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 18, 2022

Denise Sabo
Northeast Site Solutions
54 Main Street, Unit 3
Sturbridge, MA 01566
denise@northeastsitesolutions.com

RE: **TS-DISH-135-220527 -** Dish Wireless, LLC request for an order to approve tower sharing at an existing telecommunications facility located at 69 Guinea Road, Stamford, Connecticut.

Dear Ms. Sabo:

The Connecticut Siting Council (Council) is in receipt of your correspondence of August 16, 2022 submitted in response to the Council's June 24, 2022 notification of an incomplete request for tower sharing with regard to the above-referenced matter.

The submission renders the request for tower sharing 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/IN/emr

From: Denise Sabo <denise@northeastsitesolutions.com>
Sent: Tuesday, August 16, 2022 12:30 PM
To: Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council Incomplete Letter for TS-DISH-135-220527 (69 Guinea Road, Stamford) Crown DISH 806953

Good afternoon, Evan

I thought I sent this last week, but I am not seeing it in my email. If this is a duplicate please ignore.

Attached is the revised structural for TS-DISH-135-220527 (69 Guinea Road, Stamford) Crown DISH 806953.

Thank you
Denise

Date: **July 21, 2022**

Black & Veatch Corp.
11401 Lamar Avenue
Overland Park, KS 66211
(913) 458-6909

Subject:	**Structural Analysis Report**	
Carrier Designation:	***DISH Network* Co-Locate**	
	Site Number:	NJJER01089A
	Site Name:	CT-CCI-T-806953
Crown Castle Designation:	**BU Number:**	806953
	Site Name:	BRG 2044 (A) 943097
	JDE Job Number:	640172
	Work Order Number:	2140886
	Order Number:	548687 Rev. 4
Engineering Firm Designation:	**Black & Veatch Corp. Project Number:**	406642
Site Data:	**69 Guinea Rd(Camp Rocky Craig), Stamford, Fairfield County, CT 06903** **Latitude *41° 6' 6.3"*, Longitude *-73° 35' 40"*** **160 Foot - Monopole Tower**	

Black & Veatch Corp. is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 75.1%**

This analysis has been performed in accordance with the 2018 Connecticut Building Code. based upon an ultimate 3-second gust wind speed of 120 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Sanket Kulal

Respectfully submitted by:

Ping Jiang, P.E.
Professional Engineer

STATE OF CONNECTICUT
PING JIANG
30767
LICENSED
PROFESSIONAL ENGINEER

Jul 21, 2022
Digitally signed by Ping Jiang
Date: 2022.07.21
08:59:03-05'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 160 ft Monopole tower designed by Valmont Microflect.

The tower has been modified multiple times in the past to accommodate additional loading.

The tower has been modified per reinforcement drawings prepared by Aero Solutions LLC, in August of 2009. Reinforcement consists of addition of base plate stiffeners. This modification has not been considered due to a lack of a post modification inspection report.

The tower was later modified per reinforcement drawings prepared by Paul J. Ford & Company in October of 2012. Reinforcement consisted of addition of flat plate reinforcement from 1.75' to 16.75' and 77' to 82'. It also consists of the installation of transition stiffeners. Refer to Modification Inspection report by Tower Engineering Professionals, Inc. in August of 2013. These modifications were found to be ineffective.

The tower was later modified per reinforcement drawings prepared by Paul J. Ford & Company in April of 2014. Reinforcement consisted of addition of flat plate reinforcement from 12.25' to 32.25', 32.33' to 52.33', and 78.5' to 88.5'. Refer to Modification Inspection Report by Sinnott Gering and Schmitt Towers, Inc. in August of 2014. The 78.5' to 88.5' reinforcements were found to be effective, and all others were found to be ineffective.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	120 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic Ss:	0.253
Seismic S1:	0.07
Service Wind Speed:	60 mph
Seismic Loading:	Does not control per engineering judgement

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)
129.0	129.0	3	fujitsu	TA08025-B604	1	1 1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		

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)
157.0	158.0	3	commscope	VV-65B-R1_TMO w/ Mount Pipe	3	1 5/8
		3	ericsson	AIR 6419 B41_TMO w/ Mount Pipe		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	ericsson	Radio 4480_TMOV2		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
	157.0	1	cci tower mounts (v2.1)	Platform Mount [13' LP 713-1]		
149.0	151.0	3	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe	4 2 6 2 1	5/8 3/8 1 5/8 3/4 2 conduit
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 8843 B2/B66A		
		3	kmw communications	EPBQ-654L8H6-L2 w/ Mount Pipe		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
	149.0	1	cci tower mounts (v2.1)	Platform Mount [13' LP 713-1]		
		3	ericsson	RRUS 11 B12		
		6	powerwave technologies	LGP21401		
		3	raycap	DC6-48-60-18-8F		
139.0	142.0	6	andrew	DB846F65ZAXY w/ Mount Pipe	7	1 5/8
		6	jma wireless	MX06FRO860-03 w/ Mount Pipe		
		1	raycap	RVZDC-6627-PF-48		
		6	rfs celwave	FD9R6004/2C-3L		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RF4439D-25A		
		3	samsung telecommunications	RF4440D-13A		
	139.0	1	cci tower mounts (v2.1)	Platform Mount [LP 713-1]		
116.0	118.0	3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe	10	1-5/8
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
	116.0	1	cci tower mounts (v2.1)	Miscellaneous [NA 507-1]		
		1	cci tower mounts (v2.1)	Platform Mount [LP 712-1]		
84.0	84.0	1	cci tower mounts (v2.1)	Side Arm Mount [4' SO 702-1]	-	-

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		1	gps	GPS_A		
40.0	40.0	1	andrew	GPS-QBW-20N	-	-
		1	cci tower mounts (v2.1)	Pipe Mount [PM 601-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	5749621	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1104113	CCISITES
4-TOWER MANUFACTURER DRAWINGS	823122	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	1251715	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3332716	CCISITES
4-POST-MODIFICATION INSPECTION	4015064	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4837035	CCISITES
4-POST-MODIFICATION INSPECTION	5577141	CCISITES

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.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix C.

