL BUTTE, OR 97753	4021 S BAJA WAY,
1514140000400	4470 SW REIF RD, POWELL BUTTE, OR 97753	4470 SW REIF RD I
1514140000401	4401 SW WILLIAMS RD, POWELL BUTTE, OR 97753	4322 SW REIF RD
1514120000600	2150 SW WAMPLER LN, POWELL BUTTE, OR 97753	PO BOX 1213 RED
1514120000700	2603 SW MINSON RD, POWELL BUTTE, OR 97753	12512 SW CORNE
1514110000117	13275 SW AYRES LN, POWELL BUTTE, OR 97753	13275 SW AYRES L
1514130000300	12525 SW FLEMING RD, POWELL BUTTE, OR 97753	12501 SW FLEMING

Sign-In Sheet

OR6 Ditch Rider

Neighborhood Meeting - Sunday, May 4, 2025

Name	Address	E-mail
Joyce & Vicki Degeuer Chuck & Nancy Cruikshank	Powell Butte 97753 9349 SW Reef Rd 11585 SW Red Cloud Rd Powell Butte, OR 97753	Itencowles@gmail.com Cncruikshank@gmail.com
Julie & Dale Reed	11661 SW Red Cloud Rd Powell Butte 97753	joulz69reed@yahoo.com
Wanda Kuklis	8840 SW YAHOO SKIN DR POWELL BUTTE OR 97753	tkuklis@msn.com
Dan & Ashley Larkin	3424 SW Reef Rd Powell Butte, OR	dlarkin@bluesagecof.com
Cindy Zalunardo Dave Zalunardo	3690 SW Williams Rd Powell Butte OR 97753	cindy.zalunardo@gmail.com davezalunardo@gmail.com
TIM & TINA MCDANIEL	12855 S.W. AYRES LN. POWELL BUTTE OR 97753	TIMCFIX27@HOTMAIL.COM MCDANIEL5198@HOTMAIL.COM
David & Susie Fisher	3093 S.W. Parrish Ln Powell Butte, Or 97753	fishersredrockrand@gmail.com
Kristina Bierly Kathleen Saterdahl Neil Henke	12008 SW Houston Lake Rd Powell Butte, OR 97753 8440 SW Pokegama Dr Powell Butte, OR 97753	krisjam01@msn.com neil@3sislabs.com kathy@3sislabs.com

Name	Address	E-mail
Barclay & Sony Wyss	1242 NW McDaniel Rd. Powell Butte	Barcwyss@gmail.com
Jen Wilcox	13160 SW Hwy 126 PB	wilcoxjennifer@gmail.com
Amy Fitzgerald	15211 SW Hacker Rd. Powell Butte 97753	afitzgerald09@gmail.com
Pamela Gump	10030 SW Houston Lake Rd Powell Butte OR 97753	wpranch16@gmail.com
Steve Obergs Bev Obergs	12154 S.W. Cornett Loop PB 97753	gr8cr8@gmail.com bevoberg@gmail.com
Cor. Brown Neil Erickson	14108 SW Mountain View Dr. Powell Butte 97753	Lbrown dancers@yahoo.com Neil. Erickson43@yahoo.com
John McFarlane Kelly	2150 SW Wampler LN	kmcfarlanecontracting@yahoo.com
Randy Petz	181 SW Bent Lp Powell Butte	mountainbound@WVI.com
Jim & Carol Markman	16587 SW Grandview Rd Powell Butte, OR 97753	
Cathie & Dale Tompkins	12837 SW Cornett Lp PB	Cathie.tompkins@millpower.com



Neighborhood Meeting

Name:

Address:

E-Mail:

fosterdoss22@gmail.com

Looking forward to less dropped calls
and high speed internet



Comment Sheet

Neighborhood Meeting

Sunday, May 4, 2025

Name:

Wanda Kuklis

Address:

8840 SW Yahooskin Dr

Powell Butte 97753

E-Mail:

tkuklis@msn.com

COMMENTS (Please Print Clearly):

Why can't the existing towers be upgraded and access roads improved first before adding another eyesore to our neighborhood:

How about a few mock photos from 500' away

Let's have another meeting with our planning commission board. They need to hear us IN PERSON.

Verizon should broaden the circle of notification so more people of Powell Butte know what is going on. I live on higher ground on South side of Hwy and the cell tower will greatly impact my view and all of my neighbors' view of the area.



Neighborhood Meeting

Name: Dan Larkin

Address: 3424 SW REIF RD

POWELL, BUTTE, OR 97753

E-Mail: dlarkin@bluesagecto.com

- NEED? DOESN'T SEEM TO BE A LOT OF LOCAL COMPLAINTS ON VERIZON SERVICE
- LOCATION? ONE OF THE LOWEST ELEVATION PROPERTIES IN POWELL BUTTE
- NO CAMOUFLAGE? STAND OUT LIKE SOME THUMB
- WHY MIDDLE OF FARM GROUND AND NOT BUTTES OR DRY LAND

Petition To: Stop Verizon cell tower on Williams Road,

Powell Butte, OR 97753

Printed Name	Address	Signature
Edward E Colgan SR	2115 SW Powell Butte Wampler Ln. OR.	<i>Edward E Colgan</i>
Jeanne Colgan	2115 SW Wampler Butte ^{Powell}	<i>Jeanne Colgan</i>
Tina McDaniel	12855 SW. Ayres Ln. Butte ^{Powell}	<i>Tina McDaniel</i>
Mickala Cagan	2115 SW Wampler Ln ^{Powell}	<i>Mickala Cagan</i>
SKIP Lummley	2221 SW Wampler Ln	<i>SKIP Lummley</i>
BS. Lummley	2221 SW Wampler Ln Powell Butte, OR	<i>BS. Lummley</i>
McKayla Farnsworth	1955 SW Wampler Ln Powell Butte OR	<i>McKayla Farnsworth</i>
Aron Farnsworth	1955 SW Wampler Ln Powell Butte OR	<i>Aron Farnsworth</i>
Tye Farnsworth	1955 SW Wampler Ln Powell Butte OR	<i>Tye Farnsworth</i>
Jessy Farnsworth	1955 SW Wampler Ln Powell Butte OR	<i>Jessy Farnsworth</i>
Kelly McFarlane	2150 SW Wampler Ln	<i>Kelly McFarlane</i>
LEE GARCIA	2063 SW Williams Rd	<i>Lee Garcia</i>
Andy Wallace	1809 SW Wampler Ln	<i>Andy Wallace</i>
Kerrie Wallace	1809 SW Wampler Ln	<i>Kerrie Wallace</i>
James Garcia	2043 SW WILLIAMS RD	<i>James Garcia</i>
Elizabeth Kelly	1711 SW Wampler Ln	<i>Elizabeth Kelly</i>
Adali Kelly	1711 SW Wampler Ln.	<i>Adali Kelly</i>
WANDA KUKLES	8840 SW YATTOOSKIN	<i>Wanda Kukles</i>
Joyce & Norm Borglund	9349 SW Reif Rd	<i>Joyce & Norm Borglund</i>

Petition To:

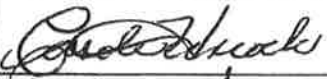
Printed Name	Address	Signature
Frank + Jenny Hook treblehook@hotmail.com	3367 SW Williams Rd Powell Butte OR 97753	Frank T. Hook Jenny Hook
JAN & TODD Murphy jamberemurphy@gmail.com	1920 SE McKinzie Pl Prineville, OR 97754	Jamurphy Todd Murphy
GARY Schlotterman	8101 SW Oregon St Powell Butte	Gary Schlotterman
Dennis H. Verbruggen	3855 SW Minson Rd. Powell Butte	D. Verbruggen
Peter R. Rasmussen	3680 Minson Rd Powell Butte, OR	P. Rasmussen
Jacob W Storey	12106 SW Houston Lake Powell Butte, OR	Jacob W Storey
Sheri Storey	12106 SW Houston Lake Rd Powell Butte, OR 97753	Sheri Storey
Susan Goodwin	10223 SW Houston Lake Powell Butte OR 97753	Susan Goodwin
Stacy Goodwin	10223 SW Houston Lake Powell Butte 97753	Stacy Goodwin
Brett Curtis	11303 SW Houston LAKE Rd Powell Butte	Brett Curtis
PHONGPUN MAKARATAD-FOX	5197 SW MINSON RD. POWELL BUTTE, OR 97753	Phy M Fox
Bruce Brown	4301 SW Williams Rd Powell Butte OR	Bruce Brown
DAVID L FISHER SR	3093 SW PARRISH LN Powell Butte OR 97753	D L Fisher
Kadey L Fitzgerald	1365 NE OCHOA AVE Prineville, OR 97754	Kadey L Fitzgerald
Alex Bush	4080 SW Minson Rd Powell Butte	Alex Bush
Justin + Tobitha White Lacey	10759 SW Fleming RD. Powell Butte OR 97753	Justin White Tobitha Lacey
Wendell Pam Gump Gump	10030 SW Houston Lake Rd. Powell Butte Or.	Wendell Gump Pam Gump
DAMIAN STEHLER ADEN STEHLER	9715 SW HOUSTON LAKE POWELL BUTTE, OR	Damian Stehler Aden Stehler
Beverly Oberg	12154 SW Barnett Lp PB 97753	Beverly Oberg

Petition To: Stop Verizon cell tower on Williams Road.

Powell Butte, OR 97753

Printed Name	Address	Signature
Jeremy / Heidi Wood	13275 SW Hayes Ln	Jeremy Wood
Jamie Bierly	12888 SW Houston Lake Rd	Jamie Bierly
Barclay & Sandy Wyss	1262 NW McDaniel	Sandy Wyss
Jen Wilcox	13167 SW Hwy 126 Powell Butte	Jen Wilcox

Petition To:

Printed Name	Address	Signature
Cande Hancock	2924 SW Parrish	
JOAN WHITE	10759 SW Fleming	
Cheryl Ehrnsz	10932 SW Cornett Ln	

Petition To:

Printed Name	E Address	Signature
Darlene Allman	allmanwillard@gmail	50541-404-4234 Darlene Allman
Randy Pelt	mountainboulderWI.com	Randy Pelt
Neil F. Erickson	neil.f.erickson43@yahoo.com	Neil F. Erickson
Lori Brown	Lbrown dancer58@yahoo.com	Lori Brown
Cyndie Alacano	cc.alacano@gmail.com	Cyndie Alacano

Project Handout

Site Location

Site Address - near 3450 SW Williams Road, Powell Butte, Oregon (Alexander Ranch)
Parcel Number - 15141400-00100-14931



Why Is This Needed?

Verizon Wireless, in partnership with Harmoni Towers, is proposing to build a new wireless communication facility to:

- Improve cellular coverage and reliability in the area north of Powell Butte in Crook County. This project aims to increase capacity along Highway 126 between Redmond and Prineville and expand coverage to the Powell Butte community.
- Provide the residents north of Powell Butte with better wireless service. The areas to the north have experienced poor wireless service.

Key Project Details

- There are no existing wireless communications support structures in the immediate vicinity for Verizon Wireless to locate this facility. The closest tower is over four miles away.
- Type of Tower Proposed:
 - 150-foot lattice tower (a framework-style structure) with an overall height of 158 feet.

- Antennas:
 - Nine (9) panel antennas attached to the tower
- FAA Lighting:
 - No aviation lighting is expected to be required.

