CENTEK engineering

Centered on Solutions℠

Structural Analysis Report

180-ft Existing ROHN Guyed Lattice Tower

Proposed AT&T Antenna Upgrade

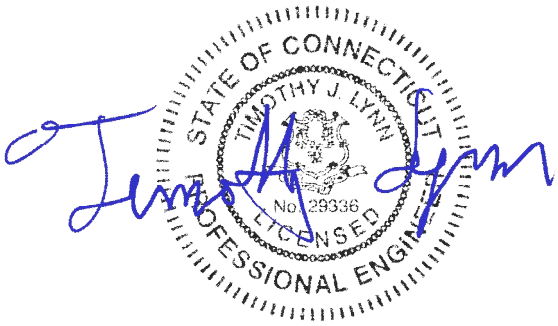
Site Ref: CT5206

135 New Road
Madison, CT 06443

CENTEK Project No. 22003.00

~~Date: February 23, 2022~~

Rev 1: February 22, 2023



Prepared for:
AT&T Mobility
500 Enterprise Drive, Suite 3A
Rocky Hill, CT 06067

Table of Contents

Introduction

The purpose of this report is to summarize the results of the non-linear, P-Δ structural analysis of the antenna upgrade proposed by AT&T on the existing guyed lattice tower located in Madison, Connecticut.

The host tower is a 180-ft, three legged, Model 80 guyed lattice tower originally designed and manufactured by UNR-ROHN. The tower geometry and structure member size information were obtained from a previous structural analysis report prepared by Centek project no. 22006.01 dated April 4, 2022.

Antenna and appurtenance inventory were obtained from the aforementioned structural analysis report and a RF data sheet.

The tower consists of nine (9) vertical sections consisting of ROHN steel pipe legs conforming to ASTM A572-50. Diagonal and horizontal lateral support bracing consists of a combination of steel angle and pipe construction conforming to ASTM A36 and A53 Gr. B 35ksi. All connections are bolted. The width of the tower face is 3.41-ft at the top and bottom with a 5-ft tall tapered base section.

Antenna and Appurtenance Summary

The existing and proposed loads considered in the analysis consist of the following:

- EVERSOURCE (Existing):
  Antenna: One (1) dbspectra DS2C03F36D-D Omni-directional whip antenna mounted on a standoff to a leg of the existing tower with an elevation of ±177-ft above grade level.
  Coax Cable: Two (2) 7/8" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- EVERSOURCE (Existing):
  Antenna: Two (2) 20-ft and one (1) 14-ft Omni-directional whip antennas mounted to a leg of the existing tower with an elevation of ±180-ft above grade level.
  Coax Cable: One (1) 1-5/8" ∅ and one (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- EVERSOURCE (Existing):
  Antenna: One (1) 8.5-ft ∅ Microwave dish antenna with radome mounted to the leg of the existing tower with a RAD center elevation of ±175-ft above grade level.
  Coax Cable: One (1) Elliptical coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.

- T-MOBILE (Existing):
  Antennas: Three (3) RFS APXVAALL24_43 panel antennas, three (3) Ericsson AIR6419 panel antennas, three (3) Ericsson 4460 RRHs and three (3) Ericsson 4480 RRHs mounted on three (3) V-Frame (SitePro p/n VFA-12HD) with a RAD center elevation of 159-ft above grade level.
  Coax Cables: Three (3) 6x24 hybrid cables running on the face of the existing tower as specified in Section 3 of this report.
- EVERSOURCE (Existing):
  Antenna: One (1) 20-ft Omni-directional whip antenna pipe mounted with RAD center elevation of ±147-ft above grade level.
  Coax Cable: Two (2) 7/8" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- EVERSOURCE (Existing):
  Antenna: Two (2) 2-ft Omni-directional whip antennas mounted on a 2-ft stand-off with RAD center elevations of ±143-ft and 141-ft above grade level.
  Coax Cable: Two (2) 7/8" ∅ coax cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- SPRINT (Existing):
  Antennas: Three (3) RFS APXVSPP18C panel antennas, three (3) RRH2x50-800 radio heads and three (3) 1900MHz 4X45 Remote Radio Heads mounted to three (3) existing 6-ft x 12-ft ROHN boom gates with a RAD center elevation of ±126-ft above grade level.
  Cables: Three (3) 1-1/4" ∅ Hybriflex cables running on the face of the existing tower as specified in Section 3 of this report.
- SPRINT (Existing):
  Antenna: One (1) GPS antenna mounted on a 2-ft stand-off with a RAD center elevation of ±88-ft above grade level.
  Coax Cable: One (1) 1/2" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.

- AT&T (Existing to Remain):
  Surge Arrestor: One (1) Raycap DC6-48-60-18-8F Surge Arrestor mounted to the leg of the existing tower with a RAD center elevation of 72-ft above grade level.
  Coax Cables: One (1) 5/8" ∅ fiber optic cable and two (2) #8 DC control cables running on the face of the existing tower as specified in Section 3 of this report.

- AT&T (Existing to Remove):
  Antennas: Three (3) KMW AM-X-CD-14-65-00T panel antennas, three (3) Powerwave 7770 panel antennas, six (6) TMAs and three (3) Ericsson RRUS-11 mounted to three (3) 12-ft V-Frames with a RAD center elevation of 78-ft above grade level.
  Coax Cables: Six (6) 7/8" ∅ coax cables running on the face of the existing tower as specified in Section 3 of this report.

- **AT&T (Proposed):**
  Antennas: Three (3) Commscope SBNHH-1D65A panel antennas and three (3) CCI DMP65R-BU4D panel antennas mounted to three (3) 12-ft V-Frames with a RAD center elevation of 78-ft above grade level.
  Appurtenances: Three (3) Ericsson B2/B66A 8843 and three (3) Ericsson B5/B12 4449 remote radio heads mounted to the V-Frame outriggers with a RAD center elevation of 78-ft above grade level.

Primary Assumptions Used in the Analysis

- The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- The tower carries the horizontal and vertical loads due to the weight of antennas, ice load and wind.
- Tower is properly installed and maintained.
- Tower is in plumb condition.
- Tower loading for antennas and mounts as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as specified in the original tower design documents.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.
- All tower members were properly designed, detailed, fabricated, installed and have been properly maintained since erection.
- Any deviation from the analyzed antenna loading will require a new analysis for verification of structural adequacy.
- All coax cables routed as specified in Section 3 of this report.

Analysis

The existing tower was analyzed using a comprehensive computer program entitled tnxTower. The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the tower, and the model assumes that the tower members are subjected to bending, axial, and shear forces.

The existing tower was analyzed for the controlling basic wind speed (3-second gust) with no ice and the applicable wind and ice combination to determine stresses in members as per guidelines of TIA-222-H entitled "Structural Standard for Antenna Support Structures, Antennas and Small Wind Turbine Support Structures", the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Load and Resistance Factor Design (LRFD).

The controlling wind speed is determined by evaluating the local available wind speed data as provided in Appendix N of the CSBC[1] and the wind speed data available in the TIA-222-H Standard.

Tower Loading

Tower loading was determined by the basic wind speed as applied to projected surface areas with modification factors per TIA-222-H, gravity loads of the tower structure and its components, and the application of 1.0" radial ice on the tower structure and its components.

Load Cases:	Load Case 1; 135 mph (Risk Cat III) wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation.	*[Appendix P of the 2022 CT Building Code]*
	Load Case 2; 50 mph wind speed w/ 1.00" radial ice plus gravity load – used in calculation of tower stresses.	*[Annex B of TIA-222-H]*

[1] The 2021 International Building Code as amended by the 2022 Connecticut State Building Code (CSBC).

Tower Capacity

- Calculated stresses were found to be within allowable limits.

Tower Section	Elevation (ATB)	Stress Ratio (percentage of capacity)	Result
Leg (T8)	20'-0"-40'-0"	66.1%	**PASS**
Diagonal (T2)	140'-0"-160'-0"	69.0%	**PASS**
Guy A @ 184-ft radius (T1)	127'-8"	49.7%	**PASS**

- The tower combined deflection is **0.3269 degrees**.

Deflection Criteria	Proposed (degrees)
Sway (Tilt)	0.1678
Twist	0.2805
Combined	0.3269

Note 1: *Tower deflection calculated utilizing the service wind load combination and nominal wind speed of 105 mph.*

Foundations and Anchorage

The existing guy anchorage foundation system consists of three (3) inner and three (3) outer reinforced concrete guy anchor foundations and one pad and pier type base foundation, located below existing grade. The properties used in the analysis of the existing anchor foundations were obtained from the aforementioned structural analysis report prepared by Centek Engineering, Inc.

- The worst case tower base and guy anchor reactions developed from the governing Load Case were used in the verification of the anchorage foundations:

Tower Guy Reactions		
Vector	**Proposed Reactions Guy Anchor A at Radius of 150-ft**	**Proposed Reactions Guy Anchor A at Radius of 184-ft**
Horizontal (In Plane of GW)	**12.0 kips**	**30.0 kips**
Horizontal (Out of Plane of GW)	**0.5 kips**	**1.0 kips**
Vertical	**5.0 kips**	**24.0 kips**
Resultant Force at end of Guy Wire	**13.0 kips**	**39.0 kips**
Tower Base Reactions		
Vector	**Proposed Reaction**	
Horizontal Shear	**1.0 kips**	
Axial Compression	**116.0 kips**	

Foundation	**Design Limit**	**TIA-222-H Section 9.4 FS**[1]	**Proposed Loading (FS)**[1]	**Result**
Reinf. Conc. Anchor Block (A) at 150-ft radius.	Uplift	1.0	7.9	**PASS**
	Sliding	1.0	4.1	**PASS**
Reinf. Conc. Anchor Block (A) at 184-ft radius.	Uplift	1.0	2.8	**PASS**
	Sliding	1.0	2.8	**PASS**
		Ultimate	**Proposed**	
Base Foundation	Bearing	16.0 ksf [2]	5.2 ksf	**PASS**

Note 1: FS denotes 'Factor of Safety'.
Note 2: Based on soil boring prepared by Clarence Welti dated 6/16/97 which indicated weathered rock.

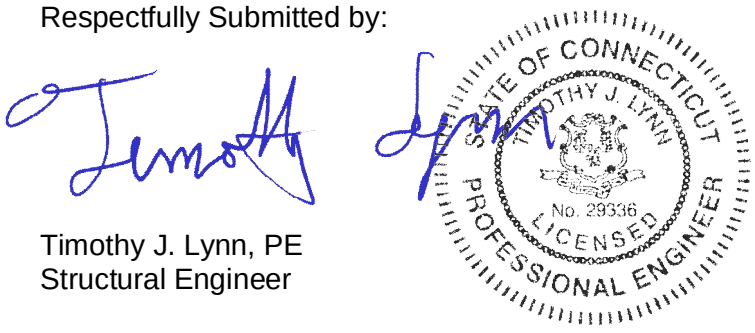
C o n c l u s i o n

This analysis shows that the subject tower **is adequate** to support the proposed equipment upgrade.

The analysis is based, in part on the information provided to this office by Eversource and AT&T. If the existing conditions are different than the information in this report, CENTEK engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:



Timothy J. Lynn, PE
Structural Engineer

Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Centek Engineering, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to Centek Engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the “as new” condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Centek Engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

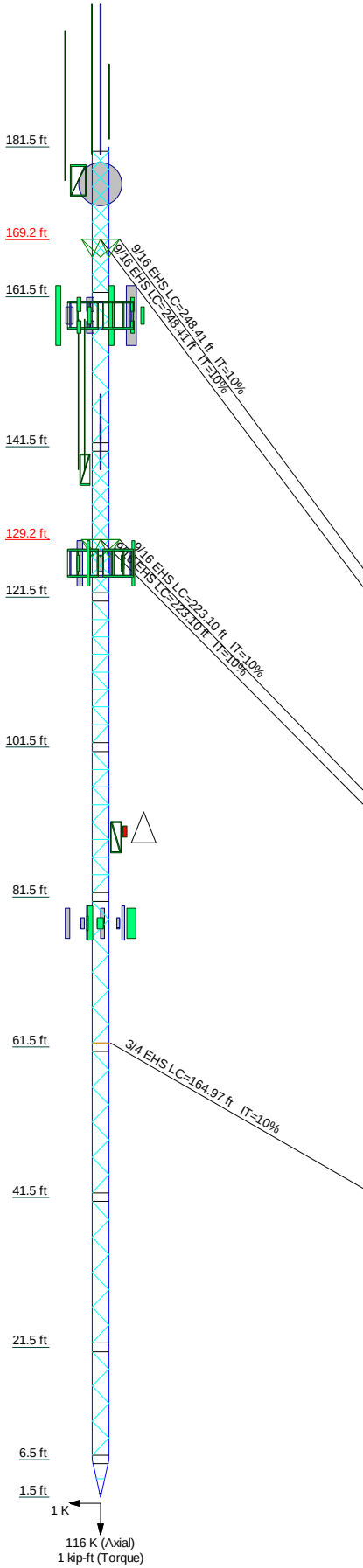
tnxTower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, RISATower, formerly ERITower, automates much of the tower analysis and design required by the TIA/EIA 222 Standard.

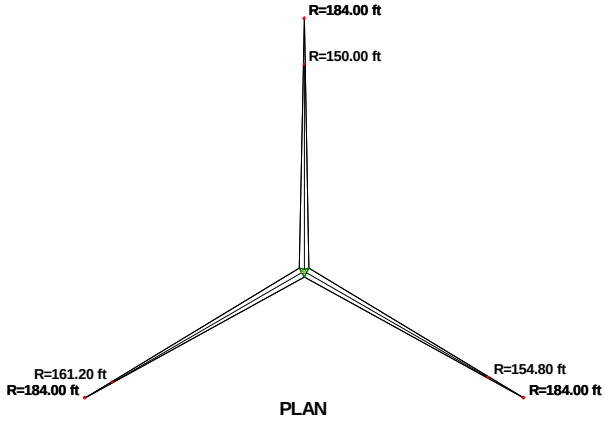
tnxTower Features:

- tnxTower can analyze and design 3- and 4-sided guyed towers, 3- and 4-sided self-supporting towers and either round or tapered ground mounted poles with or without guys.
- The program analyzes towers using the TIA-222-H standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD 9th Edition or the AISC LRFD specifications.
- Linear and non-linear (P-delta) analyses can be used in determining displacements and forces in the structure. Wind pressures and forces are automatically calculated.
- Extensive graphics plots include material take-off, shear-moment, leg compression, displacement, twist, feed line, guy anchor and stress plots.
- tnxTower contains unique features such as True Cable behavior, hog rod take-up, foundation stiffness and much more.

Section	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs						P2.5x.203				
Leg Grade						A572-50				
Diagonals	N.A.	L2 1/2x2 1/2x1/2	ROHN TS1.5x16 ga	L2 1/2x2 1/2x1/2		ROHN TS1.5x16 ga	L2 1/2x2 1/2x1/2	L2x2x3/16	ROHN TS1.5x16 ga	L1 3/4x1 3/4x3/16
Diagonal Grade	N.A.	A36	A53-B-35	A36		A53-B-35	A36		A53-B-35	A36
Top Girts	A	L2 1/2x2 1/2x1/2	ROHN TS1.5x16 ga		L2 1/2x2 1/2x1/2	ROHN TS1.5x16 ga		L2x2x3/16	ROHN TS1.5x16 ga	L1 3/4x1 3/4x3/16
Bottom Girts	A	L2 1/2x2 1/2x1/2	ROHN TS1.5x16 ga		L2 1/2x2 1/2x1/2	ROHN TS1.5x16 ga		L2x2x3/16	ROHN TS1.5x16 ga	L1 3/4x1 3/4x3/16
Horizontals	A		N.A.			L2 1/2x2 1/2x1/2			N.A.	
Top Guy Pull-Offs			N.A.		4 1/2x3/8			N.A.		
Face Width (ft)						72 @ 2.34635				3.41
# Panels @ (ft)	3 @ 2	7 @ 2.29514								
Weight (K)	10.3									

	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Section	0.4	1.0	0.5	1.1	1.3	1.0	1.8	1.4	0.5	1.3





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
20' x 2" Dia Omni (Eversource)	180.5	FD-RRH 4x45 1900 (Sprint)	126
14' x 3" Dia Omni (Eversource)	180.5	FD-RRH 4x45 1900 (Sprint)	126
20' x 2" Dia Omni (Eversource)	180.5	FD-RRH 4x45 1900 (Sprint)	126
DS2C03F36D-D (Eversource)	177	Rohn 6' x 12' Boom Gate (1) (Sprint)	126
SitePro USF-4U (Eversource)	177	Rohn 6' x 12' Boom Gate (1) (Sprint)	126
8.5 Dishw/radome (NU)	176.5	Rohn 6' x 12' Boom Gate (1) (Sprint)	126
AIR6419 (T-Mobile)	159	APXVSPP18-C-A20 (Sprint)	126
APXVAALL24-43 (T-Mobile)	159	APXVSPP18-C-A20 (Sprint)	126
AIR6419 (T-Mobile)	159	APXVSPP18-C-A20 (Sprint)	126
APXVAALL24-43 (T-Mobile)	159	FD-RRH 2x50 800 (Sprint)	126
AIR6419 (T-Mobile)	159	3' GPS Stand-off Mount (Sprint)	89.5
APXVAALL24-43 (T-Mobile)	159	GPS (Sprint)	89.5
4480 B71+B85 (T-Mobile)	159	8843 B2/B66A (ATI - Proposed)	78
4480 B71+B85 (T-Mobile)	159	8843 B2/B66A (ATI - Proposed)	78
4480 B71+B85 (T-Mobile)	159	8843 B2/B66A (ATI - Proposed)	78
4460 B25+B66 (T-Mobile)	159	4449 B5/B12 (ATI - Proposed)	78
4460 B25+B66 (T-Mobile)	159	4449 B5/B12 (ATI - Proposed)	78
4460 B25+B66 (T-Mobile)	159	4449 B5/B12 (ATI - Proposed)	78
SitePro VFA12-HD (T-Mobile)	159	SBNHH-1D65A (ATI - Proposed)	78
SitePro VFA12-HD (T-Mobile)	159	SBNHH-1D65A (ATI - Proposed)	78
SitePro VFA12-HD (T-Mobile)	159	SBNHH-1D65A (ATI - Proposed)	78
3"x20-ft Omni (Eversource)	148.5	DMP65R-BU4D (ATI - Proposed)	78
20-ft x 1.9in Support Pipe (Eversource)	148.5	DMP65R-BU4D (ATI - Proposed)	78
1.5"x2'omni (Eversource)	144.5	DC6-48-60-18-8F Surge Arrestor (ATI)	78
2-ft Stand Off (Eversource)	143.5	DMP65R-BU4D (ATI - Proposed)	78
1.5"x2'omni (Eversource)	142.5	12' V-Frame (ATI)	78
3-ft Side Arm (Eversource)	138.5	12' V-Frame (ATI)	78
FD-RRH 2x50 800 (Sprint)	126	12' V-Frame (ATI)	78
FD-RRH 2x50 800 (Sprint)	126		

SYMBOL LIST

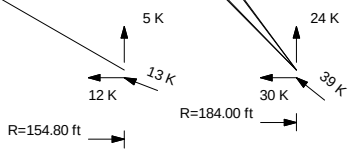
MARK	SIZE	MARK	SIZE
A	C12x20.7		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A53-B-35	35 ksi	63 ksi
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 135 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 105 mph wind.
6. Tower Risk Category III.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 69%



ALL REACTIONS ARE FACTORED

Centek Engineering Inc.
63-2 North Branford Rd.
Branford, CT 06405
Phone: (203) 488-0580
FAX: (203) 488-8587

Job: **22003.00 - CT5206**		
Project: ***180' Guyed Lattice Tower - 125 New Rd., Madison, CT***		
Client: AT&T	Drawn by: TJL	App'd:
Code: TIA-222-H	Date: 02/22/23	Scale: NTS
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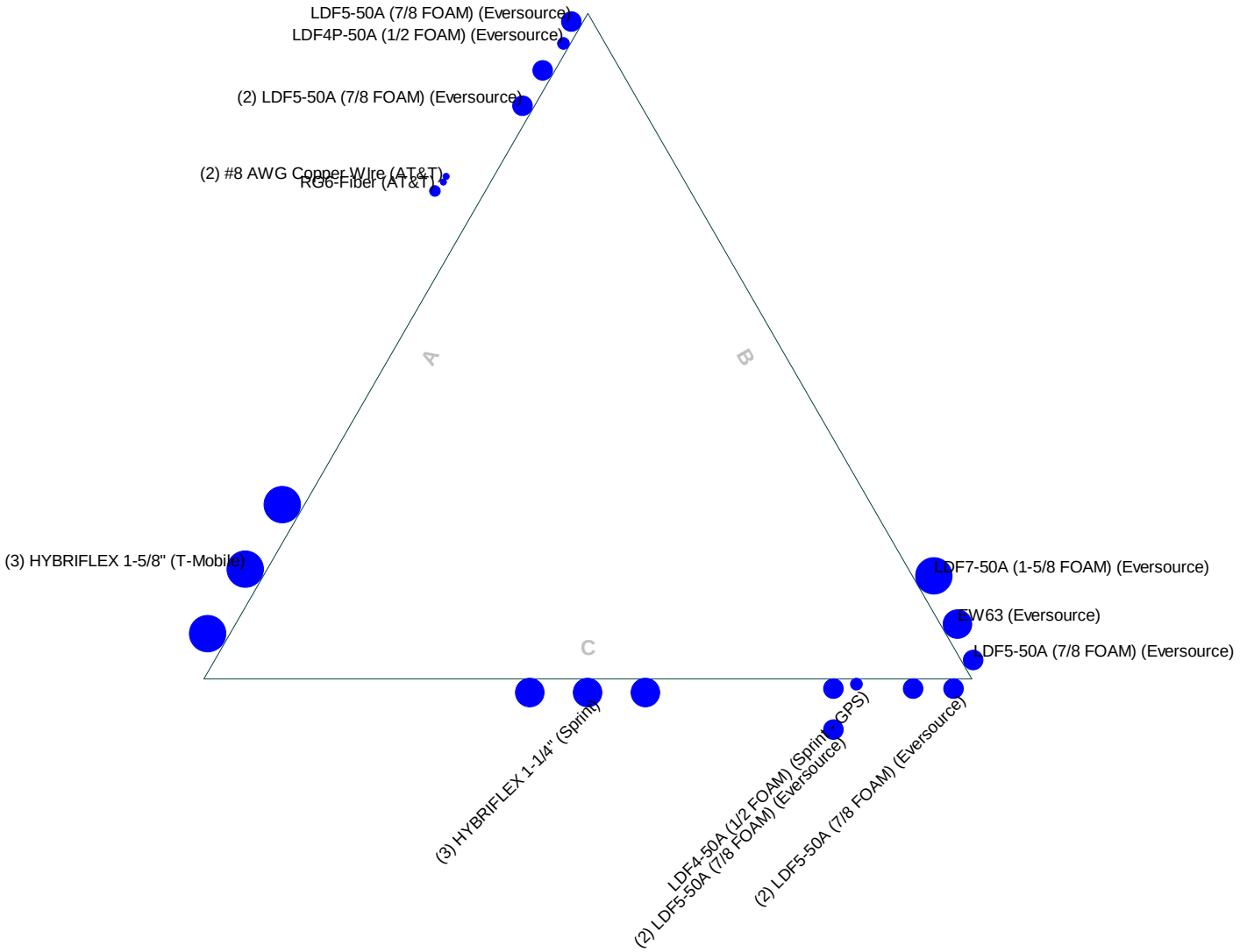
Feed Line Plan

Round Flat App In Face App Out Face



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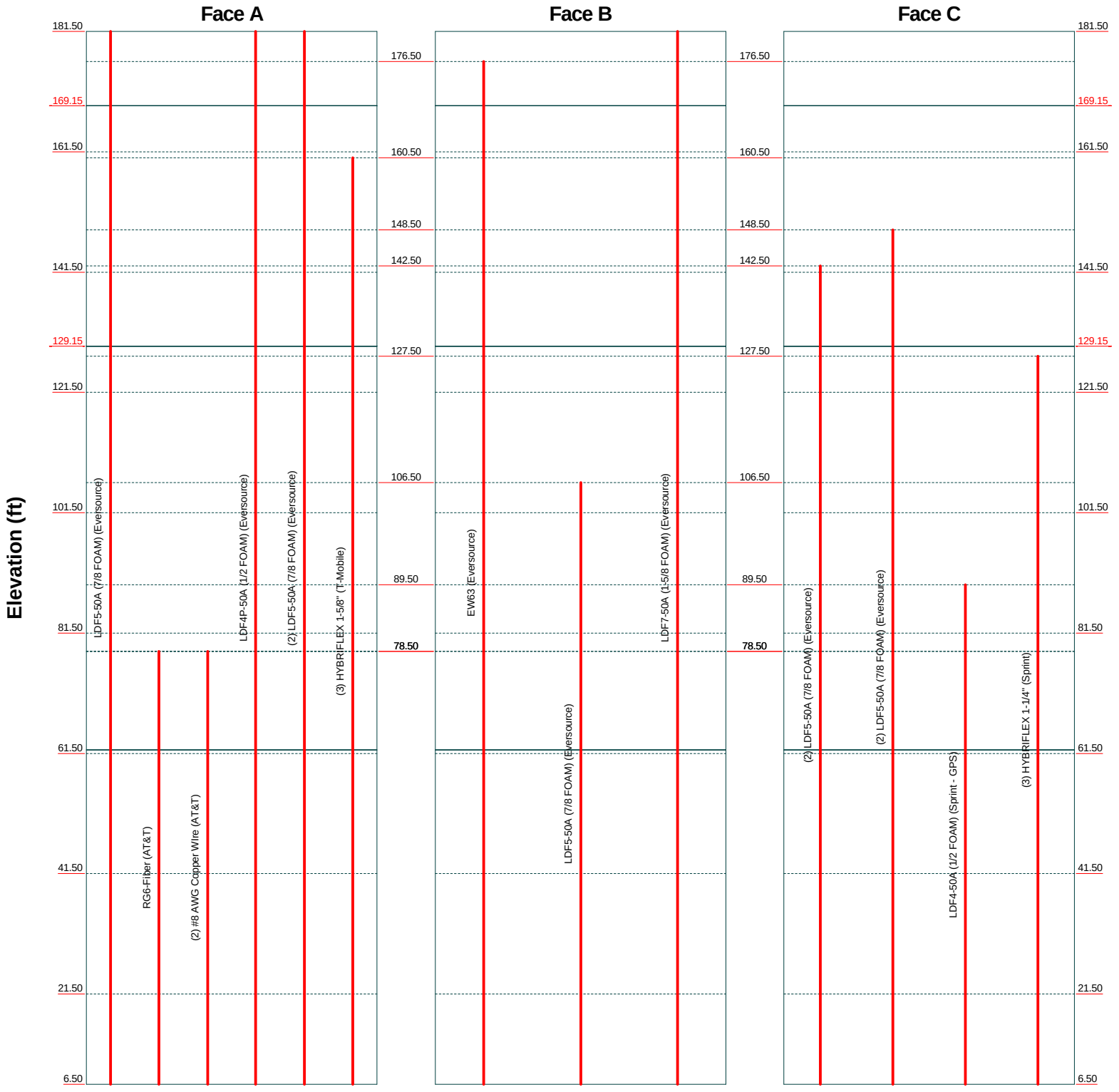
Feed Line Distribution Chart
6'6" - 181'6"

Round | Flat | App In Face | App Out Face | Truss Leg



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Path: J:\Jobs\22003\00.WI\05_Structural\Backup Documentation\Rev (1)\ER\180-ft Guyed Lattice Tower_Madison_CT.eri		Dwg No. E-7