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. Black & Veatch Corp. should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary) (Monopole Tower)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP20.801x19.6x0.25	Pole	2.8%	Pass
155 - 150	Pole	TP22.002x20.801x0.25	Pole	7.1%	Pass

150 - 145	Pole	TP23.203x22.002x0.25	Pole	14.9%	Pass
145 - 140	Pole	TP24.404x23.203x0.25	Pole	21.4%	Pass
140 - 135	Pole	TP25.605x24.404x0.25	Pole	32.8%	Pass
135 - 130	Pole	TP26.806x25.605x0.25	Pole	41.7%	Pass
130 - 125	Pole	TP28.007x26.806x0.25	Pole	51.2%	Pass
125 - 120	Pole	TP29.208x28.007x0.25	Pole	59.8%	Pass
120 - 116	Pole	TP31.29x29.208x0.25	Pole	66.1%	Pass
116 - 111	Pole	TP30.867x29.669x0.3438	Pole	49.9%	Pass
111 - 106	Pole	TP32.065x30.867x0.3438	Pole	54.7%	Pass
106 - 101	Pole	TP33.263x32.065x0.3438	Pole	59.1%	Pass
101 - 96	Pole	TP34.461x33.263x0.3438	Pole	63.0%	Pass
96 - 91	Pole	TP35.659x34.461x0.3438	Pole	66.6%	Pass
91 - 86	Pole	TP36.857x35.659x0.3438	Pole	69.8%	Pass
86 - 85.75	Pole + Reinf.	TP36.917x36.857x0.5125	Reinf. 5 Tension Rupture	66.6%	Pass
85.75 - 81	Pole + Reinf.	TP38.055x36.917x0.5063	Reinf. 5 Tension Rupture	69.1%	Pass
81 - 80.75	Pole	TP38.115x38.055x0.3438	Pole	73.0%	Pass
80.75 - 80.5	Pole	TP38.175x38.115x0.3438	Pole	73.2%	Pass
80.5 - 79	Pole	TP39.912x38.175x0.3438	Pole	74.0%	Pass
79 - 72.25	Pole	TP39.467x37.847x0.4063	Pole	63.5%	Pass
72.25 - 67.25	Pole	TP40.667x39.467x0.4063	Pole	65.3%	Pass
67.25 - 62.25	Pole	TP41.867x40.667x0.4063	Pole	67.0%	Pass
62.25 - 57.25	Pole	TP43.067x41.867x0.4063	Pole	68.5%	Pass
57.25 - 52.25	Pole	TP44.268x43.067x0.4063	Pole	70.0%	Pass
52.25 - 49.83	Pole	TP44.848x44.268x0.4063	Pole	70.7%	Pass
49.83 - 49.58	Pole	TP44.908x44.848x0.4063	Pole	70.8%	Pass
49.58 - 44.58	Pole	TP46.109x44.908x0.4063	Pole	72.1%	Pass
44.58 - 43	Pole	TP48.088x46.109x0.4063	Pole	72.6%	Pass
43 - 35.33	Pole	TP47.516x45.675x0.4375	Pole	68.9%	Pass
35.33 - 32.25	Pole	TP48.256x47.516x0.4375	Pole	69.5%	Pass
32.25 - 32	Pole	TP48.317x48.256x0.4375	Pole	69.6%	Pass
32 - 27	Pole	TP49.517x48.317x0.4375	Pole	70.5%	Pass
27 - 22	Pole	TP50.718x49.517x0.4375	Pole	71.4%	Pass
22 - 17	Pole	TP51.918x50.718x0.4375	Pole	72.3%	Pass
17 - 15.5	Pole	TP52.278x51.918x0.4375	Pole	72.6%	Pass
15.5 - 15.25	Pole	TP52.338x52.278x0.4375	Pole	72.6%	Pass
15.25 - 14.75	Pole	TP52.458x52.338x0.4375	Pole	72.7%	Pass
14.75 - 14.5	Pole	TP52.518x52.458x0.4375	Pole	72.7%	Pass
14.5 - 9.5	Pole	TP53.719x52.518x0.4375	Pole	73.6%	Pass
9.5 - 4.5	Pole	TP54.92x53.719x0.4375	Pole	74.4%	Pass

4.5 - 0	Pole	TP56x54.92x0.4375	Pole	75.1%	Pass
				Summary	
			Pole	75.1%	Pass
			Reinforcement	69.1%	Pass
			Overall	**75.1%**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity (Monopole Tower) – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	60.6	Pass
1	Base Plate	0	43.9	Pass
1	Base Foundation (Structure)	0	25.7	Pass
1	Base Foundation (Soil Interaction)	0	69.6	Pass

Structure Rating (max from all components) =	**75.1%**

Note:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity. Rating per TIA-222-H Section 15.5.

