STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

August 22, 2022

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103
kbaldwin@rc.com

RE: **EM-VER-061-220707** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 330 Pokorny Road, Haddam, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) is in receipt of your correspondence of August 18, 2022 submitted in response to the Council's August 8, 2022 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/MP/emr

From: Mayo, Rachel <rmayo@RC.com>
Sent: Thursday, August 18, 2022 2:50 PM
To: Bachman, Melanie <Melanie.Bachman@ct.gov>; CSC-DL Siting Council <Siting.Council@ct.gov>
Cc: Baldwin, Kenneth <KBALDWIN@RC.com>; Mayo, Rachel <rmayo@RC.com>
Subject: FW: Council Incomplete Letter for EM-VER-061-220707 (330 Pokorny Road, Haddam)

Good Afternoon, please see the attached revised SA that includes T-Mobile's most recently approved equipment as requested in the Council's incomplete letter.

Please let us know if you require additional information.

Thank you

Rachel A. Mayo
Land Use Analyst

Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103
Direct 860.275.8213 | Fax 860.275.8299
rmayo@rc.com | Bio | V-Card

PAUL J. FORD & COMPANY

Report Date: August 16, 2022

Client: Hudson Design Group
45 Beechwood Dr
North Andover, MA 01845
Attn: Sylvester Bhembe
978.557.5553
sbhembe@hudsondesigngroupllc.com

Structure: Existing 280-ft Self Support Tower
FCC ASR #: 1285236
Site Name: Higganum South CT
Site Address: 330 Porkorny St
City, County, State: Haddam, Middlesex County, CT
Latitude, Longitude: 41.443583°, -72.566361°

PJF Project: A00022-0173.001.8700

Paul J. Ford and Company is pleased to submit this "**Structural Analysis Report**" to determine the tower stress level.

Analysis Criteria:
This analysis utilizes an ultimate 3-second gust wind speed of 140 mph as required by the 2018 Connecticut State Building Code and Appendix N. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Proposed Appurtenance Loads:
The structure was analyzed with the proposed loading configuration shown in Table 1 combined with the other considered equipment shown in Table 2 of this report.

Summary of Analysis Results:
Existing Structure: Pass – 85.8%
Existing Foundation: Pass – 66.7%

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and Hudson Design Group. If you have any questions or need further assistance on this or any other projects, please give us a call.

Respectfully Submitted by:
Paul J. Ford and Company

Anna Trudo, EI
Structural Designer
atrudo@pauljford.com

STATE OF CONNECTICUT
THOMAS J. DEHNKE
36041
LICENSED PROFESSIONAL ENGINEER
08/17/2022

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 280 ft Self Support tower designed by Valmont in February of 2012.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	III
Wind Speed:	140 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
155.0	155.0	3	ericsson	AIR 6449 B41 w/ Mount Pipe	3	hybrid
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	RADIO 4480 B71_TMO		
		3	rfs celwave	APXVAALL24_43-U-NA20 w/ Mount Pipe		
		3	tower mounts	Site Pro 1 VFA12-HD		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
280.0	290.0	1	telewave	ANT150F6-3	1 2	7/8 1-5/8
		1	decibel	DB538-G		
	285.0	1	kreco	Kreco CO-35A		
	280.0	3	tower mounts	4' x 2" Std. Pipe Mount		
277.0	277.0	1	rfs celwave	PAL8-59	2	EW63
		1	tower mounts	8' x 2" Sch 40 Pipe Mount		
276.0	276.0	1	rfs celwave	PAL8-59	-	-
		1	tower mounts	8' x 2" Sch 40 Pipe Mount		
260.0	265.0	1	decibel	DB589-Y	2 1	1-5/8 1/2
	260.0	1	misc	12" x 16" x 4" TMA		
		1	tower mounts	6' Side Arm Mount		
	255.0	1	decibel	DB589-Y		
257.0	262.0	2	misc	10' 8-Bay Dipole	2	7/8
	257.0	1	tower mounts	6' Side Arm Mount		
254.0	254.0	1	decibel	DB212-C	1	7/8
		1	tower mounts	6' Side Arm Mount		
252.0	252.0	1	rfs celwave	PADX6-59AC	2	EW63
		1	tower mounts	8' x 2" Sch 40 Pipe Mount		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
240.0	248.0	1	sinclair	SD110-SFXPASNM	2	7/8
	247.0	1	kreco	CO-36A		
	240.0	2	tower mounts	6' Side Arm Mount		
228.0	228.0	1	tower mounts	3' Side Arm Mount	1	7/8
		1	comprod	Comprod 531-70HD		
220.0	220.0	1	rfs celwave	PAL8-59	1	EW63
		1	tower mounts	8' x 2" Sch 40 Pipe Mount	1	7/8
216.0	224.0	1	sinclair	SD110-SFXPASNM	2	7/8
	220.0	1	telewave	ANT450F6		
	216.0	2	tower mounts	6' Side Arm Mount		
203.0	203.0	1	misc	TMA (16" x 12" x 6")	1	1-5/8
		1	tower mounts	6' Side Arm Mount		
	198.0	1	sinclair	SC479-HF1LDF(DXX-E5765)		
200.0	204.0	1	misc	96" x 4" x 6" Panel	2 1	1-5/8 ½
	200.0	1	tower mounts	3' Side Arm Mount		
		1	misc	TMA (16" x 12" x 6")		
	195.0	1	sinclair	SC479-HF1LDF(DXX-E5765)		
197.0	197.0	1	rfs celwave	PAL6	1	EW63
		1	tower mounts	8' x 2" Sch 40 Pipe Mount		
195.0	195.0	1	rfs celwave	PAD10-59AC	1	EW63
		1	tower mounts	8' x 2" Sch 40 Pipe Mount		
175.0	181.0	1	antel	BCR-80010:90	4 2	1-5/8 1/2
		1	sinclair	SC479-HF1LDF		
	175.0	1	misc	TMA (16" x 12" x 6")		
		2	tower mounts	6' Side Arm Mount		
	169.0	1	antel	BCR-80010:90		
		1	sinclair	SC479-HF1LDF		
165.0	168.0	1	telewave	ANT450F6	1	7/8
	165.0	1	tower mounts	3' Side Arm Mount		
162.0	162.0	1	rfs celwave	PA6-65AC	1	EW63
		1	tower mounts	8' x 2" Sch 40 Pipe Mount		
145.0	145.0	1	tower mounts	(3) VFA12-RRU Sector Frame	3	hybrid
		3	tower mounts	2 Std. Mount Pipe Stabilizer		
		3	tower mounts	2.5 STD x Mount Pipe		
		3	misc	BSAMNT-SBS-1-2 (Mount Bracket)		
		3	commscope	LNX-6515DS-A1M w/ Mount Pipe		
		6	commscope	NHH-65C-R2B w/ Mount Pipe		
		3	raycap	RC3DC-3315-PF-48		
		3	samsung telecommunications	B2/B66A RRH-BR049		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	samsung telecommunications	B5/B13 RRH-BR04C		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		12	tower mounts	L 2.5 x 2.5 x 3/16 x 6' Mount Angle		
128.0	128.0	1	tower mounts	Side Arm Mount [SO 311-1]	-	-
126.0	126.0	1	kathrein	PRF-950	1	7/8
		1	tower mounts	6' Side Arm Mount		
125.0	131.0	1	kreco	CO-36A	1	7/8
	125.0	1	tower mounts	6' Side Arm Mount		
124.0	128.0	1	telewave	ANT450F6	1	7/8
	124.0	1	tower mounts	6' Side Arm Mount		
123.0	123.0	1	rfs celwave	SBX4-W60AC2	1	E60
		1	tower mounts	8' x 2" Sch 40 Pipe Mount		
118.0	118.0	1	tower mounts	3' Side Arm Mount	1	7/8
		1	kathrein	ANT400D		
		2	kathrein	ANT400D3		
117.0	117.0	1	tower mounts	3' Side Arm Mount	1	7/8
		1	kathrein	PRF-950		
104.0	104.0	1	rfs celwave	PA6-65AC	1	EW63
		1	tower mounts	8' x 2" Sch 40 Pipe Mount		
95.0	98.0	1	browning	BR6155	1	7/8
	95.0	1	tower mounts	3' Side Arm Mount		
55.0	55.0	1	tower mounts	3' Side Arm Mount	1	7/8
		1	telewave	ANT400D3		
50.0	55.0	1	telewave	Telewave ANT790	1	1/2
	50.0	1	tower mounts	3' Side Arm Mount		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference
Tower Manufacturer Drawings	Valmont, 2/29/2012	240898
Geotechnical Report	8/1/2011	-
Structural Analysis	Black & Veatch, 3/12/2019	400056
Mount Modifications	Maser, 4/16/2021	Higganum South CT
Tower Inventory Mapping	HDG, 4/20/2021	Higganum South CT
Mount Analysis Report	Centek, 8/16/2021	Higganum South CT
Construction Drawings	Centek, 7/22/2021	Higganum South CT

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases.

Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	280 - 270	Leg	Valmont 207628 (12x1.25)	2	-4.65	142.49	33.7	Pass
T2	270 - 260	Leg	Valmont 207628 (12x1.25)	17	-9.92	142.49	9.3	Pass
T3	260 - 240	Leg	Valmont 207628 (12x1.25)	30	-19.98	142.49	35.2	Pass
T4	240 - 220	Leg	Valmont 207628 (12x1.25)	43	-67.34	142.49	47.3	Pass
T5	220 - 210	Leg	Valmont 195557 (12x1.75)	64	-88.11	301.49	45.1	Pass
T6	210 - 200	Leg	Valmont 195557 (12x1.75)	73	-109.32	301.49	46.7	Pass
T7	200 - 180	Leg	Valmont 211843 (12x2)	85	-144.37	356.29	67.5	Pass
T8	180 - 160	Leg	Valmont 208334 (12x2.25)	94	-198.15	451.15	45.0	Pass
T9	160 - 140	Leg	Valmont 208334 (12x2.25)	103	-253.67	451.15	85.8	Pass
T10	140 - 120	Leg	Valmont 208335 (12x2.5)	112	-318.15	557.27	57.1	Pass
T11	120 - 100	Leg	Valmont 208337 (12x2.75)	121	-385.86	674.68	57.2	Pass
T12	100 - 80	Leg	Valmont 208338 (12x3)	130	-454.20	803.44	56.5	Pass
T13	80 - 60	Leg	Valmont 208338 (12x3)	139	-523.61	803.44	65.2	Pass
T14	60 - 40	Leg	Valmont 208339 (12x3.25)	148	-592.34	943.57	62.8	Pass
T15	40 - 20	Leg	Valmont 208339 (12x3.25)	157	-663.11	943.57	70.3	Pass
T16	20 - 0	Leg	Valmont 208339 (12x3.25)	166	-729.08	943.57	77.3	Pass
T1	280 - 270	Diagonal	L 3 x 3 x 5/16	9	-3.48	21.96	15.9	Pass
T2	270 - 260	Diagonal	L 3 x 3 x 5/16	21	-4.45	19.76	22.5	Pass
T3	260 - 240	Diagonal	L 3 x 3 x 5/16	36	-7.16	16.15	44.3	Pass
T4	240 - 220	Diagonal	L 4 x 4 x 1/4	52	-10.10	26.54	38.1	Pass
T5	220 - 210	Diagonal	L 4 x 4 x 1/4	67	-11.60	24.26	47.8	Pass
T6	210 - 200	Diagonal	L 4 x 4 x 1/4	76	-12.24	22.24	55.1	Pass
T7	200 - 180	Diagonal	2L 3.5 x 3.5 x 1/4 (3/8)	89	-20.86	34.61	60.3	Pass
T8	180 - 160	Diagonal	2L 3.5 x 3.5 x 1/4 (3/8)	98	-22.55	31.42	71.8	Pass
T9	160 - 140	Diagonal	2L 4 x 4 x 1/4 (3/8)	107	-28.11	41.27	68.1	Pass
T10	140 - 120	Diagonal	2L 4 x 4 x 3/8 (1/2)	116	-32.60	58.42	55.8	Pass
T11	120 - 100	Diagonal	2L 4 x 4 x 3/8 (1/2)	125	-34.19	53.60	63.8	Pass
T12	100 - 80	Diagonal	2L 5 x 5 x 5/16 (1/2)	134	-36.35	75.43	48.2	Pass
T13	80 - 60	Diagonal	2L 5 x 5 x 5/16 (1/2)	143	-37.69	69.37	54.3	Pass
T14	60 - 40	Diagonal	2L 5 x 5 x 5/16 (1/2)	152	-39.64	63.90	62.0	Pass
T15	40 - 20	Diagonal	2L 5 x 5 x 5/16 (1/2)	161	-40.21	58.96	68.2	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T16	20 - 0	Diagonal	2L 5 x 5 x 5/16 (1/2)	170	-42.97	54.49	78.8	Pass
T1	280 - 270	Secondary Horizontal	L 2.5 x 2.5 x 5/16	14	-1.42	13.58	10.5	Pass
T2	270 - 260	Secondary Horizontal	L 2.5 x 2.5 x 5/16	25	-0.22	11.43	1.9	Pass
T6	210 - 200	Secondary Horizontal	L 5 x 5 x 3/8	84	-1.90	52.71	3.6	Pass
T1	280 - 270	Top Girt	L 3.5 x 3.5 x 5/16	6	-0.55	17.38	3.2	Pass
T4	240 - 220	Top Girt	L 5 x 5 x 3/8	47	-1.70	32.69	5.2	Pass
T4	240 - 220	Mid Girt	L 5 x 5 x 3/8	50	-2.35	28.65	8.2	Pass
							Summary	
						Leg (T9)	85.8	Pass
						Diagonal (T16)	78.8	Pass
						Secondary Horizontal (T1)	10.5	Pass
						Top Girt (T4)	5.2	Pass
						Mid Girt (T4)	8.2	Pass
						Bolt Checks	76.0	Pass
						Rating =	85.8	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	-	57.4	Pass
1	Base Foundation (Structure)	-	66.7	Pass
1	Base Foundation (Soil Interaction)	-	59.0	Pass

Structure Rating (max from all components) =	85.8%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

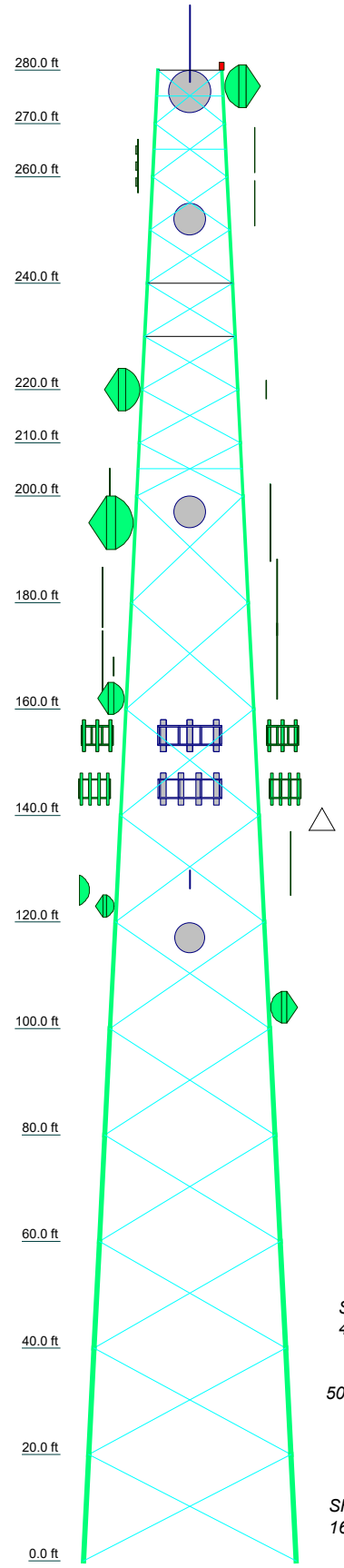
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	Valmont 208339 (12x3.25)			Valmont 208338 (12x3)		D	C	Valmont 208334 (12x2.25)		B	G	A	Valmont 207628 (12x1.25)			
Leg Grade	A572-50															
Diagonals	2L 5 x 5 x 5/16 (1/2)					2L 4 x 4 x 3/8 (1/2)		E	2L 3.5 x 3.5 x 1/4 (3/8)		L 4 x 4 x 1/4			L 3 x 3 x 5/16		
Diagonal Grade	A36															
Top Girts						N.A.					L 5 x 5 x 3/8		N.A.		F	
Mid Girts						N.A.					L 5 x 5 x 3/8		N.A.			
Sec. Horizontals						N.A.					N.A.				L 2.5 x 2.5 x 5/16	
Face Width (ft)	40	38	36	34	32	30	28	26	24	22	20	18	16	14	13	12
# Panels @ (ft)						10 @ 20					8 @ 10					
Weight (K)	112.0	12.9	12.6	12.4	11.3	11.1	9.6	8.5	6.4	5.9	5.3	2.9	2.1	4.5	2.9	1.6	1.9



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	Valmont 195557 (12x1.75)	E	2L 4 x 4 x 1/4 (3/8)
B	Valmont 211843 (12x2)	F	L 3.5 x 3.5 x 5/16
C	Valmont 208335 (12x2.5)	G	L 5 x 5 x 3/8
D	Valmont 208337 (12x2.75)		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 140 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category III.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 85.8%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 763 K
SHEAR: 101 K

UPLIFT: -621 K
SHEAR: 88 K

AXIAL 423 K
SHEAR 46 K *MOMENT 7423 kip-ft*
TORQUE 118 kip-ft
50 mph WIND - 1.5000 in ICE

AXIAL 160 K
SHEAR 168 K *MOMENT 24592 kip-ft*
TORQUE 349 kip-ft
REACTIONS - 140 mph WIND

Paul J. Ford and Company
250 East Broad St., Suite 600
Columbus, OH 43215
Phone: 614-221-6679
FAX:

Job: 280-ft Self Support Tower Haddam, CT
Project: 00022-0173 Higganum South CT
Client: Hudson Design Group | Drawn by: Anna Trudo | App'd:
Code: TIA-222-H | Date: 08/16/22 | Scale: NTS
Path: G:\TOWER\000_Misc\2022\00022-0173_Higganum South CT\00022-0173.001.8700_SA\tnx\00022-0173.001.8700.eo | Dwg No. E-1

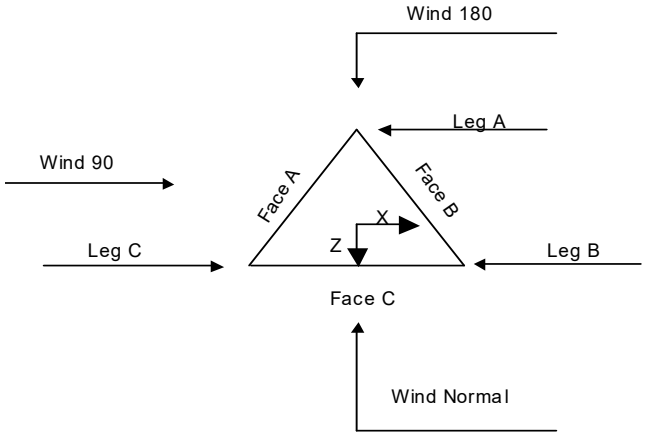
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 280.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 12.00 ft at the top and 40.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

