January 6, 2024

City of Tualatin
Community Development
10699 SW Herman Road
Tualatin, OR 97062

Re: AT&T modification of existing communication facility @ 8930 SW Norwood Rd
AT&T Site Name: PD33 Boones and Ibach
Parcel ID: R2154937

Project Description

New Cingular Wireless PCS, LLC (AT&T) proposes to modify an existing wireless communication facility at the above-mentioned address. To accommodate its antennas and meet its coverage objectives, AT&T proposes to install a 20ft extension on top of the existing monopole. The new overall height will be 130ft. With this extension, AT&T will install (9) panel antennas, (12) remote radio heads, and ancillary equipment on the monopole. Additionally, proposed ground equipment will be within an 10ft X 15ft lease area adjacent to the tower. Given the scope of the proposed modification, this project qualifies as an eligible facilities request covered by Section 6409 of the Spectrum Act (47 U.S.C. Sect. 1455(a)).

Applicable Law

Section 6409 of the Federal Middle Class Tax Relief and Job Creation Act ("Section 6409") was adopted in 2012. Under Section 6409, the City of Tualatin retains discretionary zoning review over the construction of certain new wireless facilities such as new towers, but collocations and/or equipment upgrades at existing telecommunications facilities must be approved. The law, now codified at 47 U.S.C. § 1455, provides that:

> [A] State or local government may not deny, and **shall approve**, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.

Since the law's passage, the Federal Communications Commission ("FCC") established regulations that clarify and streamline the municipal approval process for eligible facilities requests under Section 6409. These regulations clarify that municipal review of an eligible facilities request is limited to determining whether the request falls within Section 6409:

> [A] State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section [47

C.F.R. § 1.6100]. A State or local government may not require an applicant to submit any other documentation, including but not limited to documentation intended to illustrate the need for such wireless facilities or to justify the business decision to modify such wireless facilities.

AT&T's Application is an Eligible Facilities Request under Section 6409

AT&T's Application qualifies as an eligible facilities request under Section 6409 because the proposed installation involves "a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station."[1]

A WCF is "existing" if it has been "reviewed and approved under the applicable zoning or siting process"[2]. We can establish this Facility as existing given its permitting history:

- The original monopole was approved at 100ft by Washington County.
- In 2008, the City of Tualatin annexed the property. CUP-08-04 was approved by the City to make the "water reservoir" and "wireless communications facility" legally conforming uses. However, the height of 100ft remained legally non-conforming.
- In 2014, Verizon Wireless proposed to increase the height of the monopole to 110ft to accommodate its antennas. VAR-14-01 and AR-14-05 approved the height increase and established the facility and height as legally conforming within the City of Tualatin.

We can also establish that the proposed modification is not a "substantial change" as follows:

1. Height: Height increased by no more than 10 percent or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater. 47 C.F.R. §1.6100(b)(7)(i).

   AT&T proposes to install an extension on top of the existing 110ft monopole to meet its coverage objectives and provide service to the surrounding community. The bottom of AT&T's antennas are 122ft, and the tip height of the existing Verizon antennas are 110ft. This is a separation of 12ft, which is less than the 20 feet that would be considered a substantial change[3].

   The Spectrum Act was passed in 2012, but the FCC did not issue rules and clarifications on implementation until October 2014 – after this variance application was approved. Based on that 2014 FCC Order[4], we assert that the separation between antennas should be measured from the 110ft height approved under VAR-14-01 rather than the height of 100ft approved by Washington County when the site was first built. The variance from 2014 reflects a regulatory determination that the height of 110ft was

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[1] 47 C.F.R. §1.6100(b)(3)

[2] 47 C.F.R. §1.6100(b)(5)

[3] The phrase "separation from the nearest existing antennas" means the distance from the top of the highest existing antenna on the tower to the bottom of the proposed new antennas to be deployed above it. Thus, when determining whether an application satisfies the criteria for an eligible facilities request, localities should not measure this separation from the top of the existing antenna to the top of the new antenna." *Implementation of State and Local Governments' Obligation to Approve Certain Wireless Facility Modification Requests Under Section 6409(A) of the Spectrum Act of 2012, 35 FCC Rcd 5977, ¶ 24 (2020)*

[4] *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, Report and Order, 29 FCC Rcd 12865, ¶ 196-197 (2014)*

appropriate under the city's code criteria for conditional uses and variances. Additionally, there is no mention of substantial change criteria in the approval or application materials, so we can conclude that the City did not consider this a mandatory approval but rather a judgement on whether the height was consistent with local land use values.

"Existing" means the tower was reviewed and approved under the applicable local zoning process to preserve the local authority to review initial deployments[5]. As this Facility was originally under the jurisdiction of Washington County, the 2014 Variance was the first opportunity for the City of Tualatin to determine if the Facility's height was compatible with their land use criteria making the AT&T proposal the first extension requested under 6409. This does not impact the City's right to limit cumulative impacts to the site made after their original review of the deployment (i.e. any future determinations on substantial changes in height would be based on an 110ft tip height and not on the new tip height). Therefore, this criterion is met.

2. Width: Appurtenance protrudes from the edge of the structure no more than twenty feet. 47 C.F.R. §1.6100(b)(7)(ii).

   The proposed antennas will be attached to the extended monopole with V-Frame antenna mounts that will not protrude more than 20ft from the edge of the pole. As such, this criterion is met.

3. Equipment Cabinets: Project involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets. 47 C.F.R. §1.6100(b)(7)(iii).

   One (1) Walk-up Cabinet (WUC) and one (1) FLX12 cabinet are proposed within the AT&T 10ft X 15ft lease area. Therefore, this criterion is met.

4. Expansion: Project does not entail any excavation or deployment outside the current site, except that for towers outside the right-of-way, it does not entail any excavation or deployment of transmissions equipment outside the current site by more than 30ft in any direction. 47 C.F.R. §1.6100(b)(7)(iv).

   The proposed 10ft x 15ft lease area for AT&T equipment will be within approximately 6ft of the existing equipment pad. As such, it will be within 30ft of the site and this criterion is met.

5. Concealment: Project does not defeat the concealment elements of the eligible (existing) support structure. 47 C.F.R. §1.6100(b)(7)(v).

   The existing monopole does not utilize concealment. Thus, the proposed upgrades will not defeat any existing concealment. This criterion has been met.

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[5] *"…this approach will in all cases limit modifications that are subject to mandatory approval to the same modest increments over what the relevant governing authority has previously deemed compatible with local land use values." Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, Report and Order, 29 FCC Rcd 12865, ¶ 174 (2014)*

6. Conditions of Approval: Project meets all existing, underlying Conditions of Approval. CFR 47 § 1.6100(b)(7)(vi).

   The proposed modification will meet existing conditions of approval, except for any changes that are non-compliant only in a manner that would not exceed the thresholds identified in CFR 47 § 1.6100(b)(7)(i) through (iv). Any conditions related to height do not apply, as the height increase is not considered a substantial change. See response to Substantial Change Criteria #1, above. Additionally, the antennas will be substantially similar to the existing antennas so as to blend with the existing Facility. The equipment will be located adjacent to existing equipment between water tanks. No trees or vegetation will be removed for the installation.

Conclusion

As the proposed modification qualifies as an eligible facilities request, we respectfully request that the City of Tualatin review and approve the changes subject only to the substantial change criteria of Section 6409 of the Spectrum Act.

Thank you,

Carly Nations
Director, Land Use and Entitlements
(206) 484-2646
Carly.nations@wirelesspolicy.com

PD33 Boones & Ibach NSB RF Justification

Coverage Justification

OVERVIEW

AT&T is proposing to build a new wireless communication facility ("WCF" or "facility"), PD33 Boones & Ibach (45.351533, -122.769051) in Washington County. This proposed facility meets AT&T's coverage objectives (providing outdoor, in-vehicle, and in-building wireless coverage) within a geographic area not presently served by AT&T's network. Specifically, this proposed new wireless facility Candidate will provide enhanced coverage as well as additional capacity at Tualatin High School, residential and new development along SW Boones Ferry Rd as well as some part of SW Graham Ferry Rd to the west of it. It will also provide coverage enhancement at areas between SW Frobase Rd, SW 82nd Ave and SW Norwood Rd to the east. This coverage objective was determined through a combined analysis of the coverage from current sites in the area, customer complaints, service requests, and radio frequency engineering design. This facility will allow AT&T to provide uninterrupted wireless service with fewer dropped calls, improved call quality, and improved access to additional wireless services that the public now demands. This includes emergency 911 calls throughout the area.

In addition to AT&T 4G LTE commercial facilities, this proposed WCF will include facilities to support FirstNet. As a FirstNet site, this proposed WCF is part of a more significant initiative by AT&T to upgrade existing wireless sites and to build new sites to support FirstNet and deploy the new frequency band for first responders ("Band 14").

SEARCH RING

AT&T's radio frequency ("RF") engineers performed an RF engineering study, considering multiple objectives, to determine the approximate site location and antenna height required to fulfill the noted network objectives for the targeted service area. From this study, AT&T's RF engineers identified a "search ring" area where a WCF may be located to provide effective service in the target coverage area. Candidates need to have good height and location, overlooking major roads and highways. This was the primary criteria to identify the search ring.

Figure A—Targeted Search Ring indicates the search ring AT&T's RF engineers established for this proposed site. A discussion of the methodology AT&T's RF engineers used to identify the search ring is included at the end of this RF Justification document.

Coverage Justification—Con't

COVERAGE OBJECTIVE

Figure B—Existing AT&T Coverage shows existing AT&T wireless services in the general area of the proposed new site. The red star indicates the location of the proposed new WCF. The blue diamonds indicate the location of existing AT&T WCF sites; coverage from AT&T's existing WCF sites is shaded in green. As can be seen, there is a coverage gap in all areas not shaded in green which may have minimal to no 4G voice service and does not have adequate 4G LTE service.

Figure C—Projected New AT&T Coverage identifies the projected coverage from the proposed new WCF with the requested antenna tip height of 128ft. The proposed antenna tip height is the necessary to help fill the coverage gap relative to nearby complementary wireless facilities and to support the FirstNet Network. This is also the height where an AT&T wireless device can be reliably used to make and receive telephone calls and use data service in the presence of varying signals. The new WCF will provide coverage and capacity enhancement at Tualatin High School, residential and new development along SW Boones Ferry Rd as well as some part of SW Graham Ferry Rd to the west of it. It will also provide coverage enhancement at areas between SW Frobase Rd, SW 82nd Ave and SW Norwood Rd to the east.

Figure D—Projected New AT&T Coverage identifies the projected coverage from the proposed new WCF with the requested antenna tip height of 127.75ft, which is the minimum vertical separation from other carriers' antennas that is required to avoid interference, with structure extension. As seen from the figure, coverage footprint is slightly reduced. Proposed location with antenna tip height of 128ft provides 0.25% more coverage than antenna tip height of 127.75ft.

Figure E—Projected New AT&T Coverage identifies the projected coverage from the proposed new WCF with the requested antenna tip height of 85.5ft which is the minimum vertical separation from other carriers' antennas that is required to avoid interference, without structure extension. As seen from the figure, coverage footprint is reduced. Proposed location with antenna tip height of 128ft provides 37.22% more coverage than antenna tip height of 85.5ft.

ANTENNAS AND EQUIPMENT

To meet the above coverage objectives, this proposed site will contain up to 12 panel antenna and 18 RRH units (together with all associated accessory equipment).

