Tillamook County

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

1510 – B Third Street
Tillamook, Oregon 97141
www.tillamook.or.us
Building (503) 842-3407
Planning (503) 842-3408
Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1(800) 488-8280

Land of Cheese, Trees and Ocean Breeze

VARIANCE REQUEST #851-25-000077-PLNG:
Stimson Lumber Company
Verizon Communications Facility

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER:
ORS 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE,
IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER

NOTICE OF ADMINISTRATIVE REVIEW
Date of Notice: March 31, 2025

Notice is hereby given that the Tillamook County Department of Community Development is considering the following:

#851-25-000077-PLNG: A Variance request to reduce the required 30-foot property line setback to 4-feet 7-inches for the siting of a new wireless communications facility. Located east of the Unincorporated Community of Siskeyville, the subject property is located at 18098 Wilson River Highway, a state highway, and is designated as Tax Lot 200 of Section 9B, Township 1 South, Range 8 West of the Willamette Meridian, Tillamook County, Oregon. The property is zoned Forest (F). The applicant is Tessie Murakami, and the property owner is Stimson Lumber Company.

Written comments received by the Department of Community Development prior to 4:00 p.m. on April 14, 2025, will be considered in rendering a decision. Comments should address the criteria upon which the Department must base its decision. Notice of the application, a map of the subject area, and the applicable criteria are being mailed to all property owners within 750-feet of the exterior boundaries of the subject parcel for which an application has been made and other appropriate agencies at least 14-days prior to this Department rendering a decision on the request. A decision will be rendered no sooner than April 15, 2025.

A copy of the application, along with a map of the request area and the applicable criteria for review are available for inspection at the Department of Community Development office located at 1510-B Third Street, Tillamook, Oregon 97141. They are also available on the Tillamook County Department of Community Development website: https://www.co.tillamook.or.us/commdev/landuseapps.

If you have any questions about this application, please contact the Department of Community Development at (503) 842-3408 or by contacting Sarah Thompson, Office Specialist, at Sarah.thompson@tillamookcounty.gov. Comments can be emailed to Sarah Thompson, Office Specialist, at Sarah.thompson@tillamookcounty.gov.

Sincerely,

Sarah Absher

Sarah Absher, CFM, Director

Enc. Maps and Applicable Ordinance criteria

REVIEW CRITERIA

ARTICLE VIII - VARIANCE PROCEDURES AND CRITERIA

SECTION 8.030: REVIEW CRITERIA: A VARIANCE shall be granted, according to the procedures set forth in Section 8.020, if the applicant adequately demonstrates that the proposed VARIANCE satisfies all of the following criteria:

(1) Circumstances attributable either to the dimensional, topographic, or hazardous characteristics of a legally existing lot, or to the placement of structures thereupon, would effectively preclude the enjoyment of a substantial property right enjoyed by the majority of landowners in the vicinity, if all applicable standards were to be met. Such circumstances may not be self-created.

(2) A VARIANCE is necessary to accommodate a use or accessory use on the parcel which can be reasonably expected to occur within the zone or vicinity.

(3) The proposed VARIANCE will comply with the purposes of relevant development standards as enumerated in Section 4.005 and will preserve the right of adjoining property owners to use and enjoy their land for legal purposes.

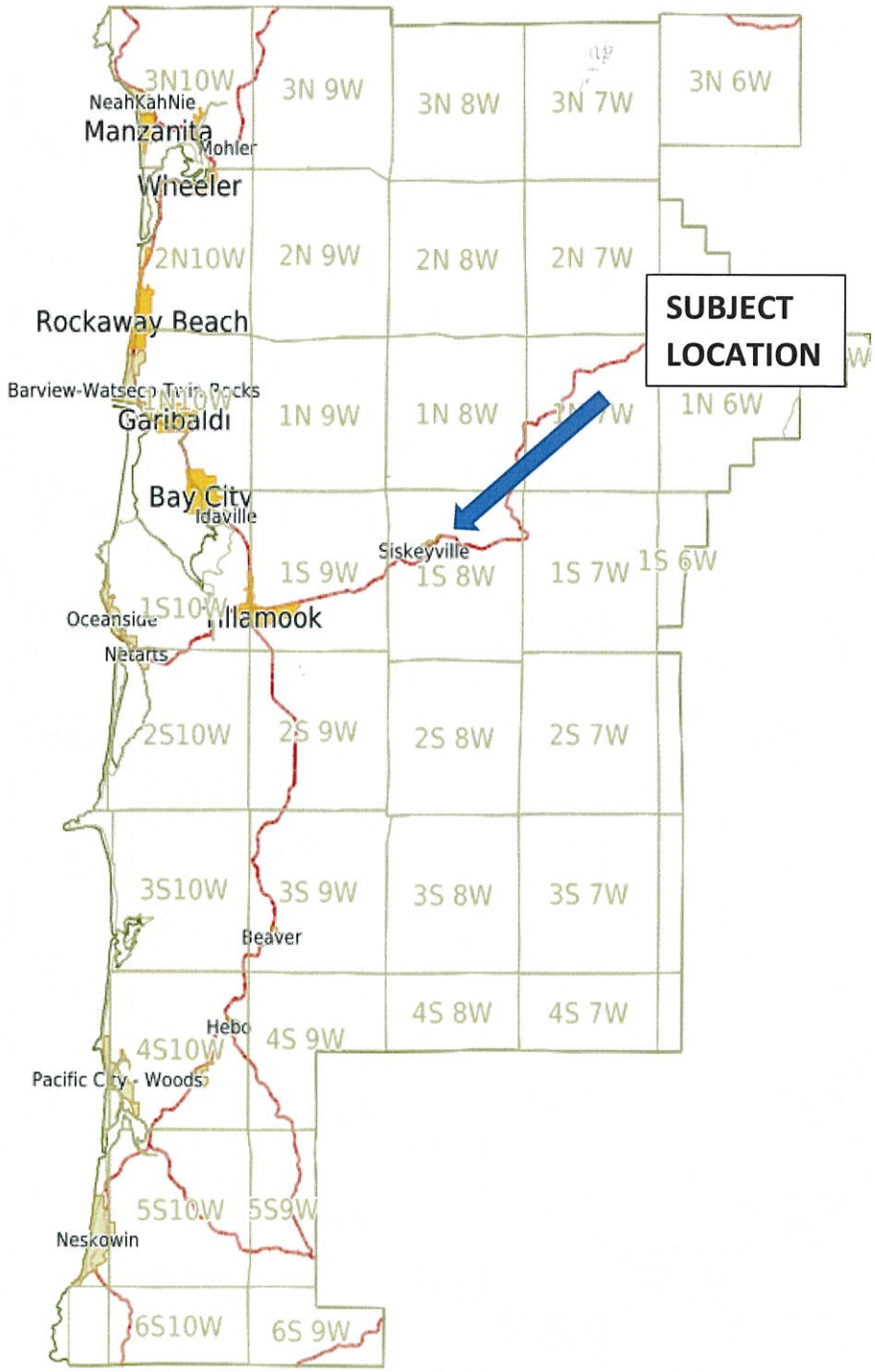
(4) There are no reasonable alternatives requiring either a lesser or no VARIANCE.

SECTION 4.005: RESIDENTIAL AND COMMERCIAL ZONE STANDARDS

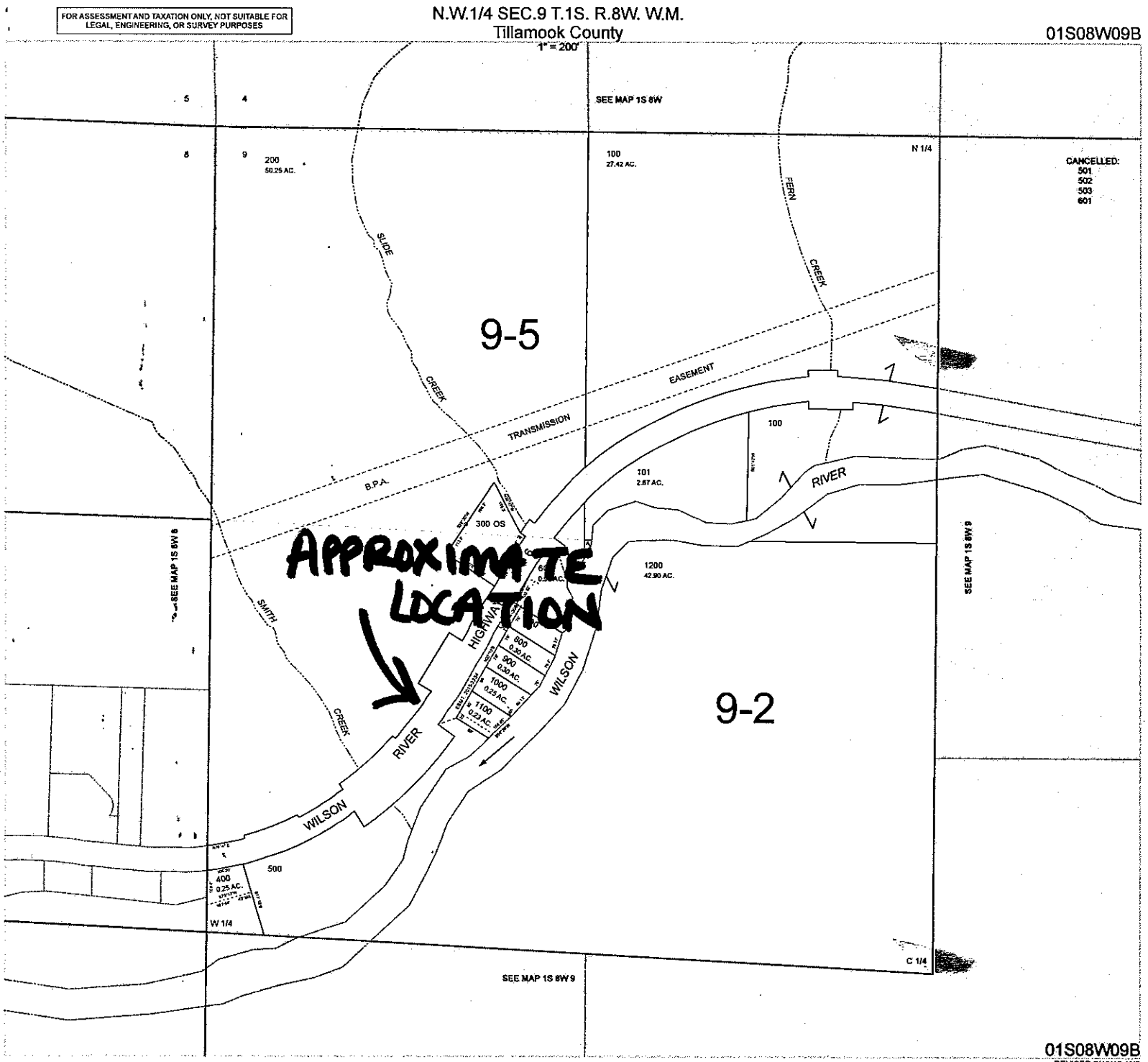
PURPOSE: In all RESIDENTIAL AND COMMERCIAL ZONES, the purpose of land use standards are the following:

(1) To ensure the availability of private open space;
(2) To ensure that adequate light and air are available to residential and commercial structures;
(3) To adequately separate structures for emergency access;
(4) To enhance privacy for occupants of residences;
(5) To ensure that all private land uses that can be reasonably expected to occur on private land can be entirely accommodated on private land, including but not limited to dwellings, shops, garages, driveways, parking, areas for maneuvering vehicles for safe access to common roads, alternative energy facilities, and private open spaces;
(6) To ensure that driver visibility on adjacent roads will not be obstructed;
(7) To ensure safe access to and from common roads;
(8) To ensure that pleasing views are neither unreasonably obstructed nor obtained;
(9) To separate potentially incompatible land uses;
(10) To ensure access to solar radiation for the purpose of alternative energy production.