- Tower is located in Middlesex County, Connecticut.
- Tower base elevation above sea level: 658.00 ft.
- Basic wind speed of 140 mph.
- Risk Category III.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.5000 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.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in tower member 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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	280.00-270.00			12.00	1	10.00
T2	270.00-260.00			13.00	1	10.00
T3	260.00-240.00			14.00	1	20.00
T4	240.00-220.00			16.00	1	20.00
T5	220.00-210.00			18.00	1	10.00
T6	210.00-200.00			19.00	1	10.00
T7	200.00-180.00			20.00	1	20.00
T8	180.00-160.00			22.00	1	20.00
T9	160.00-140.00			24.00	1	20.00
T10	140.00-120.00			26.00	1	20.00
T11	120.00-100.00			28.00	1	20.00
T12	100.00-80.00			30.00	1	20.00
T13	80.00-60.00			32.00	1	20.00
T14	60.00-40.00			34.00	1	20.00
T15	40.00-20.00			36.00	1	20.00
T16	20.00-0.00			38.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	280.00-270.00	10.00	X Brace	No	Yes	0.0000	0.0000
T2	270.00-260.00	10.00	X Brace	No	Yes	0.0000	0.0000
T3	260.00-240.00	10.00	X Brace	No	No	0.0000	0.0000
T4	240.00-220.00	10.00	X Brace	No	No	0.0000	0.0000
T5	220.00-210.00	10.00	X Brace	No	No	0.0000	0.0000
T6	210.00-200.00	10.00	X Brace	No	Yes	0.0000	0.0000
T7	200.00-180.00	20.00	X Brace	No	No	0.0000	0.0000

Tower Section	*Tower Elevation*	*Diagonal Spacing*	*Bracing Type*	*Has K Brace End Panels*	*Has Horizontals*	*Top Girt Offset*	*Bottom Girt Offset*
	ft	*ft*				*in*	*in*
T8	180.00-160.00	20.00	X Brace	No	No	0.0000	0.0000
T9	160.00-140.00	20.00	X Brace	No	No	0.0000	0.0000
T10	140.00-120.00	20.00	X Brace	No	No	0.0000	0.0000
T11	120.00-100.00	20.00	X Brace	No	No	0.0000	0.0000
T12	100.00-80.00	20.00	X Brace	No	No	0.0000	0.0000
T13	80.00-60.00	20.00	X Brace	No	No	0.0000	0.0000
T14	60.00-40.00	20.00	X Brace	No	No	0.0000	0.0000
T15	40.00-20.00	20.00	X Brace	No	No	0.0000	0.0000
T16	20.00-0.00	20.00	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	*Leg Type*	*Leg Size*	*Leg Grade*	*Diagonal Type*	*Diagonal Size*	*Diagonal Grade*
T1 280.00-270.00	Truss Leg	Valmont 207628 (12x1.25)	A572-50 (50 ksi)	Single Angle	L 3 x 3 x 5/16	A36 (36 ksi)
T2 270.00-260.00	Truss Leg	Valmont 207628 (12x1.25)	A572-50 (50 ksi)	Single Angle	L 3 x 3 x 5/16	A36 (36 ksi)
T3 260.00-240.00	Truss Leg	Valmont 207628 (12x1.25)	A572-50 (50 ksi)	Single Angle	L 3 x 3 x 5/16	A36 (36 ksi)
T4 240.00-220.00	Truss Leg	Valmont 207628 (12x1.25)	A572-50 (50 ksi)	Single Angle	L 4 x 4 x 1/4	A36 (36 ksi)
T5 220.00-210.00	Truss Leg	Valmont 195557 (12x1.75)	A572-50 (50 ksi)	Single Angle	L 4 x 4 x 1/4	A36 (36 ksi)
T6 210.00-200.00	Truss Leg	Valmont 195557 (12x1.75)	A572-50 (50 ksi)	Single Angle	L 4 x 4 x 1/4	A36 (36 ksi)
T7 200.00-180.00	Truss Leg	Valmont 211843 (12x2)	A572-50 (50 ksi)	Double Angle	2L 3.5 x 3.5 x 1/4 (3/8)	A36 (36 ksi)
T8 180.00-160.00	Truss Leg	Valmont 208334 (12x2.25)	A572-50 (50 ksi)	Double Angle	2L 3.5 x 3.5 x 1/4 (3/8)	A36 (36 ksi)
T9 160.00-140.00	Truss Leg	Valmont 208334 (12x2.25)	A572-50 (50 ksi)	Double Angle	2L 4 x 4 x 1/4 (3/8)	A36 (36 ksi)
T10 140.00-120.00	Truss Leg	Valmont 208335 (12x2.5)	A572-50 (50 ksi)	Double Angle	2L 4 x 4 x 3/8 (1/2)	A36 (36 ksi)
T11 120.00-100.00	Truss Leg	Valmont 208337 (12x2.75)	A572-50 (50 ksi)	Double Angle	2L 4 x 4 x 3/8 (1/2)	A36 (36 ksi)
T12 100.00-80.00	Truss Leg	Valmont 208338 (12x3)	A572-50 (50 ksi)	Double Angle	2L 5 x 5 x 5/16 (1/2)	A36 (36 ksi)
T13 80.00-60.00	Truss Leg	Valmont 208338 (12x3)	A572-50 (50 ksi)	Double Angle	2L 5 x 5 x 5/16 (1/2)	A36 (36 ksi)
T14 60.00-40.00	Truss Leg	Valmont 208339 (12x3.25)	A572-50 (50 ksi)	Double Angle	2L 5 x 5 x 5/16 (1/2)	A36 (36 ksi)
T15 40.00-20.00	Truss Leg	Valmont 208339 (12x3.25)	A572-50 (50 ksi)	Double Angle	2L 5 x 5 x 5/16 (1/2)	A36 (36 ksi)
T16 20.00-0.00	Truss Leg	Valmont 208339 (12x3.25)	A572-50 (50 ksi)	Double Angle	2L 5 x 5 x 5/16 (1/2)	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 280.00-270.00	Equal Angle	L 3.5 x 3.5 x 5/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T4 240.00-220.00	Single Angle	L 5 x 5 x 3/8	A36 (36 ksi)	Single Angle		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 240.00-220.00	1	Single Angle	L 5 x 5 x 3/8	A36 (36 ksi)	Single Angle		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 280.00-270.00	Single Angle	L 2.5 x 2.5 x 5/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T2 270.00-260.00	Single Angle	L 2.5 x 2.5 x 5/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T6 210.00-200.00	Single Angle	L 5 x 5 x 3/8	A36 (36 ksi)	Single Angle		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 280.00-270.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T2 270.00-260.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T3 260.00-240.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T4 240.00-220.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T5 220.00-210.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T6 210.00-200.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T7 200.00-180.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T8 180.00-160.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T9 160.00-140.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T10 140.00-120.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T11 120.00-100.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T12 100.00-80.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T13 80.00-60.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T14 60.00-40.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T15 40.00-20.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt
T16 20.00-0.00	0.00	0.5000	A36 (36 ksi)	1	1	1.1	Mid-Pt	Mid-Pt	Mid-Pt

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 280.00-270.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T2 270.00-260.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T3 260.00-240.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T4 240.00-220.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T5 220.00-210.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T6 210.00-200.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T7 200.00-180.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T8 180.00-160.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T9 160.00-140.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T10 140.00-120.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T11 120.00-100.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T12 100.00-80.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T13 80.00-60.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T14 60.00-40.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T15 40.00-20.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T16 20.00-0.00	Yes	Yes	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	Truss-Leg K Factors: Truss-Legs Used As Leg Members — Leg Panels	X Brace Diagonals	Z Brace Diagonals	Truss-Legs Used As Inner Members — Leg Panels	X Brace Diagonals	Z Brace Diagonals
T1 280.00-270.00	1	0.5	0.85	1	1	1
T2 270.00-260.00	1	0.5	0.85	1	1	1
T3 260.00-240.00	1	0.5	0.85	1	1	1
T4 240.00-220.00	1	0.5	0.85	1	1	1
T5 220.00-210.00	1	0.5	0.85	1	1	1
T6 210.00-200.00	1	0.5	0.85	1	1	1
T7 200.00-180.00	1	0.5	0.85	1	1	1

	Truss-Leg K Factors					
	Truss-Legs Used As Leg Members			Truss-Legs Used As Inner Members		
Tower Elevation ft	Leg Panels	X Brace Diagonals	Z Brace Diagonals	Leg Panels	X Brace Diagonals	Z Brace Diagonals
T8 180.00-160.00	1	0.5	0.85	1	1	1
T9 160.00-140.00	1	0.5	0.85	1	1	1
T10 140.00-120.00	1	0.5	0.85	1	1	1
T11 120.00-100.00	1	0.5	0.85	1	1	1
T12 100.00-80.00	1	0.5	0.85	1	1	1
T13 80.00-60.00	1	0.5	0.85	1	1	1
T14 60.00-40.00	1	0.5	0.85	1	1	1
T15 40.00-20.00	1	0.5	0.85	1	1	1
T16 20.00-0.00	1	0.5	0.85	1	1	1

Tower Section Geometry *(cont'd)*

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
T1 280.00-270.00	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
T2 270.00-260.00	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
T3 260.00-240.00	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
T4 240.00-220.00	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
T5 220.00-210.00	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 210.00-200.00	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 200.00-180.00	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 180.00-160.00	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 160.00-140.00	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 140.00-120.00	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
T11 120.00-100.00	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
T12 100.00-80.00	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
T13 80.00-60.00	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
T14 60.00-40.00	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
T15 40.00-20.00	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
T16 20.00-0.00	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 280.00-270.00	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 270.00-260.00	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 260.00-240.00	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 240.00-220.00	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 220.00-210.00	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 210.00-200.00	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 200.00-180.00	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 180.00-160.00	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 160.00-140.00	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 140.00-120.00	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
T11 120.00-100.00	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
T12 100.00-80.00	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
T13 80.00-60.00	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
T14 60.00-40.00	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
T15 40.00-20.00	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
T16 20.00-0.00	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 280.00-270.00	Flange	1.0000 A325N	0	1.0000 A325N	1	1.0000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	1.0000 A325N	1
T2 270.00-260.00	Flange	1.0000 A325N	6	1.0000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	1.0000 A325N	1
T3 260.00-240.00	Flange	1.0000 A325N	6	1.0000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 240.00-220.00	Flange	1.0000 A325N	6	1.0000 A325N	1	1.0000 A325N	1	0.6250 A325N	0	1.0000 A325N	1	0.6250 A325N	0	0.6250 A325N	0
T5 220.00-210.00	Flange	1.0000 A325N	0	1.0000 A325N	1	0.6250 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 210.00-200.00	Flange	1.0000 A325N	12	1.0000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	1.0000 A325N	1
T7 200.00-180.00	Flange	1.0000 A325N	12	0.8750 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 180.00-160.00	Flange	1.0000 A325N	12	0.8750 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 160.00-140.00	Flange	1.0000 A325N	12	0.8750 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 140.00-120.00	Flange	1.0000 A325N	12	0.8750 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

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.
T11 120.00-100.00	Flange	1.0000 A325N	12	0.8750 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T12 100.00-80.00	Flange	1.2500 A325N	12	0.8750 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T13 80.00-60.00	Flange	1.2500 A325N	12	0.8750 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T14 60.00-40.00	Flange	1.2500 A325N	12	0.8750 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T15 40.00-20.00	Flange	1.2500 A325N	12	0.8750 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T16 20.00-0.00	Flange	0.0000 A615-75	0	0.8750 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

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
****													
Safety Line 3/8	C	No	No	Ar (CaAa)	280.00 - 0.00	0.0000	0	1	1	0.3750	0.3750		0.22
LDF4-50A (1/2" foam)	C	No	No	Ar (CaAa)	280.00 - 0.00	0.0000	0.45	1	1	0.6300	0.6300		0.15
LDF2-50 (3/8" foam)	C	No	No	Ar (CaAa)	140.00 - 0.00	0.0000	0.45	1	1	0.4400	0.4400		0.08
****FACE A****													
LDF7-50A (1 5/8" foam)	A	No	No	Ar (CaAa)	155.00 - 0.00	0.0000	0.4	3	3	1.9800	1.9800		0.92
1.5" flat Cable Ladder Rail **	A	No	No	Af (CaAa)	155.00 - 0.00	0.0000	0.4	2	2	24.0000 1.5000	1.5000		1.80
EW63(ELLIPTICAL)	A	No	No	Ar (CaAa)	195.00 - 162.00	0.0000	-0.43	1	1	1.0000 0.5000	2.0100		0.51
EW63(ELLIPTICAL)	A	No	No	Ar (CaAa)	162.00 - 104.00	0.0000	-0.43	2	2	1.0000 0.5000	2.0100		0.51
EW63(ELLIPTICAL)	A	No	No	Ar (CaAa)	104.00 - 0.00	0.0000	-0.43	3	3	1.0000 0.5000	2.0100		0.51
LDF7-50A (1 5/8" foam)	A	No	No	Ar (CaAa)	200.00 - 0.00	0.0000	-0.36	2	2	1.0000 0.5000	1.9800		0.92
LDF7-50A (1 5/8" foam)	A	No	No	Ar (CaAa)	175.00 - 0.00	0.0000	-0.34	4	2	1.0000 0.5000	1.9800		0.92
LDF4-50A (1/2" foam)	A	No	No	Ar (CaAa)	175.00 - 0.00	0.0000	-0.4	2	2	0.6300	0.6300		0.15
LDF5-50A (7/8" foam)	A	No	No	Ar (CaAa)	55.00 - 0.00	0.0000	-0.32	1	1	1.0900	1.0900		0.33
LDF4-50A (1/2" foam)	A	No	No	Ar (CaAa)	200.00 - 0.00	0.0000	-0.36	1	1	0.6300	0.6300		0.15
LDF7-50A (1 5/8" foam)	A	No	No	Ar (CaAa)	203.00 - 0.00	0.0000	-0.36	1	1	1.0000 0.5000	1.9800		0.92
E60	A	No	No	Ar (CaAa)	123.00 - 0.00	0.0000	-0.42	1	1	1.0000 0.5000	2.0100		0.51
1.5" flat Cable Ladder Rail ****FACE B****	A	No	No	Af (CaAa)	235.00 - 0.00	0.0000	-0.4	2	2	36.0000 1.5000	1.5000		1.80
EW63(ELLIPTICAL)	B	No	No	Ar (CaAa)	277.00 - 220.00	0.0000	0.46	2	2	0.5000	2.0100		0.51
EW63(ELLIPTICAL)	B	No	No	Ar (CaAa)	220.00 - 0.00	0.0000	0.46	3	3	0.5000	2.0100		0.51

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)	B	No	No	Ar (CaAa)	165.00 - 0.00	0.0000	0.43	1	1	1.0000 0.5000	1.0900		0.33
LDF5-50A (7/8" foam)	B	No	No	Ar (CaAa)	254.00 - 0.00	0.0000	0.41	1	1	1.0900 0.5000	1.0900		0.33
LDF5-50A (7/8" foam)	B	No	No	Ar (CaAa)	240.00 - 0.00	0.0000	0.42	1	1	1.0000 0.5000	1.0900		0.33
LDF4-50A (1/2" foam)	B	No	No	Ar (CaAa)	260.00 - 0.00	0.0000	0.41	1	1	0.6300	0.6300		0.15
LDF7-50A (1 5/8" foam)	B	No	No	Ar (CaAa)	260.00 - 0.00	0.0000	0.39	2	2	1.0000 0.5000	1.9800		0.92
LDF5-50A (7/8" foam)	B	No	No	Ar (CaAa)	228.00 - 0.00	0.0000	0.38	1	1	1.0900	1.0900		0.33
LDF5-50A (7/8" foam)	B	No	No	Ar (CaAa)	216.00 - 0.00	0.0000	0.38	2	2	1.0900	1.0900		0.33
LDF5-50A (7/8" foam)	B	No	No	Ar (CaAa)	125.00 - 0.00	0.0000	0.44	1	1	1.0900	1.0900		0.33
Hybrid Cables	B	No	No	Ar (CaAa)	145.00 - 0.00	0.0000	0.44	3	3	1.5500	1.5500		0.66
LDF5-50A (7/8" foam)	B	No	No	Ar (CaAa)	257.00 - 0.00	0.0000	0.41	2	2	1.0900 0.5000	1.0900		0.33
LDF5-50A (7/8" foam)	B	No	No	Ar (CaAa)	220.00 - 0.00	0.0000	0.44	1	1	1.0000 0.5000	1.0900		0.33
1.5" flat Cable Ladder Rail ****FACE C****	B	No	No	Af (CaAa)	280.00 - 0.00	0.0000	0.4	2	2	36.0000 1.5000	1.5000		1.80
LDF7-50A (1 5/8" foam)	C	No	No	Ar (CaAa)	280.00 - 0.00	0.0000	0.46	2	2	1.0000 0.5000	1.9800		0.92
LDF7-50A (1 5/8" foam)	C	No	No	Ar (CaAa)	279.00 - 0.00	0.0000	0.46	1	1	1.0000 0.5000	1.9800		0.92
LDF5-50A (7/8" foam)	C	No	No	Ar (CaAa)	279.00 - 240.00	0.0000	0.43	2	2	1.0000 0.5000	1.0900		0.33
LDF5-50A (7/8" foam)	C	No	No	Ar (CaAa)	240.00 - 117.00	0.0000	0.43	4	4	1.0000 0.5000	1.0900		0.33
LDF5-50A (7/8" foam)	C	No	No	Ar (CaAa)	117.00 - 95.00	0.0000	0.45	5	5	1.0000 0.5000	1.0900		0.33
LDF5-50A (7/8" foam)	C	No	No	Ar (CaAa)	95.00 - 0.00	0.0000	0.43	6	6	1.0000 0.5000	1.0900		0.33
EW63(ELLIPTICAL)	C	No	No	Ar (CaAa)	252.00 - 197.00	0.0000	0.4	2	2	0.5000	2.0100		0.51
EW63(ELLIPTICAL)	C	No	No	Ar (CaAa)	197.00 - 0.00	0.0000	0.4	3	3	0.5000	2.0100		0.51
LDF5-50A (7/8" foam)	C	No	No	Ar (CaAa)	118.00 - 0.00	0.0000	0.45	1	1	1.0000 0.5000	1.0900		0.33
LDF5-50A (7/8" foam)	C	No	No	Ar (CaAa)	124.00 - 0.00	0.0000	0.4	1	1	1.0900	1.0900		0.33
LDF5-50A (7/8" foam)	C	No	No	Ar (CaAa)	126.00 - 0.00	0.0000	0.4	1	1	1.0900	1.0900		0.33
LDF4-50A (1/2" foam)	C	No	No	Ar (CaAa)	50.00 - 0.00	0.0000	0.4	1	1	0.6300	0.6300		0.15
1.5" flat Cable Ladder Rail ***	C	No	No	Af (CaAa)	280.00 - 0.00	0.0000	0.42	2	2	36.0000 1.5000	1.5000		1.80
LDF4-50A (1/2" foam)	A	No	No	Ar (CaAa)	148.00 - 142.00	0.0000	0	16	8	0.5000	0.6300		0.15
LDF4-50A (1/2" foam)	B	No	No	Ar (CaAa)	148.00 - 142.00	0.0000	0	16	8	0.5000	0.6300		0.15
LDF4-50A (1/2" foam) ***	C	No	No	Ar (CaAa)	148.00 - 142.00	0.0000	0	16	8	0.5000	0.6300		0.15

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C_AA_A ft^2/ft	Weight plf
***								