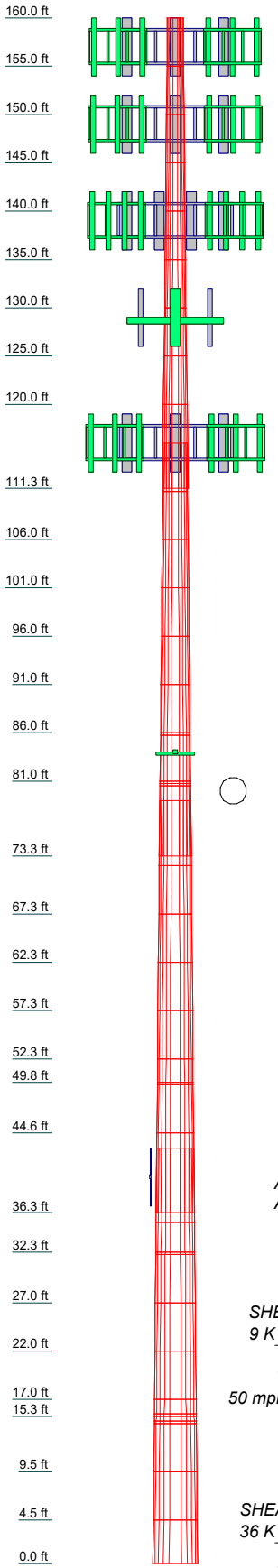
4.1) Recommendations

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Length (ft)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.50
Number of Sides	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Thickness (in)	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.3438	0.3438	0.3438	0.3438	0.3438	0.3438	0.3438	0.4375	0.4375	0.4375	0.4375	0.4375	0.4063	0.4063	0.4063	0.4063	0.4063	0.4063	0.4063	0.4063	0.4063	0.4063	0.4063	0.4063	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375
Socket Length (ft)									4.67											5.75									6.67															
Top Dia (in)	19.6000	20.8010	22.0021	23.2031	24.4041	25.6051	26.8062	28.0072	29.2082	30.4092	31.6102	32.8112	34.0122	35.2132	36.4142	37.6152	38.8162	40.0172	41.2182	42.4192	43.6202	44.8212	46.0222	47.2232	48.4242	49.6252	50.8262	52.0272	53.2282	54.4292	55.6302	56.8312	58.0322	59.2332	60.4342	61.6352	62.8362	64.0372	65.2382	66.4392	67.6402	68.8412
Bot Dia (in)	20.8010	22.0021	23.2031	24.4041	25.6051	26.8062	28.0072	29.2082	30.4092	31.6102	32.8112	34.0122	35.2132	36.4142	37.6152	38.8162	40.0172	41.2182	42.4192	43.6202	44.8212	46.0222	47.2232	48.4242	49.6252	50.8262	52.0272	53.2282	54.4292	55.6302	56.8312	58.0322	59.2332	60.4342	61.6352	62.8362	64.0372	65.2382	66.4392	67.6402	68.8412	70.0000
Grade	A572-65																																									
Weight (K)	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.0	1.0	0.0	1.1	1.1	1.1	0.9	0.9	0.9	1.0	0.5	1.0	1.7	1.7	1.7	0.7	1.2	1.2	1.2	1.2	1.4	1.3	1.3	1.3	1.3	1.2	27.7



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 120 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 II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 75.1%

ALL REACTIONS ARE FACTORED

AXIAL 105 K

SHEAR 9 K *MOMENT 1151 kip-ft*

TORQUE 0 kip-ft
50 mph WIND - 1.5000 in ICE

AXIAL 64 K

SHEAR 36 K *MOMENT 4254 kip-ft*

TORQUE 1 kip-ft
REACTIONS - 120 mph WIND

BLACK & VEATCH
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Black & Veatch Corp.
11401 Lamar Avenue
Overland Park, KS 66211
Phone: (913) 458-6909
FAX:

Job: ***BRG 2044 (A) 943097 (BU #806953)***			
Project: ***406642 (806953.2140886)***			
Client: Crown Castle	Drawn by: Sanket K	App'd:	
Code: TIA-222-H	Date: 07/21/22	Scale: NTS	
Path:		Dwg No. E-1	