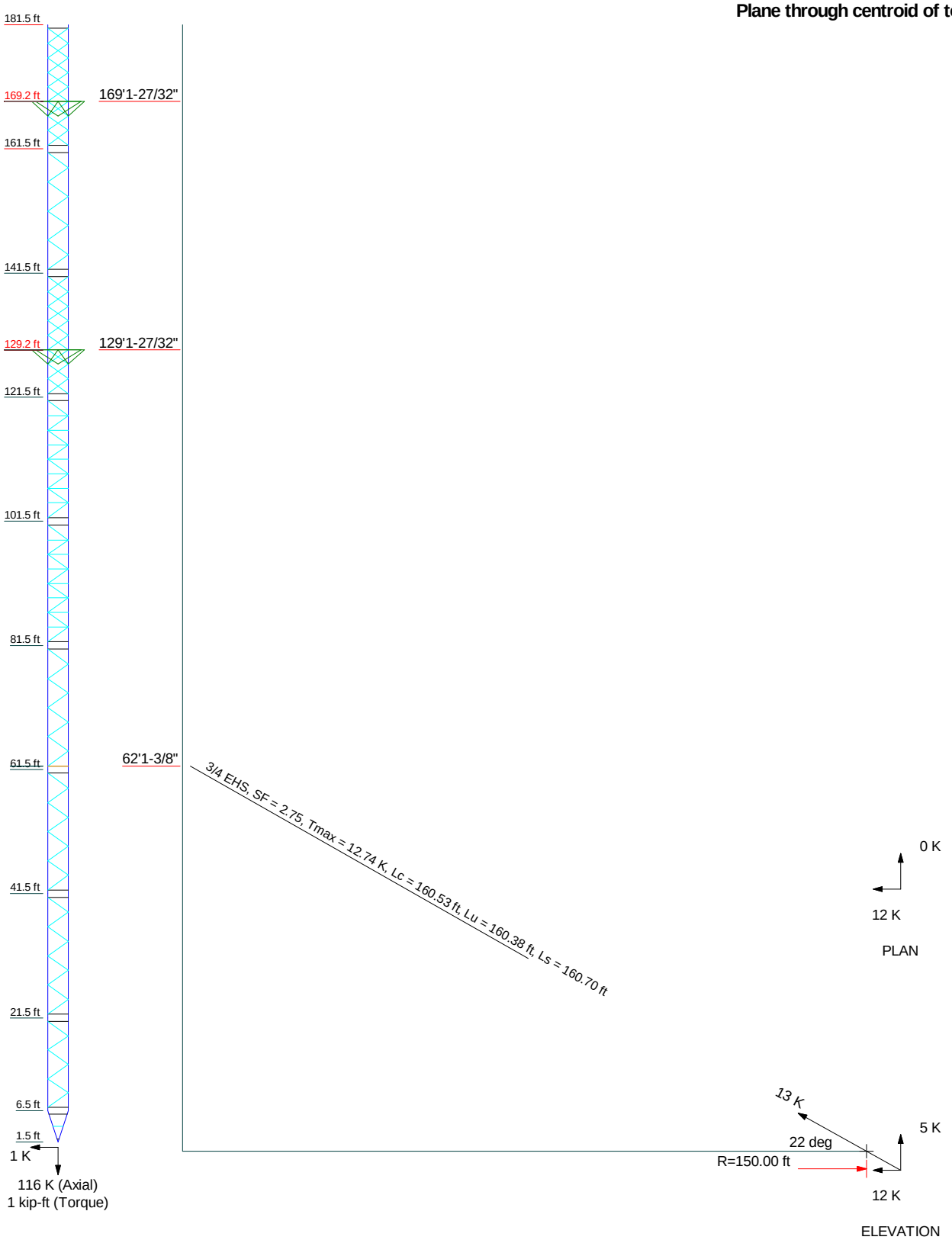
Guy Tensions and Tower Reactions

TIA-222-H - 135 mph/50 mph 1.0000 in Ice Exposure B

Maximum Values

Anchor 'A'@150 ft Azimuth 0 deg Elev 0 ft

Plane through centroid of tower



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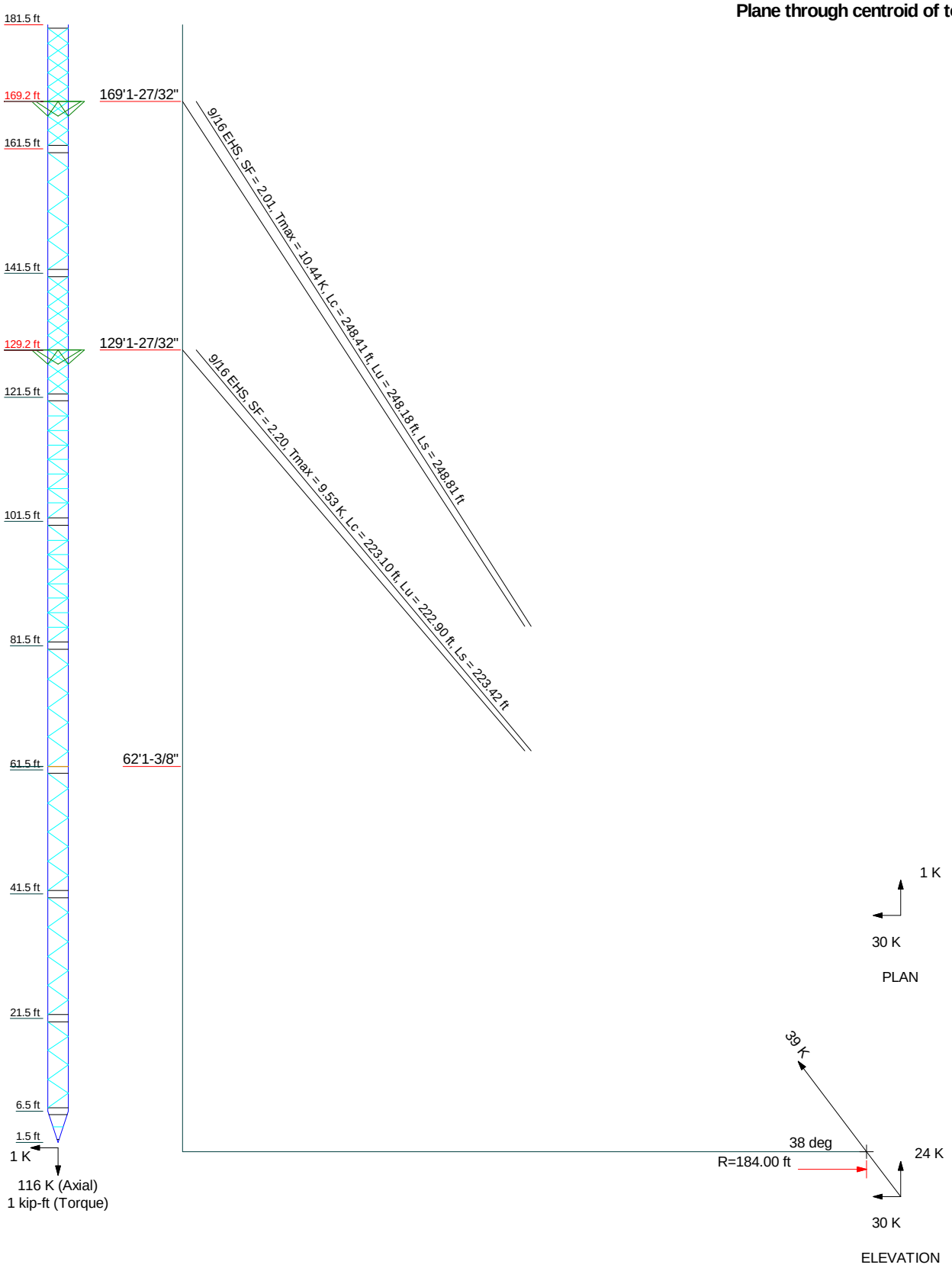
Guy Tensions and Tower Reactions

TIA-222-H - 135 mph/50 mph 1.0000 in Ice Exposure B

Maximum Values

Anchor 'A'@184 ft Azimuth 0 deg Elev 0 ft

Plane through centroid of tower



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FAX: (203) 488-8587	Path: J:\Jobs\22003\00.WI\05_Structural\Backup Documentation\Rev (1)\ER\180-ft Guyed Lattice Tower_Madison_CT.eri	Dwg No. E-6

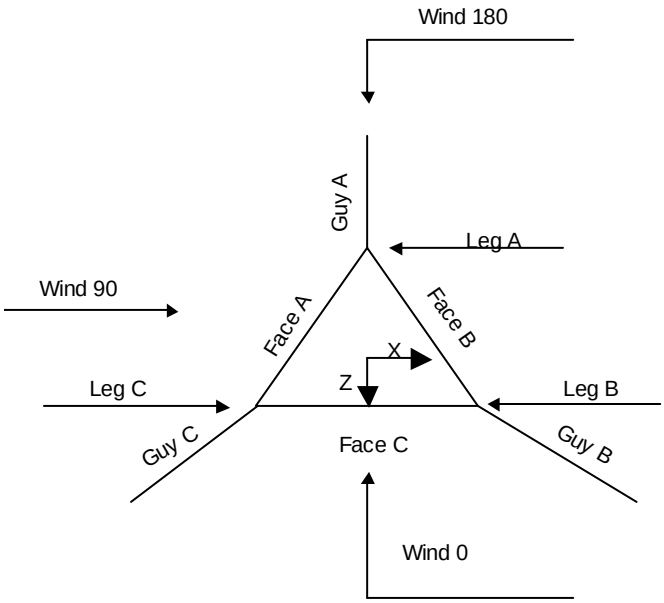
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 181.50 ft above the ground line.
The base of the tower is set at an elevation of 1.50 ft above the ground line.
The face width of the tower is 3.41 ft at the top and tapered at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

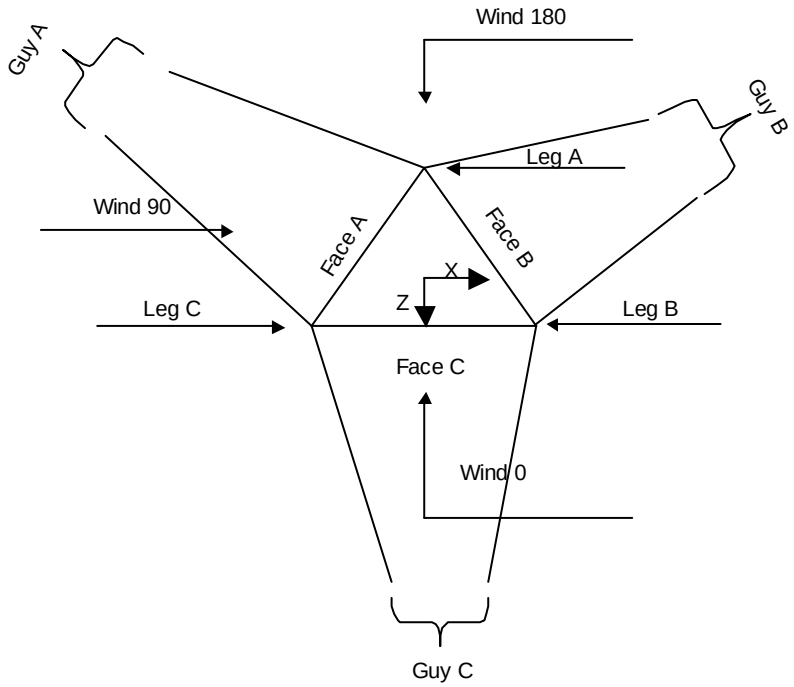
Tower is located in New Haven County, Connecticut.
Tower base elevation above sea level: 1.50 ft.
Basic wind speed of 135 mph.
Risk Category III.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 105 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Safety factor used in guy design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys	√	Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
√	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
√	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
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known



Corner & Starmount Guyed Tower



Face Guyed

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	181.50-161.50			3.41	1	20.00
T2	161.50-141.50			3.41	1	20.00
T3	141.50-121.50			3.41	1	20.00
T4	121.50-101.50			3.41	1	20.00
T5	101.50-81.50			3.41	1	20.00
T6	81.50-61.50			3.41	1	20.00
T7	61.50-41.50			3.41	1	20.00
T8	41.50-21.50			3.41	1	20.00
T9	21.50-6.50			3.41	1	15.00
T10	6.50-1.50			3.41	1	5.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	181.50-161.50	2.35	X Brace	No	Yes	7.3750	7.3750
T2	161.50-141.50	2.35	K Brace Left	No	Yes	7.3750	7.3750
T3	141.50-121.50	2.35	X Brace	No	Yes	7.3750	7.3750
T4	121.50-101.50	2.35	K Brace Left	No	Yes	7.3750	7.3750
T5	101.50-81.50	2.35	K Brace Left	No	Yes	7.3750	7.3750
T6	81.50-61.50	2.35	K Brace Left	No	Yes	7.3750	7.3750
T7	61.50-41.50	2.35	K Brace Left	No	Yes	7.3750	7.3750
T8	41.50-21.50	2.35	K Brace Left	No	Yes	7.3750	7.3750
T9	21.50-6.50	2.30	K Brace Left	No	Yes	7.3750	7.3750
T10	6.50-1.50	2.00	X Brace	No	Yes	6.0000	6.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 181.50-161.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2 161.50-141.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-35 (35 ksi)
T3 141.50-121.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T4 121.50-101.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)
T5 101.50-81.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-35 (35 ksi)
T6 81.50-61.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)
T7 61.50-41.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)
T8 41.50-21.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-35 (35 ksi)
T9 21.50-6.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)
T10 6.50-1.50	Pipe	P2.5x.203	A572-50 (50 ksi)	Equal Angle		A36 (36 ksi)

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 181.50-161.50	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2 161.50-141.50	Pipe	ROHN TS1.5x16 ga	A36 (36 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-35 (35 ksi)
T3 141.50-121.50	Equal Angle	L2x2x3/16	A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T4 121.50-101.50	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)
T5 101.50-81.50	Pipe	ROHN TS1.5x16 ga	A36	Pipe	ROHN TS1.5x16 ga	A53-B-35

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T6 81.50-61.50	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)
T7 61.50-41.50	Pipe	ROHN TS1.5x16 ga	A36 (36 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-35 (35 ksi)
T8 41.50-21.50	Pipe	ROHN TS1.5x16 ga	A36 (36 ksi)	Pipe	ROHN TS1.5x16 ga	A53-B-35 (35 ksi)
T9 21.50-6.50	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A36 (36 ksi)
T10 6.50-1.50	Channel	C12x20.7	A36 (36 ksi)	Channel	C12x20.7	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
T4 121.50-101.50	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A572-50 (50 ksi)
T5 101.50-81.50	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/2	A572-50 (50 ksi)
T10 6.50-1.50	None	Channel		A36 (36 ksi)	Channel	C12x20.7	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 181.50-161.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T2 161.50-141.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T3 141.50-121.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T4 121.50-101.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T5 101.50-81.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T6 81.50-61.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T7 61.50-41.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T8 41.50-21.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T9 21.50-6.50	0.00	0.0000	A36 (36 ksi)	1	1	1	0.0000	36.0000	36.0000
T10 6.50-1.50	0.00	0.0000	A36	1	1	1	0.0000	36.0000	36.0000

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
			(36 ksi)						

Tower Section Geometry *(cont'd)*

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Single Diags X	K Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
ft															
T1	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
181.50-161.50				1	1	1	1	1	1	1	1	1	1	1	1
T2	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
161.50-141.50				1	1	1	1	1	1	1	1	1	1	1	1
T3	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
141.50-121.50				1	1	1	1	1	1	1	1	1	1	1	1
T4	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
121.50-101.50				1	1	1	1	1	1	1	1	1	1	1	1
T5	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
101.50-81.50				1	1	1	1	1	1	1	1	1	1	1	1
T6	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
81.50-61.50				1	1	1	1	1	1	1	1	1	1	1	1
T7	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
61.50-41.50				1	1	1	1	1	1	1	1	1	1	1	1
T8	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
41.50-21.50				1	1	1	1	1	1	1	1	1	1	1	1
T9 21.50-6.50	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1
T10 6.50-1.50	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
181.50-161.50														
T2	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
161.50-141.50														
T3	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
141.50-121.50														
T4	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
121.50-101.50														

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T5 101.50-81.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 81.50-61.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 61.50-41.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 41.50-21.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 21.50-6.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 6.50-1.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 181.50-161.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 161.50-141.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 141.50-121.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 121.50-101.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 101.50-81.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 81.50-61.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 61.50-41.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 41.50-21.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 21.50-6.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 6.50-1.50	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

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 181.50-161.50	Flange	0.7500 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.5000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 161.50-141.50	Flange	0.7500 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.5000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 141.50-121.50	Flange	0.7500 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.5000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 121.50-101.50	Flange	0.7500 A325N	4	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T5 101.50-81.50	Flange	0.7500 A325N	4	0.5000 A325X	1	0.5000 A325N	1	0.5000 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T6 81.50-61.50	Flange	0.7500 A325N	4	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T7 61.50-41.50	Flange	0.7500 A325N	4	0.6250 A325N	1	0.5000 A325N	1	0.5000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 41.50-21.50	Flange	0.7500 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.5000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 21.50-6.50	Flange	0.7500 A325N	4	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 6.50-1.50	Flange	0.7500 A325N	4	0.0000 A325N	0	0.0000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
169.154	EHS	A	9/16	3.50	10%	21000	0.671	248.21	184.00	0.0000	0.00	100%
		B	9/16	3.50	10%	21000	0.671	248.21	184.00	0.0000	0.00	100%
		C	9/16	3.50	10%	21000	0.671	248.21	184.00	0.0000	0.00	100%
129.154	EHS	A	9/16	3.50	10%	21000	0.671	222.92	184.00	0.0000	0.00	100%
		B	9/16	3.50	10%	21000	0.671	222.92	184.00	0.0000	0.00	100%
		C	9/16	3.50	10%	21000	0.671	222.92	184.00	0.0000	0.00	100%
62.1146	EHS	A	3/4	5.83	10%	19000	1.155	160.39	150.00	0.0000	0.00	100%
		B	3/4	5.83	10%	19000	1.155	164.83	154.80	0.0000	0.00	100%
		C	3/4	5.83	10%	19000	1.155	170.77	161.20	0.0000	0.00	100%

Guy Data *(cont'd)*

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
169.154	Torque Arm	7.33	30.0000	Bat Ear	A53-B-35 (35 ksi)	Pipe	P4x.237
129.154	Torque Arm	7.33	30.0000	Bat Ear	A53-B-35 (35 ksi)	Pipe	P4x.237
62.1146	Corner						

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
169.15	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Solid Round	
129.15	A572-50	Solid Round				A36	Solid Round	

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
62.11	(50 ksi) A572-50 (50 ksi)	Solid Round			Yes	(36 ksi) A36 (36 ksi)	Flat Bar	4 1/2x3/8

Guy Data *(cont'd)*

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
169.154	0.17	0.17	0.17		5.82 4.2 sec/pulse	5.82 4.2 sec/pulse	5.82 4.2 sec/pulse	
129.154	0.15	0.15	0.15		4.71 3.7 sec/pulse	4.71 3.7 sec/pulse	4.71 3.7 sec/pulse	
62.1146	0.19	0.19	0.20		2.54 2.7 sec/pulse	2.68 2.8 sec/pulse	2.87 2.9 sec/pulse	

Guy Data *(cont'd)*

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
169.154	No	No	1	1	1	1	1	1
129.154	No	No	1	1	1	1	1	1
62.1146	No	No			1	1	1	1

Guy Data *(cont'd)*

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
169.154	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
129.154	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
62.1146	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	4	0.0000	1	0.0000 A325N	0	0.0000	1

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
169.154	A	84.58	37	5	1.2635
	B	84.58	37	5	1.2635
	C	84.58	37	5	1.2635
129.154	A	64.58	35	5	1.2299
	B	64.58	35	5	1.2299
	C	64.58	35	5	1.2299
62.1146	A	31.06	28	4	1.1430
	B	31.06	28	4	1.1430
	C	31.06	28	4	1.1430

Guy-Mast Forces (Excluding Wind) - No Ice

Guy Elevation ft	Guy Location	Chord Angle °	Guy Tension Top / Bottom K	F_x K	F_y K	F_z K	M_x kip-ft	M_y kip-ft	M_z kip-ft
169.154	A	42.9174	3.61 / 3.50	-0.05	2.51	-2.60	-5.30	9.66	-9.19
	A	42.9174	3.61 / 3.50	0.05	2.51	-2.60	-5.30	-9.66	9.19
	B	42.9174	3.61 / 3.50	2.28	2.51	1.26	10.61	9.66	0.00
	B	42.9174	3.61 / 3.50	2.23	2.51	1.35	-5.30	-9.66	-9.19
	C	42.9174	3.61 / 3.50	-2.23	2.51	1.35	-5.30	9.66	9.19
	C	42.9174	3.61 / 3.50	-2.28	2.51	1.26	10.61	-9.66	0.00
			Sum:	0.00	15.03	0.00	-0.00	0.00	0.00
129.154	A	35.3728	3.59 / 3.50	-0.06	2.13	-2.89	-4.50	10.71	-7.79
	A	35.3728	3.59 / 3.50	0.06	2.13	-2.89	-4.50	-10.71	7.79
	B	35.3728	3.59 / 3.50	2.53	2.13	1.39	9.00	10.71	0.00
	B	35.3728	3.59 / 3.50	2.47	2.13	1.49	-4.50	-10.71	-7.79
	C	35.3728	3.59 / 3.50	-2.47	2.13	1.49	-4.50	10.71	7.79
	C	35.3728	3.59 / 3.50	-2.53	2.13	1.39	9.00	-10.71	0.00
			Sum:	0.00	12.76	0.00	-0.00	0.00	0.00
62.1146	A	22.7631	5.90 / 5.83	0.00	2.36	-5.41	-4.65	0.00	0.00
	B	22.1181	5.90 / 5.83	4.71	2.30	2.72	2.27	0.00	-3.93
	C	21.3103	5.90 / 5.83	-4.73	2.23	2.73	2.20	-0.00	3.80
			Sum:	**-0.03**	6.90	**0.04**	**-0.19**	0.00	**-0.13**

Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top / Bottom	F_x	F_y	F_z	M_x	M_y	M_z
ft		°	K	K	K	K	kip-ft	kip-ft	kip-ft
169.154	A	42.9174	6.67 6.08	-0.09	4.77	-4.66	-10.10	17.28	-17.50
	A	42.9174	6.67 6.08	0.09	4.77	-4.66	-10.10	-17.28	17.50
	B	42.9174	6.67 6.08	4.08	4.77	2.25	20.20	17.28	0.00
	B	42.9174	6.67 6.08	3.99	4.77	2.41	-10.10	-17.28	-17.50
	C	42.9174	6.67 6.08	-3.99	4.77	2.41	-10.10	17.28	17.50
	C	42.9174	6.67 6.08	-4.08	4.77	2.25	20.20	-17.28	0.00
			Sum:	0.00	28.63	0.00	-0.00	0.00	0.00
129.154	A	35.3728	6.50 6.07	-0.10	4.01	-5.12	-8.50	18.98	-14.72
	A	35.3728	6.50 6.07	0.10	4.01	-5.12	-8.50	-18.98	14.72
	B	35.3728	6.50 6.07	4.48	4.01	2.47	16.99	18.98	0.00
	B	35.3728	6.50 6.07	4.38	4.01	2.65	-8.50	-18.98	-14.72
	C	35.3728	6.50 6.07	-4.38	4.01	2.65	-8.50	18.98	14.72
	C	35.3728	6.50 6.07	-4.48	4.01	2.47	16.99	-18.98	0.00
			Sum:	0.00	24.08	0.00	-0.00	0.00	0.00
62.1146	A	22.7631	8.92 8.68	0.00	3.71	-8.11	-7.30	0.00	0.00
	B	22.1181	8.96 8.73	7.09	3.64	4.09	3.59	0.00	-6.21
	C	21.3103	9.02 8.79	-7.18	3.56	4.15	3.50	-0.00	6.07
			Sum:	**-0.09**	10.91	**0.13**	**-0.21**	0.00	**-0.14**

Guy-Mast Forces (Excluding Wind) - Service

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top / Bottom	F_x	F_y	F_z	M_x	M_y	M_z
ft		°	K	K	K	K	kip-ft	kip-ft	kip-ft
169.154	A	42.9174	3.61 3.50	-0.05	2.51	-2.60	-5.30	9.66	-9.19
	A	42.9174	3.61 3.50	0.05	2.51	-2.60	-5.30	-9.66	9.19
	B	42.9174	3.61 3.50	2.28	2.51	1.26	10.61	9.66	0.00
	B	42.9174	3.61 3.50	2.23	2.51	1.35	-5.30	-9.66	-9.19
	C	42.9174	3.61 3.50	-2.23	2.51	1.35	-5.30	9.66	9.19
	C	42.9174	3.61 3.50	-2.28	2.51	1.26	10.61	-9.66	0.00
			Sum:	0.00	15.03	0.00	-0.00	0.00	0.00

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
129.154	A	35.3728	3.59 3.50	-0.06	2.13	-2.89	-4.50	10.71	-7.79
	A	35.3728	3.59 3.50	0.06	2.13	-2.89	-4.50	-10.71	7.79
	B	35.3728	3.59 3.50	2.53	2.13	1.39	9.00	10.71	0.00
	B	35.3728	3.59 3.50	2.47	2.13	1.49	-4.50	-10.71	-7.79
	C	35.3728	3.59 3.50	-2.47	2.13	1.49	-4.50	10.71	7.79
	C	35.3728	3.59 3.50	-2.53	2.13	1.39	9.00	-10.71	0.00
			Sum:	0.00	12.76	0.00	-0.00	0.00	0.00
62.1146	A	22.7631	5.90 5.83	0.00	2.36	-5.41	-4.65	0.00	0.00
	B	22.1181	5.90 5.83	4.71	2.30	2.72	2.27	0.00	-3.93
	C	21.3103	5.90 5.83	-4.73	2.23	2.73	2.20	-0.00	3.80
			Sum:	**-0.03**	6.90	**0.04**	**-0.19**	0.00	**-0.13**

Guy-Tensioning Information

Guy Elevation		H	V	Temperature At Time Of Tensioning: 0 F Initial Tension	0 F Intercept	20 F Initial Tension	20 F Intercept	40 F Initial Tension	40 F Intercept	60 F Initial Tension	60 F Intercept	80 F Initial Tension	80 F Intercept	100 F Initial Tension	100 F Intercept	120 F Initial Tension	120 F Intercept
ft		ft	ft	K	ft	K	ft	K	ft	K	ft	K	ft	K	ft	K	ft
169.154	A	181.92	169.15	4.289	4.76	4.022	5.07	3.759	5.42	3.500	5.82	3.247	6.26	3.001	6.77	2.764	7.34
	B	181.92	169.15	4.289	4.76	4.022	5.07	3.759	5.42	3.500	5.82	3.247	6.26	3.001	6.77	2.764	7.34
	C	181.92	169.15	4.289	4.76	4.022	5.07	3.759	5.42	3.500	5.82	3.247	6.26	3.001	6.77	2.764	7.34
129.154	A	181.92	129.15	4.481	3.69	4.149	3.98	3.821	4.32	3.500	4.71	3.188	5.17	2.887	5.70	2.602	6.31
	B	181.92	129.15	4.481	3.69	4.149	3.98	3.821	4.32	3.500	4.71	3.188	5.17	2.887	5.70	2.602	6.31
	C	181.92	129.15	4.481	3.69	4.149	3.98	3.821	4.32	3.500	4.71	3.188	5.17	2.887	5.70	2.602	6.31
62.1146	A	148.03	62.11	7.848	1.89	7.166	2.06	6.493	2.28	5.830	2.54	5.183	2.85	4.560	3.24	3.970	3.71
	B	152.83	62.11	7.861	1.99	7.174	2.18	6.496	2.40	5.830	2.68	5.181	3.01	4.557	3.42	3.968	3.92
	C	159.23	62.11	7.875	2.13	7.183	2.33	6.500	2.58	5.830	2.87	5.179	3.23	4.554	3.67	3.968	4.21

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
LDF5-50A (7/8 FOAM) (Eversource)	C	No	No	Ar (CaAa)	142.50 - 6.50	0.0000	-0.32	2	1	1.0900	1.0900		0.33
LDF5-50A (7/8 FOAM) (Eversource)	C	No	No	Ar (CaAa)	148.50 - 6.50	0.0000	-0.45	2	2	1.0900	1.0900		0.33
LDF4-50A (1/2 FOAM)	C	No	No	Ar (CaAa)	89.50 - 6.50	0.0000	-0.35	1	1	0.6300	0.6300		0.15

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
(Sprint - GPS)													
EW63 (Eversource)	B	No	No	Ar (CaAa)	176.50 - 6.50	0.0000	0.43	1	1	1.5742	1.5742		0.51
LDF5-50A (7/8 FOAM) (Eversource)	B	No	No	Ar (CaAa)	106.50 - 6.50	0.0000	0.48	1	1	1.0900	1.0900		0.33
LDF7-50A (1-5/8 FOAM) (Eversource)	B	No	No	Ar (CaAa)	181.50 - 6.50	0.0000	0.36	1	1	1.9800	1.9800		0.82
LDF5-50A (7/8 FOAM) (Eversource)	A	No	No	Ar (CaAa)	181.50 - 6.50	0.0000	0.48	1	1	1.0900	1.0900		0.33
RG6-Fiber (AT&T)	A	No	No	Ar (CaAa)	78.50 - 6.50	2.0000	0.2	1	1	0.0000	0.6250		0.50
#8 AWG Copper WIre (AT&T)	A	No	No	Ar (CaAa)	78.50 - 6.50	2.0000	0.22	2	2	0.0000	0.3400		0.05
HYBRIFLEX 1-1/4" (Sprint)	C	No	No	Ar (CaAa)	127.50 - 6.50	0.0000	0	3	3	1.5400	1.5400		1.30
LDF4P-50A (1/2 FOAM) (Eversource)	A	No	No	Ar (CaAa)	181.50 - 6.50	0.0000	0.45	1	1	0.6300	0.6300		0.15
LDF5-50A (7/8 FOAM) (Eversource)	A	No	No	Ar (CaAa)	181.50 - 6.50	0.0000	0.38	2	2	1.0900	1.0900		0.33
HYBRIFLEX 1-5/8" (T-Mobile)	A	No	No	Ar (CaAa)	160.50 - 6.50	0.0000	-0.35	3	3	1.9800	1.9800		1.90

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	181.50-161.50	A	0.000	0.000	7.800	0.000	0.02
		B	0.000	0.000	6.321	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
T2	161.50-141.50	A	0.000	0.000	19.086	0.000	0.13
		B	0.000	0.000	7.108	0.000	0.03
		C	0.000	0.000	1.744	0.000	0.01
T3	141.50-121.50	A	0.000	0.000	19.680	0.000	0.14
		B	0.000	0.000	7.108	0.000	0.03
		C	0.000	0.000	11.492	0.000	0.05
T4	121.50-101.50	A	0.000	0.000	19.680	0.000	0.14
		B	0.000	0.000	7.653	0.000	0.03
		C	0.000	0.000	17.960	0.000	0.10
T5	101.50-81.50	A	0.000	0.000	19.680	0.000	0.14
		B	0.000	0.000	9.288	0.000	0.03
		C	0.000	0.000	18.464	0.000	0.11
T6	81.50-61.50	A	0.000	0.000	21.898	0.000	0.15
		B	0.000	0.000	9.288	0.000	0.03
		C	0.000	0.000	19.220	0.000	0.11
T7	61.50-41.50	A	0.000	0.000	22.290	0.000	0.15
		B	0.000	0.000	9.288	0.000	0.03
		C	0.000	0.000	19.220	0.000	0.11

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T8	41.50-21.50	A	0.000	0.000	22.290	0.000	0.15
		B	0.000	0.000	9.288	0.000	0.03
		C	0.000	0.000	19.220	0.000	0.11
T9	21.50-6.50	A	0.000	0.000	16.718	0.000	0.11
		B	0.000	0.000	6.966	0.000	0.02
		C	0.000	0.000	14.415	0.000	0.08
T10	6.50-1.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	181.50-161.50	A	1.356	0.000	0.000	32.009	0.000	0.31
		B		0.000	0.000	15.814	0.000	0.21
		C		0.000	0.000	0.000	0.000	0.00
T2	161.50-141.50	A	1.339	0.000	0.000	63.617	0.000	0.74
		B		0.000	0.000	17.823	0.000	0.23
		C		0.000	0.000	7.042	0.000	0.06
T3	141.50-121.50	A	1.321	0.000	0.000	64.892	0.000	0.75
		B		0.000	0.000	17.672	0.000	0.23
		C		0.000	0.000	43.316	0.000	0.42
T4	121.50-101.50	A	1.299	0.000	0.000	64.432	0.000	0.74
		B		0.000	0.000	19.343	0.000	0.24
		C		0.000	0.000	62.397	0.000	0.65
T5	101.50-81.50	A	1.273	0.000	0.000	63.890	0.000	0.73
		B		0.000	0.000	24.570	0.000	0.30
		C		0.000	0.000	64.423	0.000	0.66
T6	81.50-61.50	A	1.242	0.000	0.000	77.531	0.000	0.82
		B		0.000	0.000	24.198	0.000	0.29
		C		0.000	0.000	67.482	0.000	0.68
T7	61.50-41.50	A	1.202	0.000	0.000	78.758	0.000	0.81
		B		0.000	0.000	23.716	0.000	0.28
		C		0.000	0.000	66.510	0.000	0.66
T8	41.50-21.50	A	1.145	0.000	0.000	76.894	0.000	0.77
		B		0.000	0.000	23.024	0.000	0.26
		C		0.000	0.000	65.113	0.000	0.62
T9	21.50-6.50	A	1.056	0.000	0.000	55.512	0.000	0.54
		B		0.000	0.000	16.466	0.000	0.18
		C		0.000	0.000	47.219	0.000	0.43
T10	6.50-1.50	A	0.931	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	181.50-161.50	1.3590	-1.6786	1.2050	-2.9681
T2	161.50-141.50	-0.8852	-0.3324	-1.1625	-1.5953
T3	141.50-121.50	0.3772	1.1044	0.7571	0.8479