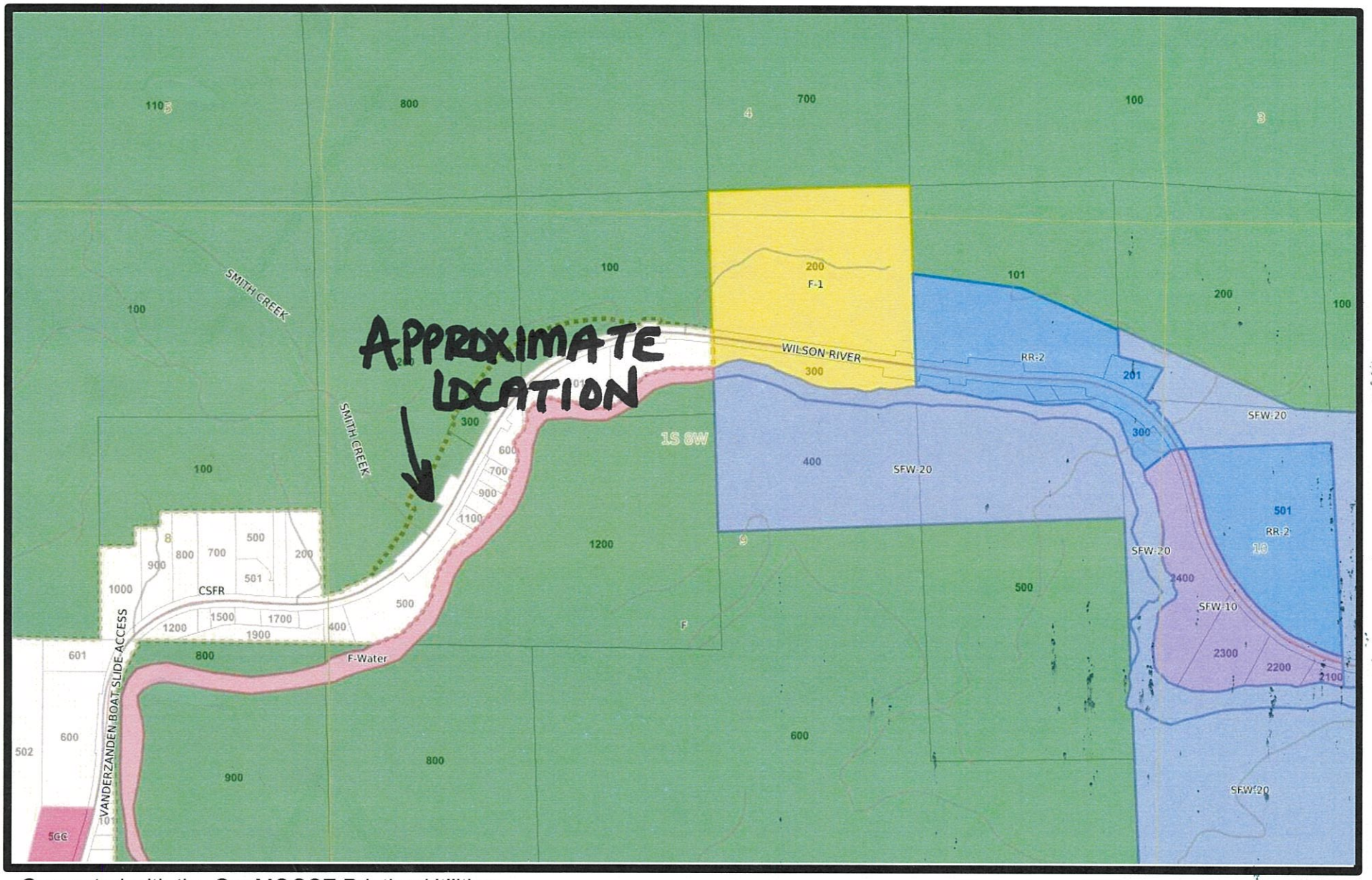
VICINITY MAP



#851-25-000077-PLNG: Communications Facility Variance Request


FOR ASSESSMENT AND TAXATION ONLY, NOT SUITABLE FOR LEGAL, ENGINEERING, OR SURVEY PURPOSES
N.W.1/4 SEC.9 T.1S. R.8W. W.M.
Tillamook County
01S08W09B
1" = 200'
SEE MAP 1S 8W
CANCELLED: 501 502 503 601
N 1/4
100 27.42 AC.
200 50.25 AC.
9-5
SLIDE CREEK
FERN CREEK
EASEMENT
TRANSMISSION
B.P.A.
100
101 2.87 AC.
RIVER
300 OS
APPROXIMATE LOCATION
1200 42.90 AC.
SEE MAP 1S 8W 9
SEE MAP 1S 8W 8
SMITH CREEK
HIGHWAY
600 0.30 AC.
900 0.30 AC.
1000 0.25 AC.
1100 0.23 AC.
WILSON
9-2
RIVER
WILSON
500
400 0.25 AC.
W 1/4
C 1/4
SEE MAP 1S 8W 9
01S08W09B
REVISED 2/18/16, WS

Map



Generated with the GeoMOOSE Printing Utilities

Tillamook County Department of Community Development
1510-B Third Street. Tillamook, OR 97141 | Tel: 503-842-3408 Fax: 503-842-1819
www.co.tillamook.or.us

PLANNING APPLICATION

OFFICE USE ONLY
Date Stamp: RECEIVED FEB 2 1 2025 BY:
☐Approved ☐Denied
Received by:
Receipt #:
Fees:
Permit No: 851-25-000077-PLNG

Applicant ☐ *(Check Box if Same as Property Owner)*

Name: Tessie Murakami Phone: 310.483.5343

Address: 5200 SW Meadows Rd., Suite 150

City: Lake Oswego State: OR Zip: 97035

Email: tessie.murakami@acomconsultinginc.com

Property Owner

Name: Stimson Lumber Company Phone: 208-762-6553

Address: 9400 SW Barnes Rd., Suite 530

City: Portland State: OR Zip: 97225

Email: tmadison@stimsonlumber.com (Tyler Madison, RE Manager)

Request: Type II Variance Review for a new wireless communications facility (with Verizon Wireless antennas colocated on light pole) along Highway 6.

Request to locate tower 4 ft. 7 inches from property boundary line to support service along Highway.

Type II	Type III	Type IV
☐ Farm/Forest Review	☐ Detailed Hazard Report	☐ Ordinance Amendment
☐ Conditional Use Review	☐ Conditional Use (As deemed by Director)	☐ Large-Scale Zoning Map Amendment
☑ Variance	☐ Ordinance Amendment	☐ Plan and/or Code Text Amendment
☐ Exception to Resource or Riparian Setback	☐ Map Amendment	
☐ Nonconforming Review (Major or Minor)	☐ Goal Exception	
☐ Development Permit Review for Estuary Development	☐ Nonconforming Review (As deemed by Director)	
☐ Non-farm dwelling in Farm Zone	☐ Variance (As deemed by Director)	
☐ Foredune Grading Permit Review		
☐ Neskowin Coastal Hazards Area		

Location:

Site Address: 18098 Wilson River Hwy., Tillamook, OR 97141 (137621/1S0809B000200)

Map Number: 1S	08	09B	200
Township	Range	Section	Tax Lot(s)

Clerk's Instrument #: _____

Authorization

This permit application does not assure permit approval. The applicant and/or property owner shall be responsible for obtaining any other necessary federal, state, and local permits. The applicant verifies that the information submitted is complete, accurate, and consistent with other information submitted with this application.

COAST UNIT MANAGER — 2/11/25

Property Owner Signature (Required) — Date

Tessie Murakami — 2/14/25

Applicant Signature — Date

Acom
CONSULTING, INC

I. GENERAL INFORMATION

Applicant:	Verizon Wireless 5430 NE 122nd Avenue Portland, OR 97230
Representative:	Acom Consulting, Inc. Tessie Murakami 5200 SW Meadows Rd., Suite 150 Lake Oswego, OR 97035
Property Owner:	Stimson Lumber 9400 SW Barnes Rd., Suite 530 Portland, OR 97225

Project Information:

Site Address:	18098 Wilson River Hwy, Tillamook, OR 97141
Parcel:	1S0809B000200
Account Number:	137621
Parcel Area:	50.25 acres
Zone Designation:	F (Forest)
Existing Use:	Forest
Project Area:	100 Square Feet (10' x 10') accessed by a short 10' wide access and utility easement.

II. PROJECT OVERVIEW

Acom Consulting is applying on behalf of Verizon Wireless, who will own and operate the tower and ground space; Cellco Partnership dba Verizon Wireless, who will be located on this facility and the property owner, Tillamook County. The site proposed herein is designed to improve the voice and data capacity for its customers in Tillamook County and along Highway 6. This is part of the initiative to provide better coverage of 911 calls on the highway since it is known as the deadly stretches in Oregon. The state is mandating all carriers to address the coverage gap at HWY OR-6.

The applicant proposes to construct a new wireless communications facility ("WCF") within a 10' x 10' ground lease area. This proposal includes a 35-foot monopole tower with up to 3 antennas at an antenna tip-height of 35' and associated RRU's, equipment cabinets, backup generator, and high security fence with 3 strands barbed wire. The site will be accessed via an existing driveway off HWY OR-6.

The monopole tower would be a metal pole and can be painted a non-reflective color to blend with the adjacent mature trees and sky. The proposed monopole (small cell) is only 35' and is a part of Verizon's small cells project in Tillamook County which is requiring additional poles to be installed along HWY OR-6 for the proposal

to provide adequate service coverage in the area. The County requested for the additional pole height of 35' to allow for future colocation by County antennas after application/structural review by Verizon.

This site was chosen because HWY OR-6 is currently significantly underserved by wireless coverage, even though there is a substantial amount of traffic every day. The lack of existing wireless facilities in the area contributes to lack of coverage. The newly proposed small cells will provide much needed coverage in areas that would be difficult to serve using conventional tower-based transmitters. These sites will not only help improve customer experience but also help public safety and emergency services by allowing communication in an otherwise cut-off area.

This site can meet the Tillamook County criteria for sitting of new wireless telecommunication facilities, including height, setbacks and design as demonstrated herein. As shown throughout this application, Verizon's proposal is the least intrusive means of meeting coverage objectives. The applicants respectfully request that Tillamook County approve the variance and facility as proposed.

III. PROPOSED PLAN

This is a variance request to reduce the required 30-foot property line setback to 4 ft. 7 inches to support the approved construction of the 35 ft. monopole tower to provide cellular service and coverage along the highway. The subject property is surrounded by Forest and highway traffic.

IV. APPLICABLE ORDINANCE AND COMPREHENSIVE PLAN PROVISIONS

A. TCLUO Section 3.004 – Forest (F) Zone
B. TCLUO Article VIII – Variance Procedures and Criteria - Section 8.030 Review Criteria

V. ANALYSIS

A. TCLUO Section 3.004 – Forest (F) Zone

(1) PURPOSE
(a) The purpose of the Forest (F) Zone is to protect and maintain forest lands for grazing, and rangeland use and forest use, consistent with existing and future needs for agricultural and forest products. The F zone is also intended to allow other uses that are compatible with agricultural and forest activities, to protect scenic resources and fish and wildlife habitat, and to maintain and improve the quality of air, water and land resources of the county.