at&t

Figure A—Targeted Search Ring

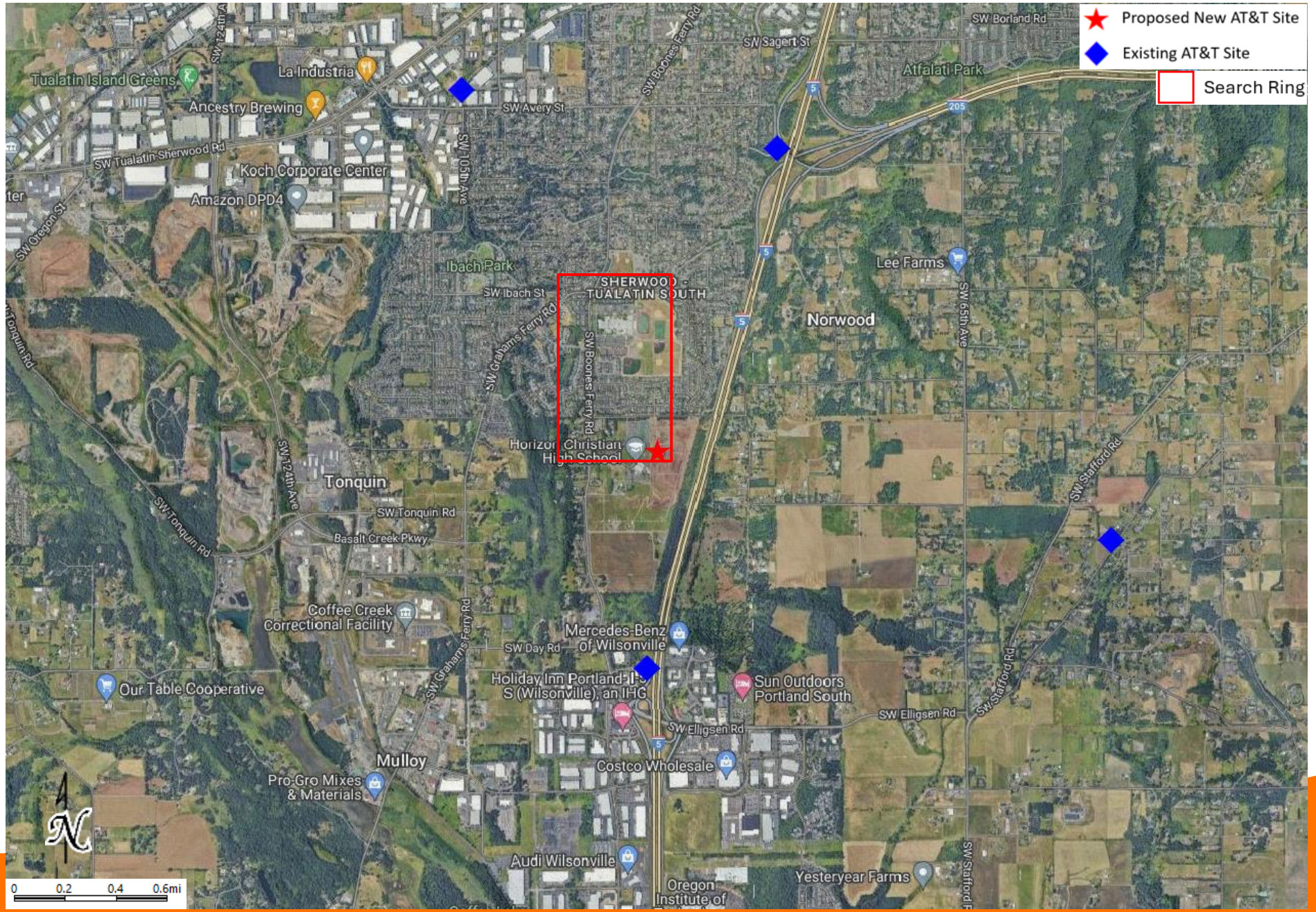


Figure B—Existing AT&T Coverage

Coverage BEFORE Proposed AT&T Facility On-Air—128ft Antenna Tip Height

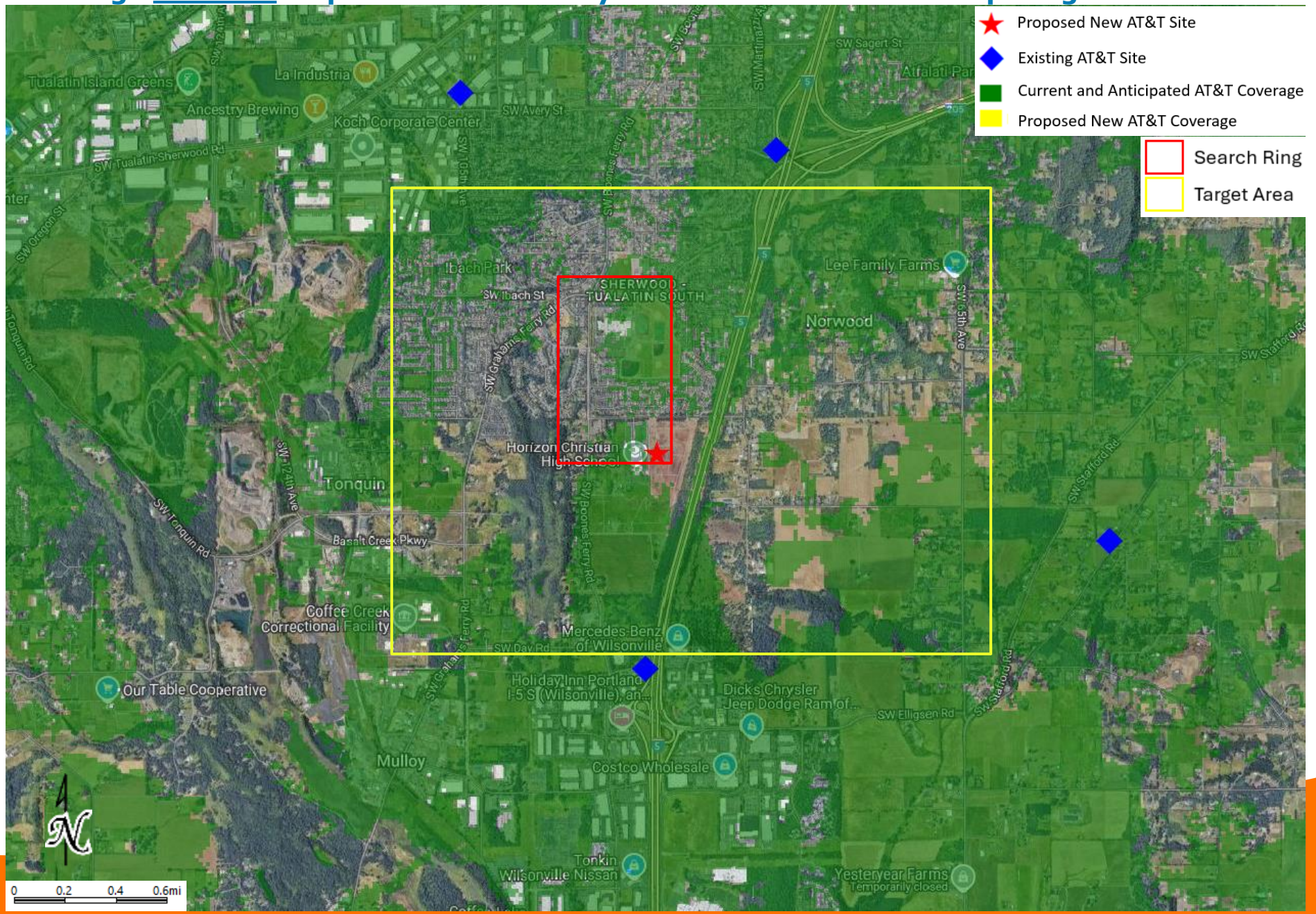


Figure C—Projected New AT&T Coverage

Coverage AFTER Proposed AT&T Facility On-Air—128ft Antenna Tip Height

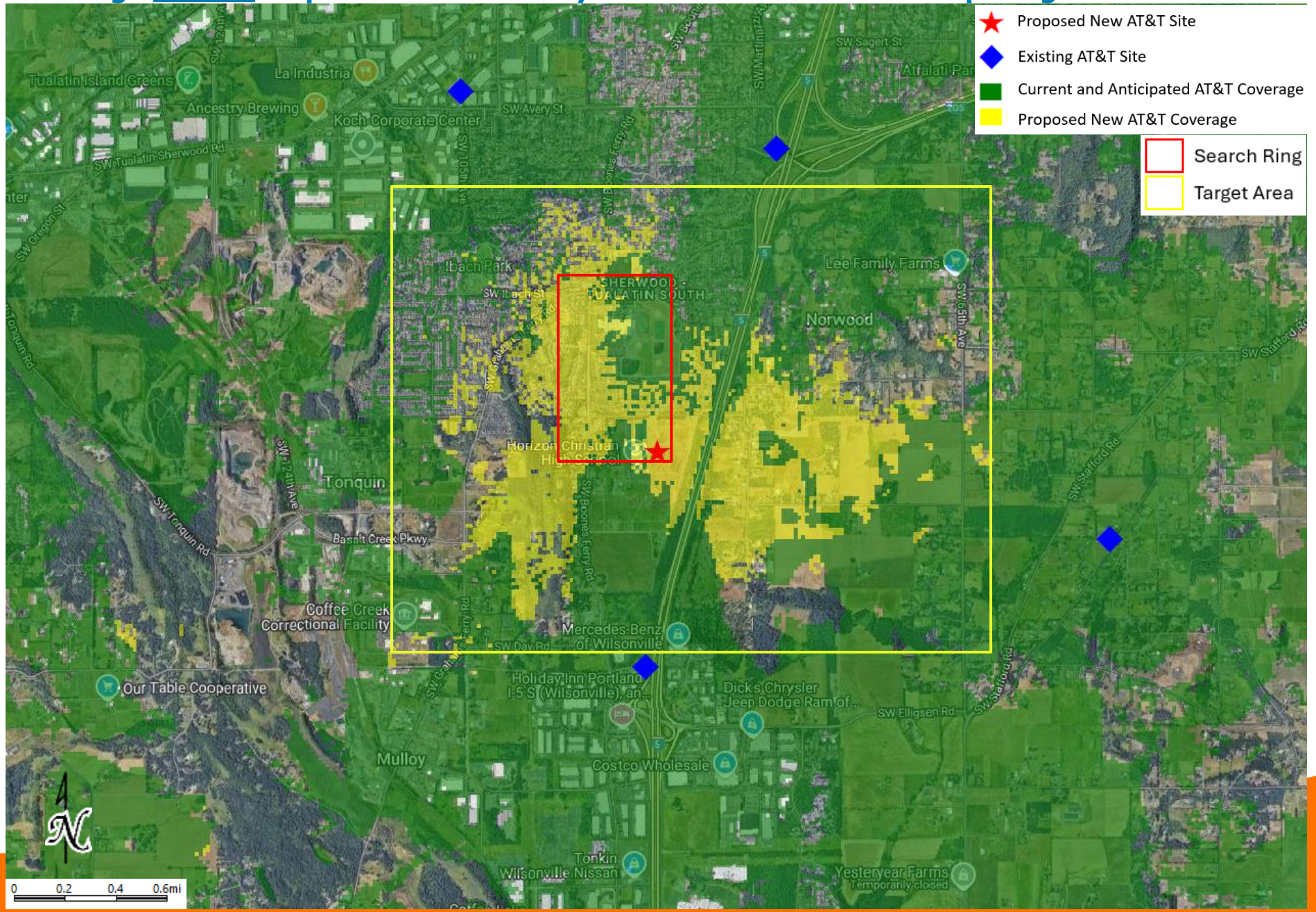


Figure D—Projected New AT&T Coverage

Coverage AFTER Proposed AT&T Facility On-Air—127.75ft Antenna Tip Height

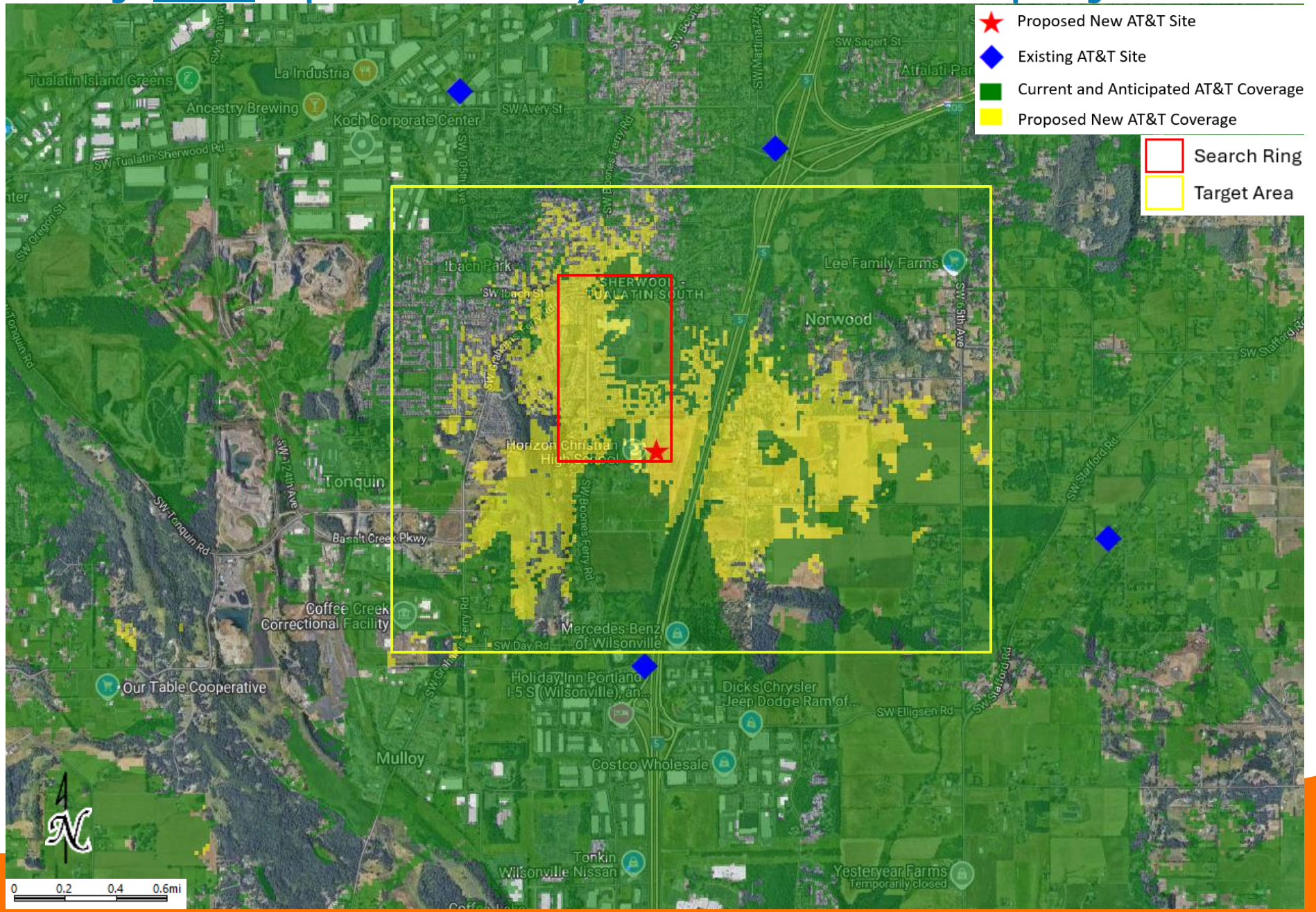
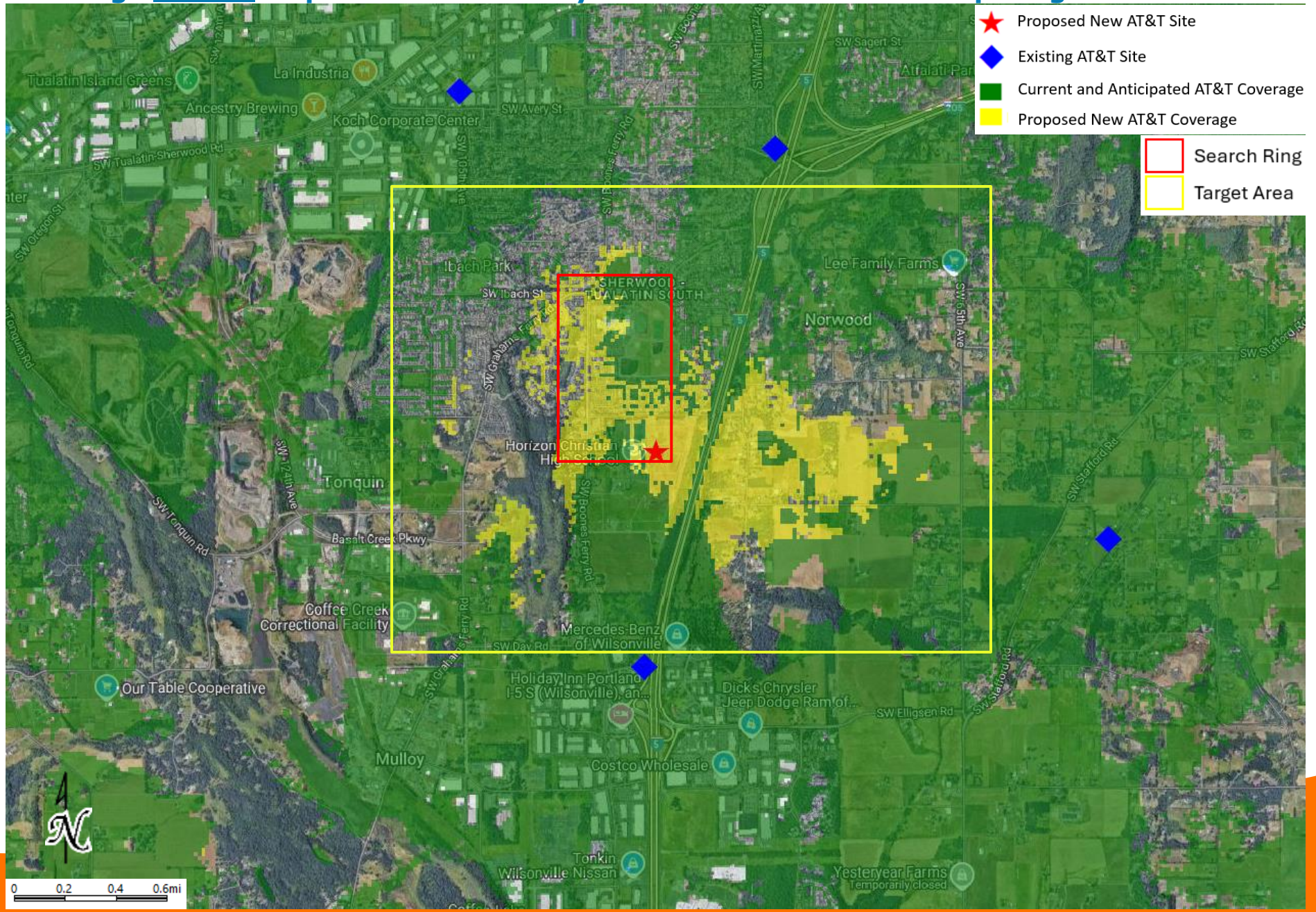