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T4	121.50-101.50	0.4417	1.8186	0.8383	1.7451
T5	101.50-81.50	0.9171	2.2637	1.4519	2.2151
T6	81.50-61.50	0.7759	1.8903	1.2053	1.6114
T7	61.50-41.50	0.7960	1.9328	1.1521	1.5521
T8	41.50-21.50	0.9459	2.2071	1.1861	1.6759
T9	21.50-6.50	0.7629	1.8673	1.0299	1.6401
T10	6.50-1.50	0.0000	0.0000	0.0000	0.0000

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	5	EW63	161.50 - 176.50	0.6000	0.4339
T1	7	LDF7-50A (1-5/8 FOAM)	161.50 - 181.50	0.6000	0.4339
T1	8	LDF5-50A (7/8 FOAM)	161.50 - 181.50	0.6000	0.4339
T1	13	LDF4P-50A (1/2 FOAM)	161.50 - 181.50	0.6000	0.4339
T1	14	LDF5-50A (7/8 FOAM)	161.50 - 181.50	0.6000	0.4339
T2	1	LDF5-50A (7/8 FOAM)	141.50 - 142.50	0.6000	0.5941
T2	2	LDF5-50A (7/8 FOAM)	141.50 - 148.50	0.6000	0.5941
T2	5	EW63	141.50 - 161.50	0.6000	0.5941
T2	7	LDF7-50A (1-5/8 FOAM)	141.50 - 161.50	0.6000	0.5941
T2	8	LDF5-50A (7/8 FOAM)	141.50 - 161.50	0.6000	0.5941
T2	13	LDF4P-50A (1/2 FOAM)	141.50 - 161.50	0.6000	0.5941
T2	14	LDF5-50A (7/8 FOAM)	141.50 - 161.50	0.6000	0.5941
T2	15	HYBRIFLEX 1-5/8"	141.50 - 160.50	0.6000	0.5941
T3	1	LDF5-50A (7/8 FOAM)	121.50 - 141.50	0.6000	0.4230
T3	2	LDF5-50A (7/8 FOAM)	121.50 - 141.50	0.6000	0.4230
T3	5	EW63	121.50 - 141.50	0.6000	0.4230
T3	7	LDF7-50A (1-5/8 FOAM)	121.50 - 141.50	0.6000	0.4230
T3	8	LDF5-50A (7/8 FOAM)	121.50 - 141.50	0.6000	0.4230
T3	11	HYBRIFLEX 1-1/4"	121.50 - 127.50	0.6000	0.4230
T3	13	LDF4P-50A (1/2 FOAM)	121.50 - 141.50	0.6000	0.4230
T3	14	LDF5-50A (7/8 FOAM)	121.50 - 141.50	0.6000	0.4230
T3	15	HYBRIFLEX 1-5/8"	121.50 -	0.6000	0.4230

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			141.50		
T4	1	LDF5-50A (7/8 FOAM)	101.50 - 121.50	0.6000	0.4381
T4	2	LDF5-50A (7/8 FOAM)	101.50 - 121.50	0.6000	0.4381
T4	5	EW63	101.50 - 121.50	0.6000	0.4381
T4	6	LDF5-50A (7/8 FOAM)	101.50 - 106.50	0.6000	0.4381
T4	7	LDF7-50A (1-5/8 FOAM)	101.50 - 121.50	0.6000	0.4381
T4	8	LDF5-50A (7/8 FOAM)	101.50 - 121.50	0.6000	0.4381
T4	11	HYBRIFLEX 1-1/4"	101.50 - 121.50	0.6000	0.4381
T4	13	LDF4P-50A (1/2 FOAM)	101.50 - 121.50	0.6000	0.4381
T4	14	LDF5-50A (7/8 FOAM)	101.50 - 121.50	0.6000	0.4381
T4	15	HYBRIFLEX 1-5/8"	101.50 - 121.50	0.6000	0.4381
T5	1	LDF5-50A (7/8 FOAM)	81.50 - 101.50	0.6000	0.4830
T5	2	LDF5-50A (7/8 FOAM)	81.50 - 101.50	0.6000	0.4830
T5	4	LDF4-50A (1/2 FOAM)	81.50 - 89.50	0.6000	0.4830
T5	5	EW63	81.50 - 101.50	0.6000	0.4830
T5	6	LDF5-50A (7/8 FOAM)	81.50 - 101.50	0.6000	0.4830
T5	7	LDF7-50A (1-5/8 FOAM)	81.50 - 101.50	0.6000	0.4830
T5	8	LDF5-50A (7/8 FOAM)	81.50 - 101.50	0.6000	0.4830
T5	11	HYBRIFLEX 1-1/4"	81.50 - 101.50	0.6000	0.4830
T5	13	LDF4P-50A (1/2 FOAM)	81.50 - 101.50	0.6000	0.4830
T5	14	LDF5-50A (7/8 FOAM)	81.50 - 101.50	0.6000	0.4830
T5	15	HYBRIFLEX 1-5/8"	81.50 - 101.50	0.6000	0.4830
T6	1	LDF5-50A (7/8 FOAM)	61.50 - 81.50	0.6000	0.5445
T6	2	LDF5-50A (7/8 FOAM)	61.50 - 81.50	0.6000	0.5445
T6	4	LDF4-50A (1/2 FOAM)	61.50 - 81.50	0.6000	0.5445
T6	5	EW63	61.50 - 81.50	0.6000	0.5445
T6	6	LDF5-50A (7/8 FOAM)	61.50 - 81.50	0.6000	0.5445
T6	7	LDF7-50A (1-5/8 FOAM)	61.50 - 81.50	0.6000	0.5445
T6	8	LDF5-50A (7/8 FOAM)	61.50 - 81.50	0.6000	0.5445
T6	9	RG6-Fiber	61.50 - 78.50	0.6000	0.5445
T6	10	#8 AWG Copper WIre	61.50 - 78.50	0.6000	0.5445
T6	11	HYBRIFLEX 1-1/4"	61.50 - 81.50	0.6000	0.5445
T6	13	LDF4P-50A (1/2 FOAM)	61.50 - 81.50	0.6000	0.5445
T6	14	LDF5-50A (7/8 FOAM)	61.50 - 81.50	0.6000	0.5445
T6	15	HYBRIFLEX 1-5/8"	61.50 - 81.50	0.6000	0.5445
T7	1	LDF5-50A (7/8 FOAM)	41.50 - 61.50	0.6000	0.5812
T7	2	LDF5-50A (7/8 FOAM)	41.50 - 61.50	0.6000	0.5812
T7	4	LDF4-50A (1/2 FOAM)	41.50 - 61.50	0.6000	0.5812
T7	5	EW63	41.50 - 61.50	0.6000	0.5812
T7	6	LDF5-50A (7/8 FOAM)	41.50 - 61.50	0.6000	0.5812
T7	7	LDF7-50A (1-5/8 FOAM)	41.50 - 61.50	0.6000	0.5812
T7	8	LDF5-50A (7/8 FOAM)	41.50 - 61.50	0.6000	0.5812
T7	9	RG6-Fiber	41.50 - 61.50	0.6000	0.5812
T7	10	#8 AWG Copper WIre	41.50 - 61.50	0.6000	0.5812
T7	11	HYBRIFLEX 1-1/4"	41.50 - 61.50	0.6000	0.5812
T7	13	LDF4P-50A (1/2 FOAM)	41.50 - 61.50	0.6000	0.5812
T7	14	LDF5-50A (7/8 FOAM)	41.50 - 61.50	0.6000	0.5812
T7	15	HYBRIFLEX 1-5/8"	41.50 - 61.50	0.6000	0.5812
T8	1	LDF5-50A (7/8 FOAM)	21.50 - 41.50	0.6000	0.6000
T8	2	LDF5-50A (7/8 FOAM)	21.50 - 41.50	0.6000	0.6000
T8	4	LDF4-50A (1/2 FOAM)	21.50 - 41.50	0.6000	0.6000
T8	5	EW63	21.50 - 41.50	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T8	6	LDF5-50A (7/8 FOAM)	21.50 - 41.50	0.6000	0.6000
T8	7	LDF7-50A (1-5/8 FOAM)	21.50 - 41.50	0.6000	0.6000
T8	8	LDF5-50A (7/8 FOAM)	21.50 - 41.50	0.6000	0.6000
T8	9	RG6-Fiber	21.50 - 41.50	0.6000	0.6000
T8	10	#8 AWG Copper WIre	21.50 - 41.50	0.6000	0.6000
T8	11	HYBRIFLEX 1-1/4"	21.50 - 41.50	0.6000	0.6000
T8	13	LDF4P-50A (1/2 FOAM)	21.50 - 41.50	0.6000	0.6000
T8	14	LDF5-50A (7/8 FOAM)	21.50 - 41.50	0.6000	0.6000
T8	15	HYBRIFLEX 1-5/8"	21.50 - 41.50	0.6000	0.6000
T9	1	LDF5-50A (7/8 FOAM)	6.50 - 21.50	0.6000	0.5868
T9	2	LDF5-50A (7/8 FOAM)	6.50 - 21.50	0.6000	0.5868
T9	4	LDF4-50A (1/2 FOAM)	6.50 - 21.50	0.6000	0.5868
T9	5	EW63	6.50 - 21.50	0.6000	0.5868
T9	6	LDF5-50A (7/8 FOAM)	6.50 - 21.50	0.6000	0.5868
T9	7	LDF7-50A (1-5/8 FOAM)	6.50 - 21.50	0.6000	0.5868
T9	8	LDF5-50A (7/8 FOAM)	6.50 - 21.50	0.6000	0.5868
T9	9	RG6-Fiber	6.50 - 21.50	0.6000	0.5868
T9	10	#8 AWG Copper WIre	6.50 - 21.50	0.6000	0.5868
T9	11	HYBRIFLEX 1-1/4"	6.50 - 21.50	0.6000	0.5868
T9	13	LDF4P-50A (1/2 FOAM)	6.50 - 21.50	0.6000	0.5868
T9	14	LDF5-50A (7/8 FOAM)	6.50 - 21.50	0.6000	0.5868
T9	15	HYBRIFLEX 1-5/8"	6.50 - 21.50	0.6000	0.5868

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
GPS	B	From Leg	3.50	0.0000	89.50	No Ice	1.00	1.00	0.01
(Sprint)			0.00			1/2" Ice	1.50	1.50	0.01
			0.00			1" Ice	2.00	2.00	0.02
3' GPS Stand-off Mount	B	From Leg	1.50	0.0000	89.50	No Ice	2.45	2.45	0.05
(Sprint)			0.00			1/2" Ice	3.98	3.98	0.07
			0.00			1" Ice	5.51	5.51	0.10
APXVSPP18-C-A20	A	From Leg	3.00	0.0000	126.00	No Ice	8.02	5.28	0.06
(Sprint)			-4.00			1/2" Ice	8.48	5.74	0.11
			0.00			1" Ice	8.94	6.20	0.16
APXVSPP18-C-A20	B	From Leg	3.00	0.0000	126.00	No Ice	8.02	5.28	0.06
(Sprint)			-4.00			1/2" Ice	8.48	5.74	0.11
			0.00			1" Ice	8.94	6.20	0.16
APXVSPP18-C-A20	C	From Leg	3.00	0.0000	126.00	No Ice	8.02	5.28	0.06
(Sprint)			-4.00			1/2" Ice	8.48	5.74	0.11
			0.00			1" Ice	8.94	6.20	0.16
FD-RRH 2x50 800	A	From Leg	3.00	0.0000	126.00	No Ice	2.06	1.93	0.06
(Sprint)			0.00			1/2" Ice	2.24	2.11	0.09
			0.00			1" Ice	2.43	2.29	0.11
FD-RRH 2x50 800	B	From Leg	3.00	0.0000	126.00	No Ice	2.06	1.93	0.06
(Sprint)			0.00			1/2" Ice	2.24	2.11	0.09
			0.00			1" Ice	2.43	2.29	0.11
FD-RRH 2x50 800	C	From Leg	3.00	0.0000	126.00	No Ice	2.06	1.93	0.06
(Sprint)			0.00			1/2" Ice	2.24	2.11	0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	2.43	2.29	0.11
FD-RRH 4x45 1900	A	From Leg	3.00	0.0000	126.00	No Ice	2.32	2.38	0.06
(Sprint)			0.00			1/2" Ice	2.52	2.59	0.08
			0.00			1" Ice	2.74	2.80	0.11
FD-RRH 4x45 1900	B	From Leg	3.00	0.0000	126.00	No Ice	2.32	2.38	0.06
(Sprint)			0.00			1/2" Ice	2.52	2.59	0.08
			0.00			1" Ice	2.74	2.80	0.11
FD-RRH 4x45 1900	C	From Leg	3.00	0.0000	126.00	No Ice	2.32	2.38	0.06
(Sprint)			0.00			1/2" Ice	2.52	2.59	0.08
			0.00			1" Ice	2.74	2.80	0.11
Rohn 6' x 12' Boom Gate (1)	A	From Leg	2.00	0.0000	126.00	No Ice	16.60	16.60	0.56
(Sprint)			0.00			1/2" Ice	19.80	19.80	0.70
			0.00			1" Ice	23.00	23.00	0.84
Rohn 6' x 12' Boom Gate (1)	B	From Leg	2.00	0.0000	126.00	No Ice	16.60	16.60	0.56
(Sprint)			0.00			1/2" Ice	19.80	19.80	0.70
			0.00			1" Ice	23.00	23.00	0.84
Rohn 6' x 12' Boom Gate (1)	C	From Leg	2.00	0.0000	126.00	No Ice	16.60	16.60	0.56
(Sprint)			0.00			1/2" Ice	19.80	19.80	0.70
			0.00			1" Ice	23.00	23.00	0.84
1.5"x2'omni	A	From Leg	3.00	0.0000	144.50	No Ice	0.25	0.25	0.01
(Eversource)			0.00			1/2" Ice	0.38	0.38	0.01
			1.00			1" Ice	0.51	0.51	0.01
1.5"x2'omni	A	From Leg	3.00	0.0000	142.50	No Ice	0.25	0.25	0.01
(Eversource)			0.00			1/2" Ice	0.38	0.38	0.01
			-1.00			1" Ice	0.51	0.51	0.01
2-ft Stand Off	A	From Leg	1.00	0.0000	143.50	No Ice	1.07	1.07	0.02
(Eversource)			0.00			1/2" Ice	1.62	1.62	0.03
			0.00			1" Ice	2.17	2.17	0.04
3"x20-ft Omni	C	From Leg	3.00	0.0000	148.50	No Ice	3.56	3.56	0.02
(Eversource)			0.00			1/2" Ice	7.13	7.13	0.05
			0.00			1" Ice	10.70	10.70	0.07
3-ft Side Arm	C	From Leg	1.50	0.0000	138.50	No Ice	0.66	0.66	0.01
(Eversource)			0.00			1/2" Ice	1.14	1.14	0.03
			0.00			1" Ice	1.62	1.62	0.04
20-ft x 1.9in Support Pipe	C	From Leg	1.50	0.0000	148.50	No Ice	3.80	3.80	0.05
(Eversource)			0.00			1/2" Ice	5.82	5.82	0.08
			0.00			1" Ice	7.84	7.84	0.11
20' x 2" Dia Omni	A	From Leg	0.00	0.0000	180.50	No Ice	4.00	4.00	0.02
(Eversource)			0.00			1/2" Ice	6.03	6.03	0.05
			10.00			1" Ice	8.07	8.07	0.09
14' x 3" Dia Omni	B	From Leg	0.00	0.0000	180.50	No Ice	4.20	4.20	0.04
(Eversource)			0.00			1/2" Ice	5.63	5.63	0.07
			7.00			1" Ice	7.08	7.08	0.11
20' x 2" Dia Omni	C	From Leg	0.00	0.0000	180.50	No Ice	4.00	4.00	0.02
(Eversource)			0.00			1/2" Ice	6.03	6.03	0.05
			10.00			1" Ice	8.07	8.07	0.09
SBNHH-1D65A	A	From Face	3.00	0.0000	78.00	No Ice	5.88	3.86	0.04
(AT&T - Proposed)			2.00			1/2" Ice	6.25	4.22	0.08
			0.00			1" Ice	6.62	4.57	0.12
SBNHH-1D65A	B	From Face	3.00	0.0000	78.00	No Ice	5.88	3.86	0.04
(AT&T - Proposed)			2.00			1/2" Ice	6.25	4.22	0.08
			0.00			1" Ice	6.62	4.57	0.12
SBNHH-1D65A	C	From Face	3.00	0.0000	78.00	No Ice	5.88	3.86	0.04
(AT&T - Proposed)			2.00			1/2" Ice	6.25	4.22	0.08
			0.00			1" Ice	6.62	4.57	0.12
DMP65R-BU4D	A	From Face	3.00	0.0000	78.00	No Ice	8.00	3.51	0.07
(AT&T - Proposed)			-6.00			1/2" Ice	8.38	3.81	0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	8.77	4.12	0.17
DMP65R-BU4D	B	From Face	3.00	0.0000	78.00	No Ice	8.00	3.51	0.07
(AT&T - Proposed)			-6.00			1/2" Ice	8.38	3.81	0.12
			0.00			1" Ice	8.77	4.12	0.17
DMP65R-BU4D	C	From Face	3.00	0.0000	78.00	No Ice	8.00	3.51	0.07
(AT&T - Proposed)			-6.00			1/2" Ice	8.38	3.81	0.12
			0.00			1" Ice	8.77	4.12	0.17
8843 B2/B66A	A	From Face	3.00	0.0000	78.00	No Ice	1.64	1.35	0.07
(AT&T - Proposed)			0.00			1/2" Ice	1.80	1.50	0.09
			0.00			1" Ice	1.97	1.65	0.11
8843 B2/B66A	B	From Face	3.00	0.0000	78.00	No Ice	1.64	1.35	0.07
(AT&T - Proposed)			0.00			1/2" Ice	1.80	1.50	0.09
			0.00			1" Ice	1.97	1.65	0.11
8843 B2/B66A	C	From Face	3.00	0.0000	78.00	No Ice	1.64	1.35	0.07
(AT&T - Proposed)			0.00			1/2" Ice	1.80	1.50	0.09
			0.00			1" Ice	1.97	1.65	0.11
4449 B5/B12	A	From Face	3.00	0.0000	78.00	No Ice	1.97	1.41	0.07
(AT&T - Proposed)			0.00			1/2" Ice	2.14	1.56	0.09
			0.00			1" Ice	2.33	1.73	0.11
4449 B5/B12	B	From Face	3.00	0.0000	78.00	No Ice	1.97	1.41	0.07
(AT&T - Proposed)			0.00			1/2" Ice	2.14	1.56	0.09
			0.00			1" Ice	2.33	1.73	0.11
4449 B5/B12	C	From Face	3.00	0.0000	78.00	No Ice	1.97	1.41	0.07
(AT&T - Proposed)			0.00			1/2" Ice	2.14	1.56	0.09
			0.00			1" Ice	2.33	1.73	0.11
DC6-48-60-18-8F Surge	C	From Leg	1.00	0.0000	78.00	No Ice	1.91	1.91	0.02
Arrestor			0.00			1/2" Ice	2.10	2.10	0.04
(AT&T)			0.00			1" Ice	2.29	2.29	0.06
12' V-Frame	A	From Leg	2.00	0.0000	78.00	No Ice	9.22	12.97	0.30
(AT&T)			0.00			1/2" Ice	9.22	12.97	0.40
			0.00			1" Ice	9.22	12.97	0.50
12' V-Frame	B	From Leg	2.00	0.0000	78.00	No Ice	9.22	12.97	0.30
(AT&T)			0.00			1/2" Ice	9.22	12.97	0.40
			0.00			1" Ice	9.22	12.97	0.50
12' V-Frame	C	From Leg	2.00	0.0000	78.00	No Ice	9.22	12.97	0.30
(AT&T)			0.00			1/2" Ice	9.22	12.97	0.40
			0.00			1" Ice	9.22	12.97	0.50
AIR6419	A	From Leg	4.00	0.0000	159.00	No Ice	3.66	1.66	0.07
(T-Mobile)			-6.00			1/2" Ice	3.91	1.85	0.09
			0.00			1" Ice	4.16	2.05	0.12
APXVAALL24-43	A	From Leg	4.00	0.0000	159.00	No Ice	20.24	8.89	0.15
(T-Mobile)			6.00			1/2" Ice	20.89	9.49	0.27
			0.00			1" Ice	21.54	10.09	0.39
AIR6419	B	From Leg	4.00	0.0000	159.00	No Ice	3.66	1.66	0.07
(T-Mobile)			-6.00			1/2" Ice	3.91	1.85	0.09
			0.00			1" Ice	4.16	2.05	0.12
APXVAALL24-43	B	From Leg	4.00	0.0000	159.00	No Ice	20.24	8.89	0.15
(T-Mobile)			6.00			1/2" Ice	20.89	9.49	0.27
			0.00			1" Ice	21.54	10.09	0.39
AIR6419	C	From Leg	4.00	0.0000	159.00	No Ice	3.66	1.66	0.07
(T-Mobile)			-6.00			1/2" Ice	3.91	1.85	0.09
			0.00			1" Ice	4.16	2.05	0.12
APXVAALL24-43	C	From Leg	4.00	0.0000	159.00	No Ice	20.24	8.89	0.15
(T-Mobile)			6.00			1/2" Ice	20.89	9.49	0.27
			0.00			1" Ice	21.54	10.09	0.39
4480 B71+B85	A	From Leg	4.00	0.0000	159.00	No Ice	2.85	1.38	0.08
(T-Mobile)			-2.00			1/2" Ice	3.06	1.54	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			1.50			1" Ice	3.28	1.71	0.13
4480 B71+B85	B	From Leg	4.00	0.0000	159.00	No Ice	2.85	1.38	0.08
(T-Mobile)			-2.00			1/2" Ice	3.06	1.54	0.11
			1.50			1" Ice	3.28	1.71	0.13
4480 B71+B85	C	From Leg	4.00	0.0000	159.00	No Ice	2.85	1.38	0.08
(T-Mobile)			-2.00			1/2" Ice	3.06	1.54	0.11
			1.50			1" Ice	3.28	1.71	0.13
4460 B25+B66	A	From Leg	4.00	0.0000	159.00	No Ice	2.56	1.98	0.11
(T-Mobile)			-2.00			1/2" Ice	2.76	2.16	0.13
			-1.50			1" Ice	2.97	2.34	0.16
4460 B25+B66	B	From Leg	4.00	0.0000	159.00	No Ice	2.56	1.98	0.11
(T-Mobile)			-2.00			1/2" Ice	2.76	2.16	0.13
			-1.50			1" Ice	2.97	2.34	0.16
4460 B25+B66	C	From Leg	4.00	0.0000	159.00	No Ice	2.56	1.98	0.11
(T-Mobile)			-2.00			1/2" Ice	2.76	2.16	0.13
			-1.50			1" Ice	2.97	2.34	0.16
SitePro VFA12-HD	A	From Leg	2.00	0.0000	159.00	No Ice	21.00	21.00	0.75
(T-Mobile)			0.00			1/2" Ice	25.00	25.00	0.90
			0.00			1" Ice	29.00	29.00	1.05
SitePro VFA12-HD	B	From Leg	2.00	0.0000	159.00	No Ice	21.00	21.00	0.75
(T-Mobile)			0.00			1/2" Ice	25.00	25.00	0.90
			0.00			1" Ice	29.00	29.00	1.05
SitePro VFA12-HD	C	From Leg	2.00	0.0000	159.00	No Ice	21.00	21.00	0.75
(T-Mobile)			0.00			1/2" Ice	25.00	25.00	0.90
			0.00			1" Ice	29.00	29.00	1.05
DS2C03F36D-D	C	From Leg	6.00	0.0000	177.00	No Ice	7.30	7.30	0.08
(Eversource)			0.00			1/2" Ice	9.77	9.77	0.13
			10.00			1" Ice	12.25	12.25	0.20
SitePro USF-4U	C	From Leg	3.00	0.0000	177.00	No Ice	5.75	5.75	0.16
(Eversource)			0.00			1/2" Ice	8.00	8.00	0.21
			0.00			1" Ice	10.25	10.25	0.26

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
8.5 Dishw/radome	A	Paraboloid w/o	From	0.00	0.0000		176.50	8.50	No Ice	56.75	0.07
(NU)		Radome	Leg	0.00					1/2" Ice	57.56	0.30
				0.00					1" Ice	58.37	0.52

Tower Pressures - No Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	171.50	1.153	46	72.992	A	9.904	9.583	9.583	49.18	7.800	0.000
181.50-161.50					B	9.904	9.583		49.18	6.321	0.000
					C	9.904	9.583		49.18	0.000	0.000
T2	151.50	1.113	44	72.992	A	0.000	14.224	9.583	67.37	19.086	0.000
161.50-141.50					B	0.000	14.224		67.37	7.108	0.000
					C	0.000	14.224		67.37	1.744	0.000
T3	131.50	1.069	42	72.992	A	11.319	9.583	9.583	45.85	19.680	0.000
141.50-121.50					B	11.319	9.583		45.85	7.108	0.000
					C	11.319	9.583		45.85	11.492	0.000
T4	111.50	1.019	40	72.992	A	12.359	9.583	9.583	43.68	19.680	0.000
121.50-101.50					B	12.359	9.583		43.68	7.653	0.000
					C	12.359	9.583		43.68	17.960	0.000
T5	91.50	0.963	38	72.992	A	4.624	14.224	9.583	50.85	19.680	0.000
101.50-81.50					B	4.624	14.224		50.85	9.288	0.000
					C	4.624	14.224		50.85	18.464	0.000
T6 81.50-61.50	71.50	0.898	36	72.992	A	8.924	9.583	9.583	51.78	21.898	0.000
					B	8.924	9.583		51.78	9.288	0.000
					C	8.924	9.583		51.78	19.220	0.000
T7 61.50-41.50	51.50	0.818	32	72.992	A	6.414	10.376	9.583	57.08	22.290	0.000
					B	6.414	10.376		57.08	9.288	0.000
					C	6.414	10.376		57.08	19.220	0.000
T8 41.50-21.50	31.50	0.71	28	72.992	A	0.000	14.224	9.583	67.37	22.290	0.000
					B	0.000	14.224		67.37	9.288	0.000
					C	0.000	14.224		67.37	19.220	0.000
T9 21.50-6.50	14.00	0.7	28	54.744	A	6.098	7.188	7.188	54.10	16.718	0.000
					B	6.098	7.188		54.10	6.966	0.000
					C	6.098	7.188		54.10	14.415	0.000
T10 6.50-1.50	4.00	0.7	28	9.791	A	4.396	2.575	2.575	36.94	0.000	0.000
					B	4.396	2.575		36.94	0.000	0.000
					C	4.396	2.575		36.94	0.000	0.000

Tower Pressure - With Ice

G_H = 0.850

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	171.50	1.153	6	1.3560	77.512	A	9.904	33.973	18.624	42.44	32.009	0.000
181.50-161.50						B	9.904	33.973		42.44	15.814	0.000
						C	9.904	33.973		42.44	0.000	0.000
T2	151.50	1.113	6	1.3393	77.456	A	0.000	31.441	18.512	58.88	63.617	0.000
161.50-141.50						B	0.000	31.441		58.88	17.823	0.000
						C	0.000	31.441		58.88	7.042	0.000
T3	131.50	1.069	6	1.3205	77.393	A	11.319	33.334	18.387	41.18	64.892	0.000
141.50-121.50						B	11.319	33.334		41.18	17.672	0.000
						C	11.319	33.334		41.18	43.316	0.000
T4	111.50	1.019	6	1.2989	77.321	A	12.359	31.085	18.243	41.99	64.432	0.000
121.50-101.50						B	12.359	31.085		41.99	19.343	0.000
						C	12.359	31.085		41.99	62.397	0.000
T5 101.50-81.50	91.50	0.963	5	1.2735	77.237	A	4.624	35.305	18.073	45.26	63.890	0.000
						B	4.624	35.305		45.26	24.570	0.000
						C	4.624	35.305		45.26	64.423	0.000
T6 81.50-61.50	71.50	0.898	5	1.2424	77.133	A	8.924	26.211	17.866	50.85	77.531	0.000
						B	8.924	26.211		50.85	24.198	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	8.924	26.211		50.85	67.482	0.000
T7 61.50-41.50	51.50	0.818	4	1.2023	76.999	A	6.414	25.832	17.599	54.58	78.758	0.000
						B	6.414	25.832		54.58	23.716	0.000
						C	6.414	25.832		54.58	66.510	0.000
T8 41.50-21.50	31.50	0.71	4	1.1447	76.807	A	0.000	28.939	17.214	59.49	76.894	0.000
						B	0.000	28.939		59.49	23.024	0.000
						C	0.000	28.939		59.49	65.113	0.000
T9 21.50-6.50	14.00	0.7	4	1.0555	57.383	A	6.098	17.614	12.465	52.57	55.512	0.000
						B	6.098	17.614		52.57	16.466	0.000
						C	6.098	17.614		52.57	47.219	0.000
T10 6.50-1.50	4.00	0.7	4	0.9312	10.611	A	4.396	4.925	4.243	45.52	0.000	0.000
						B	4.396	4.925		45.52	0.000	0.000
						C	4.396	4.925		45.52	0.000	0.000