(b) The F zone has been applied to lands designated as Forest in the Comprehensive Plan. The provisions of the F zone reflect the forest land policies of the Comprehensive Plan

as well as the requirements of ORS Chapter 215 and OAR 660-006. The minimum parcel size and other standards established by this zone are intended to promote commercial forest operations.

Applicant's response: The proposed WCF is located in the Forest (F) zone.

(2) DEFINITIONS
Words used in the present tense include the future; the singular number includes the plural; and the word "shall" is mandatory and not directory. Whenever the term "this ordinance" is used herewith, it shall be deemed to include all amendments thereto as may hereafter from time to time be adopted.

For the purpose of this zone, the following definitions apply:

(dd) UTILITY FACILITIES NECESSARY FOR PUBLIC SERVICE: Unless otherwise specified in this Article, any facility owned or operated by a public, private or cooperative company for the transmission, distribution or processing of its products or for the disposal of cooling water, waste or by-products, and including, major trunk, pipelines, dams & and other hydroelectric facilities, water towers, sewage lagoons, cell towers, electrical transmission facilities (except transmission towers over 200' in height) including substations not associated with a commercial power generating facilities and other similar facilities.

Applicant's response: The proposed WCF qualifies as a utility facility necessary for public service.

B. TCLUO Article VIII – Variance Procedures and Criteria - Section 8.030 Review Criteria

SECTION 8.030: REVIEW CRITERIA

A VARIANCE shall be granted, according to the procedures set forth in Section 8.020, if the applicant adequately demonstrates that the proposed VARIANCE satisfies all of the following criteria:

(1) Circumstances attributable either to the dimensional, topographic, or hazardous characteristics of a legally existing lot, or to the placement of structures thereupon, would effectively preclude the enjoyment of a substantial property right enjoyed by the majority of landowners in the vicinity, if all applicable standards were to be met. Such circumstances may not be self-created.

Applicant's response:
The proposed site for the 35-foot monopole was selected after careful consideration of the topographic features of the land. The terrain along Highway 6 presents challenges, such as uneven land or areas with limited elevation, which restrict the ability to place a taller tower that would otherwise meet coverage objectives. The 35-foot monopole represents an optimal height for ensuring coverage without imposing significant visual impact on the landscape or surrounding properties. The site's dimensions and natural features make this tower the most feasible solution for expanding service in this area.

The placement of the tower 4 feet and 7 inches from the highway is a critical factor in ensuring that the structure will effectively meet the coverage requirements. The unique topography and layout of the land make this location optimal for extending the network's range, ensuring strong and reliable service along

the highway. The tower must be positioned at this exact distance from the highway to take advantage of natural line-of-sight coverage, minimizing potential interference and maximizing signal strength. Further, no hazardous areas or conditions, such as flood zones or unstable terrain, would affect the tower installation. The precise distance of 4 feet and 7 inches ensures that the tower is positioned in a safe location relative to the highway, ensuring the safety of both the infrastructure and the surrounding community.

(2) A VARIANCE is necessary to accommodate a use or accessory use on the parcel which can be reasonably expected to occur within the zone or vicinity.

Applicant's response:
A variance is necessary for the proposed 35-foot monopole tower to be positioned along Highway 6 to accommodate the wireless infrastructure needed to address the substantial coverage gap in the area. The variance will allow Verizon to place the monopole in a way that provides effective service coverage while complying with the unique topographic, dimensional, and zoning requirements of the parcel. Although the use of a telecommunications tower is generally reasonable and expected use within this zone or vicinity, the specific placement and dimensions required for the tower to function effectively call for a variance.

The installation of wireless telecommunications infrastructure, including monopole towers, is a reasonable and common use within this zone and vicinity, especially along major highways like Highway 6. The need for reliable mobile service—both for general users and for public safety communications—makes this infrastructure essential. However, due to the topography of the site and the need for the monopole to be positioned 4 feet and 7 inches from the highway to maximize signal effectiveness, the structure cannot conform to the standard 30 ft. setback requirements.

(3) The proposed VARIANCE will comply with the purposes of relevant development standards as enumerated in Section 4.005 and will preserve the right of adjoining property owners to use and enjoy their land for legal purposes.

Applicant's response:
The proposed variance for the 35-foot monopole tower along Highway 6 will comply with the purposes of the relevant development standards as outlined in Section 4.005 of the zoning code. These standards are designed to ensure that new development is compatible with surrounding land uses, protects the health, safety, and welfare of the community, and minimizes negative impacts on neighboring properties.

The monopole's placement and height have been carefully considered to avoid any disruption to adjacent properties. The surrounding land is primarily in a forest zone, where telecommunications infrastructure is expected and compatible with the area's broader land-use goals. The monopole is not near residential properties and the height and location of the tower ensure it does not block light, air, or views in a way that would impact neighboring landowners' enjoyment of their property.

By ensuring the monopole is placed in a location that does not infringe on neighboring landowners' rights to use their property (such as by taking up excessive space or obstructing existing structures), the variance will not preclude the adjacent properties from being used for their intended legal purposes. The

monopole's small footprint and limited visibility ensure that it will not interfere with the enjoyment of adjoining landowners' properties.

(4) There are no reasonable alternatives requiring either a lesser or no VARIANCE.

Applicant's response:
The unique topography of the parcel plays a significant role in determining the location of the monopole. Due to natural land features such as elevation changes, slopes, and the layout of surrounding roads and properties, the placement of the tower in any other location would fail to meet the service coverage requirements or would cause excessive interference with the surrounding environment.

The terrain along Highway 6 restricts where the monopole can be placed for optimal coverage. Moving the tower away from the highway would result in a substantial reduction in coverage, as the signal strength would decrease significantly without the proper line of sight. This precise location, 4 feet and 7 inches from the highway, ensures that the tower can provide the necessary coverage for both travelers and residents while minimizing interference from nearby structures or topographic obstacles.

Further, the monopole must be placed as close as possible to the highway to ensure adequate coverage along this vital transportation corridor. Moving the tower further away from the highway would result in signal degradation and failure to meet Verizon's coverage objectives. Without the variance, the monopole could not achieve the necessary height, coverage, or line of sight required to serve the area effectively.

The requested variance for the 35-foot monopole tower is necessary because there are no reasonable alternatives that would meet the service needs of the area without requiring either a lesser or no variance. The unique topography, zoning restrictions, and engineering requirements dictate that the tower must be positioned 4 feet and 7 inches from the highway to provide the optimal coverage along Highway 6. Relocating the tower or attempting to reduce the variance would result in inadequate service coverage, failure to meet Verizon's technical requirements, and potential disruption to surrounding properties. Therefore, the proposed variance is the only feasible option to ensure the tower serves its intended purpose while minimizing impacts to the surrounding community.

Verizon respectfully request the County approve the Variance to the 30-ft setback.

verizon

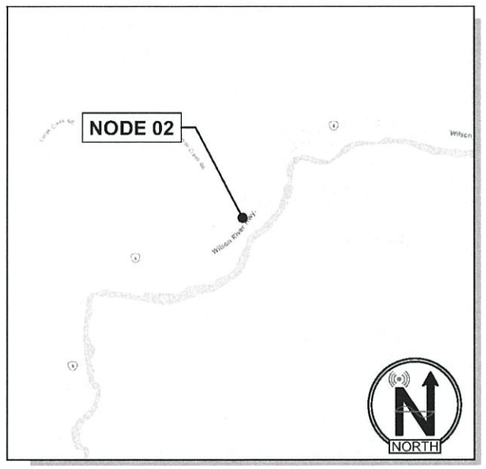
HWY 6

RECEIVED
FEB 2 1 2025
BY:

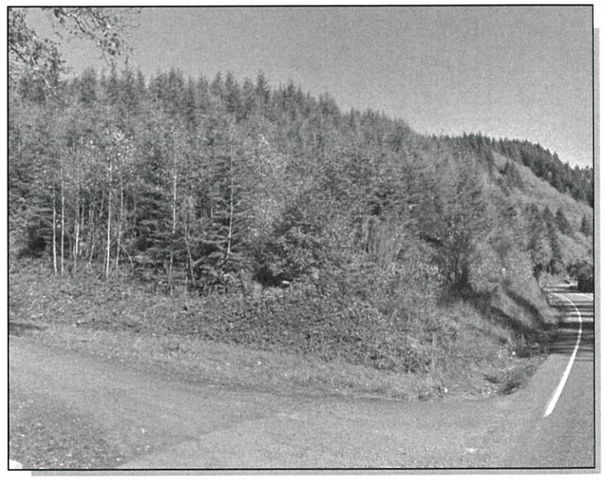
MDG LC: 5000906497

SITE NAME:	POR HWY 6 - 02
ADDRESS:	18098 WILSON RIVER HWY TILLAMOOK, OR 97141
COUNTY:	TILLAMOOK
JURISDICTION:	TILLAMOOK COUNTY
POLE TYPE:	NEW METAL POLE
POLE #:	NA
ANTENNA LOCATION:	POLE MOUNTED

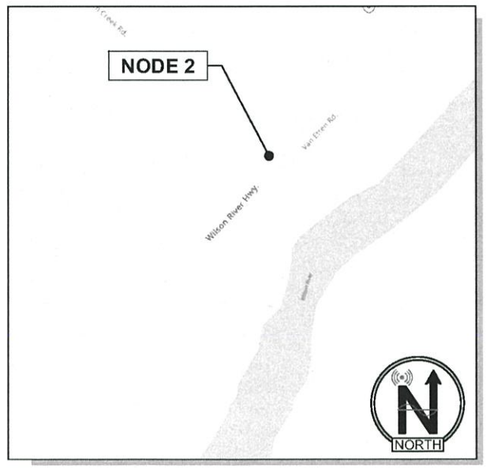
VICINITY MAP



TOWER PHOTO



LOCATION MAP



DRIVING DIRECTIONS

FROM VERIZON WIRELESS OFFICE - PORTLAND, OR:

HEAD SOUTHWEST ON NE 122ND AVE TOWARD NE WHITAKER WAY. TURN RIGHT ONTO NE FREMONT ST. USE THE RIGHT LANE TO TURN LEFT ONTO NE 102ND AVE. TURN RIGHT TO MERGE ONTO I-84 W/US-30 W TOWARD PORTLAND. MERGE ONTO I-84 W/US-30 W. USE THE LEFT 2 LANES TO MERGE ONTO I-5 S TOWARD SALEM. USE THE LEFT LANE TO TAKE THE I-405 EXIT TOWARD US-26/BEAVERTON. CONTINUE ONTO I-405 N. USE THE RIGHT 2 LANES TO TAKE EXIT 1D FOR U.S. 26 W TOWARD BEAVERTON. CONTINUE ONTO US-26 W. SLIGHT LEFT ONTO OR-6 W (SIGNS FOR BANKS/TILLAMOOK). FOLLOW FOR 42.2 MILES. DESTINATION WILL BE ON THE RIGHT BEFORE SMITH CREEK RD.

