



Stantec
601 SW Second Avenue,
Suite 1400
Portland, Oregon 97204-3128
(503) 924-2515

Date: June 12, 2026

Subject: Rigorous Structural Analysis Report

CitySwitch Site Number: FLC014
CitySwitch Site Name: Otter Bay

Carrier: AT&T Mobility
Carrier Site Number: WSTFL0057532
Carrier Site Name: Otter Bay
Carrier FA Number: 15123847

Site Address: 612 NE Clyde Varnes Road, Lake City, Columbia County,
FL 32055

Site Coordinates: Latitude: 30° 14' 26.10" N, Longitude: 82° 34' 15.5" W
Tower Description: 305 ft – Self Support Tower [Rohn]

Stantec Project Number: M-0191R1 / 280570068

Stantec is pleased to submit this **"Rigorous Structural Analysis Report"** to determine the structural integrity of the above mentioned tower structure for the existing, reserved and proposed antenna and equipment noted.

This rigorous analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2023 Florida Building Code, 8th Edition. Applicable standard references and design criteria are listed in Section 2 - Analysis Criteria.

Our analysis demonstrates that the existing tower and foundation **ARE in conformance** with the requirements of the above noted standards under the effects of loading described.

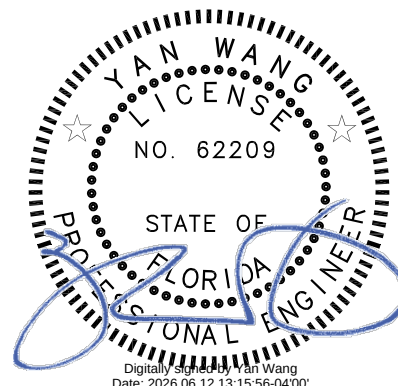
Summary of Results		
<i>Tower Structure</i>	<i>95.4%</i>	<i>Sufficient</i>
<i>Base Foundation</i>	<i>60.6%</i>	<i>Sufficient</i>

We at *Stantec* appreciate the opportunity of providing our continuing professional services to you and CitySwitch, LLC. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:
Stantec

Yan Wang, P.E. (FL License No. 62209)
Senior Engineer

Certificate of Authorization # 10187



Digitally signed by Yan Wang
Date: 2026.06.12 13:15:56-04'00'

Stantec

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED
BY YAN WANG, PE ON THE DATE AS SHOWN USING A DIGITAL
SIGNATURE. PRINTED COPIES OF THIS DOCUMENT ARE NOT
CONSIDERED SIGNED AND SEALED AND THE SIGNATURE
MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

1.0 INTRODUCTION

This tower is a 305 ft self-support tower designed by Rohn Products LLC, in January of 2022. The tower was originally designed for an ultimate wind speed of 118 mph and 0.25 in radial ice thickness per ANSI/TIA-222-H Standard.

2.0 ANALYSIS CRITERIA

The following design parameters have been used in our analysis:

Design Standard:	2023 Florida Building Code (2021 IBC) ANSI/TIA-222-H, Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures ASCE 7-22, Minimum Design Loads and Associated Criteria for Buildings and Other Structures AISC 325-17, Steel Construction Manual, 15 th Edition ACI 318-19, Building Code Requirements for Structural Concrete ANSI/AWS D1.1-11, Structural Welding Code - Steel	
Design Wind Speed:	119 mph (Ultimate 3-sec gust) with no radial ice	
Risk Category:	II	
Exposure Category:	C	
Topographic Factor, K_{zt} :	1.0	
Seismic S_s :	0.13	[Neglected]
Seismic S_1 :	0.06	[Neglected]
Service Wind Speed:	60 mph (Nominal 3-sec gust)	

The structural analysis was based on the following documentation:

Table 1 – Documentation

Document	Description	Source
Geotechnical Report	G2 Consulting Group, LLC, Project No. 212367, dated 12/15/2021	Client
Tower & Foundation Drawings	Rohn Products LLC, File No. Q22-10012, dated 01/25/2022	Client
Tower & Foundation Design Drawings	Rohn Products LLC, File No. 240347, dated 07/06/2022	Client
Structural Analysis Report	Stantec, Project No. M-0191 / 280570006, dated 12/09/2025	Stantec
Colocation Application	AT&T Mobility, Site No: WSTFL0057532, dated 06/04/2026	Client

3.0 ANALYSIS LOADING

The existing, reserved and proposed antennas, transmission cables, antenna mounts and other equipment considered in this analysis were provided by the client and are noted in the attachments.

4.0 ANALYSIS PROCEDURE

tnxTower (Version 8.3.1.2), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is attached at the end of this report.

5.0 ASSUMPTIONS

The analysis provided by Stantec is based on the theoretical capacity of the structure and is not a condition assessment of the tower. Stantec has not performed an engineering inspection of the tower and the analysis was completed based on information supplied by the client. Stantec has not made any independent determination of the accuracy of the information provided.

- 1) Tower and structures were built in accordance with the manufacturer's specifications and the applicable ANSI/TIA/EIA standard.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The tower is assumed to be in good condition and capable of supporting its full design capacity.
- 4) The foundation was properly designed and constructed for the original design loads.
- 5) The configuration of antennas, transmission cables, antenna mounts and other appurtenances are as specified in the attached Site Inventory Analysis Sheet and the referenced documents.
- 6) All existing/reserved/proposed antennas and antenna mounts are assumed to be adequate for the existing/reserved/proposed loads. Analysis of these antennas and antenna mounts is considered to be outside of the scope of this analysis. Stantec has not performed an analysis of the existing/reserved/proposed antennas or antenna mounts.
- 7) The existing and proposed loading for AT&T Mobility was taken from their Colocation Application, Site No: WSTFL0057532, dated 06/04/2026 and is considered to be correct.
- 8) The existing loading for Verizon Wireless was taken from the structural analysis report completed by Stantec, Project No. M-0191 / 280570006, dated 12/09/2025, and is considered to be correct.
- 9) The reserved loading for AT&T Mobility has been taken as an aggregate wind load surface area of forty thousand (40,000) square inches and twelve (12) 1-5/8" lines as requested by the client.
- 10) The reserved loading for Verizon Wireless has been taken as an aggregate wind load surface area of thirty three thousand (33,000) square inches and twelve (12) 1-5/8" lines as requested by the client.
- 11) Necessary Soil properties are not available in the geotechnical report. Presumptive soil parameters were taken from the Annex F of TIA-222-H, in combination with the referenced geotechnical report and is considered to be accurate.

If any assumptions are not valid or have been made in error, this analysis is invalid. Stantec should be notified to determine the effect on the structural integrity of the tower.

6.0 SUMMARY OF RESULTS

The following tables summarize the location and utilized percentage of available capacity for each component of the tower. With consideration to the appropriate safety factors, 100% represents the full capacity of the component. Percentages below 100% indicate available capacity and conformance of the component. Percentages above 100% indicate an overstressed situation requiring structural modification to ensure conformance with the applicable codes and standards.

Based on our analysis results, the **tower and foundation ARE within capacity** to support the loads under the current loading scenario.