Tower Pressure - Service

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	171.50	1.153	28	72.992	A	9.904	9.583	9.583	49.18	7.800	0.000
181.50-161.50					B	9.904	9.583		49.18	6.321	0.000
					C	9.904	9.583		49.18	0.000	0.000
T2	151.50	1.113	27	72.992	A	0.000	14.224	9.583	67.37	19.086	0.000
161.50-141.50					B	0.000	14.224		67.37	7.108	0.000
					C	0.000	14.224		67.37	1.744	0.000
T3	131.50	1.069	26	72.992	A	11.319	9.583	9.583	45.85	19.680	0.000
141.50-121.50					B	11.319	9.583		45.85	7.108	0.000
					C	11.319	9.583		45.85	11.492	0.000
T4	111.50	1.019	24	72.992	A	12.359	9.583	9.583	43.68	19.680	0.000
121.50-101.50					B	12.359	9.583		43.68	7.653	0.000
					C	12.359	9.583		43.68	17.960	0.000
T5	91.50	0.963	23	72.992	A	4.624	14.224	9.583	50.85	19.680	0.000
101.50-81.50					B	4.624	14.224		50.85	9.288	0.000
					C	4.624	14.224		50.85	18.464	0.000
T6 81.50-61.50	71.50	0.898	22	72.992	A	8.924	9.583	9.583	51.78	21.898	0.000
					B	8.924	9.583		51.78	9.288	0.000
					C	8.924	9.583		51.78	19.220	0.000
T7 61.50-41.50	51.50	0.818	20	72.992	A	6.414	10.376	9.583	57.08	22.290	0.000
					B	6.414	10.376		57.08	9.288	0.000
					C	6.414	10.376		57.08	19.220	0.000
T8 41.50-21.50	31.50	0.71	17	72.992	A	0.000	14.224	9.583	67.37	22.290	0.000
					B	0.000	14.224		67.37	9.288	0.000
					C	0.000	14.224		67.37	19.220	0.000
T9 21.50-6.50	14.00	0.7	17	54.744	A	6.098	7.188	7.188	54.10	16.718	0.000
					B	6.098	7.188		54.10	6.966	0.000
					C	6.098	7.188		54.10	14.415	0.000
T10 6.50-1.50	4.00	0.7	17	9.791	A	4.396	2.575	2.575	36.94	0.000	0.000
					B	4.396	2.575		36.94	0.000	0.000
					C	4.396	2.575		36.94	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.05	0.81	A	0.267	2.388	46	1	1	15.552	1.77	88.62	C
181.50-161.50		TA 0.52	B	0.267	2.388		1	1	15.552			
			C	0.267	2.388		1	1	15.552			
T2	0.16	0.46	A	0.195	2.613	44	1	1	8.159	1.43	71.43	C
161.50-141.50			B	0.195	2.613		1	1	8.159			
			C	0.195	2.613		1	1	8.159			
T3	0.21	0.88	A	0.286	2.333	42	1	1	17.019	2.26	112.88	C
141.50-121.50		TA 0.52	B	0.286	2.333		1	1	17.019			
			C	0.286	2.333		1	1	17.019			
T4	0.27	1.81	A	0.301	2.294	40	1	1	18.100	2.36	118.05	C
121.50-101.50			B	0.301	2.294		1	1	18.100			
			C	0.301	2.294		1	1	18.100			
T5	0.28	1.00	A	0.258	2.413	38	1	1	12.974	1.94	97.05	C
101.50-81.50			B	0.258	2.413		1	1	12.974			
			C	0.258	2.413		1	1	12.974			
T6	0.29	1.32	A	0.254	2.427	36	1	1	14.539	1.98	99.17	C
81.50-61.50			B	0.254	2.427		1	1	14.539			
			C	0.254	2.427		1	1	14.539			
T7	0.29	1.13	A	0.23	2.499	32	1	1	12.436	1.70	84.82	C
61.50-41.50			B	0.23	2.499		1	1	12.436			
			C	0.23	2.499		1	1	12.436			
T8	0.29	0.46	A	0.195	2.613	28	1	1	8.159	1.24	62.03	C
41.50-21.50			B	0.195	2.613		1	1	8.159			
			C	0.195	2.613		1	1	8.159			
T9 21.50-6.50	0.22	0.98	A	0.243	2.46	28	1	1	10.290	1.14	75.77	C
			B	0.243	2.46		1	1	10.290			
			C	0.243	2.46		1	1	10.290			
T10 6.50-1.50	0.00	0.41	A	0.712	1.777	28	1	1	6.507	0.27	54.57	C
			B	0.712	1.777		1	1	6.507			
			C	0.712	1.777		1	1	6.507			
Sum Weight:	2.05	10.31								16.09		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.05	0.81	A	0.267	2.388	46	0.8	1	13.572	1.59	79.43	C
181.50-161.50		TA 0.52	B	0.267	2.388		0.8	1	13.572			
			C	0.267	2.388		0.8	1	13.572			
T2	0.16	0.46	A	0.195	2.613	44	0.8	1	8.159	1.43	71.43	C
161.50-141.50			B	0.195	2.613		0.8	1	8.159			
			C	0.195	2.613		0.8	1	8.159			
T3	0.21	0.88	A	0.286	2.333	42	0.8	1	14.756	2.07	103.37	C
141.50-121.50		TA 0.52	B	0.286	2.333		0.8	1	14.756			
			C	0.286	2.333		0.8	1	14.756			
T4	0.27	1.81	A	0.301	2.294	40	0.8	1	15.628	2.17	108.31	C
121.50-101.50			B	0.301	2.294		0.8	1	15.628			
			C	0.301	2.294		0.8	1	15.628			
T5	0.28	1.00	A	0.258	2.413	38	0.8	1	12.049	1.87	93.43	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
101.50-81.50			B	0.258	2.413		0.8	1	12.049			
			C	0.258	2.413		0.8	1	12.049			
T6	0.29	1.32	A	0.254	2.427	36	0.8	1	12.754	1.85	92.61	C
81.50-61.50			B	0.254	2.427		0.8	1	12.754			
			C	0.254	2.427		0.8	1	12.754			
T7	0.29	1.13	A	0.23	2.499	32	0.8	1	11.153	1.61	80.40	C
61.50-41.50			B	0.23	2.499		0.8	1	11.153			
			C	0.23	2.499		0.8	1	11.153			
T8	0.29	0.46	A	0.195	2.613	28	0.8	1	8.159	1.24	62.03	C
41.50-21.50			B	0.195	2.613		0.8	1	8.159			
			C	0.195	2.613		0.8	1	8.159			
T9 21.50-6.50	0.22	0.98	A	0.243	2.46	28	0.8	1	9.071	1.07	71.06	C
			B	0.243	2.46		0.8	1	9.071			
			C	0.243	2.46		0.8	1	9.071			
T10 6.50-1.50	0.00	0.41	A	0.712	1.777	28	0.8	1	5.628	0.24	47.20	C
			B	0.712	1.777		0.8	1	5.628			
			C	0.712	1.777		0.8	1	5.628			
Sum Weight:	2.05	10.31								15.12		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.05	0.81	A	0.267	2.388	46	0.85	1	14.067	1.63	81.72	C
181.50-161.50		TA 0.52	B	0.267	2.388		0.85	1	14.067			
			C	0.267	2.388		0.85	1	14.067			
T2	0.16	0.46	A	0.195	2.613	44	0.85	1	8.159	1.43	71.43	C
161.50-141.50			B	0.195	2.613		0.85	1	8.159			
			C	0.195	2.613		0.85	1	8.159			
T3	0.21	0.88	A	0.286	2.333	42	0.85	1	15.322	2.11	105.75	C
141.50-121.50		TA 0.52	B	0.286	2.333		0.85	1	15.322			
			C	0.286	2.333		0.85	1	15.322			
T4	0.27	1.81	A	0.301	2.294	40	0.85	1	16.246	2.21	110.74	C
121.50-101.50			B	0.301	2.294		0.85	1	16.246			
			C	0.301	2.294		0.85	1	16.246			
T5	0.28	1.00	A	0.258	2.413	38	0.85	1	12.281	1.89	94.34	C
101.50-81.50			B	0.258	2.413		0.85	1	12.281			
			C	0.258	2.413		0.85	1	12.281			
T6	0.29	1.32	A	0.254	2.427	36	0.85	1	13.200	1.89	94.25	C
81.50-61.50			B	0.254	2.427		0.85	1	13.200			
			C	0.254	2.427		0.85	1	13.200			
T7	0.29	1.13	A	0.23	2.499	32	0.85	1	11.474	1.63	81.51	C
61.50-41.50			B	0.23	2.499		0.85	1	11.474			
			C	0.23	2.499		0.85	1	11.474			
T8	0.29	0.46	A	0.195	2.613	28	0.85	1	8.159	1.24	62.03	C
41.50-21.50			B	0.195	2.613		0.85	1	8.159			
			C	0.195	2.613		0.85	1	8.159			
T9 21.50-6.50	0.22	0.98	A	0.243	2.46	28	0.85	1	9.375	1.08	72.23	C
			B	0.243	2.46		0.85	1	9.375			
			C	0.243	2.46		0.85	1	9.375			
T10 6.50-1.50	0.00	0.41	A	0.712	1.777	28	0.85	1	5.847	0.25	49.04	C
			B	0.712	1.777		0.85	1	5.847			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
Sum Weight:	2.05	10.31	C	0.712	1.777		0.85	1	5.847	15.36		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.52	2.62	A	0.566	1.829	6	1	1	34.460	0.45	22.33	C
181.50-161.50		TA 0.99	B	0.566	1.829		1	1	34.460			
			C	0.566	1.829		1	1	34.460			
T2	1.03	1.43	A	0.406	2.052	6	1	1	20.085	0.48	24.13	C
161.50-141.50			B	0.406	2.052		1	1	20.085			
			C	0.406	2.052		1	1	20.085			
T3	1.40	2.75	A	0.577	1.82	6	1	1	35.633	0.58	29.18	C
141.50-121.50		TA 0.97	B	0.577	1.82		1	1	35.633			
			C	0.577	1.82		1	1	35.633			
T4	1.63	3.68	A	0.562	1.833	6	1	1	34.748	0.60	30.10	C
121.50-101.50			B	0.562	1.833		1	1	34.748			
			C	0.562	1.833		1	1	34.748			
T5	1.69	2.44	A	0.517	1.879	5	1	1	29.136	0.57	28.64	C
101.50-81.50			B	0.517	1.879		1	1	29.136			
			C	0.517	1.879		1	1	29.136			
T6	1.78	2.66	A	0.456	1.965	5	1	1	26.275	0.60	29.84	C
81.50-61.50			B	0.456	1.965		1	1	26.275			
			C	0.456	1.965		1	1	26.275			
T7	1.74	2.26	A	0.419	2.028	4	1	1	23.064	0.55	27.41	C
61.50-41.50			B	0.419	2.028		1	1	23.064			
			C	0.419	2.028		1	1	23.064			
T8	1.66	1.24	A	0.377	2.112	4	1	1	18.130	0.45	22.55	C
41.50-21.50			B	0.377	2.112		1	1	18.130			
			C	0.377	2.112		1	1	18.130			
T9 21.50-6.50	1.15	1.77	A	0.413	2.038	4	1	1	17.408	0.34	22.75	C
			B	0.413	2.038		1	1	17.408			
			C	0.413	2.038		1	1	17.408			
T10 6.50-1.50	0.00	0.71	A	0.879	1.895	4	1	1	9.065	0.06	11.12	C
			B	0.879	1.895		1	1	9.065			
			C	0.879	1.895		1	1	9.065			
Sum Weight:	12.59	23.52								4.68		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.52	2.62	A	0.566	1.829	6	0.8	1	32.479	0.43	21.36	C
181.50-161.50		TA 0.99	B	0.566	1.829		0.8	1	32.479			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	0.566	1.829		0.8	1	32.479			
T2	1.03	1.43	A	0.406	2.052	6	0.8	1	20.085	0.48	24.13	C
161.50-141.50			B	0.406	2.052		0.8	1	20.085			
			C	0.406	2.052		0.8	1	20.085			
T3	1.40	2.75	A	0.577	1.82	6	0.8	1	33.370	0.56	28.16	C
141.50-121.50		TA 0.97	B	0.577	1.82		0.8	1	33.370			
			C	0.577	1.82		0.8	1	33.370			
T4	1.63	3.68	A	0.562	1.833	6	0.8	1	32.276	0.58	29.04	C
121.50-101.50			B	0.562	1.833		0.8	1	32.276			
			C	0.562	1.833		0.8	1	32.276			
T5	1.69	2.44	A	0.517	1.879	5	0.8	1	28.211	0.57	28.26	C
101.50-81.50			B	0.517	1.879		0.8	1	28.211			
			C	0.517	1.879		0.8	1	28.211			
T6	1.78	2.66	A	0.456	1.965	5	0.8	1	24.491	0.58	29.11	C
81.50-61.50			B	0.456	1.965		0.8	1	24.491			
			C	0.456	1.965		0.8	1	24.491			
T7	1.74	2.26	A	0.419	2.028	4	0.8	1	21.782	0.54	26.91	C
61.50-41.50			B	0.419	2.028		0.8	1	21.782			
			C	0.419	2.028		0.8	1	21.782			
T8	1.66	1.24	A	0.377	2.112	4	0.8	1	18.130	0.45	22.55	C
41.50-21.50			B	0.377	2.112		0.8	1	18.130			
			C	0.377	2.112		0.8	1	18.130			
T9 21.50-6.50	1.15	1.77	A	0.413	2.038	4	0.8	1	16.188	0.33	22.21	C
			B	0.413	2.038		0.8	1	16.188			
			C	0.413	2.038		0.8	1	16.188			
T10 6.50-1.50	0.00	0.71	A	0.879	1.895	4	0.8	1	8.186	0.05	10.04	C
			B	0.879	1.895		0.8	1	8.186			
			C	0.879	1.895		0.8	1	8.186			
Sum Weight:	12.59	23.52								4.57		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.52	2.62	A	0.566	1.829	6	0.85	1	32.974	0.43	21.61	C
181.50-161.50		TA 0.99	B	0.566	1.829		0.85	1	32.974			
			C	0.566	1.829		0.85	1	32.974			
T2	1.03	1.43	A	0.406	2.052	6	0.85	1	20.085	0.48	24.13	C
161.50-141.50			B	0.406	2.052		0.85	1	20.085			
			C	0.406	2.052		0.85	1	20.085			
T3	1.40	2.75	A	0.577	1.82	6	0.85	1	33.936	0.57	28.42	C
141.50-121.50		TA 0.97	B	0.577	1.82		0.85	1	33.936			
			C	0.577	1.82		0.85	1	33.936			
T4	1.63	3.68	A	0.562	1.833	6	0.85	1	32.894	0.59	29.30	C
121.50-101.50			B	0.562	1.833		0.85	1	32.894			
			C	0.562	1.833		0.85	1	32.894			
T5	1.69	2.44	A	0.517	1.879	5	0.85	1	28.442	0.57	28.35	C
101.50-81.50			B	0.517	1.879		0.85	1	28.442			
			C	0.517	1.879		0.85	1	28.442			
T6	1.78	2.66	A	0.456	1.965	5	0.85	1	24.937	0.59	29.30	C
81.50-61.50			B	0.456	1.965		0.85	1	24.937			
			C	0.456	1.965		0.85	1	24.937			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T7	1.74	2.26	A	0.419	2.028	4	0.85	1	22.102	0.54	27.04	C
61.50-41.50			B	0.419	2.028		0.85	1	22.102			
			C	0.419	2.028		0.85	1	22.102			
T8	1.66	1.24	A	0.377	2.112	4	0.85	1	18.130	0.45	22.55	C
41.50-21.50			B	0.377	2.112		0.85	1	18.130			
			C	0.377	2.112		0.85	1	18.130			
T9 21.50-6.50	1.15	1.77	A	0.413	2.038	4	0.85	1	16.493	0.34	22.35	C
			B	0.413	2.038		0.85	1	16.493			
			C	0.413	2.038		0.85	1	16.493			
T10 6.50-1.50	0.00	0.71	A	0.879	1.895	4	0.85	1	8.406	0.05	10.31	C
			B	0.879	1.895		0.85	1	8.406			
			C	0.879	1.895		0.85	1	8.406			
Sum Weight:	12.59	23.52								4.60		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.05	0.81	A	0.267	2.388	28	1	1	15.552	1.07	53.61	C
181.50-161.50		TA 0.52	B	0.267	2.388		1	1	15.552			
			C	0.267	2.388		1	1	15.552			
T2	0.16	0.46	A	0.195	2.613	27	1	1	8.159	0.86	43.21	C
161.50-141.50			B	0.195	2.613		1	1	8.159			
			C	0.195	2.613		1	1	8.159			
T3	0.21	0.88	A	0.286	2.333	26	1	1	17.019	1.37	68.29	C
141.50-121.50		TA 0.52	B	0.286	2.333		1	1	17.019			
			C	0.286	2.333		1	1	17.019			
T4	0.27	1.81	A	0.301	2.294	24	1	1	18.100	1.43	71.41	C
121.50-101.50			B	0.301	2.294		1	1	18.100			
			C	0.301	2.294		1	1	18.100			
T5	0.28	1.00	A	0.258	2.413	23	1	1	12.974	1.17	58.71	C
101.50-81.50			B	0.258	2.413		1	1	12.974			
			C	0.258	2.413		1	1	12.974			
T6	0.29	1.32	A	0.254	2.427	22	1	1	14.539	1.20	59.99	C
81.50-61.50			B	0.254	2.427		1	1	14.539			
			C	0.254	2.427		1	1	14.539			
T7	0.29	1.13	A	0.23	2.499	20	1	1	12.436	1.03	51.31	C
61.50-41.50			B	0.23	2.499		1	1	12.436			
			C	0.23	2.499		1	1	12.436			
T8	0.29	0.46	A	0.195	2.613	17	1	1	8.159	0.75	37.52	C
41.50-21.50			B	0.195	2.613		1	1	8.159			
			C	0.195	2.613		1	1	8.159			
T9 21.50-6.50	0.22	0.98	A	0.243	2.46	17	1	1	10.290	0.69	45.84	C
			B	0.243	2.46		1	1	10.290			
			C	0.243	2.46		1	1	10.290			
T10 6.50-1.50	0.00	0.41	A	0.712	1.777	17	1	1	6.507	0.17	33.01	C
			B	0.712	1.777		1	1	6.507			
			C	0.712	1.777		1	1	6.507			
Sum Weight:	2.05	10.31								9.73		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.05	0.81	A	0.267	2.388	28	0.8	1	13.572	0.96	48.05	C
181.50-161.50		TA 0.52	B	0.267	2.388		0.8	1	13.572			
			C	0.267	2.388		0.8	1	13.572			
T2	0.16	0.46	A	0.195	2.613	27	0.8	1	8.159	0.86	43.21	C
161.50-141.50			B	0.195	2.613		0.8	1	8.159			
			C	0.195	2.613		0.8	1	8.159			
T3	0.21	0.88	A	0.286	2.333	26	0.8	1	14.756	1.25	62.53	C
141.50-121.50		TA 0.52	B	0.286	2.333		0.8	1	14.756			
			C	0.286	2.333		0.8	1	14.756			
T4	0.27	1.81	A	0.301	2.294	24	0.8	1	15.628	1.31	65.52	C
121.50-101.50			B	0.301	2.294		0.8	1	15.628			
			C	0.301	2.294		0.8	1	15.628			
T5	0.28	1.00	A	0.258	2.413	23	0.8	1	12.049	1.13	56.52	C
101.50-81.50			B	0.258	2.413		0.8	1	12.049			
			C	0.258	2.413		0.8	1	12.049			
T6	0.29	1.32	A	0.254	2.427	22	0.8	1	12.754	1.12	56.03	C
81.50-61.50			B	0.254	2.427		0.8	1	12.754			
			C	0.254	2.427		0.8	1	12.754			
T7	0.29	1.13	A	0.23	2.499	20	0.8	1	11.153	0.97	48.64	C
61.50-41.50			B	0.23	2.499		0.8	1	11.153			
			C	0.23	2.499		0.8	1	11.153			
T8	0.29	0.46	A	0.195	2.613	17	0.8	1	8.159	0.75	37.52	C
41.50-21.50			B	0.195	2.613		0.8	1	8.159			
			C	0.195	2.613		0.8	1	8.159			
T9 21.50-6.50	0.22	0.98	A	0.243	2.46	17	0.8	1	9.071	0.64	42.98	C
			B	0.243	2.46		0.8	1	9.071			
			C	0.243	2.46		0.8	1	9.071			
T10 6.50-1.50	0.00	0.41	A	0.712	1.777	17	0.8	1	5.628	0.14	28.55	C
			B	0.712	1.777		0.8	1	5.628			
			C	0.712	1.777		0.8	1	5.628			
Sum Weight:	2.05	10.31								9.15		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.05	0.81	A	0.267	2.388	28	0.85	1	14.067	0.99	49.44	C
181.50-161.50		TA 0.52	B	0.267	2.388		0.85	1	14.067			
			C	0.267	2.388		0.85	1	14.067			
T2	0.16	0.46	A	0.195	2.613	27	0.85	1	8.159	0.86	43.21	C
161.50-141.50			B	0.195	2.613		0.85	1	8.159			
			C	0.195	2.613		0.85	1	8.159			
T3	0.21	0.88	A	0.286	2.333	26	0.85	1	15.322	1.28	63.97	C
141.50-121.50		TA 0.52	B	0.286	2.333		0.85	1	15.322			
			C	0.286	2.333		0.85	1	15.322			
T4	0.27	1.81	A	0.301	2.294	24	0.85	1	16.246	1.34	66.99	C
121.50-101.50			B	0.301	2.294		0.85	1	16.246			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	0.301	2.294		0.85	1	16.246			
T5	0.28	1.00	A	0.258	2.413	23	0.85	1	12.281	1.14	57.07	C
101.50-81.50			B	0.258	2.413		0.85	1	12.281			
			C	0.258	2.413		0.85	1	12.281			
T6	0.29	1.32	A	0.254	2.427	22	0.85	1	13.200	1.14	57.02	C
81.50-61.50			B	0.254	2.427		0.85	1	13.200			
			C	0.254	2.427		0.85	1	13.200			
T7	0.29	1.13	A	0.23	2.499	20	0.85	1	11.474	0.99	49.31	C
61.50-41.50			B	0.23	2.499		0.85	1	11.474			
			C	0.23	2.499		0.85	1	11.474			
T8	0.29	0.46	A	0.195	2.613	17	0.85	1	8.159	0.75	37.52	C
41.50-21.50			B	0.195	2.613		0.85	1	8.159			
			C	0.195	2.613		0.85	1	8.159			
T9 21.50-6.50	0.22	0.98	A	0.243	2.46	17	0.85	1	9.375	0.66	43.70	C
			B	0.243	2.46		0.85	1	9.375			
			C	0.243	2.46		0.85	1	9.375			
T10 6.50-1.50	0.00	0.41	A	0.712	1.777	17	0.85	1	5.847	0.15	29.67	C
			B	0.712	1.777		0.85	1	5.847			
			C	0.712	1.777		0.85	1	5.847			
Sum Weight:	2.05	10.31								9.29		

Discrete Appurtenance Pressures - No Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft²	C_AA_C Side ft²
Torque Arm Face C	180.0000	0.00	0.00	2.61	168.50	1.147	45	2.36	3.94
Torque Arm Face B	60.0000	0.00	2.26	-1.30	168.50	1.147	45	2.36	3.94
Torque Arm Face A	300.0000	0.00	-2.26	-1.30	168.50	1.147	45	2.36	3.94
Torque Arm Face C	180.0000	0.00	0.00	2.61	128.50	1.062	42	2.40	4.02
Torque Arm Face B	60.0000	0.00	2.26	-1.30	128.50	1.062	42	2.40	4.02
Torque Arm Face A	300.0000	0.00	-2.26	-1.30	128.50	1.062	42	2.40	4.02
GPS	120.0000	0.01	4.74	2.73	89.50	0.957	38	1.00	1.00
3' GPS Stand-off Mount	120.0000	0.05	3.00	1.73	89.50	0.957	38	2.45	2.45
APXVSPP18-C-A20	0.0000	0.06	-4.00	-4.97	126.00	1.056	42	8.02	5.28
APXVSPP18-C-A20	120.0000	0.06	6.30	-0.98	126.00	1.056	42	8.02	5.28
APXVSPP18-C-A20	240.0000	0.06	-2.30	5.95	126.00	1.056	42	8.02	5.28
FD-RRH 2x50 800	0.0000	0.06	0.00	-4.97	126.00	1.056	42	2.06	1.93
FD-RRH 2x50 800	120.0000	0.06	4.30	2.48	126.00	1.056	42	2.06	1.93
FD-RRH 2x50 800	240.0000	0.06	-4.30	2.48	126.00	1.056	42	2.06	1.93
FD-RRH 4x45 1900	0.0000	0.06	0.00	-4.97	126.00	1.056	42	2.32	2.38
FD-RRH 4x45 1900	120.0000	0.06	4.30	2.48	126.00	1.056	42	2.32	2.38
FD-RRH 4x45 1900	240.0000	0.06	-4.30	2.48	126.00	1.056	42	2.32	2.38
Rohn 6' x 12' Boom Gate (1)	0.0000	0.56	0.00	-3.97	126.00	1.056	42	16.60	16.60
Rohn 6' x 12' Boom Gate (1)	120.0000	0.56	3.44	1.98	126.00	1.056	42	16.60	16.60
Rohn 6' x 12' Boom Gate (1)	240.0000	0.56	-3.44	1.98	126.00	1.056	42	16.60	16.60
1.5"x2'omni	0.0000	0.01	0.00	-4.97	145.50	1.100	44	0.25	0.25
1.5"x2'omni	0.0000	0.01	0.00	-4.97	141.50	1.091	43	0.25	0.25
2-ft Stand Off	0.0000	0.02	0.00	-2.97	143.50	1.096	43	1.07	1.07
3"x20-ft Omni	240.0000	0.02	-4.30	2.48	148.50	1.106	44	3.56	3.56
3-ft Side Arm	240.0000	0.01	-3.00	1.73	138.50	1.085	43	0.66	0.66

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
20-ft x 1.9in Support Pipe	240.0000	0.05	-3.00	1.73	148.50	1.106	44	3.80	3.80
20' x 2" Dia Omni	0.0000	0.02	0.00	-1.97	190.50	1.188	47	4.00	4.00
14' x 3" Dia Omni	120.0000	0.04	1.71	0.98	187.50	1.183	47	4.20	4.20
20' x 2" Dia Omni	240.0000	0.02	-1.71	0.98	190.50	1.188	47	4.00	4.00
SBNHH-1D65A	300.0000	0.04	-2.45	-3.72	78.00	0.921	37	5.88	3.86
SBNHH-1D65A	60.0000	0.04	4.45	-0.26	78.00	0.921	37	5.88	3.86
SBNHH-1D65A	180.0000	0.04	-2.00	3.98	78.00	0.921	37	5.88	3.86
DMP65R-BU4D	300.0000	0.07	-6.45	3.20	78.00	0.921	37	8.00	3.51
DMP65R-BU4D	60.0000	0.07	0.45	-7.19	78.00	0.921	37	8.00	3.51
DMP65R-BU4D	180.0000	0.07	6.00	3.98	78.00	0.921	37	8.00	3.51
8843 B2/B66A	300.0000	0.07	-3.45	-1.99	78.00	0.921	37	1.64	1.35
8843 B2/B66A	60.0000	0.07	3.45	-1.99	78.00	0.921	37	1.64	1.35
8843 B2/B66A	180.0000	0.07	0.00	3.98	78.00	0.921	37	1.64	1.35
4449 B5/B12	300.0000	0.07	-3.45	-1.99	78.00	0.921	37	1.97	1.41
4449 B5/B12	60.0000	0.07	3.45	-1.99	78.00	0.921	37	1.97	1.41
4449 B5/B12	180.0000	0.07	0.00	3.98	78.00	0.921	37	1.97	1.41
DC6-48-60-18-8F Surge Arrestor	240.0000	0.02	-2.57	1.48	78.00	0.921	37	1.91	1.91
12' V-Frame	0.0000	0.30	0.00	-3.97	78.00	0.921	37	9.22	12.97
12' V-Frame	120.0000	0.30	3.44	1.98	78.00	0.921	37	9.22	12.97
12' V-Frame	240.0000	0.30	-3.44	1.98	78.00	0.921	37	9.22	12.97
AIR6419	0.0000	0.07	-6.00	-5.97	159.00	1.128	45	3.66	1.66
APXVAALL24-43	0.0000	0.15	6.00	-5.97	159.00	1.128	45	20.24	8.89
AIR6419	120.0000	0.07	8.17	-2.21	159.00	1.128	45	3.66	1.66
APXVAALL24-43	120.0000	0.15	2.17	8.18	159.00	1.128	45	20.24	8.89
AIR6419	240.0000	0.07	-2.17	8.18	159.00	1.128	45	3.66	1.66
APXVAALL24-43	240.0000	0.15	-8.17	-2.21	159.00	1.128	45	20.24	8.89
4480 B71+B85	0.0000	0.08	-2.00	-5.97	160.50	1.131	45	2.85	1.38
4480 B71+B85	120.0000	0.08	6.17	1.25	160.50	1.131	45	2.85	1.38
4480 B71+B85	240.0000	0.08	-4.17	4.72	160.50	1.131	45	2.85	1.38
4460 B25+B66	0.0000	0.11	-2.00	-5.97	157.50	1.125	45	2.56	1.98
4460 B25+B66	120.0000	0.11	6.17	1.25	157.50	1.125	45	2.56	1.98
4460 B25+B66	240.0000	0.11	-4.17	4.72	157.50	1.125	45	2.56	1.98
SitePro VFA12-HD	0.0000	0.75	0.00	-3.97	159.00	1.128	45	21.00	21.00
SitePro VFA12-HD	120.0000	0.75	3.44	1.98	159.00	1.128	45	21.00	21.00
SitePro VFA12-HD	240.0000	0.75	-3.44	1.98	159.00	1.128	45	21.00	21.00
DS2C03F36D-D	240.0000	0.08	-6.90	3.98	187.00	1.182	47	7.30	7.30
SitePro USF-4U	240.0000	0.16	-4.30	2.48	177.00	1.163	46	5.75	5.75
	Sum Weight:	7.88							

Discrete Appurtenance Pressures - With Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
Torque Arm Face C	180.0000	0.00	0.00	2.61	168.50	1.147	6	4.12	6.88	1.3560
Torque Arm Face B	60.0000	0.00	2.26	-1.30	168.50	1.147	6	4.12	6.88	1.3560
Torque Arm Face A	300.0000	0.00	-2.26	-1.30	168.50	1.147	6	4.12	6.88	1.3560
Torque Arm Face C	180.0000	0.00	0.00	2.61	128.50	1.062	6	4.08	6.82	1.3205
Torque Arm Face B	60.0000	0.00	2.26	-1.30	128.50	1.062	6	4.08	6.82	1.3205
Torque Arm Face A	300.0000	0.00	-2.26	-1.30	128.50	1.062	6	4.08	6.82	1.3205
GPS	120.0000	0.02	4.74	2.73	89.50	0.957	5	2.27	2.27	1.2707
3' GPS Stand-off Mount	120.0000	0.11	3.00	1.73	89.50	0.957	5	6.34	6.34	1.2707
APXVSPP18-C-A20	0.0000	0.20	-4.00	-4.97	126.00	1.056	6	9.24	6.49	1.3149
APXVSPP18-C-A20	120.0000	0.20	6.30	-0.98	126.00	1.056	6	9.24	6.49	1.3149
APXVSPP18-C-A20	240.0000	0.20	-2.30	5.95	126.00	1.056	6	9.24	6.49	1.3149