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
- 2020 NEC, STANDARDS AND AMENDMENTS - 2021 OESC

PROJECT CONTACT LIST

PROPERTY OWNER:
STIMSON LUMBER

UTILITY TOWER OWNER:
N/A

IMPLEMENTATION CONTACT:
CHRISTOPHER LEWIS
VERIZON WIRELESS (VAW) LLC
(d/b/a VERIZON WIRELESS)
5430 NE 122ND AVENUE
PORTLAND, OR 97230
PHONE: (951) 796-5523
christopher.lewis2@verizonwireless.com

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

REAL ESTATE:
SARAH BLANCHARD
ACOM CONSULTING, INC
5200 SW MEADOWS RD, SUITE 150
LAKE OSWEGO, OR 97035
PHONE : (503) 310-5538
sarah.blanchard@acomconsultinginc.com

ZONING / PERMITTING:
TESSIE MURAKAMI
ACOM CONSULTING, INC
5200 SW MEADOWS RD, SUITE 150
LAKE OSWEGO, OR 97035
PHONE : (310) 483-5343
tessie.murakami@acomconsultinginc.com

ENGINEER OF RECORD:
WELLS L. HOLMES, S.E.
VECTOR STRUCTURAL ENGINEERING
651 W GALENA PARK BLVD, SUITE 101
DRAPER, UT 84020
PHONE: (801) 990-1775

ELECTRICAL ENGINEER:
DEAN P. LEVORSEN, P.E.
VECTOR STRUCTURAL ENGINEERING
651 W GALENA PARK BLVD, SUITE 101
DRAPER, UT 84020
PHONE: (801) 990-1775

PROJECT INFORMATION

JURISDICTION:	TILLAMOOK COUNTY
ZONING CLASSIFICATION:	F - FOREST
ADJACENT ZONE:	R-6
CONSTRUCTION TYPE:	UTILITY
PROPOSED BUILDING USE:	TELECOM
PROPOSED STRUCTURE HEIGHT:	35.0' (TOP OF NEW POLE)
LATITUDE:	45.493686° N 45° 29' 37.27" N
LONGITUDE:	-123.679861° W 123° 40' 47.50" W
GROUND ELEVATION:	±158.3 AMSL

DRAWING INDEX

SCOPE OF WORK

VERIZON WIRELESS PROPOSES TO:
- PROPOSES TO INSTALL WIRELESS EQUIPMENT IN FENCED COMPOUND LOCATED OUTSIDE R-O-W
- PROPOSES TO INSTALL (3) NEW ANTENNAS & (1) NEW MOUNT ON NEW POLE
- PROPOSES TO INSTALL (1) NEW SMALL CELL CABINET ON CONCRETE PAD
- PROPOSES TO INSTALL (1) NEW HYBRID AND APPROVED CABLE STRAP MOUNTED ON NEW POLE

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
93806PE
OREGON
JULY 10, 2018
WELLS LIND HOLMES

EXPIRES: 6/30/2025
02/11/2025
VSE Project Number: U2350-1278-251

NO.	DATE	DRAWN	REVISION
A	05/23/23	KM	90% PCD REVIEW
B	08/03/23	KM	SURVEY UPDATE
C	01/27/25	KM	CLIENT COMMENTS
D	02/11/25	KM	CLIENT COMMENTS

CLIENT: verizon

A&E CONSULTANT, SITE ACQUISITION AND PERMITTING: Acom CONSULTING, INC

VECTOR ENGINEERS

HWY 6
SMALL CELL NODE 02
18098 WILSON RIVER HWY
TILLAMOOK, OR 97141

COVER SHEET

T-1

GENERAL NOTES

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. THE CONTRACTOR SHALL VERIFY AND COORDINATE SIZE AND LOCATION OF ALL OPENINGS FOR STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL, OR ARCHITECTURAL WORK.
7. 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.
8. 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.
9. 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.
10. 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.
11. THE CONTRACTOR SHALL MEET ALL OSHA REQUIREMENTS FOR ALL INSTALLATIONS.
12. 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 AVISTA OF ANY DAMAGE TO THE 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.
13. 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.
14. 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.
15. THE CONTRACTOR SHALL MODIFY THE EXISTING STRUCTURE AS REQUIRED. WHERE THE EXISTING STRUCTURE MUST BE MODIFIED, GENERAL CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION. ALL WORK SHALL BE COVERED UNDER THE GENERAL CONTRACT.
16. VERIFY ALL EXISTING DIMENSIONS PRIOR TO PERFORMING WORK.
17. VERIFY LOCATION OF ALL BURIED UTILITIES PRIOR TO ANY EXCAVATION.
18. 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.
19. THE GENERAL CONTRACTOR SHALL OBTAIN WRITTEN CONFIRMATION OF THE EXPECTED DATE OF COMPLETION OF THE POWER CONNECTION FROM THE POWER COMPANY.
20. 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.
21. 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.
22. 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.
23. 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.
24. 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.
25. 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

1. 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.
2. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY MAGNETIC NORTH AND NOTIFY CONSULTANT OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.
3. PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
4. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS.
5. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS TO BE A MIN. OF 8" RADIUS.
6. FOR GROUNDING TO GROUND BARS USE A TWO-BOLT HOLE NEMA DRILLED CONNECTOR SUCH AS T&B 32007 OR APPROVED EQUAL.
7. FOR ALL EXTERNAL GROUND CONNECTIONS, CLAMPS AND CADWELDS, APPLY A LIBERAL PROTECTIVE COATING OR AN ANTI-OXIDE COMPOUND.
8. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY THERMO-WELDING. USE ERICO T-319 GALVANIZING BAR/COLD GALVANIZING PAINT.

PROJECT INFORMATION

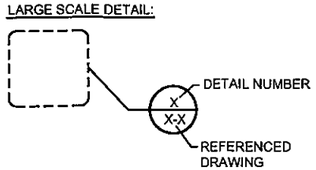
1. THIS IS AN UNMANNED FACILITY AND RESTRICTED ACCESS EQUIPMENT AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
2. VERIZON WIRELESS CERTIFIES THAT THIS TELEPHONE EQUIPMENT FACILITY WILL BE SERVICED ONLY BY VERIZON WIRELESS EMPLOYEE SERVICE PERSONNEL FOR REPAIR PURPOSES ONLY. THIS FACILITY IS UNOCCUPIED AND NOT DESIGNED FOR HUMAN OCCUPANCY THUS IT IS NOT OPEN TO THE PUBLIC.
3. THIS FACILITY WILL CONSUME NO UNRECOVERABLE ENERGY.
4. NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
5. NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
6. NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.
7. 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:

LARGE SCALE DETAIL:



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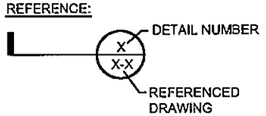

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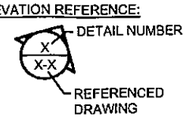

IMPORTANT NOTICE

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.

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
93806PE
OREGON
JULY 10, 2018
WELLS LIND HOLMES

EXPIRES: 6/30/2025

02/11/2025

VSE Project Number: U2350-1278-251

NO.	DATE	DRAWN	REVISION
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B	08/03/23	KM	SURVEY UPDATE
C	01/27/25	KM	CLIENT COMMENTS
D	02/11/25	KM	CLIENT COMMENTS

CLIENT:
verizon

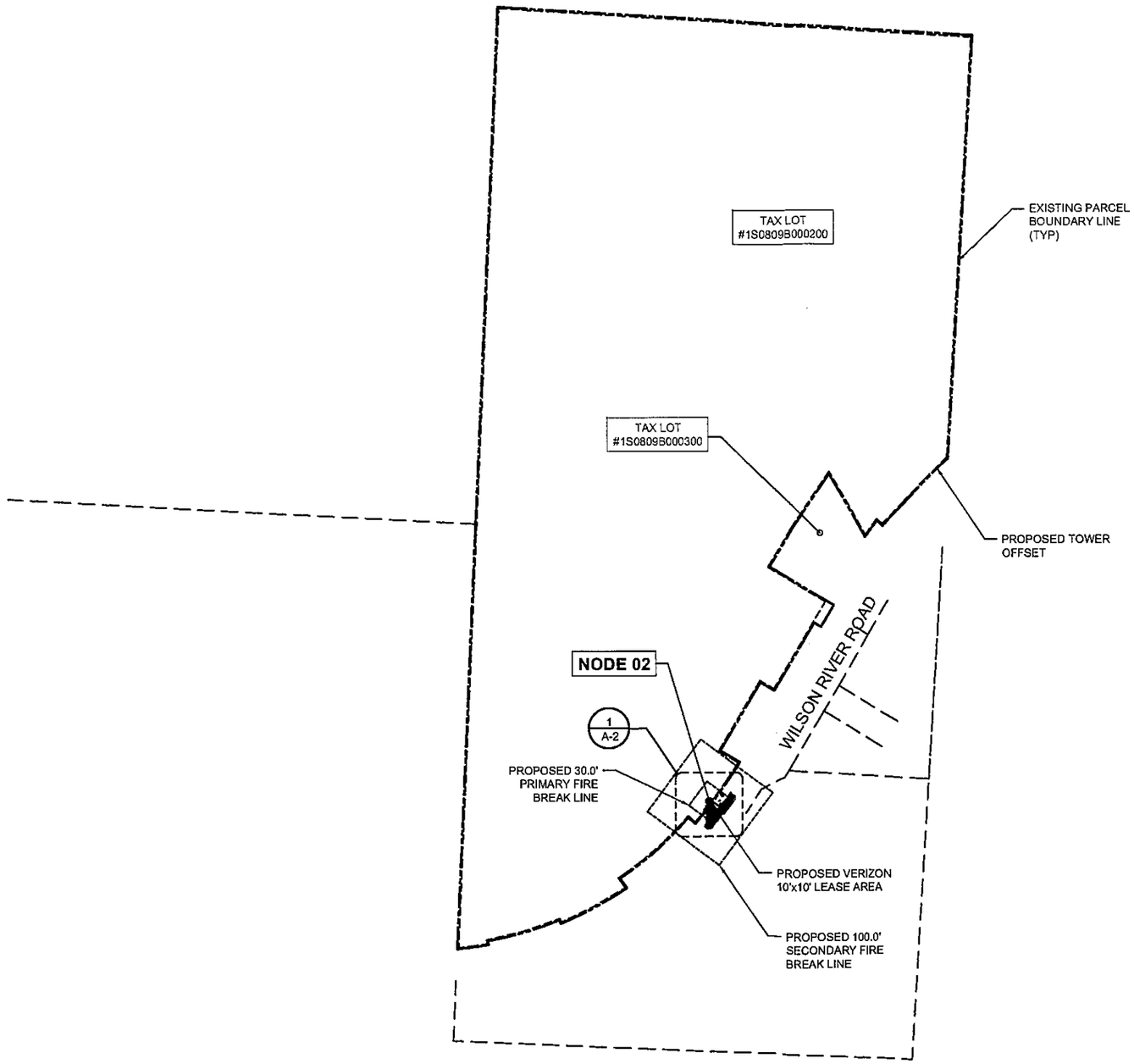
A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:
Acom CONSULTING, INC

VECTOR ENGINEERS

HWY 6
SMALL CELL NODE 02
18098 WILSON RIVER HWY
TILLAMOOK, OR 97141

GENERAL NOTES AND SYMBOLS

T-2



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TILLAMOOK, OR 97141

OVERALL SITE PLAN

A-1.0

NORTH

22"x34" SCALE: 1" = 200'-0"
11"x17" SCALE: 1" = 400'-0"

200' 100' 0' 200'