Frequently Asked Questions

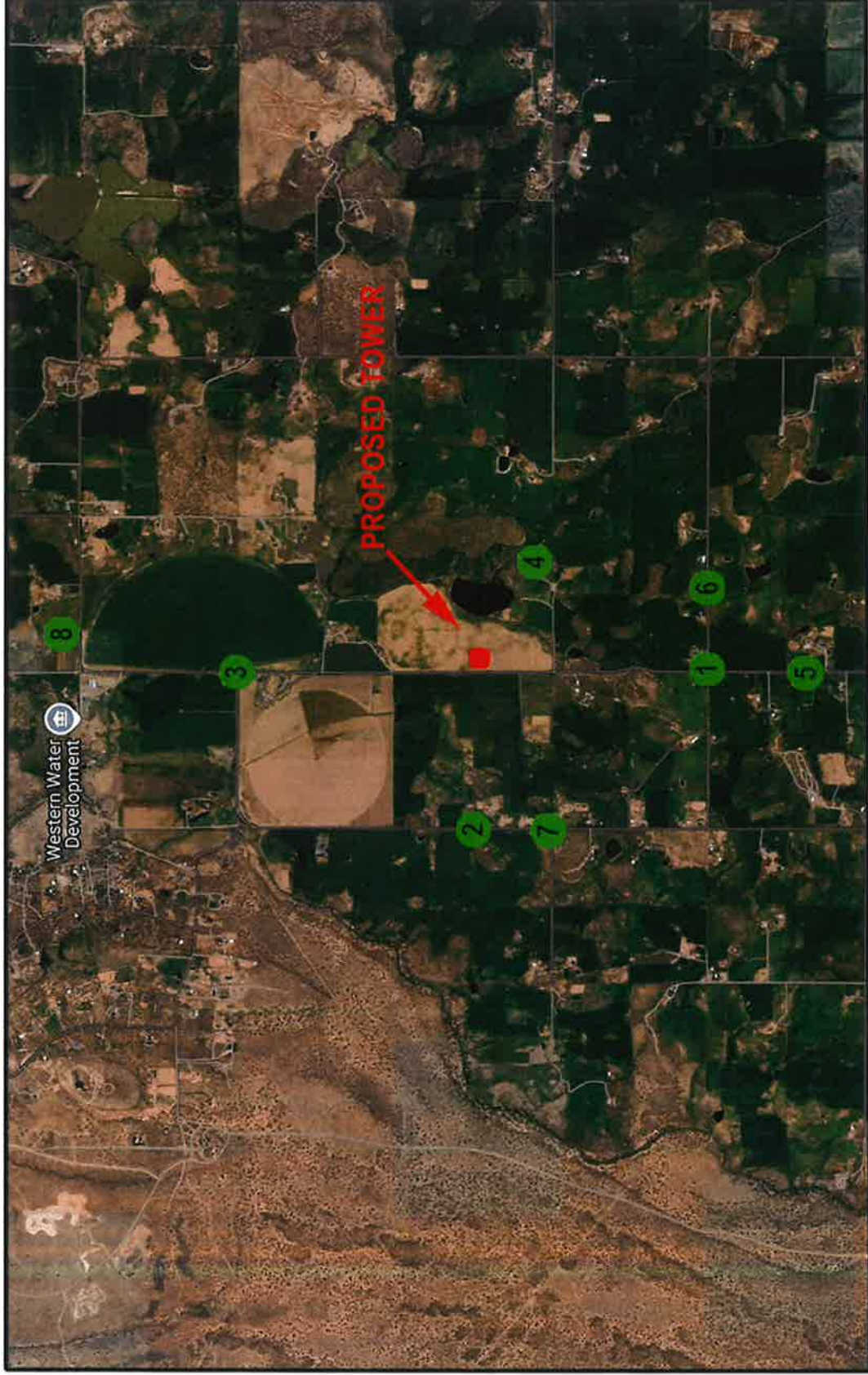
- Is the facility safe?
 - Yes. The facility will meet or exceed all safety guidelines set by the Federal Communications Commission (FCC) regarding radio frequency emissions.
 - This proposed facility will operate well within federal exposure limits designed to protect the public. These limits include large safety margins and are based on thorough evaluations by federal agencies such as the FCC, EPA, and FDA.
 - Radio Frequency (RF) energy used by wireless networks is non-ionizing, meaning it does not have enough energy to break chemical bonds or remove electrons.
 - Public safety and transparency remain a priority throughout this process. All required standards will be met, and full compliance with federal regulations will be maintained.
- Will the tower affect property values?
 - Studies over the past 20 years have examined the effect of telecommunication towers on property values. These studies, including market analyses conducted by certified appraisers, have found no evidence that the presence of cellular antenna towers negatively affects property values, especially when located in rural areas.
- Will the tower be lit?
 - No lighting is planned for this tower, minimizing visual impact.
- Can other providers use this tower?
 - Yes. The tower is designed to support additional wireless providers in the future.

Contact Information

If you have any questions or concerns, please contact Sarah Telschow, the representative for Verizon Wireless and Harmoni Towers, using the contact information below.

Sarah Telschow - Agent for Verizon Wireless and Harmoni Towers
 5200 SW Meadows Road, Suite 150
 Lake Oswego, OR 97035
 Phone: (206) 979-6268
 E-mail – stelschow@acomconsultinginc.com

**Thank you for taking the time to learn more about the project!
 Your participation is valued.**



TIM BRADLEY IMAGING

PHOTO SIM LOCATIONS

verizon

DITCH RIDER
3450 SW WILLIAMS RD, POWELL BUTTE, OR



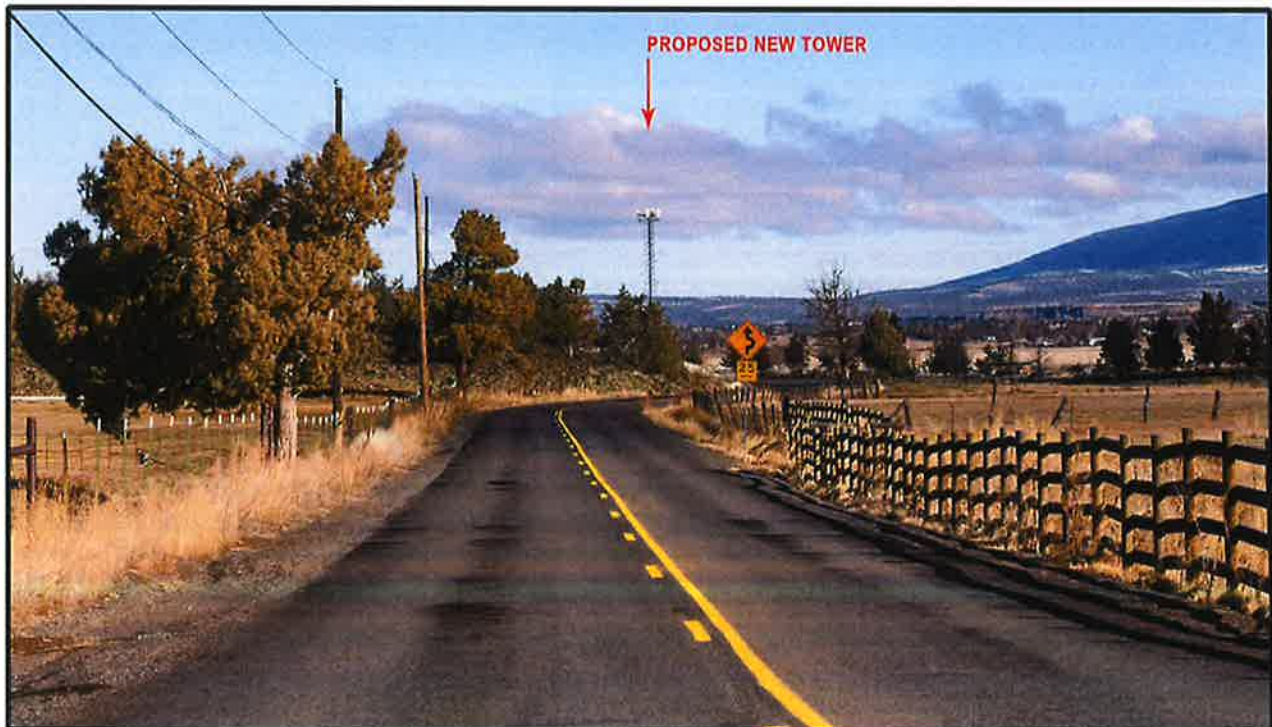
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #1
LOOKING NORTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



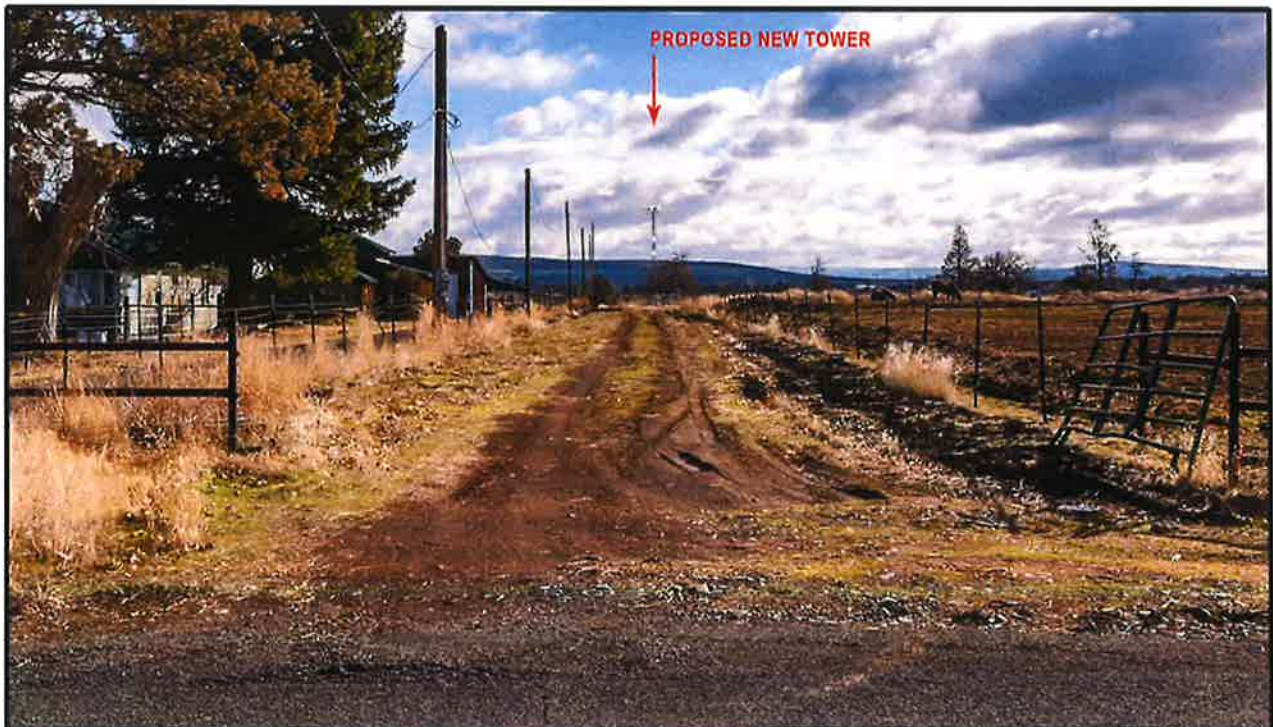
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #2
LOOKING EAST ON SW REIF RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #3
LOOKING SOUTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