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
FD-RRH 2x50 800	0.0000	0.13	0.00	-4.97	126.00	1.056	6	2.55	2.42	1.3149
FD-RRH 2x50 800	120.0000	0.13	4.30	2.48	126.00	1.056	6	2.55	2.42	1.3149
FD-RRH 2x50 800	240.0000	0.13	-4.30	2.48	126.00	1.056	6	2.55	2.42	1.3149
FD-RRH 4x45 1900	0.0000	0.13	0.00	-4.97	126.00	1.056	6	2.88	2.95	1.3149
FD-RRH 4x45 1900	120.0000	0.13	4.30	2.48	126.00	1.056	6	2.88	2.95	1.3149
FD-RRH 4x45 1900	240.0000	0.13	-4.30	2.48	126.00	1.056	6	2.88	2.95	1.3149
Rohn 6' x 12' Boom Gate (1)	0.0000	0.93	0.00	-3.97	126.00	1.056	6	25.02	25.02	1.3149
Rohn 6' x 12' Boom Gate (1)	120.0000	0.93	3.44	1.98	126.00	1.056	6	25.02	25.02	1.3149
Rohn 6' x 12' Boom Gate (1)	240.0000	0.93	-3.44	1.98	126.00	1.056	6	25.02	25.02	1.3149
1.5"x2'omni	0.0000	0.01	0.00	-4.97	145.50	1.100	6	0.60	0.60	1.3339
1.5"x2'omni	0.0000	0.01	0.00	-4.97	141.50	1.091	6	0.60	0.60	1.3302
2-ft Stand Off	0.0000	0.04	0.00	-2.97	143.50	1.096	6	2.54	2.54	1.3321
3"x20-ft Omni	240.0000	0.08	-4.30	2.48	148.50	1.106	6	13.10	13.10	1.3367
3-ft Side Arm	240.0000	0.05	-3.00	1.73	138.50	1.085	6	1.93	1.93	1.3274
20-ft x 1.9in Support Pipe	240.0000	0.13	-3.00	1.73	148.50	1.106	6	9.20	9.20	1.3367
20' x 2" Dia Omni	0.0000	0.14	0.00	-1.97	190.50	1.188	6	9.60	9.60	1.3704
14' x 3" Dia Omni	120.0000	0.15	1.71	0.98	187.50	1.183	6	8.14	8.14	1.3682
20' x 2" Dia Omni	240.0000	0.14	-1.71	0.98	190.50	1.188	6	9.60	9.60	1.3704
SBNHH-1D65A	300.0000	0.15	-2.45	-3.72	78.00	0.921	5	6.81	4.75	1.2533
SBNHH-1D65A	60.0000	0.15	4.45	-0.26	78.00	0.921	5	6.81	4.75	1.2533
SBNHH-1D65A	180.0000	0.15	-2.00	3.98	78.00	0.921	5	6.81	4.75	1.2533
DMP65R-BU4D	300.0000	0.21	-6.45	3.20	78.00	0.921	5	8.97	4.28	1.2533
DMP65R-BU4D	60.0000	0.21	0.45	-7.19	78.00	0.921	5	8.97	4.28	1.2533
DMP65R-BU4D	180.0000	0.21	6.00	3.98	78.00	0.921	5	8.97	4.28	1.2533
8843 B2/B66A	300.0000	0.12	-3.45	-1.99	78.00	0.921	5	2.06	1.74	1.2533
8843 B2/B66A	60.0000	0.12	3.45	-1.99	78.00	0.921	5	2.06	1.74	1.2533
8843 B2/B66A	180.0000	0.12	0.00	3.98	78.00	0.921	5	2.06	1.74	1.2533
4449 B5/B12	300.0000	0.12	-3.45	-1.99	78.00	0.921	5	2.43	1.81	1.2533
4449 B5/B12	60.0000	0.12	3.45	-1.99	78.00	0.921	5	2.43	1.81	1.2533
4449 B5/B12	180.0000	0.12	0.00	3.98	78.00	0.921	5	2.43	1.81	1.2533
DC6-48-60-18-8F Surge Arrestor	240.0000	0.08	-2.57	1.48	78.00	0.921	5	2.40	2.40	1.2533
12' V-Frame	0.0000	0.55	0.00	-3.97	78.00	0.921	5	9.22	12.97	1.2533
12' V-Frame	120.0000	0.55	3.44	1.98	78.00	0.921	5	9.22	12.97	1.2533
12' V-Frame	240.0000	0.55	-3.44	1.98	78.00	0.921	5	9.22	12.97	1.2533
AIR6419	0.0000	0.14	-6.00	-5.97	159.00	1.128	6	4.35	2.19	1.3458
APXVAALL24-43	0.0000	0.48	6.00	-5.97	159.00	1.128	6	22.00	10.52	1.3458
AIR6419	120.0000	0.14	8.17	-2.21	159.00	1.128	6	4.35	2.19	1.3458
APXVAALL24-43	120.0000	0.48	2.17	8.18	159.00	1.128	6	22.00	10.52	1.3458
AIR6419	240.0000	0.14	-2.17	8.18	159.00	1.128	6	4.35	2.19	1.3458
APXVAALL24-43	240.0000	0.48	-8.17	-2.21	159.00	1.128	6	22.00	10.52	1.3458
4480 B71+B85	0.0000	0.15	-2.00	-5.97	160.50	1.131	6	3.44	1.84	1.3471
4480 B71+B85	120.0000	0.15	6.17	1.25	160.50	1.131	6	3.44	1.84	1.3471
4480 B71+B85	240.0000	0.15	-4.17	4.72	160.50	1.131	6	3.44	1.84	1.3471
4460 B25+B66	0.0000	0.19	-2.00	-5.97	157.50	1.125	6	3.12	2.48	1.3445
4460 B25+B66	120.0000	0.19	6.17	1.25	157.50	1.125	6	3.12	2.48	1.3445
4460 B25+B66	240.0000	0.19	-4.17	4.72	157.50	1.125	6	3.12	2.48	1.3445
SitePro VFA12-HD	0.0000	1.15	0.00	-3.97	159.00	1.128	6	31.77	31.77	1.3458
SitePro VFA12-HD	120.0000	1.15	3.44	1.98	159.00	1.128	6	31.77	31.77	1.3458
SitePro VFA12-HD	240.0000	1.15	-3.44	1.98	159.00	1.128	6	31.77	31.77	1.3458
DS2C03F36D-D	240.0000	0.26	-6.90	3.98	187.00	1.182	6	14.10	14.10	1.3678
SitePro USF-4U	240.0000	0.29	-4.30	2.48	177.00	1.163	6	11.87	11.87	1.3603
	Sum Weight:	15.51								

Discrete Appurtenance Pressures - Service $G_H = 0.850$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
Torque Arm Face C	180.0000	0.00	0.00	2.61	168.50	1.147	28	2.36	3.94
Torque Arm Face B	60.0000	0.00	2.26	-1.30	168.50	1.147	28	2.36	3.94
Torque Arm Face A	300.0000	0.00	-2.26	-1.30	168.50	1.147	28	2.36	3.94
Torque Arm Face C	180.0000	0.00	0.00	2.61	128.50	1.062	25	2.40	4.02
Torque Arm Face B	60.0000	0.00	2.26	-1.30	128.50	1.062	25	2.40	4.02
Torque Arm Face A	300.0000	0.00	-2.26	-1.30	128.50	1.062	25	2.40	4.02
GPS	120.0000	0.01	4.74	2.73	89.50	0.957	23	1.00	1.00
3' GPS Stand-off Mount	120.0000	0.05	3.00	1.73	89.50	0.957	23	2.45	2.45
APXVSPP18-C-A20	0.0000	0.06	-4.00	-4.97	126.00	1.056	25	8.02	5.28
APXVSPP18-C-A20	120.0000	0.06	6.30	-0.98	126.00	1.056	25	8.02	5.28
APXVSPP18-C-A20	240.0000	0.06	-2.30	5.95	126.00	1.056	25	8.02	5.28
FD-RRH 2x50 800	0.0000	0.06	0.00	-4.97	126.00	1.056	25	2.06	1.93
FD-RRH 2x50 800	120.0000	0.06	4.30	2.48	126.00	1.056	25	2.06	1.93
FD-RRH 2x50 800	240.0000	0.06	-4.30	2.48	126.00	1.056	25	2.06	1.93
FD-RRH 4x45 1900	0.0000	0.06	0.00	-4.97	126.00	1.056	25	2.32	2.38
FD-RRH 4x45 1900	120.0000	0.06	4.30	2.48	126.00	1.056	25	2.32	2.38
FD-RRH 4x45 1900	240.0000	0.06	-4.30	2.48	126.00	1.056	25	2.32	2.38
Rohn 6' x 12' Boom Gate (1)	0.0000	0.56	0.00	-3.97	126.00	1.056	25	16.60	16.60
Rohn 6' x 12' Boom Gate (1)	120.0000	0.56	3.44	1.98	126.00	1.056	25	16.60	16.60
Rohn 6' x 12' Boom Gate (1)	240.0000	0.56	-3.44	1.98	126.00	1.056	25	16.60	16.60
1.5"x2'omni	0.0000	0.01	0.00	-4.97	145.50	1.100	26	0.25	0.25
1.5"x2'omni	0.0000	0.01	0.00	-4.97	141.50	1.091	26	0.25	0.25
2-ft Stand Off	0.0000	0.02	0.00	-2.97	143.50	1.096	26	1.07	1.07
3"x20-ft Omni	240.0000	0.02	-4.30	2.48	148.50	1.106	27	3.56	3.56
3-ft Side Arm	240.0000	0.01	-3.00	1.73	138.50	1.085	26	0.66	0.66
20-ft x 1.9in Support Pipe	240.0000	0.05	-3.00	1.73	148.50	1.106	27	3.80	3.80
20' x 2" Dia Omni	0.0000	0.02	0.00	-1.97	190.50	1.188	29	4.00	4.00
14' x 3" Dia Omni	120.0000	0.04	1.71	0.98	187.50	1.183	28	4.20	4.20
20' x 2" Dia Omni	240.0000	0.02	-1.71	0.98	190.50	1.188	29	4.00	4.00
SBNHH-1D65A	300.0000	0.04	-2.45	-3.72	78.00	0.921	22	5.88	3.86
SBNHH-1D65A	60.0000	0.04	4.45	-0.26	78.00	0.921	22	5.88	3.86
SBNHH-1D65A	180.0000	0.04	-2.00	3.98	78.00	0.921	22	5.88	3.86
DMP65R-BU4D	300.0000	0.07	-6.45	3.20	78.00	0.921	22	8.00	3.51
DMP65R-BU4D	60.0000	0.07	0.45	-7.19	78.00	0.921	22	8.00	3.51
DMP65R-BU4D	180.0000	0.07	6.00	3.98	78.00	0.921	22	8.00	3.51
8843 B2/B66A	300.0000	0.07	-3.45	-1.99	78.00	0.921	22	1.64	1.35
8843 B2/B66A	60.0000	0.07	3.45	-1.99	78.00	0.921	22	1.64	1.35
8843 B2/B66A	180.0000	0.07	0.00	3.98	78.00	0.921	22	1.64	1.35
4449 B5/B12	300.0000	0.07	-3.45	-1.99	78.00	0.921	22	1.97	1.41
4449 B5/B12	60.0000	0.07	3.45	-1.99	78.00	0.921	22	1.97	1.41
4449 B5/B12	180.0000	0.07	0.00	3.98	78.00	0.921	22	1.97	1.41
DC6-48-60-18-8F Surge Arrestor	240.0000	0.02	-2.57	1.48	78.00	0.921	22	1.91	1.91
12' V-Frame	0.0000	0.30	0.00	-3.97	78.00	0.921	22	9.22	12.97
12' V-Frame	120.0000	0.30	3.44	1.98	78.00	0.921	22	9.22	12.97
12' V-Frame	240.0000	0.30	-3.44	1.98	78.00	0.921	22	9.22	12.97
AIR6419	0.0000	0.07	-6.00	-5.97	159.00	1.128	27	3.66	1.66
APXVAALL24-43	0.0000	0.15	6.00	-5.97	159.00	1.128	27	20.24	8.89
AIR6419	120.0000	0.07	8.17	-2.21	159.00	1.128	27	3.66	1.66
APXVAALL24-43	120.0000	0.15	2.17	8.18	159.00	1.128	27	20.24	8.89
AIR6419	240.0000	0.07	-2.17	8.18	159.00	1.128	27	3.66	1.66
APXVAALL24-43	240.0000	0.15	-8.17	-2.21	159.00	1.128	27	20.24	8.89
4480 B71+B85	0.0000	0.08	-2.00	-5.97	160.50	1.131	27	2.85	1.38
4480 B71+B85	120.0000	0.08	6.17	1.25	160.50	1.131	27	2.85	1.38

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
4480 B71+B85	240.0000	0.08	-4.17	4.72	160.50	1.131	27	2.85	1.38
4460 B25+B66	0.0000	0.11	-2.00	-5.97	157.50	1.125	27	2.56	1.98
4460 B25+B66	120.0000	0.11	6.17	1.25	157.50	1.125	27	2.56	1.98
4460 B25+B66	240.0000	0.11	-4.17	4.72	157.50	1.125	27	2.56	1.98
SitePro VFA12-HD	0.0000	0.75	0.00	-3.97	159.00	1.128	27	21.00	21.00
SitePro VFA12-HD	120.0000	0.75	3.44	1.98	159.00	1.128	27	21.00	21.00
SitePro VFA12-HD	240.0000	0.75	-3.44	1.98	159.00	1.128	27	21.00	21.00
DS2C03F36D-D	240.0000	0.08	-6.90	3.98	187.00	1.182	28	7.30	7.30
SitePro USF-4U	240.0000	0.16	-4.30	2.48	177.00	1.163	28	5.75	5.75
	Sum Weight:	7.88							

Dish Pressures - No Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
176.50	8.5 Dishw/radome	0.0000	0.07	0.00	-1.97	1.162	56.75	46
		Sum Weight:	0.07					

Dish Pressures - With Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf	t_z in
176.50	8.5 Dishw/radome	0.0000	0.60	0.00	-1.97	1.162	58.67	6	1.1826
		Sum Weight:	0.60						

Dish Pressures - Service

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
176.50	8.5 Dishw/radome	0.0000	0.07	0.00	-1.97	1.162	56.75	28
		Sum Weight:	0.07					

Force Totals (Does not include forces on guys)

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Torques kip-ft
Leg Weight	3.14			
Bracing Weight	7.17			
Total Member Self-Weight	10.31			
Guy Weight	2.47			
Total Weight	22.78			

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Torques kip-ft
Wind 0 deg - No Ice		0.00	-29.81	-2.95
Wind 30 deg - No Ice		14.24	-24.87	-4.32
Wind 60 deg - No Ice		23.96	-14.26	-2.71
Wind 90 deg - No Ice		27.50	-0.03	0.02
Wind 120 deg - No Ice		24.32	17.40	5.53
Wind 150 deg - No Ice		13.30	26.61	5.49
Wind 180 deg - No Ice		0.00	29.94	2.95
Wind 210 deg - No Ice		-13.30	26.61	-0.38
Wind 240 deg - No Ice		-24.32	17.40	-2.58
Wind 270 deg - No Ice		-27.50	-0.03	-0.02
Wind 300 deg - No Ice		-23.96	-14.26	-0.24
Wind 330 deg - No Ice		-14.24	-24.87	-0.80
Member Ice	13.21			
Guy Ice	9.11			
Total Weight Ice	63.81			
Wind 0 deg - Ice		0.00	-7.30	-0.84
Wind 30 deg - Ice		3.57	-6.21	-0.73
Wind 60 deg - Ice		6.09	-3.58	-0.17
Wind 90 deg - Ice		7.00	-0.00	0.49
Wind 120 deg - Ice		6.11	4.00	1.42
Wind 150 deg - Ice		3.43	6.46	1.39
Wind 180 deg - Ice		0.00	7.35	0.84
Wind 210 deg - Ice		-3.43	6.46	0.06
Wind 240 deg - Ice		-6.11	4.00	-0.58
Wind 270 deg - Ice		-7.00	-0.00	-0.49
Wind 300 deg - Ice		-6.09	-3.58	-0.67
Wind 330 deg - Ice		-3.57	-6.21	-0.72
Total Weight	22.78			
Wind 0 deg - Service		0.00	-18.03	-1.79
Wind 30 deg - Service		8.61	-15.05	-2.61
Wind 60 deg - Service		14.49	-8.63	-1.64
Wind 90 deg - Service		16.64	-0.02	0.01
Wind 120 deg - Service		14.71	10.52	3.35
Wind 150 deg - Service		8.04	16.10	3.32
Wind 180 deg - Service		0.00	18.11	1.79
Wind 210 deg - Service		-8.04	16.10	-0.23
Wind 240 deg - Service		-14.71	10.52	-1.56
Wind 270 deg - Service		-16.64	-0.02	-0.01
Wind 300 deg - Service		-14.49	-8.63	-0.15
Wind 330 deg - Service		-8.61	-15.05	-0.48

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy
3	1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy
4	1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy
5	1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy
6	1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy
7	1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy
8	1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy
9	1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy

Comb. No.	Description
10	1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy
11	1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy
12	1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy
13	1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy
14	1.2 Dead+1.0 Ice+1.0 Temp+Guy
15	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
16	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
17	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
18	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
19	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
20	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
21	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
22	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
23	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
24	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
25	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
26	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
27	Dead+Wind 0 deg - Service+Guy
28	Dead+Wind 30 deg - Service+Guy
29	Dead+Wind 60 deg - Service+Guy
30	Dead+Wind 90 deg - Service+Guy
31	Dead+Wind 120 deg - Service+Guy
32	Dead+Wind 150 deg - Service+Guy
33	Dead+Wind 180 deg - Service+Guy
34	Dead+Wind 210 deg - Service+Guy
35	Dead+Wind 240 deg - Service+Guy
36	Dead+Wind 270 deg - Service+Guy
37	Dead+Wind 300 deg - Service+Guy
38	Dead+Wind 330 deg - Service+Guy

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	181.5 - 161.5	Leg	Max Tension	8	16.65	0.03	-0.08
			Max. Compression	10	-15.12	0.32	-0.09
			Max. Mx	11	-1.66	1.44	0.01
			Max. My	2	-6.34	0.08	1.31
			Max. Vy	5	-1.86	-1.36	0.03
			Max. Vx	2	1.57	0.08	1.31
		Diagonal	Max Tension	9	2.99	0.00	0.00
			Max. Compression	7	-3.12	0.00	0.00
			Max. Mx	8	2.16	-0.04	-0.00
			Max. My	3	-2.24	-0.01	0.02
			Max. Vy	8	-0.02	0.00	0.00
			Max. Vx	3	-0.01	-0.01	0.02
		Top Girt	Max Tension	2	0.07	0.00	0.00
			Max. Compression	8	-0.13	0.00	0.00
			Max. Mx	25	-0.05	-0.01	0.00
			Max. My	7	0.05	0.00	-0.00
			Max. Vy	25	-0.02	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Bottom Girt	Max Tension	11	0.76	0.00	0.00
			Max. Compression	5	-0.76	0.00	0.00
			Max. Mx	25	-0.14	-0.01	0.00
			Max. My	7	0.72	0.00	-0.00
			Max. Vy	25	-0.02	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Guy A	Bottom Tension	8	10.33		
			Top Tension	8	10.44		
			Top Cable Vert	8	7.21		
			Top Cable Norm	8	7.54		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-6.90		
			Bot Cable Norm	8	7.68		
			Bot Cable Tan	8	0.00		
		Guy B	Bottom Tension	12	9.01		
			Top Tension	12	9.12		
			Top Cable Vert	12	6.32		
			Top Cable Norm	12	6.57		
			Top Cable Tan	12	0.00		
			Bot Cable Vert	12	-6.00		
			Bot Cable Norm	12	6.71		
			Bot Cable Tan	12	0.00		
		Guy C	Bottom Tension	4	9.18		
			Top Tension	4	9.29		
			Top Cable Vert	4	6.43		
			Top Cable Norm	4	6.70		
			Top Cable Tan	4	0.00		
			Bot Cable Vert	4	-6.12		
			Bot Cable Norm	4	6.84		
			Bot Cable Tan	4	0.00		
		Torque Arm Top	Max Tension	3	11.33	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	16	9.48	0.04	0.00
			Max. My	7	6.51	0.00	-0.00
			Max. Vy	16	-0.04	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Torque Arm Bottom	Max Tension	6	1.74	0.00	0.00
			Max. Compression	8	-15.60	0.00	0.00
			Max. Mx	19	-9.41	0.05	0.00
			Max. My	7	-4.31	0.00	-0.00
			Max. Vy	19	-0.04	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
T2	161.5 - 141.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-17.58	-0.60	0.12
			Max. Mx	5	-16.42	1.41	0.47
			Max. My	2	-11.61	-0.22	-1.49
			Max. Vy	5	-1.86	-0.22	0.01
			Max. Vx	2	1.57	-0.18	0.35
		Diagonal	Max Tension	3	2.88	0.00	0.00
			Max. Compression	3	-3.43	0.00	0.00
			Max. Mx	19	0.37	0.01	0.00
			Max. My	20	0.21	0.00	-0.00
			Max. Vy	19	-0.01	0.00	0.00
			Max. Vx	20	-0.00	0.00	0.00
		Top Girt	Max Tension	11	1.97	0.00	0.00
			Max. Compression	5	-2.01	0.00	0.00
			Max. Mx	25	0.02	0.01	0.00
			Max. My	7	-0.65	0.00	0.00
			Max. Vy	25	-0.01	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
		Bottom Girt	Max Tension	3	1.47	0.00	0.00
			Max. Compression	8	-1.39	0.00	0.00
			Max. Mx	14	0.02	0.01	0.00
			Max. My	7	-1.22	0.00	0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
T3	141.5 - 121.5	Leg	Max Tension	8	9.86	0.02	-0.08

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	10	-27.86	0.42	-0.21
			Max. Mx	4	-11.15	-0.82	0.49
			Max. My	2	-13.47	-0.29	0.85
			Max. Vy	11	1.18	0.69	-0.02
			Max. Vx	2	1.23	0.16	0.78
		Diagonal	Max Tension	3	2.99	0.00	0.00
			Max. Compression	9	-2.95	0.00	-0.01
			Max. Mx	8	1.93	-0.07	-0.00
			Max. My	3	-1.63	-0.01	0.02
			Max. Vy	19	-0.04	0.06	0.00
			Max. Vx	3	-0.01	-0.01	0.02
		Top Girt	Max Tension	2	0.69	0.00	0.00
			Max. Compression	4	-0.34	0.00	0.00
			Max. Mx	14	0.23	-0.01	0.00
			Max. My	7	0.55	0.00	-0.00
			Max. Vy	14	0.02	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Bottom Girt	Max Tension	10	0.70	0.00	0.00
			Max. Compression	4	-0.19	0.00	0.00
			Max. Mx	14	0.37	-0.01	0.00
			Max. My	7	0.58	0.00	-0.00
			Max. Vy	14	0.02	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
		Guy A	Bottom Tension	8	9.44		
			Top Tension	8	9.53		
			Top Cable Vert	8	5.61		
			Top Cable Norm	8	7.71		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-5.36		
			Bot Cable Norm	8	7.78		
			Bot Cable Tan	8	0.00		
		Guy B	Bottom Tension	12	9.29		
			Top Tension	12	9.37		
			Top Cable Vert	12	5.52		
			Top Cable Norm	12	7.58		
			Top Cable Tan	12	0.00		
			Bot Cable Vert	12	-5.27		
			Bot Cable Norm	12	7.65		
			Bot Cable Tan	12	0.00		
		Guy C	Bottom Tension	4	9.28		
			Top Tension	4	9.37		
			Top Cable Vert	4	5.51		
			Top Cable Norm	4	7.57		
			Top Cable Tan	4	0.00		
			Bot Cable Vert	4	-5.26		
			Bot Cable Norm	4	7.64		
			Bot Cable Tan	4	0.00		
		Torque Arm Top	Max Tension	6	10.03	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	24	7.96	0.04	0.00
			Max. My	6	4.79	0.00	-0.00
			Max. Vy	24	0.04	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Torque Arm Bottom	Max Tension	10	2.82	0.00	0.00
			Max. Compression	8	-13.34	0.00	0.00
			Max. Mx	19	-7.87	0.04	0.00
			Max. My	7	-3.67	0.00	-0.00
			Max. Vy	19	-0.04	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
T4	121.5 - 101.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-31.14	-0.11	-0.22

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	11	-12.28	-0.75	-0.14
			Max. My	8	-15.81	-0.04	0.79
			Max. Vy	11	1.17	-0.03	-0.08
			Max. Vx	2	1.23	0.08	0.03
		Diagonal	Max Tension	5	3.19	0.00	0.00
			Max. Compression	11	-3.85	0.00	0.00
			Max. Mx	19	0.24	-0.03	0.00
			Max. My	6	-0.95	0.00	0.00
			Max. Vy	19	0.03	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Horizontal	Max Tension	8	1.03	0.00	0.00
			Max. Compression	2	-0.31	0.00	0.00
			Max. Mx	22	0.77	-0.02	0.00
			Max. My	7	0.28	0.00	0.00
			Max. Vy	22	0.03	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
		Top Girt	Max Tension	10	1.84	0.00	0.00
			Max. Compression	4	-1.58	0.00	0.00
			Max. Mx	18	0.03	-0.02	0.00
			Max. My	7	-1.14	0.00	-0.00
			Max. Vy	18	0.03	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
		Bottom Girt	Max Tension	4	0.73	0.00	0.00
			Max. Compression	10	-0.38	0.00	0.00
			Max. Mx	23	0.28	-0.02	0.00
			Max. My	7	-0.13	0.00	0.00
			Max. Vy	23	0.03	0.00	0.00
			Max. Vx	7	0.00	0.00	0.00
T5	101.5 - 81.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-31.29	0.17	0.27
			Max. Mx	11	-6.82	-0.41	-0.05
			Max. My	9	-19.78	-0.08	0.38
			Max. Vy	11	-0.79	0.07	-0.02
			Max. Vx	8	0.69	-0.06	-0.09
		Diagonal	Max Tension	13	1.25	0.00	0.00
			Max. Compression	3	-1.89	0.00	0.00
			Max. Mx	18	0.18	0.01	0.00
			Max. My	17	-0.54	0.00	-0.00
			Max. Vy	18	-0.01	0.00	0.00
			Max. Vx	17	0.00	0.00	0.00
		Horizontal	Max Tension	22	0.59	0.00	0.00
			Max. Compression	6	-0.02	0.00	0.00
			Max. Mx	17	0.40	-0.02	0.00
			Max. My	6	-0.02	0.00	-0.00
			Max. Vy	17	-0.03	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
		Top Girt	Max Tension	10	0.49	0.00	0.00
			Max. Compression	4	-0.23	0.00	0.00
			Max. Mx	17	0.13	0.01	0.00
			Max. Vy	17	-0.01	0.00	0.00
		Bottom Girt	Max Tension	5	0.66	0.00	0.00
			Max. Compression	11	-0.52	0.00	0.00
			Max. Mx	23	-0.05	0.01	0.00
			Max. My	10	0.47	0.00	0.00
			Max. Vy	23	-0.01	0.00	0.00
			Max. Vx	10	0.00	0.00	0.00
T6	81.5 - 61.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-38.48	0.10	0.11
			Max. Mx	5	-34.31	-0.90	0.00
			Max. My	2	-33.55	0.17	0.88
			Max. Vy	11	1.27	0.82	0.05

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	8	-1.23	-0.07	-0.81
		Diagonal	Max Tension	5	4.30	0.00	0.00
			Max. Compression	5	-4.28	0.00	0.00
			Max. Mx	18	0.98	-0.03	0.00
			Max. My	10	-0.12	0.00	-0.00
			Max. Vy	18	0.03	0.00	0.00
			Max. Vx	10	-0.00	0.00	0.00
		Top Girt	Max Tension	11	0.86	0.00	0.00
			Max. Compression	5	-0.66	0.00	0.00
			Max. Mx	14	0.17	-0.02	0.00
			Max. My	10	-0.43	0.00	-0.00
			Max. Vy	14	-0.03	0.00	0.00
			Max. Vx	10	0.00	0.00	0.00
		Bottom Girt	Max Tension	5	3.58	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	2.58	-0.02	0.00
			Max. My	10	2.34	0.00	-0.00
			Max. Vy	14	-0.03	0.00	0.00
			Max. Vx	10	0.00	0.00	0.00
		Guy A	Bottom Tension	8	12.67		
			Top Tension	8	12.74		
			Top Cable Vert	8	5.02		
			Top Cable Norm	8	11.71		
			Top Cable Tan	8	0.00		
			Bot Cable Vert	8	-4.80		
			Bot Cable Norm	8	11.73		
			Bot Cable Tan	8	0.00		
		Guy B	Bottom Tension	12	12.77		
			Top Tension	12	12.85		
			Top Cable Vert	12	4.93		
			Top Cable Norm	12	11.86		
			Top Cable Tan	12	0.00		
			Bot Cable Vert	12	-4.70		
			Bot Cable Norm	12	11.88		
			Bot Cable Tan	12	0.00		
		Guy C	Bottom Tension	4	12.62		
			Top Tension	4	12.69		
			Top Cable Vert	4	4.71		
			Top Cable Norm	4	11.79		
			Top Cable Tan	4	0.00		
			Bot Cable Vert	4	-4.48		
			Bot Cable Norm	4	11.80		
			Bot Cable Tan	4	0.00		
		Top Guy Pull-Off	Max Tension	5	2.68	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	1.94	0.02	0.00
			Max. My	10	1.76	0.00	0.00
			Max. Vy	14	-0.03	0.00	0.00
			Max. Vx	10	-0.00	0.00	0.00
T7	61.5 - 41.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-38.48	0.06	-0.11
			Max. Mx	11	-8.80	-0.74	-0.06
			Max. My	8	-8.73	0.12	0.70
			Max. Vy	11	1.26	0.04	-0.00
			Max. Vx	8	-1.23	0.03	-0.06
		Diagonal	Max Tension	13	2.82	0.00	0.00
			Max. Compression	7	-3.07	0.00	0.00
			Max. Mx	20	-1.07	-0.03	0.00
			Max. My	6	0.22	0.00	0.00
			Max. Vy	20	-0.03	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Top Girt	Max Tension	7	1.62	0.00	0.00
			Max. Compression	4	-1.35	0.00	0.00
			Max. Mx	14	0.11	0.01	0.00
			Max. My	10	1.52	0.00	0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	10	-0.00	0.00	0.00
		Bottom Girt	Max Tension	9	0.78	0.00	0.00
			Max. Compression	7	-0.67	0.00	0.00
			Max. Mx	14	0.08	0.01	0.00
			Max. My	10	-0.49	0.00	0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	10	0.00	0.00	0.00
T8	41.5 - 21.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	21	-39.28	0.10	0.11
			Max. Mx	11	-21.93	-0.36	-0.05
			Max. My	8	-22.94	0.06	0.37
			Max. Vy	11	0.52	0.07	-0.08
			Max. Vx	8	-0.58	0.06	0.02
		Diagonal	Max Tension	9	1.37	0.00	0.00
			Max. Compression	7	-1.53	0.00	0.00
			Max. Mx	22	-0.14	0.01	0.00
			Max. My	17	-0.03	0.00	-0.00
			Max. Vy	22	-0.01	0.00	0.00
			Max. Vx	17	0.00	0.00	0.00
		Top Girt	Max Tension	7	0.71	0.00	0.00
			Max. Compression	9	-0.59	0.00	0.00
			Max. Mx	14	0.09	0.01	0.00
			Max. My	10	0.51	0.00	0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	10	-0.00	0.00	0.00
		Bottom Girt	Max Tension	10	0.23	0.00	0.00
			Max. Compression	6	-0.11	0.00	0.00
			Max. Mx	14	0.06	0.01	0.00
			Max. Vy	14	-0.01	0.00	0.00
T9	21.5 - 6.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	25	-39.47	-0.09	-0.00
			Max. Mx	18	-38.95	-2.15	1.05
			Max. My	22	-39.02	0.15	-2.39
			Max. Vy	24	-4.22	2.01	1.29
			Max. Vx	21	4.82	0.14	-2.39
		Diagonal	Max Tension	5	0.96	0.00	0.00
			Max. Compression	10	-1.36	0.00	0.00
			Max. Mx	22	0.06	-0.03	0.00
			Max. My	6	0.39	0.00	0.00
			Max. Vy	22	0.03	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
		Top Girt	Max Tension	6	0.28	0.00	0.00
			Max. Compression	10	-0.13	0.00	0.00
			Max. Mx	14	0.12	-0.02	0.00
			Max. My	10	-0.13	0.00	-0.00
			Max. Vy	14	-0.03	0.00	0.00
			Max. Vx	10	0.00	0.00	0.00
		Bottom Girt	Max Tension	23	3.15	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	23	2.95	-0.02	0.00
			Max. My	10	2.38	0.00	-0.00
			Max. Vy	23	-0.03	0.00	0.00
			Max. Vx	10	0.00	0.00	0.00
T10	6.5 - 1.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	24	-42.08	-0.28	-0.07
			Max. Mx	23	-36.44	-3.00	0.09