OVERALL SITE PLAN | 1

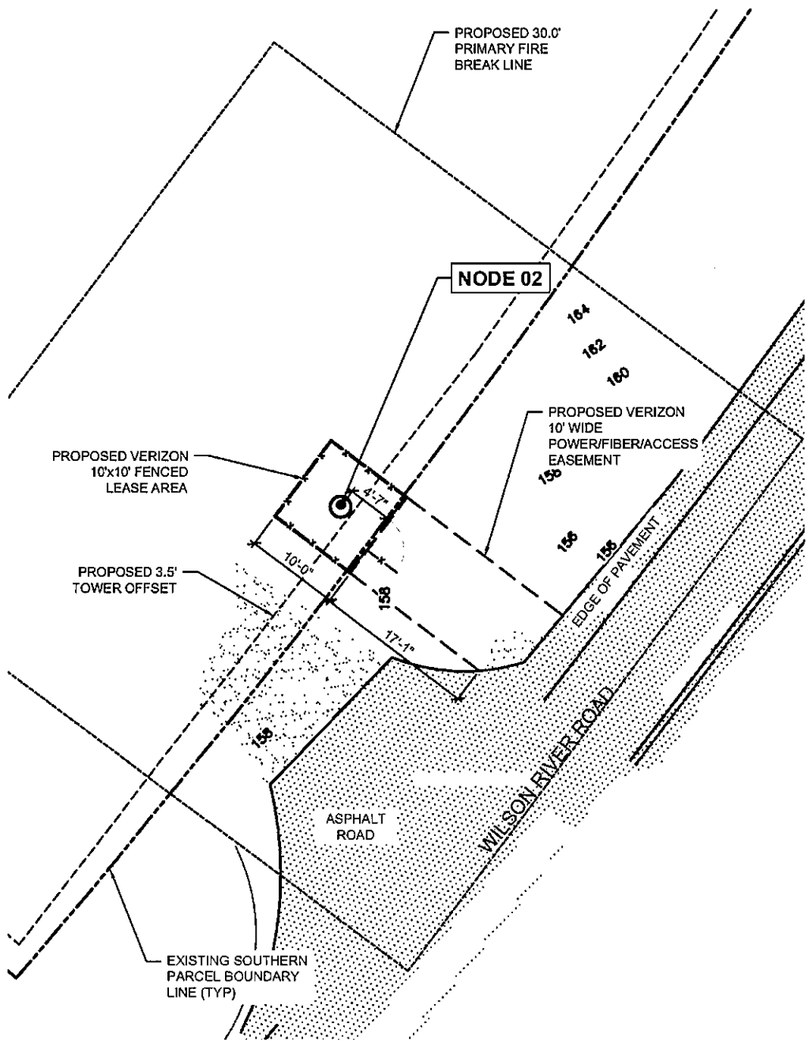
POLE MOUNTED EQUIPMENT SCHEDULE

CATEGORY	MANUFACTURER	MODEL NUMBER	UNIT HEIGHT / LENGTH	UNIT WIDTH	UNIT DEPTH	UNIT WEIGHT	MOUNT HEIGHT (CENTER)	PROPOSED QUANTITY	PROPOSED WEIGHT
MOUNT	SITEPRO1	CWT01	--	--	--	116.50 LBS	33'-0"	3	349.5 LBS
MOUNT	SITEPRO1	UGLM	--	--	--	87.58 LBS	33'-0"	1	87.58 LBS
ANTENNA	COMMSCOPE	NHH-45A-R2B	48.0"	18.0"	7.0"	63.1 LBS	33'-0"	2	66.0 LBS
RRU	ERICSSON	8843	18.0"	13.2"	11.3"	75.0 LBS	33'-0"	1	75.0 LBS
RRU	ERICSSON	4449	18.0"	13.2"	9.5"	71.0 LBS	33'-0"	1	71.0 LBS

PROPOSED ANTENNA CONFIGURATION AND CABLE SCHEDULE

SECTOR	QTY	AZIMUTH	TECH.	TIP HEIGHT	MF'R	MODEL #	ANTENNA SIZE	MECH. TILT	FEEDER CABLE	CABLE LGTH.
D1	1	60°	4G	35'-0"	COMMSCOPE	NHH-45A-R2B	48.0"	0° (2° ELEC)	FIBER	TBD
D2	1	230°	4G	35'-0"	COMMSCOPE	NHH-45A-R2B	48.0"	0° (2° ELEC)	FIBER	TBD

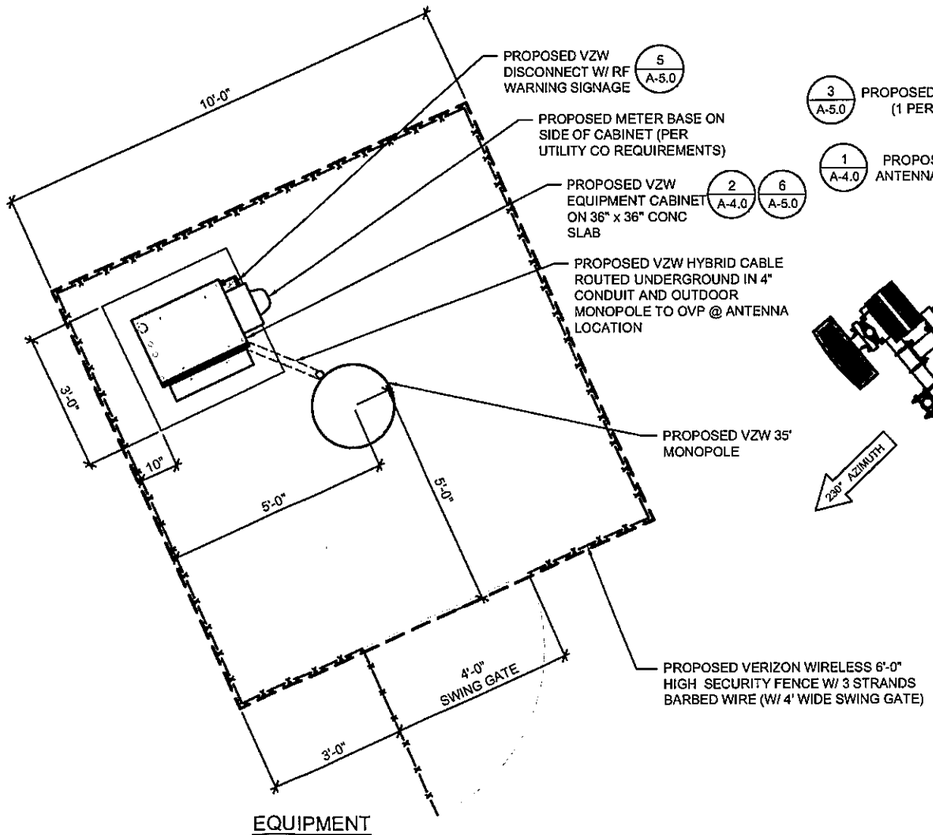
ANTENNA SCHEDULE | 2

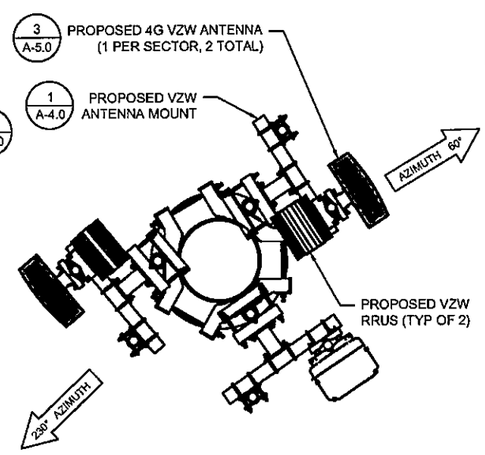


22"x34" SCALE: 1/8" = 1'-0"
11"x17" SCALE: 1/16" = 1'-0"
8' 6' 4' 2' 0' 8'

ENLARGED PLAN | 3

NOTE:
ANTENNA/ANCILLARY EQUIPMENT MOUNT DESIGN/ANALYSIS TO BE PERFORMED BY OTHERS





22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

PROPOSED ANTENNA / EQUIPMENT PLAN | 1

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 93806PE OREGON JULY 10, 2018 WELLS LIND HOLMES

EXPIRES: 6/30/2025

02/11/2025

VSE Project Number: U2350-1278-251

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CLIENT: verizon

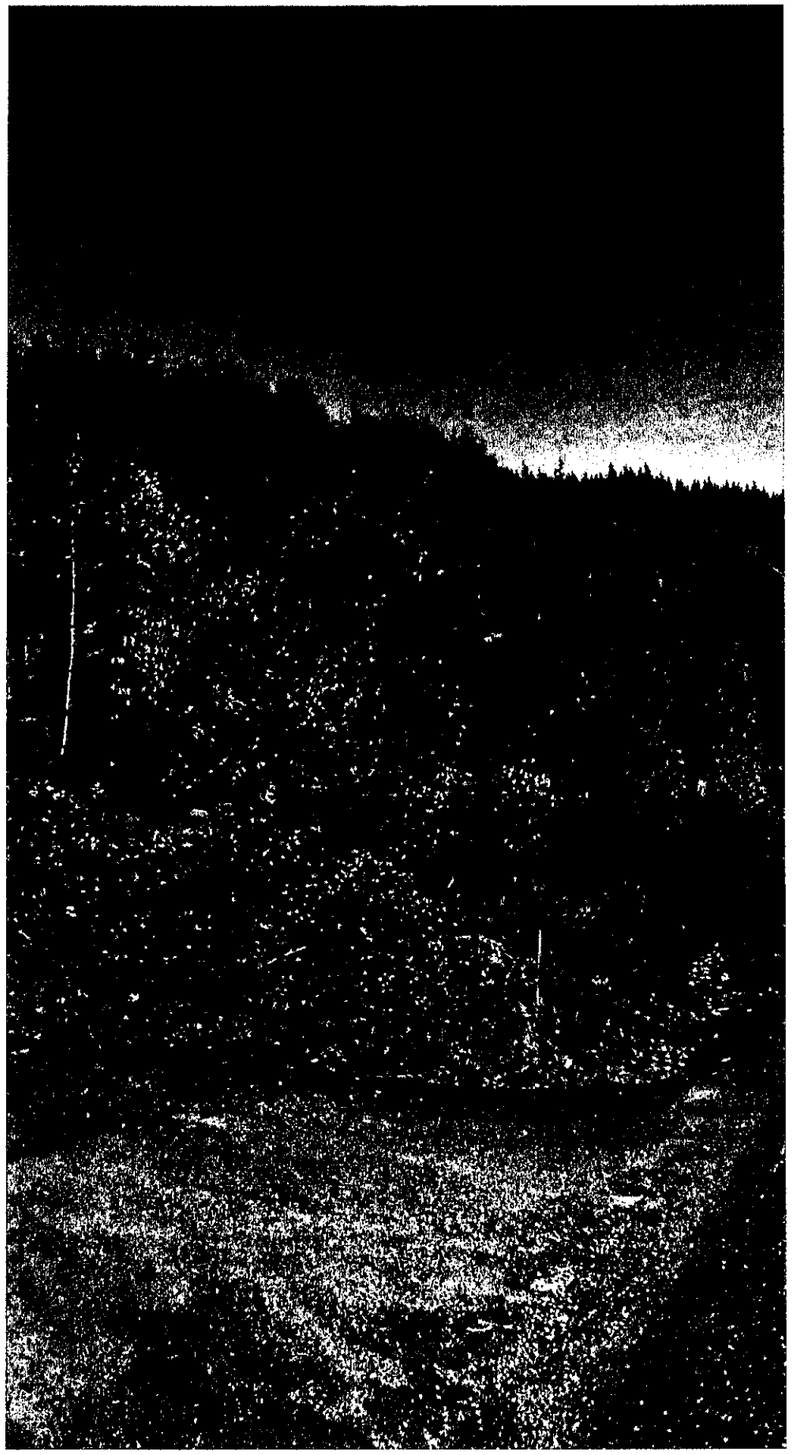
A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:
Acom CONSULTING, INC