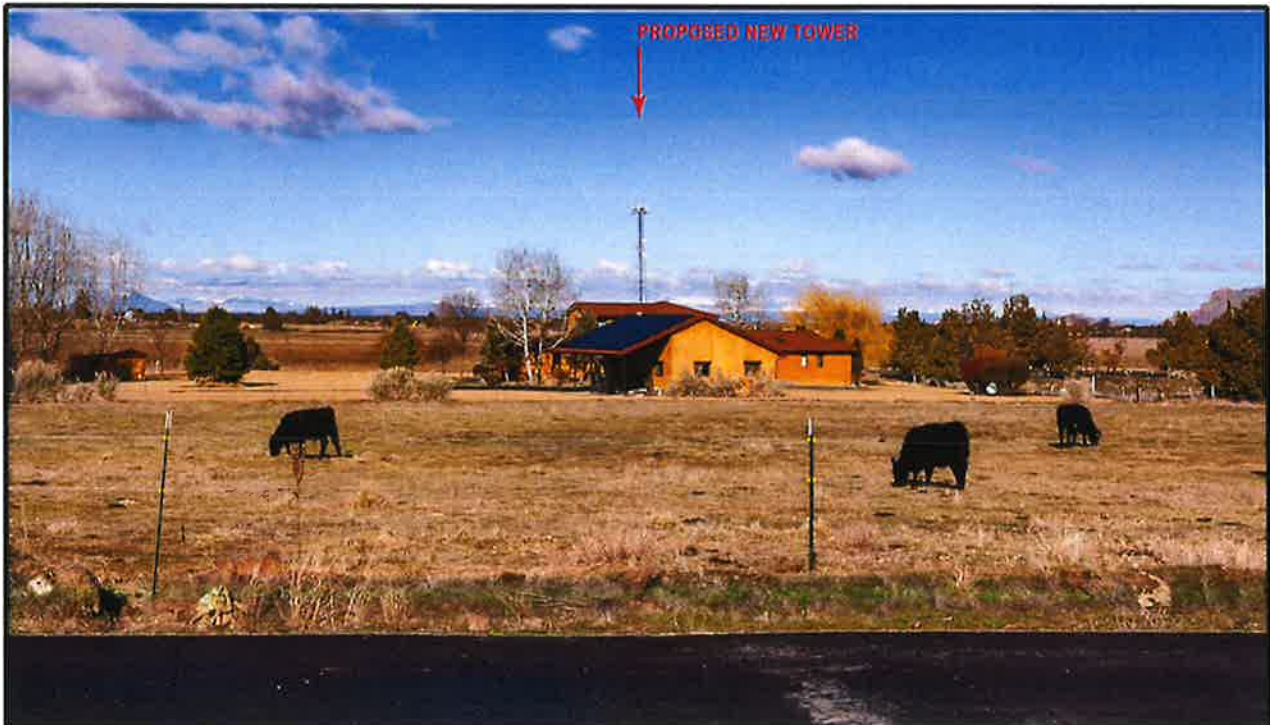
3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #4

LOOKING NORTHWEST FROM 3694 SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



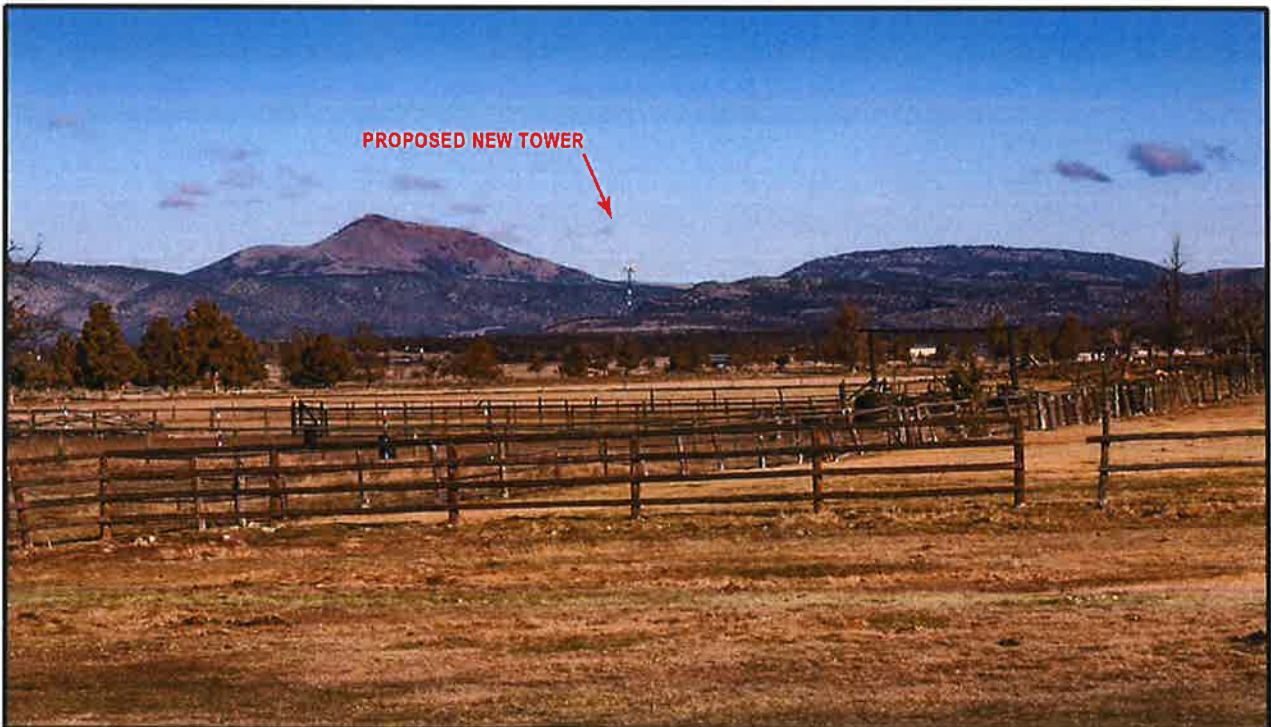
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #5
LOOKING NORTHWEST DIXON RD.



PROPOSED

TIM BRADLEY IMAGING



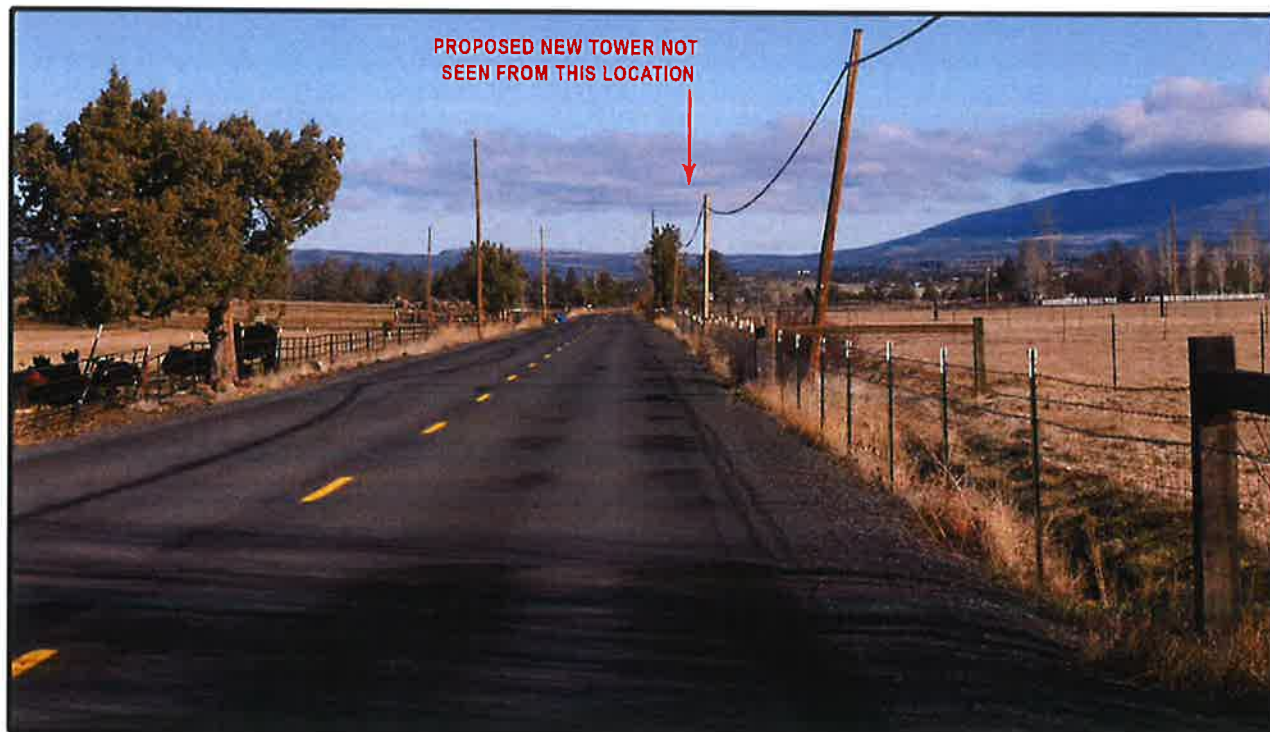
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #6
LOOKING NORTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #7

LOOKING NORTHEAST ON SW REIF RD. & HACKER RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #8
LOOKING SOUTH ON HUSTON LAKE RD.



PROPOSED

TIM BRADLEY IMAGING

NOTE:
ALL EXISTING CONDITIONS REFLECTED IN DRAWINGS ARE DERIVED FROM SURVEY BY CHINOOK SURVEYS, DATED 01/30/25. PREVIOUS AS-BUILT DRAWINGS AERIAL IMAGES, PHOTOS AND FIELD VERIFIED DATA.

PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	01/30/25	JL	80% PZD REVIEW
B	03/19/25	RM	CLIENT COMMENTS

CLIENT:



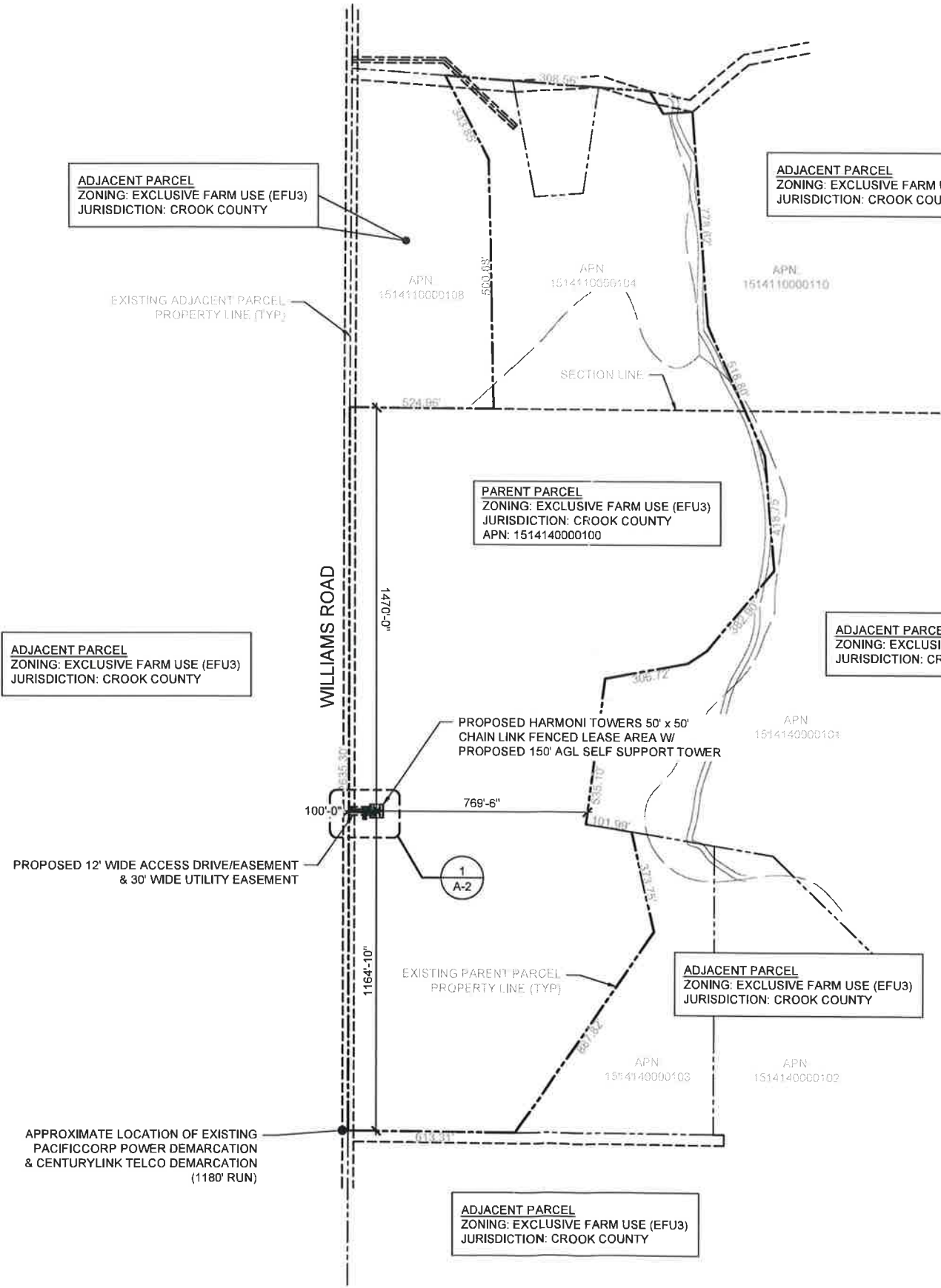
A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:



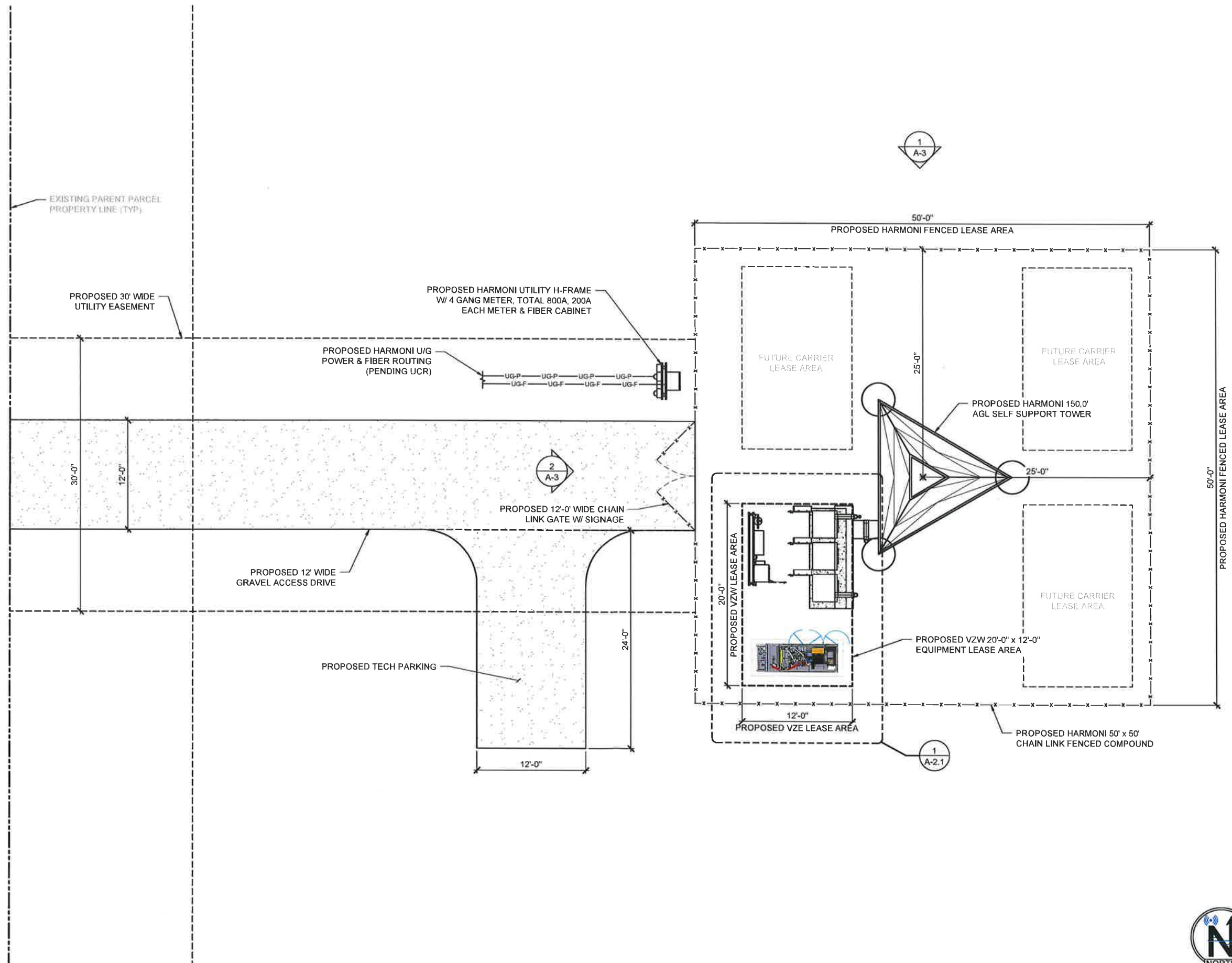
**OR0005306
DITCH RIDER**
3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

**PROPOSED
OVERALL
SITE PLAN**

A-1



22"x34" SCALE: 1" = 250'-0"
11"x17" SCALE: 1" = 500'-0"



PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	01/30/25	JL	80% P2D REVIEW
B	03/19/25	RM	CLIENT COMMENTS

CLIENT:

A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:

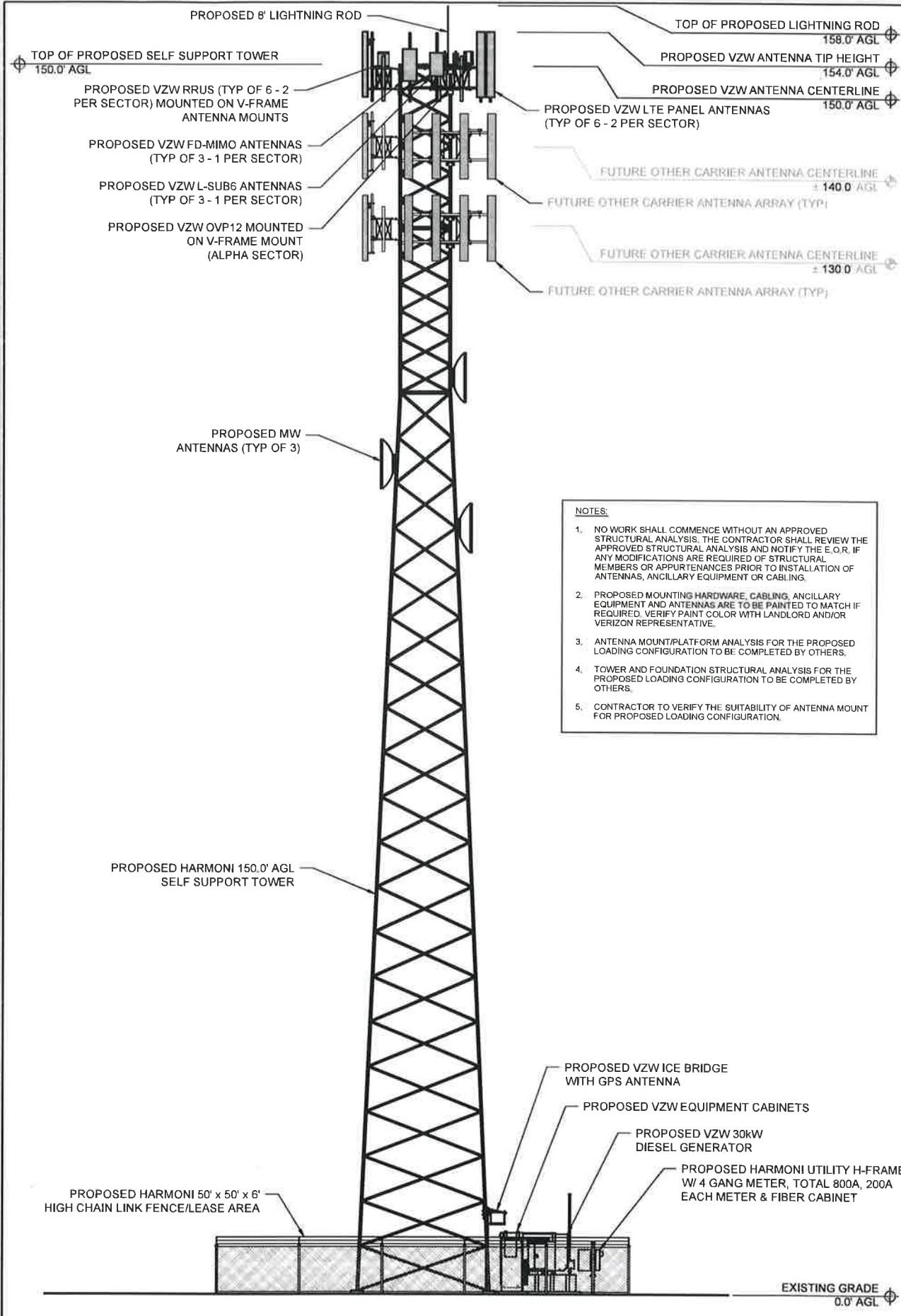
**OR0005306
DITCH RIDER**
3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

**PROPOSED
ENLARGED
SITE PLAN**

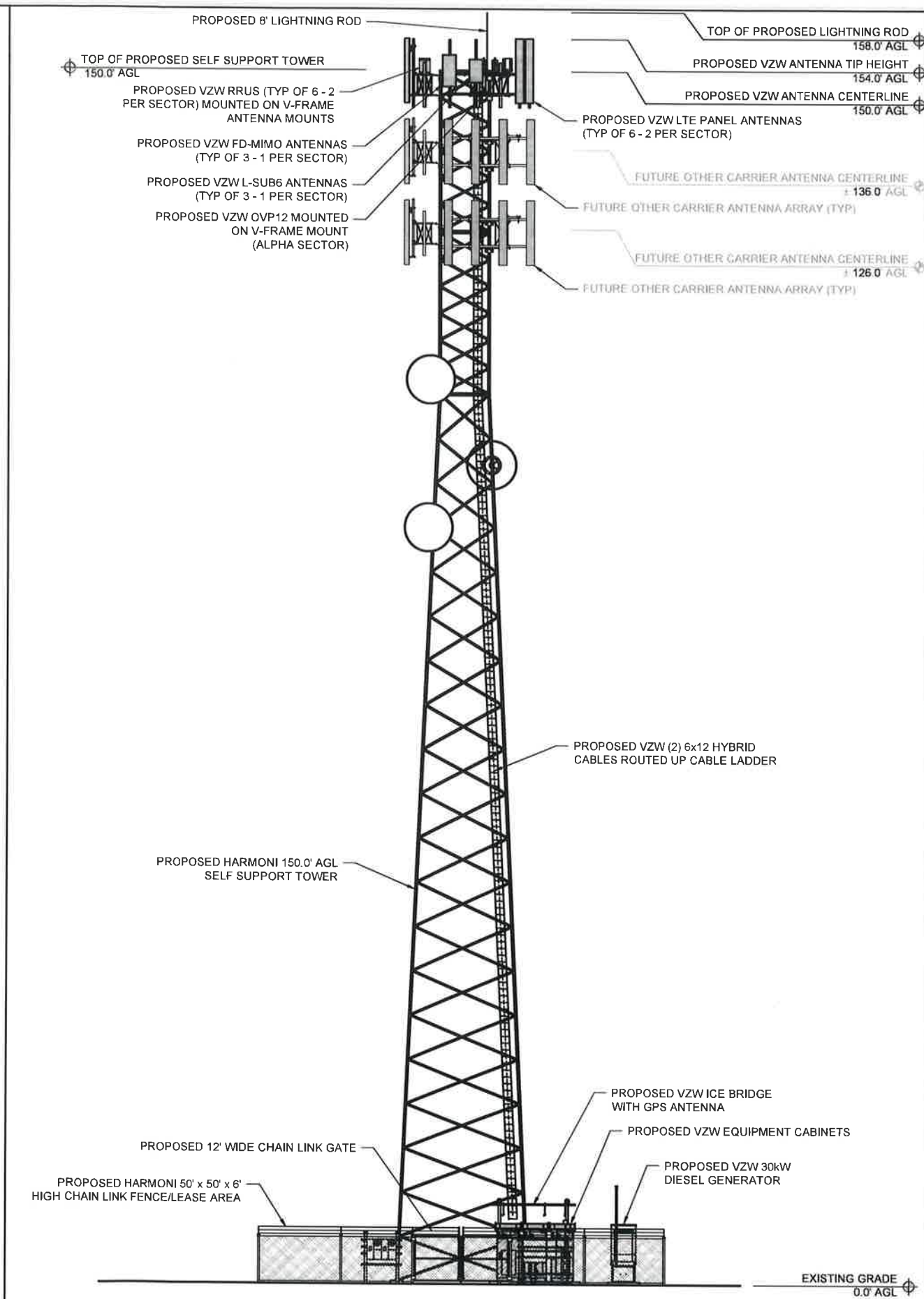
A-2

22"x34" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"