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	10	-25.25	-0.65	-0.36
			Max. Vy	23	9.91	-2.95	0.17
			Max. Vx	10	1.19	-0.65	-0.36
		Horizontal	Max Tension	4	0.02	-0.47	-0.04
			Max. Compression	7	-0.01	0.01	0.02
			Max. Mx	10	0.01	-0.64	-0.05
			Max. My	10	0.01	-0.64	-0.05
			Max. Vy	10	0.53	-0.62	-0.04
			Max. Vx	10	0.06	-0.60	-0.05
		Top Girt	Max Tension	23	6.09	-1.99	-0.04
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	16	6.05	-2.15	-0.06
			Max. My	4	3.74	-1.59	-0.06
			Max. Vy	6	-0.32	-1.50	-0.05
			Max. Vx	4	-0.04	-1.59	-0.06
		Bottom Girt	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-2.34	-0.78	-0.01
			Max. Mx	10	-1.27	-1.05	-0.06
			Max. My	10	-1.46	-0.06	0.08
			Max. Vy	10	3.52	-1.04	0.02
			Max. Vx	10	0.38	-0.84	-0.05

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	23	116.08	0.33	-0.17
	Max. H_x	11	69.57	1.00	0.01
	Max. H_z	2	70.98	-0.00	1.09
	Max. M_x	1	0.00	0.00	0.00
	Max. M_z	1	0.00	0.00	0.00
	Max. Torsion	10	0.86	0.92	-0.58
	Min. Vert	1	54.97	0.00	0.00
	Min. H_x	5	69.29	-1.00	0.01
	Min. H_z	8	70.91	0.01	-1.00
	Min. M_x	1	0.00	0.00	0.00
	Min. M_z	1	0.00	0.00	0.00
	Min. Torsion	6	-0.69	-0.92	-0.58
Guy C @ 184 ft Elev 0 ft Azimuth 240 deg	Max. Vert	10	-0.72	-0.57	0.33
	Max. H_x	10	-0.72	-0.57	0.33
	Max. H_z	4	-22.37	-24.70	14.28
	Min. Vert	4	-22.37	-24.70	14.28
	Min. H_x	4	-22.37	-24.70	14.28
	Min. H_z	10	-0.72	-0.57	0.33
Guy B @ 184 ft Elev 0 ft Azimuth 120 deg	Max. Vert	6	-0.73	0.58	0.33
	Max. H_x	12	-22.38	24.71	14.27
	Max. H_z	12	-22.38	24.71	14.27
	Min. Vert	12	-22.38	24.71	14.27
	Min. H_x	6	-0.73	0.58	0.33
	Min. H_z	6	-0.73	0.58	0.33
Guy A @ 184 ft Elev 0 ft	Max. Vert	2	-0.72	-0.00	-0.65

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Azimuth 0 deg					
	Max. H_x	11	-11.69	0.85	-14.74
	Max. H_z	2	-0.72	-0.00	-0.65
	Min. Vert	8	-24.12	0.01	-30.47
	Min. H_x	5	-11.68	-0.85	-14.73
	Min. H_z	8	-24.12	0.01	-30.47
Guy C @ 161.2 ft Elev 0 ft Azimuth 240 deg	Max. Vert	10	-0.31	-0.86	0.50
	Max. H_x	10	-0.31	-0.86	0.50
	Max. H_z	4	-4.48	-10.22	5.90
	Min. Vert	4	-4.48	-10.22	5.90
	Min. H_x	4	-4.48	-10.22	5.90
	Min. H_z	10	-0.31	-0.86	0.50
Guy B @ 154.8 ft Elev 0 ft Azimuth 120 deg	Max. Vert	6	-0.30	0.79	0.46
	Max. H_x	12	-4.70	10.29	5.94
	Max. H_z	12	-4.70	10.29	5.94
	Min. Vert	12	-4.70	10.29	5.94
	Min. H_x	6	-0.30	0.79	0.46
	Min. H_z	6	-0.30	0.79	0.46
Guy A @ 150 ft Elev 0 ft Azimuth 0 deg	Max. Vert	2	-0.29	-0.00	-0.86
	Max. H_x	11	-2.60	0.15	-6.43
	Max. H_z	2	-0.29	-0.00	-0.86
	Min. Vert	8	-4.80	0.00	-11.73
	Min. H_x	5	-2.58	-0.15	-6.37
	Min. H_z	8	-4.80	0.00	-11.73

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	54.97	-0.00	-0.00	0.00	0.00	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy	70.98	0.00	-1.09	0.00	0.00	0.15
1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy	70.29	0.52	-0.86	0.00	0.00	0.50
1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy	69.47	0.86	-0.50	0.00	0.00	0.61
1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy	69.29	1.00	-0.01	0.00	0.00	0.59
1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy	71.12	0.92	0.58	0.00	0.00	0.69
1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy	70.80	0.46	0.90	0.00	0.00	0.43
1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy	70.91	-0.01	1.00	0.00	0.00	-0.15
1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy	70.94	-0.47	0.89	0.00	0.00	-0.70
1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy	71.38	-0.92	0.58	0.00	0.00	-0.86
1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy	69.57	-1.00	-0.01	0.00	0.00	-0.60

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy	69.70	-0.86	-0.49	0.00	0.00	-0.48
1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy	70.39	-0.51	-0.85	0.00	0.00	-0.24
1.2 Dead+1.0 Ice+1.0 Temp+Guy	114.62	-0.02	-0.02	0.00	0.00	-0.02
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.93	-0.02	-0.38	0.00	0.00	0.07
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.45	0.14	-0.32	0.00	0.00	0.19
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.04	0.27	-0.18	0.00	0.00	0.20
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.49	0.33	-0.00	0.00	0.00	0.15
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	116.01	0.29	0.17	0.00	0.00	0.13
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.60	0.17	0.28	0.00	0.00	0.06
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.21	-0.02	0.31	0.00	0.00	-0.11
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.64	-0.20	0.28	0.00	0.00	-0.25
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	116.08	-0.33	0.17	0.00	0.00	-0.26
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.58	-0.36	-0.00	0.00	0.00	-0.18
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.12	-0.30	-0.18	0.00	0.00	-0.14
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	115.50	-0.17	-0.32	0.00	0.00	-0.07
Dead+Wind 0 deg - Service+Guy	56.64	0.00	-0.75	0.00	0.00	0.11
Dead+Wind 30 deg - Service+Guy	57.71	0.33	-0.60	0.00	0.00	0.33
Dead+Wind 60 deg - Service+Guy	58.46	0.56	-0.32	0.00	0.00	0.39
Dead+Wind 90 deg - Service+Guy	57.64	0.67	0.02	0.00	0.00	0.36
Dead+Wind 120 deg - Service+Guy	56.84	0.64	0.39	0.00	0.00	0.36
Dead+Wind 150 deg - Service+Guy	58.16	0.34	0.59	0.00	0.00	0.22
Dead+Wind 180 deg - Service+Guy	59.07	-0.00	0.65	0.00	0.00	-0.11
Dead+Wind 210 deg - Service+Guy	58.22	-0.35	0.59	0.00	0.00	-0.42
Dead+Wind 240 deg - Service+Guy	56.98	-0.64	0.39	0.00	0.00	-0.49
Dead+Wind 270 deg - Service+Guy	57.81	-0.68	0.02	0.00	0.00	-0.37
Dead+Wind 300 deg - Service+Guy	58.61	-0.56	-0.32	0.00	0.00	-0.29
Dead+Wind 330 deg - Service+Guy	57.79	-0.32	-0.60	0.00	0.00	-0.15

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-22.78	0.00	0.00	22.78	-0.00	0.002%
2	-0.00	-27.12	-33.21	0.00	27.12	33.21	0.004%
3	15.93	-26.84	-27.81	-15.93	26.84	27.81	0.005%
4	26.90	-26.56	-15.96	-26.90	26.56	15.96	0.003%
5	30.88	-26.84	-0.02	-30.88	26.84	0.02	0.003%
6	27.26	-27.12	19.10	-27.26	27.12	-19.10	0.004%
7	15.00	-26.84	29.55	-14.99	26.84	-29.55	0.004%
8	0.00	-26.56	33.35	-0.00	26.56	-33.35	0.001%
9	-14.99	-26.84	29.55	14.99	26.84	-29.54	0.005%
10	-27.26	-27.12	19.10	27.26	27.12	-19.10	0.004%
11	-30.88	-26.84	-0.03	30.88	26.84	0.03	0.003%
12	-26.90	-26.56	-15.97	26.90	26.56	15.97	0.003%
13	-15.93	-26.84	-27.82	15.93	26.84	27.81	0.004%
14	0.00	-67.87	0.00	-0.00	67.87	0.00	0.001%
15	-0.00	-68.06	-9.76	0.00	68.06	9.76	0.004%
16	4.79	-67.87	-8.33	-4.79	67.87	8.33	0.003%
17	8.21	-67.67	-4.80	-8.21	67.67	4.80	0.002%
18	9.44	-67.87	-0.00	-9.44	67.87	0.00	0.003%
19	8.24	-68.06	5.24	-8.24	68.06	-5.24	0.004%
20	4.66	-67.87	8.58	-4.66	67.87	-8.58	0.003%
21	0.00	-67.67	9.81	-0.00	67.67	-9.81	0.002%
22	-4.66	-67.87	8.58	4.66	67.87	-8.58	0.003%
23	-8.24	-68.06	5.23	8.23	68.06	-5.23	0.004%
24	-9.44	-67.87	-0.01	9.44	67.87	0.01	0.003%
25	-8.21	-67.67	-4.81	8.21	67.67	4.81	0.002%
26	-4.79	-67.87	-8.34	4.79	67.87	8.33	0.003%
27	-0.00	-22.95	-20.09	0.00	22.95	20.09	0.001%
28	9.63	-22.78	-16.82	-9.63	22.78	16.82	0.002%
29	16.27	-22.61	-9.66	-16.27	22.61	9.66	0.004%
30	18.68	-22.78	-0.01	-18.68	22.78	0.01	0.002%
31	16.49	-22.95	11.56	-16.49	22.95	-11.56	0.002%
32	9.07	-22.78	17.88	-9.07	22.78	-17.88	0.002%
33	0.00	-22.61	20.17	-0.00	22.61	-20.17	0.003%
34	-9.07	-22.78	17.87	9.07	22.78	-17.87	0.002%
35	-16.49	-22.95	11.55	16.49	22.95	-11.55	0.002%
36	-18.68	-22.78	-0.02	18.68	22.78	0.02	0.002%
37	-16.27	-22.61	-9.66	16.27	22.61	9.66	0.004%
38	-9.64	-22.78	-16.83	9.64	22.78	16.83	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	8	0.00000001	0.00004863
2	Yes	16	0.00000001	0.00006883
3	Yes	15	0.00000001	0.00006620
4	Yes	12	0.00000001	0.00004999
5	Yes	15	0.00000001	0.00004874
6	Yes	16	0.00000001	0.00006765
7	Yes	15	0.00000001	0.00006195
8	Yes	11	0.00000001	0.00004333
9	Yes	15	0.00000001	0.00006504
10	Yes	16	0.00000001	0.00006834
11	Yes	15	0.00000001	0.00004788
12	Yes	12	0.00000001	0.00004546
13	Yes	15	0.00000001	0.00006562

14	Yes	8	0.00000001	0.00006212
15	Yes	11	0.00000001	0.00007630
16	Yes	11	0.00000001	0.00005549
17	Yes	11	0.00000001	0.00004194
18	Yes	11	0.00000001	0.00006521
19	Yes	11	0.00000001	0.00008626
20	Yes	11	0.00000001	0.00006545
21	Yes	11	0.00000001	0.00004006
22	Yes	11	0.00000001	0.00005876
23	Yes	11	0.00000001	0.00007997
24	Yes	11	0.00000001	0.00006078
25	Yes	11	0.00000001	0.00003921
26	Yes	11	0.00000001	0.00005620
27	Yes	12	0.00000001	0.00004292
28	Yes	12	0.00000001	0.00003286
29	Yes	10	0.00000001	0.00006622
30	Yes	12	0.00000001	0.00003373
31	Yes	12	0.00000001	0.00004477
32	Yes	12	0.00000001	0.00003253
33	Yes	10	0.00000001	0.00004320
34	Yes	12	0.00000001	0.00003166
35	Yes	12	0.00000001	0.00004421
36	Yes	12	0.00000001	0.00003351
37	Yes	10	0.00000001	0.00006148
38	Yes	12	0.00000001	0.00003288

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	181.5 - 161.5	4.014	33	0.1678	0.2805
T2	161.5 - 141.5	3.436	33	0.1313	0.2455
T3	141.5 - 121.5	2.909	33	0.1139	0.1326
T4	121.5 - 101.5	2.626	29	0.0581	0.1085
T5	101.5 - 81.5	2.534	29	0.0719	0.1070
T6	81.5 - 61.5	2.109	35	0.1555	0.1365
T7	61.5 - 41.5	1.474	35	0.1403	0.1361
T8	41.5 - 21.5	1.057	35	0.0988	0.1289
T9	21.5 - 6.5	0.617	35	0.1293	0.0769
T10	6.5 - 1.5	0.166	35	0.1532	0.0643

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
180.50	20' x 2" Dia Omni	33	3.985	0.1652	0.2801	94726
177.00	DS2C03F36D-D	33	3.884	0.1565	0.2783	94726
176.50	8.5 Dishw/radome	33	3.869	0.1553	0.2780	94726
169.15	Guy	33	3.657	0.1447	0.2691	38362
159.00	AIR6419	33	3.365	0.1260	0.2333	29240
148.50	3"x20-ft Omni	33	3.076	0.1208	0.1695	24867
144.50	1.5"x2'omni	33	2.977	0.1191	0.1467	20451
143.50	2-ft Stand Off	33	2.954	0.1178	0.1416	19691
142.50	1.5"x2'omni	33	2.931	0.1161	0.1369	19095

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
138.50	3-ft Side Arm	33	2.846	0.1045	0.1222	18313
129.15	Guy	33	2.689	0.0718	0.1082	18513
126.00	APXVSPP18-C-A20	33	2.649	0.0671	0.1077	18598
89.50	GPS	35	2.309	0.1267	0.1160	10316
78.00	SBNHH-1D65A	35	2.002	0.1611	0.1403	20624
62.11	Guy	35	1.491	0.1420	0.1361	10959

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	181.5 - 161.5	7.617	10	0.3143	0.5612
T2	161.5 - 141.5	6.760	10	0.2436	0.4998
T3	141.5 - 121.5	6.048	2	0.2193	0.2771
T4	121.5 - 101.5	5.643	6	0.0845	0.2286
T5	101.5 - 81.5	5.376	6	0.1487	0.2346
T6	81.5 - 61.5	4.432	6	0.2968	0.2505
T7	61.5 - 41.5	3.087	10	0.2834	0.2469
T8	41.5 - 21.5	2.155	10	0.2172	0.2327
T9	21.5 - 6.5	1.220	10	0.2625	0.1366
T10	6.5 - 1.5	0.323	10	0.3006	0.1138

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
180.50	20' x 2" Dia Omni	10	7.574	0.3099	0.5609	58362
177.00	DS2C03F36D-D	10	7.422	0.2950	0.5590	58362
176.50	8.5 Dishw/radome	10	7.400	0.2929	0.5586	58362
169.15	Guy	10	7.084	0.2647	0.5441	23635
159.00	AIR6419	10	6.657	0.2393	0.4761	17551
148.50	3"x20-ft Omni	2	6.269	0.2307	0.3503	16470
144.50	1.5"x2'omni	2	6.138	0.2279	0.3050	12785
143.50	2-ft Stand Off	2	6.107	0.2258	0.2950	12175
142.50	1.5"x2'omni	2	6.077	0.2229	0.2857	11696
138.50	3-ft Side Arm	2	5.964	0.2036	0.2564	10945
129.15	Guy	2	5.755	0.1314	0.2286	11049
126.00	APXVSPP18-C-A20	2	5.700	0.1081	0.2274	11097
89.50	GPS	6	4.899	0.2509	0.2346	6513
78.00	SBNHH-1D65A	6	4.199	0.3079	0.2550	14225
62.11	Guy	10	3.123	0.2855	0.2470	6394

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	181.5	Leg	A325N	0.7500	4	0.00	30.10	0.000 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	2.99	6.20	0.482 ✔	1	Member Bearing
		Top Girt	A325N	0.5000	1	0.13	8.84	0.015 ✔	1	Bolt Shear
T2	161.5	Leg	A325N	0.7500	4	1.24	30.10	0.041 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	2.88	4.17	0.690 ✔	1	Member Bearing
		Top Girt	A325N	0.5000	1	1.97	3.83	0.514 ✔	1	Member Bearing
T3	141.5	Leg	A325N	0.7500	4	1.33	30.10	0.044 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	2.99	6.20	0.483 ✔	1	Member Bearing
		Top Girt	A325N	0.5000	1	0.69	6.20	0.111 ✔	1	Member Bearing
T4	121.5	Leg	A325N	0.7500	4	2.27	30.10	0.075 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	3.85	13.81	0.279 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	1.03	13.81	0.075 ✔	1	Bolt Shear
		Top Girt	A325N	0.6250	1	1.84	13.81	0.133 ✔	1	Bolt Shear
T5	101.5	Leg	A325N	0.7500	4	2.60	30.10	0.086 ✔	1	Bolt Tension
		Diagonal	A325X	0.5000	1	1.25	4.17	0.301 ✔	1	Member Bearing
		Horizontal	A325N	0.6250	1	0.59	13.81	0.042 ✔	1	Bolt Shear
		Top Girt	A325N	0.5000	1	0.54	3.83	0.141 ✔	1	Member Bearing
T6	81.5	Leg	A325N	0.7500	4	2.58	30.10	0.086 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	4.30	13.81	0.311 ✔	1	Bolt Shear
		Top Girt	A325N	0.6250	1	0.86	13.81	0.062 ✔	1	Bolt Shear
		Top Guy Pull-Off@62.1146	A325N	0.6250	4	0.67	13.81	0.049 ✔	1	Bolt Shear
T7	61.5	Leg	A325N	0.7500	4	3.21	30.10	0.107 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	3.07	13.81	0.222 ✔	1	Bolt Shear
		Top Girt	A325N	0.5000	1	1.62	3.83	0.423 ✔	1	Member Bearing
T8	41.5	Leg	A325N	0.7500	4	3.11	30.10	0.103 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	1.37	4.17	0.328 ✔	1	Member Bearing
		Top Girt	A325N	0.5000	1	0.71	3.83	0.185 ✔	1	Member Bearing
T9	21.5	Leg	A325N	0.7500	4	3.27	30.10	0.109 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	1.36	13.81	0.098 ✔	1	Bolt Shear
		Top Girt	A325N	0.6250	1	0.68	13.81	0.050 ✔	1	Bolt Shear
T10	6.5	Leg	A325N	0.7500	4	3.18	30.10	0.105 ✔	1	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T1	169.15 (A) (406)	9/16 EHS	3.50	35.00	10.00	21.00	1.000	2.099 ✔
	169.15 (A) (407)	9/16 EHS	3.50	35.00	10.44	21.00	1.000	2.012 ✔
	169.15 (B) (400)	9/16 EHS	3.50	35.00	8.99	21.00	1.000	2.335 ✔
	169.15 (B) (401)	9/16 EHS	3.50	35.00	9.12	21.00	1.000	2.303 ✔
	169.15 (C) (394)	9/16 EHS	3.50	35.00	9.29	21.00	1.000	2.261 ✔
	169.15 (C) (395)	9/16 EHS	3.50	35.00	8.75	21.00	1.000	2.400 ✔
T3	129.15 (A) (424)	9/16 EHS	3.50	35.00	9.37	21.00	1.000	2.241 ✔
	129.15 (A) (425)	9/16 EHS	3.50	35.00	9.53	21.00	1.000	2.204 ✔
	129.15 (B) (418)	9/16 EHS	3.50	35.00	9.37	21.00	1.000	2.241 ✔
	129.15 (B) (419)	9/16 EHS	3.50	35.00	9.26	21.00	1.000	2.269 ✔
	129.15 (C) (412)	9/16 EHS	3.50	35.00	9.37	21.00	1.000	2.242 ✔
	129.15 (C) (413)	9/16 EHS	3.50	35.00	9.33	21.00	1.000	2.252 ✔
T6	62.11 (A) (435)	3/4 EHS	5.83	58.30	12.74	34.98	1.000	2.745 ✔
	62.11 (B) (434)	3/4 EHS	5.83	58.30	12.85	34.98	1.000	2.723 ✔
	62.11 (C) (430)	3/4 EHS	5.83	58.30	12.69	34.98	1.000	2.756 ✔

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5	P2.5x.203	20.00	2.35	29.7 K=1.00	1.7040	-15.12	71.89	0.210 [1] ✔
T2	161.5 - 141.5	P2.5x.203	20.00	2.35	59.4 K=2.00	1.7040	-17.58	59.23	0.297 [1] ✔
T3	141.5 - 121.5	P2.5x.203	20.00	2.35	29.7 K=1.00	1.7040	-27.86	71.89	0.388 [1] ✔
T4	121.5 - 101.5	P2.5x.203	20.00	2.35	29.7 K=1.00	1.7040	-30.47	71.89	0.424 [1] ✔
T5	101.5 - 81.5	P2.5x.203	20.00	2.35	29.7 K=1.00	1.7040	-31.29	71.89	0.435 [1] ✔
T6	81.5 - 61.5	P2.5x.203	20.00	2.35	59.4 K=2.00	1.7040	-34.91	59.23	0.589 [1] ✔
T7	61.5 - 41.5	P2.5x.203	20.00	2.35	59.4 K=2.00	1.7040	-38.08	59.23	0.643 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T8	41.5 - 21.5	P2.5x.203	20.00	2.35	59.4 K=2.00	1.7040	-39.17	59.23	0.661 [1] ✔
T9	21.5 - 6.5	P2.5x.203	15.00	2.30	58.1 K=2.00	1.7040	-39.47	59.89	0.659 [1] ✔
T10	6.5 - 1.5	P2.5x.203	5.37	2.15	27.2 K=1.00	1.7040	-42.08	72.64	0.579 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5	L1 3/4x1 3/4x3/16	4.14	1.82	77.7 K=1.22	0.6211	-3.12	18.12	0.172 [1] ✔
T2	161.5 - 141.5	ROHN TS1.5x16 ga	4.14	3.85	90.5 K=1.00	0.2627	-3.43	5.44	0.631 [1] ✔
T3	141.5 - 121.5	L2x2x3/16	4.14	1.82	71.6 K=1.29	0.7150	-2.95	21.59	0.137 [1] ✔
T4	121.5 - 101.5	L2 1/2x2 1/2x1/2	4.14	3.61	104.5 K=1.17	2.2500	-3.85	53.21	0.072 [1] ✔
T5	101.5 - 81.5	ROHN TS1.5x16 ga	4.14	3.85	90.5 K=1.00	0.2627	-1.89	5.44	0.347 [1] ✔
T6	81.5 - 61.5	L2 1/2x2 1/2x1/2	4.14	3.61	104.5 K=1.17	2.2500	-4.28	53.21	0.080 [1] ✔
T7	61.5 - 41.5	L2 1/2x2 1/2x1/2	4.14	3.61	104.5 K=1.17	2.2500	-3.07	53.21	0.058 [1] ✔
T8	41.5 - 21.5	ROHN TS1.5x16 ga	4.14	3.85	90.5 K=1.00	0.2627	-1.53	5.44	0.281 [1] ✔
T9	21.5 - 6.5	L2 1/2x2 1/2x1/2	4.11	3.58	104.1 K=1.18	2.2500	-1.36	53.38	0.025 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	121.5 - 101.5	L2 1/2x2 1/2x1/2	3.41	2.93	96.1 K=1.33	2.2500	-0.54	67.12	0.008 [1] ✔
T5	101.5 - 81.5	L2 1/2x2 1/2x1/2	3.41	2.93	96.1 K=1.33	2.2500	-0.54	67.12	0.008 [1] ✔
T10	6.5 - 1.5	C12x20.7	1.70	1.47	22.0 K=1.00	6.0900	-0.77	192.35	0.004 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5	L1 3/4x1 3/4x3/16	3.41	2.96	111.7 K=1.08	0.6211	-0.13	13.58	0.010 [1] ✔
T2	161.5 - 141.5	ROHN TS1.5x16 ga	3.41	3.17	74.6 K=1.00	0.2627	-2.01	6.35	0.317 [1] ✔
T3	141.5 - 121.5	L2x2x3/16	3.41	2.96	105.1 K=1.17	0.7150	-0.48	16.80	0.029 [1] ✔
T4	121.5 - 101.5	L2 1/2x2 1/2x1/2	3.41	2.93	96.1 K=1.33	2.2500	-1.58	57.47	0.028 [1] ✔
T5	101.5 - 81.5	ROHN TS1.5x16 ga	3.41	3.17	74.6 K=1.00	0.2627	-0.54	6.35	0.085 [1] ✔
T6	81.5 - 61.5	L2 1/2x2 1/2x1/2	3.41	2.93	96.1 K=1.33	2.2500	-0.67	57.47	0.012 [1] ✔
T7	61.5 - 41.5	ROHN TS1.5x16 ga	3.41	3.17	74.6 K=1.00	0.2627	-1.35	6.35	0.213 [1] ✔
T8	41.5 - 21.5	ROHN TS1.5x16 ga	3.41	3.17	74.6 K=1.00	0.2627	-0.68	6.35	0.107 [1] ✔
T9	21.5 - 6.5	L2 1/2x2 1/2x1/2	3.41	2.93	96.1 K=1.33	2.2500	-0.68	57.47	0.012 [1] ✔
T10	6.5 - 1.5	C12x20.7	3.07	2.83	42.5 K=1.00	6.0900	-0.77	179.42	0.004 [1] ✔

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5	L1 3/4x1 3/4x3/16	3.41	3.17	115.4 K=1.04	0.6211	-0.76	13.00	0.058 [1] ✔
T2	161.5 - 141.5	ROHN TS1.5x16 ga	3.41	3.17	74.6 K=1.00	0.2627	-1.39	6.23	0.223 [1] ✔
T3	141.5 - 121.5	L2x2x3/16	3.41	3.17	108.3 K=1.12	0.7150	-0.48	16.25	0.030 [1] ✔
T4	121.5 - 101.5	L2 1/2x2 1/2x1/2	3.41	3.17	99.1 K=1.27	2.2500	-0.54	56.01	0.010 [1] ✔
T5	101.5 - 81.5	ROHN TS1.5x16 ga	3.41	3.17	74.6 K=1.00	0.2627	-0.54	6.23	0.087 [1] ✔
T6	81.5 - 61.5	L2 1/2x2 1/2x1/2	3.41	3.17	99.1	2.2500	-0.67	56.01	0.012 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T7	61.5 - 41.5	ROHN TS1.5x16 ga	3.41	3.17	K=1.27 74.6 K=1.00	0.2627	-0.67	6.23	✔ 0.108 [1] ✔
T8	41.5 - 21.5	ROHN TS1.5x16 ga	3.41	3.17	74.6 K=1.00	0.2627	-0.68	6.23	0.109 [1] ✔
T9	21.5 - 6.5	L2 1/2x2 1/2x1/2	3.41	3.17	99.1 K=1.27	2.2500	-0.68	56.01	0.012 [1] ✔
T10	6.5 - 1.5	C12x20.7	0.34	0.10	1.5 K=1.00	6.0900	-2.34	197.29	0.012 [1] ✔