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	280.00-270.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.814	0.000	0.04
		C	0.000	0.000	13.709	0.000	0.07
T2	270.00-260.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	9.020	0.000	0.05
		C	0.000	0.000	14.125	0.000	0.07
T3	260.00-240.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	32.452	0.000	0.15
		C	0.000	0.000	33.074	0.000	0.16
T4	240.00-220.00	A	0.000	0.000	7.500	0.000	0.05
		B	0.000	0.000	36.812	0.000	0.16
		C	0.000	0.000	40.650	0.000	0.18
T5	220.00-210.00	A	0.000	0.000	5.000	0.000	0.04
		B	0.000	0.000	23.468	0.000	0.09
		C	0.000	0.000	20.325	0.000	0.09
T6	210.00-200.00	A	0.000	0.000	5.594	0.000	0.04
		B	0.000	0.000	24.340	0.000	0.10
		C	0.000	0.000	20.325	0.000	0.09
T7	200.00-180.00	A	0.000	0.000	26.155	0.000	0.14
		B	0.000	0.000	48.680	0.000	0.20
		C	0.000	0.000	44.067	0.000	0.19
T8	180.00-160.00	A	0.000	0.000	41.332	0.000	0.20
		B	0.000	0.000	49.225	0.000	0.20
		C	0.000	0.000	44.670	0.000	0.19
T9	160.00-140.00	A	0.000	0.000	71.998	0.000	0.34
		B	0.000	0.000	59.233	0.000	0.23
		C	0.000	0.000	50.718	0.000	0.21
T10	140.00-120.00	A	0.000	0.000	72.023	0.000	0.36
		B	0.000	0.000	60.705	0.000	0.24
		C	0.000	0.000	46.640	0.000	0.20
T11	120.00-100.00	A	0.000	0.000	76.244	0.000	0.37
		B	0.000	0.000	62.340	0.000	0.25
		C	0.000	0.000	53.725	0.000	0.22
T12	100.00-80.00	A	0.000	0.000	79.460	0.000	0.38
		B	0.000	0.000	62.340	0.000	0.25
		C	0.000	0.000	55.905	0.000	0.22
T13	80.00-60.00	A	0.000	0.000	79.460	0.000	0.38
		B	0.000	0.000	62.340	0.000	0.25
		C	0.000	0.000	56.450	0.000	0.23
T14	60.00-40.00	A	0.000	0.000	81.095	0.000	0.38
		B	0.000	0.000	62.340	0.000	0.25
		C	0.000	0.000	57.080	0.000	0.23
T15	40.00-20.00	A	0.000	0.000	81.640	0.000	0.38
		B	0.000	0.000	62.340	0.000	0.25
		C	0.000	0.000	57.710	0.000	0.23
T16	20.00-0.00	A	0.000	0.000	81.640	0.000	0.38
		B	0.000	0.000	62.340	0.000	0.25
		C	0.000	0.000	57.710	0.000	0.23

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	280.00-270.00	A	2.132	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	22.976	0.000	0.39
		C		0.000	0.000	52.926	0.000	0.82
T2	270.00-260.00	A	2.125	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	26.965	0.000	0.43
		C		0.000	0.000	54.563	0.000	0.84
T3	260.00-240.00	A	2.112	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	118.127	0.000	1.72
		C		0.000	0.000	124.817	0.000	1.86
T4	240.00-220.00	A	2.095	0.000	0.000	20.068	0.000	0.39
		B		0.000	0.000	138.896	0.000	2.03
		C		0.000	0.000	143.923	0.000	2.14
T5	220.00-210.00	A	2.081	0.000	0.000	13.322	0.000	0.26
		B		0.000	0.000	87.036	0.000	1.27
		C		0.000	0.000	71.676	0.000	1.06
T6	210.00-200.00	A	2.071	0.000	0.000	15.119	0.000	0.29
		B		0.000	0.000	91.310	0.000	1.31
		C		0.000	0.000	71.476	0.000	1.06
T7	200.00-180.00	A	2.055	0.000	0.000	84.592	0.000	1.39
		B		0.000	0.000	181.748	0.000	2.59
		C		0.000	0.000	146.844	0.000	2.18
T8	180.00-160.00	A	2.032	0.000	0.000	126.051	0.000	1.96
		B		0.000	0.000	183.061	0.000	2.60
		C		0.000	0.000	146.726	0.000	2.16
T9	160.00-140.00	A	2.007	0.000	0.000	209.405	0.000	3.17
		B		0.000	0.000	207.782	0.000	2.95
		C		0.000	0.000	156.070	0.000	2.29
T10	140.00-120.00	A	1.978	0.000	0.000	215.145	0.000	3.26
		B		0.000	0.000	222.451	0.000	3.10
		C		0.000	0.000	158.397	0.000	2.29
T11	120.00-100.00	A	1.946	0.000	0.000	224.547	0.000	3.39
		B		0.000	0.000	227.718	0.000	3.15
		C		0.000	0.000	184.905	0.000	2.67
T12	100.00-80.00	A	1.907	0.000	0.000	227.368	0.000	3.40
		B		0.000	0.000	225.002	0.000	3.07
		C		0.000	0.000	188.163	0.000	2.69
T13	80.00-60.00	A	1.860	0.000	0.000	224.421	0.000	3.31
		B		0.000	0.000	221.677	0.000	2.97
		C		0.000	0.000	186.750	0.000	2.62
T14	60.00-40.00	A	1.798	0.000	0.000	227.622	0.000	3.28
		B		0.000	0.000	217.357	0.000	2.85
		C		0.000	0.000	187.534	0.000	2.57
T15	40.00-20.00	A	1.709	0.000	0.000	224.039	0.000	3.13
		B		0.000	0.000	211.074	0.000	2.67
		C		0.000	0.000	186.395	0.000	2.46
T16	20.00-0.00	A	1.531	0.000	0.000	212.287	0.000	2.77
		B		0.000	0.000	198.617	0.000	2.33
		C		0.000	0.000	175.759	0.000	2.15

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	280.00-270.00	-3.2586	6.2844	-5.5971	8.8622
T2	270.00-260.00	-3.3446	7.9103	-6.6624	11.9743
T3	260.00-240.00	-0.3331	12.0931	-1.2086	17.9127
T4	240.00-220.00	-3.1598	11.5221	-3.5101	18.8640
T5	220.00-210.00	-2.0503	16.2425	-0.6681	24.4759
T6	210.00-200.00	-1.6056	14.1442	-0.3387	23.1742
T7	200.00-180.00	-9.3067	22.6677	-9.0913	31.1263
T8	180.00-160.00	-14.4248	25.4680	-14.2563	34.2589
T9	160.00-140.00	-14.7474	16.2177	-14.1817	25.3293
T10	140.00-120.00	-13.7255	17.5722	-14.6996	27.4561
T11	120.00-100.00	-17.5210	20.4065	-20.3504	32.1197

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T12	100.00-80.00	-17.8674	20.1225	-21.4425	32.5918
T13	80.00-60.00	-18.7902	21.0488	-22.6721	34.0368
T14	60.00-40.00	-20.1279	21.9953	-25.5296	35.8524
T15	40.00-20.00	-21.2798	23.0593	-27.6618	37.3945
T16	20.00-0.00	-22.0266	23.9055	-28.7295	37.7968