VECTOR ENGINEERS

HWY 6
SMALL CELL NODE 02
18098 WILSON RIVER HWY
TILLAMOOK, OR 97141

ANTENNA & EQUIPMENT PLANS

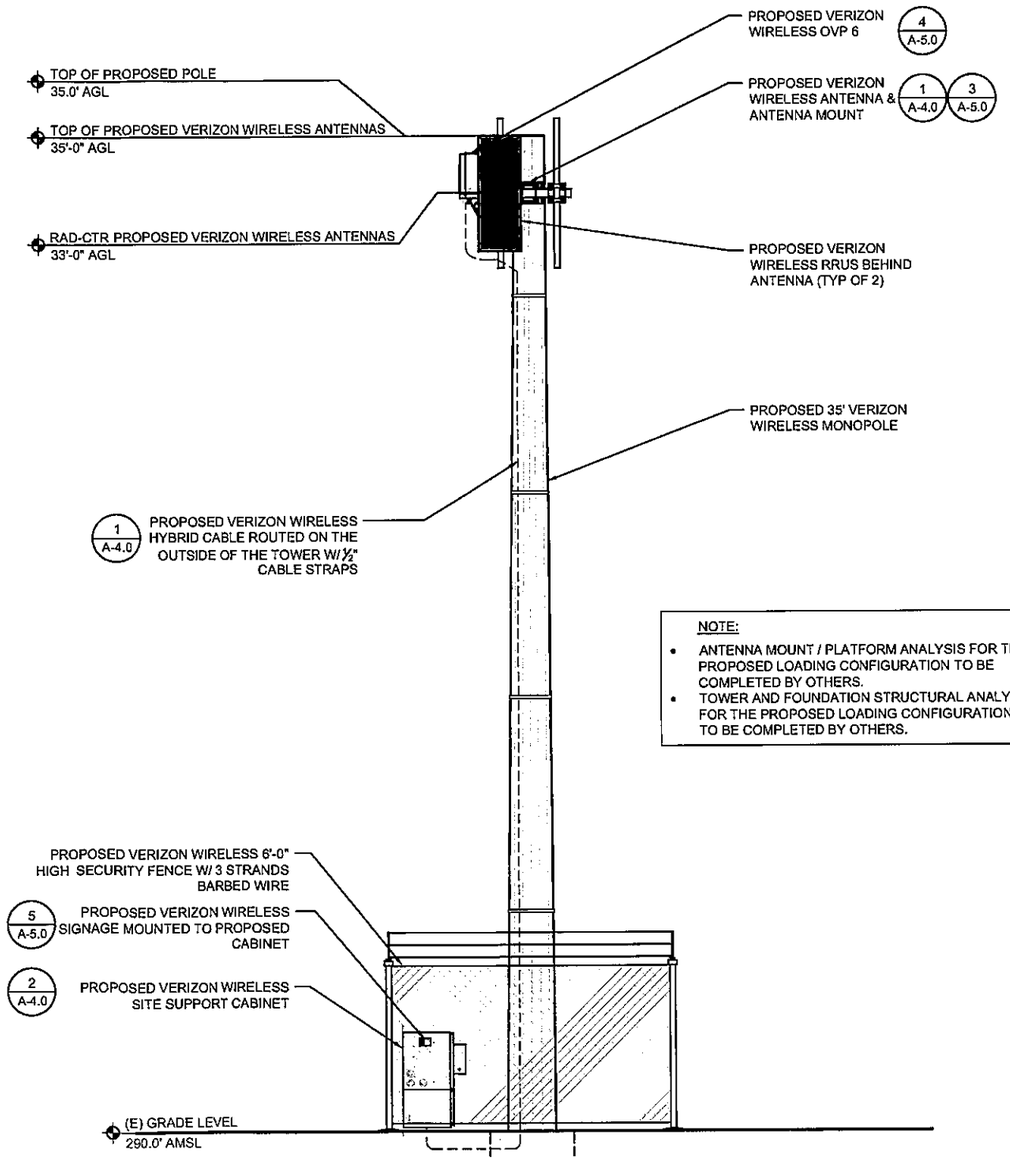
A-2.0



22"x34" SCALE: 3/8" = 1'-0"
11"x17" SCALE: 3/16" = 1'-0"

2' 1' 0" 2'

EXISTING ELEVATION | 1



NOTE:

- ANTENNA MOUNT / PLATFORM ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
- TOWER AND FOUNDATION STRUCTURAL ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.

22"x34" SCALE: 3/8" = 1'-0"
11"x17" SCALE: 3/16" = 1'-0"

2' 1' 0" 2'

PROPOSED ELEVATION | 2

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
93806PE
OREGON
JULY 10, 2018
WELLS LIND HOLMES

EXPIRES: 6/30/2025

02/11/2025

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VECTOR ENGINEERS

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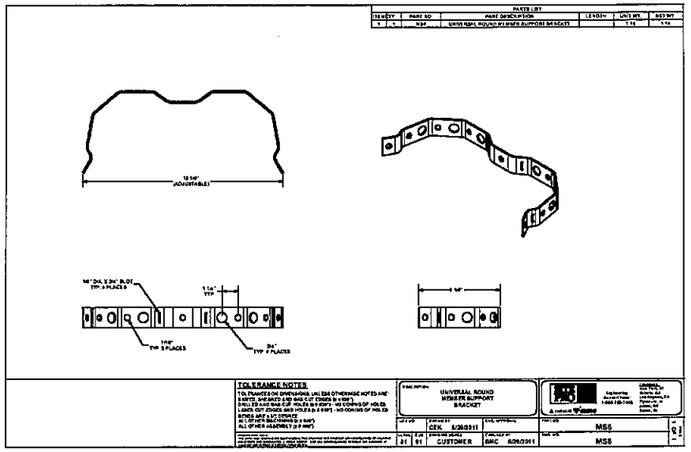
TILLAMOOK, OR 97141

EXISTING & PROPOSED ELEVATIONS

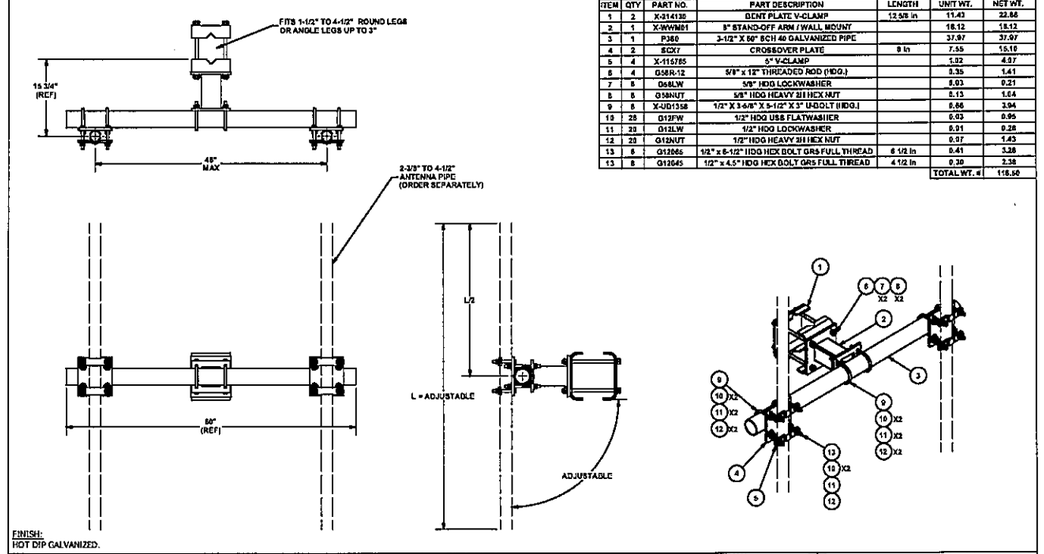
A-3.0



NOTE:
1. ATTACH TO MONOPOLE WITH ½" BANDING PER MANUFACTURER'S RECOMMENDATIONS
2. PROVIDE SNAP-IN HANGERS TO SUPPORT THE HYBRID CABLE(S)

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

TOWER - HYBRID SUPPORT BRACKET | 1



ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-314136	DENT PLATE V-CLAMP	12 5/8 in	11.43	22.86
2	1	X-WWM01	9" STAND-OFF ARM / WALL MOUNT		18.12	18.12
3	1	P360	3-1/2" X 80" SCH 40 GALVANIZED PIPE		37.97	37.97
4	2	SCX7	CROSSOVER PLATE	8 in	7.55	15.10
5	4	X-115765	4" V-CLAMP		1.02	4.07
6	4	G58R-12	5/8" x 12" THREADED ROD (HDG.)		0.35	1.41
7	8	G58LW	5/8" HDG LOCKWASHER		0.03	0.21
8	8	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	1.04
9	8	X-UD1358	1/2" X 3-5/8" X 5-1/2" X 3" U-BOLT (HDG.)		0.66	3.94
10	28	G12FW	1/2" HDG USS FLATWASHER		0.03	0.95
11	20	G12LW	1/2" HDG LOCKWASHER		0.01	0.28
12	20	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.43
13	6	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	3.28
13	8	G12045	1/2" x 4.5" HDG HEX BOLT GR5 FULL THREAD	4 1/2 in	0.30	2.38
					TOTAL WT. #	116.50

TOLERANCE NOTES
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.010") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

DESCRIPTION: DUAL ANTENNA MOUNT ASSEMBLY FOR ROUND LEGS 1-1/2" TO 4-1/2" 15-3/4" STAND-OFF

SITE PRO 1 — Engineering Support Center 1-866-753-2448 — Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX — A Vertiport Group company

CFD NO.	DRAWN BY	END. APPROVAL	PART NO.
	KC8 8/10/2012		CWT01
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	CEK 2/19/2013	CWT01

PAGE 1 OF 1

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

ANTENNA MOUNT DETAIL | 2

Charles Universal Broadband Enclosures (CUBE)
RL212 Series Remote Radio Head / Power Support Cabinets

The CUBE-RL212 Series cabinet provides environmental protection for a wide variety of telecom applications, including wireless, fiber transport for cell site backhaul, and other remote outdoor applications where 48 VDC is required. The most common applications for these cabinets are to house power and battery backup for remote radio heads. Commercial AC power is converted to 48 VDC using a third-party rectifier (supports most major manufacturers). The separate battery chamber is designed for up to 100Ah Ni-Cd or VRLA batteries.

Specifications
- Overall Dimensions: 30"H x 26"W x 20"D
- Equipment Chamber: 24"H x 26"W x 20"D
  - Rack Space / Width: 12RU / 19" EIA Standard
  - Door Lock: Padlockable, 216-Style Lock
  - AC Equipment: 8 Position Load Center
- Battery Chamber: 15"H x 26"W x 20"D
  - Capacity: Supports 1 String 48V (or two 24V) 100Ah Ni-Cd or VRLA
- Bonding & Grounding: 8 Position, 2-Hole Ground Bar
- Cable Entrance: (3) 1.75"/2.5" Knockouts on Right-Hand Side, (1) 1.75"/2.5" and (2) 1.375" Knockouts on Bottom
- Thermal Management: 24VDC/48VDC 560 or 750 Watt Heat Exchangers
- Construction: 1/8" Welded Aluminum, Off-White Finish
- Mounting: Wall or H-Frame, Pole Mount Kit optional (07-CABPMTKIT), 10" Plinth optional (97-002176-A)