Figure E—Projected New AT&T Coverage

Coverage AFTER Proposed AT&T Facility On-Air—85.5ft Antenna Tip Height



Search Ring Methodology

AT&T's RF engineers used coverage propagation software systems to predict the coverage provided by the proposed new WCF. The software and AT&T's RF engineers considered the general factors outlined below, as well as more project-specific factors such as the type of antenna, antenna tilt, etc.

Coverage. The antenna site must be located in an area where the radio frequency broadcasts will provide adequate coverage within the targeted service area. The RF engineer must take into consideration the coverage objectives for the site as well as the terrain in and around the area to be covered. Because radio frequency broadcasts travel in a straight line and diminish as they travel further away from the antennas, it is generally best to place an antenna site near the center of the desired coverage area. However, in certain cases, the search ring may be located away from the center of the desired coverage area due to the existing coverage, the surrounding terrain, or other features which might affect the radio frequency broadcasts, *e.g.* buildings or sources of electrical interference.

Clutter. AT&T's WCFs must "clear the clutter"—the WCF site must be installed above or close to RF obstructions (the "clutter") to enable the RF to extend beyond and clear the clutter. AT&T's radio frequencies do not penetrate mountains, hills, rocks, or metal, and are diminished by trees, brick and wood walls, and other structures. Accordingly, AT&T's antennas must be installed above or close to the "clutter" to provide high quality communications services in the desired coverage areas. Additionally, if the local code requires us to accommodate additional carriers on the support structure, the structure must be even taller to also allow the other carriers' antennas to clear the clutter.

Call Handoff. The WCF site must be in an area where the radio broadcasts from the site will allow seamless "call handoff" with adjacent WCF sites. Call handoff is a feature of a wireless communications system that allows an ongoing telephone conversation to continue uninterrupted as the user travels from the coverage area of one antenna site into the coverage area of an adjacent antenna site. This requires coverage overlap for a sufficient distance and/or period of time to support the mechanism of the call handoff.

Quality of Service. Users of wireless communications services want to use their services where they live, work, commute and play, including when they are indoors. AT&T's coverage objectives include the ability to provide indoor coverage in areas where there are residences, businesses and indoor recreational facilities.

Search Ring Methodology—Con't

Radio Frequencies used by System. The designs of wireless communications systems vary greatly based upon the radio frequencies that are used by the carrier. If the carrier uses radio frequencies in the 700 MHz to 850 MHz range, the radio signals will travel further and will penetrate buildings better than the radio frequencies in the 1900 MHz band. As a result, wireless communications systems that use lower radio frequencies will need fewer sites than wireless communications systems that use higher radio frequencies.

Land Use Classifications. AT&T's ability to construct a WCF site on any particular property is affected by state and local regulations, including zoning and comprehensive plan classifications, goals, and policies. AT&T's search rings take these laws and regulations into consideration.

Date:	August 7, 2024
Site Number:	PD33 – Boones & Ibach
FA Code:	10576570
USID:	332346
Address:	8930 SW Norwood Road, Tualatin, OR 97062
Re:	Radio Frequency Compliance

Statement of Compliance

This AT&T wireless communications facility complies with all federal standards for radio frequency radiation in accordance with the Telecommunications Act of 1996 and subsequent amendments and any other requirements imposed by state or federal regulatory agencies.

Description of Facility:

Location Type: Proposed modifications to the wireless communications facility will be comprised of multiple panel antennas and associated radio cabinets utilizing licensed frequencies in the 700, 850, 1900, 2100 and 3700 MHz bands. The purpose of the facility is to provide coverage and/or capacity to the geographic service area.

Power Density:

The power density from any sector as designed with the proposed facility shall not exceed the FCC maximum permissible exposure limits in accordance with FCC Public Standards OET Bulletin 65 (e.g., 1 mW/cm^2 at 1900 MHz) at any location that is considered readily accessible by the general public.

The proposed facility should not interfere with other communications facilities. Our sites are monitored 24/7 by a national operations center to insure all is operating normally. In addition, we have local technicians who make routine visits to cell sites to make repairs when needed. AT&T audits our facilities on a semi-annual basis to ensure that FCC compliance levels are continuously met.

If requested, a detailed radio frequency emission safety report detailing the maximum potential exposures will be provided to the jurisdiction.

Sincerely,

M Samsul Bujang
AT&T Mobility - RAN Engineering

SSA acoustics
Stewart · Burt · Nelsen · Esselstrom

September 10, 2024

Patrick Ewing
Centerline Communications

Re: Acoustical Report – AT&T Wireless PD33 Boones and Ibach
Site: 8930 SW Norwood Road, Tualatin, OR 97062

Dear Patrick,

This report presents a noise survey performed in the immediate vicinity of the proposed AT&T Wireless facility at 8930 SW Norwood Road in Tualatin, Oregon. This noise survey extends from the proposed equipment to the nearest properties. The purpose of this report is to document the existing conditions and the impacts of the acoustical changes due to the proposed equipment. This report contains data on the existing and predicted noise environments, impact criteria and an evaluation of the predicted sound levels as they relate to the criteria.

Code Requirements

The site is located within the City of Tualatin Zoning jurisdiction on property designated with an IN zoning. The receiving property to the north, south and east are zoned RML, and are in Residential use. The receiving property to the west is zoned IN, in use as a church/school. All of the receiving properties are Noise Sensitive Properties as defined in Tualatin Municipal Code 6-14-020.

The proposed new equipment consists of equipment support cabinets and an emergency generator. The cabinets are expected to run 24 hours a day. The generator will run once a week during daytime hours only for maintenance and testing purposes.

Tualatin Municipal Code 6-14-050 limits noise to a noise sensitive property as follows:

Noise is limited to 50 dBA between 10:00 pm and 7:00 am. As the cabinets will run 24 hours a day they must meet this nighttime limit.

Noise is limited to 70 dBA between 7:00 am and 10:00 pm. The generator must meet this limit during daytime maintenance and testing. The generator is exempt during emergency operation.

Ambient Conditions

Existing ambient noise levels were measured on site with a Svantek 971 sound level meter on September 3, 2024. Measurements were conducted in accordance with Oregon Administrative Rules (OAR) 340-35-035 subsection (3)(b). The average ambient noise level was 50 dBA.

Predicted Equipment Sound Levels

24-Hour Operation Equipment

The following table presents a summary of the equipment and their associated noise levels:

Table 1: Equipment Noise Levels

Equipment	dBA (each)	Quantity	Combined dBA @ 5 ft
Vertiv NetSure X744 3-Bay Walk-Up Cabinet	70 dBA @ 5 ft	1	70
Purcell FlexSure-FLX12 Cabinet	65 dBA @ 5ft	1	65
Total dBA (All cabinets combined)			**71**

Methods established by AHRI Standard 275-2010 and ASHRAE were used in predicting equipment noise levels to the receiving properties. Application factors such as location, height, and reflective surfaces are accounted for in the calculations.

The equipment will be located at grade. The nearest noise-sensitive receiving property is approximately 60 feet north of the equipment. The following table presents the predicted sound level at the nearest noise-sensitive receiving property:

Table 2: Predicted Noise Level: Proposed Equipment Cabinets

Line	Application Factor	N
1	Sound Pressure Level at 5 ft (dBA), Lp1	71
2	Distance Factor (DF) Inverse-Square Law (Free Field): DF = 20*log (d1/d2)	-22 (60 ft)
3	New Equipment Sound Pressure Level at Receiver, Lpr (Add lines 1 and 2)	**49**

As shown in Table 2, the predicted sound level from the proposed equipment is 49 dBA at the nearest noise-sensitive receiving property to the north, which meets the 50 dBA nighttime code limit. Noise levels at other receiving properties, which are further away, will be lower and within code limits.

Emergency Equipment

The proposed equipment includes one Kohler 30REOZK 30 KW generator with a sound enclosure which has a sound level of 65 dBA at 23 feet. The generator will be located at grade. The nearest noise-sensitive receiving property is approximately 61 feet north of the generator. The following table presents the predicted sound level at the nearest noise-sensitive receiving property:

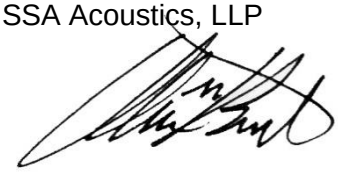
Table 3: Predicted Noise Levels: Proposed Emergency Generator

Line	Application Factor	N
1	Equipment Sound Pressure Level at 23 ft. (dBA), Lp1	65
2	Distance Factor (DF) Inverse-Square Law (Free Field): DF = 20log (d1/d2)	-8 (61 ft)
3	New Equipment Sound Pressure Level at Receiver, Lpr (Add lines 1 and 2)	**57**

As shown in Table 3, the predicted sound level from the proposed generator during test cycle operation is 57 dBA at the nearest noise-sensitive receiving property to the north, which meets the 70 dBA code limit. Noise levels at other receiving properties, which are further away, will be lower and within code limits.

Please contact us if you have any questions or require further information.

Sincerely,
SSA Acoustics, LLP



Alan Burt, P.E.
MANAGING PARTNER
SENIOR ACOUSTICAL CONSULTANT

RENEWAL DATE: 12/31/25

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: CECIL J MATHEW
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign	File Number
WPWU989	0008643019
Radio Service	
WZ - 700 MHz Lower Band (Blocks C, D)	

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
11-05-2019	11-05-2019	06-13-2029	11-07-2019

Market Number	Channel Block	Sub-Market Designator
EAG706	D	0

Market Name
Pacific

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-13-2019			

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

Operation of the facilities authorized herein, are subject to the condition that harmful interference may not be caused to, but must be accepted from UHF TV transmitters in Canada and Mexico as identified in existing and any future agreements with those countries.

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: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPWU989 **File Number:** 0008643019 **Print Date:** 11-07-2019

This application is granted pursuant to the Commission's Order In the Matter of Qualcomm Incorporated Petition for Declaratory Ruling, WT Docket No. 05-7, FCC 06-155, released October 13, 2006.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPWU989 **File Number:** 0008643019 **Print Date:** 11-07-2019

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status

Radio Frequency Safety Survey Report Prediction (RFSSRP)

AT&T Monopole Facility

Site Name	BOONES AND IBACH
Site ID	PD33
Site Address	8930 SW NORWOOD RD, TUALATIN, OR 97062
Latitude: 45.351533 **Longitude:** -122.769051 **USID:** 332346 **FA**: 10576570 **Centerline PN:** Internal **Pace ID:** WSWOR0038594	**Prepared for:** Centerline on behalf of AT&T **Report Date:** September 25, 2024 **Report Writer:** Devin Lotter **Report Reviewer:** Michael Fischer

Statement of Compliance

AT&T will be compliant with FCC regulations upon installation of recommended mitigation measures.

TABLE OF CONTENTS

1.0 GENERAL SUMMARY

Centerline has been contracted to provide a Radio Frequency (RF) Analysis for the following AT&T monopole facility to determine whether the facility is in compliance with federal standards and regulations regarding RF emissions. This analysis includes theoretical emissions calculations for all equipment for AT&T.

1.1 SITE SUMMARY

Analysis Site Data	
Site USID:	332346
Site FA#:	10576570
Site Name:	BOONES AND IBACH
Site Address:	8930 SW NORWOOD RD, TUALATIN, OR 97062
Site Latitude:	45.351533
Site Longitude:	-122.769051
Facility Type:	Monopole
Compliance Summary	
Compliance Status:	Compliant Upon Mitigation
Maximum Calculated AT&T MPE Level on Site (General Population Limit):	2.00%
Maximum Calculated Composite MPE Level on Site (General Population Limit):	3.90%
Maximum Calculated AT&T MPE Level at Ground (General Population Limit):	1.14%
Maximum Calculated Composite MPE Level at Ground (General Population Limit):	2.33%
Site Data Information	
CD:	AT&T_PD33 Boones and Ibach_90_ NB ZD REV B_2024-08-01(DT)
RFDS:	Snapshot-RF Issue Final RFDS-1720018355335
MPE Modeling Program:	IXUS Version: 4.12; Published 2024-07-24

1.2 SITE MITIGATION

Signage and barriers are the primary means of mitigating accessible areas of exposure. Below is a summary of existing and recommended signage at this AT&T facility.