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	2	Safety Line 3/8	270.00 - 280.00	0.6000	0.4883
T1	3	LDF4-50A (1/2" foam)	270.00 - 280.00	0.6000	0.4883
T1	25	EW63(ELLIPTICAL)	270.00 - 277.00	0.6000	0.4883
T1	39	1.5" flat Cable Ladder Rail	270.00 - 280.00	0.6000	0.4883
T1	41	LDF7-50A (1 5/8" foam)	270.00 - 280.00	0.6000	0.4883
T1	42	LDF7-50A (1 5/8" foam)	270.00 - 279.00	0.6000	0.4883
T1	43	LDF5-50A (7/8" foam)	270.00 - 279.00	0.6000	0.4883
T1	53	1.5" flat Cable Ladder Rail	270.00 - 280.00	0.6000	0.4883
T2	2	Safety Line 3/8	260.00 - 270.00	0.6000	0.5648
T2	3	LDF4-50A (1/2" foam)	260.00 - 270.00	0.6000	0.5648
T2	25	EW63(ELLIPTICAL)	260.00 - 270.00	0.6000	0.5648
T2	39	1.5" flat Cable Ladder Rail	260.00 - 270.00	0.6000	0.5648
T2	41	LDF7-50A (1 5/8" foam)	260.00 - 270.00	0.6000	0.5648
T2	42	LDF7-50A (1 5/8" foam)	260.00 - 270.00	0.6000	0.5648
T2	43	LDF5-50A (7/8" foam)	260.00 - 270.00	0.6000	0.5648
T2	53	1.5" flat Cable Ladder Rail	260.00 - 270.00	0.6000	0.5648
T3	2	Safety Line 3/8	240.00 - 260.00	0.6000	0.6000
T3	3	LDF4-50A (1/2" foam)	240.00 - 260.00	0.6000	0.6000
T3	25	EW63(ELLIPTICAL)	240.00 - 260.00	0.6000	0.6000
T3	28	LDF5-50A (7/8" foam)	240.00 - 254.00	0.6000	0.6000
T3	30	LDF4-50A (1/2" foam)	240.00 - 260.00	0.6000	0.6000
T3	31	LDF7-50A (1 5/8" foam)	240.00 - 260.00	0.6000	0.6000
T3	37	LDF5-50A (7/8" foam)	240.00 - 257.00	0.6000	0.6000
T3	39	1.5" flat Cable Ladder Rail	240.00 - 260.00	0.6000	0.6000
T3	41	LDF7-50A (1 5/8" foam)	240.00 - 260.00	0.6000	0.6000
T3	42	LDF7-50A (1 5/8" foam)	240.00 - 260.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T3	43	LDF5-50A (7/8" foam)	240.00 - 260.00	0.6000	0.6000
T3	47	EW63(ELLIPTICAL)	240.00 - 252.00	0.6000	0.6000
T3	53	1.5" flat Cable Ladder Rail	240.00 - 260.00	0.6000	0.6000
T4	2	Safety Line 3/8	220.00 - 240.00	0.6000	0.5846
T4	3	LDF4-50A (1/2" foam)	220.00 - 240.00	0.6000	0.5846
T4	22	1.5" flat Cable Ladder Rail	220.00 - 235.00	0.6000	0.5846
T4	25	EW63(ELLIPTICAL)	220.00 - 240.00	0.6000	0.5846
T4	28	LDF5-50A (7/8" foam)	220.00 - 240.00	0.6000	0.5846
T4	29	LDF5-50A (7/8" foam)	220.00 - 240.00	0.6000	0.5846
T4	30	LDF4-50A (1/2" foam)	220.00 - 240.00	0.6000	0.5846
T4	31	LDF7-50A (1 5/8" foam)	220.00 - 240.00	0.6000	0.5846
T4	32	LDF5-50A (7/8" foam)	220.00 - 228.00	0.6000	0.5846
T4	37	LDF5-50A (7/8" foam)	220.00 - 240.00	0.6000	0.5846
T4	39	1.5" flat Cable Ladder Rail	220.00 - 240.00	0.6000	0.5846
T4	41	LDF7-50A (1 5/8" foam)	220.00 - 240.00	0.6000	0.5846
T4	42	LDF7-50A (1 5/8" foam)	220.00 - 240.00	0.6000	0.5846
T4	44	LDF5-50A (7/8" foam)	220.00 - 240.00	0.6000	0.5846
T4	47	EW63(ELLIPTICAL)	220.00 - 240.00	0.6000	0.5846
T4	53	1.5" flat Cable Ladder Rail	220.00 - 240.00	0.6000	0.5846
T5	2	Safety Line 3/8	210.00 - 220.00	0.6000	0.6000
T5	3	LDF4-50A (1/2" foam)	210.00 - 220.00	0.6000	0.6000
T5	22	1.5" flat Cable Ladder Rail	210.00 - 220.00	0.6000	0.6000
T5	26	EW63(ELLIPTICAL)	210.00 - 220.00	0.6000	0.6000
T5	28	LDF5-50A (7/8" foam)	210.00 - 220.00	0.6000	0.6000
T5	29	LDF5-50A (7/8" foam)	210.00 - 220.00	0.6000	0.6000
T5	30	LDF4-50A (1/2" foam)	210.00 - 220.00	0.6000	0.6000
T5	31	LDF7-50A (1 5/8" foam)	210.00 - 220.00	0.6000	0.6000
T5	32	LDF5-50A (7/8" foam)	210.00 - 220.00	0.6000	0.6000
T5	33	LDF5-50A (7/8" foam)	210.00 - 216.00	0.6000	0.6000
T5	37	LDF5-50A (7/8" foam)	210.00 - 220.00	0.6000	0.6000
T5	38	LDF5-50A (7/8" foam)	210.00 - 220.00	0.6000	0.6000
T5	39	1.5" flat Cable Ladder Rail	210.00 - 220.00	0.6000	0.6000
T5	41	LDF7-50A (1 5/8" foam)	210.00 - 220.00	0.6000	0.6000
T5	42	LDF7-50A (1 5/8" foam)	210.00 - 220.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T5	44	LDF5-50A (7/8" foam)	210.00 - 220.00	0.6000	0.6000
T5	47	EW63(ELLIPTICAL)	210.00 - 220.00	0.6000	0.6000
T5	53	1.5" flat Cable Ladder Rail	210.00 - 220.00	0.6000	0.6000
T6	2	Safety Line 3/8	200.00 - 210.00	0.6000	0.6000
T6	3	LDF4-50A (1/2" foam)	200.00 - 210.00	0.6000	0.6000
T6	20	LDF7-50A (1 5/8" foam)	200.00 - 203.00	0.6000	0.6000
T6	22	1.5" flat Cable Ladder Rail	200.00 - 210.00	0.6000	0.6000
T6	26	EW63(ELLIPTICAL)	200.00 - 210.00	0.6000	0.6000
T6	28	LDF5-50A (7/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	29	LDF5-50A (7/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	30	LDF4-50A (1/2" foam)	200.00 - 210.00	0.6000	0.6000
T6	31	LDF7-50A (1 5/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	32	LDF5-50A (7/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	33	LDF5-50A (7/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	37	LDF5-50A (7/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	38	LDF5-50A (7/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	39	1.5" flat Cable Ladder Rail	200.00 - 210.00	0.6000	0.6000
T6	41	LDF7-50A (1 5/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	42	LDF7-50A (1 5/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	44	LDF5-50A (7/8" foam)	200.00 - 210.00	0.6000	0.6000
T6	47	EW63(ELLIPTICAL)	200.00 - 210.00	0.6000	0.6000
T6	53	1.5" flat Cable Ladder Rail	200.00 - 210.00	0.6000	0.6000
T7	2	Safety Line 3/8	180.00 - 200.00	0.6000	0.6000
T7	3	LDF4-50A (1/2" foam)	180.00 - 200.00	0.6000	0.6000
T7	10	EW63(ELLIPTICAL)	180.00 - 195.00	0.6000	0.6000
T7	15	LDF7-50A (1 5/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	19	LDF4-50A (1/2" foam)	180.00 - 200.00	0.6000	0.6000
T7	20	LDF7-50A (1 5/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	22	1.5" flat Cable Ladder Rail	180.00 - 200.00	0.6000	0.6000
T7	26	EW63(ELLIPTICAL)	180.00 - 200.00	0.6000	0.6000
T7	28	LDF5-50A (7/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	29	LDF5-50A (7/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	30	LDF4-50A (1/2" foam)	180.00 - 200.00	0.6000	0.6000
T7	31	LDF7-50A (1 5/8" foam)	180.00 - 200.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T7	32	LDF5-50A (7/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	33	LDF5-50A (7/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	37	LDF5-50A (7/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	38	LDF5-50A (7/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	39	1.5" flat Cable Ladder Rail	180.00 - 200.00	0.6000	0.6000
T7	41	LDF7-50A (1 5/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	42	LDF7-50A (1 5/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	44	LDF5-50A (7/8" foam)	180.00 - 200.00	0.6000	0.6000
T7	47	EW63(ELLIPTICAL)	197.00 - 200.00	0.6000	0.6000
T7	48	EW63(ELLIPTICAL)	180.00 - 197.00	0.6000	0.6000
T7	53	1.5" flat Cable Ladder Rail	180.00 - 200.00	0.6000	0.6000
T8	2	Safety Line 3/8	160.00 - 180.00	0.6000	0.6000
T8	3	LDF4-50A (1/2" foam)	160.00 - 180.00	0.6000	0.6000
T8	10	EW63(ELLIPTICAL)	162.00 - 180.00	0.6000	0.6000
T8	11	EW63(ELLIPTICAL)	160.00 - 162.00	0.6000	0.6000
T8	15	LDF7-50A (1 5/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	16	LDF7-50A (1 5/8" foam)	160.00 - 175.00	0.6000	0.6000
T8	17	LDF4-50A (1/2" foam)	160.00 - 175.00	0.6000	0.6000
T8	19	LDF4-50A (1/2" foam)	160.00 - 180.00	0.6000	0.6000
T8	20	LDF7-50A (1 5/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	22	1.5" flat Cable Ladder Rail	160.00 - 180.00	0.6000	0.6000
T8	26	EW63(ELLIPTICAL)	160.00 - 180.00	0.6000	0.6000
T8	27	LDF5-50A (7/8" foam)	160.00 - 165.00	0.6000	0.6000
T8	28	LDF5-50A (7/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	29	LDF5-50A (7/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	30	LDF4-50A (1/2" foam)	160.00 - 180.00	0.6000	0.6000
T8	31	LDF7-50A (1 5/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	32	LDF5-50A (7/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	33	LDF5-50A (7/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	37	LDF5-50A (7/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	38	LDF5-50A (7/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	39	1.5" flat Cable Ladder Rail	160.00 - 180.00	0.6000	0.6000
T8	41	LDF7-50A (1 5/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	42	LDF7-50A (1 5/8" foam)	160.00 - 180.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T8	44	LDF5-50A (7/8" foam)	160.00 - 180.00	0.6000	0.6000
T8	48	EW63(ELLIPTICAL)	160.00 - 180.00	0.6000	0.6000
T8	53	1.5" flat Cable Ladder Rail	160.00 - 180.00	0.6000	0.6000
T9	2	Safety Line 3/8	140.00 - 160.00	0.6000	0.6000
T9	3	LDF4-50A (1/2" foam)	140.00 - 160.00	0.6000	0.6000
T9	6	LDF7-50A (1 5/8" foam)	140.00 - 155.00	0.6000	0.6000
T9	8	1.5" flat Cable Ladder Rail	140.00 - 155.00	0.6000	0.6000
T9	11	EW63(ELLIPTICAL)	140.00 - 160.00	0.6000	0.6000
T9	15	LDF7-50A (1 5/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	16	LDF7-50A (1 5/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	17	LDF4-50A (1/2" foam)	140.00 - 160.00	0.6000	0.6000
T9	19	LDF4-50A (1/2" foam)	140.00 - 160.00	0.6000	0.6000
T9	20	LDF7-50A (1 5/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	22	1.5" flat Cable Ladder Rail	140.00 - 160.00	0.6000	0.6000
T9	26	EW63(ELLIPTICAL)	140.00 - 160.00	0.6000	0.6000
T9	27	LDF5-50A (7/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	28	LDF5-50A (7/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	29	LDF5-50A (7/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	30	LDF4-50A (1/2" foam)	140.00 - 160.00	0.6000	0.6000
T9	31	LDF7-50A (1 5/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	32	LDF5-50A (7/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	33	LDF5-50A (7/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	36	Hybrid Cables	140.00 - 145.00	0.6000	0.6000
T9	37	LDF5-50A (7/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	38	LDF5-50A (7/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	39	1.5" flat Cable Ladder Rail	140.00 - 160.00	0.6000	0.6000
T9	41	LDF7-50A (1 5/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	42	LDF7-50A (1 5/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	44	LDF5-50A (7/8" foam)	140.00 - 160.00	0.6000	0.6000
T9	48	EW63(ELLIPTICAL)	140.00 - 160.00	0.6000	0.6000
T9	53	1.5" flat Cable Ladder Rail	140.00 - 160.00	0.6000	0.6000
T9	55	LDF4-50A (1/2" foam)	142.00 - 148.00	0.6000	0.6000
T9	56	LDF4-50A (1/2" foam)	142.00 - 148.00	0.6000	0.6000
T9	57	LDF4-50A (1/2" foam)	142.00 - 148.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T10	2	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000
T10	3	LDF4-50A (1/2" foam)	120.00 - 140.00	0.6000	0.6000
T10	4	LDF2-50 (3/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	6	LDF7-50A (1 5/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	8	1.5" flat Cable Ladder Rail	120.00 - 140.00	0.6000	0.6000
T10	11	EW63(ELLIPTICAL)	120.00 - 140.00	0.6000	0.6000
T10	15	LDF7-50A (1 5/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	16	LDF7-50A (1 5/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	17	LDF4-50A (1/2" foam)	120.00 - 140.00	0.6000	0.6000
T10	19	LDF4-50A (1/2" foam)	120.00 - 140.00	0.6000	0.6000
T10	20	LDF7-50A (1 5/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	21	E60	120.00 - 123.00	0.6000	0.6000
T10	22	1.5" flat Cable Ladder Rail	120.00 - 140.00	0.6000	0.6000
T10	26	EW63(ELLIPTICAL)	120.00 - 140.00	0.6000	0.6000
T10	27	LDF5-50A (7/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	28	LDF5-50A (7/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	29	LDF5-50A (7/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	30	LDF4-50A (1/2" foam)	120.00 - 140.00	0.6000	0.6000
T10	31	LDF7-50A (1 5/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	32	LDF5-50A (7/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	33	LDF5-50A (7/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	34	LDF5-50A (7/8" foam)	120.00 - 125.00	0.6000	0.6000
T10	36	Hybrid Cables	120.00 - 140.00	0.6000	0.6000
T10	37	LDF5-50A (7/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	38	LDF5-50A (7/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	39	1.5" flat Cable Ladder Rail	120.00 - 140.00	0.6000	0.6000
T10	41	LDF7-50A (1 5/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	42	LDF7-50A (1 5/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	44	LDF5-50A (7/8" foam)	120.00 - 140.00	0.6000	0.6000
T10	48	EW63(ELLIPTICAL)	120.00 - 140.00	0.6000	0.6000
T10	50	LDF5-50A (7/8" foam)	120.00 - 124.00	0.6000	0.6000
T10	51	LDF5-50A (7/8" foam)	120.00 - 126.00	0.6000	0.6000
T10	53	1.5" flat Cable Ladder Rail	120.00 - 140.00	0.6000	0.6000
T11	2	Safety Line 3/8	100.00 - 120.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T11	3	LDF4-50A (1/2" foam)	100.00 - 120.00	0.6000	0.6000
T11	4	LDF2-50 (3/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	6	LDF7-50A (1 5/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	8	1.5" flat Cable Ladder Rail	100.00 - 120.00	0.6000	0.6000
T11	11	EW63(ELLIPTICAL)	104.00 - 120.00	0.6000	0.6000
T11	12	EW63(ELLIPTICAL)	100.00 - 104.00	0.6000	0.6000
T11	15	LDF7-50A (1 5/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	16	LDF7-50A (1 5/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	17	LDF4-50A (1/2" foam)	100.00 - 120.00	0.6000	0.6000
T11	19	LDF4-50A (1/2" foam)	100.00 - 120.00	0.6000	0.6000
T11	20	LDF7-50A (1 5/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	21	E60	100.00 - 120.00	0.6000	0.6000
T11	22	1.5" flat Cable Ladder Rail	100.00 - 120.00	0.6000	0.6000
T11	26	EW63(ELLIPTICAL)	100.00 - 120.00	0.6000	0.6000
T11	27	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	28	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	29	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	30	LDF4-50A (1/2" foam)	100.00 - 120.00	0.6000	0.6000
T11	31	LDF7-50A (1 5/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	32	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	33	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	34	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	36	Hybrid Cables	100.00 - 120.00	0.6000	0.6000
T11	37	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	38	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	39	1.5" flat Cable Ladder Rail	100.00 - 120.00	0.6000	0.6000
T11	41	LDF7-50A (1 5/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	42	LDF7-50A (1 5/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	44	LDF5-50A (7/8" foam)	117.00 - 120.00	0.6000	0.6000
T11	45	LDF5-50A (7/8" foam)	100.00 - 117.00	0.6000	0.6000
T11	48	EW63(ELLIPTICAL)	100.00 - 120.00	0.6000	0.6000
T11	49	LDF5-50A (7/8" foam)	100.00 - 118.00	0.6000	0.6000
T11	50	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000
T11	51	LDF5-50A (7/8" foam)	100.00 - 120.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T11	53	1.5" flat Cable Ladder Rail	100.00 - 120.00	0.6000	0.6000
T12	2	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T12	3	LDF4-50A (1/2" foam)	80.00 - 100.00	0.6000	0.6000
T12	4	LDF2-50 (3/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	6	LDF7-50A (1 5/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	8	1.5" flat Cable Ladder Rail	80.00 - 100.00	0.6000	0.6000
T12	12	EW63(ELLIPTICAL)	80.00 - 100.00	0.6000	0.6000
T12	15	LDF7-50A (1 5/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	16	LDF7-50A (1 5/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	17	LDF4-50A (1/2" foam)	80.00 - 100.00	0.6000	0.6000
T12	19	LDF4-50A (1/2" foam)	80.00 - 100.00	0.6000	0.6000
T12	20	LDF7-50A (1 5/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	21	E60	80.00 - 100.00	0.6000	0.6000
T12	22	1.5" flat Cable Ladder Rail	80.00 - 100.00	0.6000	0.6000
T12	26	EW63(ELLIPTICAL)	80.00 - 100.00	0.6000	0.6000
T12	27	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	28	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	29	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	30	LDF4-50A (1/2" foam)	80.00 - 100.00	0.6000	0.6000
T12	31	LDF7-50A (1 5/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	32	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	33	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	34	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	36	Hybrid Cables	80.00 - 100.00	0.6000	0.6000
T12	37	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	38	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	39	1.5" flat Cable Ladder Rail	80.00 - 100.00	0.6000	0.6000
T12	41	LDF7-50A (1 5/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	42	LDF7-50A (1 5/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	45	LDF5-50A (7/8" foam)	95.00 - 100.00	0.6000	0.6000
T12	46	LDF5-50A (7/8" foam)	80.00 - 95.00	0.6000	0.6000
T12	48	EW63(ELLIPTICAL)	80.00 - 100.00	0.6000	0.6000
T12	49	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	50	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T12	51	LDF5-50A (7/8" foam)	80.00 - 100.00	0.6000	0.6000
T12	53	1.5" flat Cable Ladder Rail	80.00 - 100.00	0.6000	0.6000
T13	2	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T13	3	LDF4-50A (1/2" foam)	60.00 - 80.00	0.6000	0.6000
T13	4	LDF2-50 (3/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	6	LDF7-50A (1 5/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	8	1.5" flat Cable Ladder Rail	60.00 - 80.00	0.6000	0.6000
T13	12	EW63(ELLIPTICAL)	60.00 - 80.00	0.6000	0.6000
T13	15	LDF7-50A (1 5/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	16	LDF7-50A (1 5/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	17	LDF4-50A (1/2" foam)	60.00 - 80.00	0.6000	0.6000
T13	19	LDF4-50A (1/2" foam)	60.00 - 80.00	0.6000	0.6000
T13	20	LDF7-50A (1 5/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	21	E60	60.00 - 80.00	0.6000	0.6000
T13	22	1.5" flat Cable Ladder Rail	60.00 - 80.00	0.6000	0.6000
T13	26	EW63(ELLIPTICAL)	60.00 - 80.00	0.6000	0.6000
T13	27	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	28	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	29	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	30	LDF4-50A (1/2" foam)	60.00 - 80.00	0.6000	0.6000
T13	31	LDF7-50A (1 5/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	32	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	33	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	34	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	36	Hybrid Cables	60.00 - 80.00	0.6000	0.6000
T13	37	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	38	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	39	1.5" flat Cable Ladder Rail	60.00 - 80.00	0.6000	0.6000
T13	41	LDF7-50A (1 5/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	42	LDF7-50A (1 5/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	46	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	48	EW63(ELLIPTICAL)	60.00 - 80.00	0.6000	0.6000
T13	49	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	50	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T13	51	LDF5-50A (7/8" foam)	60.00 - 80.00	0.6000	0.6000
T13	53	1.5" flat Cable Ladder Rail	60.00 - 80.00	0.6000	0.6000
T14	2	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T14	3	LDF4-50A (1/2" foam)	40.00 - 60.00	0.6000	0.6000
T14	4	LDF2-50 (3/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	6	LDF7-50A (1 5/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	8	1.5" flat Cable Ladder Rail	40.00 - 60.00	0.6000	0.6000
T14	12	EW63(ELLIPTICAL)	40.00 - 60.00	0.6000	0.6000
T14	15	LDF7-50A (1 5/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	16	LDF7-50A (1 5/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	17	LDF4-50A (1/2" foam)	40.00 - 60.00	0.6000	0.6000
T14	18	LDF5-50A (7/8" foam)	40.00 - 55.00	0.6000	0.6000
T14	19	LDF4-50A (1/2" foam)	40.00 - 60.00	0.6000	0.6000
T14	20	LDF7-50A (1 5/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	21	E60	40.00 - 60.00	0.6000	0.6000
T14	22	1.5" flat Cable Ladder Rail	40.00 - 60.00	0.6000	0.6000
T14	26	EW63(ELLIPTICAL)	40.00 - 60.00	0.6000	0.6000
T14	27	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	28	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	29	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	30	LDF4-50A (1/2" foam)	40.00 - 60.00	0.6000	0.6000
T14	31	LDF7-50A (1 5/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	32	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	33	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	34	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	36	Hybrid Cables	40.00 - 60.00	0.6000	0.6000
T14	37	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	38	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	39	1.5" flat Cable Ladder Rail	40.00 - 60.00	0.6000	0.6000
T14	41	LDF7-50A (1 5/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	42	LDF7-50A (1 5/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	46	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	48	EW63(ELLIPTICAL)	40.00 - 60.00	0.6000	0.6000
T14	49	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
T14	50	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	51	LDF5-50A (7/8" foam)	40.00 - 60.00	0.6000	0.6000
T14	52	LDF4-50A (1/2" foam)	40.00 - 50.00	0.6000	0.6000
T14	53	1.5" flat Cable Ladder Rail	40.00 - 60.00	0.6000	0.6000
T15	2	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T15	3	LDF4-50A (1/2" foam)	20.00 - 40.00	0.6000	0.6000
T15	4	LDF2-50 (3/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	6	LDF7-50A (1 5/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	8	1.5" flat Cable Ladder Rail	20.00 - 40.00	0.6000	0.6000
T15	12	EW63(ELLIPTICAL)	20.00 - 40.00	0.6000	0.6000
T15	15	LDF7-50A (1 5/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	16	LDF7-50A (1 5/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	17	LDF4-50A (1/2" foam)	20.00 - 40.00	0.6000	0.6000
T15	18	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	19	LDF4-50A (1/2" foam)	20.00 - 40.00	0.6000	0.6000
T15	20	LDF7-50A (1 5/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	21	E60	20.00 - 40.00	0.6000	0.6000
T15	22	1.5" flat Cable Ladder Rail	20.00 - 40.00	0.6000	0.6000
T15	26	EW63(ELLIPTICAL)	20.00 - 40.00	0.6000	0.6000
T15	27	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	28	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	29	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	30	LDF4-50A (1/2" foam)	20.00 - 40.00	0.6000	0.6000
T15	31	LDF7-50A (1 5/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	32	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	33	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	34	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	36	Hybrid Cables	20.00 - 40.00	0.6000	0.6000
T15	37	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	38	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	39	1.5" flat Cable Ladder Rail	20.00 - 40.00	0.6000	0.6000
T15	41	LDF7-50A (1 5/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	42	LDF7-50A (1 5/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	46	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T15	48	EW63(ELLIPTICAL)	20.00 - 40.00	0.6000	0.6000
T15	49	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	50	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	51	LDF5-50A (7/8" foam)	20.00 - 40.00	0.6000	0.6000
T15	52	LDF4-50A (1/2" foam)	20.00 - 40.00	0.6000	0.6000
T15	53	1.5" flat Cable Ladder Rail	20.00 - 40.00	0.6000	0.6000
T16	2	Safety Line 3/8	0.00 - 20.00	0.6000	0.6000
T16	3	LDF4-50A (1/2" foam)	0.00 - 20.00	0.6000	0.6000
T16	4	LDF2-50 (3/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	6	LDF7-50A (1 5/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	8	1.5" flat Cable Ladder Rail	0.00 - 20.00	0.6000	0.6000
T16	12	EW63(ELLIPTICAL)	0.00 - 20.00	0.6000	0.6000
T16	15	LDF7-50A (1 5/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	16	LDF7-50A (1 5/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	17	LDF4-50A (1/2" foam)	0.00 - 20.00	0.6000	0.6000
T16	18	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	19	LDF4-50A (1/2" foam)	0.00 - 20.00	0.6000	0.6000
T16	20	LDF7-50A (1 5/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	21	E60	0.00 - 20.00	0.6000	0.6000
T16	22	1.5" flat Cable Ladder Rail	0.00 - 20.00	0.6000	0.6000
T16	26	EW63(ELLIPTICAL)	0.00 - 20.00	0.6000	0.6000
T16	27	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	28	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	29	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	30	LDF4-50A (1/2" foam)	0.00 - 20.00	0.6000	0.6000
T16	31	LDF7-50A (1 5/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	32	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	33	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	34	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	36	Hybrid Cables	0.00 - 20.00	0.6000	0.6000
T16	37	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	38	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	39	1.5" flat Cable Ladder Rail	0.00 - 20.00	0.6000	0.6000
T16	41	LDF7-50A (1 5/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	42	LDF7-50A (1 5/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	46	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	48	EW63(ELLIPTICAL)	0.00 - 20.00	0.6000	0.6000
T16	49	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	50	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	51	LDF5-50A (7/8" foam)	0.00 - 20.00	0.6000	0.6000
T16	52	LDF4-50A (1/2" foam)	0.00 - 20.00	0.6000	0.6000
T16	53	1.5" flat Cable Ladder Rail	0.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
**										
Kreco CO-35A	A	From Leg	0.50	0.00	0.0000	280.00	No Ice	3.26	3.26	0.01
			0.00				1/2" Ice	4.74	4.74	0.03
			5.00				1" Ice	6.23	6.23	0.06
								9.27	9.27	0.16

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*
						2" Ice			
4' x 2" Std. Pipe Mount	A	From Leg	0.00 0.00 0.00	0.0000	280.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
ANT150F6-3	C	From Leg	0.50 0.00 10.00	0.0000	280.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.80 6.83 8.87 13.01	4.80 6.83 8.87 13.01	0.03 0.07 0.11 0.25
4' x 2" Std. Pipe Mount	C	From Leg	0.00 0.00 0.00	0.0000	280.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
DB538-G	B	From Leg	0.50 0.00 10.00	0.0000	280.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.64 5.13 6.63 9.68	3.64 5.13 6.63 9.68	0.02 0.04 0.08 0.18
4' x 2" Std. Pipe Mount	B	From Leg	0.00 0.00 0.00	0.0000	280.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
**									
8' x 2" Sch 40 Pipe Mount	B	From Leg	0.00 0.00 0.00	0.0000	277.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
8' x 2" Sch 40 Pipe Mount	A	From Leg	0.00 0.00 0.00	0.0000	276.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
****									
****									
DB589-Y	B	From Leg	6.00 0.00 5.00	0.0000	260.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 3.00 3.76 4.82	2.13 3.00 3.76 4.82	0.01 0.03 0.05 0.11
DB589-Y	B	From Leg	6.00 0.00 -5.00	0.0000	260.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 3.00 3.76 4.82	2.13 3.00 3.76 4.82	0.01 0.03 0.05 0.11
12" x 16" x 4" TMA	B	From Leg	6.00 0.00 0.00	0.0000	260.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.20 1.34 1.48 1.79	0.41 0.50 0.59 0.81	0.02 0.02 0.03 0.06
6' Side Arm Mount	B	From Leg	3.00 0.00 0.00	0.0000	260.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
***									
(2) 10' 8-Bay Dipole	C	From Leg	3.00 0.00 5.00	0.0000	257.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.00 10.00 12.00 14.00	8.00 10.00 12.00 14.00	0.06 0.10 0.14 0.23

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
6' Side Arm Mount	C	From Leg	1.50 0.00 0.00	0.0000	257.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
***									
DB212-C	A	From Leg	6.00 0.00 0.00	0.0000	254.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.10 6.22 9.35 15.67	3.10 6.22 9.35 15.67	0.03 0.06 0.10 0.26
6' Side Arm Mount	A	From Leg	3.00 0.00 0.00	0.0000	254.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
***									
8' x 2" Sch 40 Pipe Mount	A	From Leg	0.00 0.00 0.00	0.0000	252.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
**									
SD110-SFXPASNM	B	From Leg	6.00 0.00 8.00	0.0000	240.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.50 15.00 22.50 30.00	7.50 15.00 22.50 30.00	0.03 0.03 0.04 0.06
6' Side Arm Mount	B	From Leg	3.00 0.00 0.00	0.0000	240.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
CO-36A	A	From Leg	6.00 0.00 7.00	0.0000	240.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 1.96 3.19 5.70	0.75 1.96 3.19 5.70	0.01 0.02 0.04 0.09
6' Side Arm Mount	A	From Leg	3.00 0.00 0.00	0.0000	240.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
***									
***									
Comprod 531-70HD	A	From Leg	3.00 0.00 0.00	0.0000	228.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.98 6.22 7.47 9.96	4.98 6.22 7.47 9.96	0.04 0.05 0.06 0.07
3' Side Arm Mount	A	From Leg	1.50 0.00 0.00	0.0000	228.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.94 1.48 2.02 3.10	1.41 2.17 2.93 4.45	0.03 0.04 0.06 0.08
***									
8' x 2" Sch 40 Pipe Mount	C	From Leg	0.00 0.00 0.00	0.0000	220.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
***									
SD110-SFXPASNM	A	From Leg	6.00 0.00 8.00	0.0000	216.00	No Ice 1/2" Ice	7.50 15.00 22.50	7.50 15.00 22.50	0.03 0.03 0.04