Charles Part #	Standard Mounting	Overall Dimensions (in.)	RU	Equipment Chamber Dimensions (in.)	Battery Chamber Dimensions (in.)	Load Center	Thermal	Integrated Power	Weight Empty (lbs.)	Weight w/Ni-Cd Battery
CUBE-RL21221AB1	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	560W 48VDC HX	GE SPS 48V (3) 20A Rectifiers	170	372
CUBE-RL21221AE2	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	6 Pos & Gen	560W 48VDC HX	GE SPS 48V (2) 20A Rectifiers	170	372
CUBE-RL21221AH1	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	560W 48VDC HX	Eltek 48V (2) 40A Rectifiers	165	367
CUBE-RL21221AH3	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	560W 24VDC HX	Eltek 24V (2) 60A Rectifiers	165	367
CUBE-RL21221AH4	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	560W 48VDC HX	Eltek 48V (1) 40A Rectifier	165	367
CUBE-RL21221AH5	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	560W 48VDC HX	None	150	352
CUBE-RL21221AH7	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	560W 24VDC HX	Eltek 24V (2) 40A Rectifiers	165	367
CUBE-RL21221AH8	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	560W 48VDC HX	GE Infinity D 48V, No Rectifiers	180	385
CUBE-RL21221DB1	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	750W 48VDC HX	None	150	352
CUBE-RL21221DB2	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	8 Position	750W 48VDC HX	GE Infinity D 48V, (2) 50A Rectifiers	165	367
CUBE-RL21221DL1	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	6 Pos & Gen	750W 48VDC HX	None	150	365
CUBE-RL21221DL2	Wall/H-Frame	30x26x20	12	24x26x20	15x26x20	6 Pos & Gen	750W 48VDC HX	GE Infinity D 48V	180	365

For additional product information, please visit www.charlesindustries.com — CG-DSP030-K18

INNOVATIVE ENCLOSED SOLUTIONS

EQUIPMENT CABINET SPECIFICATIONS | 3

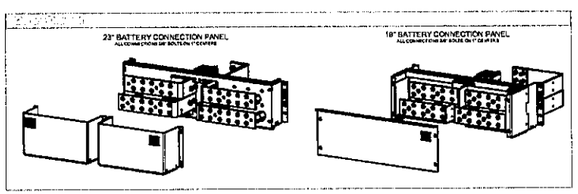
Ordering Information – Infinity D Power System

Dual Voltage, Modular Power System

Infinity-D may be configured as a +24V or -48V single voltage power system or as a "dual voltage" power system that supports rectifiers and converters. The primary voltage is supported by +24V or -48V rectifiers and battery reserve, while secondary voltage is supported by DC/DC converters. The primary voltage capacity is 1,600A at both 24V and 48V. Secondary voltage capacity is up to 300A per system expansion module.

Infinity-D systems may be equipped in 19", 23" or 26" wide 7ft frameworks, a half height frame for mounting on battery stands, or supplied frameless for field install applications including outside cabinets.

Features
- Infinity Rectifiers for +24V and -48V applications.
- Modular architecture for easy growth and low cost
- DC/DC converter support for dual voltage systems
- DC distribution in each system module for efficient scalability
- Temperature hardened harsh environments. (-40°C to +75°C)
- Compact size: 8" (203mm) high, 16.9" (429mm) deep.
- Adjustable frame mounting for 19", 23" and 26" applications
- Battery panel for battery connection and LVBD option.
- Plug-N-Play Pulsar Plus controller with Web based interface for local and remote (CO-LAN) access.
- Distribution options include 3A-400A bullet style circuit breakers and GMT fuses



Stand Alone Single Shelf Rectifier Systems (Cannot be expanded)				
Output	Ordering Code	Model	Frame	Picture
200A	CC109151107	H2007J01 G3D3, G3D1D, G223	System width 23"	
	CC109150103	H2007J01 G33J, G3D1F, G223	System width 19"	

GE INFINITY D 49V PDU SPECIFICATIONS | 4

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 93806PE OREGON JULY 10, 2018 WELLS LIND HOLMES

EXPIRES: 6/30/2025

02/11/2025

VSE Project Number: U2350-1278-251

NO.	DATE	DRAWN	REVISION
A	05/23/23	KM	90% PCD REVIEW
B	08/03/23	KM	SURVEY UPDATE
C	01/27/25	KM	CLIENT COMMENTS
D	02/11/25	KM	CLIENT COMMENTS

CLIENT: verizon

AME CONSULTANT, SITE ACQUISITION AND PERMITTING: Acom CONSULTING, INC

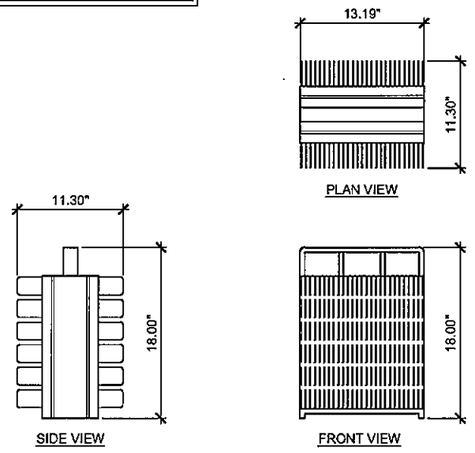
VECTOR ENGINEERS

HWY 6
SMALL CELL NODE 02
18098 WILSON RIVER HWY
TILLAMOOK, OR 97141

CONSTRUCTION DETAILS

A-4.0

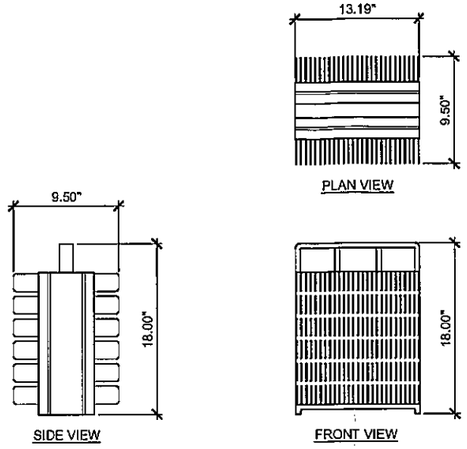
MANUFACTURER: ERICSSON
MODEL: RADIO 8843
HEIGHT: 18.00"
WIDTH: 13.19"
DEPTH: 11.30"
WEIGHT: 75 LBS
COLOR: OFF-WHITE



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

8843 RADIO | 1

MANUFACTURER: ERICSSON
MODEL: RADIO 4449
HEIGHT: 18.00"
WIDTH: 13.19"
DEPTH: 9.50"
WEIGHT: 71 LBS
COLOR: OFF-WHITE



22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

4449 RADIO | 2

Product Specifications

NHH-45A-R2B

6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 45° HPBW, 2x RETs and 2x SBTs. Both high bands share the same electrical tilt.

- Narrow beamwidth capacity antenna for higher level of densification and enhanced data throughput
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- Separate RS-485 RET input/output for low and high band
- One LB RET and one HB RET. Both high bands are controlled by one RET to ensure same tilt level for 4x Rx or 4x MIMO

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	15.5	16.2	18.3	19.0	19.2	20.0
Beamwidth, Horizontal, degrees	48	44	44	44	43	39
Beamwidth, Vertical, degrees	18.5	16.8	7.9	7.3	6.8	6.0
Beam Tilt, degrees	2–18	2–18	1–9	1–9	1–9	1–9
USLS (First Lobe), dB	16	17	17	16	15	15
Front-to-Back Ratio at 180°, dB	32	33	36	36	36	35
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	25	25	25	25	25	25
VSWR | Return Loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	350
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

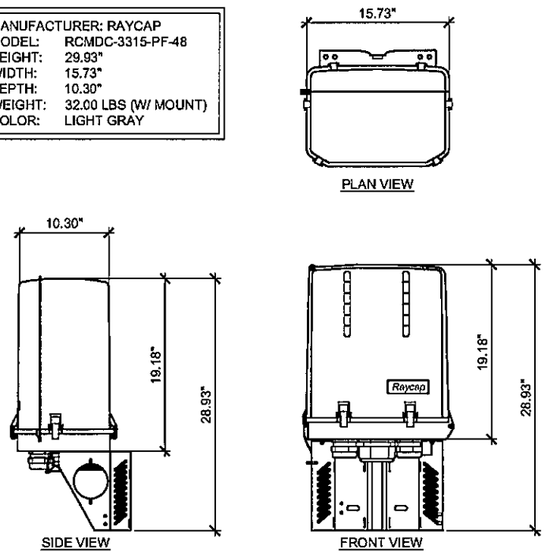
Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	15.1	15.9	17.9	18.7	19.0	19.8
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.4	±0.6	±0.4	±0.3	±0.4
Gain by Beam Tilt, average, dBi	2° | 15.2 10° | 15.1 18° | 14.9	2° | 16.1 10° | 16.0 18° | 15.6	1° | 17.9 5° | 17.9 9° | 17.8	1° | 18.6 5° | 18.8 9° | 18.6	1° | 19.1 5° | 19.1 9° | 18.8	1° | 19.8 5° | 19.9 9° | 19.5
Beamwidth, Horizontal Tolerance, degrees	±1.8	±3	±1.9	±1.3	±2.1	±1.6
Beamwidth, Vertical Tolerance, degrees	±1	±0.9	±0.3	±0.3	±0.5	±0.2
USLS, beampeak to 20° above beampeak, dB	17	22	12	13	14	15
Front-to-Back Total Power at 180° ± 30°, dB	24	24	27	29	30	30
CPR at Boresight, dB	24	25	15	16	19	20
CPR at Sector, dB	18	17	11	13	15	16

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the white paper Time to Raise the Bar on BSAs.

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

NHH-45A-R2B ANTENNA | 3

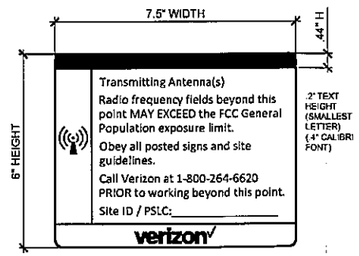
MANUFACTURER: RAYCAP
MODEL: RCMDC-3315-PF-48
HEIGHT: 29.93"
WIDTH: 15.73"
DEPTH: 10.30"
WEIGHT: 32.00 LBS (W/ MOUNT)
COLOR: LIGHT GRAY



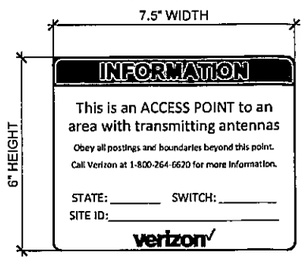
22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

RAYCAP OVP 6 | 4

THE CONTRACTOR WILL ENSURE ALL SIGNAGE AT SITE LOCATION TO MEET WITH FCC STANDARDS AND REQUIREMENTS.



RF NOTICE SIGN
NOT TO SCALE

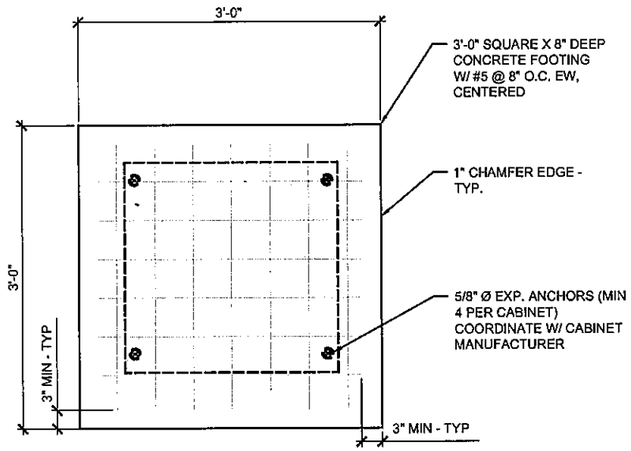


RF INFORMATION SIGN
NOT TO SCALE

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

RF SIGNAGE DETAILS | 5

SLAB AND ANCHORAGE DESIGN TO BE COMPLETED BY OTHERS



CONCRETE PAD DETAIL | 6

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
93806PE
OREGON
JULY 10, 2018
WELLS LIND HOLMES

EXPIRES: 6/30/2025
02/11/2025
VSE Project Number: U2350-1278-251

NO.	DATE	DRAWN	REVISION
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B	08/03/23	KM	SURVEY UPDATE
C	01/27/25	KM	CLIENT COMMENTS
D	02/11/25	KM	CLIENT COMMENTS

CLIENT:
verizon

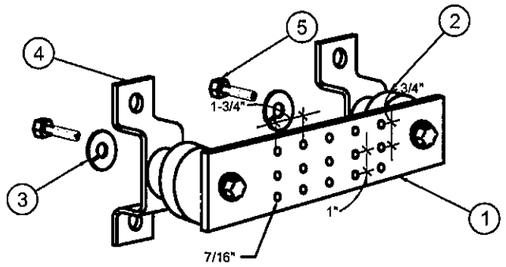
A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:
Acom CONSULTING, INC

VECTOR ENGINEERS

HWY 6
SMALL CELL NODE 02
18098 WILSON RIVER HWY
TILLAMOOK, OR 97141

CONSTRUCTION DETAILS

A-5.0



1. GALVANIZED STEEL GROUND BUSBAR, 1/4" X 4" X 6".
2. INSULATORS, MEET REQUIREMENTS OF UL 94 VO FOR SELF-EXTINGUISHING MATERIALS.
3. 3/8" LOCKWASHERS.
4. MOUNTING BRACKET.
5. 3/8-11 X 1" HHCS BOLTS.