Table 2 – Tower Section Capacity

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
T1	305 - 300	Leg	ROHN 2.5 STD	1.2	Pass
T2	300 - 280	Leg	ROHN 3 STD	49.6	Pass
T3	280 - 260	Leg	ROHN 4 EH	44.2	Pass
T4	260 - 240	Leg	ROHN 5 EH	39.1	Pass
T5	240 - 220	Leg	ROHN 6 EH	33.5	Pass
T6	220 - 200	Leg	ROHN 6 EH	42.6	Pass
T7	200 - 180	Leg	ROHN 6 EH	51.3	Pass
T8	180 - 160	Leg	ROHN 8 EH	40.1	Pass
T9	160 - 140	Leg	ROHN 8 EH	45.9	Pass
T10	140 - 120	Leg	ROHN 8 EH	51.5	Pass
T11	120 - 90	Leg	ROHN 10 EH	44.1	Pass
T12	90 - 60	Leg	ROHN 10 EH	45.5	Pass
T13	60 - 30	Leg	ROHN 10 EH	50.6	Pass
T14	30 - 0	Leg	ROHN 10 EH	56.0	Pass
T1	305 - 300	Diagonal	L1-3/4x1-3/4x1/8	14.2	Pass
				26.6 (b)	
T2	300 - 280	Diagonal	L1 3/4x1 3/4x3/16	36.2	Pass
				65.3 (b)	
T3	280 - 260	Diagonal	L2x2x3/16	32.2	Pass
				43.3 (b)	
T4	260 - 240	Diagonal	L2x2x3/16	42.6	Pass
T5	240 - 220	Diagonal	L2x2x1/4	53.6	Pass
T6	220 - 200	Diagonal	L2 1/2x2 1/2x3/16	67.6	Pass
				70.5 (b)	
T7	200 - 180	Diagonal	L 2 1/2x 2 1/2x 1/4	67.9	Pass
T8	180 - 160	Diagonal	L3x3x1/4	69.8	Pass
T9	160 - 140	Diagonal	L3 1/2x3 1/2x1/4	55.9	Pass
				71.5 (b)	
T10	140 - 120	Diagonal	L3 1/2x3 1/2x1/4	55.3	Pass
T11	120 - 90	Diagonal	L3 1/2x3 1/2x1/4	65.0	Pass
T12	90 - 60	Diagonal	L4x4x1/4	93.3	Pass
T13	60 - 30	Diagonal	L4x4x5/16	95.4	Pass
T14	30 - 0	Diagonal	2L3 1/2x3 1/2x1/4x1/4	51.8	Pass
T12	90 - 60	Horizontal	L3-1/2x3-1/2x1/4	70.3	Pass
T13	60 - 30	Horizontal	L4x4x1/4	70.1	Pass
T14	30 - 0	Horizontal	2L3 1/2x3 1/2x1/4x1/4	32.9	Pass
T1	305 - 300	Top Girt	L1-3/4x1-3/4x3/16	9.6	Pass
				10.0 (b)	
T3	280 - 260	Top Girt	L1-3/4x1-3/4x3/16	15.2	Pass
				16.0 (b)	
T12	90 - 60	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	14.5	Pass
				46.7 (b)	
T13	60 - 30	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	19.2	Pass
				51.9 (b)	
T14	30 - 0	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	27.6	Pass
				57.5 (b)	

Section No.	Elevation ft	Component Type	Size	% Capacity	Pass Fail
T12	90 - 60	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	19.2	Pass
T13	60 - 30	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	35.1 (b) 23.2	Pass
T14	30 - 0	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	36.0 (b) 28.4	Pass
T12	90 - 60	Inner Bracing	L3 1/2x3 1/2x1/4	37.4 (b) 0.2	Pass
T13	60 - 30	Inner Bracing	L4x4x1/4	0.2	Pass
T14	30 - 0	Inner Bracing	L3x3x3/16	0.8	Pass
				Summary	
				Leg (T14)	56.0 Pass
				Diagonal (T13)	95.4 Pass
				Horizontal (T12)	70.3 Pass
				Top Girt (T3)	16.0 Pass
				Redund Horz 1 Bracing (T14)	57.5 Pass
				Redund Diag 1 Bracing (T14)	37.4 Pass
				Inner Bracing (T14)	0.8 Pass
				Bolt Checks	71.5 Pass
				RATING =	95.4 Pass

Table 3 – Capacity of Additional Components

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	31.6	Pass
1	Foundation Soil Interaction	0	60.6	Pass
1	Foundation Structural		8.4	Pass

Structure Rating (max from all components) =	95.4%
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Notes:

- 1) See additional documentation in "Additional Calculations" for calculations supporting the % capacity consumed.
- 2) This analysis has been performed according to the controlling load case of reserved loading.
- 3) Rating per TIA-222-H, Section 15.5.

7.0 RECOMMENDATIONS

- 1) All assumptions made in this analysis should be carefully reviewed. Stantec should be contacted for any discrepancies so that a full assessment may be made to validate the results of this analysis.

ATTACHMENTS: Tower Loading, Tower Profile, Program Output, Coax Sketch and Additional Calculations

TOWER LOADING

Site Inventory Analysis Sheet

Analysis Results (% Maximum Usage)			
	Existing (AT&T+VZW)	Existing (AT&T+VZW) + Proposed (AT&T)	Reserved (AT&T +VZW)
Tower	83.2%	83.4%	95.4%
Anchor Rods	25.5%	25.7%	31.6%
Foundation	53.6%	53.9%	60.6%

Total Final AT&T EPA (sq.in.)=	22268.3
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Existing / Future (F) Loading											
Appurtenances							Mount			Feed Lines	
Mount Height (ft)	Antenna CL (ft)	Quantity	Appurtenance Description	Total Existing EPA (sq.in.)	Carrier	Azimuth	Quantity	Manufacturer	Type	Quantity	Size
300	300	6	Kathrein 80010991 K Panel	20,134.22	AT&T Mobility	0/120/240	1	Commscope	14ft Tri-Sector Mount [NMG22HDX12-15-WLL]	6	DC Power (0.957")
300	300	3	Ericsson 4448 B5/B12A RRH		AT&T Mobility					3	Fiber (0.39")
300	300	3	Ericsson 8843 B2/B66A RRH		AT&T Mobility						
300	300	3	Ericsson 4478 B14 RRH		AT&T Mobility						
300	300	3	Raycap DC9-48-60-24-9C-EV Squid		AT&T Mobility						
220	220	3	Ericsson AIR3283 Panel	35,728.21	Verizon Wireless	30/150/270	3	Site Pro 1	12.5 ft Sector Mount [BVFA12-HD]	2	Hybrid (1.25")
220	220	3	Ericsson AIR6419 Panel		Verizon Wireless	30/150/270	12	Site Pro 1	Mount Pipe [#10.5 ft Long P2.5 STD]	2	Hybrid (1.25") (F)
220	220	3	Commscope NN-65C-HG-R1B Panel		Verizon Wireless	30/150/270					
220	220	3	JMA MX10FRC640 Panel (F)		Verizon Wireless	30/150/270					
220	220	3	Ericsson 4490 Panel		Verizon Wireless						
220	220	1	Ericsson 4490 Panel (F)		Verizon Wireless						
220	220	4	Ericsson 4890 Panel (F)		Verizon Wireless						
220	220	1	Raycap 12 OVP Squid		Verizon Wireless						
220	220	3	Raycap 12 OVP Squid (F)		Verizon Wireless						

Note: Existing loading should remain on the tower.

Proposed Loading											
Appurtenances							Mount			Feed Lines	
Mount Height (ft)	Antenna CL (ft)	Quantity	Appurtenance Description	Total Proposed EPA (sq.in.)	Carrier	Azimuth	Quantity	Manufacturer	Type	Quantity	Size
300	300	3	Ericsson AIR6472 B77G B77M Panel	2,134.08	AT&T Mobility	0/120/240	-	-	Same as Existing	-	-

Note: Proposed loading is in addition to the remaining existing equipment at the given elevation.