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*
						1" Ice	30.00	30.00	0.06
						2" Ice			
6' Side Arm Mount	A	From Leg	3.00	0.0000	216.00	No Ice	4.54	1.23	0.05
			0.00			1/2"	7.80	2.55	0.08
			0.00			Ice	11.06	3.88	0.10
						1" Ice	17.57	6.53	0.16
						2" Ice			
ANT450F6	B	From Leg	6.00	0.0000	216.00	No Ice	0.79	0.79	0.01
			0.00			1/2"	1.01	1.01	0.02
			4.00			Ice	1.23	1.23	0.03
						1" Ice	1.72	1.72	0.05
						2" Ice			
6' Side Arm Mount	B	From Leg	3.00	0.0000	216.00	No Ice	4.54	1.23	0.05
			0.00			1/2"	7.80	2.55	0.08
			0.00			Ice	11.06	3.88	0.10
						1" Ice	17.57	6.53	0.16
						2" Ice			
**									
SC479-HF1LDF(DXX-E5765)	C	From Leg	6.00	0.0000	203.00	No Ice	4.03	4.03	0.03
			0.00			1/2"	6.54	6.54	0.07
			-5.00			Ice	8.04	8.04	0.11
						1" Ice	10.81	10.81	0.23
						2" Ice			
TMA (16" x 12" x 6")	C	From Leg	6.00	0.0000	203.00	No Ice	1.70	0.86	0.03
			0.00			1/2"	1.86	0.99	0.04
			0.00			Ice	2.04	1.12	0.06
						1" Ice	2.40	1.42	0.10
						2" Ice			
6' Side Arm Mount	C	From Leg	3.00	0.0000	203.00	No Ice	4.54	1.23	0.05
			0.00			1/2"	7.80	2.55	0.08
			0.00			Ice	11.06	3.88	0.10
						1" Ice	17.57	6.53	0.16
						2" Ice			
***									
96" x 4" x 6" Panel	B	From Leg	6.00	0.0000	200.00	No Ice	4.00	6.80	0.02
			0.00			1/2"	4.92	7.38	0.05
			4.00			Ice	5.61	7.98	0.09
						1" Ice	6.78	9.18	0.19
						2" Ice			
SC479-HF1LDF(DXX-E5765)	B	From Leg	6.00	0.0000	200.00	No Ice	4.04	4.04	0.03
			0.00			1/2"	6.54	6.54	0.07
			-5.00			Ice	8.04	8.04	0.11
						1" Ice	10.81	10.81	0.23
						2" Ice			
TMA (16" x 12" x 6")	B	From Leg	6.00	0.0000	200.00	No Ice	1.70	0.86	0.03
			0.00			1/2"	1.86	0.99	0.04
			0.00			Ice	2.04	1.12	0.06
						1" Ice	2.40	1.42	0.10
						2" Ice			
3' Side Arm Mount	B	From Leg	1.50	0.0000	200.00	No Ice	0.94	1.41	0.03
			0.00			1/2"	1.48	2.17	0.04
			0.00			Ice	2.02	2.93	0.06
						1" Ice	3.10	4.45	0.08
						2" Ice			
***									
8' x 2" Sch 40 Pipe Mount	A	From Leg	0.00	0.0000	197.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			
**									
8' x 2" Sch 40 Pipe Mount	C	From Leg	0.00	0.0000	195.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12

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*
						2" Ice			
***									
BCR-80010:90	C	From Leg	6.00 0.00 6.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.20 6.03 6.80 8.19	3.20 6.03 6.80 8.19	0.04 0.07 0.11 0.22
SC479-HF1LDF	B	From Leg	6.00 0.00 6.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.08 6.51 8.00 10.73	4.08 6.51 8.00 10.73	0.03 0.07 0.11 0.23
TMA (16" x 12" x 6")	B	From Leg	6.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.70 1.86 2.04 2.40	0.86 0.99 1.12 1.42	0.03 0.04 0.06 0.10
SC479-HF1LDF	B	From Leg	6.00 0.00 -6.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.08 6.51 8.00 10.73	4.08 6.51 8.00 10.73	0.03 0.07 0.11 0.23
BCR-80010:90	C	From Leg	6.00 0.00 -6.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.20 6.03 6.80 8.19	3.20 6.03 6.80 8.19	0.04 0.07 0.11 0.22
6' Side Arm Mount	B	From Leg	3.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
6' Side Arm Mount	C	From Leg	3.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
***									
ANT450F6	C	From Leg	3.00 0.00 3.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.79 1.01 1.23 1.72	0.79 1.01 1.23 1.72	0.01 0.02 0.03 0.05
3' Side Arm Mount	C	From Leg	1.50 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.94 1.48 2.02 3.10	1.41 2.17 2.93 4.45	0.03 0.04 0.06 0.08
***									
8' x 2" Sch 40 Pipe Mount	C	From Leg	0.00 0.00 0.00	0.0000	162.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
***									
Site Pro 1 VFA12-HD	A	From Leg	2.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	13.20 19.50 25.80 38.40	9.20 14.60 19.50 30.80	0.66 0.80 1.01 1.24
Site Pro 1 VFA12-HD	B	From Leg	2.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	13.20 19.50 25.80 38.40	9.20 14.60 19.50 30.80	0.66 0.80 1.01 1.24

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
Site Pro 1 VFA12-HD	C	From Leg	2.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	13.20 19.50 25.80 38.40	9.20 14.60 19.50 30.80	0.66 0.80 1.01 1.24
APXVAALL24_43-U-NA20_TIA w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	20.48 21.23 21.99 23.44	10.87 12.39 13.94 16.29	0.18 0.32 0.46 0.79
APXVAALL24_43-U-NA20_TIA w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	20.48 21.23 21.99 23.44	10.87 12.39 13.94 16.29	0.18 0.32 0.46 0.79
APXVAALL24_43-U-NA20_TIA w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	20.48 21.23 21.99 23.44	10.87 12.39 13.94 16.29	0.18 0.32 0.46 0.79
AIR 6449 B41_TIA w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.87 6.23 6.61 7.38	3.27 3.73 4.20 5.20	0.13 0.18 0.23 0.36
AIR 6449 B41_TIA w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.87 6.23 6.61 7.38	3.27 3.73 4.20 5.20	0.13 0.18 0.23 0.36
AIR 6449 B41_TIA w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.87 6.23 6.61 7.38	3.27 3.73 4.20 5.20	0.13 0.18 0.23 0.36
RADIO 4480 B71_TMO	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.85 3.06 3.28 3.74	1.38 1.54 1.71 2.07	0.09 0.11 0.14 0.20
RADIO 4480 B71_TMO	B	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.85 3.06 3.28 3.74	1.38 1.54 1.71 2.07	0.09 0.11 0.14 0.20
RADIO 4480 B71_TMO	C	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.85 3.06 3.28 3.74	1.38 1.54 1.71 2.07	0.09 0.11 0.14 0.20
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* *ft* *ft* *ft*	*Azimuth Adjustment* *°*	*Placement* *ft*		*C_AA_A Front* *ft²*	*C_AA_A Side* *ft²*	*Weight* *K*
***									
MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.91 5.26 5.61 6.36	2.68 3.14 3.62 4.63	0.10 0.14 0.18 0.29
MT6407-77A w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.91 5.26 5.61 6.36	2.68 3.14 3.62 4.63	0.10 0.14 0.18 0.29
MT6407-77A w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.91 5.26 5.61 6.36	2.68 3.14 3.62 4.63	0.10 0.14 0.18 0.29
AIR 6449 - LS6 w/Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.95 5.50 5.98 6.98	4.23 4.96 5.56 6.82	0.11 0.16 0.22 0.35
AIR 6449 - LS6 w/Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.95 5.50 5.98 6.98	4.23 4.96 5.56 6.82	0.11 0.16 0.22 0.35
AIR 6449 - LS6 w/Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.95 5.50 5.98 6.98	4.23 4.96 5.56 6.82	0.11 0.16 0.22 0.35
LNX-6515DS-A1M_TIA w/ Mount Pipe	A	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.71 12.43 13.17 14.55	9.87 11.39 12.94 15.30	0.08 0.17 0.27 0.51
LNX-6515DS-A1M_TIA w/ Mount Pipe	B	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.71 12.43 13.17 14.55	9.87 11.39 12.94 15.30	0.08 0.17 0.27 0.51
LNX-6515DS-A1M_TIA w/ Mount Pipe	C	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.71 12.43 13.17 14.55	9.87 11.39 12.94 15.30	0.08 0.17 0.27 0.51
RC3DC-3315-PF-48	A	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.79 4.04 4.30 4.84	2.51 2.72 2.94 3.41	0.03 0.06 0.10 0.18
RC3DC-3315-PF-48	B	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.79 4.04 4.30 4.84	2.51 2.72 2.94 3.41	0.03 0.06 0.10 0.18
RC3DC-3315-PF-48	C	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.79 4.04 4.30 4.84	2.51 2.72 2.94 3.41	0.03 0.06 0.10 0.18
(2) NHH-65C-R2B_TIA w/ Mount Pipe	A	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	11.63 12.35 13.07 14.44	9.79 11.31 12.85 15.19	0.08 0.17 0.27 0.51

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*
						2" Ice			
(2) NHH-65C-R2B_TIA w/ Mount Pipe	B	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.63 12.35 13.07 14.44	9.79 11.31 12.85 15.19	0.08 0.17 0.27 0.51
(2) NHH-65C-R2B_TIA w/ Mount Pipe	C	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.63 12.35 13.07 14.44	9.79 11.31 12.85 15.19	0.08 0.17 0.27 0.51
B2/B66A RRH-BR049	A	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
B2/B66A RRH-BR049	B	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
B2/B66A RRH-BR049	C	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
B5/B13 RRH-BR04C	A	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
B5/B13 RRH-BR04C	B	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
B5/B13 RRH-BR04C	C	From Leg	4.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
(3) VFA12-RRU Sector Frame	C	None		0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	33.02 47.36 61.70 90.38	33.02 47.36 61.70 90.38	1.67 2.22 2.77 3.88
BSAMNT-SBS-1-2 (Mount Bracket)	A	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
BSAMNT-SBS-1-2 (Mount Bracket)	B	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
BSAMNT-SBS-1-2 (Mount Bracket)	C	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
2 Std. Mount Pipe Stabilizer	A	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice Ice 1" Ice	2.38 3.40 4.45 5.91	2.38 3.40 4.45 5.91	0.04 0.05 0.08 0.15

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*
						2" Ice			
2 Std. Mount Pipe Stabilizer	B	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.38 3.40 4.45 5.91	2.38 3.40 4.45 5.91	0.04 0.05 0.08 0.15
2 Std. Mount Pipe Stabilizer	C	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.38 3.40 4.45 5.91	2.38 3.40 4.45 5.91	0.04 0.05 0.08 0.15
2.5 STD x Mount Pipe	A	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.97 1.22 1.48 2.02	0.97 1.22 1.48 2.02	0.05 0.06 0.07 0.10
2.5 STD x Mount Pipe	B	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.97 1.22 1.48 2.02	0.97 1.22 1.48 2.02	0.05 0.06 0.07 0.10
2.5 STD x Mount Pipe	C	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.97 1.22 1.48 2.02	0.97 1.22 1.48 2.02	0.05 0.06 0.07 0.10
(4) L 2.5 x 2.5 x 3/16 x 6' Mount Angle	A	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.09 3.52 4.42	0.09 0.76 1.45 2.86	0.02 0.02 0.04 0.08
(4) L 2.5 x 2.5 x 3/16 x 6' Mount Angle	B	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.09 3.52 4.42	0.09 0.76 1.45 2.86	0.02 0.02 0.04 0.08
(4) L 2.5 x 2.5 x 3/16 x 6' Mount Angle	C	From Leg	0.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.09 3.52 4.42	0.09 0.76 1.45 2.86	0.02 0.02 0.04 0.08
***									
Side Arm Mount [SO 311-1]	B	From Leg	0.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.67 2.43 3.21 4.84	4.53 6.41 8.37 12.72	0.06 0.10 0.15 0.28
***									
6' Side Arm Mount	C	From Leg	3.00 0.00 0.00	0.0000	126.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
***									
CO-36A	B	From Leg	6.00 0.00 6.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.75 1.96 3.19 5.70	0.75 1.96 3.19 5.70	0.01 0.02 0.04 0.09
6' Side Arm Mount	B	From Leg	3.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
***									

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* *ft* *ft* *ft*	*Azimuth Adjustment* *°*	*Placement* *ft*		C_AA_A *Front* *ft²*	C_AA_A *Side* *ft²*	*Weight* *K*
ANT450F6	A	From Leg	6.00 0.00 4.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.79 1.01 1.23 1.72	0.79 1.01 1.23 1.72	0.01 0.02 0.03 0.05
6' Side Arm Mount	A	From Leg	3.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.54 7.80 11.06 17.57	1.23 2.55 3.88 6.53	0.05 0.08 0.10 0.16
***									
8' x 2" Sch 40 Pipe Mount	C	From Leg	0.00 0.00 0.00	0.0000	123.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
****									
(2) ANT400D3	C	From Leg	3.00 0.00 0.00	0.0000	118.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.95 1.19 1.45 1.99	0.95 1.19 1.45 1.99	0.01 0.02 0.03 0.06
ANT400D	C	From Leg	3.00 0.00 0.00	0.0000	118.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.95 1.19 1.45 1.99	0.95 1.19 1.45 1.99	0.01 0.02 0.03 0.06
3' Side Arm Mount	C	From Leg	1.50 0.00 0.00	0.0000	118.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.94 1.48 2.02 3.10	1.41 2.17 2.93 4.45	0.03 0.04 0.06 0.08
***									
3' Side Arm Mount	A	From Leg	1.50 0.00 0.00	0.0000	117.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.94 1.48 2.02 3.10	1.41 2.17 2.93 4.45	0.03 0.04 0.06 0.08
***									
8' x 2" Sch 40 Pipe Mount	B	From Leg	0.00 0.00 0.00	0.0000	104.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
***									
BR6155	A	From Leg	3.00 0.00 3.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.00 1.39 1.70 2.35	1.00 1.39 1.70 2.35	0.02 0.02 0.03 0.07
3' Side Arm Mount	A	From Leg	1.50 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.94 1.48 2.02 3.10	1.41 2.17 2.93 4.45	0.03 0.04 0.06 0.08
***									
ANT400D3	A	From Leg	3.00 0.00 0.00	0.0000	55.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.95 1.19 1.45 1.99	0.95 1.19 1.45 1.99	0.01 0.02 0.03 0.06
3' Side Arm Mount	A	From Leg	1.50 0.00 0.00	0.0000	55.00	No Ice 1/2" Ice 1" Ice	0.94 1.48 2.02 3.10	1.41 2.17 2.93 4.45	0.03 0.04 0.06 0.08

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
						2" Ice			
***									
Telewave ANT790	C	From Leg	3.00 0.00 5.00	0.0000	50.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.58 2.29 2.60 3.24	1.58 2.29 2.60 3.24	0.02 0.04 0.06 0.12
3' Side Arm Mount	C	From Leg	1.50 0.00 0.00	0.0000	50.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.94 1.48 2.02 3.10	1.41 2.17 2.93 4.45	0.03 0.04 0.06 0.08
**									
**									
FAA L-864 Beacon	B	From Leg	0.00 0.00 0.00	0.0000	280.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.20 2.20 3.20 5.20	1.20 2.20 3.20 5.20	0.05 0.08 0.12 0.19
FAA L-810 Sidelight	A	From Leg	0.50 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.20 0.40 0.60 1.00	0.20 0.40 0.60 1.00	0.00 0.01 0.01 0.01
FAA L-810 Sidelight	B	From Leg	0.50 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.20 0.40 0.60 1.00	0.20 0.40 0.60 1.00	0.00 0.01 0.01 0.01
FAA L-810 Sidelight	C	From Leg	0.00 0.00 0.00	0.0000	140.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.20 0.40 0.60 1.00	0.20 0.40 0.60 1.00	0.00 0.01 0.01 0.01
****									
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Dishes

Description	*Face or Leg*	*Dish Type*	*Offset Type*	*Offsets: Horz Lateral Vert* ft	*Azimuth Adjustment* °	*3 dB Beam Width* °	*Elevation* ft	*Outside Diameter* ft		*Aperture Area* ft^2	*Weight* K
PAL8-59	B	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	-37.0000		277.00	8.00	No Ice 1/2" Ice 1" Ice 2" Ice	50.27 51.32 52.37 54.48	0.29 0.55 0.81 1.34
PAL8-59	A	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	2.0000		276.00	8.00	No Ice 1/2" Ice 1" Ice 2" Ice	50.27 51.32 52.37 54.48	0.29 0.55 0.81 1.34
***											
**											
PADX6-59AC	A	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	50.0000		252.00	6.00	No Ice 1/2" Ice 1" Ice 2" Ice	28.27 29.07 29.86 31.44	0.19 0.33 0.48 0.78
**											

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight K
PAL8-59	C	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	2.0000		220.00	8.00	No Ice 1/2" Ice 1" Ice 2" Ice	50.27 51.32 52.37 54.48	0.29 0.55 0.81 1.34
**											
PAL6	A	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	46.0000		197.00	6.00	No Ice 1/2" Ice 1" Ice 2" Ice	28.27 29.07 29.86 31.44	0.19 0.33 0.48 0.78
**											
PAD10-59AC	C	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	35.0000		195.00	10.00	No Ice 1/2" Ice 1" Ice 2" Ice	78.54 79.85 81.17 83.80	0.58 0.99 1.40 2.22
***											
PA6-65AC	C	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	35.0000		162.00	6.00	No Ice 1/2" Ice 1" Ice 2" Ice	28.27 29.07 29.86 31.44	0.09 0.24 0.39 0.69
**											
PRF-950	C	Grid	From Leg	6.00 0.00 0.00	0.0000		126.00	5.67	No Ice 1/2" Ice 1" Ice 2" Ice	25.22 25.97 26.71 28.21	0.04 0.17 0.31 0.57
**											
SBX4-W60AC2	C	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	-16.5000		123.00	4.14	No Ice 1/2" Ice 1" Ice 2" Ice	13.47 14.02 14.57 15.66	0.08 0.15 0.22 0.37
**											
PRF-950	A	Grid	From Leg	3.00 0.00 0.00	0.0000		117.00	5.67	No Ice 1/2" Ice 1" Ice 2" Ice	25.22 25.97 26.71 28.21	0.04 0.17 0.31 0.57
***											
PA6-65AC	B	Paraboloid w/Radome	From Leg	0.50 0.00 0.00	37.0000		104.00	6.00	No Ice 1/2" Ice 1" Ice 2" Ice	28.27 29.07 29.86 31.44	0.07 0.15 0.23 0.40
***											

Truss-Leg Properties

Section Designation	Area in²	Area Ice in²	Self Weight K	Ice Weight K	Equiv. Diameter in	Equiv. Diameter Ice in	Leg Area in²
Valmont 207628 (12x1.25)	2161.7740	6426.1003	0.48	1.80	7.5062	22.3128	3.6816
Valmont 207628 (12x1.25)	2161.7740	6420.4921	0.48	1.79	7.5062	22.2934	3.6816
Valmont 207628 (12x1.25)	2161.7740	6411.7118	0.48	1.77	7.5062	22.2629	3.6816
Valmont 207628 (12x1.25)	2161.7740	6399.2361	0.48	1.74	7.5062	22.2196	3.6816
Valmont 195557 (12x1.75)	1998.1590	5693.0512	0.78	1.75	6.9381	19.7675	7.2158
Valmont 195557 (12x1.75)	1998.1590	5687.3570	0.78	1.73	6.9381	19.7478	7.2158
Valmont 211843 (12x2)	2279.9276	5750.3284	1.02	1.67	7.9164	19.9664	9.4248
Valmont 208334 (12x2.25)	2264.8364	5809.2358	1.20	1.73	7.8640	20.1710	11.9282