Existing Signage and Barriers (AT&T Sectors)										
Location	Safety Instructions	Notice 2	Notice 2D	Caution 2	Caution 2B	Caution 2C	Caution 2D	Warning 1B	Warning 2A	Barrier
Monopole Base	0	0	0	0	0	0	0	0	0	0
Alpha	0	0	0	0	0	0	0	0	0	0
Beta	0	0	0	0	0	0	0	0	0	0
Gamma	0	0	0	0	0	0	0	0	0	0

Proposed Signage and Barriers (AT&T Sectors)									
Location	Notice 2	Notice 2D	Caution 2	Caution 2B	Caution 2C	Caution 2D	Warning 1B	Warning 2A	Barrier
Monopole Base	0	0	0	1	0	0	0	0	0
Alpha	0	0	0	0	0	0	0	0	0
Beta	0	0	0	0	0	0	0	0	0
Gamma	0	0	0	0	0	0	0	0	0

Final Signage and Barriers (AT&T Sectors)									
Location	Notice 2	Notice 2D	Caution 2	Caution 2B	Caution 2C	Caution 2D	Warning 1B	Warning 2A	Barrier
Monopole Base	0	0	0	1	0	0	0	0	0
Alpha	0	0	0	0	0	0	0	0	0
Beta	0	0	0	0	0	0	0	0	0
Gamma	0	0	0	0	0	0	0	0	0

Monopole Base:

- Install (1) Caution 2B sign at the monopole base.

Alpha:

- No action required.

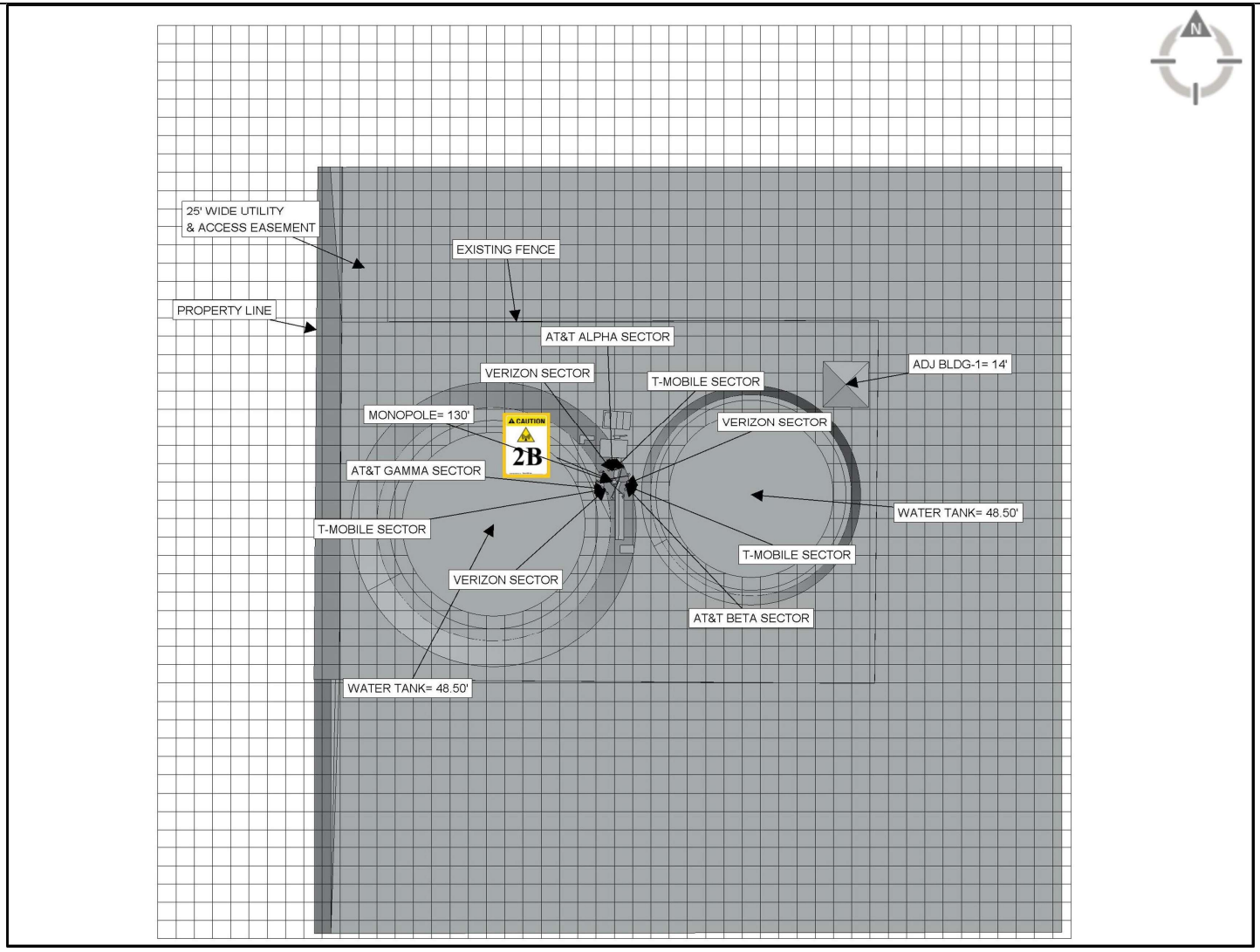
Beta:

- No action required.

Gamma:

- No action required.

2.0 SITE SCALE MAP



Site Scale

Grid size: 10’

Safety Instructions

Caution 1

Notice 1

Caution 2

Notice 2

Caution 2D

Notice 2D

Warning

Existing Barrier

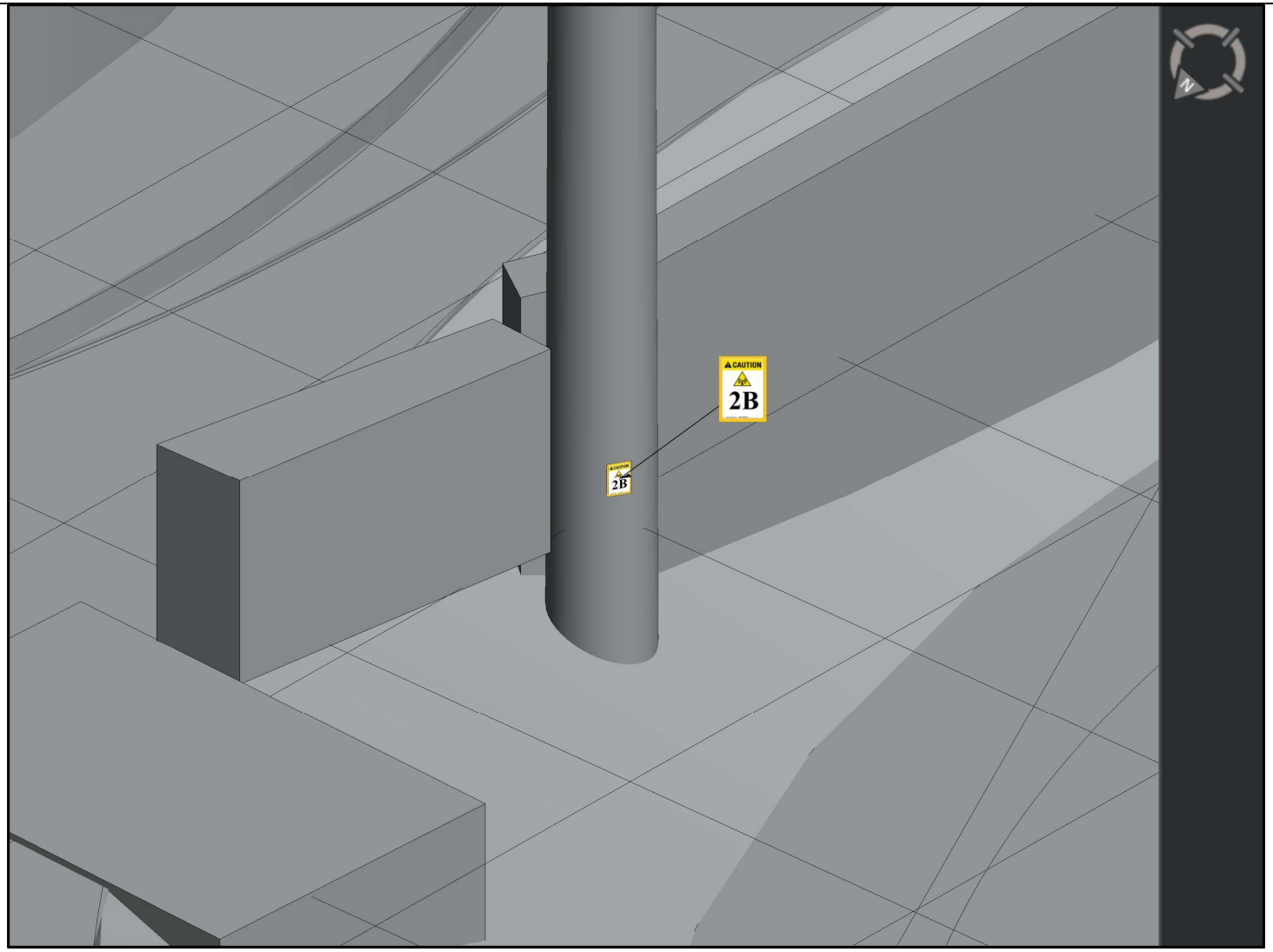
Proposed Barrier

Items to be removed

Existing Sign

Proposed Sign

Signage / Mitigation Plan
BOONES AND IBACH / 10576570



Monopole Signage

Grid size: 10’

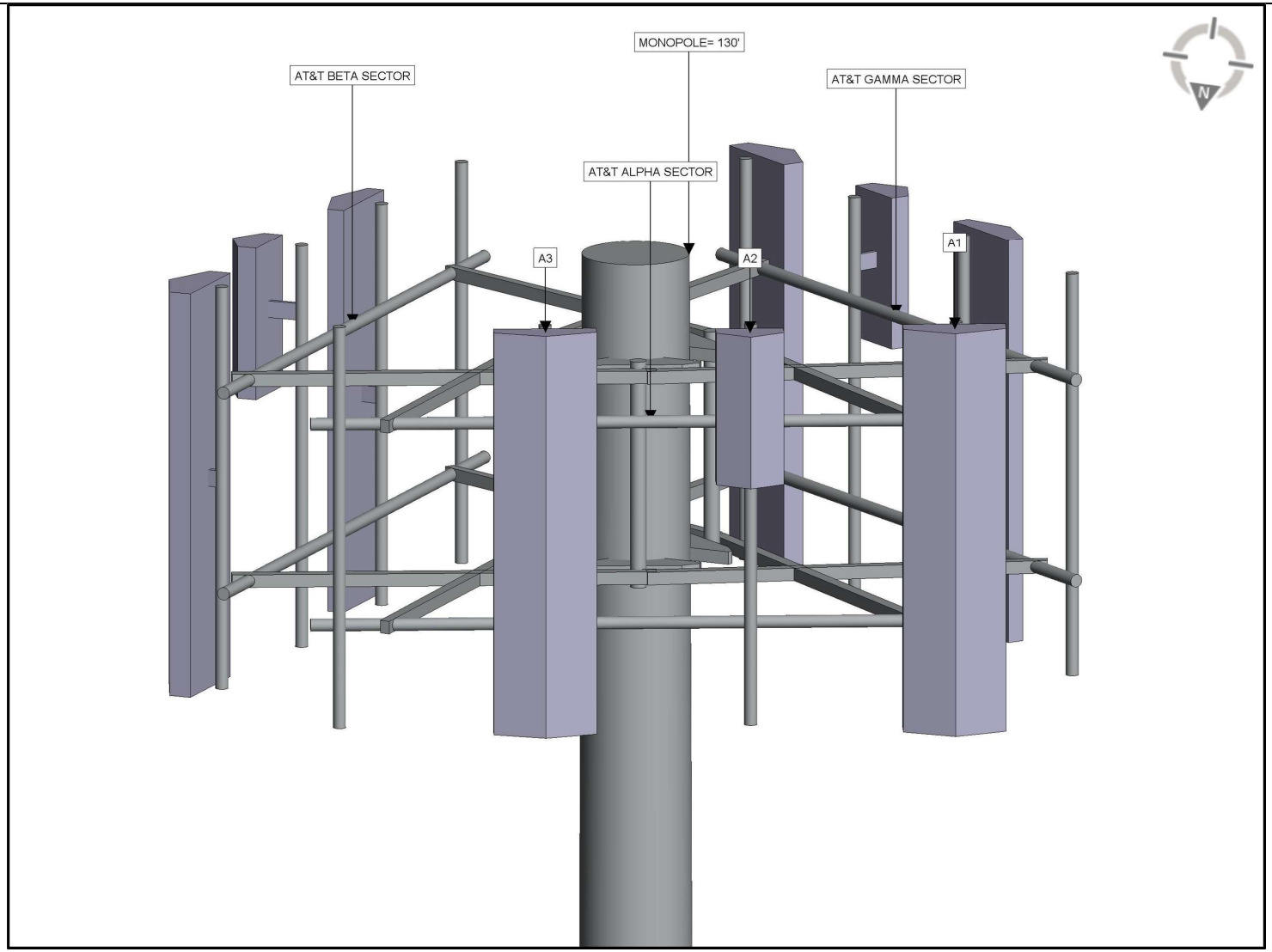
 Safety Instructions	 Caution 1
 Notice 1	 Caution 2
 Notice 2	 Caution 2D
 Notice 2D	 Warning
 Existing Barrier	 Proposed Barrier

 Items to be removed

 Existing Sign

 Proposed Sign

Signage / Mitigation Plan
BOONES AND IBACH / 10576570



Alpha Sector

Grid size: 10'