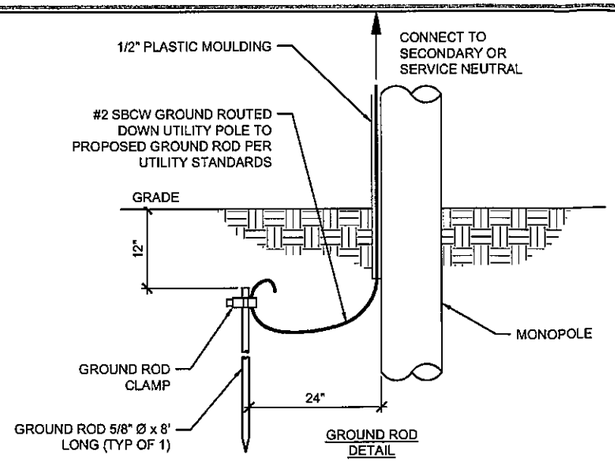
22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

GROUND BAR DETAIL | 1

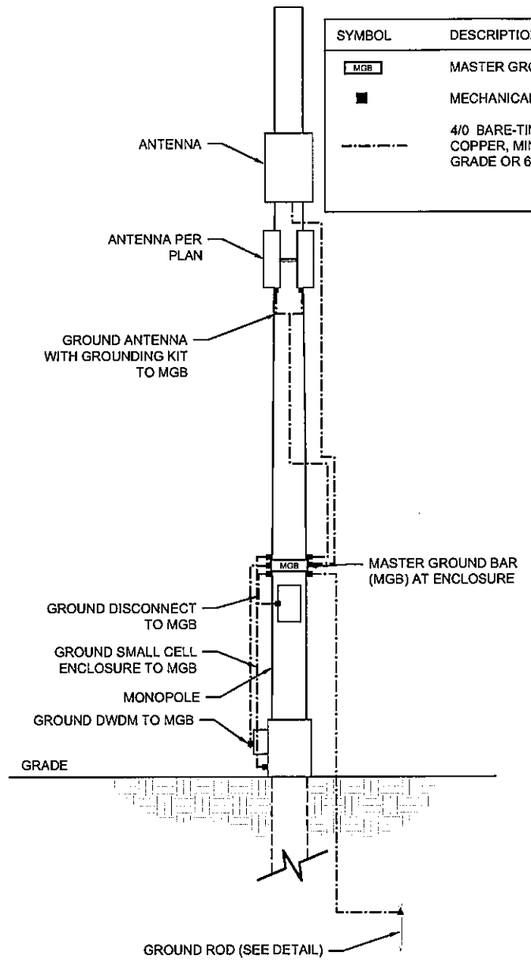
1. GROUNDING SHALL COMPLY WITH THE APPLICABLE EDITION OF THE NATIONAL ELECTRICAL CODE AS RECOGNIZED BY THE JURISDICTION.
2. ALL GROUNDING METHODS SHALL CONFORM TO THE CURRENT VERIZON STANDARDS.
3. MASTER GROUND BARS (MGB) SHALL BE GALVANIZED STEEL, 4" x 6" MAX.
4. MINIMUM BENDING RADIUS FOR GROUND CONDUCTOR IS 8", WHEN BENDING IS NECESSARY. GROUND CONDUCTORS ARE TO BE AS STRAIGHT AS POSSIBLE.
5. NO SPLICES PERMITTED IN GROUND CONDUCTORS.
6. ALL GROUNDING CONNECTORS TO BE CLEAN AND FREE OF PAINT AT THEIR MATING SURFACES AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. USE PENETROX OR EQUIVALENT ANTIOXIDANT GREASE.
7. ALL GROUND BAR CONNECTIONS ARE TO BE 2 HOLE LUG COMPRESSION TYPE. STACKED CONNECTIONS ARE NOT ACCEPTABLE. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BAR WILL BE PERMITTED.
8. ENSURE ALL MECHANICAL CONNECTORS ARE TORQUED TO THE MANUFACTURER'S SPECIFIED VALUES.
9. IF EXISTING GROUND ROD IS NOT PRESENT, NEW GROUND ROD SHALL MEET AVISTA STANDARDS.
10. MULTIPLE BONDS ON GROUND RODS TO BE SEPARATED BY AT LEAST 6".
11. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED A RESISTANCE OF 5 OHMS TO EARTH.
12. GROUND WIRES SHALL NOT BE INSTALLED THROUGH HOLES IN ANY METAL OBJECTS OR SUPPORTS TO PRECLUDE ESTABLISHING A "CHOKE" POINT.
13. FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUND WIRE SHALL NOT BE USED. METAL CLIPS THAT DO NOT COMPLETELY SURROUND THE GROUND WIRE OR PLASTIC ARE ACCEPTABLE.

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

GROUNDING NOTES | 2



GROUND ROD DETAIL



SYMBOL	DESCRIPTION
MGB	MASTER GROUND BAR
■	MECHANICAL CONNECTION
-----	4/0 BARE-TINNED, STRANDED COPPER, MIN. 36" BELOW GRADE OR 6" BELOW FROSTLINE

IMAGE IS FOR DIAGRAMMATIC PURPOSES AND MAY NOT REFLECT ACTUAL POLE AND ANTENNAS

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

GROUNDING DIAGRAM | 3

PANEL NAME		VERIZON		MANUFACTURER	SQ-D
VOLTS		120/240		MODEL NUMBER	QO816L100RB
PHASE	1	WIRE	3	ENCLOSURE RATING	NEMA 4X
BUS RATING		60 AMPS (MAX)		MATERIAL	ALUMINUM
MAIN BREAKER		60 AMPS		POSITIONS	8 CIRCUITS

LOAD	POS	BRK	A
4449	1	15	120
8843	2	15	120
RECEPT	3	15	120
HVAC	4	20	120
RACK EQUIP	5	20	120
SPACE	6	--	120
SPACE	7	--	120
SPACE	8	--	120

NOTES:

PANEL IS LOCATED ON EQUIPMENT CABINET

LOAD:

		TELCO EQUIP:		
RECEPT	180	8843		320 W
LIGHTING	-0-	4449		120 W
HVAC EQUIP	1500		TOTAL	440 W
TELCO EQUIP	440			
RACK EQUIP	650	TOTAL	2770W	

TOTAL LOAD: 2770VA/240V = 11.54A

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

PANEL SCHEDULE | 3

22"x34" SCALE: NOT TO SCALE
11"x17" SCALE: NOT TO SCALE

TYPICAL ONE-LINE DIAGRAM | 4

REGISTERED PROFESSIONAL ENGINEER
85663PE
OREGON
DEAN PAUL LEVORSEN

EXPIRES: 12/31/2026
02/11/2025
VSE Project Number: U2350-1278-251

NO.	DATE	DRAWN	REVISION
A	05/23/23	KM	90% PCD REVIEW
B	08/03/23	KM	SURVEY UPDATE
C	01/27/25	KM	CLIENT COMMENTS
D	02/11/25	KM	CLIENT COMMENTS

CLIENT: verizon

A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:
Acom CONSULTING, INC

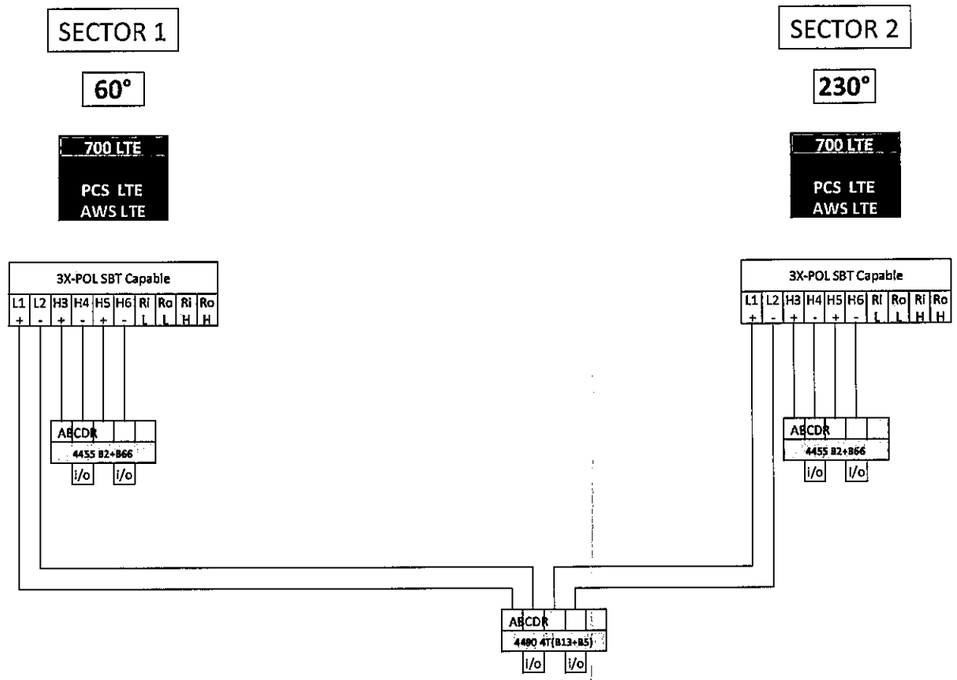
VECTOR ENGINEERS

HWY 6
SMALL CELL NODE 02
18098 WILSON RIVER HWY
TILLAMOOK, OR 97141

GROUNDING DETAILS

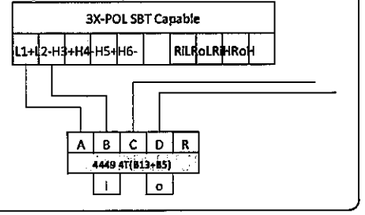
E-1.0

(005xxx) HWY_6_SC_02 [Medium Cell NSB]



RET Control Path Note:
All Smart BiasT's (SBT)/Internal BiasT's, or External AISG RET Controllers are driven by the **BOLD coax/jumper pathways.**

Example:
Antenna port '1' driven by RRH port 'A'



BBU config TBD

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
93806PE
OREGON
JULY 10, 2018
WELLS LIND HOLMES

EXPIRES: 6/30/2025
02/11/2025
VSE Project Number: U2350-1278-251

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CLIENT: verizon

A&E CONSULTANT, SITE ACQUISITION AND PERMITTING: Acom CONSULTING, INC

VECTOR ENGINEERS

HWY 6
SMALL CELL NODE 02
18098 WILSON RIVER HWY
TILLAMOOK, OR 97141

ANTENNA CONFIGURATION

RF-1