Section Designation	Area	Area Ice	Self Weight	Ice Weight	Equiv. Diameter	Equiv. Diameter Ice	Leg Area
	in^2	in^2	K	K	in	in	in^2
Valmont 208334 (12x2.25)	2264.8364	5794.6756	1.20	1.69	7.8640	20.1204	11.9282
Valmont 208335 (12x2.5)	2550.6273	5850.2505	1.41	1.67	8.8563	20.3134	14.7262
Valmont 208337 (12x2.75)	2786.4655	5903.3711	1.69	1.69	9.6752	20.4978	17.8187
Valmont 208338 (12x3)	3229.8584	6769.7929	2.03	1.68	11.2148	23.5062	21.2058
Valmont 208338 (12x3)	3229.8584	6736.1257	2.03	1.60	11.2148	23.3893	21.2058
Valmont 208339 (12x3.25)	3392.5998	6764.3550	2.30	1.52	11.7799	23.4873	24.8873
Valmont 208339 (12x3.25)	3392.5998	6700.6556	2.30	1.38	11.7799	23.2662	24.8873
Valmont 208339 (12x3.25)	3392.5998	6574.2024	2.30	1.14	11.7799	22.8271	24.8873

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service

Comb. No.	Description
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	763.19	88.84	-48.82
	Max. H_x	18	763.19	88.84	-48.82
	Max. H_z	5	-531.06	-61.69	42.85
	Min. Vert	7	-620.89	-77.02	41.71
	Min. H_x	7	-620.89	-77.02	41.71
	Min. H_z	18	763.19	88.84	-48.82
Leg B	Max. Vert	10	746.98	-88.99	-46.23
	Max. H_x	23	-605.38	76.41	39.10
	Max. H_z	23	-605.38	76.41	39.10
	Min. Vert	23	-605.38	76.41	39.10
	Min. H_x	10	746.98	-88.99	-46.23
	Min. H_z	10	746.98	-88.99	-46.23
Leg A	Max. Vert	2	738.73	-2.54	99.63
	Max. H_x	19	-315.86	10.91	-44.99
	Max. H_z	2	738.73	-2.54	99.63
	Min. Vert	15	-612.70	2.68	-86.36
	Min. H_x	8	49.88	-10.71	4.63
	Min. H_z	15	-612.70	2.68	-86.36

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	133.16	0.00	0.00	41.25	38.33	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	159.79	0.79	-165.18	-23745.37	-72.89	-172.50
0.9 Dead+1.0 Wind 0 deg - No Ice	119.84	0.79	-165.18	-23742.47	-84.33	-172.50
1.2 Dead+1.0 Wind 30 deg - No Ice	159.79	78.67	-135.09	-19677.13	-11475.93	52.86
0.9 Dead+1.0 Wind 30 deg - No Ice	119.84	78.67	-135.09	-19676.85	-11480.04	52.84
1.2 Dead+1.0 Wind 60 deg - No Ice	159.79	136.67	-78.78	-11380.81	-19861.11	164.42
0.9 Dead+1.0 Wind 60 deg - No Ice	119.84	136.67	-78.78	-11385.91	-19859.86	164.39
1.2 Dead+1.0 Wind 90 deg - No Ice	159.79	155.34	0.07	117.26	-22509.17	231.89
0.9 Dead+1.0 Wind 90 deg - No Ice	119.84	155.34	0.07	104.74	-22506.21	231.86
1.2 Dead+1.0 Wind 120 deg - No Ice	159.79	143.74	83.01	12100.56	-20762.34	310.42
0.9 Dead+1.0 Wind 120 deg - No Ice	119.84	143.74	83.01	12080.38	-20760.43	310.41
1.2 Dead+1.0 Wind 150 deg - No Ice	159.79	77.27	133.36	19355.70	-11122.12	349.12
0.9 Dead+1.0 Wind 150 deg - No Ice	119.84	77.27	133.36	19330.83	-11126.50	349.02

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 180 deg - No Ice	159.79	0.13	155.67	22635.20	49.72	185.93
0.9 Dead+1.0 Wind 180 deg - No Ice	119.84	0.13	155.67	22608.22	38.15	185.87
1.2 Dead+1.0 Wind 210 deg - No Ice	159.79	-78.12	135.20	19953.86	11566.60	-35.81
0.9 Dead+1.0 Wind 210 deg - No Ice	119.84	-78.12	135.20	19928.50	11547.57	-35.79
1.2 Dead+1.0 Wind 240 deg - No Ice	159.79	-145.26	83.90	12345.99	21268.88	-149.36
0.9 Dead+1.0 Wind 240 deg - No Ice	119.84	-145.26	83.90	12325.60	21243.52	-149.38
1.2 Dead+1.0 Wind 270 deg - No Ice	159.79	-155.19	0.55	201.81	22632.02	-214.64
0.9 Dead+1.0 Wind 270 deg - No Ice	119.84	-155.19	0.55	189.24	22605.89	-214.61
1.2 Dead+1.0 Wind 300 deg - No Ice	159.79	-134.22	-76.84	-11003.46	19481.42	-297.50
0.9 Dead+1.0 Wind 300 deg - No Ice	119.84	-134.22	-76.84	-11008.80	19457.36	-297.42
1.2 Dead+1.0 Wind 330 deg - No Ice	159.79	-76.24	-131.78	-18877.94	11044.92	-332.77
0.9 Dead+1.0 Wind 330 deg - No Ice	119.84	-76.24	-131.78	-18878.24	11026.28	-332.67
1.2 Dead+1.0 Ice	423.07	0.00	-0.00	494.63	262.59	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice	423.07	0.30	-45.52	-6350.40	225.83	-62.99
1.2 Dead+1.0 Wind 30 deg+1.0 Ice	423.07	22.35	-38.30	-5311.89	-3125.24	23.39
1.2 Dead+1.0 Wind 60 deg+1.0 Ice	423.07	38.86	-22.42	-2884.12	-5610.31	76.88
1.2 Dead+1.0 Wind 90 deg+1.0 Ice	423.07	44.17	-0.10	494.74	-6390.80	97.59
1.2 Dead+1.0 Wind 120 deg+1.0 Ice	423.07	39.36	22.72	3913.50	-5648.51	115.79
1.2 Dead+1.0 Wind 150 deg+1.0 Ice	423.07	21.92	38.11	6234.31	-3040.38	118.39
1.2 Dead+1.0 Wind 180 deg+1.0 Ice	423.07	0.02	44.55	7227.71	260.37	65.84
1.2 Dead+1.0 Wind 210 deg+1.0 Ice	423.07	-22.05	38.44	6343.71	3624.01	-20.81
1.2 Dead+1.0 Wind 240 deg+1.0 Ice	423.07	-39.66	23.12	3988.28	6261.04	-75.73
1.2 Dead+1.0 Wind 270 deg+1.0 Ice	423.07	-44.08	0.06	512.13	6912.42	-96.97
1.2 Dead+1.0 Wind 300 deg+1.0 Ice	423.07	-38.20	-21.96	-2802.61	6013.82	-114.09
1.2 Dead+1.0 Wind 330 deg+1.0 Ice	423.07	-21.84	-37.77	-5175.71	3551.18	-114.57
Dead+Wind 0 deg - Service	133.16	0.15	-30.40	-4338.42	16.52	-31.87
Dead+Wind 30 deg - Service	133.16	14.48	-24.87	-3590.01	-2082.51	9.83
Dead+Wind 60 deg - Service	133.16	25.16	-14.50	-2062.82	-3626.04	30.59
Dead+Wind 90 deg - Service	133.16	28.59	0.01	53.70	-4113.65	43.15
Dead+Wind 120 deg - Service	133.16	26.45	15.28	2259.31	-3791.59	57.60
Dead+Wind 150 deg - Service	133.16	14.22	24.55	3595.40	-2017.66	64.56
Dead+Wind 180 deg - Service	133.16	0.02	28.65	4199.03	39.02	34.33
Dead+Wind 210 deg - Service	133.16	-14.38	24.88	3705.26	2159.07	-6.70
Dead+Wind 240 deg - Service	133.16	-26.73	15.44	2304.41	3944.45	-27.83
Dead+Wind 270 deg - Service	133.16	-28.57	0.10	69.23	4196.09	-39.98
Dead+Wind 300 deg - Service	133.16	-24.71	-14.14	-1993.57	3616.20	-55.22
Dead+Wind 330 deg - Service	133.16	-14.03	-24.26	-3443.33	2063.20	-61.56

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-133.16	0.00	0.00	133.16	0.00	0.000%
2	0.79	-159.79	-165.18	-0.79	159.79	165.18	0.000%
3	0.79	-119.84	-165.18	-0.79	119.84	165.18	0.000%
4	78.67	-159.79	-135.09	-78.67	159.79	135.09	0.000%
5	78.67	-119.84	-135.09	-78.67	119.84	135.09	0.000%
6	136.67	-159.79	-78.78	-136.67	159.79	78.78	0.000%
7	136.67	-119.84	-78.78	-136.67	119.84	78.78	0.000%
8	155.34	-159.79	0.07	-155.34	159.79	-0.07	0.000%
9	155.34	-119.84	0.07	-155.34	119.84	-0.07	0.000%
10	143.74	-159.79	83.01	-143.74	159.79	-83.01	0.000%
11	143.74	-119.84	83.01	-143.74	119.84	-83.01	0.000%
12	77.27	-159.79	133.36	-77.27	159.79	-133.36	0.000%
13	77.27	-119.84	133.36	-77.27	119.84	-133.36	0.000%
14	0.13	-159.79	155.67	-0.13	159.79	-155.67	0.000%
15	0.13	-119.84	155.67	-0.13	119.84	-155.67	0.000%
16	-78.12	-159.79	135.20	78.12	159.79	-135.20	0.000%
17	-78.12	-119.84	135.20	78.12	119.84	-135.20	0.000%
18	-145.26	-159.79	83.90	145.26	159.79	-83.90	0.000%
19	-145.26	-119.84	83.90	145.26	119.84	-83.90	0.000%
20	-155.19	-159.79	0.55	155.19	159.79	-0.55	0.000%
21	-155.19	-119.84	0.55	155.19	119.84	-0.55	0.000%
22	-134.22	-159.79	-76.84	134.22	159.79	76.84	0.000%
23	-134.22	-119.84	-76.84	134.22	119.84	76.84	0.000%
24	-76.24	-159.79	-131.78	76.24	159.79	131.78	0.000%
25	-76.24	-119.84	-131.78	76.24	119.84	131.78	0.000%
26	0.00	-423.07	0.00	-0.00	423.07	0.00	0.000%
27	0.30	-423.07	-45.52	-0.30	423.07	45.52	0.000%
28	22.35	-423.07	-38.30	-22.35	423.07	38.30	0.000%
29	38.86	-423.07	-22.42	-38.86	423.07	22.42	0.000%
30	44.17	-423.07	-0.10	-44.17	423.07	0.10	0.000%
31	39.36	-423.07	22.72	-39.36	423.07	-22.72	0.000%
32	21.92	-423.07	38.11	-21.92	423.07	-38.11	0.000%
33	0.02	-423.07	44.55	-0.02	423.07	-44.55	0.000%
34	-22.05	-423.07	38.44	22.05	423.07	-38.44	0.000%
35	-39.66	-423.07	23.12	39.66	423.07	-23.12	0.000%
36	-44.08	-423.07	0.06	44.08	423.07	-0.06	0.000%
37	-38.20	-423.07	-21.96	38.20	423.07	21.96	0.000%
38	-21.84	-423.07	-37.77	21.84	423.07	37.77	0.000%
39	0.15	-133.16	-30.40	-0.15	133.16	30.40	0.000%
40	14.48	-133.16	-24.87	-14.48	133.16	24.87	0.000%
41	25.16	-133.16	-14.50	-25.16	133.16	14.50	0.000%
42	28.59	-133.16	0.01	-28.59	133.16	-0.01	0.000%
43	26.45	-133.16	15.28	-26.45	133.16	-15.28	0.000%
44	14.22	-133.16	24.55	-14.22	133.16	-24.55	0.000%
45	0.02	-133.16	28.65	-0.02	133.16	-28.65	0.000%
46	-14.38	-133.16	24.88	14.38	133.16	-24.88	0.000%
47	-26.73	-133.16	15.44	26.73	133.16	-15.44	0.000%
48	-28.57	-133.16	0.10	28.57	133.16	-0.10	0.000%
49	-24.71	-133.16	-14.14	24.71	133.16	14.14	0.000%
50	-14.03	-133.16	-24.26	14.03	133.16	24.26	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00001140
3	Yes	4	0.00000001	0.00000781
4	Yes	4	0.00000001	0.00001346
5	Yes	4	0.00000001	0.00000983
6	Yes	4	0.00000001	0.00001511
7	Yes	4	0.00000001	0.00001138
8	Yes	4	0.00000001	0.00001342
9	Yes	4	0.00000001	0.00000980
10	Yes	4	0.00000001	0.00001137
11	Yes	4	0.00000001	0.00000779
12	Yes	4	0.00000001	0.00001347
13	Yes	4	0.00000001	0.00000984
14	Yes	4	0.00000001	0.00001513
15	Yes	4	0.00000001	0.00001138
16	Yes	4	0.00000001	0.00001346
17	Yes	4	0.00000001	0.00000981
18	Yes	4	0.00000001	0.00001128
19	Yes	4	0.00000001	0.00000768
20	Yes	4	0.00000001	0.00001342
21	Yes	4	0.00000001	0.00000979
22	Yes	4	0.00000001	0.00001510
23	Yes	4	0.00000001	0.00001136
24	Yes	4	0.00000001	0.00001350
25	Yes	4	0.00000001	0.00000988
26	Yes	4	0.00000001	0.00000485
27	Yes	4	0.00000001	0.00003934
28	Yes	4	0.00000001	0.00003942
29	Yes	4	0.00000001	0.00004061
30	Yes	4	0.00000001	0.00004065
31	Yes	4	0.00000001	0.00004189
32	Yes	4	0.00000001	0.00004293
33	Yes	4	0.00000001	0.00004435
34	Yes	4	0.00000001	0.00004406
35	Yes	4	0.00000001	0.00004346
36	Yes	4	0.00000001	0.00004231
37	Yes	4	0.00000001	0.00004176
38	Yes	4	0.00000001	0.00003986
39	Yes	4	0.00000001	0.00000995
40	Yes	4	0.00000001	0.00001019
41	Yes	4	0.00000001	0.00001045
42	Yes	4	0.00000001	0.00001014
43	Yes	4	0.00000001	0.00001001
44	Yes	4	0.00000001	0.00001020
45	Yes	4	0.00000001	0.00001052
46	Yes	4	0.00000001	0.00001035
47	Yes	4	0.00000001	0.00001011
48	Yes	4	0.00000001	0.00001022
49	Yes	4	0.00000001	0.00001045
50	Yes	4	0.00000001	0.00001011

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	280 - 270	3.717	47	0.1100	0.0150
T2	270 - 260	3.485	47	0.1099	0.0154
T3	260 - 240	3.252	47	0.1090	0.0162
T4	240 - 220	2.794	47	0.1037	0.0165
T5	220 - 210	2.362	47	0.0934	0.0166
T6	210 - 200	2.160	47	0.0898	0.0160
T7	200 - 180	1.964	47	0.0855	0.0156
T8	180 - 160	1.603	47	0.0771	0.0140
T9	160 - 140	1.280	47	0.0689	0.0120
T10	140 - 120	0.991	47	0.0591	0.0100

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T11	120 - 100	0.746	47	0.0498	0.0086
T12	100 - 80	0.539	47	0.0412	0.0071
T13	80 - 60	0.364	47	0.0333	0.0058
T14	60 - 40	0.223	47	0.0246	0.0044
T15	40 - 20	0.116	47	0.0168	0.0029
T16	20 - 0	0.037	47	0.0086	0.0015

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
280.00	Kreco CO-35A	47	3.717	0.1100	0.0150	Inf
277.00	PAL8-59	47	3.648	0.1100	0.0151	Inf
276.00	PAL8-59	47	3.625	0.1100	0.0152	Inf
260.00	DB589-Y	47	3.252	0.1090	0.0162	793182
257.00	(2) 10' 8-Bay Dipole	47	3.182	0.1085	0.0163	513862
254.00	DB212-C	47	3.113	0.1080	0.0164	376516
252.00	PADX6-59AC	47	3.067	0.1076	0.0164	319451
240.00	SD110-SFXPASNM	47	2.794	0.1037	0.0165	165574
228.00	Comprod 531-70HD	47	2.531	0.0973	0.0167	131344
220.00	PAL8-59	47	2.362	0.0934	0.0166	125264
216.00	SD110-SFXPASNM	47	2.281	0.0919	0.0164	162425
203.00	SC479-HF1LDF(DXX-E5765)	47	2.022	0.0868	0.0157	122747
200.00	96" x 4" x 6" Panel	47	1.964	0.0855	0.0156	101841
197.00	PAL6	47	1.907	0.0841	0.0154	99168
195.00	PAD10-59AC	47	1.869	0.0833	0.0153	101999
175.00	BCR-80010:90	47	1.519	0.0751	0.0136	140665
165.00	ANT450F6	47	1.357	0.0711	0.0126	149283
162.00	PA6-65AC	47	1.311	0.0698	0.0123	151119
155.00	Site Pro 1 VFA12-HD	47	1.204	0.0665	0.0115	134278
145.00	MT6407-77A w/ Mount Pipe	47	1.059	0.0616	0.0105	106898
140.00	FAA L-810 Sidelight	47	0.991	0.0591	0.0100	99821
128.00	Side Arm Mount [SO 311-1]	47	0.839	0.0534	0.0091	118862
126.00	PRF-950	47	0.816	0.0525	0.0090	123499
125.00	CO-36A	47	0.804	0.0521	0.0089	125955
124.00	ANT450F6	47	0.792	0.0516	0.0089	128495
123.00	SBX4-W60AC2	47	0.781	0.0512	0.0088	131035
118.00	(2) ANT400D3	47	0.724	0.0489	0.0085	139530
117.00	PRF-950	47	0.713	0.0485	0.0084	140008
104.00	PA6-65AC	47	0.577	0.0429	0.0074	141484
95.00	BR6155	47	0.492	0.0392	0.0068	144771
55.00	ANT400D3	47	0.193	0.0226	0.0040	139768
50.00	Telewave ANT790	47	0.166	0.0207	0.0037	166804

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	280 - 270	19.998	18	0.5939	0.0805
T2	270 - 260	18.743	18	0.5929	0.0830
T3	260 - 240	17.487	18	0.5873	0.0869
T4	240 - 220	15.017	18	0.5578	0.0889
T5	220 - 210	12.699	18	0.5011	0.0893
T6	210 - 200	11.612	18	0.4817	0.0863
T7	200 - 180	10.558	18	0.4583	0.0838
T8	180 - 160	8.623	18	0.4135	0.0755
T9	160 - 140	6.887	18	0.3694	0.0649
T10	140 - 120	5.337	18	0.3171	0.0540
T11	120 - 100	4.022	18	0.2676	0.0464

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T12	100 - 80	2.904	18	0.2214	0.0386
T13	80 - 60	1.965	18	0.1787	0.0313
T14	60 - 40	1.204	18	0.1324	0.0237
T15	40 - 20	0.628	18	0.0906	0.0159
T16	20 - 0	0.204	18	0.0460	0.0080