Reserved Loading											
Appurtenances							Mount			Feed Lines	
Mount Height (ft)	Antenna CL (ft)	Quantity	Appurtenance Description	Total Proposed EPA (sq.in.)	Carrier	Azimuth	Quantity	Manufacturer	Type	Quantity	Size
300	300	-	40,000 (Includes Mount)	17,731.70	AT&T Mobility	-	-	-	Same as Existing	12	1-5/8"
220	220	-	33,000 (Includes Mount)	-2,728.21	Verizon Wireless	-	-	-	Same as Existing	12	1-5/8"

Verizon (P+F) Loading @ 220 ft

Appurtenance Description	Quantity	Area (sq.ft.)	Total Area
AIR3283	3	8.000	24.000
AIR6419	3	4.173	12.518
NN-65C-HG-R1B	3	17.073	51.218
MX10FRO840 (F)	3	17.496	52.487
4490	3	1.980	5.940
4490 (F)	1	1.980	1.980
4890 (F)	4	1.980	7.920
12-OVP	1	4.056	4.056
12-OVP (F)	3	4.056	12.169
10.5' Mount Pipe [#P2.5 STD]	12	3.019	36.225
12.5ft Sector Frame [#VFA12-HD]	3	13.200	39.600
Total (sq. ft.) =			248.113
Total (sq. in.) =			35728.21
Reserved Loading		Remaining Reserved EPA (sq.in.)	
33,000 sq. in.		-2728.21	

AT&T (E) Loading @ 300 ft

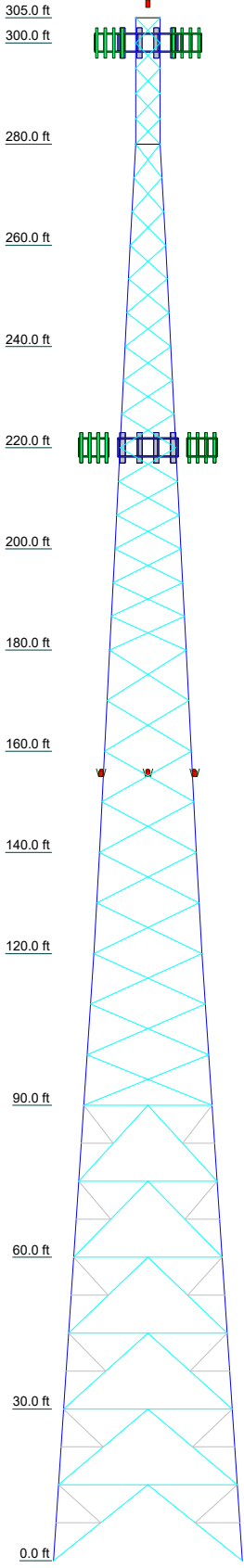
Appurtenance Description	Quantity	Area (sq.ft.)	Total Area
80010991	6	13.814	82.884
4449 B5/B12	3	1.968	5.903
8843 B2/B66A	3	1.639	4.917
4478 B14	3	1.843	5.528
DC9-48-60-24-8C-EV	3	2.737	8.210
6' x 2" Mount Pipe	6	1.425	8.550
RRH Brackets	6	1.000	6.000
12.5 ft Sector Frame [#MCG22HDX12-15-WLL]	1	17.830	17.830
Total (sq. ft.) =			139.821
Total (sq. in.) =			20134.22

AT&T (E+P) Loading @ 300 ft

Appurtenance Description	Quantity	Area (sq.ft.)	Total Area
80010991	6	13.814	82.884
AIR 6472 B77G B77M	3	4.940	14.820
4449 B5/B12	3	1.968	5.903
8843 B2/B66A	3	1.639	4.917
4478 B14	3	1.843	5.528
DC9-48-60-24-8C-EV	3	2.737	8.210
6' x 2" Mount Pipe	6	1.425	8.550
RRH Brackets	6	1.000	6.000
12.5 ft Sector Frame [#MCG22HDX12-15-WLL]	1	17.830	17.830
Total (sq. ft.) =			154.641
Total (sq. in.) =			22268.30
Reserved Loading		Remaining Reserved EPA (sq.in.)	
40,000 sq. in.		17731.70	

TOWER PROFILE

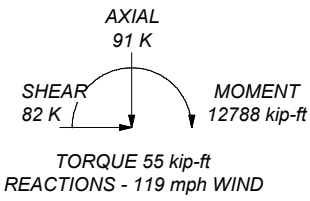
Section	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs			ROHN 10 EH			ROHN 8 EH			ROHN 6 EH		ROHN 5 EH		ROHN 3 STD	A
Leg Grade						A500-50								
Diagonals	2L3 1/2x3 1/2x1/4x1/4	L4x4x5/16	L4x4x1/4		L3 1/2x3 1/2x1/4		L3x3x1/4	E	D	L2x2x1/4	L2x2x3/16	C		B
Diagonal Grade						A529-50								
Top Girts						N.A.						C	N.A.	C
Horizontals	2L3 1/2x3 1/2x1/4x1/4	L4x4x1/4	L3 1/2x3 1/2x1/4											
Red. Horizontals														
Red. Diagonals			L3 1/2x3 1/2x1/4											
Inner Bracing			L4x4x1/4											
Face Width (ft)	37.32	33.3177	29.3177	25.3177	21.3177	19.167	17.167	15.167	13.0208	11.0208	9.0208	6.9427	4.8645	4.7916/4.75
# Panels @ (ft)		6 @ 15	9 @ 10	9 @ 10	9 @ 10	4.0	3.7	2.9	2.5	2.4	1.7	1.3	0.8	0.2
Weight (K)	62.8	10.1	9.1	7.6	7.6	4.2	4.0	3.7	2.9	2.5	2.4	1.7	1.3	0.8



ALL REACTIONS
ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 426 K
SHEAR: 52 K

UPLIFT: -350 K
SHEAR: 43 K



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 5/8" x 4" (E)	312	(4) Generic Panel (2750 sq.in.) (R)	220
Flash Beacon Lighting (E)	307	(4) Generic Panel (2750 sq.in.) (R)	220
10' x 2" Mount Pipe (E)	305	(4) Generic Panel (2750 sq.in.) (R)	220
Mount Pipe (E)	305	Side Light (E)	155
(4) Generic Panel (3333 sq.in.) (R)	300	Side Light (E)	155
(4) Generic Panel (3333 sq.in.) (R)	300	Side Light (E)	155
(4) Generic Panel (3333 sq.in.) (R)	300		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 2.5 STD	D	L2 1/2x2 1/2x3/16
B	L1 3/4x1 3/4x1/8	E	L2 1/2x 2 1/2x 1/4
C	L1 3/4x1 3/4x3/16		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-50	50 ksi	62 ksi	A529-50	50 ksi	65 ksi

TOWER DESIGN NOTES

1. Tower is located in Columbia County, Florida.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 95.4%



601 SW Second Avenue, Suite 1400
Portland, OR 97204-3128
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FAX:

Job: **M-0191R1 / 280570068**

Project: FLC014 / Otter Bay	Drawn by: dballada	App'd:
Client: CitySwitch, LLC	Date: 06/12/26	Scale: NTS
Code: TIA-222-H	Path: N:\Telecom\TowerSite\MISC-1\M-0191 - FLC014 - Otter Bay\M-0191R1 SA\Analysis\M-0191R1.dwg	Dwg No. E-1

PROGRAM OUTPUT

tnxTower Stantec 601 SW Second Avenue, Suite 1400 Portland, OR 97204-3128 Phone: (503) 924-2515 FAX:	Job	M-0191R1 / 280570068	Page	1 of 10
	Project	FLC014 / Otter Bay	Date	15:02:51 06/12/26
	Client	CitySwitch, LLC	Designed by	dballada

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 305.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 4.75 ft at the top and 37.32 ft at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Columbia County, Florida.