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

- Tower is located in Fairfield County, Connecticut.
- Tower base elevation above sea level: 247.00 ft.
- Basic wind speed of 120 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.5000 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.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- TOWER RATING: 75.1%.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	160.00-155.00	5.00	0.00	12	19.6000	20.8010	0.2500	1.0000	A572-65 (65 ksi)
L2	155.00-150.00	5.00	0.00	12	20.8010	22.0021	0.2500	1.0000	A572-65 (65 ksi)
L3	150.00-145.00	5.00	0.00	12	22.0021	23.2031	0.2500	1.0000	A572-65 (65 ksi)
L4	145.00-140.00	5.00	0.00	12	23.2031	24.4041	0.2500	1.0000	A572-65 (65 ksi)
L5	140.00-135.00	5.00	0.00	12	24.4041	25.6051	0.2500	1.0000	A572-65 (65 ksi)
L6	135.00-130.00	5.00	0.00	12	25.6051	26.8062	0.2500	1.0000	A572-65 (65 ksi)
L7	130.00-125.00	5.00	0.00	12	26.8062	28.0072	0.2500	1.0000	A572-65 (65 ksi)
L8	125.00-120.00	5.00	0.00	12	28.0072	29.2082	0.2500	1.0000	A572-65 (65 ksi)
L9	120.00-111.33	8.67	4.67	12	29.2082	31.2900	0.2500	1.0000	A572-65 (65 ksi)
L10	111.33-111.00	5.00	0.00	12	29.6690	30.8670	0.3438	1.3750	A572-65 (65 ksi)
L11	111.00-106.00	5.00	0.00	12	30.8670	32.0650	0.3438	1.3750	A572-65 (65 ksi)
L12	106.00-101.00	5.00	0.00	12	32.0650	33.2631	0.3438	1.3750	A572-65 (65 ksi)
L13	101.00-96.00	5.00	0.00	12	33.2631	34.4611	0.3438	1.3750	A572-65 (65 ksi)
L14	96.00-91.00	5.00	0.00	12	34.4611	35.6591	0.3438	1.3750	A572-65 (65 ksi)
L15	91.00-86.00	5.00	0.00	12	35.6591	36.8571	0.3438	1.3750	A572-65 (65 ksi)
L16	86.00-85.75	0.25	0.00	12	36.8571	36.9170	0.5125	2.0500	A572-65 (65 ksi)
L17	85.75-81.00	4.75	0.00	12	36.9170	38.0551	0.5062	2.0250	A572-65 (65 ksi)
L18	81.00-80.75	0.25	0.00	12	38.0551	38.1150	0.3438	1.3750	A572-65 (65 ksi)
L19	80.75-80.50	0.25	0.00	12	38.1150	38.1749	0.3438	1.3750	A572-65 (65 ksi)
L20	80.50-73.25	7.25	5.75	12	38.1749	39.9120	0.3438	1.3750	A572-65 (65 ksi)
L21	73.25-72.25	6.75	0.00	12	37.8468	39.4670	0.4063	1.6250	A572-65 (65 ksi)
L22	72.25-67.25	5.00	0.00	12	39.4670	40.6671	0.4063	1.6250	A572-65 (65 ksi)
L23	67.25-62.25	5.00	0.00	12	40.6671	41.8673	0.4063	1.6250	A572-65 (65 ksi)
L24	62.25-57.25	5.00	0.00	12	41.8673	43.0674	0.4063	1.6250	A572-65 (65 ksi)
L25	57.25-52.25	5.00	0.00	12	43.0674	44.2675	0.4063	1.6250	A572-65 (65 ksi)
L26	52.25-49.83	2.42	0.00	12	44.2675	44.8484	0.4063	1.6250	A572-65 (65 ksi)
L27	49.83-49.58	0.25	0.00	12	44.8484	44.9084	0.4063	1.6250	A572-65 (65 ksi)
L28	49.58-44.58	5.00	0.00	12	44.9084	46.1086	0.4063	1.6250	A572-65 (65 ksi)
L29	44.58-36.33	8.25	6.67	12	46.1086	48.0880	0.4063	1.6250	A572-65 (65 ksi)
L30	36.33-35.33	7.67	0.00	12	45.6753	47.5162	0.4375	1.7500	A572-65 (65 ksi)
L31	35.33-32.25	3.08	0.00	12	47.5162	48.2565	0.4375	1.7500	A572-65 (65 ksi)
L32	32.25-32.00	0.25	0.00	12	48.2565	48.3165	0.4375	1.7500	A572-65 (65 ksi)
L33	32.00-27.00	5.00	0.00	12	48.3165	49.5171	0.4375	1.7500	A572-65 (65 ksi)
L34	27.00-22.00	5.00	0.00	12	49.5171	50.7176	0.4375	1.7500	A572-65 (65 ksi)
L35	22.00-17.00	5.00	0.00	12	50.7176	51.9181	0.4375	1.7500	A572-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L36	17.00-15.50	1.50	0.00	12	51.9181	52.2783	0.4375	1.7500	(65 ksi) A572-65 (65 ksi)
L37	15.50-15.25	0.25	0.00	12	52.2783	52.3383	0.4375	1.7500	A572-65 (65 ksi)
L38	15.25-14.75	0.50	0.00	12	52.3383	52.4584	0.4375	1.7500	A572-65 (65 ksi)
L39	14.75-14.50	0.25	0.00	12	52.4584	52.5184	0.4375	1.7500	A572-65 (65 ksi)
L40	14.50-9.50	5.00	0.00	12	52.5184	53.7190	0.4375	1.7500	A572-65 (65 ksi)
L41	9.50-4.50	5.00	0.00	12	53.7190	54.9195	0.4375	1.7500	A572-65 (65 ksi)
L42	4.50-0.00	4.50		12	54.9195	56.0000	0.4375	1.7500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	20.2032	15.5768	744.4315	6.9273	10.1528	73.3228	1508.4200	7.6664	4.5828	18.331
	21.4466	16.5436	891.8307	7.3573	10.7749	82.7690	1807.0908	8.1422	4.9047	19.619
L2	21.4466	16.5436	891.8307	7.3573	10.7749	82.7690	1807.0908	8.1422	4.9047	19.619
	22.6900	17.5104	1057.5054	7.7872	11.3971	92.7875	2142.7926	8.6181	5.2266	20.906
L3	22.6900	17.5104	1057.5054	7.7872	11.3971	92.7875	2142.7926	8.6181	5.2266	20.906
	23.9334	18.4772	1242.5239	8.2172	12.0192	103.3783	2517.6902	9.0939	5.5484	22.194
L4	23.9334	18.4772	1242.5239	8.2172	12.0192	103.3783	2517.6902	9.0939	5.5484	22.194
	25.1768	19.4441	1447.9539	8.6472	12.6413	114.5413	2933.9472	9.5698	5.8703	23.481
L5	25.1768	19.4441	1447.9539	8.6472	12.6413	114.5413	2933.9472	9.5698	5.8703	23.481
	26.4202	20.4109	1674.8639	9.0771	13.2635	126.2766	3393.7282	10.0456	6.1922	24.769
L6	26.4202	20.4109	1674.8639	9.0771	13.2635	126.2766	3393.7282	10.0456	6.1922	24.769
	27.6636	21.3777	1924.3214	9.5071	13.8856	138.5841	3899.1969	10.5215	6.5141	26.056
L7	27.6636	21.3777	1924.3214	9.5071	13.8856	138.5841	3899.1969	10.5215	6.5141	26.056
	28.9070	22.3445	2197.3950	9.9371	14.5077	151.4638	4452.5181	10.9973	6.8359	27.344
L8	28.9070	22.3445	2197.3950	9.9371	14.5077	151.4638	4452.5181	10.9973	6.8359	27.344
	30.1504	23.3114	2495.1526	10.3670	15.1299	164.9158	5055.8556	11.4731	7.1578	28.631
L9	30.1504	23.3114	2495.1526	10.3670	15.1299	164.9158	5055.8556	11.4731	7.1578	28.631
	32.3056	24.9872	3072.8897	11.1123	16.2082	189.5883	6226.5076	12.2979	7.7157	30.863
L10	31.7520	32.4594	3562.9622	10.4985	15.3686	231.8345	7219.5273	15.9755	7.0301	20.451
	31.8347	33.7855	4017.7105	10.9273	15.9891	251.2777	8140.9708	16.6282	7.3511	21.385
L11	31.8347	33.7855	4017.7105	10.9273	15.9891	251.2777	8140.9708	16.6282	7.3511	21.385
	33.0749	35.1115	4509.5937	11.3562	16.6097	271.5037	9137.6595	17.2808	7.6722	22.319
L12	33.0749	35.1115	4509.5937	11.3562	16.6097	271.5037	9137.6595	17.2808	7.6722	22.319
	34.3152	36.4376	5040.0701	11.7851	17.2303	292.5127	10212.5486	17.9335	7.9932	23.253
L13	34.3152	36.4376	5040.0701	11.7851	17.2303	292.5127	10212.5486	17.9335	7.9932	23.253
	35.5555	37.7636	5610.5969	12.2140	17.8508	314.3045	11368.5904	18.5861	8.3143	24.187
L14	35.5555	37.7636	5610.5969	12.2140	17.8508	314.3045	11368.5904	18.5861	8.3143	24.187
	36.7957	39.0896	6222.6314	12.6429	18.4714	336.8793	12608.7383	19.2387	8.6354	25.121
L15	36.7957	39.0896	6222.6314	12.6429	18.4714	336.8793	12608.7383	19.2387	8.6354	25.121
	38.0360	40.4157	6877.6307	13.0718	19.0920	360.2369	13935.9445	19.8914	8.9564	26.055
L16	37.9765	59.9776	10112.4097	13.0114	19.0920	529.6683	20490.4836	29.5192	8.5042	16.594
	38.0385	60.0765	10162.4922	13.0328	19.1230	531.4278	20591.9643	29.5678	8.5203	16.625
L17	38.0407	59.3540	10043.7305	13.0350	19.1230	525.2174	20351.3211	29.2123	8.5370	16.863
	39.2189	61.2093	11015.3009	13.4425	19.7125	558.7968	22319.9859	30.1254	8.8420	17.466