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
280.00	Kreco CO-35A	18	19.998	0.5939	0.0805	541724
277.00	PAL8-59	18	19.621	0.5939	0.0810	541724
276.00	PAL8-59	18	19.496	0.5938	0.0812	541724
260.00	DB589-Y	18	17.487	0.5873	0.0869	139965
257.00	(2) 10' 8-Bay Dipole	18	17.111	0.5848	0.0877	92061
254.00	DB212-C	18	16.737	0.5818	0.0882	67145
252.00	PADX6-59AC	18	16.488	0.5794	0.0884	56650
240.00	SD110-SFXPASNM	18	15.017	0.5578	0.0889	29777
228.00	Comprod 531-70HD	18	13.602	0.5228	0.0899	23931
220.00	PAL8-59	18	12.699	0.5011	0.0893	22958
216.00	SD110-SFXPASNM	18	12.260	0.4929	0.0882	29799
203.00	SC479-HF1LDF(DXX-E5765)	18	10.869	0.4656	0.0846	22741
200.00	96" x 4" x 6" Panel	18	10.558	0.4583	0.0838	18884
197.00	PAL6	18	10.252	0.4511	0.0829	18405
195.00	PAD10-59AC	18	10.052	0.4465	0.0822	18944
175.00	BCR-80010:90	18	8.172	0.4029	0.0729	26326
165.00	ANT450F6	18	7.304	0.3811	0.0676	27934
162.00	PA6-65AC	18	7.053	0.3742	0.0660	28276
155.00	Site Pro 1 VFA12-HD	18	6.480	0.3568	0.0620	25130
145.00	MT6407-77A w/ Mount Pipe	18	5.704	0.3304	0.0565	20013
140.00	FAA L-810 Sidelight	18	5.337	0.3171	0.0540	18687
128.00	Side Arm Mount [SO 311-1]	18	4.522	0.2869	0.0493	22183
126.00	PRF-950	18	4.394	0.2820	0.0486	23033
125.00	CO-36A	18	4.330	0.2796	0.0482	23483
124.00	ANT450F6	18	4.268	0.2772	0.0479	23947
123.00	SBX4-W60AC2	18	4.206	0.2748	0.0475	24412
118.00	(2) ANT400D3	18	3.902	0.2628	0.0457	25986
117.00	PRF-950	18	3.843	0.2604	0.0453	26083
104.00	PA6-65AC	18	3.113	0.2302	0.0401	26503
95.00	BR6155	18	2.653	0.2107	0.0367	27072
55.00	ANT400D3	18	1.045	0.1216	0.0218	26158
50.00	Telewave ANT790	18	0.897	0.1112	0.0198	31020

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	280	Diagonal	A325N	1.0000	1	3.27	19.47	0.168 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	1.0000	1	1.51	15.24	0.099 ✔	1	Member Block Shear
		Top Girt	A325N	1.0000	1	0.49	20.34	0.024 ✔	1	Member Block Shear
T2	270	Leg	A325N	1.0000	6	1.22	54.52	0.022 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	1	4.20	19.47	0.216 ✔	1	Member Block Shear

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
		Secondary Horizontal	A325N	1.0000	1	0.27	15.24	0.018 ✔	1	Member Block Shear
T3	260	Leg	A325N	1.0000	6	4.42	54.52	0.081 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	1	7.01	19.47	0.360 ✔	1	Member Block Shear
T4	240	Leg	A325N	1.0000	6	8.85	54.52	0.162 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	1	9.15	18.30	0.500 ✔	1	Member Block Shear
		Top Girt	A325N	1.0000	1	2.05	25.45	0.081 ✔	1	Member Bearing
		Mid Girt	A325N	1.0000	1	2.70	25.45	0.106 ✔	1	Member Bearing
T5	220	Diagonal	A325N	1.0000	1	11.49	18.30	0.628 ✔	1	Member Block Shear
T6	210	Leg	A325N	1.0000	12	7.25	54.52	0.133 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	1	12.17	18.30	0.665 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	1.0000	1	1.90	25.45	0.074 ✔	1	Member Bearing
T7	200	Leg	A325N	1.0000	12	9.58	54.52	0.176 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	1	20.02	29.58	0.677 ✔	1	Gusset Bearing
T8	180	Leg	A325N	1.0000	12	13.19	54.52	0.242 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	1	22.48	29.58	0.760 ✔	1	Gusset Bearing
T9	160	Leg	A325N	1.0000	12	16.82	54.52	0.309 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	1	26.71	37.95	0.704 ✔	1	Member Block Shear
T10	140	Leg	A325N	1.0000	12	21.24	54.52	0.390 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	1	32.60	48.72	0.669 ✔	1	Gusset Bearing
T11	120	Leg	A325N	1.0000	12	26.00	54.52	0.477 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	2	16.92	39.15	0.432 ✔	1	Gusset Bearing
T12	100	Leg	A325N	1.2500	12	30.79	87.22	0.353 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	2	17.84	39.15	0.456 ✔	1	Gusset Bearing
T13	80	Leg	A325N	1.2500	12	35.57	87.22	0.408 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	2	18.64	39.15	0.476 ✔	1	Gusset Bearing
T14	60	Leg	A325N	1.2500	12	40.28	87.22	0.462 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	2	19.40	39.15	0.496 ✔	1	Gusset Bearing
T15	40	Leg	A325N	1.2500	12	45.05	87.22	0.516 ✔	1	Bolt Tension
		Diagonal	A325N	0.8750	2	19.99	39.15	0.511 ✔	1	Gusset Bearing
T16	20	Diagonal	A325N	0.8750	2	20.58	39.15	0.526 ✔	1	Gusset Bearing

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	280 - 270	Valmont 207628 (12x1.25)	10.02	10.02	45.4 K=1.00	3.6816	-4.65	142.49	0.033 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	270 - 260	Valmont 207628 (12x1.25)	10.02	10.02	45.4 K=1.00	3.6816	-10.63	142.49	0.075 [1] ✔
T3	260 - 240	Valmont 207628 (12x1.25)	20.03	10.02	45.4 K=1.00	3.6816	-34.72	142.49	0.244 [1] ✔
T4	240 - 220	Valmont 207628 (12x1.25)	20.03	10.02	45.4 K=1.00	3.6816	-67.34	142.49	0.473 [1] ✔
T5	220 - 210	Valmont 195557 (12x1.75)	10.02	10.02	31.9 K=1.00	7.2158	-88.11	301.49	0.292 [1] ✔
T6	210 - 200	Valmont 195557 (12x1.75)	10.02	10.02	31.9 K=1.00	7.2158	-109.32	301.49	0.363 [1] ✔
T7	200 - 180	Valmont 211843 (12x2)	20.03	20.03	48.8 K=1.00	9.4248	-144.37	356.29	0.405 [1] ✔
T8	180 - 160	Valmont 208334 (12x2.25)	20.03	20.03	48.8 K=1.00	11.928 2	-198.15	451.15	0.439 [1] ✔
T9	160 - 140	Valmont 208334 (12x2.25)	20.03	20.03	48.8 K=1.00	11.928 2	-253.67	451.15	0.562 [1] ✔
T10	140 - 120	Valmont 208335 (12x2.5)	20.03	20.03	48.7 K=1.00	14.726 2	-318.15	557.27	0.571 [1] ✔
T11	120 - 100	Valmont 208337 (12x2.75)	20.03	20.03	48.6 K=1.00	17.818 7	-385.86	674.68	0.572 [1] ✔
T12	100 - 80	Valmont 208338 (12x3)	20.03	20.03	48.5 K=1.00	21.205 7	-454.20	803.44	0.565 [1] ✔
T13	80 - 60	Valmont 208338 (12x3)	20.03	20.03	48.5 K=1.00	21.205 7	-523.61	803.44	0.652 [1] ✔
T14	60 - 40	Valmont 208339 (12x3.25)	20.03	20.03	48.4 K=1.00	24.887 3	-592.34	943.57	0.628 [1] ✔
T15	40 - 20	Valmont 208339 (12x3.25)	20.03	20.03	48.4 K=1.00	24.887 3	-663.11	943.57	0.703 [1] ✔
T16	20 - 0	Valmont 208339 (12x3.25)	20.03	20.03	48.4 K=1.00	24.887 3	-729.08	943.57	0.773 [1] ✔

[1] P_u / ϕP_n controls

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T1	280 - 270	0.5	1.48	121.0	165.67	0.1963	1.11	3.29	0.337 ✔
T2	270 - 260	0.5	1.48	121.0	165.67	0.1963	0.31	3.29	0.093 ✔
T3	260 - 240	0.5	1.48	121.0	165.67	0.1963	1.16	3.29	0.352 ✔
T4	240 - 220	0.5	1.48	121.0	165.67	0.1963	0.69	3.29	0.211 ✔
T5	220 - 210	0.5	1.44	117.6	324.71	0.1963	1.64	3.62	0.451 ✔
T6	210 - 200	0.5	1.44	117.6	324.71	0.1963	1.69	3.62	0.467 ✔
T7	200 - 180	0.5	1.39	113.2	424.12	0.1963	2.54	3.76	0.675 ✔
T8	180 - 160	0.5	1.38	112.2	536.77	0.1963	1.71	3.80	0.450 ✔
T9	160 - 140	0.5	1.38	112.2	536.77	0.1963	3.27	3.80	0.858 ✔

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T10	140 - 120	0.5	1.36	111.2	662.68	0.1963	1.26	3.85	0.327 ✔
T11	120 - 100	0.625	1.35	88.2	801.84	0.3068	1.22	7.66	0.159 ✔
T12	100 - 80	0.625	1.34	87.4	954.26	0.3068	0.91	7.71	0.119 ✔
T13	80 - 60	0.625	1.34	87.4	954.26	0.3068	0.99	7.71	0.129 ✔
T14	60 - 40	0.625	1.33	86.7	1119.93	0.3068	1.20	7.77	0.155 ✔
T15	40 - 20	0.625	1.33	86.7	1119.93	0.3068	1.31	7.77	0.169 ✔
T16	20 - 0	0.625	1.33	86.7	1119.93	0.3068	1.30	7.77	0.168 ✔

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	280 - 270	L 3 x 3 x 5/16	16.01	7.48	152.3 K=1.00	1.7800	-3.48	21.96	0.159 [1] ✔
T2	270 - 260	L 3 x 3 x 5/16	16.80	7.88	160.6 K=1.00	1.7800	-4.45	19.76	0.225 [1] ✔
T3	260 - 240	L 3 x 3 x 5/16	18.45	8.72	177.6 K=1.00	1.7800	-7.16	16.15	0.443 [1] ✔
T4	240 - 220	L 4 x 4 x 1/4	20.16	9.58	144.6 K=1.00	1.9400	-10.10	26.54	0.381 [1] ✔
T5	220 - 210	L 4 x 4 x 1/4	21.03	10.02	151.3 K=1.00	1.9400	-11.60	24.26	0.478 [1] ✔
T6	210 - 200	L 4 x 4 x 1/4	21.92	10.47	158.0 K=1.00	1.9400	-12.24	22.24	0.551 [1] ✔
T7	200 - 180	2L 3.5 x 3.5 x 1/4 (3/8)	29.01	14.29	164.1 K=1.00	3.3800	-20.86	34.61	0.603 [1] ✔
T8	180 - 160	2L 'a' > 81.9131 in - 89 2L 3.5 x 3.5 x 1/4 (3/8)	30.49	15.03	172.5 K=1.00	3.3800	-22.55	31.42	0.718 [1] ✔
T9	160 - 140	2L 'a' > 86.1510 in - 98 2L 4 x 4 x 1/4 (3/8)	32.02	15.80	159.5 K=1.00	3.8800	-28.11	41.27	0.681 [1] ✔
T10	140 - 120	2L 'a' > 90.4521 in - 107 2L 4 x 4 x 3/8 (1/2)	33.61	16.59	165.7 K=1.00	5.7188	-32.60	58.42	0.558 [1] ✔
T11	120 - 100	2L 'a' > 95.2708 in - 116 2L 4 x 4 x 3/8 (1/2)	35.23	17.34	173.2 K=1.00	5.7188	-34.19	53.60	0.638 [1] ✔
T12	100 - 80	2L 'a' > 92.7523 in - 125 2L 5 x 5 x 5/16 (1/2)	36.90	18.17	146.4 K=1.00	6.0547	-36.35	75.43	0.482 [1] ✔
T13	80 - 60	2L 'a' > 100.4316 in - 134 2L 5 x 5 x 5/16 (1/2)	38.59	19.02	153.2 K=1.00	6.0547	-37.69	69.37	0.543 [1] ✔
T14	60 - 40	2L 'a' > 104.1226 in - 143 2L 5 x 5 x 5/16 (1/2)	40.32	19.88	160.2 K=1.00	6.0547	-39.64	63.90	0.620 [1] ✔
T15	40 - 20	2L 'a' > 107.8743 in - 152 2L 5 x 5 x 5/16 (1/2)	42.06	20.76	167.2 K=1.00	6.0547	-40.21	58.96	0.682 [1] ✔
		2L 'a' > 111.6793 in - 161							

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	20 - 0	2L 5 x 5 x 5/16 (1/2) 2L 'a' > 115.5312 in - 170	43.83	21.64	174.3 K=1.00	6.0547	-42.97	54.49	0.788 [1] ✔

[1] $P_u / \phi P_n$ controls

Secondary 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 $\frac{P_u}{\phi P_n}$
T1	280 - 270	L 2.5 x 2.5 x 5/16	12.48	11.15	175.4 K=1.00	1.4600	-1.42	13.58	0.105 [1] ✔
T2	270 - 260	L 2.5 x 2.5 x 5/16	13.48	12.15	191.2 K=1.00	1.4600	-0.22	11.43	0.019 [1] ✔
T6	210 - 200	L 5 x 5 x 3/8	19.49	18.15	140.0 K=1.00	3.6100	-1.90	52.71	0.036 [1] ✔

[1] $P_u / \phi P_n$ 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	280 - 270	L 3.5 x 3.5 x 5/16	12.00	10.67	185.5 K=1.00	2.0900	-0.55	17.38	0.032 [1] ✔
T4	240 - 220	L 5 x 5 x 3/8	16.00	14.67	177.8 K=1.00	3.6100	-1.70	32.69	0.052 [1] ✔

[1] $P_u / \phi P_n$ controls

Mid 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 $\frac{P_u}{\phi P_n}$
T4	240 - 220	L 5 x 5 x 3/8	17.00	15.67	189.9 K=1.00	3.6100	-2.35	28.65	0.082 [1] ✔

[1] $P_u / \phi P_n$ controls

Tension Checks

Leg 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	280 - 270	Valmont 207628 (12x1.25)	10.02	10.02	45.4	3.6816	1.31	165.67	0.008 [1] ✔
T2	270 - 260	Valmont 207628 (12x1.25)	10.02	10.02	45.4	3.6816	7.33	165.67	0.044 [1] ✔
T3	260 - 240	Valmont 207628 (12x1.25)	20.03	10.02	45.4	3.6816	26.53	165.67	0.160 [1] ✔
T4	240 - 220	Valmont 207628 (12x1.25)	20.03	10.02	45.4	3.6816	53.10	165.67	0.321 [1] ✔
T5	220 - 210	Valmont 195557 (12x1.75)	10.02	10.02	31.9	7.2158	69.85	324.71	0.215 [1] ✔
T6	210 - 200	Valmont 195557 (12x1.75)	10.02	10.02	31.9	7.2158	87.02	324.71	0.268 [1] ✔
T7	200 - 180	Valmont 211843 (12x2)	20.03	20.03	48.8	9.4248	114.91	424.12	0.271 [1] ✔
T8	180 - 160	Valmont 208334 (12x2.25)	20.03	20.03	48.8	11.9282	158.29	536.77	0.295 [1] ✔
T9	160 - 140	Valmont 208334 (12x2.25)	20.03	20.03	48.8	11.9282	201.85	536.77	0.376 [1] ✔
T10	140 - 120	Valmont 208335 (12x2.5)	20.03	20.03	48.7	14.7262	254.84	662.68	0.385 [1] ✔
T11	120 - 100	Valmont 208337 (12x2.75)	20.03	20.03	48.6	17.8187	312.05	801.84	0.389 [1] ✔
T12	100 - 80	Valmont 208338 (12x3)	20.03	20.03	48.5	21.2057	369.53	954.26	0.387 [1] ✔
T13	80 - 60	Valmont 208338 (12x3)	20.03	20.03	48.5	21.2057	426.85	954.26	0.447 [1] ✔
T14	60 - 40	Valmont 208339 (12x3.25)	20.03	20.03	48.4	24.8873	483.40	1119.93	0.432 [1] ✔
T15	40 - 20	Valmont 208339 (12x3.25)	20.03	20.03	48.4	24.8873	540.54	1119.93	0.483 [1] ✔
T16	20 - 0	Valmont 208339 (12x3.25)	20.03	20.03	48.4	24.8873	594.14	1119.93	0.531 [1] ✔

[1] P_u / ϕP_n controls

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T1	280 - 270	0.5	1.48	121.0	165.67	0.1963	1.11	3.29	0.337 ✔
T2	270 - 260	0.5	1.48	121.0	165.67	0.1963	0.31	3.29	0.093 ✔
T3	260 - 240	0.5	1.48	121.0	165.67	0.1963	1.16	3.29	0.352 ✔
T4	240 - 220	0.5	1.48	121.0	165.67	0.1963	0.69	3.29	0.211 ✔
T5	220 - 210	0.5	1.44	117.6	324.71	0.1963	1.64	3.62	0.451 ✔
T6	210 - 200	0.5	1.44	117.6	324.71	0.1963	1.69	3.62	0.467 ✔
T7	200 - 180	0.5	1.39	113.2	424.12	0.1963	2.54	3.76	0.675 ✔
T8	180 - 160	0.5	1.38	112.2	536.77	0.1963	1.71	3.80	0.450 ✔

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T9	160 - 140	0.5	1.38	112.2	536.77	0.1963	3.27	3.80	0.858 ✔
T10	140 - 120	0.5	1.36	111.2	662.68	0.1963	1.26	3.85	0.327 ✔
T11	120 - 100	0.625	1.35	88.2	801.84	0.3068	1.22	7.66	0.159 ✔
T12	100 - 80	0.625	1.34	87.4	954.26	0.3068	0.91	7.71	0.119 ✔
T13	80 - 60	0.625	1.34	87.4	954.26	0.3068	0.99	7.71	0.129 ✔
T14	60 - 40	0.625	1.33	86.7	1119.93	0.3068	1.20	7.77	0.155 ✔
T15	40 - 20	0.625	1.33	86.7	1119.93	0.3068	1.31	7.77	0.169 ✔
T16	20 - 0	0.625	1.33	86.7	1119.93	0.3068	1.30	7.77	0.168 ✔

Diagonal 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	280 - 270	L 3 x 3 x 5/16	16.01	7.48	100.1	1.0713	3.27	46.60	0.070 [1] ✔
T2	270 - 260	L 3 x 3 x 5/16	16.80	7.88	105.4	1.0713	4.20	46.60	0.090 [1] ✔
T3	260 - 240	L 3 x 3 x 5/16	18.45	8.72	116.3	1.0713	7.01	46.60	0.150 [1] ✔
T4	240 - 220	L 4 x 4 x 1/4	20.16	9.58	93.9	1.2441	9.15	54.12	0.169 [1] ✔
T5	220 - 210	L 4 x 4 x 1/4	21.03	10.02	98.1	1.2441	11.49	54.12	0.212 [1] ✔
T6	210 - 200	L 4 x 4 x 1/4	21.92	10.47	102.4	1.2441	12.17	54.12	0.225 [1] ✔
T7	200 - 180	2L 3.5 x 3.5 x 1/4 (3/8)	29.01	14.29	159.7	2.1600	20.02	93.96	0.213 [1] ✔
T8	180 - 160	2L 'a' > 81.9131 in - 88 2L 3.5 x 3.5 x 1/4 (3/8)	30.49	15.03	167.8	2.1600	22.48	93.96	0.239 [1] ✔
T9	160 - 140	2L 'a' > 86.1510 in - 97 2L 4 x 4 x 1/4 (3/8)	32.02	15.80	153.7	2.5350	26.71	110.27	0.242 [1] ✔
T10	140 - 120	2L 'a' > 90.4521 in - 106 2L 4 x 4 x 3/8 (1/2)	33.61	16.59	163.3	3.7266	32.08	162.10	0.198 [1] ✔
T11	120 - 100	2L 'a' > 95.2708 in - 115 2L 4 x 4 x 3/8 (1/2)	35.23	17.34	171.2	3.7266	33.85	162.10	0.209 [1] ✔
T12	100 - 80	2L 'a' > 92.7523 in - 124 2L 5 x 5 x 5/16 (1/2)	36.90	18.17	141.4	4.0723	35.67	177.14	0.201 [1] ✔
T13	80 - 60	2L 'a' > 100.4316 in - 133 2L 5 x 5 x 5/16 (1/2)	38.59	19.02	147.9	4.0723	37.28	177.14	0.210 [1] ✔
T14	60 - 40	2L 'a' > 104.1226 in - 142 2L 5 x 5 x 5/16 (1/2)	40.32	19.88	154.5	4.0723	38.81	177.14	0.219 [1] ✔
		2L 'a' > 107.8743 in - 151							