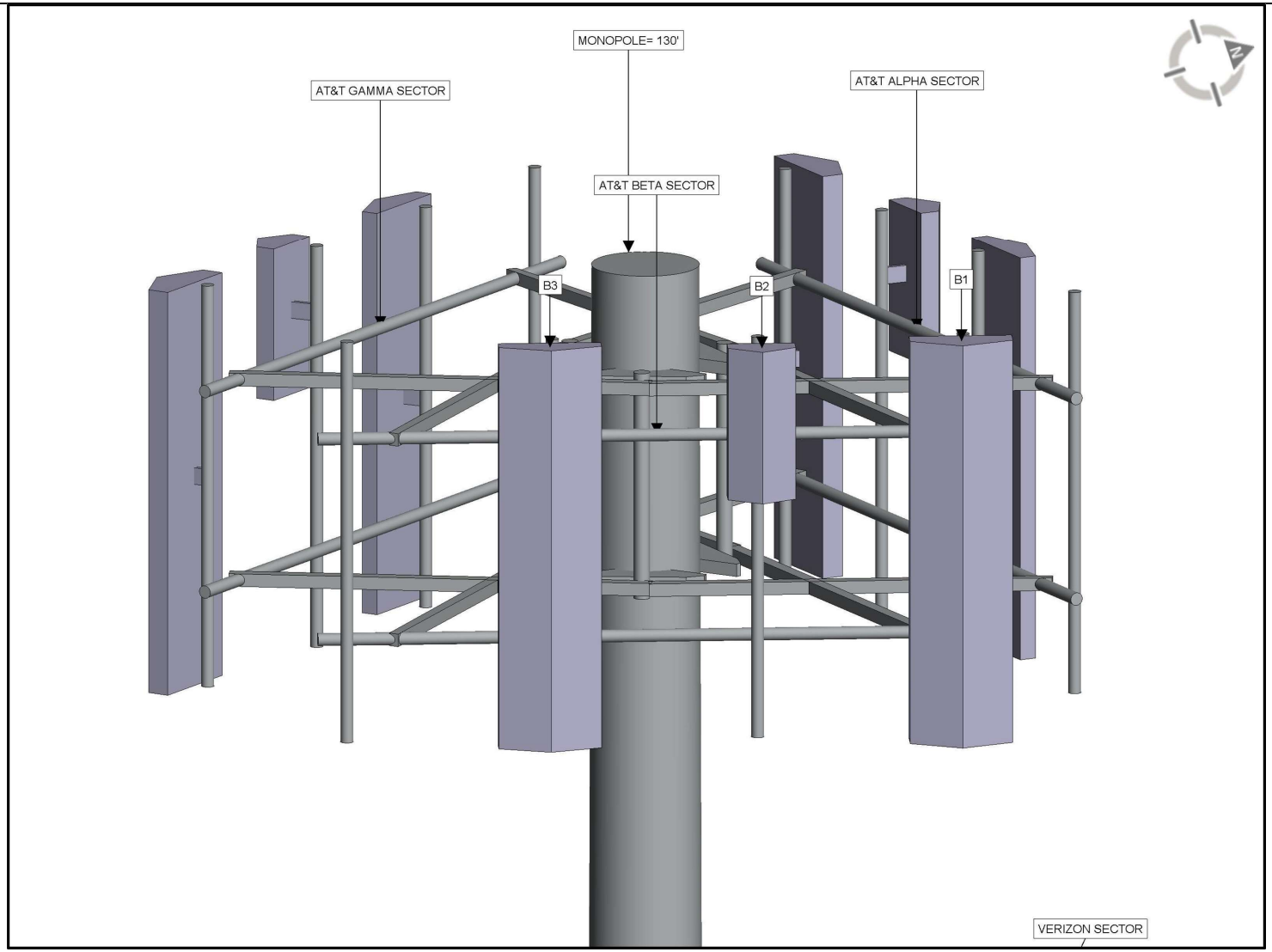
 Safety Instructions	 Caution 1
 Notice 1	 Caution 2
 Notice 2	 Caution 2D
 Notice 2D	 Warning
 Existing Barrier	 Proposed Barrier

 Items to be removed

 Existing Sign

 Proposed Sign

Signage / Mitigation Plan
BOONES AND IBACH / 10576570



Beta Sector

Grid size: 10'

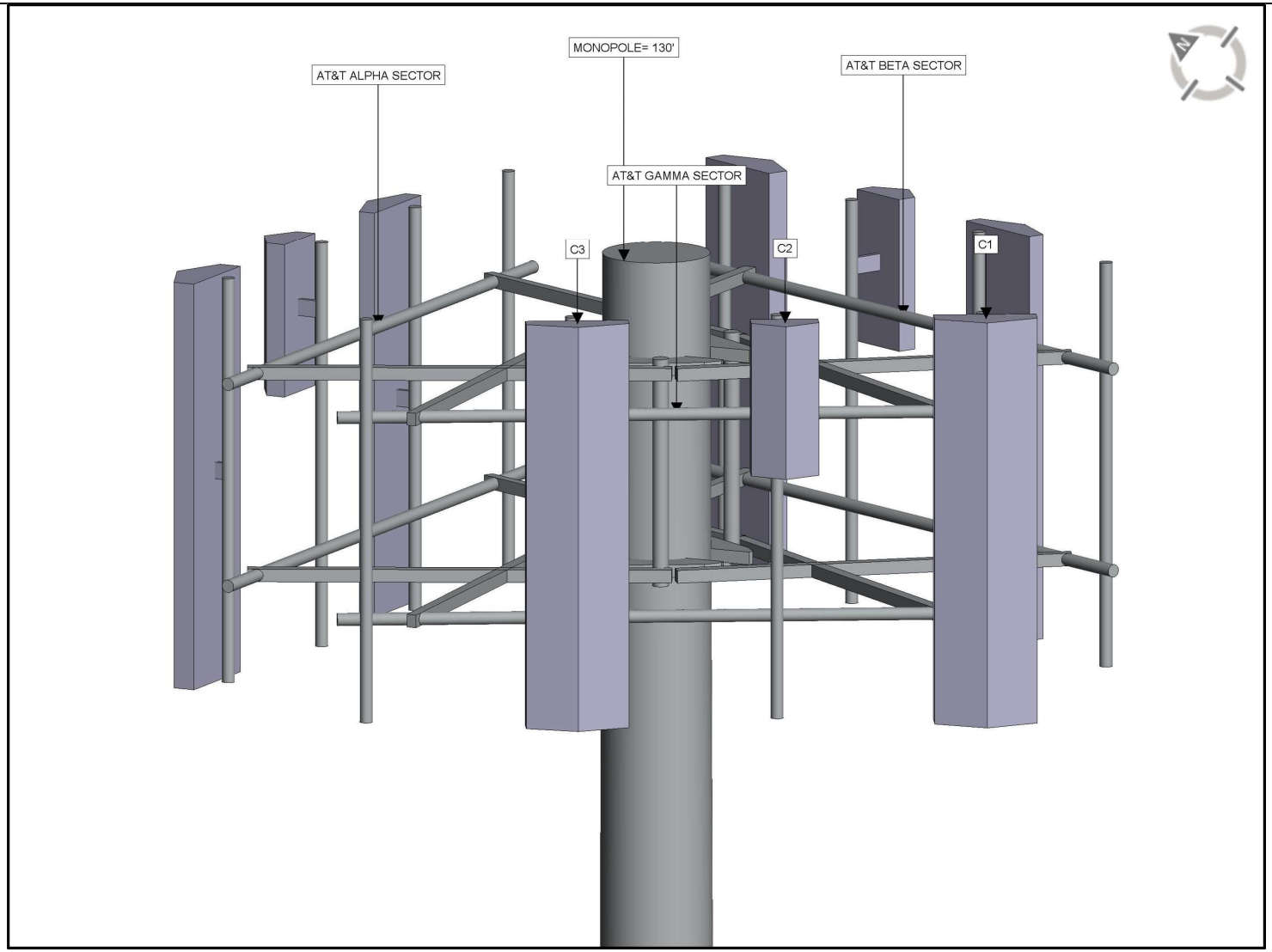
 Safety Instructions	 Caution 1
 Notice 1	 Caution 2
 Notice 2	 Caution 2D
 Notice 2D	 Warning
 Existing Barrier	 Proposed Barrier

 Items to be removed

 Existing Sign

 Proposed Sign

Signage / Mitigation Plan
BOONES AND IBACH / 10576570



Gamma Sector

Grid size: 10'

Safety Instructions

Caution 1

Notice 1

Caution 2

Notice 2

Caution 2D

Notice 2D

Warning

Existing Barrier

Proposed Barrier

Items to be removed

Existing Sign

Proposed Sign

Signage / Mitigation Plan
BOONES AND IBACH / 10576570

3.0 ANTENNA INVENTORY

ANT ID	Operator	Antenna Manufacturer	Antenna Model	System / Freq (MHz)	TPO (Watts)	Gain (dBd)	Total ERP (Watts)	Azimuth (°)	Mech. Tilt (°)	Elec. Tilt (°)	Antenna Length (ft.)	Antenna Centerline (ft.)	Antenna Bottom Tip (ft.)
A1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	LTE 700	180	14.85	5498.86	350	0	2 to 12	8.04	126	121.98
A1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	NR 850	180	15.15	5892.13	350	0	2 to 12	8.04	126	121.98
A1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	WCS 2300	75	18.55	5371.08	350	0	1 to 10	8.04	126	121.98
A2	AT&T	Ericsson	AIR6472 B77G B77M	DoD 3450	49.21	24.25	13093.43	350	0	6	3.02	128.5	126.99
A2	AT&T	Ericsson	AIR6472 B77G B77M	C-Band 3700	78.62	25.15	25735.53	350	0	6	3.02	128.5	126.99
A3	AT&T	CellMax	120726	LTE 700	120	14.95	3751.3	350	0	2 to 8	8.02	126	121.99
A3	AT&T	CellMax	120726	LTE 700	60	14.95	1875.65	350	0	2 to 8	8.02	126	121.99
A3	AT&T	CellMax	120726	LTE 1900	180	19.55	16228.28	350	0	1 to 9	8.02	126	121.99
A3	AT&T	CellMax	120726	LTE 2100	180	19.55	16228.28	350	0	1 to 9	8.02	126	121.99
B1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	LTE 700	180	14.85	5498.86	105	0	2 to 12	8.04	126	121.98
B1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	NR 850	180	15.15	5892.13	105	0	2 to 12	8.04	126	121.98
B1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	WCS 2300	75	18.55	5371.08	105	0	1 to 10	8.04	126	121.98
B2	AT&T	Ericsson	AIR6472 B77G B77M	DoD 3450	49.21	24.25	13093.43	105	0	6	3.02	128.5	126.99
B2	AT&T	Ericsson	AIR6472 B77G B77M	C-Band 3700	78.62	25.15	25735.53	105	0	6	3.02	128.5	126.99
B3	AT&T	CellMax	120726	LTE 700	120	14.95	3751.3	105	0	2 to 8	8.02	126	121.99
B3	AT&T	CellMax	120726	LTE 700	60	14.95	1875.65	105	0	2 to 8	8.02	126	121.99
B3	AT&T	CellMax	120726	LTE 1900	180	19.55	16228.28	105	0	1 to 9	8.02	126	121.99

ANT ID	Operator	Antenna Manufacturer	Antenna Model	System / Freq (MHz)	TPO (Watts)	Gain (dBd)	Total ERP (Watts)	Azimuth (°)	Mech. Tilt (°)	Elec. Tilt (°)	Antenna Length (ft.)	Antenna Centerline (ft.)	Antenna Bottom Tip (ft.)
B3	AT&T	CellMax	120726	LTE 2100	180	19.55	16228.28	105	0	1 to 9	8.02	126	121.99
C1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	LTE 700	180	14.85	5498.86	230	0	2 to 12	8.04	126	121.98
C1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	NR 850	180	15.15	5892.13	230	0	2 to 12	8.04	126	121.98
C1	AT&T	CellMax	CMA-UBTULBULBHHP-6517-17-21-21	WCS 2300	75	18.55	5371.08	230	0	1 to 10	8.04	126	121.98
C2	AT&T	Ericsson	AIR6472 B77G B77M	DoD 3450	49.21	24.25	13093.43	230	0	6	3.02	128.5	126.99
C2	AT&T	Ericsson	AIR6472 B77G B77M	C-Band 3700	78.62	25.15	25735.53	230	0	6	3.02	128.5	126.99
C3	AT&T	CellMax	120726	LTE 700	120	14.95	3751.3	230	0	2 to 8	8.02	126	121.99
C3	AT&T	CellMax	120726	LTE 700	60	14.95	1875.65	230	0	2 to 8	8.02	126	121.99
C3	AT&T	CellMax	120726	LTE 1900	180	19.55	16228.28	230	0	1 to 9	8.02	126	121.99
C3	AT&T	CellMax	120726	LTE 2100	180	19.55	16228.28	230	0	1 to 9	8.02	126	121.99
TMO 1	T-Mobile	RFS	APXVSPP18-C-A20	LTE 1900	160	15.85	6153.47	350	0	0	6	97.5	94.5
TMO 2	T-Mobile	RFS	APXVAARR18_43-U-NA20	LTE 700	160	12.35	2748.65	350	0	0	6	97.5	94.5
TMO 3	T-Mobile	CommScope	FFVV-65A-R2-V1	LTE 2100	160	15.25	5359.45	350	0	2 to 12	4.02	97.5	95.49
TMO 4	T-Mobile	RFS	APXVSPP18-C-A20	LTE 1900	160	15.85	6153.47	105	0	0	6	97.5	94.5
TMO 5	T-Mobile	RFS	APXVAARR18_43-U-NA20	LTE 700	160	12.35	2748.65	105	0	0	6	97.5	94.5
TMO 6	T-Mobile	CommScope	FFVV-65A-R2-V1	LTE 2100	160	15.25	5359.45	105	0	2 to 12	4.02	97.5	95.49
TMO 7	T-Mobile	RFS	APXVSPP18-C-A20	LTE 1900	160	15.85	6153.47	230	0	0	6	97.5	94.5
TMO 8	T-Mobile	RFS	APXVAARR18_43-U-NA20	LTE 700	160	12.35	2748.65	230	0	0	6	97.5	94.5
TMO 9	T-Mobile	CommScope	FFVV-65A-R2-V1	LTE 2100	160	15.25	5359.45	230	0	2 to 12	4.02	97.5	95.49