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L18	39.2763	41.7417	7577.0535	13.5007	19.7125	384.3774	15353.1646	20.5440	9.2775	26.989
	39.3383	41.8080	7613.2166	13.5221	19.7436	385.6050	15426.4409	20.5766	9.2936	27.036
L19	39.3383	41.8080	7613.2166	13.5221	19.7436	385.6050	15426.4409	20.5766	9.2936	27.036
	39.4003	41.8743	7649.4953	13.5435	19.7746	386.8345	15499.9513	20.6093	9.3096	27.083
L20	39.4003	41.8743	7649.4953	13.5435	19.7746	386.8345	15499.9513	20.6093	9.3096	27.083
	41.1987	43.7971	8752.3577	14.1654	20.6744	423.3424	17734.6495	21.5556	9.7752	28.437
L21	40.4674	48.9769	8763.1762	13.4037	19.6046	446.9951	17756.5707	24.1049	9.0542	22.287
	40.7159	51.0963	9950.7610	13.9837	20.4439	486.7351	20162.9396	25.1481	9.4884	23.356
L22	40.7159	51.0963	9950.7610	13.9837	20.4439	486.7351	20162.9396	25.1481	9.4884	23.356
	41.9584	52.6663	10896.4424	14.4134	21.0656	517.2631	22079.1464	25.9207	9.8100	24.148
L23	41.9584	52.6663	10896.4424	14.4134	21.0656	517.2631	22079.1464	25.9207	9.8100	24.148
	43.2009	54.2362	11900.2181	14.8430	21.6872	548.7198	24113.0683	26.6934	10.1317	24.94
L24	43.2009	54.2362	11900.2181	14.8430	21.6872	548.7198	24113.0683	26.6934	10.1317	24.94
	44.4433	55.8061	12963.8191	15.2727	22.3089	581.1049	26268.2122	27.4661	10.4533	25.731
L25	44.4433	55.8061	12963.8191	15.2727	22.3089	581.1049	26268.2122	27.4661	10.4533	25.731
	45.6858	57.3761	14088.9788	15.7023	22.9306	614.4186	28548.0908	28.2387	10.7750	26.523
L26	45.6858	57.3761	14088.9788	15.7023	22.9306	614.4186	28548.0908	28.2387	10.7750	26.523
	46.2872	58.1359	14656.1780	15.9103	23.2315	630.8758	29697.3901	28.6127	10.9306	26.906
L27	46.2872	58.1359	14656.1780	15.9103	23.2315	630.8758	29697.3901	28.6127	10.9306	26.906
	46.3493	58.2144	14715.6257	15.9318	23.2626	632.5884	29817.8472	28.6514	10.9467	26.946
L28	46.3493	58.2144	14715.6257	15.9318	23.2626	632.5884	29817.8472	28.6514	10.9467	26.946
	47.5918	59.7843	15938.5809	16.3614	23.8842	667.3264	32295.8861	29.4240	11.2683	27.737
L29	47.5918	59.7843	15938.5809	16.3614	23.8842	667.3264	32295.8861	29.4240	11.2683	27.737
	49.6411	62.3737	18100.5493	17.0701	24.9096	726.6500	36676.6202	30.6984	11.7988	29.043
L30	48.7894	63.7288	16646.5570	16.1951	23.6598	703.5796	33730.4377	31.3654	11.0685	25.299
	49.0380	66.3220	18762.5508	16.8542	24.6134	762.2911	38018.0147	32.6417	11.5618	26.427
L31	49.0380	66.3220	18762.5508	16.8542	24.6134	762.2911	38018.0147	32.6417	11.5618	26.427
	49.8044	67.3650	19661.6857	17.1192	24.9969	786.5664	39839.9058	33.1550	11.7602	26.881
L32	49.8044	67.3650	19661.6857	17.1192	24.9969	786.5664	39839.9058	33.1550	11.7602	26.881
	49.8666	67.4495	19735.8237	17.1407	25.0280	788.5513	39990.1294	33.1966	11.7763	26.917
L33	49.8666	67.4495	19735.8237	17.1407	25.0280	788.5513	39990.1294	33.1966	11.7763	26.917
	51.1095	69.1408	21257.9631	17.5705	25.6498	828.7759	43074.3965	34.0290	12.0981	27.653
L34	51.1095	69.1408	21257.9631	17.5705	25.6498	828.7759	43074.3965	34.0290	12.0981	27.653
	52.3524	70.8321	22856.4209	18.0003	26.2717	870.0011	46313.3055	34.8614	12.4198	28.388
L35	52.3524	70.8321	22856.4209	18.0003	26.2717	870.0011	46313.3055	34.8614	12.4198	28.388