Tower base elevation above sea level: 149.00 ft.

Basic wind speed of 119 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 ft.

Deflections calculated using a wind speed of 60 mph.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.

Tower analysis based on target reliabilities in accordance with Annex S.

Load Modification Factors used: $K_{es}(F_w) = 0.95$.

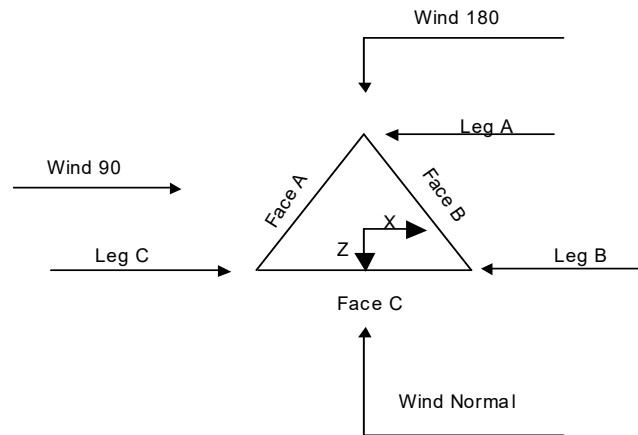
Maximum demand-capacity ratio is: 1.05.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Horizontals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Consider Moments - Diagonals	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
Use Moment Magnification	√ Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Stress Ratios	Retension Guys To Initial Tension	Offset Girt At Foundation
√ Use Code Safety Factors - Guys	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Escalate Ice	√ Use Azimuth Dish Coefficients	√ Include Angle Block Shear Check
Always Use Max Kz	√ Project Wind Area of Appurtenances	Use TIA-222-H Bracing Resist. Exemption
Kz In Exposure D Hurricane Region	√ Alternative Appurt. EPA Calculation	Use TIA-222-H Tension Splice Exemption
√ Include Bolts In Member Capacity	Autocalc Torque Arm Areas	
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
√ Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules	Pole With Shroud Or No Appurtenances
Use Special Wind Profile		Outside and Inside Corner Radii Are Known

tnxTower Stantec 601 SW Second Avenue, Suite 1400 Portland, OR 97204-3128 Phone: (503) 924-2515 FAX:	Job	M-0191R1 / 280570068	Page	2 of 10
	Project	FLC014 / Otter Bay	Date	15:02:51 06/12/26
	Client	CitySwitch, LLC	Designed by	dballada



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	305.00-300.00			4.75	1	5.00
T2	300.00-280.00			4.79	1	20.00
T3	280.00-260.00			4.86	1	20.00
T4	260.00-240.00			6.94	1	20.00
T5	240.00-220.00			9.02	1	20.00
T6	220.00-200.00			11.02	1	20.00
T7	200.00-180.00			13.02	1	20.00
T8	180.00-160.00			15.17	1	20.00
T9	160.00-140.00			17.17	1	20.00
T10	140.00-120.00			19.17	1	20.00
T11	120.00-90.00			21.32	1	30.00
T12	90.00-60.00			25.32	1	30.00
T13	60.00-30.00			29.32	1	30.00
T14	30.00-0.00			33.32	1	30.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	305.00-300.00	5.00	X Brace	No	No	0.0000	0.0000
T2	300.00-280.00	5.00	X Brace	No	No	0.0000	0.0000
T3	280.00-260.00	6.67	X Brace	No	No	0.0000	0.0000

<i>tnxTower</i> <i>Stantec</i> 601 SW Second Avenue, Suite 1400 Portland, OR 97204-3128 Phone: (503) 924-2515 FAX:	Job	M-0191R1 / 280570068	Page	3 of 10
	Project	FLC014 / Otter Bay	Date	15:02:51 06/12/26
	Client	CitySwitch, LLC	Designed by	dballada

<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Diagonal Spacing</i>	<i>Bracing Type</i>	<i>Has K Brace End Panels</i>	<i>Has Horizontals</i>	<i>Top Girt Offset</i>	<i>Bottom Girt Offset</i>
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T4	260.00-240.00	6.67	X Brace	No	No	0.0000	0.0000
T5	240.00-220.00	6.67	X Brace	No	No	0.0000	0.0000
T6	220.00-200.00	6.67	X Brace	No	No	0.0000	0.0000
T7	200.00-180.00	6.67	X Brace	No	No	0.0000	0.0000
T8	180.00-160.00	10.00	X Brace	No	No	0.0000	0.0000
T9	160.00-140.00	10.00	X Brace	No	No	0.0000	0.0000
T10	140.00-120.00	10.00	X Brace	No	No	0.0000	0.0000
T11	120.00-90.00	10.00	X Brace	No	No	0.0000	0.0000
T12	90.00-60.00	15.00	K1 Down	No	Yes	0.0000	0.0000
T13	60.00-30.00	15.00	K1 Down	No	Yes	0.0000	0.0000
T14	30.00-0.00	15.00	K1 Down	No	Yes	0.0000	0.0000

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
<i>ft</i>						
T1 305.00-300.00	Pipe	ROHN 2.5 STD	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)
T2 300.00-280.00	Pipe	ROHN 3 STD	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A529-50 (50 ksi)
T3 280.00-260.00	Pipe	ROHN 4 EH	A500-50 (50 ksi)	Single Angle	L2x2x3/16	A529-50 (50 ksi)
T4 260.00-240.00	Pipe	ROHN 5 EH	A500-50 (50 ksi)	Single Angle	L2x2x3/16	A529-50 (50 ksi)
T5 240.00-220.00	Pipe	ROHN 6 EH	A500-50 (50 ksi)	Single Angle	L2x2x1/4	A529-50 (50 ksi)
T6 220.00-200.00	Pipe	ROHN 6 EH	A500-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T7 200.00-180.00	Pipe	ROHN 6 EH	A500-50 (50 ksi)	Single Angle	L 2 1/2x 2 1/2x 1/4	A529-50 (50 ksi)
T8 180.00-160.00	Pipe	ROHN 8 EH	A500-50 (50 ksi)	Single Angle	L3x3x1/4	A529-50 (50 ksi)
T9 160.00-140.00	Pipe	ROHN 8 EH	A500-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T10 140.00-120.00	Pipe	ROHN 8 EH	A500-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T11 120.00-90.00	Pipe	ROHN 10 EH	A500-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T12 90.00-60.00	Pipe	ROHN 10 EH	A500-50 (50 ksi)	Single Angle	L4x4x1/4	A529-50 (50 ksi)
T13 60.00-30.00	Pipe	ROHN 10 EH	A500-50 (50 ksi)	Single Angle	L4x4x5/16	A529-50 (50 ksi)
T14 30.00-0.00	Pipe	ROHN 10 EH	A500-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x1/4x1/4	A529-50 (50 ksi)

<i>tnxTower</i> <i>Stantec</i> 601 SW Second Avenue, Suite 1400 Portland, OR 97204-3128 Phone: (503) 924-2515 FAX:	Job	M-0191R1 / 280570068	Page	4 of 10
	Project	FLC014 / Otter Bay	Date	15:02:51 06/12/26
	Client	CitySwitch, LLC	Designed by	dballada

Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 305.00-300.00	Equal Angle	L1 3/4x1 3/4x3/16	A529-50 (50 ksi)	Solid Round		A36 (36 ksi)
T3 280.00-260.00	Equal Angle	L1 3/4x1 3/4x3/16	A529-50 (50 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T12 90.00-60.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T13 60.00-30.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L4x4x1/4	A529-50 (50 ksi)
T14 30.00-0.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3 1/2x3 1/2x1/4x1/4	A529-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T12 90.00-60.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T13 60.00-30.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L4x4x1/4	A529-50 (50 ksi)
T14 30.00-0.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A529-50 (50 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Redundant Bracing Grade</i>		<i>Redundant Type</i>	<i>Redundant Size</i>	<i>K Factor</i>	
<i>ft</i>						
90.00-60.00	T12	A529-50 (50 ksi)	Horizontal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
		A529-50 (50 ksi)	Diagonal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
60.00-30.00	T13	A529-50 (50 ksi)	Horizontal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
		A529-50 (50 ksi)	Diagonal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
30.00-0.00	T14	A529-50 (50 ksi)	Horizontal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
		A529-50 (50 ksi)	Diagonal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1

tnxTower Stantec 601 SW Second Avenue, Suite 1400 Portland, OR 97204-3128 Phone: (503) 924-2515 FAX:	Job	Page
	M-0191R1 / 280570068	5 of 10
	Project	Date
	FLC014 / Otter Bay	15:02:51 06/12/26
	Client	Designed by
	CitySwitch, LLC	dballada

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 305.00-300.00	Flange	0.7500 A325X	4	0.6250 A325X	1	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 300.00-280.00	Flange	0.8750 A325X	5	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 280.00-260.00	Flange	1.0000 A325X	5	0.6250 A325X	1	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 260.00-240.00	Flange	1.0000 A325X	6	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 240.00-220.00	Flange	1.0000 A325X	6	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 220.00-200.00	Flange	1.0000 A325X	6	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 200.00-180.00	Flange	1.5000 A325X	6	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 180.00-160.00	Flange	1.5000 A325X	6	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 160.00-140.00	Flange	1.5000 A325X	6	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 140.00-120.00	Flange	1.5000 A325X	7	0.6250 A325X	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 120.00-90.00	Flange	1.5000 A325X	7	0.6250 A325X	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T12 90.00-60.00	Flange	1.5000 A325X	7	0.6250 A325X	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325X	2	0.6250 A325N	0
T13 60.00-30.00	Flange	1.5000 A325X	7	0.6250 A325X	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325X	2	0.6250 A325N	0
T14 30.00-0.00	Flange	1.5000 A325X	0	0.6250 A325X	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325X	2	0.6250 A325N	0

Tower Section Geometry (cont'd)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 305.00-300.00	0.6250 A325N	0 (1)	0.6250 A325X	0 (1)	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0 (1)	0.6250 A325N	0 (1)
	0.6250 A325N	0 (2)	0.6250 A325N	0 (2)							0.6250 A325N	0 (2)	0.6250 A325N	0 (2)
	0.6250 A325N	0 (3)	0.6250 A325N	0 (3)							0.6250 A325N	0 (3)	0.6250 A325N	0 (3)
	0.6250 A325N	0 (4)	0.6250 A325N	0 (4)							0.6250 A325N	0 (4)	0.6250 A325N	0 (4)
T2 300.00-280.00	0.6250 A325N	0 (1)	0.6250 A325X	0 (1)	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0 (1)	0.6250 A325N	0 (1)
	0.6250 A325N	0 (2)	0.6250 A325N	0 (2)							0.6250 A325N	0 (2)	0.6250 A325N	0 (2)
	0.6250 A325N	0 (3)	0.6250 A325N	0 (3)							0.6250 A325N	0 (3)	0.6250 A325N	0 (3)
	0.6250 A325N	0 (4)	0.6250 A325N	0 (4)							0.6250 A325N	0 (4)	0.6250 A325N	0 (4)

tnxTower Stantec 601 SW Second Avenue, Suite 1400 Portland, OR 97204-3128 Phone: (503) 924-2515 FAX:	Job	M-0191R1 / 280570068	Page	6 of 10
	Project	FLC014 / Otter Bay	Date	15:02:51 06/12/26
	Client	CitySwitch, LLC	Designed by	dballada

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T3 280.00-260.00	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
T4 260.00-240.00	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
T5 240.00-220.00	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T6 220.00-200.00	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T7 200.00-180.00	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
T8 180.00-160.00	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
T9 160.00-140.00	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T10 140.00-120.00	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
	A325N		A325X		A325N		A325N		A325N		A325N		A325N	

tnxTower Stantec 601 SW Second Avenue, Suite 1400 Portland, OR 97204-3128 Phone: (503) 924-2515 FAX:	Job	M-0191R1 / 280570068	Page	8 of 10
	Project	FLC014 / Otter Bay	Date	15:02:51 06/12/26
	Client	CitySwitch, LLC	Designed by	dballada

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Tower Hardware													
Safety Line 3/8" (E)	C	No	No	Ar (CaAa)	305.00 - 0.00	0.0000	0.5	1	1	0.3750	0.3750		0.22
Step Pegs (E)	A	No	No	Ar (CaAa)	280.00 - 0.00	0.0000	0.48	1	1	0.7050	0.7050		1.80
Step Pegs (E)	B	No	No	Ar (CaAa)	280.00 - 0.00	0.0000	0.48	1	1	0.7050	0.7050		1.80
Step Pegs (E)	C	No	No	Ar (CaAa)	305.00 - 0.00	0.0000	0.48	1	1	0.7050	0.7050		1.80
Lightning Cables (E)	C	No	No	Ar (CaAa)	155.00 - 0.00	0.0000	0.45	3	3	0.5000	0.6300		0.15
Feedline Ladder (Af) (E)	C	No	No	Af (CaAa)	300.00 - 0.00	0.0000	-0.3	1	1	3.0000	3.0000		8.40
Feedline Ladder (Af) (E)	A	No	No	Af (CaAa)	220.00 - 0.00	0.0000	0.1	1	1	3.0000	3.0000		8.40
AT&T													
1-5/8" (R)	C	No	No	Ar (CaAa)	300.00 - 0.00	0.0000	-0.35	12	6	0.5000	1.9600		0.52
VZW													
1-5/8" (R)	A	No	No	Ar (CaAa)	220.00 - 0.00	0.0000	0.1	12	6	0.5000	1.9600		0.52

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Tower Hardware									
Lightning Rod 5/8" x 4' (E)	B	From Leg	0.50 0.00 0.00	0.0000	312.00	No Ice	0.25	0.25	0.03
10' x 2" Mount Pipe (E)	B	From Leg	0.50 0.00 0.00	0.0000	305.00	No Ice	2.38	2.38	0.04
Flash Beacon Lighting (E)	A	From Leg	0.00 0.00 0.00	0.0000	307.00	No Ice	2.70	2.70	0.05
Mount Pipe (E)	A	From Leg	0.00 0.00 0.00	0.0000	305.00	No Ice	1.43	1.43	0.02
Side Light (E)	A	From Leg	0.50 0.00	0.0000	155.00	No Ice	0.26	0.26	0.01

tnxTower Stantec 601 SW Second Avenue, Suite 1400 Portland, OR 97204-3128 Phone: (503) 924-2515 FAX:	Job	M-0191R1 / 280570068	Page	9 of 10
	Project	FLC014 / Otter Bay	Date	15:02:51 06/12/26
	Client	CitySwitch, LLC	Designed by	dballada