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T15	40 - 20	2L 5 x 5 x 5/16 (1/2)	42.06	20.76	161.2	4.0723	39.98	177.14	0.226 [1] ✔
T16	20 - 0	2L 'a' > 111.6793 in - 160 2L 5 x 5 x 5/16 (1/2) 2L 'a' > 115.5312 in - 169	43.83	21.64	168.0	4.0723	41.16	177.14	0.232 [1] ✔

[1] P_u / ϕP_n controls

Secondary Horizontal 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	280 - 270	L 2.5 x 2.5 x 5/16	12.48	11.15	180.7	0.8313	1.51	36.16	0.042 [1] ✔
T2	270 - 260	L 2.5 x 2.5 x 5/16	13.48	12.15	196.4	0.8313	0.27	36.16	0.008 [1] ✔
T6	210 - 200	L 5 x 5 x 3/8	19.49	18.15	142.6	2.3911	1.90	104.01	0.018 [1] ✔

[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	280 - 270	L 3.5 x 3.5 x 5/16	12.00	10.67	122.2	1.3038	0.49	56.72	0.009 [1] ✔
T4	240 - 220	L 5 x 5 x 3/8	16.00	14.67	115.7	2.3911	2.05	104.01	0.020 [1] ✔

[1] P_u / ϕP_n controls

Mid 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 $\frac{P_u}{\phi P_n}$
T4	240 - 220	L 5 x 5 x 3/8	17.00	15.67	123.4	2.3911	2.70	104.01	0.026 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

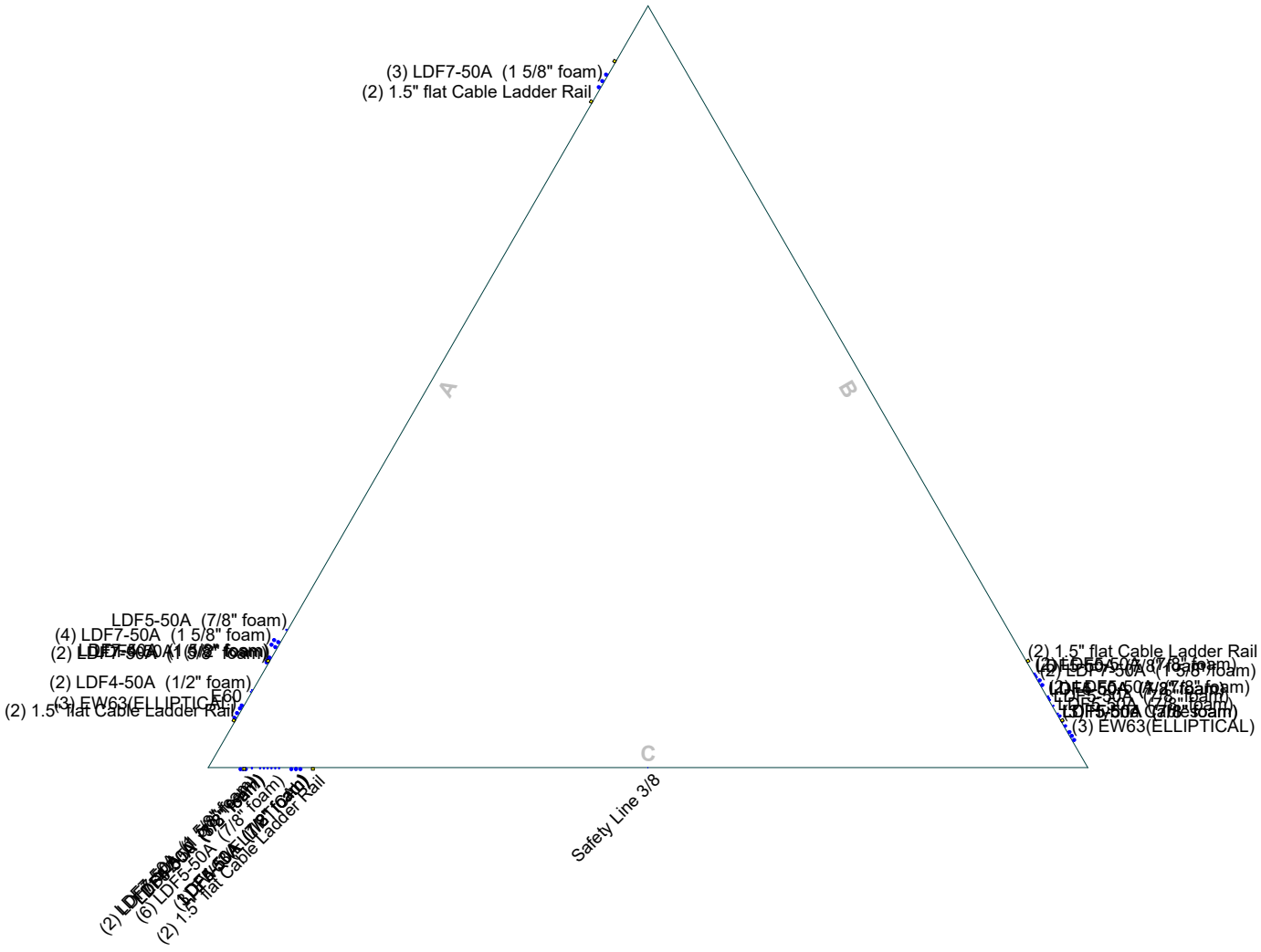
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	280 - 270	Leg	Valmont 207628 (12x1.25)	2	-4.65	142.49	33.7	Pass
T2	270 - 260	Leg	Valmont 207628 (12x1.25)	17	-9.92	142.49	9.3	Pass
T3	260 - 240	Leg	Valmont 207628 (12x1.25)	30	-19.98	142.49	35.2	Pass
T4	240 - 220	Leg	Valmont 207628 (12x1.25)	43	-67.34	142.49	47.3	Pass
T5	220 - 210	Leg	Valmont 195557 (12x1.75)	64	-88.11	301.49	45.1	Pass
T6	210 - 200	Leg	Valmont 195557 (12x1.75)	73	-109.32	301.49	46.7	Pass
T7	200 - 180	Leg	Valmont 211843 (12x2)	85	-144.37	356.29	67.5	Pass
T8	180 - 160	Leg	Valmont 208334 (12x2.25)	94	-198.15	451.15	45.0	Pass
T9	160 - 140	Leg	Valmont 208334 (12x2.25)	103	-253.67	451.15	85.8	Pass
T10	140 - 120	Leg	Valmont 208335 (12x2.5)	112	-318.15	557.27	57.1	Pass
T11	120 - 100	Leg	Valmont 208337 (12x2.75)	121	-385.86	674.68	57.2	Pass
T12	100 - 80	Leg	Valmont 208338 (12x3)	130	-454.20	803.44	56.5	Pass
T13	80 - 60	Leg	Valmont 208338 (12x3)	139	-523.61	803.44	65.2	Pass
T14	60 - 40	Leg	Valmont 208339 (12x3.25)	148	-592.34	943.57	62.8	Pass
T15	40 - 20	Leg	Valmont 208339 (12x3.25)	157	-663.11	943.57	70.3	Pass
T16	20 - 0	Leg	Valmont 208339 (12x3.25)	166	-729.08	943.57	77.3	Pass
T1	280 - 270	Diagonal	L 3 x 3 x 5/16	9	-3.48	21.96	15.9	Pass
T2	270 - 260	Diagonal	L 3 x 3 x 5/16	21	-4.45	19.76	22.5	Pass
T3	260 - 240	Diagonal	L 3 x 3 x 5/16	36	-7.16	16.15	44.3	Pass
T4	240 - 220	Diagonal	L 4 x 4 x 1/4	52	-10.10	26.54	38.1	Pass
T5	220 - 210	Diagonal	L 4 x 4 x 1/4	67	-11.60	24.26	47.8	Pass
T6	210 - 200	Diagonal	L 4 x 4 x 1/4	76	-12.24	22.24	55.1	Pass
T7	200 - 180	Diagonal	2L 3.5 x 3.5 x 1/4 (3/8)	89	-20.86	34.61	60.3	Pass
T8	180 - 160	Diagonal	2L 3.5 x 3.5 x 1/4 (3/8)	98	-22.55	31.42	71.8	Pass
T9	160 - 140	Diagonal	2L 4 x 4 x 1/4 (3/8)	107	-28.11	41.27	68.1	Pass
T10	140 - 120	Diagonal	2L 4 x 4 x 3/8 (1/2)	116	-32.60	58.42	55.8	Pass
T11	120 - 100	Diagonal	2L 4 x 4 x 3/8 (1/2)	125	-34.19	53.60	63.8	Pass
T12	100 - 80	Diagonal	2L 5 x 5 x 5/16 (1/2)	134	-36.35	75.43	48.2	Pass
T13	80 - 60	Diagonal	2L 5 x 5 x 5/16 (1/2)	143	-37.69	69.37	54.3	Pass
T14	60 - 40	Diagonal	2L 5 x 5 x 5/16 (1/2)	152	-39.64	63.90	62.0	Pass
T15	40 - 20	Diagonal	2L 5 x 5 x 5/16 (1/2)	161	-40.21	58.96	68.2	Pass
T16	20 - 0	Diagonal	2L 5 x 5 x 5/16 (1/2)	170	-42.97	54.49	78.8	Pass
T1	280 - 270	Secondary Horizontal	L 2.5 x 2.5 x 5/16	14	-1.42	13.58	10.5	Pass
T2	270 - 260	Secondary Horizontal	L 2.5 x 2.5 x 5/16	25	-0.22	11.43	1.9	Pass
T6	210 - 200	Secondary Horizontal	L 5 x 5 x 3/8	84	-1.90	52.71	3.6	Pass
T1	280 - 270	Top Girt	L 3.5 x 3.5 x 5/16	6	-0.55	17.38	3.2	Pass
T4	240 - 220	Top Girt	L 5 x 5 x 3/8	47	-1.70	32.69	5.2	Pass
T4	240 - 220	Mid Girt	L 5 x 5 x 3/8	50	-2.35	28.65	8.2	Pass
							Summary	
						Leg (T9)	85.8	Pass
						Diagonal (T16)	78.8	Pass
						Secondary Horizontal (T1)	10.5	Pass
						Top Girt (T4)	5.2	Pass
						Mid Girt (T4)	8.2	Pass
						Bolt Checks	76.0	Pass
						RATING =	**85.8**	**Pass**

APPENDIX B

BASE LEVEL DRAWING

Feed Line Plan

Round Flat App In Face App Out Face Truss-Leg



Paul J. Ford and Company
250 East Broad St., Suite 600
Columbus, OH 43215
Phone: 614-221-6679
FAX:

Job:	***280-ft Self Support Tower Haddam, CT***		
Project:	***00022-0173 Higganum South CT***		
Client: Hudson Design Group		Drawn by: Anna Trudo	App'd:
Code: TIA-222-H		Date: 08/16/22	Scale: NTS
Path: G:\TOWER\000_Misc\2022\00022-0173_Higganum South CT\00022-0173.001.8700_SA\dnx\00022-0173.001.8700.ep			Dwg No. E-7

APPENDIX C

ADDITIONAL CALCULATIONS

PAUL J. FORD & COMPANY
250 E Broad St, Ste 600 • Columbus, OH 43215
Phone 614.221.6679 www.pauljford.com

By AKT Date 8/16/2022
Project # 00022-0173

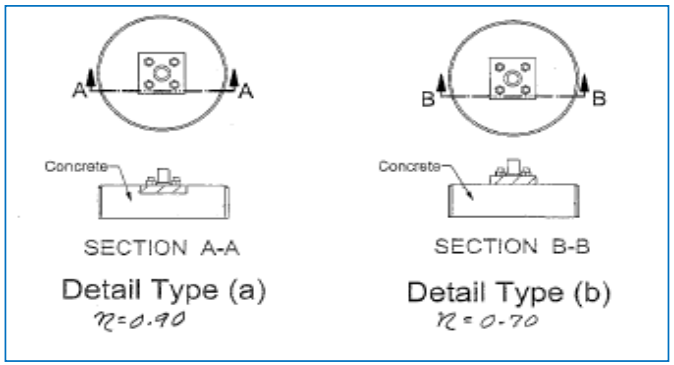
Self-Support Tower Anchor Rod Capacity - TIA-H

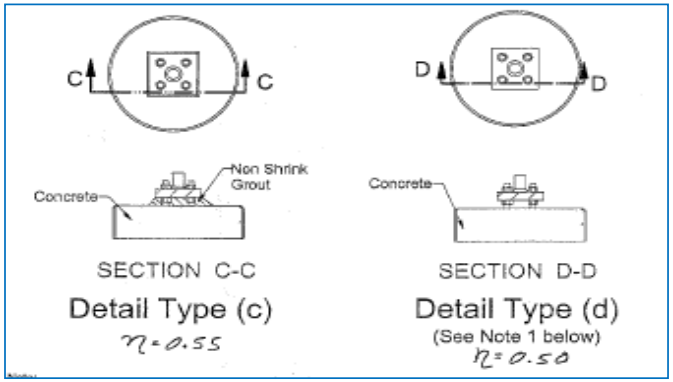
Loads

Compression :	763	kips	Tension :	621	kips	Code:	TIA-H
Comp. Shear :	101	kips	Ten.Shear :	88	kips	Maximum Ratio:	1.00
						Grout f'c ≥ 5000 psi:	

Existing Anchor Rods

Anchor Rod ø :	1 1/4	in	I_{ar} :		inches			
Anchor Rod Quantity :	12		Comp. M_u :	0.00	k-in	Ten. M_u :	0.00	k-in
Anchor Rod Grade :	F1554 Gr. 105		ϕ_c :	0.90				
F_y :	105	ksi	ϕ_v :	0.75				
F_u :	125	ksi	ϕ_f :	0.90				
Threads per Inch	7		$\phi_v R_{nv}$:	690.29	kips			
Net Tensile Area	0.97	in^2						
ϕ_t :	0.75		$\phi_f M_n$:	347.91	k-in			
$\phi_t R_{nt}$:	1090.25	kip	$\phi_c R_{nc}$:	1391.63	kips			
Anchor Rod Ratio :	0.574		$\phi_c R_{nvc}$:	626.23	kips			





SST Unit Base Foundation

Job # :	00022-0173.001
Site Name:	Higganum South
App. Number:	
TIA-222 Revision:	H

Top & Bot. Pad Rein. Different?:	☐
Tower Centroid Offset?:	☑
Block Foundation?:	☐
Rectangular Pad?:	☐

Superstructure Analysis Reactions		
Global Moment, **M**:	24592	ft-kips
Global Axial, **P**:	160	kips
Global Shear, **V**:	168	kips
Leg Compression, $\mathbf{P_{comp}}$:	763	kips
Leg Comp. Shear, $\mathbf{V_{u\_comp}}$:	101	kips
Leg Uplift, $\mathbf{P_{uplift}}$:	621	kips
Leg Uplift. Shear, $\mathbf{V_{u\_uplift}}$:	88	kips
Tower Height, **H**:	280	ft
Base Face Width, **BW**:	40	ft
BP Dist. Above Fdn, $\mathbf{bp_{dist}}$:		in

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, **dpier**:	5.5	ft
Ext. Above Grade, **E**:	0.50	ft
Pier Rebar Size, **Sc**:	9	
Pier Rebar Quantity, **mc**:	26	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	8	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, $\mathbf{cc_{pier}}$:	3	in

Pad Properties		
Depth, **D**:	6.00	ft
Pad Width, $\mathbf{W_1}$:	49.50	ft
Pad Thickness, **T**:	2.25	ft
Pad Rebar Size (Bottom dir. 2), $\mathbf{Sp_2}$:	11	
Pad Rebar Quantity (Bottom dir. 2), $\mathbf{mp_2}$:	91	
Pad Clear Cover, $\mathbf{cc_{pad}}$:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	125	pcf
Ultimate Gross Bearing, Qult:	12.000	ksf
Cohesion, **Cu**:		ksf
Friction Angle, φ:	34	degrees
SPT Blow Count, $\mathbf{N_{blows}}$:	62	
Base Friction, μ:	0.6	
Neglected Depth, **N**:	3.5	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	7	ft

<-- Toggle between Gross and Net

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	1043.96	168.00	**15.3%**	**Pass**
Bearing Pressure (ksf)	9.00	2.06	**22.9%**	**Pass**
*Overturning (kip*ft)*	45130.80	26612.92	**59.0%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	4403.73	429.25	**9.3%**	**Pass**
*Pier Flexure (Tension) (kip*ft)*	2004.17	374.00	**17.8%**	**Pass**
Pier Compression (kip)	13059.63	781.18	**5.7%**	**Pass**
*Pad Flexure (kip*ft)*	12633.47	1589.24	**12.0%**	**Pass**
Pad Shear - 1-way (kips)	1233.26	232.41	**17.9%**	**Pass**
Pad Shear - Comp 2-way (ksi)	0.190	0.133	**66.7%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	4855.73	257.55	**5.1%**	**Pass**
Pad Shear - Tension 2-way (ksi)	0.190	0.121	**60.6%**	**Pass**
*Flexural 2-way (Tension) (kip*ft)*	4855.73	224.40	**4.4%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Structural Rating*:	**66.7%**
Soil Rating*:	**59.0%**

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING STRUCTURES BY PAUL J. FORD AND COMPANY

1) Paul J. Ford and Company has not made a field inspection to verify the tower member sizes or the antenna/coax loading. If the existing conditions are not as represented on these drawings, we should be contacted immediately to evaluate the significance of the deviation.

2) No allowance was made for any damaged, missing, or rusted members. The analysis of this tower assumes that no physical deterioration has occurred in any of the structural components of the tower and that all the tower members have the same load carrying capacity as the day the tower was erected.

3) It is not possible to have all the detailed information to perform a thorough analysis of every structural sub-component of an existing tower. The structural analysis by Paul J. Ford and Company verifies the adequacy of the main structural members of the tower. Paul J. Ford and Company provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc.

4) The structural integrity of the existing tower foundation can only be verified if exact foundation sizes and soil conditions are known. Paul J. Ford and Company will not accept any responsibility for the adequacy of the existing foundations unless the foundation sizes and a soils report are provided.

5) This tower has been analyzed according to the minimum design wind loads recommended by the Telecommunications Industry Association Standard ANSI/TIA-222-H. If the owner or local or state agencies require a higher design wind load, Paul J. Ford and Company should be made aware of this requirement.

6) The enclosed sketches are a schematic representation of the tower that we have analyzed. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions and for the proper fit and clearance in the field.

7) Miscellaneous items such as antenna mounts etc. have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.