ANT ID	Operator	Antenna Manufacturer	Antenna Model	System / Freq (MHz)	TPO (Watts)	Gain (dBd)	Total ERP (Watts)	Azimuth (°)	Mech. Tilt (°)	Elec. Tilt (°)	Antenna Length (ft.)	Antenna Centerline (ft.)	Antenna Bottom Tip (ft.)
VZW 1	Verizon Wireless	CommScope	SBNHH-1D65B	LTE 700	160	12.75	3013.84	0	0	0 to 14	6.07	107.75	104.72
VZW 2	Verizon Wireless	CommScope	SBNHH-1D65B	LTE 850	160	12.55	2878.19	0	0	0 to 14	6.07	107.75	104.72
VZW 3	Verizon Wireless	Andrew	SBNHH-1D65A	LTE 1900	160	14.95	5001.73	0	0	0 to 10	4.64	107.75	104.72
VZW 4	Verizon Wireless	CommScope	SBNHH-1D65B	LTE 700	160	12.75	3013.84	120	0	0 to 14	6.07	107.75	104.72
VZW 5	Verizon Wireless	CommScope	SBNHH-1D65B	LTE 850	160	12.55	2878.19	120	0	0 to 14	6.07	107.75	104.72
VZW 6	Verizon Wireless	Andrew	SBNHH-1D65A	LTE 1900	160	14.95	5001.73	120	0	0 to 10	4.64	107.75	104.72
VZW 7	Verizon Wireless	CommScope	SBNHH-1D65B	LTE 700	160	12.75	3013.84	240	0	0 to 14	6.07	107.75	104.72
VZW 8	Verizon Wireless	CommScope	SBNHH-1D65B	LTE 850	160	12.55	2878.19	240	0	0 to 14	6.07	107.75	104.72
VZW 9	Verizon Wireless	Andrew	SBNHH-1D65A	LTE 1900	160	14.95	5001.73	240	0	0 to 10	4.64	107.75	104.72

75% duty cycle is assumed for all AT&T antennas

AIR6472 antennas were calculated using AT&T's preferred conservative power reduction factor of 0.32

4.0 CALCULATED RF EXPOSURE LEVELS

Calculations performed based upon the data listed for this facility have produced the results that are shown below:

Maximum Calculated AT&T MPE Level on Site:	% of MPE Limit:
Accessible **General Population** MPE Limits:	**2.00%**
Accessible **Occupational** MPE Limits:	**0.40%**

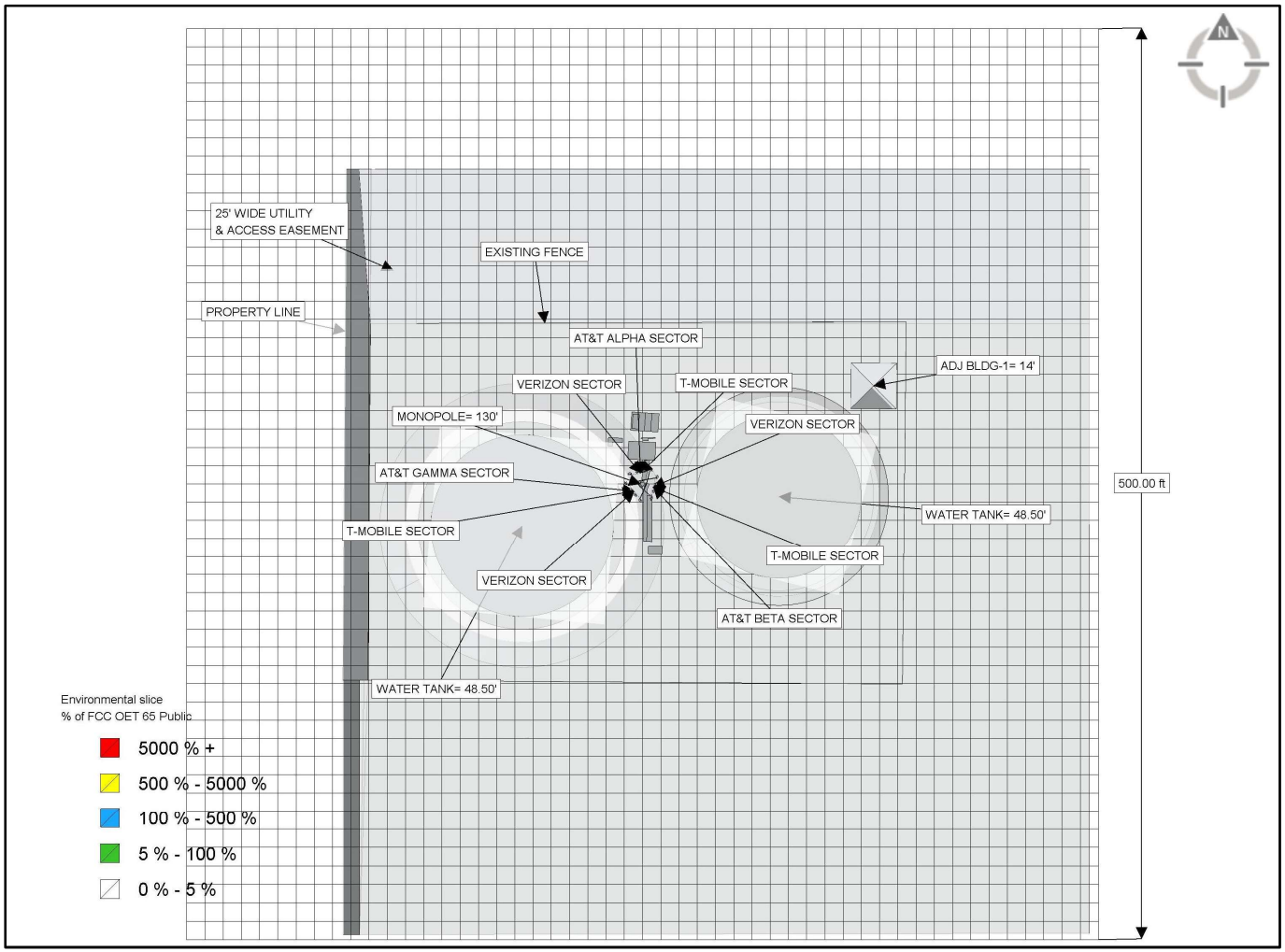
Maximum Calculated Composite MPE Level on Site:	% of MPE Limit:
Accessible **General Population** MPE Limits:	**3.90%**
Accessible **Occupational** MPE Limits:	**0.78%**

Maximum Calculated AT&T Ground Level MPE:	% of MPE Limit:
Accessible **General Population** MPE Limits:	**1.14%**
Accessible **Occupational** MPE Limits:	**0.23%**

Maximum Calculated Composite Ground Level MPE:	% of MPE Limit:
Accessible **General Population** MPE Limits:	**2.33%**
Accessible **Occupational** MPE Limits:	**0.47%**

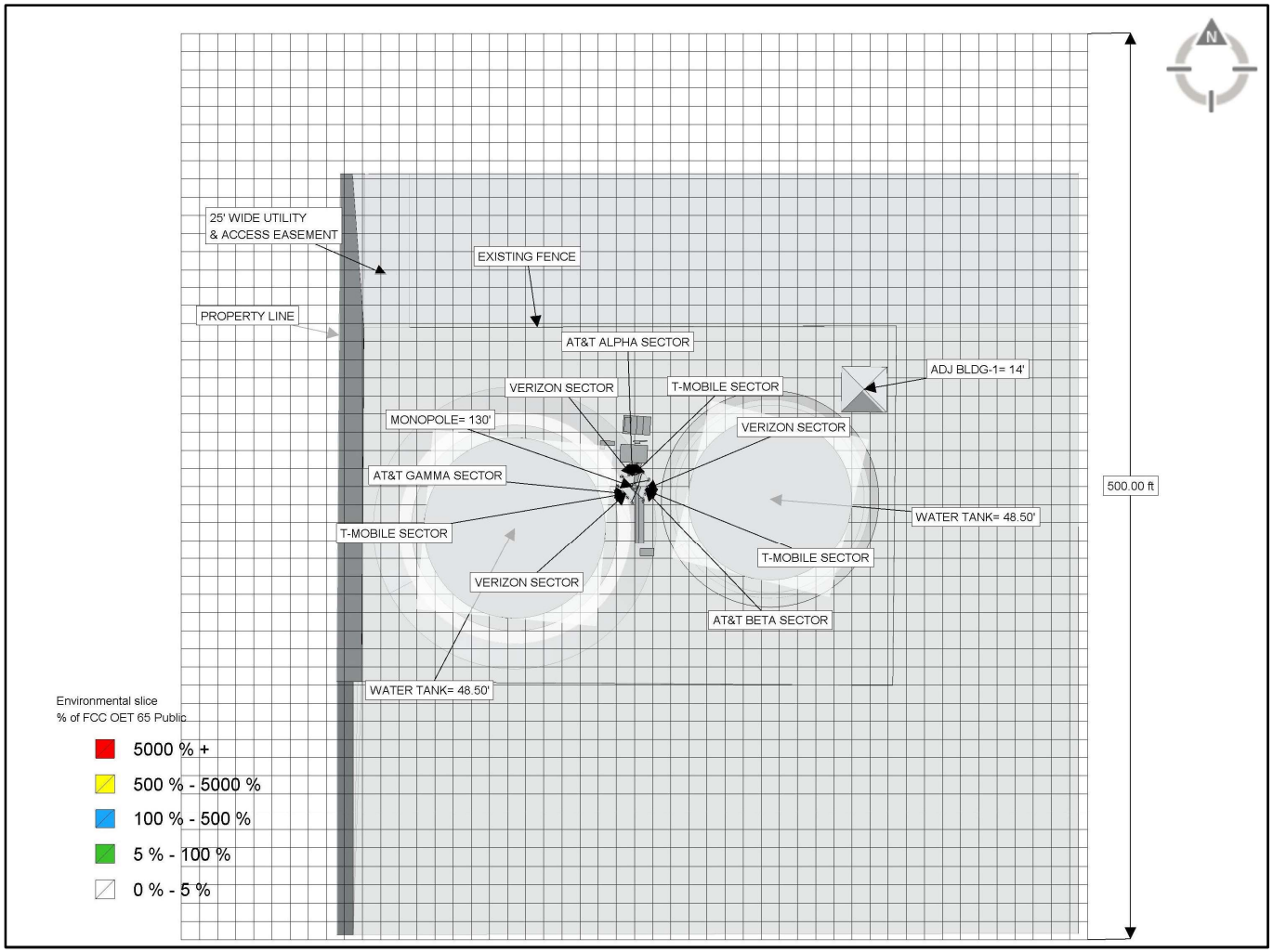
5.0 RF EXPOSURE DIAGRAMS

Composite - Overview



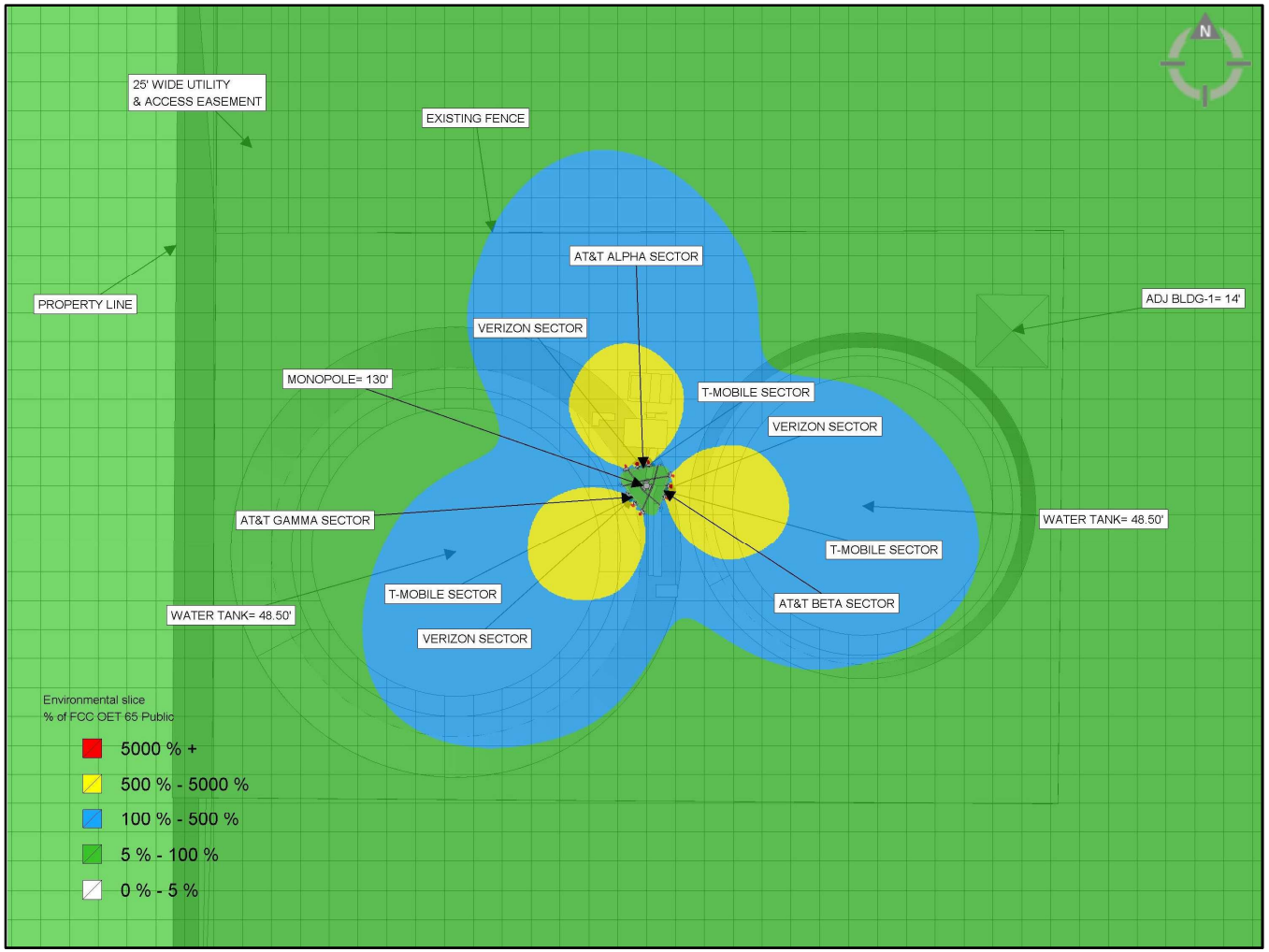
Grid Size: 10'