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Side Light (E)	B	From Leg	0.00 0.50 0.00 0.00	0.0000	155.00	No Ice	0.26	0.26	0.01
Side Light (E)	C	From Leg	0.50 0.00 0.00	0.0000	155.00	No Ice	0.26	0.26	0.01
AT&T *** *****									
(4) Generic Panel (3333 sq.in.) (R)	A	From Leg	4.00 0.00 0.00	0.0000	300.00	No Ice	23.15	11.57	0.15
(4) Generic Panel (3333 sq.in.) (R)	B	From Leg	4.00 0.00 0.00	0.0000	300.00	No Ice	23.15	11.57	0.15
(4) Generic Panel (3333 sq.in.) (R)	C	From Leg	4.00 0.00 0.00	0.0000	300.00	No Ice	23.15	11.57	0.15
Verizon Wireless *****									
(4) Generic Panel (2750 sq.in.) (R)	A	From Leg	4.00 0.00 0.00	0.0000	220.00	No Ice	19.09	9.54	0.12
(4) Generic Panel (2750 sq.in.) (R)	B	From Leg	4.00 0.00 0.00	0.0000	220.00	No Ice	19.09	9.54	0.12
(4) Generic Panel (2750 sq.in.) (R)	C	From Leg	4.00 0.00 0.00	0.0000	220.00	No Ice	19.09	9.54	0.12

Section Capacity Table

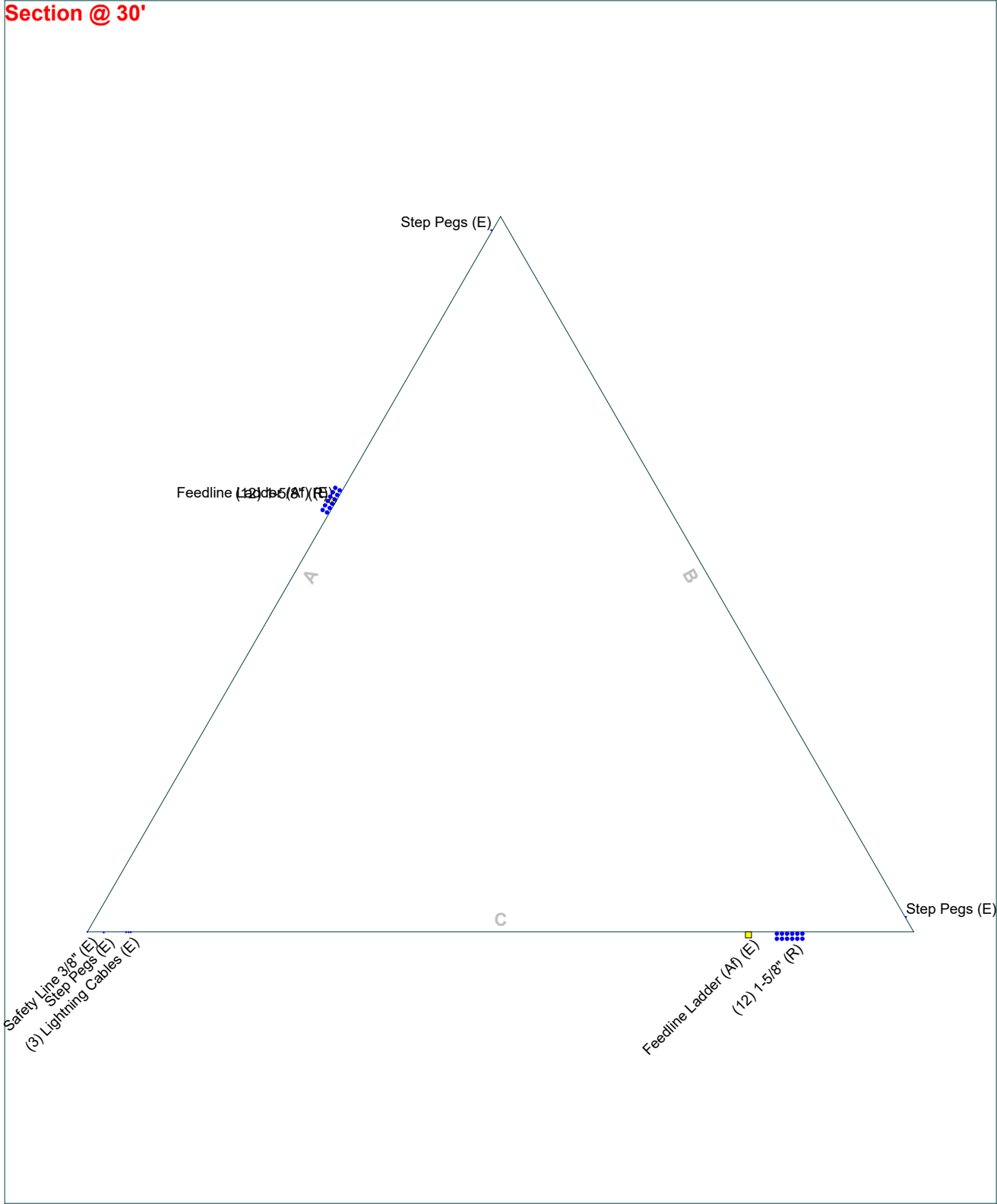
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	305 - 300	Leg	ROHN 2.5 STD	2	-0.75	60.05	1.2	Pass
T2	300 - 280	Leg	ROHN 3 STD	15	-42.97	86.69	49.6	Pass
T3	280 - 260	Leg	ROHN 4 EH	42	-74.16	167.90	44.2	Pass
T4	260 - 240	Leg	ROHN 5 EH	66	-98.32	251.35	39.1	Pass
T5	240 - 220	Leg	ROHN 6 EH	87	-120.73	360.25	33.5	Pass
T6	220 - 200	Leg	ROHN 6 EH	108	-153.65	360.25	42.6	Pass
T7	200 - 180	Leg	ROHN 6 EH	129	-184.67	360.24	51.3	Pass
T8	180 - 160	Leg	ROHN 8 EH	150	-212.90	530.83	40.1	Pass
T9	160 - 140	Leg	ROHN 8 EH	165	-243.73	530.83	45.9	Pass
T10	140 - 120	Leg	ROHN 8 EH	180	-273.15	530.80	51.5	Pass
T11	120 - 90	Leg	ROHN 10 EH	195	-309.83	701.95	44.1	Pass
T12	90 - 60	Leg	ROHN 10 EH	216	-330.65	727.09	45.5	Pass
T13	60 - 30	Leg	ROHN 10 EH	267	-367.61	727.09	50.6	Pass
T14	30 - 0	Leg	ROHN 10 EH	318	-407.06	727.09	56.0	Pass
T1	305 - 300	Diagonal	L1 3/4x1 3/4x1/8	12	-1.43	10.03	14.2	Pass
							26.6 (b)	
T2	300 - 280	Diagonal	L1 3/4x1 3/4x3/16	19	-5.30	14.65	36.2	Pass
							65.3 (b)	
T3	280 - 260	Diagonal	L2x2x3/16	49	-3.61	11.19	32.2	Pass

COAX SKETCH

Feed Line Plan
30'

Round Flat App In Face App Out Face

Section @ 30'



ADDITIONAL CALCULATIONS

Self Support Anchor Rod Capacity

Site Info		
Site ID:	FLC014	
Site Name:	Otter Bay	
Project No.	M-0191R1 / 280570068	