- NOTES:
1. NO WORK SHALL COMMENCE WITHOUT AN APPROVED STRUCTURAL ANALYSIS. THE CONTRACTOR SHALL REVIEW THE APPROVED STRUCTURAL ANALYSIS AND NOTIFY THE E.O.R. IF ANY MODIFICATIONS ARE REQUIRED OF STRUCTURAL MEMBERS OR APPURTENANCES PRIOR TO INSTALLATION OF ANTENNAS, ANCILLARY EQUIPMENT OR CABLING.
 2. PROPOSED MOUNTING HARDWARE, CABLING, ANCILLARY EQUIPMENT AND ANTENNAS ARE TO BE PAINTED TO MATCH IF REQUIRED. VERIFY PAINT COLOR WITH LANDLORD AND/OR VERIZON REPRESENTATIVE.
 3. ANTENNA MOUNT/PLATFORM ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
 4. TOWER AND FOUNDATION STRUCTURAL ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
 5. CONTRACTOR TO VERIFY THE SUITABILITY OF ANTENNA MOUNT FOR PROPOSED LOADING CONFIGURATION.



PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	01/30/25	JL	90% P2D REVIEW
B	03/19/25	RM	CLIENT COMMENTS

CLIENT:

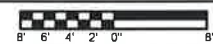
AAE CONSULTANT, SITE ACQUISITION AND PERMITTING:

OR0005306
DITCH RIDER
3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

ELEVATIONS

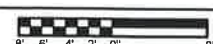
A-3

22"x34" SCALE: 1/8" = 1'-0"
11"x17" SCALE: 1/16" = 1'-0"



PROPOSED NORTH ELEVATION 1

22"x34" SCALE: 1/8" = 1'-0"
11"x17" SCALE: 1/16" = 1'-0"



PROPOSED WEST ELEVATION 2

Radio Frequency Radiation and Cell Phones

Radiation is energy that comes from a source and travels through space. For example, an electric heater operates by heating metal wires and the wires radiate that energy as heat (infrared radiation).

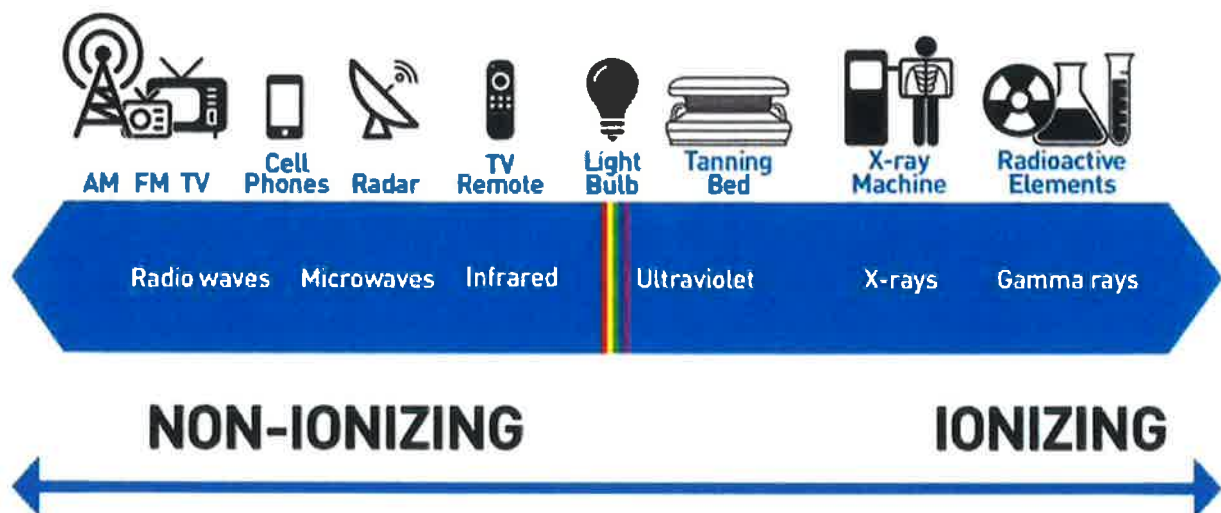
Radio frequency radiation is a type of **electromagnetic radiation**, which is a combination of electric and magnetic fields that move through space together as waves. Electromagnetic radiation falls into two categories:

Electromagnetic Radiation	Examples	Sources Include:
Non-ionizing radiation: Routine exposure to non-ionizing radiation is generally perceived as harmless to humans	- Radio frequency (RF) - Microwaves (MW) - Infrared light - Visible light - Some Ultraviolet Light (UV)	Light bulbs, computers, Wi-Fi routers, portable phones, cell phones, Bluetooth devices, FM radio, GPS, and broadcast television
Ionizing radiation: High energy radiation with the potential for direct cellular and DNA damage	- Some Ultraviolet Light (UV) - X-rays - Gamma rays	X-ray machines, radioactive material, nuclear fission, nuclear fusion, and particle accelerators

Generally, when people hear the word **radiation**, they're thinking of **ionizing radiation**, like X-rays and gamma rays. Ionizing radiation carries enough energy to break chemical bonds, knock electrons out of atoms, and cause direct damage to cells in organic matter. In fact, ionizing radiation carries **more than a billion times more energy** than does non-ionizing radiation. A little ionizing radiation can be used to produce x-ray images for diagnosis. A lot of ionizing radiation is needed to kill cancer cells in radiation therapy.

By contrast, non-ionizing radiation does not have enough energy to break chemical bonds or strip electrons from atoms. Scientific consensus shows that non-ionizing radiation is not a carcinogen and, at or below the radio frequency exposure limits set by the FCC, non-ionizing radiation has not been shown to cause any harm to people.

Electromagnetic Spectrum



Cell phones emit low levels of non-ionizing radiation while in use. The type of radiation emitted by cell phones is also referred to as radio frequency (RF) energy. As stated by the National Cancer Institute (<https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/cell-phones-fact-sheet>), "there is currently no consistent evidence that non-ionizing radiation increases cancer risk in humans. The only consistently recognized biological effect of radiofrequency radiation in humans is heating."

For a more detailed description of radio frequency radiation, see *Microwaves, Radio Waves, and Other Types of Radiofrequency Radiation* (<https://www.cancer.org/cancer/cancer-causes/radiation-exposure/radiofrequency-radiation.html>) [↗](http://www.fda.gov/about-fda/website-policies/website-disclaimer) (<http://www.fda.gov/about-fda/website-policies/website-disclaimer>) from the American Cancer Society.

For more information about the electromagnetic spectrum, see NASA's *Tour of the Electromagnetic Spectrum* (<https://science.nasa.gov/ems>).

For more information about radio frequency safety, see the FCC's *RF Safety FAQ* (<https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety>).

Proposed site of 5G 158-foot telecommunications facility in Crook County Powell Butte, Oregon

KJ WERTH <kjwerth@msn.com>

Thu, May 1, 2025 at 12:12 PM

To: "stelschow@acomconsultinginc.com" <stelschow@acomconsultinginc.com>

ATTN: Sarah Telschow

Dear Sarah,

This is in response to your information regarding the installation of the above telecommunications facility providing wireless internet service to the north end of Powell Butte. By way of introduction, we are Ken and Jan Werth and our property adjoins the proposed facility site. My husband moved to the area at the age of 10 in 1949, attended Powell Butte School and Redmond High School and in the process helped his father Fred farm. Fred died with ALS when Ken was 19. He graduated from Oregon State University in 1959 with a degree in agriculture. Over the years he has been a steward of the land acquiring property in 1966 for the home place and parcels at the south end of Powell Butte. We were in partnership with Jim and Carol Wampler who both passed away in 2012. I married Ken in 1976 and have lived in the area for over 45 years. In 2019 Ken and I achieved Idaho residency and moved to Boise permanently to be with both our son Randy Werth and daughter Tish Davis for health reasons and a gradual need for help.

With respect to the current proposed site I can't in all good conscience support your project. And I am aware of the lack of wireless service at the north end of Powell Butte since we had friends living in that area. As for its current proposed site, it affects the surrounding property owners and potentially devalues their eventual sales, would spoil a clean view of the area, and in general destroys the bucolic nature of an active farming community. The reservoir south of the proposed site is also used for religious services during the year, the most recent being the Easter Sunrise Service.

And, in complete disclosure, although we are nonresidents of the area, we still own 126 acres of land, which is our inheritance to our children. One parcel is farmed by our neighbor and the largest parcel is irrigated by and provides grazing for another neighbor's cattle.

Given the vacant land to the north and east surrounding the Powell Butte area it would seem that such a tower could be sited in a more propitious location to service the northern half of Powell Butte thus preserving the overall area as it now exists and yet serving those without service.

As to the design I leave that to your expertise. In the Boise area there are cell towers which have faux branches attached to them resembling tall fir or pine trees, though not nearly 158 feet tall, and thus blend into the overall landscape. Unfortunately, juniper trees are short by comparison!

Thank you for your consideration of our input to your project, Sarah.

Sincerely,
Jan Werth

Our contact information is as follows:

Ken and Jan Werth
4021 S Baja Way, Boise ID 83709
kjwerth@msn.com



Sarah Telschow <stelschow@acomconsultinginc.com>

Proposed site of 5G 158-foot telecommunications facility in Crook County Powell Butte, Oregon

Sarah Telschow <stelschow@acomconsultinginc.com>
To: KJ WERTH <kjwerth@msn.com>

Thu, May 1, 2025 at 3:00 PM

Dear Mr. and Mrs. Werth:

Thank you for your email and for sharing your long and meaningful history with Powell Butte. It's clear how deeply you care for the land and community.

Harmoni Towers and Verizon Wireless understand that any new infrastructure, particularly something as visible as a telecommunications facility, can raise concerns about visual impacts and the rural character of the area.

Harmoni Towers and Verizon Wireless are mindful of the need to balance these important values with the real need for improved service. As you noted, reliable wireless service is much needed on the north end of Powell Butte. The proposed location was selected to provide adequate coverage for underserved areas. That said, the project is still in the process of gathering community input, and your feedback is appreciated.

In terms of design, there are options available to help minimize visual impacts. Please review the attached examples (monopine, painted monopole, and unpainted monopole) and let me know if any of these alternatives seem like a better fit for the setting.

Thank you again for sharing your thoughtful concerns. Please feel free to reach out with any additional questions or suggestions regarding design alternatives.

Respectfully,

Sarah Telschow, AICP
Acom Consulting Inc.