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	53.5953	72.5234	24533.0640	18.4301	26.8936	912.2269	49710.6390	35.6938	12.7416	29.124
L36	53.5953	72.5234	24533.0640	18.4301	26.8936	912.2269	49710.6390	35.6938	12.7416	29.124
	53.9682	73.0307	25051.5810	18.5590	27.0802	925.0897	50761.2950	35.9435	12.8381	29.344
L37	53.9682	73.0307	25051.5810	18.5590	27.0802	925.0897	50761.2950	35.9435	12.8381	29.344
	54.0303	73.1153	25138.7057	18.5805	27.1113	927.2423	50937.8333	35.9851	12.8542	29.381
L38	54.0303	73.1153	25138.7057	18.5805	27.1113	927.2423	50937.8333	35.9851	12.8542	29.381
	54.1546	73.2844	25313.5578	18.6235	27.1734	931.5550	51292.1309	36.0684	12.8863	29.455
L39	54.1546	73.2844	25313.5578	18.6235	27.1734	931.5550	51292.1309	36.0684	12.8863	29.455
	54.2167	73.3690	25401.2885	18.6450	27.2045	933.7151	51469.8970	36.1100	12.9024	29.491
L40	54.2167	73.3690	25401.2885	18.6450	27.2045	933.7151	51469.8970	36.1100	12.9024	29.491
	55.4596	75.0603	27198.7098	19.0748	27.8264	977.4418	55111.9599	36.9424	13.2242	30.227
L41	55.4596	75.0603	27198.7098	19.0748	27.8264	977.4418	55111.9599	36.9424	13.2242	30.227
	56.7025	76.7515	29078.9834	19.5046	28.4483	1022.1693	58921.9041	37.7748	13.5459	30.962
L42	56.7025	76.7515	29078.9834	19.5046	28.4483	1022.1693	58921.9041	37.7748	13.5459	30.962
	57.8211	78.2737	30843.6108	19.8914	29.0080	1063.2795	62497.5176	38.5239	13.8355	31.624

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
L1 160.00-155.00				1	1	1			
L2 155.00-150.00				1	1	1			
L3 150.00-145.00				1	1	1			
L4 145.00-140.00				1	1	1			
L5 140.00-135.00				1	1	1			
L6 135.00-130.00				1	1	1			
L7 130.00-125.00				1	1	1			
L8 125.00-120.00				1	1	1			
L9 120.00-111.33				1	1	1			
L10 111.33-111.00				1	1	1			
L11 111.00-106.00				1	1	1			
L12 106.00-101.00				1	1	1			
L13 101.00-96.00				1	1	1			
L14 96.00-91.00				1	1	1			
L15 91.00-86.00				1	1	1			
L16 86.00-85.75				1	1	0.973888			
L17 85.75-				1	1	0.976445			

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
81.00									
L18 81.00-80.75				1	1	1			
L19 80.75-80.50				1	1	1			
L20 80.50-73.25				1	1	1			
L21 73.25-72.25				1	1	1			
L22 72.25-67.25				1	1	1			
L23 67.25-62.25				1	1	1			
L24 62.25-57.25				1	1	1			
L25 57.25-52.25				1	1	1			
L26 52.25-49.83				1	1	1			
L27 49.83-49.58				1	1	1			
L28 49.58-44.58				1	1	1			
L29 44.58-36.33				1	1	1			
L30 36.33-35.33				1	1	1			
L31 35.33-32.25				1	1	1			
L32 32.25-32.00				1	1	1			
L33 32.00-27.00				1	1	1			
L34 27.00-22.00				1	1	1			
L35 22.00-17.00				1	1	1			
L36 17.00-15.50				1	1	1			
L37 15.50-15.25				1	1	1			
L38 15.25-14.75				1	1	1			
L39 14.75-14.50				1	1	1			
L40 14.50-9.50				1	1	1			
L41 9.50-4.50				1	1	1			
L42 4.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	C	No	Surface Ar (CaAa)	160.00 - 10.00	1	1	-0.390 -0.380	0.3750		0.22
***										
MK SR 1	A	No	Surface Af (CaAa)	16.75 - 1.75	1	1	0.000 0.000	4.0000	9.5000	10.21
MK SR 1	B	No	Surface Af (CaAa)	16.75 - 1.75	1	1	0.000 0.000	4.0000	9.5000	10.21