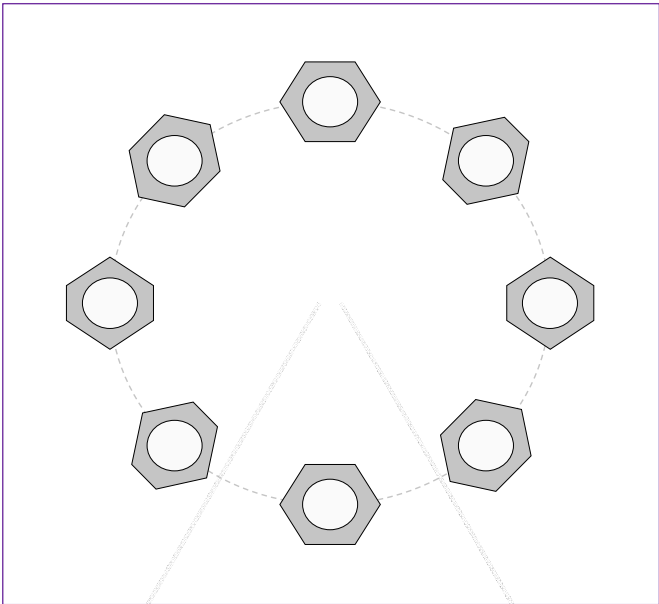
Analysis Considerations		
TIA-222 Revision	H	
Grout Considered:	No	
l_{ar} (in)	1.5	

Applied Loads		
	Comp.	Uplift
Axial Force (kips)	425.80	350.35
Shear Force (kips)	51.83	42.75

*TIA-222-H Section 15.5 Applied

Considered Eccentricity		
Leg Mod Eccentricity (in)	0.000	
Anchor Rod N.A Shift (in)	0.000	
Total Eccentricity (in)	0.000	

*Anchor Rod Eccentricity Applied



Connection Properties		Analysis Results	
Anchor Rod Data		Anchor Rod Summary	
(8) 1-1/2" ϕ bolts (F1554-105 N; Fy=105 ksi, Fu=125 ksi)		(units of kips, kip-in)	
l_{ar} (in): 1.5		Pu_t = 43.79	ϕPn_t = 132.19
		Vu = 5.34	ϕVn = 82.83
		Mu = n/a	ϕMn = n/a
		Stress Rating	
		31.6%	
		Pass	

Drilled Pier Foundation

Site Info		
Site ID:	FLC014	
Site Name:	Otter Bay	
Project No.:	M-0191R1 / 280570068	

TIA-222 Revision: H
Tower Type: Self Support

Report File: N:\Telecom\TowerSites\MISC-1\IM-0191 - FLC014 - Otter Bay\IM-0191R1 SA\Analysis\IM-0191R1.erl.XML0

Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	0	0
Axial Force (kips)	425.8	350.35
Shear Force (kips)	51.83	42.75

Material Properties		
Concrete Strength, f _c :	4.5 ksi	
Rebar Strength, F _y :	60 ksi	
Tie Yield Strength, F _y :	60 ksi	

Pier Design Data		
Depth	52	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 52' below grade		
Pier Diameter	7	ft
Rebar Quantity	32	
Rebar Size	9	
Rebar Cage Diameter	72	in
Tie Size	4	
Tie Spacing		in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check		
	Compression	Uplift
D ₅₀ (ft from TOC)	10.40	10.40
Soil Safety Factor	21.47	26.03
Max Moment (kip-ft)	395.59	326.29
Rating*	5.9%	4.9%
Soil Vertical Check		
	Compression	Uplift
Skin Friction (kips)	460.99	460.99
End Bearing (kips)	554.75	-
Weight of Concrete (kips)	221.01	165.76
Total Capacity (kips)	1015.74	626.75
Axial (kips)	646.81	350.35
Rating*	60.6%	53.2%
Reinforced Concrete Flexure		
	Compression	Uplift
Critical Depth (ft from TOC)	10.50	10.16
Critical Moment (kip-ft)	395.54	326.01
Critical Moment Capacity	6072.19	4413.74
Rating*	6.2%	7.0%
Reinforced Concrete Shear		
	Compression	Uplift
Critical Depth (ft from TOC)	0.00	0.00
Critical Shear (kip)	51.83	42.75
Critical Shear Capacity	965.94	484.79
Rating*	5.1%	8.4%

Structural Foundation Rating*	8.4%
Soil Interaction Rating*	60.6%

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	☒
N/A	☐
Design Options	
Input Effective Depths (else Actual):	☐
Consider non-tapered moment capacity:	☐
Check Shear along Depth of Pier:	☒
Utilize Shear-Friction Methodology:	☐
Override Critical Depth:	☐

[Go to Soil Calculations](#)

Soil Profile			
Groundwater Depth	2.5	# of Layers	17

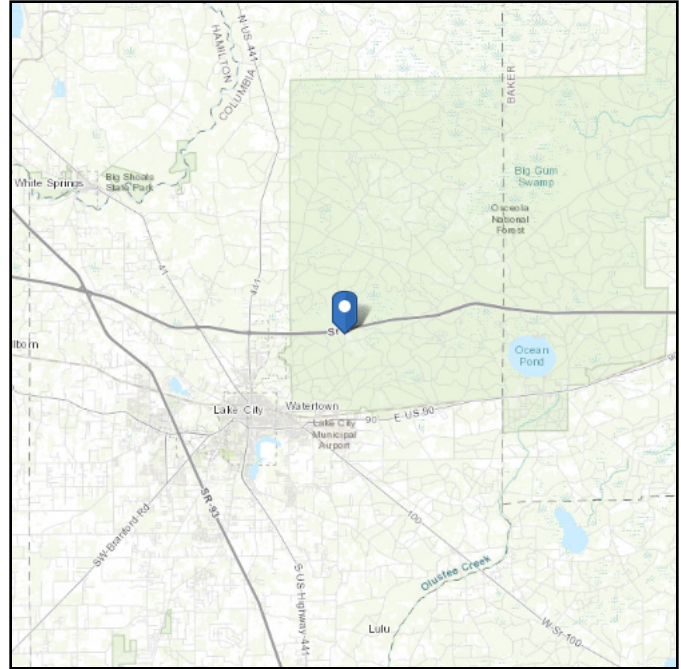
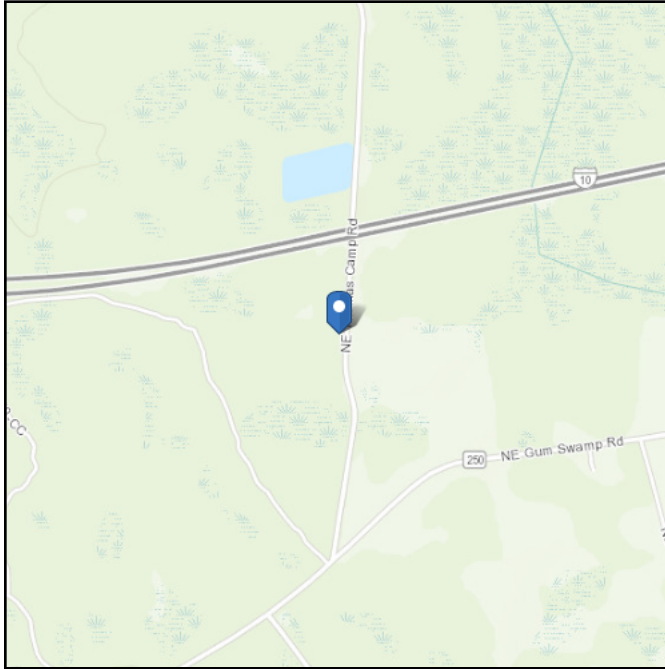
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	Y _{soil} (pcf)	Y _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	2.5	2.5	110	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	2.5	3	0.5	110	87.6	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	3	3.5	0.5	110	87.6	0	0	0.000	0.000	0.00	0.00			Cohesionless
4	3.5	6.5	3	110	87.6	2.5	0	1.375	1.375	0.15	0.15			Cohesive
5	6.5	8	1.5	110	87.6	2.5	0	1.375	1.375	1.00	1.00			Cohesive
6	8	10	2	110	87.6	4.5	0	2.195	2.195	1.00	1.00			Cohesive
7	10	12	2	110	87.6	0.25	0	0.14	0.14	1.00	1.00			Cohesive
8	12	17	5	110	87.6	0.25	0	0.14	0.14	0.25	0.25			Cohesive
9	17	22	5	110	87.6	0.25	0	0.14	0.14	0.70	0.70			Cohesive
10	22	27	5	110	87.6	0.25	0	0.14	0.14	0.25	0.25			Cohesive
11	27	30	3	110	87.6	0.25	0	0.14	0.14	1.00	1.00			Cohesive
12	30	32	2	110	87.6	0.75	0	0.41	0.41	1.00	1.00			Cohesive
13	32	35	3	110	87.6	0.75	0	0.41	0.41	0.85	0.85			Cohesive
14	35	40	5	110	87.6	2	0	1.10	1.10	0.85	0.85			Cohesive
15	40	42	2	110	87.6	0.25	0	0.14	0.14	0.85	0.85			Cohesive
16	42	45	3	110	87.6	0.25	0	0.14	0.14	0.25	0.25			Cohesive
17	45	52	7	110	87.6	0.25	0	0.14	0.14	0.25	0.25	13.5		Cohesive