AT&T Only - Overview



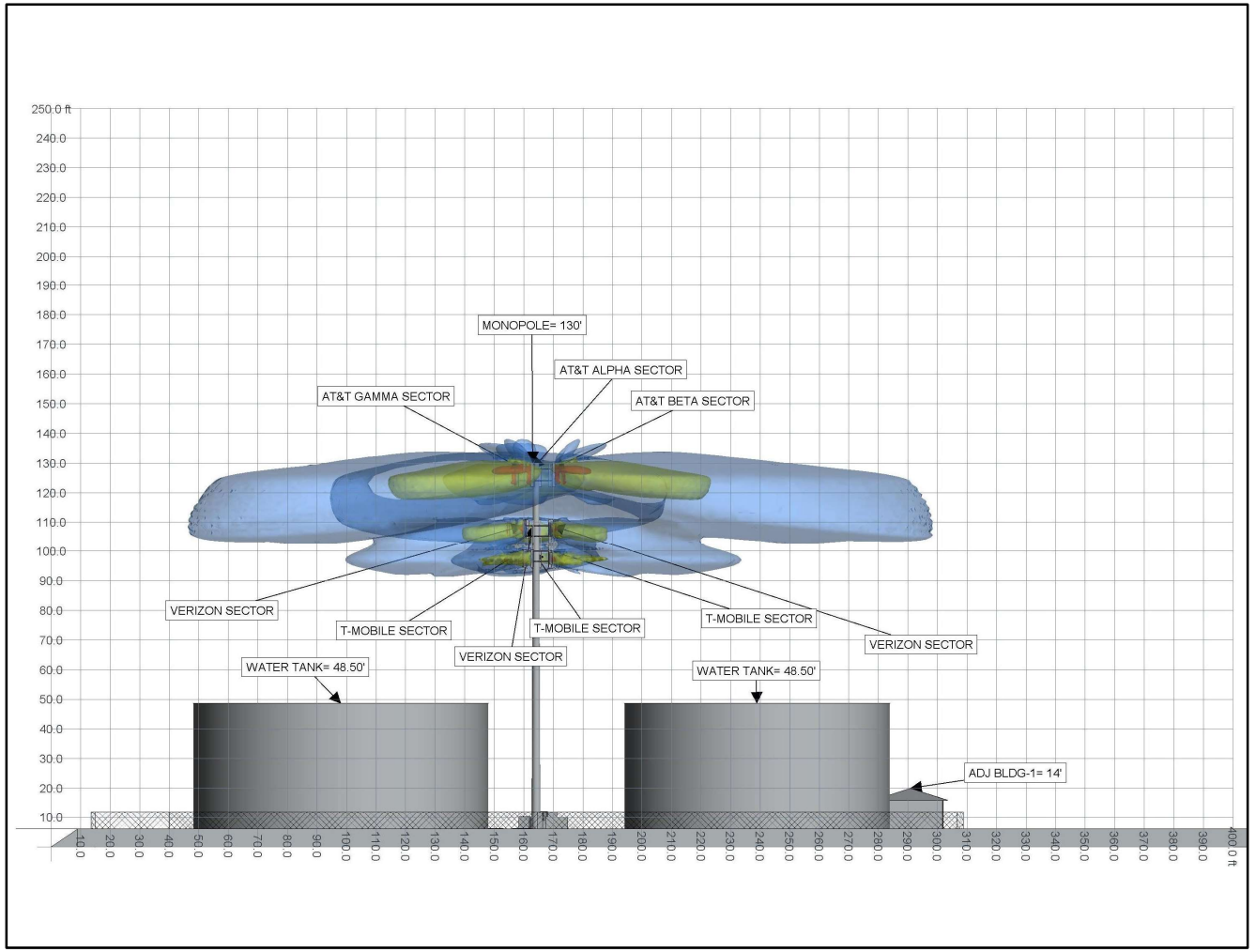
Grid Size: 10’

AT&T Antenna Level



Grid Size: 10’

Elevation View



Grid Size: 10'

6.0 STATEMENT OF COMPLIANCE

Centerline conducted worst case modeling to determine whether the subject facility is in compliance with FCC regulations.

Based on the information analyzed, AT&T will be compliant with FCC regulations once the mitigation measures recommended in this report are implemented.

6.1 RECOMMENDATIONS

Existing Signage and Barriers (AT&T Sectors)										
Location	Safety Instructions	Notice 2	Notice 2D	Caution 2	Caution 2B	Caution 2C	Caution 2D	Warning 1B	Warning 2A	Barrier
Monopole Base	0	0	0	0	0	0	0	0	0	0
Alpha	0	0	0	0	0	0	0	0	0	0
Beta	0	0	0	0	0	0	0	0	0	0
Gamma	0	0	0	0	0	0	0	0	0	0

Proposed Signage and Barriers (AT&T Sectors)									
Location	Notice 2	Notice 2D	Caution 2	Caution 2B	Caution 2C	Caution 2D	Warning 1B	Warning 2A	Barrier
Monopole Base	0	0	0	1	0	0	0	0	0
Alpha	0	0	0	0	0	0	0	0	0
Beta	0	0	0	0	0	0	0	0	0
Gamma	0	0	0	0	0	0	0	0	0

Final Signage and Barriers (AT&T Sectors)									
Location	Notice 2	Notice 2D	Caution 2	Caution 2B	Caution 2C	Caution 2D	Warning 1B	Warning 2A	Barrier
Monopole Base	0	0	0	1	0	0	0	0	0
Alpha	0	0	0	0	0	0	0	0	0
Beta	0	0	0	0	0	0	0	0	0
Gamma	0	0	0	0	0	0	0	0	0

Monopole Base:

- Install (1) Caution 2B sign at the monopole base.

Alpha:

- No action required.

Beta:

- No action required.

Gamma:

- No action required.

APPENDIX A: AT&T RF SIGNAGE

Sign	Details	Sign	Details
	**Safety Instructions** Provides guidelines on how to proceed and who to contact regarding areas that may exceed either the FCC's General Population or Occupational exposure limits.		**Notice 2** Used to alert individuals that they are entering an area that may exceed the FCC's General Population exposure limits. To be used on barriers or antenna sectors as a hybrid of the Information 1 and Blue Notice 1 signs.
	**Caution 2** Used to alert individuals that they are entering an area that may exceed the FCC's Occupational exposure limits. To be used on barriers or antenna sectors as a hybrid of the Information 1 and Yellow Caution 1 signs.		**Caution 2A** Used to alert individuals that they are entering an area that may exceed the FCC's Occupational exposure limits. To be used on barriers or antenna sectors as a hybrid of the Information 1 and Yellow Caution 1 signs (used in conjunction with painted stripes).
	**Caution 2B** Used to inform individuals that they are entering an area that may exceed the FCC's Occupational exposure limits. Must be placed at the base of the tower to warn tower climbers of potential for exposure.		**Caution 2C** Gives specific information on how to proceed and who to contact regarding antennas that are façade mounted, concealed or on stand-alone structures.
	**Notice 2D** Used to inform individuals accessing adjacent towers that AT&T is exceeding FCC's General Population exposure limits on the structure.		**Caution 2D** Used to inform individuals accessing adjacent towers that AT&T is exceeding FCC's Occupational exposure limits on the structure.
	**Warning 1B** Used to inform individuals that they are entering an area that may exceed the FCC's Occupational exposure limits by a factor of 10 or greater. Must be positioned such that persons approaching from any angle have ample warning to avoid the marked areas.		**Warning 2A** Used to inform individuals that they are entering an area that may exceed the FCC's Occupational exposure limits by a factor of 10 or greater. Must be positioned such that persons approaching from any angle have ample warning to avoid the marked areas (used in conjunction with painted stripes).

APPENDIX B: FCC GUIDELINES AND EMISSIONS THRESHOLD LIMITS

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Because exposure limits may vary for each frequency band, it is necessary to report % MPE rather than power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.

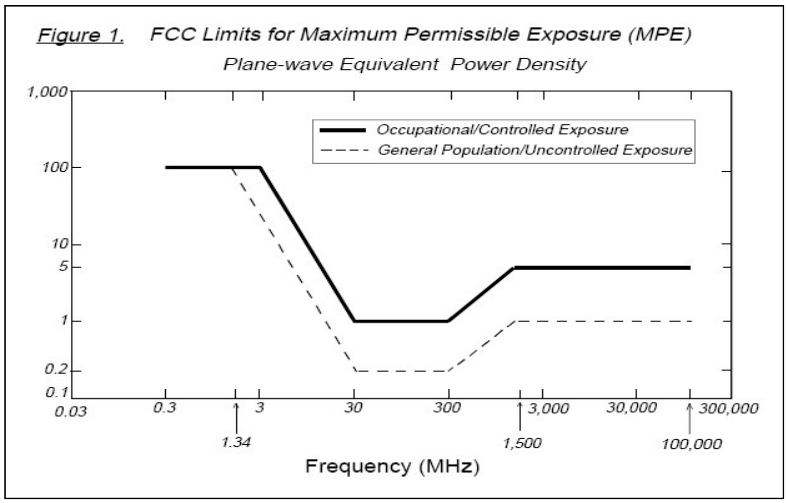
The FCC mandates that if a site is found to be out of compliance with regard to exposure, any system operator contributing 5% or more to areas exceeding the FCC's allowable limits will be responsible for bringing the site into compliance.

Additional details can be found in FCC OET 65.

Limits for Maximum Permissible Exposure (MPE)				
(A) 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	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) 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)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)

* Plane-wave equivalent power density



APPENDIX C: CALCULATION METHODOLOGY

IXUS electromagnetic energy (EME) calculation software was used to assess all RF field levels presented in this study. IXUS software uses a fast and accurate EME calculation tool that allows for the determination of RF field strength in the vicinity of radio communication base stations and transmitters. At its core, the IXUS EME calculation module implements evaluation techniques detailed in the ITU-T K.61, CENELEC EN 50383, and IEC 62232 specifications and referenced in *C95.3 IEEE Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 0 Hz to 300 GHz*. The EME calculation result at any point in 3D space is achieved via a synthetic ray tracing technique, a conservative cylindrical envelope method, or through full-wave electromagnetic simulation. The ray tracing method is an advanced computation method described in IEC 622322 where the power is summed from elemental sources representing the individual components of the antenna which are selected by an analysis of published manufacturer datasheets and antenna pattern information. The selection of the solution method is determined by the particular antenna being considered.

Power Calculation Table

All Systems	Tx power in Watts = (**X**) x 0.75 = Power (Total) 75% Duty Cycle AT&T) Example: **160**W x 0.75 = 120W
C-Band (3800 MHz / DOD-band (3500 MHz)	Tx power in Watts = (**X**) x 0.75 x Power Tolerance 1.412 x Power Reduction Factor 0.32 = Power (Total) 75% Duty Cycle AT&T Example 1: **320**W x 0.75 x 1.412 x 0.32 = 108.44W Example 2: **256**W x 0.75 x 1.412 x 0.32 = 86.75W Example 3: **160**W x 0.75 x 1.412 x 0.32 = 54.22W

APPENDIX D: CERTIFICATIONS

I, Devin Lotter, preparer of this report certify that I am fully trained and aware of the rules and regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I have been trained in the procedures and requirements outlined in AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document.

Devin Lotter

9/25/2024

I, Michael Fischer, reviewer and approver of this report certify that I am fully trained and aware of the rules and regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I have been trained in the procedures and requirements outlined in AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document.

Michael Fischer

9/25/2024

APPENDIX E: PROPRIETARY STATEMENT

This report was prepared for the use of AT&T to meet all applicable FCC requirements. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by Centerline are based solely on the information provided by AT&T and all observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to Centerline so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

PD33 BOONES AND IBACH

MONOPOLE COMMUNICATION SITE

8930 SW NORWOOD RD TUALATIN, OR 97062

LOCATION 45°21'5.52"N 122°46'8.58"W

EXISTING

PROPOSED NORTH ELEVATION (LOOKING SOUTH)

Disclaimer: These photographic simulations have been provided to aid in visualizing how the proposed wireless telecommunications facility shown herein would appear if constructed. While these renderings are not an exact science, they have been prepared diligently to accurately reflect dimensions, scale, depth, coloring, texture, and other important elements in the proposed design insofar as the digital medium allows. Taken together with the engineering drawings and other materials submitted with the application, they are fair and reasonable visual depictions of how the proposed site would appear.

PD33 BOONES AND IBACH

MONOPOLE COMMUNICATION SITE

8930 SW NORWOOD RD TUALATIN, OR 97062

LOCATION 45°21'5.52"N 122°46'8.58"W

EXISTING

PROPOSED EAST ELEVATION (LOOKING WEST)

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PD33 BOONES AND IBACH

MONOPOLE COMMUNICATION SITE

8930 SW NORWOOD RD TUALATIN, OR 97062

LOCATION 45°21'5.52"N 122°46'8.58"W

EXISTING

PROPOSED SOUTHEAST ELEVATION (LOOKING NORTHWEST)

Disclaimer: These photographic simulations have been provided to aid in visualizing how the proposed wireless telecommunications facility shown herein would appear if constructed. While these renderings are not an exact science, they have been prepared diligently to accurately reflect dimensions, scale, depth, coloring, texture, and other important elements in the proposed design insofar as the digital medium allows. Taken together with the engineering drawings and other materials submitted with the application, they are fair and reasonable visual depictions of how the proposed site would appear.