(206) 979-6268 | stelschow@acomconsultinginc.com
5200 SW Meadows Road, Suite 150, Lake Oswego, OR 97035

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 **Design Alternatives.pdf**
753K



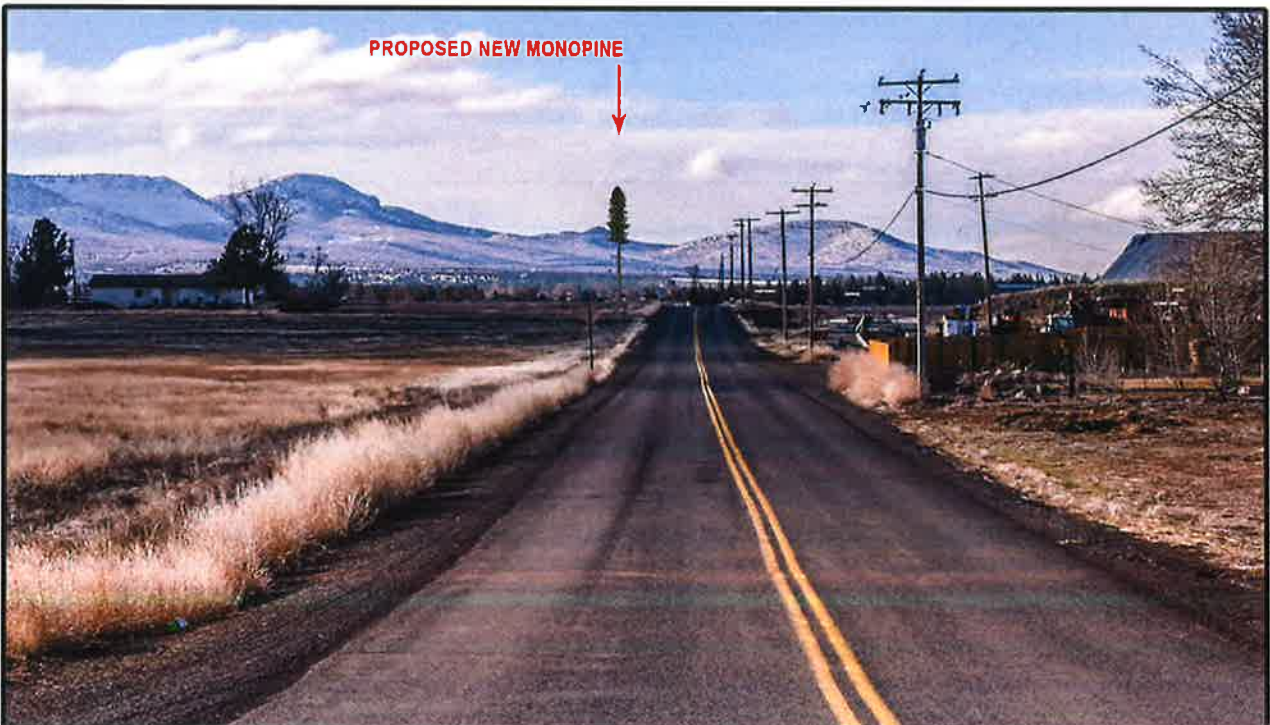
DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #3
LOOKING SOUTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #3
LOOKING SOUTH ON SW WILLIAMS RD.



PROPOSED

TIM BRADLEY IMAGING



DITCH RIDER

3450 SW WILLIAMS RD, POWELL BUTTE, OR



CURRENT

VIEW #3
LOOKING SOUTH ON SW WILLIAMS RD.



PROPOSED



Sarah Telschow <stelschow@acomconsultinginc.com>

Powell Butte Cell Tower

David Zalunardo <davezalunardo@gmail.com>
To: stelschow@acomconsultinginc.com

Fri, May 9, 2025 at 2:47 PM

Hello Sarah,

I am writing you to pass on some additional information that you may want to pass on to Verizon concerning the proposed cell tower on Williams Rd.

Several of us have formed a group to oppose the proposed siting of this tower on Tom Alexander's property.

The proposed location is aesthetically one of the very worst locations the could have been picked. This hideously ugly project will ruin the quality of life for many, many local residents. I have spoken to some adjacent landowners who have stated they told Verizon they would host this tower in spots that would be MUCH less damaging to our vistas. After the initial contact they never heard back from Verizon. That map of search areas was not provided at last Sunday's meeting.

Then there is the matter of property devaluation, which contrary to your handout last Sunday that said there is no effect of a project like this on land value, puts the figure between eight and twenty percent devaluation. This will result in millions of dollars impact to Tom's neighbors.

Anyway to point of this correspondence is to put Verizon on notice that we have been in touch with Central Oregon Landwatch and we have retained the services of a land use attorney. It would be far easier for Verizon to propose one of their alternate sites than to be wrapped up in litigation and restraining orders for as long as we possibly can do so.

Sincerely,
David Zalunardo
3690 SW Williams Rd
Powell Butte, OR 97753
davezalunardo@gmail.com



Sarah Telschow <stelschow@acomconsultinginc.com>

Powell Butte Cell Tower

Sarah Telschow <stelschow@acomconsultinginc.com>
To: David Zalunardo <davezalunardo@gmail.com>

Mon, Jun 2, 2025 at 4:34 PM

David:

Thank you for your message and for taking the time to share your concerns regarding the proposed Verizon Wireless facility on Williams Road.

I sincerely apologize for the delay in responding. Your email was unfortunately filtered into my spam folder, and I only just became aware of it.

Thank you again for reaching out.

Respectfully,

Sarah Telschow, AICP

Acom Consulting Inc.

(206) 979-6268 | stelschow@acomconsultinginc.com
5200 SW Meadows Road, Suite 150, Lake Oswego, OR 97035

[Quoted text hidden]



Sarah Telschow <stelschow@acomconsultinginc.com>

New tower

Steve Oberg <gr8cr8@gmail.com>

Tue, Jun 17, 2025 at 7:19 AM

To: stelschow@acomconsultinginc.com, atkjuniper@gmail.com, Mark & Ann Malott <markandann@malott4m.com>, Bev Oberg <bevoberg@gmail.com>

I join my neighbors in resisting the location you are considering for a new cell tower in Powell Butte. The location is entirely inappropriate and will be prevented.

Steve and Bev Oberg
Powell Butte Bison Ranch
P.O. Box 204
Powell Butte, OR 97753
541.233.3221
gr8cr8@gmail.com
<http://facebook.com/powellbuttebisonranch>



Sarah Telschow <stelschow@acomconsultinginc.com>

New tower

Sarah Telschow <stelschow@acomconsultinginc.com>

Tue, Jun 17, 2025 at 9:32 AM

To: Steve Oberg <gr8cr8@gmail.com>

Cc: atkjuniper@gmail.com, Mark & Ann Malott <markandann@malott4m.com>, Bev Oberg <bevoberg@gmail.com>

Steve and Bev:

Thank you for the email and for sharing your concerns.

Respectfully,

Sarah Telschow, AICP

Acom Consulting Inc.

(206) 979-6268 | stelschow@acomconsultinginc.com

5200 SW Meadows Road, Suite 150, Lake Oswego, OR 97035

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Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☐ Yes, Supportive

☒ No, Not Supportive

☐ Unsure

Please provide comments:

Powell Butte is characterized as a farming, ranching community with pastoral settings. Construction of a cell tower of this magnitude will be a blight on the otherwise scenic landscape

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☒ No

☐ Unsure

Please provide comments:

Again, the height of this tower, along with aircraft warning lights is not appropriate for our rural community.

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

Please do not construct this tower. Our long range vistas are important to the quality of our landscape.

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name -

Address -

E-mail -

Mark Motsko. 6905 SW Joshua Court, Powell Butte, OPR 97753. mtmotsko106@gmail.com

Your input is greatly appreciated. Thank you!

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☒ Yes, Supportive

☐ No, Not Supportive

☐ Unsure

Please provide comments:

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☐ No

☐ Unsure

Please provide comments:

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name - Brad Campbell
Address - 3698 SW Reif Rd Power Butte OR
E-mail - bradcampbell76@yahoo.com

Your input is greatly appreciated. Thank you!

SURVEY AND COMMENT FORM

Note: My daughter drew all over the original form, so I am filling out a new one here, I hope that's ok.

1) Would you be supportive of a tower as depicted and described? Please mark (1) box below.

☐ Yes, Supportive ☒ No, Not Supportive ☐ Unsure

Please provide comments: The tower itself, its design and its location are all major issues for this community. This tower isn't even trying to be camouflaged or blend in at all with its surroundings like so many other towers are these days. A simple metal structure will stand out like a sore thumb in treeless hay fields. This will in turn obviously have a negative effect on our beautiful farming community, its livability and surrounding property values.

Our family has always had Verizon, as have many of our neighbors, and no one can think of a single time we've complained about our coverage or service out here, so there is a question of the actual need of this tower at a local level.

The location also is confusing. It's one of the lowest elevations in Powell Butte. My understanding is that it is almost always preferable to have these towers at a high point, to maximize effectiveness. You would be hard pressed to find a lower elevation build site in Powell Butte over the spot that has been chosen.

2) Do you like proposed design? If not, what are your concerns?

☐ Yes ☒ No ☐ Unsure

Please provide comments: As mentioned above, there is not even an attempt to blend into its surroundings. The location itself makes it difficult again because there are no trees or any other tall structures anywhere around. 158' tall simple steel structure is such an out of place eye sore in the location you have chosen.

In addition, although it does not appear on the diagram of the proposed structure, I would assume there will be the usual flashing light on top of this structure as there are with most of the cell towers in the area. A bright white flash going all day and a bright red going all

night. Our beautiful, dark night skies are important here and this will certainly negatively affect that, not to mention our property is a gain of roughly 40 feet in elevation from the tower. So, looking out from our property toward the eastern sky will forever have a flashing light in its view.

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation.

Please provide comments: Folks that actually live in this community don't seem to be complaining about their Verizon service. This has been the topic of conversation the last few days since this mailer got sent out and everyone is trying to figure out who is complaining. If it's not locals, then it would be the folks traveling on highway 126 I guess? And ruining our local community's aesthetics, view and property values for the commuters on the highway 2 miles away seems unreasonable.

In general this whole project seems to be trying to solve a problem that doesn't exist for the people that live here, and trying to do so in the most inefficient, destructive way possible.

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name: Dan Larkin

Address: 3424 SW Reif Rd, Powell Butte, Oregon 97753

E-mail: dlarkin@bluesagecfo.com

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☐ Yes, Supportive

☒ No, Not Supportive

☐ Unsure

Please provide comments: I am the closest home to this proposed tower. This tower will become the dominant view to the west of my picture windows and patio. I am also very concerned about the health effects of the radiation put off by the tower as I am only 1200 feet from the proposed location.

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☒ No

☐ Unsure

Please provide comments: These towers are ugly! The proposed 158' tower and associated roads and support buildings will destroy my views of the Cascade Mountains and greatly affect the value of my property.

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments: First, I don't understand the proposed location. It's on flat ground and doesn't seem like the best site. Secondly, it will completely destroy the beautiful property I have built for my enjoyment. Be aware I will fight this with ALL of my ability including legal action for your "taking" of my property.

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name - David Zalunardo
Address - 3690 SW William Rd., Powell Butte
E-mail - dave.zalunardo@gmail.com

Your input is greatly appreciated. Thank you!

P.S. , I love your photos of the tower taken from some distance away, why don't you shoot those same photos from my living room 1200' away?

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☐ Yes, Supportive

☒ No, Not Supportive

☐ Unsure

Please provide comments: The proposed tower will damage property values, violate EFU zoning, and negatively impact wildlife in the area.

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☒ No

☐ Unsure

Please provide comments: The proposed design is ugly and will detract from the beauty of Powell Butte.

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name - Fred and Tess Walker

Address - 3694 SW Williams Road, Powell Butte, OR 97753

E-mail - walker.fred@outlook.com and walker.tess@outlook.com

Your input is greatly appreciated. Thank you!