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
MK SR 1	C	No	Surface Af (CaAa)	16.75 - 1.75	1	1	0.000 0.000	4.0000	9.5000	10.21
MK SR 2	A	No	Surface Af (CaAa)	82.00 - 77.00	1	1	0.000 0.000	4.0000	9.5000	10.21
MK SR 2	B	No	Surface Af (CaAa)	82.00 - 77.00	1	1	0.000 0.000	4.0000	9.5000	10.21
MK SR 2	C	No	Surface Af (CaAa)	82.00 - 77.00	1	1	0.000 0.000	4.0000	9.5000	10.21
CCI-AFP-060100	A	No	Surface Af (CaAa)	32.25 - 12.25	1	1	0.000 0.000	6.0000	14.0000	20.42
CCI-AFP-060100	B	No	Surface Af (CaAa)	32.25 - 12.25	1	1	0.000 0.000	6.0000	14.0000	20.42
CCI-AFP-060100	C	No	Surface Af (CaAa)	32.25 - 12.25	1	1	0.000 0.000	6.0000	14.0000	20.42
CCI-AFP-060100	A	No	Surface Af (CaAa)	52.33 - 32.33	1	1	0.000 0.000	6.0000	14.0000	20.42
CCI-AFP-060100	B	No	Surface Af (CaAa)	52.33 - 32.33	1	1	0.000 0.000	6.0000	14.0000	20.42
CCI-AFP-060100	C	No	Surface Af (CaAa)	52.33 - 32.33	1	1	0.000 0.000	6.0000	14.0000	20.42
CCI-AFP-060100	A	No	Surface Af (CaAa)	88.50 - 78.50	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-AFP-060100	B	No	Surface Af (CaAa)	88.50 - 78.50	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-AFP-060100	C	No	Surface Af (CaAa)	88.50 - 78.50	1	1	0.000 0.000	6.0000	14.0000	0.00
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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
157									
HB158-21U6S24-xxM_TMO(1-5/8)	C	No	No	Inside Pole	157.00 - 0.00	3	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	2.50 2.50 2.50 2.50
149									
FB-L98B-002-75000(3/8)	C	No	No	Inside Pole	149.00 - 0.00	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.06 0.06 0.06 0.06
WR-VG82ST-BRDA(5/8)	C	No	No	Inside Pole	149.00 - 0.00	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.31 0.31 0.31 0.31
FB-L98B-002-75000(3/8)	C	No	No	Inside Pole	149.00 - 0.00	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.06 0.06 0.06 0.06
WR-VG82ST-BRDA(5/8)	C	No	No	Inside Pole	149.00 - 0.00	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.31 0.31 0.31 0.31
2" innerduct conduit	C	No	No	Inside Pole	149.00 - 0.00	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.20 0.20 0.20 0.20
LCF158-50JA-	C	No	No	Inside Pole	149.00 - 0.00	6	No Ice	0.00	0.80

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
A0(1-5/8)							1/2" Ice	0.00	0.80
							1" Ice	0.00	0.80
							2" Ice	0.00	0.80
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	149.00 - 0.00	2	No Ice	0.00	0.58
							1/2" Ice	0.00	0.58
							1" Ice	0.00	0.58
							2" Ice	0.00	0.58
139									
561(1-5/8)	C	No	No	Inside Pole	139.00 - 0.00	6	No Ice	0.00	1.35
							1/2" Ice	0.00	1.35
							1" Ice	0.00	1.35
							2" Ice	0.00	1.35
HB158-U12S24-XXX-LI(1-5/8)	C	No	No	Inside Pole	139.00 - 0.00	1	No Ice	0.00	3.20
							1/2" Ice	0.00	3.20
							1" Ice	0.00	3.20
							2" Ice	0.00	3.20
129									
CU12PSM9P6XXX (1-1/2)	C	No	No	Inside Pole	129.00 - 0.00	1	No Ice	0.00	2.35
							1/2" Ice	0.00	2.35
							1" Ice	0.00	2.35
							2" Ice	0.00	2.35
116									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	116.00 - 0.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	C	No	No	Inside Pole	116.00 - 0.00	1	No Ice	0.00	1.07
							1/2" Ice	0.00	1.07
							1" Ice	0.00	1.07
							2" Ice	0.00	1.07
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	116.00 - 0.00	3	No Ice	0.00	2.40
							1/2" Ice	0.00	2.40
							1" Ice	0.00	2.40
							2" Ice	0.00	2.40
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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
L1	160.00-155.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.02
L2	155.00-150.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.04
L3	150.00-145.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.07
L4	145.00-140.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.08
L5	140.00-135.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.12
L6	135.00-130.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00

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
		C	0.000	0.000	0.188	0.000	0.13
L7	130.00-125.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.14
L8	125.00-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.14
L9	120.00-111.33	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.325	0.000	0.31
L10	111.33-111.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.012	0.000	0.01
L11	111.00-106.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.21
L12	106.00-101.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.21
L13	101.00-96.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.21
L14	96.00-91.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.21
L15	91.00-86.00	A	0.000	0.000	2.280	0.000	0.00
		B	0.000	0.000	2.280	0.000	0.00
		C	0.000	0.000	2.468	0.000	0.21
L16	86.00-85.75	A	0.000	0.000	0.228	0.000	0.00
		B	0.000	0.000	0.228	0.000	0.00
		C	0.000	0.000	0.237	0.000	0.01
L17	85.75-81.00	A	0.000	0.000	4.885	0.000	0.01
		B	0.000	0.000	4.885	0.000	0.01
		C	0.000	0.000	5.063	0.000	0.21
L18	81.00-80.75	A	0.000	0.000	0.366	0.000	0.00
		B	0.000	0.000	0.366	0.000	0.00
		C	0.000	0.000	0.376	0.000	0.01
L19	80.75-80.50	A	0.000	0.000	0.366	0.000	0.00
		B	0.000	0.000	0.366	0.000	0.00
		C	0.000	0.000	0.376	0.000	0.01
L20	80.50-73.25	A	0.000	0.000	3.759	0.000	0.04
		B	0.000	0.000	3.759	0.000	0.04
		C	0.000	0.000	4.031	0.000	0.34
L21	73.25-72.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.037	0.000	0.04
L22	72.25-67.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.21
L23	67.25-62.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.21
L24	62.25-57.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.21
L25	57.25-52.25	A	0.000	0.000	0.080	0.000	0.00
		B	0.000	0.000	0.080	0.000	0.00
		C	0.000	0.000	0.268	0.000	0.21
L26	52.25-49.83	A	0.000	0.000	2.420	0.000	0.05
		B	0.000	0.000	2.420	0.000	0.05
		C	0.000	0.000	2.511	0.000	0.15
L27	49.83-49.58	A	0.000	0.000	0.250	0.000	0.01
		B	0.000	0.000	0.250	0.000	0.01
		C	0.000	0.000	0.259	0.000	0.02
L28	49.58-44.58	A	0.000	0.000	5.000	0.000	0.10
		B	0.000	0.000	5.000	0.000	0.10
		C	0.000	0.000	5.188	0.000	0.31
L29	44.58-36.33	A	0.000	0.000	8.247	0.000	0.17
		B	0.000	0.000	8.247	0.000	0.17

