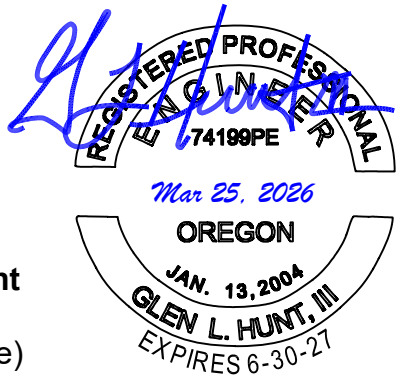
ISE, Incorporated
Structural Engineers ***Telecommunications & Industrial Design***

PO Box 50039 • Phoenix, Arizona • 85076 • Office: (602) 403-8614 • Fax: (623) 321-1283 • www.ISE-INC.biz

Date: March 25, 2026

Valmont Larson
1501 South Euclid Avenue
Tucson, AZ 85732

ISE Job #: 20704



Structural Assessment

Carrier Designation: The Towers, LLC (Vertical Bridge)
Site Name/Number: US-OR-5099 Tumalt
Site Data: 11499 NE McCloughlin Pkwy
Cascade Locks (Hood River County), OR 97104
45.604217°, -122.034586

Design Criterion:

2025 Oregon Structural Specialty Code,
TIA-222-I, 97 mph Basic Wind Speed
43 mph w/3.5" Ice
Exposure C, Topography I, Risk Category II
Ground Elevation:153.8'
Seismic Site Class Default, Seismic Design Category D
S_S = 0.64**,** S_1 = 0.24, S_{DS} = 0.57, S_{D1} = 0.37

Pole Type: Mono-Pine Tapered Steel
Monopole Height : 135' AGL, 134' Pole w/Base 1' AFG

Loading

1) RAD #1 (130') – Wireless Carrier 1 = 42,000 sq in with (18) 1-5/8" coax

2) RAD #2 (119') – Wireless Carrier 2 = 30,000 sq in with (12) 1-5/8" coax

3) RAD #3 (109') – Wireless Carrier 3 = 30,000 sq in with (12) 1-5/8" coax

4) RAD #4 (99') - (1) 6' MW dish with (1) 1-5/8" coax

All coax cabling will be routed through the pole interior.

The proposed steel mono-pole structure for the subject site will be designed in accordance with the latest revision of the Telecommunications Industries Association (TIA) Standard TIA-222, *"Structural Standard for Antenna Supporting Structures and Antennas"*. The TIA-222 standard has a history of design reliability for over 40 years and is a Reference Standard of the International Building Code (IBC). As with all national design standards, the TIA-222 has, at its core, the health and safety of the public.

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Pursuant to the TIA-222, minimum designated wind speeds are cited for all locations across the United States. Valmont Larson camouflage verifies, and complies with, all design wind speeds as specified by the standard AND the local jurisdiction for all sites. The customer may designate any design wind speed higher than the published values. Pole designs also include radial ice loads at reduced wind speeds cited in the standard.

Ice accumulations on the pole, attached equipment and faux foliage will shed and fall to the ground below. It is common practice to limit damages to equipment and personnel below the tower by installing ground mounted ice bridges and canopies as required over the affected area below the tower.

MW dishes may be protected by pole mounted ice bridges as required to avoid damages from ice falling from equipment above.

Per the TIA-222, Larson pole design incorporates Factors of Safety specified in excess of the IBC, and American Institute of Steel Construction (AISC). The Safety Factors, as applied, yield a design that has greater strength than that required for the actual design forces; the structure can typically survive wind loads greater than the basic design wind speed because of the applied Safety Factors. The design and load assumptions used for the structural design and analysis are more conservative than other codes making structural failure highly improbable.

Monopoles are very flexible, forgiving structures that are, for the most part, NOT susceptible to damage by impact forces such as wind gusts or earthquake shocks. Steel monopole failure occurs when induced stresses exceed the yield point of the material. Once yielding occurs the pole deforms locally (buckles) at the stressed location. Failure, as used here, refers to this local buckling. Local buckling does NOT result in a free-falling pole.

The buckling is a mechanical phenomenon that relieves the stresses at the point of excess yielding by deforming or “kinking”. When this occurs, the pole begins to bend thereby reducing its exposure area and subsequently the wind forces are reduced. Although buckling exists, the pole section is capable of carrying all vertical forces on the structure. Due to inherent ductile strength, mechanical behavior and design criterion, wind induced loads could not conceivably bring this type of structure to the ground.

Larson monopole designs incorporate the following materials:

Pole Shafts are fabricated from ASTM A572 Grade 65 with controlled Silicon content max at 0.06% to facilitate uniform galvanized coatings.

Base Plates are fabricated from ASTM A572 Grade 50 having a V-Notch toughness requirement of 15 ft-lbs at -20 ˚F. This toughness requirement facilitates cyclic/fatigue loading resistance.

Anchor bolts are fabricated from A615 Grade 75 material. Bolts are commonly 2-1/4" diameter #18J bar stock and are supplied with (5) A194 Grade 2H hex nuts.

Larson ensures the quality of our products and their constituent components. Material Certifications are available on all materials at time of fabrication. Pole fabrication is performed in accordance with the provisions of the AISC Manual of Steel Construction and ASCE's Design of Steel Transmission Pole Structures. All welding and inspections are in accordance with the latest revision of the American Welding Society's Specification D1.1. Testing and inspection reports are available upon request at the time of fabrication.