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-22
Risk Category: II
Soil Class: Default

Latitude: 30.240583
Longitude: -82.570972
Elevation: 148.79996858377731 ft
(NAVD 88)



Wind

Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	83 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph
300-year MRI	109 Vmph
700-year MRI	119 Vmph
1,700-year MRI	127 Vmph
3,000-year MRI	133 Vmph
10,000-year MRI	143 Vmph
100,000-year MRI	153 Vmph
1,000,000-year MRI	168 Vmph

Data Source: ASCE/SEI 7-22, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Wed Jun 10 2026



Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-22 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years). Values for 10-year MRI, 25-year MRI, 50-year MRI and 100-year MRI are Service Level wind speeds, all other wind speeds are Ultimate wind speeds.

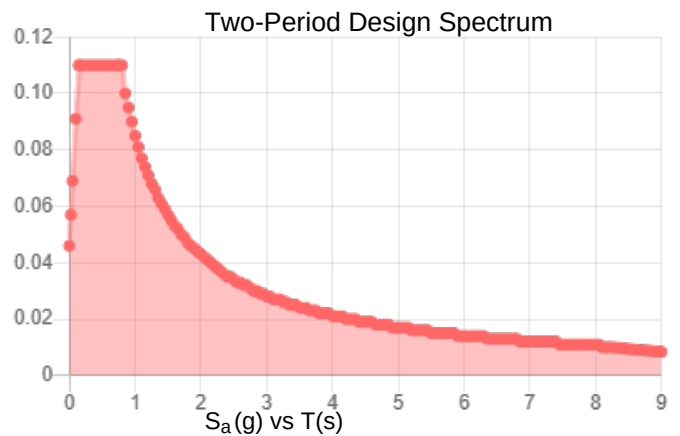
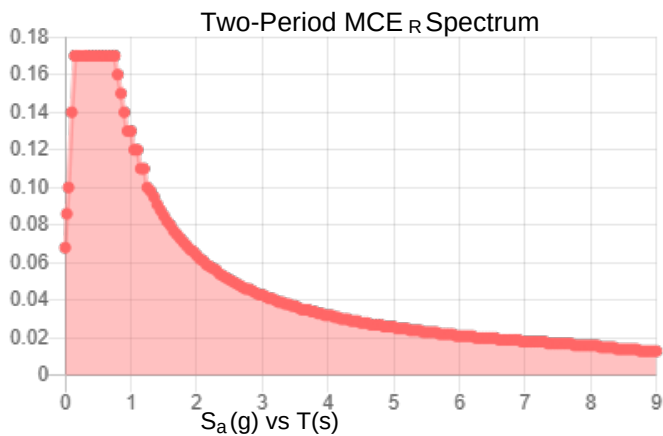
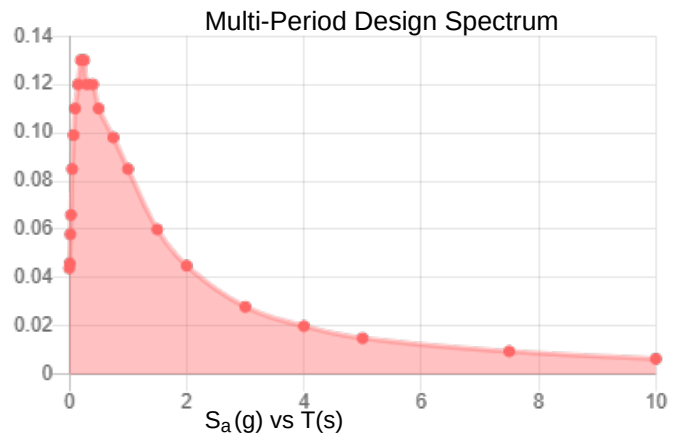
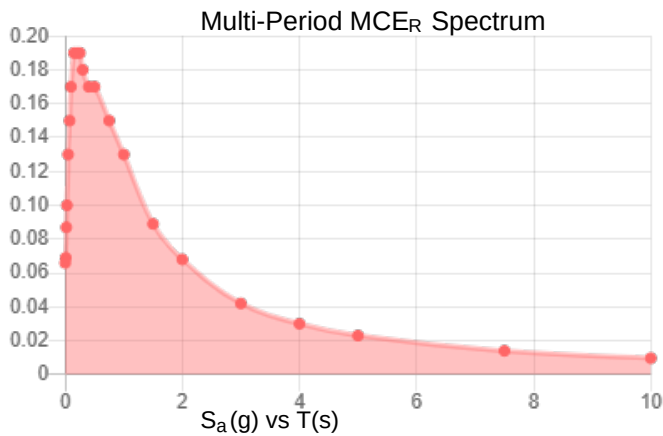
Site is in a hurricane-prone region as defined in ASCE/SEI 7-22 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: Default

Results:

PGA _M :	0.061	T _L :	8
S _{MS} :	0.17	S _S :	0.13
S _{M1} :	0.13	S ₁ :	0.06
S _{DS} :	0.11	V _{S30} :	260
S _{D1} :	0.085		

Seismic Design Category: B



MCE_R Vertical Response Spectrum
Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum
Vertical ground motion data has not yet been made available by USGS.

Data Accessed: Wed Jun 10 2026

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

Results:

Ice Thickness: N/A
Concurrent Temperature: N/A
3-s Gust Speed N/A

Data Source: Standard ASCE/SEI 7-22, Figs. 10-2 through 10-8

Date Accessed: Wed Jun 10 2026

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain for 250, 500, 1,000, and 1,400-year mean recurrence intervals along with concurrent 3-s gust speeds and concurrent air temperatures. The shading indicates special icing regions, with elevations above 2,100 ft (640 m) in the east, 6,000 ft (1829 m) in the west, and 1,600 ft (488 m) in Alaska, with sparse weather station data for determining design ice loads. In these regions, as well as in regions with complex terrain causing unusual icing conditions and regions where snow or in-cloud icing results in larger loads, the mapped values should be adjusted based on a combination of local historical records and experience, reanalysis data, and numerical weather prediction systems.

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