[1] P_u / ϕP_n controls

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5 (398)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.76	94.40	0.146 [1] ✔
T1	181.5 - 161.5 (399)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-15.54	94.40	0.165 [1] ✔
T1	181.5 - 161.5 (404)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.75	94.40	0.146 [1] ✔
T1	181.5 - 161.5 (405)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.74	94.40	0.146 [1] ✔
T1	181.5 - 161.5 (410)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.70	94.40	0.145 [1] ✔
T1	181.5 - 161.5 (411)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-15.60	94.40	0.165 [1] ✔
T3	141.5 - 121.5 (416)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.01	94.40	0.138 [1] ✔
T3	141.5 - 121.5 (417)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.21	94.40	0.140 [1] ✔
T3	141.5 - 121.5 (422)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.18	94.40	0.140 [1] ✔
T3	141.5 - 121.5 (423)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.30	94.40	0.141 [1] ✔
T3	141.5 - 121.5 (428)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.02	94.40	0.138 [1] ✔
T3	141.5 - 121.5 (429)	P4x.237	4.36	4.21	33.5 K=1.00	3.1741	-13.34	94.40	0.141 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	181.5 - 161.5	P2.5x.203	20.00	2.35	29.7	1.7040	16.65	76.68	0.217 [1] ✔
T3	141.5 - 121.5	P2.5x.203	20.00	2.35	29.7	1.7040	9.86	76.68	0.129 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	181.5 - 161.5	L1 3/4x1 3/4x3/16	4.14	1.82	43.0	0.3779	2.99	16.44	0.182 [1] ✔
T2	161.5 - 141.5	ROHN TS1.5x16 ga	4.14	3.85	90.5	0.2627	2.88	8.28	0.347 [1] ✔
T3	141.5 - 121.5	L2x2x3/16	4.14	1.82	37.4	0.4484	2.99	19.50	0.154 [1] ✔
T4	121.5 - 101.5	L2 1/2x2 1/2x1/2	4.14	3.61	62.5	1.4063	3.19	61.17	0.052 [1] ✔
T5	101.5 - 81.5	ROHN TS1.5x16 ga	4.14	3.85	90.5	0.2627	1.25	8.28	0.151 [1] ✔
T6	81.5 - 61.5	L2 1/2x2 1/2x1/2	4.14	3.61	62.5	1.4063	4.30	61.17	0.070 [1] ✔
T7	61.5 - 41.5	L2 1/2x2 1/2x1/2	4.14	3.61	62.5	1.4063	2.82	61.17	0.046 [1] ✔
T8	41.5 - 21.5	ROHN TS1.5x16 ga	4.14	3.85	90.5	0.2627	1.37	8.28	0.165 [1] ✔
T9	21.5 - 6.5	L2 1/2x2 1/2x1/2	4.11	3.58	62.1	1.4063	0.96	61.17	0.016 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T4	121.5 - 101.5	L2 1/2x2 1/2x1/2	3.41	2.93	51.5	1.4063	1.03	68.55	0.015 [1] ✔
T5	101.5 - 81.5	L2 1/2x2 1/2x1/2	3.41	2.93	51.5	1.4063	0.59	68.55	0.009 [1] ✔
T10	6.5 - 1.5	C12x20.7	1.70	1.47	22.0	6.0900	0.77	197.32	0.004 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
									✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5	L1 3/4x1 3/4x3/16	3.41	2.96	70.9	0.3779	0.07	16.44	0.004 [1] ✔
T2	161.5 - 141.5	ROHN TS1.5x16 ga	3.41	3.17	74.6	0.2627	1.97	8.51	0.232 [1] ✔
T3	141.5 - 121.5	L2x2x3/16	3.41	2.96	61.7	0.4484	0.69	19.50	0.035 [1] ✔
T4	121.5 - 101.5	L2 1/2x2 1/2x1/2	3.41	2.93	51.5	1.4063	1.84	61.17	0.030 [1] ✔
T5	101.5 - 81.5	ROHN TS1.5x16 ga	3.41	3.17	74.6	0.2627	0.54	8.51	0.064 [1] ✔
T6	81.5 - 61.5	L2 1/2x2 1/2x1/2	3.41	2.93	51.5	1.4063	0.86	61.17	0.014 [1] ✔
T7	61.5 - 41.5	ROHN TS1.5x16 ga	3.41	3.17	74.6	0.2627	1.62	8.51	0.190 [1] ✔
T8	41.5 - 21.5	ROHN TS1.5x16 ga	3.41	3.17	74.6	0.2627	0.71	8.51	0.083 [1] ✔
T9	21.5 - 6.5	L2 1/2x2 1/2x1/2	3.41	2.93	51.5	1.4063	0.68	61.17	0.011 [1] ✔
T10	6.5 - 1.5	C12x20.7	3.07	2.83	42.5	6.0900	6.09	197.32	0.031 [1] ✔

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5	L1 3/4x1 3/4x3/16	3.41	3.17	70.9	0.6211	0.76	20.12	0.038 [1] ✔
T2	161.5 - 141.5	ROHN TS1.5x16 ga	3.41	3.17	74.6	0.2627	1.47	8.28	0.178 [1] ✔
T3	141.5 - 121.5	L2x2x3/16	3.41	3.17	61.7	0.7150	0.70	23.17	0.030 [1] ✔
T4	121.5 - 101.5	L2 1/2x2 1/2x1/2	3.41	3.17	51.5	2.2500	0.73	72.90	0.010 [1] ✔
T5	101.5 - 81.5	ROHN TS1.5x16 ga	3.41	3.17	74.6	0.2627	0.66	8.28	0.080 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T6	81.5 - 61.5	L2 1/2x2 1/2x1/2	3.41	3.17	51.5	2.2500	3.58	72.90	0.049 [1]
T7	61.5 - 41.5	ROHN TS1.5x16 ga	3.41	3.17	74.6	0.2627	0.78	8.28	0.094 [1]
T8	41.5 - 21.5	ROHN TS1.5x16 ga	3.41	3.17	74.6	0.2627	0.68	8.28	0.082 [1]
T9	21.5 - 6.5	L2 1/2x2 1/2x1/2	3.41	3.17	51.5	2.2500	3.15	72.90	0.043 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T6	81.5 - 61.5	4 1/2x3/8	3.41	3.17	351.4	1.6875	2.68	54.67	0.049 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T6	81.5 - 61.5	4 1/2x3/8	0.00	5.13	0.000	0.00	0.43	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T6	81.5 - 61.5	4 1/2x3/8	0.049	0.000	0.000	0.049 [1]	1.000	4.8.1

[1] P_u / ϕP_n controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5 (396)	P4x.237	3.67	3.55	28.2	3.1741	11.02	99.98	0.110 [1] ✔
T1	181.5 - 161.5 (397)	P4x.237	3.67	3.55	28.2	3.1741	10.40	99.98	0.104 [1] ✔
T1	181.5 - 161.5 (402)	P4x.237	3.67	3.55	28.2	3.1741	10.69	99.98	0.107 [1] ✔
T1	181.5 - 161.5 (403)	P4x.237	3.67	3.55	28.2	3.1741	11.33	99.98	0.113 [1] ✔
T1	181.5 - 161.5 (408)	P4x.237	3.67	3.55	28.2	3.1741	10.60	99.98	0.106 [1] ✔
T1	181.5 - 161.5 (409)	P4x.237	3.67	3.55	28.2	3.1741	11.02	99.98	0.110 [1] ✔
T3	141.5 - 121.5 (414)	P4x.237	3.67	3.55	28.2	3.1741	10.03	99.98	0.100 [1] ✔
T3	141.5 - 121.5 (415)	P4x.237	3.67	3.55	28.2	3.1741	9.33	99.98	0.093 [1] ✔
T3	141.5 - 121.5 (420)	P4x.237	3.67	3.55	28.2	3.1741	9.45	99.98	0.095 [1] ✔
T3	141.5 - 121.5 (421)	P4x.237	3.67	3.55	28.2	3.1741	9.89	99.98	0.099 [1] ✔
T3	141.5 - 121.5 (426)	P4x.237	3.67	3.55	28.2	3.1741	9.81	99.98	0.098 [1] ✔
T3	141.5 - 121.5 (427)	P4x.237	3.67	3.55	28.2	3.1741	9.48	99.98	0.095 [1] ✔

[1] P_u / ϕP_n controls

Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	181.5 - 161.5 (398)	P4x.237	4.36	4.21	33.5	3.1741	1.63	99.98	0.016 [1] ✔
T1	181.5 - 161.5 (399)	P4x.237	4.36	4.21	33.5	3.1741	1.25	99.98	0.012 [1] ✔
T1	181.5 - 161.5 (404)	P4x.237	4.36	4.21	33.5	3.1741	0.96	99.98	0.010 [1] ✔
T1	181.5 - 161.5 (405)	P4x.237	4.36	4.21	33.5	3.1741	1.03	99.98	0.010 [1] ✔
T1	181.5 - 161.5 (410)	P4x.237	4.36	4.21	33.5	3.1741	1.74	99.98	0.017 [1] ✔
T1	181.5 - 161.5 (411)	P4x.237	4.36	4.21	33.5	3.1741	1.44	99.98	0.014 [1] ✔
T3	141.5 - 121.5 (416)	P4x.237	4.36	4.21	33.5	3.1741	2.59	99.98	0.026 [1] ✔
T3	141.5 - 121.5 (417)	P4x.237	4.36	4.21	33.5	3.1741	2.64	99.98	0.026 [1] ✔
T3	141.5 - 121.5 (422)	P4x.237	4.36	4.21	33.5	3.1741	2.75	99.98	0.028 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T3	141.5 - 121.5 (423)	P4x.237	4.36	4.21	33.5	3.1741	2.82	99.98	0.028 [1]
T3	141.5 - 121.5 (428)	P4x.237	4.36	4.21	33.5	3.1741	2.68	99.98	0.027 [1]
T3	141.5 - 121.5 (429)	P4x.237	4.36	4.21	33.5	3.1741	2.79	99.98	0.028 [1]

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	181.5 - 161.5	Leg	P2.5x.203	3	16.65	76.68	21.7	Pass
T2	161.5 - 141.5	Leg	P2.5x.203	58	-17.58	59.23	29.7	Pass
T3	141.5 - 121.5	Leg	P2.5x.203	91	-27.86	71.89	38.8	Pass
T4	121.5 - 101.5	Leg	P2.5x.203	148	-30.47	71.89	42.4	Pass
T5	101.5 - 81.5	Leg	P2.5x.203	202	-31.29	71.89	43.5	Pass
T6	81.5 - 61.5	Leg	P2.5x.203	257	-34.91	59.23	58.9	Pass
T7	61.5 - 41.5	Leg	P2.5x.203	291	-38.08	59.23	64.3	Pass
T8	41.5 - 21.5	Leg	P2.5x.203	323	-39.17	59.23	66.1	Pass
T9	21.5 - 6.5	Leg	P2.5x.203	356	-39.47	59.89	65.9	Pass
T10	6.5 - 1.5	Leg	P2.5x.203	383	-42.08	72.64	57.9	Pass
T1	181.5 - 161.5	Diagonal	L1 3/4x1 3/4x3/16	22	2.99	16.44	18.2 48.2 (b)	Pass
T2	161.5 - 141.5	Diagonal	ROHN TS1.5x16 ga	69	-3.43	5.44	63.1 69.0 (b)	Pass
T3	141.5 - 121.5	Diagonal	L2x2x3/16	115	2.99	19.50	15.4 48.3 (b)	Pass
T4	121.5 - 101.5	Diagonal	L2 1/2x2 1/2x1/2	199	-3.85	53.21	7.2 27.9 (b)	Pass
T5	101.5 - 81.5	Diagonal	ROHN TS1.5x16 ga	213	-1.89	5.44	34.7	Pass
T6	81.5 - 61.5	Diagonal	L2 1/2x2 1/2x1/2	268	-4.28	53.21	8.0 31.1 (b)	Pass
T7	61.5 - 41.5	Diagonal	L2 1/2x2 1/2x1/2	320	-3.07	53.21	5.8 22.2 (b)	Pass
T8	41.5 - 21.5	Diagonal	ROHN TS1.5x16 ga	353	-1.53	5.44	28.1 32.8 (b)	Pass
T9	21.5 - 6.5	Diagonal	L2 1/2x2 1/2x1/2	364	-1.36	53.38	2.5 9.8 (b)	Pass
T4	121.5 - 101.5	Horizontal	L2 1/2x2 1/2x1/2	197	1.03	68.55	1.5 7.5 (b)	Pass
T5	101.5 - 81.5	Horizontal	L2 1/2x2 1/2x1/2	227	0.59	68.55	0.9 4.2 (b)	Pass
T10	6.5 - 1.5	Horizontal	C12x20.7	391	-0.77	192.35	0.8	Pass
T1	181.5 - 161.5	Top Girt	L1 3/4x1 3/4x3/16	4	-0.13	13.58	1.0 1.5 (b)	Pass
T2	161.5 - 141.5	Top Girt	ROHN TS1.5x16 ga	61	-2.01	6.35	31.7 51.4 (b)	Pass
T3	141.5 - 121.5	Top Girt	L2x2x3/16	94	0.69	19.50	3.5 11.1 (b)	Pass
T4	121.5 - 101.5	Top Girt	L2 1/2x2 1/2x1/2	151	1.84	61.17	3.0 13.3 (b)	Pass
T5	101.5 - 81.5	Top Girt	ROHN TS1.5x16 ga	207	-0.54	6.35	8.5	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
							14.1 (b)	
T6	81.5 - 61.5	Top Girt	L2 1/2x2 1/2x1/2	260	0.86	61.17	1.4	Pass
							6.2 (b)	
T7	61.5 - 41.5	Top Girt	ROHN TS1.5x16 ga	292	-1.35	6.35	21.3	Pass
							42.3 (b)	
T8	41.5 - 21.5	Top Girt	ROHN TS1.5x16 ga	326	-0.68	6.35	10.7	Pass
							18.5 (b)	
T9	21.5 - 6.5	Top Girt	L2 1/2x2 1/2x1/2	358	-0.68	57.47	1.2	Pass
							5.0 (b)	
T10	6.5 - 1.5	Top Girt	C12x20.7	386	6.09	197.32	3.1	Pass
T1	181.5 - 161.5	Bottom Girt	L1 3/4x1 3/4x3/16	8	-0.76	13.00	5.8	Pass
T2	161.5 - 141.5	Bottom Girt	ROHN TS1.5x16 ga	66	-1.39	6.23	22.3	Pass
T3	141.5 - 121.5	Bottom Girt	L2x2x3/16	98	0.70	23.17	3.0	Pass
T4	121.5 - 101.5	Bottom Girt	L2 1/2x2 1/2x1/2	154	0.73	72.90	1.0	Pass
T5	101.5 - 81.5	Bottom Girt	ROHN TS1.5x16 ga	210	-0.54	6.23	8.7	Pass
T6	81.5 - 61.5	Bottom Girt	L2 1/2x2 1/2x1/2	264	3.58	72.90	4.9	Pass
T7	61.5 - 41.5	Bottom Girt	ROHN TS1.5x16 ga	296	-0.67	6.23	10.8	Pass
T8	41.5 - 21.5	Bottom Girt	ROHN TS1.5x16 ga	329	-0.68	6.23	10.9	Pass
T9	21.5 - 6.5	Bottom Girt	L2 1/2x2 1/2x1/2	361	3.15	72.90	4.3	Pass
T10	6.5 - 1.5	Bottom Girt	C12x20.7	388	-2.34	197.29	5.4	Pass
T1	181.5 - 161.5	Guy A@169.154	9/16	407	10.44	21.00	49.7	Pass
T3	141.5 - 121.5	Guy A@129.154	9/16	425	9.53	21.00	45.4	Pass
T6	81.5 - 61.5	Guy A@62.1146	3/4	435	12.74	34.98	36.4	Pass
T1	181.5 - 161.5	Guy B@169.154	9/16	401	9.12	21.00	43.4	Pass
T3	141.5 - 121.5	Guy B@129.154	9/16	418	9.37	21.00	44.6	Pass
T6	81.5 - 61.5	Guy B@62.1146	3/4	434	12.85	34.98	36.7	Pass
T1	181.5 - 161.5	Guy C@169.154	9/16	394	9.29	21.00	44.2	Pass
T3	141.5 - 121.5	Guy C@129.154	9/16	412	9.37	21.00	44.6	Pass
T6	81.5 - 61.5	Guy C@62.1146	3/4	430	12.69	34.98	36.3	Pass
T6	81.5 - 61.5	Top Guy Pull-Off@62.1146	4 1/2x3/8	433	2.68	54.67	4.9	Pass
T1	181.5 - 161.5	Torque Arm Top@169.154	P4x.237	403	11.33	99.98	11.3	Pass
T3	141.5 - 121.5	Torque Arm Top@129.154	P4x.237	414	10.03	99.98	10.0	Pass
T1	181.5 - 161.5	Torque Arm Bottom@169.154	P4x.237	411	-15.60	94.40	16.5	Pass
T3	141.5 - 121.5	Torque Arm Bottom@129.154	P4x.237	429	-13.34	94.40	14.1	Pass

Summary		
Leg (T8)	66.1	Pass
Diagonal (T2)	69.0	Pass
Horizontal (T4)	7.5	Pass
Top Girt (T2)	51.4	Pass
Bottom Girt (T2)	22.3	Pass
Guy A (T1)	49.7	Pass
Guy B (T3)	44.6	Pass
Guy C (T3)	44.6	Pass
Top Guy Pull-Off (T6)	4.9	Pass
Torque Arm Top (T1)	11.3	Pass
Torque Arm Bottom (T1)	16.5	Pass
Bolt Checks	69.0	Pass
RATING =	**69.0**	**Pass**

Element Map

Section No.	Section Elevation ft	Component Type	Element List
T1	181.50-161.50	Leg	1-3
		Diagonal	10-57
		Top Girt	4-6
		Bottom Girt	7-9
		Guy A	406-407
		Guy B	400-401
		Guy C	394-395
		Torque Arm Top	396-397,402-403,408-409
		Torque Arm Bottom	398-399,404-405,410-411
T2	161.50-141.50	Leg	58-60
		Diagonal	67-90
		Top Girt	61-63
		Bottom Girt	64-66
T3	141.50-121.50	Leg	91-93
		Diagonal	100-147
		Top Girt	94-96
		Bottom Girt	97-99
		Guy A	424-425
		Guy B	418-419
		Guy C	412-413
		Torque Arm Top	414-415,420-421,426-427
		Torque Arm Bottom	416-417,422-423,428-429
T4	121.50-101.50	Leg	148-150
		Diagonal	157-159,163-165,169-171,175-177,181-183,187-189,193-195,199-201
		Horizontal	160-162,166-168,172-174,178-180,184-186,190-192,196-198
		Top Girt	151-153
		Bottom Girt	154-156
T5	101.50-81.50	Leg	202-204
		Diagonal	211-213,217-219,223-225,229-231,235-237,241-243,247-249,253-255
		Horizontal	214-216,220-222,226-228,232-234,238-240,244-246,250-252
		Top Girt	205-207
		Bottom Girt	208-210
T6	81.50-61.50	Leg	256-258
		Diagonal	265-288
		Top Girt	259-261
		Bottom Girt	262-264
		Guy A	435
		Guy B	434
		Guy C	430
		Top Guy Pull-Off	431-433
T7	61.50-41.50	Leg	289-291
		Diagonal	298-321
		Top Girt	292-294
		Bottom Girt	295-297
T8	41.50-21.50	Leg	322-324
		Diagonal	331-354
		Top Girt	325-327
		Bottom Girt	328-330
T9	21.50-6.50	Leg	355-357
		Diagonal	364-381
		Top Girt	358-360
		Bottom Girt	361-363

Section No.	*Section Elevation ft*	*Component Type*	*Element List*
T10	6.50-1.50	Leg Horizontal Top Girt Bottom Girt	382-384 391-393 385-387 388-390 Total number of elements: 435

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Job :	AT&T ~ CT5206: 180-ft Guyed Lattice Tower	Project No.	22003	Sheet	1	of	2
Address:	125 New Road Madison, CT	Computed by	TJL	Date		2/22/23	
Description:	Guy Anchor Evaluation	Checked by	CFC	Date			

CHECK UPLIFT RESISTANCE

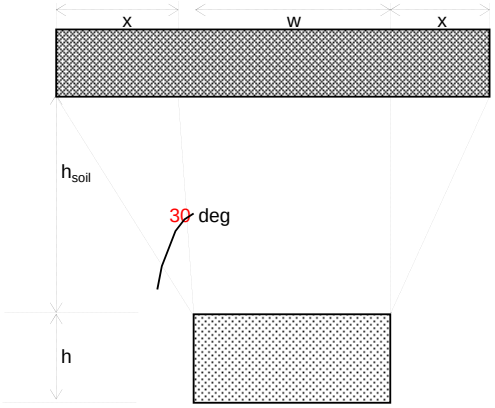
ANCHOR (A) AT 184.0 ft RADIUS

RESULTS FROM COMPUTER ANALYSIS:

Uplift =	24	kips
Sliding =	30	kips
Wdepth =	50	ft

CONCRETE PARAMETERS:

γ_{conc} =	150	pcf
$\gamma_{conc.sub}$ =	87.6	pcf
w =	4.5	ft
h =	3	ft
d =	9.5	ft
Vol. =	128.25	ft^3
Vol.sub =	0.00	ft^3
Wc =	*19.24*	kips
Ø =	*0.90*	
	17.31	



Foundation Section

SOIL PARAMETERS:

γ_{soil} =	110	pcf
$\gamma_{soil.sub}$ =	47.6	pcf
h_{soil} =	5.8	ft
x =	*3.35*	ft

Soil Weight (Wr):

B1 =	42.75
B2 =	42.75
B3 =	181.37

W.soil =	66.39	kips
W.soil.sub =	0.00	kips
Total =	*66.39*	kips
Ø =	*0.75*	
	49.79	

SF AGAINST SLIDING

2.80 **>** *1* ***OK***

GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE

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Job :	AT&T ~ CT5206: 180-ft Guyed Lattice Tower	Project No.	22003	Sheet	1	of	2
Address:	125 New Road Madison, CT	Computed by	TJL	Date		2/22/23	
Description:	Guy Anchor Evaluation	Checked by	CFC	Date			

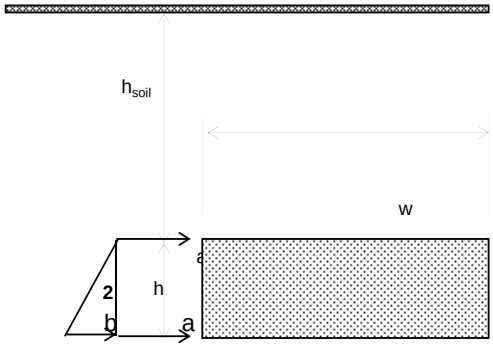
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

$\gamma soil$ =	110	pcf
$\gamma soil$ =	47.6	pcf
h_{soil} =	5.8	ft
h =	3	ft
ϕ =	30	degrees

ANCHOR PARAMETERS

w =	4.5	ft
h =	3.0	ft
d =	9.5	ft



Foundation Elevation View

K_p = 3.00

HORIZONTAL FORCES

		1.91	ksf
		2.90	ksf
RESIST TO SLIDING =		68.66	k
SOIL & CONCRETE WEIGHT =	Wr + Wc =	67.10	k
UPLIFT REACTIONS =		-24	k
SUM =		43.10	k
COEF. OF FRICTION, (0.45) =		19.40	k
RESIST TO SLIDING =		68.66	k
SUM =		88.05	k

SF AGAINST SLIDING

SF = 2.9 > 1 OK

GUY ANCHORS AGAINST SLIDING ARE ADEQUATE

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Job :	AT&T ~ CT5206: 180-ft Guyed Lattice Tower	Project No.	22003	Sheet	1	of	2
Address:	125 New Road Madison, CT	Computed by	TJL	Date		2/22/23	
Description:	Guy Anchor Evaluation	Checked by	CFC	Date			

CHECK UPLIFT RESISTANCE

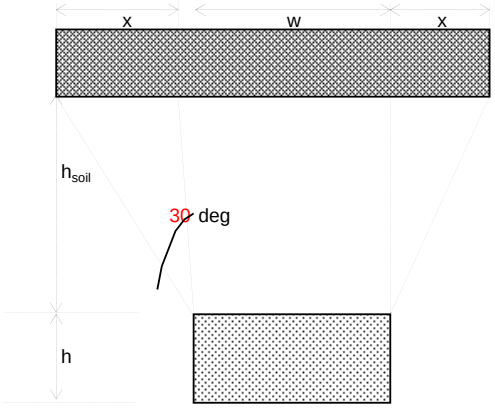
ANCHOR (A) AT 150.0 ft RADIUS

RESULTS FROM COMPUTER ANALYSIS:

Uplift =	5	kips
Sliding =	12	kips
Wdepth =	50	ft

CONCRETE PARAMETERS:

γ_{conc} =	150	pcf
$\gamma_{conc.sub}$ =	87.6	pcf
w =	4.5	ft
h =	2.5	ft
d =	6.5	ft
Vol. =	73.13	ft^3
Vol.sub =	0.00	ft^3
Wc =	*10.97*	kips
Ø =	*0.90*	
	9.87	



Foundation Section

SOIL PARAMETERS:

γ_{soil} =	110	pcf
$\gamma_{soil.sub}$ =	47.6	pcf
h_{soil} =	5	ft
x =	*2.89*	ft

Soil Weight (Wr):

B1 =	29.25
B2 =	29.25
B3 =	126.09

W.soil =	39.61	kips
W.soil.sub =	0.00	kips
Total =	*39.61*	kips
Ø =	*0.75*	
	29.71	

SF AGAINST SLIDING

7.92 **>** *1* ***OK***

GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE

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Job :	AT&T ~ CT5206: 180-ft Guyed Lattice Tower	Project No.	22003	Sheet	1	of	2
Address:	125 New Road Madison, CT	Computed by	TJL	Date		2/22/23	
Description:	Guy Anchor Evaluation	Checked by	CFC	Date			

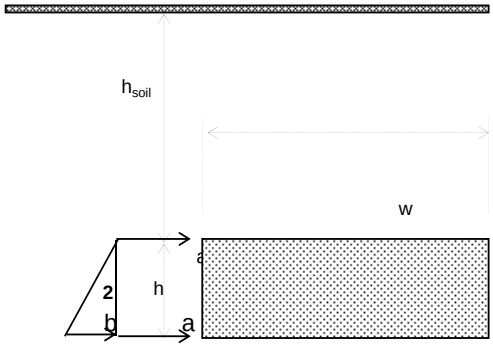
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

$\gamma soil$ =	110	pcf
$\gamma soil$ =	47.6	pcf
h_{soil} =	5	ft
h =	2.5	ft
ϕ =	30	degrees

ANCHOR PARAMETERS

w =	4.5	ft
h =	2.5	ft
d =	6.5	ft



Foundation Elevation View

κ_p = 3.00

HORIZONTAL FORCES

		1.65	ksf
		2.48	ksf
RESIST TO SLIDING =		33.52	k
SOIL & CONCRETE WEIGHT =	Wr + Wc =	39.58	k
UPLIFT REACTIONS =		-5	k
SUM =		34.58	k
COEF. OF FRICTION, (0.45) =		15.56	k
RESIST TO SLIDING =		33.52	k
SUM =		49.08	k

SF AGAINST SLIDING

SF = 4.1 > 1 OK

GUY ANCHORS AGAINST SLIDING ARE ADEQUATE

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Subject:	Base Foundation Analysis
Location:	180-ft Guyed Lattice Tower Madison, CT
Rev. 1: 2/22/23	Prepared by: T.J.L. Checked by: C.F.C. Job No. 22003.00

Guyed Tower Base Foundation:

Input Data:

Tower Data

Shear Force =	Shear := 1·kip	(User Input from tnxTower)	
Axial Force =	Axial := 116·kip	(User Input from tnxTower)	
Tower Height =	H_t := 180·ft	(User Input)	

Footing Data:

Overall Depth of Footing =	D_f := 7.7·ft	(User Input)	
Length of Pier =	L_p := 5.7·ft	(User Input)	
Extension of Pier Above Grade =	L_{pag} := 1.5·ft	(User Input)	
Diameter of Pier =	D_p := 2.0·ft	(User Input)	
Width of Pad =	W_{pad} := 4.7·ft	(User Input)	
Length of Pad =	L_{pad} := 5.3·ft	(User Input)	
Thickness of Pad =	t_{pad} := 2.0·ft	(User Input)	

Material Properties:

Concrete Compressive Strength =	f_c := 3000·psi	(User Input)	
Steel Reinforcment Yield Strength =	f_y := 60000·psi	(User Input)	
Internal Friction Angle of Soil =	Φ_s := 30·deg	(User Input)	
Ultimate Soil Bearing Capacity =	q_s := 16000·psf	(User Input)	Weathered Bedrock
Unit Weight of Soil =	γ_{soil} := 120·pcf	(User Input)	
Unit Weight of Concrete =	γ_{conc} := 150·pcf	(User Input)	
Foundation Bouyancy =	Bouyancy := 0	(User Input)	(Yes=1 / No=0)
Depth to Neglect =	n := 0·ft	(User Input)	
Cohesion of Clay Type Soil =	c := 0·ksf	(User Input)	(Use 0 for Sandy Soil)
Seismic Zone Factor =	Z := 2	(User Input)	
Coefficient of Friction Between Concrete =	μ := 0.45	(User Input)	

Calculated Factors:

Coefficient of Lateral Soil Pressure = $K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 3$

Stability of Footing:

Adjusted Concrete Unit Weight = $\gamma_c := if\left(Bouyancy = 1, \gamma_{conc} - 62.4pcf, \gamma_{conc}\right) = 150 \cdot pcf$

Adjusted Soil Unit Weight = $\gamma_s := if\left(Bouyancy = 1, \gamma_{soil} - 62.4pcf, \gamma_{soil}\right) = 120 \cdot pcf$

Passive Pressure = $P_{top} := 0$

$P_{bot} := K_p \cdot \gamma_s \cdot D_f + c \cdot 2 \cdot \sqrt{K_p} = 2.772 \cdot ksf$

$P_{ave} := \frac{P_{top} + P_{bot}}{2} = 1.386 \cdot ksf$

$A_p := D_p \cdot L_p = 11.4$

Soil Shear Resistance = $Sl_1 := P_{ave} \cdot A_p = 15.8 \cdot kip$

Weight of Concrete = $WT_c := \left(D_p^2 \cdot L_p + W_{pad} \cdot L_{pad} \cdot t_{pad}\right) \cdot \gamma_c = 10.89 \cdot kip$

Total Weight = $WT_{tot} := WT_c + Axial = 126.89 \cdot kip$

Soil/Concrete Friction Resistance = $Sl_2 := \mu \cdot WT_{tot} = 57.1 \cdot kips$

Total Sliding Resistance = $Sl_{tot} := Sl_1 + Sl_2 = 72.9 \cdot kips$

Sliding Resistance Ratio = $Sliding\_Resistance_{ratio} := \frac{0.75 Sl_{tot}}{Shear} = 54.68$

$Sliding\_Resistance\_Check := if\left[\left(\frac{Shear}{0.75 Sl_{tot}} < 1.0\right), "Okay", "No Good"\right]$

Sliding_Resistance_Check = "Okay"

Bearing Pressure Caused by Footing:

Maximum Pressure in Mat = $P_{max} := \frac{WT_{tot}}{W_{pad} \cdot L_{pad}} = 5.09 \cdot ksf$

$Max\_Pressure\_Check := if\left(P_{max} < 0.6 q_s, "Okay", "No Good"\right)$

Max_Pressure_Check = "Okay"