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☐ Yes, Supportive

☒ No, Not Supportive

☐ Unsure

Please provide comments:

We are not in favor of tower due to location. The tower would be obstructing our view, it could cause less value in our ranch.

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☒ No

☐ Unsure

Please provide comments:

same as above

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

We are also concerned about EMF's due to 5G. Having that tower near our ranch, our livestock, ourselves, is not healthy.

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name - GARY & RACHEL COX

Address - 12501 SW Fleming Rd Powell Butte, OR 97753

E-mail - coo/creekcrunch@hotmail.com

Your input is greatly appreciated. Thank you!

①

Rachel → Gene comments

(1) SUPPORTIVE — NO

see #1

2. Proposed Design: — NO
see #2

(COMMENTS:)

#1 I am not SUPPORTIVE, we do NOT WANT AN SUPER TALL STRUCTURE IN OUR NEIGHBORHOOD... WHY? BECAUSE WE ALL HAVE A BEAUTIFUL VIEW OF THE CASCADES, AND A TALL TOWER WOULD INTERFERE WITH OUR VIEW.. AND THE VIEW ADDS VALUE TO OUR PROPERTY...

(AND NOT THE VIEW OF A 158 FT. TALL TOWER)

YOU HAVE SENT COPIES OF THIS REPORT TO PROPERTY OWNERS WITHIN 2,000 FEET OF THE PROPOSED TOWER.

(2.)

In reality, It will be seen by property owners from Miles away, and not just 2,000 feet...

And the design: A Tower is A Tower - no matter what you call it, at 150 ft. in height.

I suggest you find another location for the Tower, where it does not interfere with our ruins, and upsets the Land-owners.

And keep it away, from being next to well traveled roads...

The idea to improve Cellular Coverage in Powell Butte is all right -

However, ~~it~~ to put a Tower in a community where its not wanted, should be enough of a concern, that the tower should be placed elsewhere.

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☐ Yes, Supportive

☒ No, Not Supportive

☐ Unsure

Please provide comments:

Keep farm land

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☒ No

☐ Unsure

Please provide comments:

Keep farm land + views

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

Keep farm land + views. Also, since Tom's family has taken more active role in properties there has been zero up keep or participation - they destroyed our driveway w/ irrigation run off and did nothing to fix!

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name - Heidi Wood

Address - 13275 SW Ayres Lane - Powell Butte 97753

E-mail - Crowellhh@hotmail.com

Your input is greatly appreciated. Thank you!

Mail to: Acom Consulting
5200 S.W. meadows Rd.
Lake Oswego, OR. Suite 150
97035

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☐ Yes, Supportive

☒ No, Not Supportive

☐ Unsure

Please provide comments:

see #1

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☒ No

☐ Unsure

Please provide comments:

see #2

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name -
Address -
E-mail -

Leslie Cox
12501 SW Fleming Rd.
Powell Butte, OR 97753

Cell = 707-513-3569

Your input is greatly appreciated. Thank you!

①
Rachel → Gene comments

(1) SUPPORTIVE — NO
see #1

- 2. PROPOSED Design: — NO
see #2

(COMMENTS:)

#1 I am not SUPPORTIVE, we do NOT WANT AN SUPER TALL STRUCTURE IN OUR NEIGHBORHOOD... WHY? BECAUSE WE ALL HAVE A BEAUTIFUL VIEW OF THE CASCADES, AND A TALL TOWER WOULD INTERFERE WITH OUR VIEW.. AND THE VIEW ADDS VALUE TO OUR PROPERTY...

(AND NOT THE VIEW OF A 158 FT. TALL TOWER)

- YOU HAVE SENT COPIES OF THIS REPORT TO PROPERTY OWNERS WITHIN 2,000 FEET OF THE PROPOSED TOWER.

(2.)

In reality, It will be seen by property owners from Miles away, and not just 2,000 feet...

And the design: A Tower is A Tower - no matter what you call it, at 150 ft. in height.

I suggest you find another location for the Tower, where it does not interfere with our views, and upsets the Land-owners.

And keep it away, from being next to well traveled roads...

The idea to improve Cellular Coverage in Powell Butte is all right -

However, ~~it~~ to put a Tower in a community where its not wanted, should be enough of a concern, that the tower should be placed elsewhere.

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☒ Yes, Supportive

☐ No, Not Supportive

☐ Unsure

Please provide comments:

We need the service - tired of poor reception

- 2) Do you like the proposed design? If not, what are your concerns?

☒ Yes

☐ No

☐ Unsure

Please provide comments:

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name - LINDA J. ALEXANDER
Address - 5136 SW Reef Rd
E-mail - linda.j.d202@outlook.com

Your input is greatly appreciated. Thank you!

Survey and Comment Form

A self-addressed stamped envelope has been provided. Please mail the completed survey and comment form back as soon as possible. Please note that responses are anonymous unless contact information is provided.

- 1) Would you be supportive of a tower as depicted and described? Please mark one (1) box below.

☐ Yes, Supportive

☒ No, Not Supportive

☐ Unsure

Please provide comments:

150 feet blocking the views of the cascades from my property - this is an eye sore!

- 2) Do you like the proposed design? If not, what are your concerns?

☐ Yes

☒ No

☐ Unsure

Please provide comments:

These huge towers are ugly

- 3) Please outline any questions and/or concerns that you have about the proposed Verizon Wireless installation:

Please provide comments:

Concern - blocking my view of the cascade mountains, lowering my property values

- 4) Please provide contact information. (Please note that responses to the survey are anonymous unless contact information is provided.)

Name - Tim McDaniel

Address - 12855 S.W. Ayres Lane, Powell Butte, OR 97753

E-mail - mcdaniel5198@hotmail.com

Your input is greatly appreciated. Thank you!

ALL EXISTING CONDITIONS REFLECTED IN DRAWINGS ARE DERIVED FROM SURVEY BY CHINOOK SURVEYS, DATED 01/30/25, PREVIOUS AS-BUILT DRAWINGS AERIAL IMAGES, PHOTOS AND FIELD VERIFIED DATA.

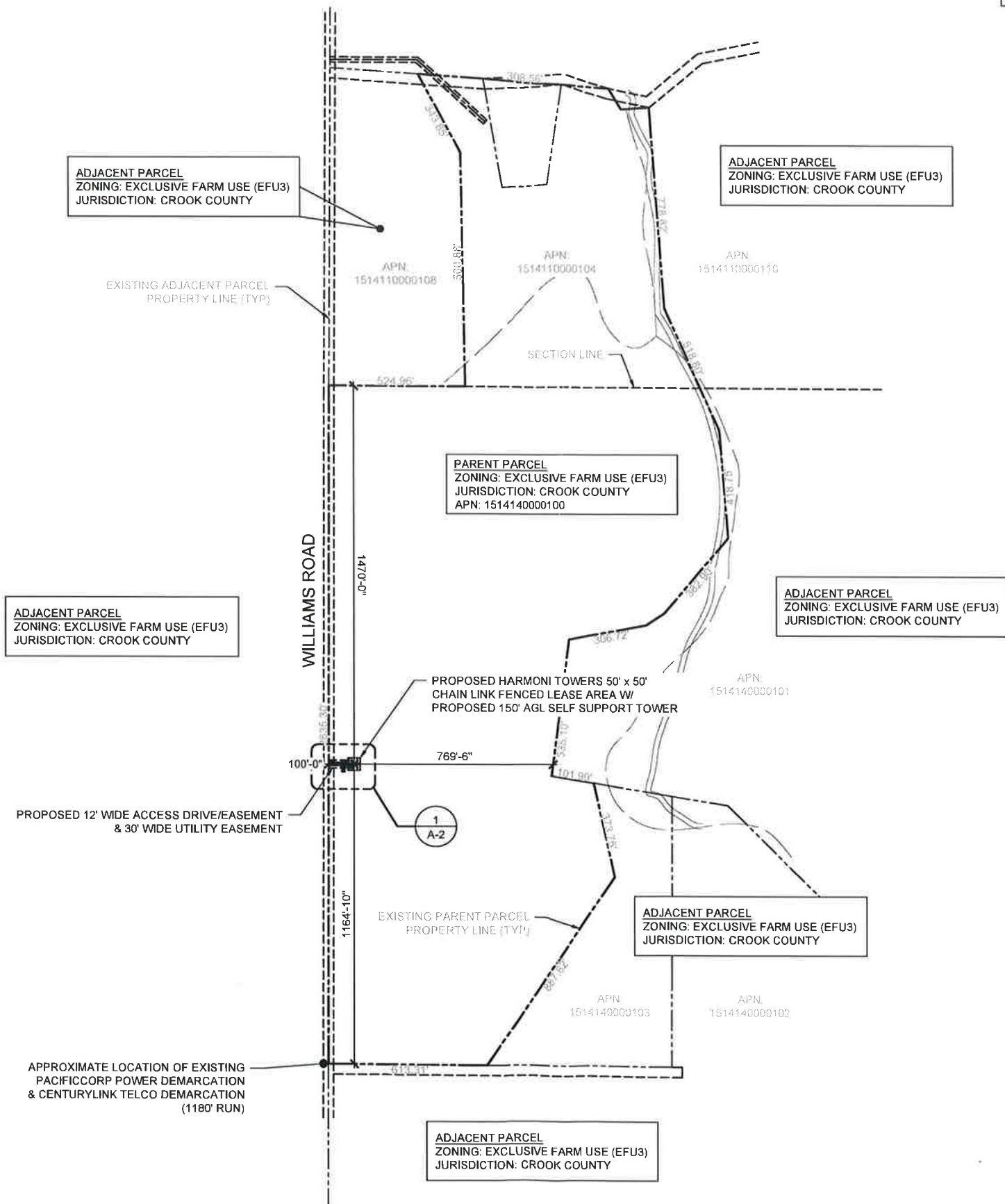
NO	DATE	DRAWN	REVISION
A	01/30/25	JL	90% PZD REVIEW
B	03/19/25	RM	CLIENT COMMENTS



3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

22"x34" SCALE: 1" = 250'-0"
11"x17" SCALE: 1" = 500'-0"

PROPOSED OVERALL SITE PLAN 1



PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

Q.	DATE	DRAWN	REVISION
A	01/30/25	JL	80% PZD REVIEW
B	03/19/25	RM	CLIENT COMMENTS

CLIENT



E&E CONSULTANT, SITE ACQUISITION AND PERMITTING:



HARMONI TOWERS

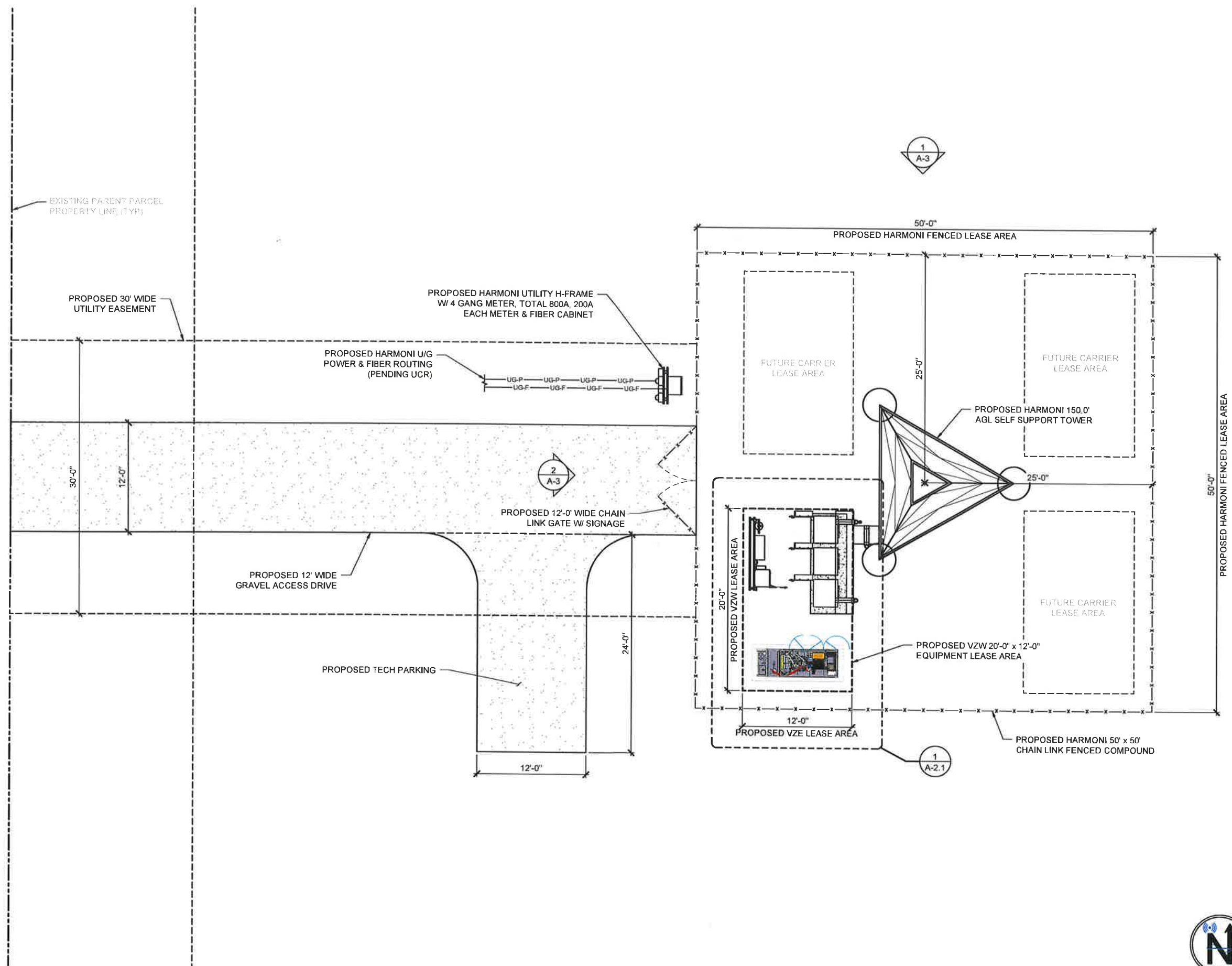


OR0005306
DITCH RIDER

3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

PROPOSED ENLARGED SITE PLAN

A-2

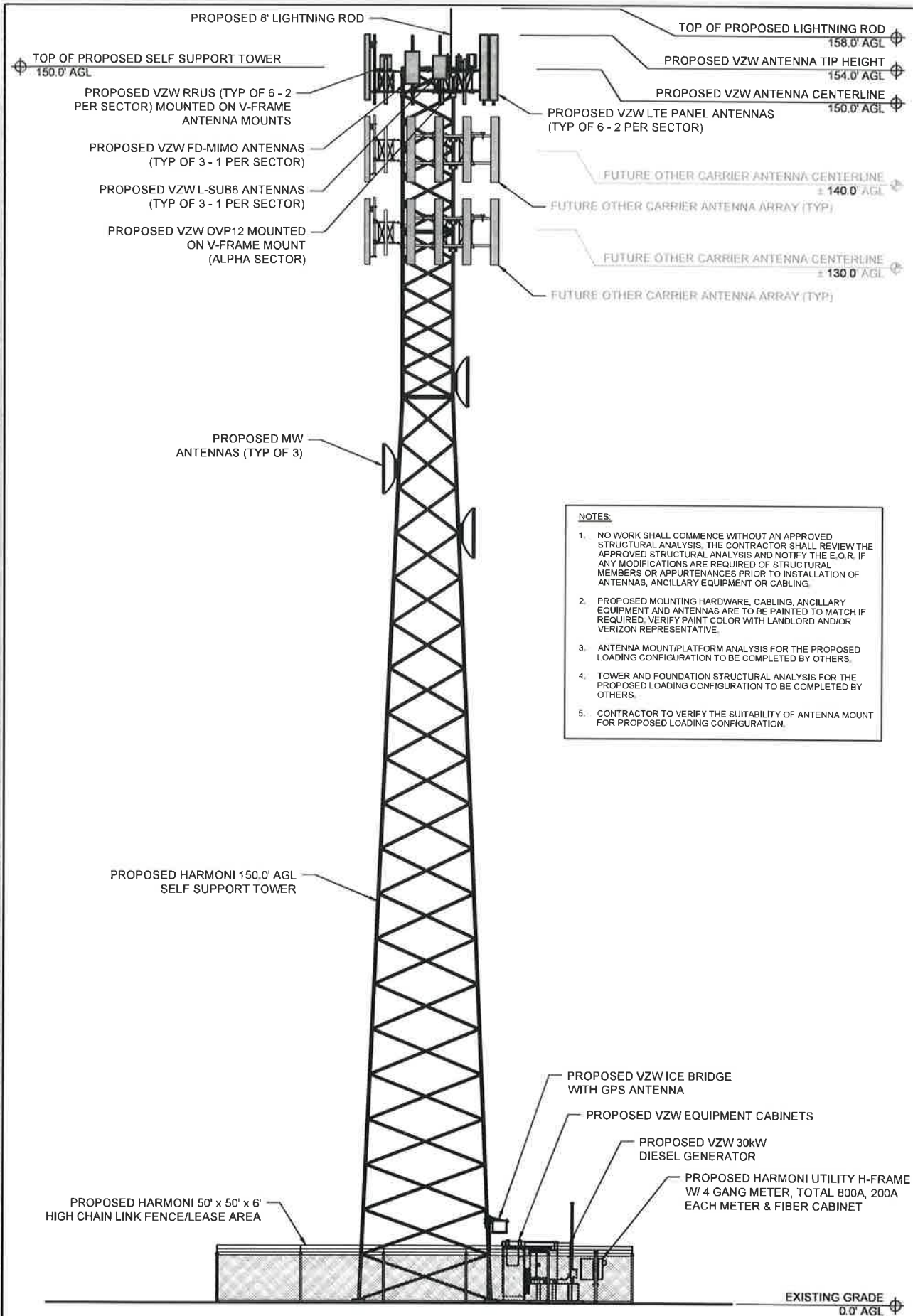


22"x34" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"

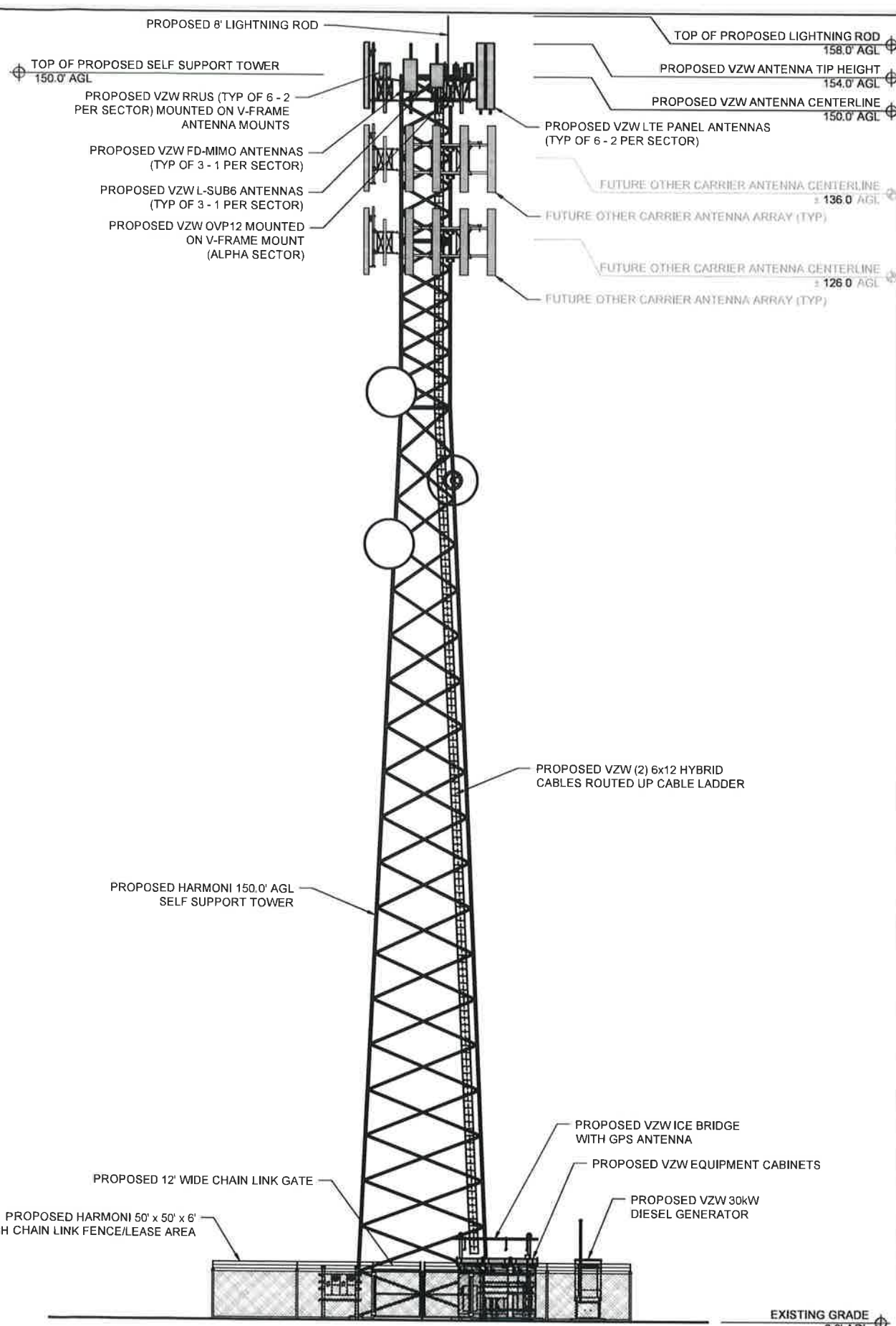


PROPOSED ENLARGED SITE PLAN | 1





- NOTES:
1. NO WORK SHALL COMMENCE WITHOUT AN APPROVED STRUCTURAL ANALYSIS. THE CONTRACTOR SHALL REVIEW THE APPROVED STRUCTURAL ANALYSIS AND NOTIFY THE E.O.R. IF ANY MODIFICATIONS ARE REQUIRED OF STRUCTURAL MEMBERS OR APPURTENANCES PRIOR TO INSTALLATION OF ANTENNAS, ANCILLARY EQUIPMENT OR CABLING.
 2. PROPOSED MOUNTING HARDWARE, CABLING, ANCILLARY EQUIPMENT AND ANTENNAS ARE TO BE PAINTED TO MATCH IF REQUIRED. VERIFY PAINT COLOR WITH LANDLORD AND/OR VERIZON REPRESENTATIVE.
 3. ANTENNA MOUNT/PLATFORM ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
 4. TOWER AND FOUNDATION STRUCTURAL ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
 5. CONTRACTOR TO VERIFY THE SUITABILITY OF ANTENNA MOUNT FOR PROPOSED LOADING CONFIGURATION.



PRELIMINARY DRAWINGS
NOT FOR CONSTRUCTION

NO	DATE	DRAWN	REVISION
A	01/30/25	JL	90% PZD REVIEW
B	03/19/25	RM	CLIENT COMMENTS



**OR0005306
DITCH RIDER**
3450 SW WILLIAMS ROAD
POWELL BUTTE, OR 97753

ELEVATIONS

A-3

22"x34" SCALE: 1/8" = 1'-0"
11"x17" SCALE: 1/16" = 1'-0"



PROPOSED NORTH ELEVATION 1

22"x34" SCALE: 1/8" = 1'-0"
11"x17" SCALE: 1/16" = 1'-0"



PROPOSED WEST ELEVATION 2