PD33 BOONES AND IBACH

MONOPOLE COMMUNICATION SITE

8930 SW NORWOOD RD TUALATIN, OR 97062

LOCATION 45°21'5.52"N 122°46'8.58"W © 2020 GOOGLE MAPS

EXISTING

PROPOSED NORTHEAST ELEVATION (LOOKING SOUTHWEST)

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1455 SW Broadway, Suite 1450
(503)646-4444

OWNERSHIP AND ENCUMBRANCES REPORT WITH GENERAL INDEX LIENS
Informational Report of Ownership and Monetary and Non-Monetary Encumbrances

To ("Customer"): Centerline Communications LLC
2812 SW Bertha Blvd
Portland, OR 97239

Customer Ref.: _____
Order No.: 472525000306
Effective Date: January 23, 2025 at 08:00 AM
Charge: $350.00

The information contained in this report is furnished by Chicago Title Company of Oregon (the "Company") as a real property information service based on the records and indices maintained by the Company for the county identified below. THIS IS NOT TITLE INSURANCE OR A PRELIMINARY TITLE REPORT FOR, OR COMMITMENT FOR, TITLE INSURANCE. No examination has been made of the title to the herein described property, other than as specifically set forth herein. Liability for any loss arising from errors and/or omissions is limited to the lesser of the charge or the actual loss, and the Company will have no greater liability by reason of this report. THIS REPORT IS SUBJECT TO THE LIMITATIONS OF LIABILITY STATED BELOW, WHICH LIMITATIONS OF LIABILITY ARE A PART OF THIS REPORT.

THIS REPORT INCLUDES MONETARY AND NON-MONETARY ENCUMBRANCES.

Part One - Ownership and Property Description

Owner. The apparent vested owner of property ("the Property") as of the Effective Date is:

The City of Tualatin, a municipal corporation

Premises. The Property is:

(a) Street Address:

8930 SW Norwood Road, Tualatin, OR 97062

(b) Legal Description:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

Part Two - Encumbrances

Encumbrances. As of the Effective Date, the Property appears subject to the following monetary and non-monetary encumbrances of record, not necessarily listed in order of priority, including liens specific to the subject property and general index liens (liens that are not property specific but affect any real property of the named person in the same county):

EXCEPTIONS

1. Taxes, including the current fiscal year, not assessed because of City Owned Exemption. If the exempt status is terminated under the statute prior to the date on which the assessment roll becomes the tax roll in the year in which said taxes were assessed, an additional tax may be levied.
   Levy Code: 088.15
   Account No.: R560217
   Map No.: 2S135DA00101
   (Affects land and improvements)

2. City Liens, if any, in favor of the City of Tualatin. No search has been made as to the existence of any liens. A search will be conducted, for an additional charge upon request of the Assured herein named.

3. Covenants, Conditions and Restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in Warranty Deed:
   Recording Date: July 12, 1971
   Book: 825
   Page: 873

4. Terms and provisions, including obligations for maintenance of Easement as established by Oregon Law and by instrument;
   Recording Date: July 12, 1971
   Book: 825
   Page: 876

5. Waiver of Remonstrance and Consent to Local Improvement District:
   Purpose: Accepted farm or forestry practices
   Recording Date: October 12, 1988
   Recording No.: 88-045430

6. Declaration of Restrictive Covenant for Abandoned Telecommunication Antennas or Towers, including the terms and provisions thereof;
   Recording Date: April 19, 2007
   Recording No.: 2007-043669

7. A Memorandum of Lease with certain terms, covenants, conditions and provisions set forth therein.
   Dated: Not disclosed
   Lessor: City of Tualatin, a municipal corporation
   Lessee: T-Mobile West Corporation, a Delaware corporation
   Recording Date: July 25, 2007
   Recording No.: 2007-081456

   By numerous assignments and name changes, the lessee's interest is currently held by SBA Monarch Towers I, LLC, a Delaware limited liability company

8. A Line of Credit Deed of Trust, Security Agreement, Fixture Filing and Assignment of Leases and Rents to secure an indebtedness in the amount shown below,
Amount: $3,170,000,000.00
Dated: April 18, 2013
Grantor: SBA Monarch Towers I, LLC, a Delaware limited liability company, f/k/a Mobilitie Investments LLC
Trustee: Stewart Title of Oregon, Inc.
Beneficiary: Deutsche Bank Company Americas, as trustee
Recording Date: September 30, 2013
Recording No.: 2013-087340

And amended by instrument;
Recording Date: April 28, 2015
Recording No.: 2015-031154

And further amended by instrument;
Recording Date: April 11, 2016
Recording No.: 2016-026965

And further amended by instrument;
Recording Date: September 30, 2016
Recording No.: 2016-080054

And further amended by instrument;
Recording Date: August 3, 2017
Recording No.: 2017-61603

And further amended by instrument;
Recording Date: May 5, 2020
Recording No.: 2020-037961

And further amended by instrument;
Recording Date: December 3, 2020
Recording No.: 2020-123144

And further amended by instrument;
Recording Date: December 9, 2021
Recording No.: 2021-126687

And further amended by instrument;
Recording Date: April 4, 2022
Recording No.: 2022-022836

And further amended by instrument;
Recording Date: February 16, 2023
Recording No.: 2023-006025

9. A Memorandum of Lease Agreement with certain terms, covenants, conditions and provisions set forth therein.
Dated: July 18, 2014
Lessor: The City of Tualatin, Oregon, an Oregon municipal corporation
Lessee: Verizon Wireless (VAW) LLC d/b/a Verizon Wireless
Recording Date: August 12, 2014
Recording No.: 2014-050246

10. Memorandum of Antenna Site Agreement, including the terms and provisions thereof;
Grantor: SB Monarch Towers I, LLC, a Delaware limited liability company
Grantee: Verizon Wireless (VAW) LLC d/b/a Verizon Wireless
Recording Date: November 12, 2014
Recording No.: 2014-072269

ADDITIONAL NOTES_____

NOTE: Property taxes for the fiscal year shown below are paid in full.
Fiscal Year: 2024-2025
Amount: $3,896.93
Levy Code: 088.15
Account No.: R2154937
Map No.: 2S135DA00101
(Affects cell tower site)

End of Reported Information

There will be additional charges for additional information or copies. For questions or additional requests, contact:

Nathan Hobbs
503-646-4444
nathan.hobbs@titlegroup.fntg.com

Chicago Title Company of Oregon
1455 SW Broadway, Suite 1450
Portland, OR 97201

EXHIBIT "A"

Legal Description

For APN/Parcel ID(s): R2154937
For Tax Map ID(s): 2S135DA00101

A tract of land situated in the Southeast one-quarter of Section 35, Township 2 South, Range I West of the Willamette Meridian, in the City of Tualatin, County of Washington and State of Oregon, more particularly described as follows:

Beginning at the Northeast corner of that tract of land described in Deed to the Sherwood School District No. 88J recorded in Book 804, Page 820, Records of Washington County; thence South along the East line thereof 676.5 feet to the Southeast corner of said tract, and the true point of beginning of the herein described tract; thence continuing South along the East line extended Southerly 200 feet to a point; thence East, parallel with the South line of said school district tract extended Easterly, 300 feet to a point; thence North on a line parallel with the East line of said school district extended Southerly 200 feet to a point; thence West 300 feet to the true point of beginning.

TOGETHER WITH the Easements and Appurtenances as described in instrument recorded July 12, 1971, in Book 825, Page 876, Washington County Deed Records.

LIMITATIONS OF LIABILITY

"CUSTOMER" REFERS TO THE RECIPIENT OF THIS REPORT.

CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES THAT IT IS EXTREMELY DIFFICULT, IF NOT IMPOSSIBLE, TO DETERMINE THE EXTENT OF LOSS WHICH COULD ARISE FROM ERRORS OR OMISSIONS IN, OR THE COMPANY'S NEGLIGENCE IN PRODUCING, THE REQUESTED REPORT, HEREIN "THE REPORT." CUSTOMER RECOGNIZES THAT THE FEE CHARGED IS NOMINAL IN RELATION TO THE POTENTIAL LIABILITY WHICH COULD ARISE FROM SUCH ERRORS OR OMISSIONS OR NEGLIGENCE. THEREFORE, CUSTOMER UNDERSTANDS THAT THE COMPANY IS NOT WILLING TO PROCEED IN THE PREPARATION AND ISSUANCE OF THE REPORT UNLESS THE COMPANY'S LIABILITY IS STRICTLY LIMITED. CUSTOMER AGREES WITH THE PROPRIETY OF SUCH LIMITATION AND AGREES TO BE BOUND BY ITS TERMS

THE LIMITATIONS ARE AS FOLLOWS AND THE LIMITATIONS WILL SURVIVE THE CONTRACT:

ONLY MATTERS IDENTIFIED IN THIS REPORT AS THE SUBJECT OF THE REPORT ARE WITHIN ITS SCOPE. ALL OTHER MATTERS ARE OUTSIDE THE SCOPE OF THE REPORT.

CUSTOMER AGREES, AS PART OF THE CONSIDERATION FOR THE ISSUANCE OF THE REPORT AND TO THE FULLEST EXTENT PERMITTED BY LAW, TO LIMIT THE LIABILITY OF THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS FOR ANY AND ALL CLAIMS, LIABILITIES, CAUSES OF ACTION, LOSSES, COSTS, DAMAGES AND EXPENSES OF ANY NATURE WHATSOEVER, INCLUDING ATTORNEY'S FEES, HOWEVER ALLEGED OR ARISING, INCLUDING BUT NOT LIMITED TO THOSE ARISING FROM BREACH OF CONTRACT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF WARRANTY, EQUITY, THE COMMON LAW, STATUTE OR ANY OTHER THEORY OF RECOVERY, OR FROM ANY PERSON'S USE, MISUSE, OR INABILITY TO USE THE REPORT OR ANY OF THE MATERIALS CONTAINED THEREIN OR PRODUCED**, SO THAT THE TOTAL AGGREGATE LIABILITY OF THE COMPANY AND ITS AGENTS, SUBSIDIARIES, AFFILIATES, EMPLOYEES, AND SUBCONTRACTORS SHALL NOT IN ANY EVENT EXCEED THE COMPANY'S TOTAL FEE FOR THE REPORT.**

CUSTOMER AGREES THAT THE FOREGOING LIMITATION ON LIABILITY IS A TERM MATERIAL TO THE PRICE THE CUSTOMER IS PAYING, WHICH PRICE IS LOWER THAN WOULD OTHERWISE BE OFFERED TO THE CUSTOMER WITHOUT SAID TERM. CUSTOMER RECOGNIZES THAT THE COMPANY WOULD NOT ISSUE THE REPORT BUT FOR THIS CUSTOMER AGREEMENT, AS PART OF THE CONSIDERATION GIVEN FOR THE REPORT, TO THE FOREGOING LIMITATION OF LIABILITY AND THAT ANY SUCH LIABILITY IS CONDITIONED AND PREDICATED UPON THE FULL AND TIMELY PAYMENT OF THE COMPANY'S INVOICE FOR THE REPORT.

THE REPORT IS LIMITED IN SCOPE AND IS NOT AN ABSTRACT OF TITLE, TITLE OPINION, PRELIMINARY TITLE REPORT, TITLE REPORT, COMMITMENT TO ISSUE TITLE INSURANCE, OR A TITLE POLICY, AND SHOULD NOT BE RELIED UPON AS SUCH. THE REPORT DOES NOT PROVIDE OR OFFER ANY TITLE INSURANCE, LIABILITY COVERAGE OR ERRORS AND OMISSIONS COVERAGE. THE REPORT IS NOT TO BE RELIED UPON AS A REPRESENTATION OF THE STATUS OF TITLE TO THE PROPERTY. THE COMPANY MAKES NO REPRESENTATIONS AS TO THE REPORT'S ACCURACY, DISCLAIMS ANY WARRANTY AS TO THE REPORT, ASSUMES NO DUTIES TO CUSTOMER, DOES NOT INTEND FOR CUSTOMER TO RELY ON THE REPORT, AND ASSUMES NO LIABILITY FOR ANY LOSS OCCURRING BY REASON OF RELIANCE ON THE REPORT OR OTHERWISE.

IF CUSTOMER (A) HAS OR WILL HAVE AN INSURABLE INTEREST IN THE SUBJECT REAL PROPERTY, (B) DOES NOT WISH TO LIMIT LIABILITY AS STATED HEREIN AND (C) DESIRES THAT ADDITIONAL LIABILITY BE ASSUMED BY THE COMPANY, THEN CUSTOMER MAY REQUEST AND PURCHASE A POLICY OF TITLE INSURANCE, A BINDER, OR A COMMITMENT TO ISSUE A POLICY OF TITLE INSURANCE. NO ASSURANCE IS GIVEN AS TO THE INSURABILITY OF THE TITLE OR STATUS OF TITLE. CUSTOMER EXPRESSLY AGREES AND ACKNOWLEDGES IT HAS AN INDEPENDENT DUTY TO ENSURE AND/OR RESEARCH THE ACCURACY OF ANY INFORMATION OBTAINED FROM THE COMPANY OR ANY PRODUCT OR SERVICE PURCHASED.

NO THIRD PARTY IS PERMITTED TO USE OR RELY UPON THE INFORMATION SET FORTH IN THE REPORT, AND NO LIABILITY TO ANY THIRD PARTY IS UNDERTAKEN BY THE COMPANY.

CUSTOMER AGREES THAT, TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT WILL THE COMPANY, ITS LICENSORS, AGENTS, SUPPLIERS, RESELLERS, SERVICE PROVIDERS, CONTENT PROVIDERS, AND ALL OTHER SUBSCRIBERS OR SUPPLIERS, SUBSIDIARIES, AFFILIATES, EMPLOYEES AND SUBCONTRACTORS BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE, EXEMPLARY, OR SPECIAL DAMAGES, OR LOSS OF PROFITS, REVENUE, INCOME, SAVINGS, DATA, BUSINESS, OPPORTUNITY, OR GOODWILL, PAIN AND SUFFERING, EMOTIONAL DISTRESS, NON-OPERATION OR INCREASED EXPENSE OF OPERATION, BUSINESS INTERRUPTION OR DELAY, COST OF CAPITAL, OR COST OF REPLACEMENT PRODUCTS OR SERVICES, REGARDLESS OF WHETHER SUCH LIABILITY IS BASED ON BREACH OF CONTRACT, TORT, NEGLIGENCE, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTIES, FAILURE OF ESSENTIAL PURPOSE, OR OTHERWISE AND WHETHER CAUSED BY NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY, BREACH OF CONTRACT, BREACH OF WARRANTY, THE COMPANY'S OWN FAULT AND/OR NEGLIGENCE OR ANY OTHER CAUSE WHATSOEVER, AND EVEN IF THE COMPANY HAS BEEN ADVISED OF THE LIKELIHOOD OF SUCH DAMAGES OR KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY FOR SUCH DAMAGES.

END OF THE LIMITATIONS OF LIABILITY