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CTL05206	DATE:	7/3/2018	RF DESIGN ENG:	Md Mateen	RF PERF ENG:	
ISSUE:	Bronze Standard	Approved? (Y/N):	Yes	RF DESIGN PHONE:	8602586382	RF PERF PHONE:	
REVISION:	Final	RF MANAGER:	John Benedetto	RF DESIGN EMAIL:	MM093Q@ATT.COM	RF PERF EMAIL:	
INITIATIVE PROJECT	LTE 2C 1900 A3-A4-E, LTE 3C AWS J, LTE 4C 850 5G, LTE 700 B/C 4T4R Retrofit. *Decomm UMTS – site will be built after UMTS Sunset.					ADDITIONAL WORKFLOW NOTIFICATIONS:	
						RFDS VERSION:	2.00
						UMTS FREQUENCY:	
						LTE FREQUENCY:	700,850,1900,AWS
						5G FREQUENCY:	850
						IPLAN JOB # 1:	NER-RCTB-18-05545
						IPLAN JOB # 2:	NER-RCTB-18-05633
						IPLAN JOB # 3:	NER-RCTB-18-05784
						IPLAN JOB # 4:	NER-RCTB-18-06149
						IPLAN JOB # 5:	
						IPLAN JOB # 6:	
						IPLAN JOB # 7:	
						IPLAN JOB # 8:	
						IPLAN JOB # 9:	
						IPLAN JOB #10:	
						IPLAN JOB # 11:	
						IPLAN JOB # 12:	
						IPLAN JOB # 13:	
						IPLAN JOB # 14:	
						IPLAN JOB # 15:	
						IPLAN JOB # 16:	

RFDS PROGRAM TYPE:	2019 LTE Next Carrier		
RFDS TECHNOLOGY:	LTE		
STATE/STATUS:	Final/Approved		
RFDS ID:	2457781		
Created By:	mm093q	Updated By:	mm093q
Created:	7/3/2018	Updated:	1/25/2022
Estimated SQIN:	9.753	Expiration:	
RER Initiative:		Calculation ID:	20211029065535835
PRD || SUB GRP #1	LTE Next Carrier || LTE 2C		
PRD || SUB GRP #2	LTE Software Carrier || LTE 3C		
PRD || SUB GRP #3	LTE Next Carrier || LTE 4C		
PRD || SUB GRP #4	Antenna Modifications || 4TX4RX Software Retrofit		
PRD || SUB GRP #5			
PRD || SUB GRP #6			
PRD || SUB GRP #7			
PRD || SUB GRP #8			
PRD || SUB GRP #9			
PRD || SUB GRP #10			
PRD || SUB GRP #11			
PRD || SUB GRP #12			
PRD || SUB GRP #13			
PRD || SUB GRP #14			
PRD || SUB GRP #15			
PRD || SUB GRP #16			

Section 2 - LOCATION INFORMATION

USID:	25893	FA LOCATION CODE:	10071098	LOCATION NAME:	MADISON EAST	ORACLE PRJT # 1:	20514OJDBM
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CONNECTICUT	ORACLE PRJT # 2:	20514OJDAZ
ADDRESS:	135 NEW ROAD	CITY:	MADISON	STATE:	CT	ORACLE PRJT # 3:	20514OJD95
ZIP CODE:	06443	COUNTY:	NEW HAVEN	LONG (DEC. DEG.):	-72.5783989	ORACLE PRJT # 4:	20514OJD7V
LATITUDE (D-M-S):	41d 17m35.13084s	LONGITUDE (D-M-S):	-72d -34m-42.23604s	LAT (DEC. DEG.):	41.2930919	ORACLE PRJT # 5:	
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	CT5206 MADISONEAST I95N TO EXIT 62 AT TOP OF RAMP MAKE LEFT AND CROSS OVER HIGHWAY AT NEXT INTERSECTION MAKE LEFT ONTO NEW ROAD AFTER MAKING TURN LOCK FOR ARAMARK SIGN AT 135 NEW ROAD ON YOUR RIGHT AND ENTER HERE AFTER PASSING ARAMARK SIGN TAKE DRIVEWAY ON YOUR RIGHT AND HEAD STRAIGHT TO EVERSOURCE GATE PROCEED THROUGH GATE AND DRIVE TOWARD REAR OF COMPLEX WHERE TOWER IS LOCATED DIAL 002 FOR GARAGE AT GATE FOR ACCESSDEMARC LOCATED IN HOFFMAN BOX LTE RADIOS ON TOWERMETER: # 89196454POWER CABINET COMBO0043					ORACLE PRJT # 6:	
						ORACLE PRJT # 7:	
						ORACLE PRJT # 8:	
						ORACLE PRJT # 9:	
						ORACLE PRJT # 10:	
						ORACLE PRJT # 11:	
						ORACLE PRJT # 12:	
						ORACLE PRJT # 13:	
						ORACLE PRJT # 14:	
						ORACLE PRJT # 15:	
						ORACLE PRJT # 16:	
						BORDER CELL WITH CONTOUR COORD:	
						AM STUDY REQ'D (Y/N):	No
						FREQ COORD:	
						RF DISTRICT:	TBD
						RF ZONE:	TBD
						PARENT NAME(UMTS):	MDTWCTNIRNC002

PACE JOB #1:	MRCTB033530		
PACE JOB #2:	MRCTB033595		
PACE JOB #3:	MRCTB033653		
PACE JOB #4:	MRCTB033805		
PACE JOB #5:			
PACE JOB #6:			
PACE JOB #7:			
PACE JOB #8:			
PACE JOB #9:			
PACE JOB #10:			
PACE JOB #11:			
PACE JOB #12:			
PACE JOB #13:			
PACE JOB #14:			
PACE JOB #15:			
PACE JOB #16:			
SEARCH RING NAME:			
SEARCH RING ID:			
BTA:		MSA / RSA:	
LAC(UMTS):	05996		
RNC(UMTS):	MIDDLETOWN RNC02		
MME POOL ID(LTE):	FF01		

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:		CGSA CALL SIGNS:	KNKA241,z_KNLB312,z_KNLB312,z_KNLB312,KNKA241,z_KNLB312,z_KNLB312,z_KNLB312,KNKA241,z_KNLB312,z_KNLB312,z_KNLB312
CGSA - MINOR FILING NEEDED (Yes/No):	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:			
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:					

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	No	GROUND ELEVATION (ft):		STRUCTURE TYPE:	GUYED
ADDITIONAL REGULATORY?:	No	HEIGHT OVERALL (ft):	0.00	FCC ASR NUMBER:	
SUB-LEASE RIGHTS?:	No	STRUCTURE HEIGHT (ft):	181.00		
LIGHTING TYPE:	NOT REQUIRED				

MARKET LOCATION 700 MHz Band:	
MARKET LOCATION 850 MHz Band:	
MARKET LOCATION 1900 MHz Band:	
MARKET LOCATION AWS Band:	
MARKET LOCATION WCS Band:	
MARKET LOCATION Future Band:	

Section 5 - E-911 INFORMATION - existing

		PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:
SECTOR A	E-911				INTRADO_MAMI		0		
SECTOR B					INTRADO_MAMI		0		
SECTOR C					INTRADO_MAMI		0		
SECTOR D									
SECTOR E									
SECTOR F									
OMNI									

Section 5 - E-911 INFORMATION - final

		PSAP NAME:	PSAP ID:	E911 PHASE:	MPC SVC PROVIDER:	LMU REQUIRED:	ESRN:	DATE LIVE PH1:	DATE LIVE PH2:
SECTOR A	E-911				INTRADO_MAMI		0		
SECTOR B					INTRADO_MAMI		0		
SECTOR C					INTRADO_MAMI		0		
SECTOR D									
SECTOR E									
SECTOR F									
OMNI									

Section 6/7 - BBU INFORMATION - existing

	BBU 1	BBU 2	BBU 3
BBU ID:	330155	197241	350928
TECHNOLOGY:	UMTS	UMTS	LTE
BBU NAME:	CTUS206	CTVS206	CTL05206
BBU USID:	25893	25893	25893
CELL ID / BCF:	CTVS206	CTVS206	CTL05206
BTA/TID:	318W	318U	318L
4-9 DIGIT SITE ID:	5206	5206	5206
COW OR TOY?:	No	No	No
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL
BTS LOCATION ID:	GROUND	GROUND	INTERNAL
BASE STATION TYPE:	OVERLAY	OVERLAY	BASE
EQUIPMENT NAME:	MADISON EAST	MADISON EAST	MADISON EAST
DISASTER PRIORITY:	3	0	3
EQUIPMENT VENDOR:	ERICSSON	ERICSSON	ERICSSON
EQUIPMENT TYPE (Model):			6601 INDOOR MU
BASEBAND CONFIGURATION :			
MARKET STATE CODE:			CT
NODE B NUMBER:	0	0	5206
SIDEHAUL SWITCH VENDOR:			
SIDEHAUL SWITCH MODEL:			
SIDEHAUL SWITCH NAME:			
CSS - CTS COMMON ID:	CTUS206	CTVS206	CTL05206
CSS - SECONDARY FUNCTION ID:			

Section 6/7 - BBU INFORMATION - final

	BBU 1	BBU 2	BBU 3
BBU ID:	197241	350928	828252
TECHNOLOGY:	UMTS	LTE	5G
BBU NAME:	CTVS206	CTL05206	CTCN005206
BBU USID:	25893	25893	25893
CELL ID / BCF:	CTVS206	CTL05206	CTCN005206
BTA/TID:	318U	318L	318L
4-9 DIGIT SITE ID:	5206	5206	14005206
COW OR TOY?:	No	No	No
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL
BTS LOCATION ID:	GROUND	INTERNAL	INTERNAL
BASE STATION TYPE:	OVERLAY	BASE	BASE
EQUIPMENT NAME:	MADISON EAST	MADISON EAST	MADISON EAST
DISASTER PRIORITY:	0	3	3
EQUIPMENT VENDOR:	ERICSSON	ERICSSON	ERICSSON
EQUIPMENT TYPE (Model):		6601 RADIONODE 5216	BASEBAND 6630
BASEBAND CONFIGURATION :		1x6601 / 1x5216 / 1xXMU03	xxxxx / 1x6630 / xxxxx
MARKET STATE CODE:		CT	CTC
NODE B NUMBER:	0	5206	5206
SIDEHAUL SWITCH VENDOR:			
SIDEHAUL SWITCH MODEL:			
SIDEHAUL SWITCH NAME:			
CSS - CTS COMMON ID:	CTVS206	CTL05206	CTCN005206
CSS - SECONDARY FUNCTION ID:			

Section 7b - Radio INFORMATION - existing

Section 7b - Radio INFORMATION - final

Section 8 - RBS/SECTOR ASSOCIATION - existing

	BBU 1	BBU 2	BBU 3
CTS Common ID	CTUS206	CTVS206	CTL05206
Soft Sector IDs	CTUS2067	CTVS2061	CTL05206_2A_2
	CTUS2068	CTVS2062	CTL05206_2B_2
	CTUS2069	CTVS2063	CTL05206_2C_2
			CTL05206_7A_1
			CTL05206_7B_1
			CTL05206_7C_1
			CTL05206_8A_1
			CTL05206_8B_1
			CTL05206_8C_1
			CTL05206_9A_1
			CTL05206_9A_2
			CTL05206_9B_1
			CTL05206_9B_2
			CTL05206_9C_1
			CTL05206_9C_2

Section 8 - RBS/SECTOR ASSOCIATION - final

	BBU 1	BBU 2	BBU 3
CTS Common ID	CTV5206	CTL05206	CTCN005206
Soft Sector IDs		CTL05206_2A_2	CTCN005206_N005A_1
		CTL05206_2B_2	CTCN005206_N005B_1
		CTL05206_2C_2	CTCN005206_N005C_1
		CTL05206_7A_1	
		CTL05206_7B_1	
		CTL05206_7C_1	
		CTL05206_9A_1	
		CTL05206_9A_2	
		CTL05206_9B_1	
		CTL05206_9B_2	
		CTL05206_9C_1	
		CTL05206_9C_2	

Section 9 - SOFT SECTOR ID - existing

	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 2ND 1900	5G 1ST 850
USEID (excluding Hard Sector)	25893.850.3G.1	25893.1900.3G.2						
SECTOR A SOFT SECTOR ID	CTV52061	CTU52067	CTL05206_7A_1	CTL05206_8A_1	CTL05206_9A_1	CTL05206_2A_2	CTL05206_9A_2	
SECTOR B	CTV52062	CTU52068	CTL05206_7B_1	CTL05206_8B_1	CTL05206_9B_1	CTL05206_2B_2	CTL05206_9B_2	
SECTOR C	CTV52063	CTU52069	CTL05206_7C_1	CTL05206_8C_1	CTL05206_9C_1	CTL05206_2C_2	CTL05206_9C_2	
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 9 - SOFT SECTOR ID - final

	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 2ND 1900	5G 1ST 850
USEID (excluding Hard Sector)								
SECTOR A SOFT SECTOR ID			CTL05206_7A_1		CTL05206_9A_1	CTL05206_2A_2	CTL05206_9A_2	CTCN005206_N005A_1
SECTOR B			CTL05206_7B_1		CTL05206_9B_1	CTL05206_2B_2	CTL05206_9B_2	CTCN005206_N005B_1
SECTOR C			CTL05206_7C_1		CTL05206_9C_1	CTL05206_2C_2	CTL05206_9C_2	CTCN005206_N005C_1
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 9 - Cell Number - existing

	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 2ND 1900	5G 1ST 850
USEID (excluding Hard Sector)	25893.850.3G.1	25893.1900.3G.2						
SECTOR A CELL NUMBER			15	1	8	192	178	
SECTOR B			16	2	9	193	179	
SECTOR C			17	3	10	194	180	
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 9 - Cell Number - final

	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 2ND 1900	5G 1ST 850
USEID (excluding Hard Sector)								
SECTOR A CELL NUMBER			15		8	192	178	25
SECTOR B			16		9	193	179	49
SECTOR C			17		10	194	180	73
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 10 - CID/SAC - existing

	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 2ND 1900	5G 1ST 850
SECTOR A CID/SAC	52061	52067						
SECTOR B	52062	52068						
SECTOR C	52063	52069						
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 10 - CID/SAC - final

	UMTS 1ST 850	UMTS 1ST 1900	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST AWS	LTE 2ND 1900	5G 1ST 850
SECTOR A CID/SAC								
SECTOR B								
SECTOR C								
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 11 - CURRENT RADIO COUNTS existing

Section 12 - CURRENT T1 COUNTS existing

Section 13 - NEW/PROPOSED RADIO COUNTS

Section 14 - NEW/PROPOSED T1 COUNTS

Section 15A - CURRENT TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770						AM-X-CD-14-65-00T-RET							
ANTENNA VENDOR	Powerwave						KMW							
ANTENNA SIZE (H x W x D)	55X11X5						48X11.8X5.9							
ANTENNA WEIGHT	35						30.8							
AZIMUTH	0						0							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	78						78							
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT	0						0							
FEEDER AMOUNT	2													
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020						Built in						
SURGE ARRESTOR (QTY/MODEL)							1	DC/Fiber Squid						
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Powerwave 7070						LTE RRH						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
PDU FOR TMAS (QTY/MODEL)	1	LGP 12104												
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)							1	RRUS-11 B12						
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)														
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH_7B_1 (QTY/MODEL)														
RRH_7B_2 (QTY/MODEL)														
RRH_7B_3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1		25893.A.850.3G.1	CTV52061	CTV52061		UMTS 850	7770.00.850.00	13.5		0	None	RFS 7/8 (850)	100.025605	YES								
ANTENNA POSITION 4	PORT 1		25893.A.850.25G.1	CTL05206_7A_1	CTL05206_7A_1		LTE 700	00T-RET_725MHz_0	14.1		2	TOP	FIBER	0									

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770						AM-X-CD-14-65-00T-RET							
ANTENNA VENDOR	Powerwave						KMW							
ANTENNA SIZE (H x W x D)	55X11X5						48X11.8X5.9							
ANTENNA WEIGHT	35						30.8							
AZIMUTH	120						120							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	78						78							
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT	0						0							
FEEDER AMOUNT	2													
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020						Built in						
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)								LTE RRH						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)							1	RRUS-11 B12						
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)														
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH_7B_1 (QTY/MODEL)														
RRH_7B_2 (QTY/MODEL)														
RRH_7B_3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1		25893.B.850.3G.1	CTV52062	CTV52062		UMTS 850	7770.00.850.00	13.5		0	None	RFS 7/8 (850)	100.025605	YES								
ANTENNA POSITION 4	PORT 1		25893.B.850.25G.1	CTL05206_7B_1	CTL05206_7B_1		LTE 700	00T-RET_725MHz_0	14.1		2	TOP	FIBER	0									

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770						AM-X-CD-14-65-00T-RET							
ANTENNA VENDOR	Powerwave						KMW							
ANTENNA SIZE (H x W x D)	55X11X5						48X11.8X5.9							
ANTENNA WEIGHT	35						30.8							
AZIMUTH	240						240							
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	78						78							
ANTENNA TIP HEIGHT														
MECHANICAL DOWNTILT	0						0							
FEEDER AMOUNT	2													
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020						Built in						
SURGE ARRESTOR (QTY/MODEL)														
DIPLEXER (QTY/MODEL)	2	Powerwave LGP 21901												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)								LTE RRH						
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401												
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)							1	RRUS-11 B12						
RRH - 850 band (QTY/MODEL)														
RRH - 1900 band (QTY/MODEL)														
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
RRH_7B_1 (QTY/MODEL)														
RRH_7B_2 (QTY/MODEL)														
RRH_7B_3 (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 1	PORT 1		25893.C.850.3G.1	CTV52063	CTV52063		UMTS 850	7770.00.850.00	13.5		0	None	RFS 7/8 (850)	100.025605	YES								
ANTENNA POSITION 4	PORT 1		25893.C.850.25G.1	CTL05206_7C_1	CTL05206_7C_1		LTE 700	00T-RET_725MHz_0	14.1		2	TOP	FIBER	0									

Section 16A - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		SBNHH-1D65A		DMP65R-BU4DA			
ANTENNA VENDOR		Andrew		CCI			
ANTENNA SIZE (H x W x D)		55X11.9X7.1		48X20.7X7.7			
ANTENNA WEIGHT		33.5		67.9			
AZIMUTH		0		0			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		78		78			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT		0		0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built in		Built in			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED		RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 4449 B5/B12			
RRH - 850 band (QTY/MODEL)				with another band			
RRH - 1900 band (QTY/MODEL)		1 8843 B2/B66A					
RRH - AWS band (QTY/MODEL)				1 with another band			
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH_7B_1 (QTY/MODEL)							
RRH_7B_2 (QTY/MODEL)							
RRH_7B_3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)		1 Y-Cable		1 Y-Cable			
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Replace Existing LTE Antenna with a wider Octo port Antenna, // Replace LTE 700 BC radio shared with LTE 850.						
Local Market Note 2							
Local Market Note 3	1x6601 / 1x5216 / 1x9MU03 || 1x6630 + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/AIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3		25893.A.1900.4G.1	CTL05206_9A_1	CTL05206_9A_1		LTE 1900	1D65A_1930MHz_05DT	17.1	0	5	TOP	FIBER	0						4842.058			
	PORT 4		25893.A.1900.4G.4	CTL05206_9A_2	CTL05206_9A_2		LTE 1900	1D65A_1930MHz_05DT	17.1	0	5	TOP	FIBER	0						4842.058			
ANTENNA POSITION 4	PORT 2		25893.A.850.5G.1	CTCN005206_N005A_1	CTCN005206_N005A_1		5G 850	BU4DA_849MHz_02DT	14.4	0	2	TOP	FIBER	0						1000			
	PORT 4		25893.A.AWS.4G.4	CTL05206_2A_2	CTL05206_2A_2		LTE AWS	BU4DA_2170MHz_05DT	17	0	5	TOP	FIBER	0						5070.2572			
	PORT 5		25893.A.700.4G.1	CTL05206_7A_1	CTL05206_7A_1		LTE 700	BU4DA_716MHz_02DT	13.3	0	2	TOP	FIBER	0						1475.7065			

Section 16B - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		SBNHH-1D65A		DMP65R-BU4DA			
ANTENNA VENDOR		Andrew		CCI			
ANTENNA SIZE (H x W x D)		55X11.9X7.1		48X20.7X7.7			
ANTENNA WEIGHT		33.5		67.9			
AZIMUTH		120		120			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		78		78			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT		0		0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built in		Built in			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED		RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 4449 B5/B12			
RRH - 850 band (QTY/MODEL)				with another band			
RRH - 1900 band (QTY/MODEL)		1 8843 B2/B66A					
RRH - AWS band (QTY/MODEL)				1 with another band			
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH_7B_1 (QTY/MODEL)							
RRH_7B_2 (QTY/MODEL)							
RRH_7B_3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)		1 Y-Cable		1 Y-Cable			
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Replace Existing LTE Antenna with a wider Octo port Antenna, // Replace LTE 700 BC radio shared with LTE 850.						
Local Market Note 2							
Local Market Note 3	1x6601 / 1x5216 / 1x0MU03 || 1x6630 + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/AIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3		25893.B.1900.4G.1	CTL05206_9B_1	CTL05206_9B_1		LTE 1900	1D65A_1930MHz_06DT	17.2	120	6	TOP	FIBER	0						4842.058			
	PORT 4		25893.B.1900.4G.4	CTL05206_9B_2	CTL05206_9B_2		LTE 1900	1D65A_1930MHz_06DT	17.2	120	6	TOP	FIBER	0						4842.058			
ANTENNA POSITION 4	PORT 2		25893.B.850.5G.1	CTCN005206_N005B_1	CTCN005206_N005B_1		5G 850	BU4DA_849MHz_02DT	14.4	120	2	TOP	FIBER	0						1000			
	PORT 4		25893.B.AWS.4G.4	CTL05206_2B_2	CTL05206_2B_2		LTE AWS	BU4DA_2170MHz_06DT	17	120	6	TOP	FIBER	0						5070.2572			
	PORT 5		25893.B.700.4G.1	CTL05206_7B_1	CTL05206_7B_1		LTE 700	BU4DA_716MHz_02DT	13.3	120	2	TOP	FIBER	0						1475.7065			

Section 16C - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		SBNHH-1D65A		DMP65R-BU4DA			
ANTENNA VENDOR		Andrew		CCI			
ANTENNA SIZE (H x W x D)		55X11.9X7.1		48X20.7X7.7			
ANTENNA WEIGHT		33.5		67.9			
AZIMUTH		240		240			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		78		78			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT		0		0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built in		Built in			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED		RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 4449 B5/B12			
RRH - 850 band (QTY/MODEL)				with another band			
RRH - 1900 band (QTY/MODEL)		1 8843 B2/B66A					
RRH - AWS band (QTY/MODEL)				1 with another band			
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH_7B_1 (QTY/MODEL)							
RRH_7B_2 (QTY/MODEL)							
RRH_7B_3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)		1 Y-Cable		1 Y-Cable			
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Replace Existing LTE Antenna with a wider Octo port Antenna, // Replace LTE 700 BC radio shared with LTE 850.						
Local Market Note 2							
Local Market Note 3	1x6601 / 1x5216 / 1x0MU03 || 1x6630 + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/AIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3		25893.C.1900.4G.1	CTL05206_9C_1	CTL05206_9C_1		LTE 1900	1D65A_1930MHz_06DT	17.2	240	6	TOP	FIBER	0						4842.058			
	PORT 4		25893.C.1900.4G.4	CTL05206_9C_2	CTL05206_9C_2		LTE 1900	1D65A_1930MHz_06DT	17.2	240	6	TOP	FIBER	0						4842.058			
ANTENNA POSITION 4	PORT 2		25893.C.850.5G.1	CTCN005206_N005C_1	CTCN005206_N005C_1		5G 850	BU4DA_849MHz_02DT	14.4	240	2	TOP	FIBER	0						1000			
	PORT 4		25893.C.AWS.4G.4	CTL05206_2C_2	CTL05206_2C_2		LTE AWS	BU4DA_2170MHz_06DT	17	240	6	TOP	FIBER	0						5070.2572			
	PORT 5		25893.C.700.4G.1	CTL05206_7C_1	CTL05206_7C_1		LTE 700	BU4DA_716MHz_02DT	13.3	240	2	TOP	FIBER	0						1475.7065			

Section 16.5A - SCOPING TOWER CONFIGURATION - SECTOR A (OR OMNI)

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL		SBNHH-1D65A		DMP65R-BU4DA			
ANTENNA VENDOR		Andrew		CCI			
ANTENNA SIZE (H x W x D)		55X11.9X7.1		48X20.7X7.7			
ANTENNA WEIGHT		33.5		67.9			
AZIMUTH		0		0			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		78		78			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT		0		0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built in		Built in			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED		RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)				1	DC6-48-60-18-8F		
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1	4449 B5/B12		
RRH - 850 band (QTY/MODEL)					with another band		
RRH - 1900 band (QTY/MODEL)		1	8843 B2/B66A				
RRH - AWS band (QTY/MODEL)				1	with another band		
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH_7B_1 (QTY/MODEL)							
RRH_7B_2 (QTY/MODEL)							
RRH_7B_3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)		1	Y-Cable	1	Y-Cable		
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Replace Existing LTE Antenna with a wider Octo port Antenna, // Replace LTE 700 BC radio shared with LTE 850.						
Local Market Note 2							
Local Market Note 3	1x6601 / 1x5216 / 1x9MU03 || 1x6630 + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/AIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3	25893.A.1900.4G.1	25893.A.1900.4G.1	CTL05206_9A_1	CTL05206_9A_1		LTE 1900	1D65A_1930MHz_05DT	17.1	0	5	TOP	FIBER	0						4842.058		4	
	PORT 4	25893.A.1900.4G.4	25893.A.1900.4G.4	CTL05206_9A_2	CTL05206_9A_2		LTE 1900	1D65A_1930MHz_05DT	17.1	0	5	TOP	FIBER	0						4842.058		4	
ANTENNA POSITION 4	PORT 2	25893.A.850.5G.1	25893.A.850.5G.1	CTCN005206_N005A_1	CTCN005206_N005A_1		5G 850	BU4DA_849MHz_02DT	14.4	0	2	TOP	FIBER							1000		7	
	PORT 4	25893.A.AWS.4G.4	25893.A.AWS.4G.4	CTL05206_2A_2	CTL05206_2A_2		LTE AWS	BU4DA_2170MHz_05DT	17	0	5	TOP	FIBER	0						5070.2572		8	
	PORT 5	25893.A.700.4G.1	25893.A.700.4G.1	CTL05206_7A_1	CTL05206_7A_1		LTE 700	BU4DA_716MHz_02DT	13.3	0	2	TOP	FIBER							1475.7065		7	

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL		SBNHH-1D65A		DMP65R-BU4DA			
ANTENNA VENDOR		Andrew		CCI			
ANTENNA SIZE (H x W x D)		55X11.9X7.1		48X20.7X7.7			
ANTENNA WEIGHT		33.5		67.9			
AZIMUTH		120		120			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		78		78			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT		0		0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built in		Built in			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED		RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 4449 B5/B12			
RRH - 850 band (QTY/MODEL)				with another band			
RRH - 1900 band (QTY/MODEL)		1 8843 B2/B66A					
RRH - AWS band (QTY/MODEL)				1 with another band			
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH_7B_1 (QTY/MODEL)							
RRH_7B_2 (QTY/MODEL)							
RRH_7B_3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)		1 Y-Cable		1 Y-Cable			
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Replace Existing LTE Antenna with a wider Octo port Antenna, // Replace LTE 700 BC radio shared with LTE 850.						
Local Market Note 2							
Local Market Note 3	1x6601 / 1x5216 / 1x4MJ03 || 1x6630 + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3	25893.B.1900.4G.1	25893.B.1900.4G.1	CTL05206_9B_1	CTL05206_9B_1		LTE 1900	1D65A_1930MHz_06DT	17.2	120	6	TOP	FIBER	0						4842.058		12	
	PORT 4	25893.B.1900.4G.4	25893.B.1900.4G.4	CTL05206_9B_2	CTL05206_9B_2		LTE 1900	1D65A_1930MHz_06DT	17.2	120	6	TOP	FIBER	0						4842.058		12	
ANTENNA POSITION 4	PORT 2	25893.B.850.5G.2	25893.B.850.5G.1	CTCN005206_N005B_1	CTCN005206_N005B_1		5G 850	BU4DA_849MHz_02DT	14.4	120	2	TOP	FIBER							1000		15	
	PORT 4	25893.B.AWS.4G.4	25893.B.AWS.4G.4	CTL05206_2B_2	CTL05206_2B_2		LTE AWS	BU4DA_2170MHz_06DT	17	120	6	TOP	FIBER	0						5070.2572		16	
	PORT 5	25893.B.700.4G.1	25893.B.700.4G.1	CTL05206_7B_1	CTL05206_7B_1		LTE 700	BU4DA_716MHz_02DT	13.3	120	2	TOP	FIBER							1475.7065		15	

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL		SBNHH-1D65A		DMP65R-BU4DA			
ANTENNA VENDOR		Andrew		CCI			
ANTENNA SIZE (H x W x D)		55X11.9X7.1		48X20.7X7.7			
ANTENNA WEIGHT		33.5		67.9			
AZIMUTH		240		240			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		78		78			
ANTENNA TIP HEIGHT							
MECHANICAL DOWNTILT		0		0			
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built in		Built in			
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		RRH CONTROLLED		RRH CONTROLLED			
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)				1 4449 B5/B12			
RRH - 850 band (QTY/MODEL)				with another band			
RRH - 1900 band (QTY/MODEL)		1 8843 B2/B66A					
RRH - AWS band (QTY/MODEL)				1 with another band			
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
RRH_7B_1 (QTY/MODEL)							
RRH_7B_2 (QTY/MODEL)							
RRH_7B_3 (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)		1 Y-Cable		1 Y-Cable			
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Replace Existing LTE Antenna with a wider Octo port Antenna, // Replace LTE 700 BC radio shared with LTE 850.						
Local Market Note 2							
Local Market Note 3	1x6601 / 1x5216 / 1x4MU03 || 1x6630 + IDLe						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX?	TECHNOLOGY / FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID(cssng)
ANTENNA POSITION 2	PORT 3	25893.C.1900.4G.1	25893.C.1900.4G.1	CTL05206_9C_1	CTL05206_9C_1		LTE 1900	1D65A_1930MHz_06DT	17.2	240	6	TOP	FIBER	0						4842.058		20	
	PORT 4	25893.C.1900.4G.4	25893.C.1900.4G.4	CTL05206_9C_2	CTL05206_9C_2		LTE 1900	1D65A_1930MHz_06DT	17.2	240	6	TOP	FIBER	0						4842.058		20	
ANTENNA POSITION 4	PORT 2	25893.C.850.5G.3	25893.C.850.5G.1	CTCN005206_N005C_1	CTCN005206_N005C_1		5G 850	BU4DA_849MHz_02DT	14.4	240	2	TOP	FIBER							1000		23	
	PORT 4	25893.C.AWS.4G.4	25893.C.AWS.4G.4	CTL05206_2C_2	CTL05206_2C_2		LTE AWS	BU4DA_2170MHz_06DT	17	240	6	TOP	FIBER	0						5070.2572		24	
	PORT 5	25893.C.700.4G.1	25893.C.700.4G.1	CTL05206_7C_1	CTL05206_7C_1		LTE 700	BU4DA_716MHz_02DT	13.3	240	2	TOP	FIBER							1475.7065		23	