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
		C	0.000	0.000	8.556	0.000	0.52
L30	36.33-35.33	A	0.000	0.000	1.000	0.000	0.02
		B	0.000	0.000	1.000	0.000	0.02
		C	0.000	0.000	1.038	0.000	0.06
L31	35.33-32.25	A	0.000	0.000	3.003	0.000	0.06
		B	0.000	0.000	3.003	0.000	0.06
		C	0.000	0.000	3.119	0.000	0.19
L32	32.25-32.00	A	0.000	0.000	0.250	0.000	0.01
		B	0.000	0.000	0.250	0.000	0.01
		C	0.000	0.000	0.259	0.000	0.02
L33	32.00-27.00	A	0.000	0.000	5.000	0.000	0.10
		B	0.000	0.000	5.000	0.000	0.10
		C	0.000	0.000	5.188	0.000	0.31
L34	27.00-22.00	A	0.000	0.000	5.000	0.000	0.10
		B	0.000	0.000	5.000	0.000	0.10
		C	0.000	0.000	5.188	0.000	0.31
L35	22.00-17.00	A	0.000	0.000	5.000	0.000	0.10
		B	0.000	0.000	5.000	0.000	0.10
		C	0.000	0.000	5.188	0.000	0.31
L36	17.00-15.50	A	0.000	0.000	2.333	0.000	0.04
		B	0.000	0.000	2.333	0.000	0.04
		C	0.000	0.000	2.390	0.000	0.11
L37	15.50-15.25	A	0.000	0.000	0.417	0.000	0.01
		B	0.000	0.000	0.417	0.000	0.01
		C	0.000	0.000	0.426	0.000	0.02
L38	15.25-14.75	A	0.000	0.000	0.833	0.000	0.02
		B	0.000	0.000	0.833	0.000	0.02
		C	0.000	0.000	0.852	0.000	0.04
L39	14.75-14.50	A	0.000	0.000	0.417	0.000	0.01
		B	0.000	0.000	0.417	0.000	0.01
		C	0.000	0.000	0.426	0.000	0.02
L40	14.50-9.50	A	0.000	0.000	5.583	0.000	0.10
		B	0.000	0.000	5.583	0.000	0.10
		C	0.000	0.000	5.752	0.000	0.31
L41	9.50-4.50	A	0.000	0.000	3.333	0.000	0.05
		B	0.000	0.000	3.333	0.000	0.05
		C	0.000	0.000	3.333	0.000	0.26
L42	4.50-0.00	A	0.000	0.000	1.833	0.000	0.03
		B	0.000	0.000	1.833	0.000	0.03
		C	0.000	0.000	1.833	0.000	0.22

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
L1	160.00-155.00	A	1.491	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.678	0.000	0.03
L2	155.00-150.00	A	1.486	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.673	0.000	0.06
L3	150.00-145.00	A	1.481	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.668	0.000	0.09
L4	145.00-140.00	A	1.476	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.663	0.000	0.09
L5	140.00-135.00	A	1.471	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.658	0.000	0.14
L6	135.00-130.00	A	1.465	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.653	0.000	0.15
L7	130.00-125.00	A	1.459	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00

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
		C		0.000	0.000	1.647	0.000	0.16
L8	125.00-120.00	A	1.454	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.641	0.000	0.16
L9	120.00-111.33	A	1.445	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	2.830	0.000	0.34
L10	111.33-111.00	A	1.440	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.109	0.000	0.02
L11	111.00-106.00	A	1.436	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.624	0.000	0.23
L12	106.00-101.00	A	1.429	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.617	0.000	0.23
L13	101.00-96.00	A	1.422	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.610	0.000	0.23
L14	96.00-91.00	A	1.415	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.602	0.000	0.23
L15	91.00-86.00	A	1.407	0.000	0.000	2.654	0.000	0.03
		B		0.000	0.000	2.654	0.000	0.03
		C		0.000	0.000	4.249	0.000	0.25
L16	86.00-85.75	A	1.403	0.000	0.000	0.265	0.000	0.00
		B		0.000	0.000	0.265	0.000	0.00
		C		0.000	0.000	0.345	0.000	0.01
L17	85.75-81.00	A	1.399	0.000	0.000	5.741	0.000	0.07
		B		0.000	0.000	5.741	0.000	0.07
		C		0.000	0.000	7.248	0.000	0.28
L18	81.00-80.75	A	1.395	0.000	0.000	0.441	0.000	0.01
		B		0.000	0.000	0.441	0.000	0.01
		C		0.000	0.000	0.520	0.000	0.02
L19	80.75-80.50	A	1.394	0.000	0.000	0.441	0.000	0.01
		B		0.000	0.000	0.441	0.000	0.01
		C		0.000	0.000	0.520	0.000	0.02
L20	80.50-73.25	A	1.387	0.000	0.000	4.573	0.000	0.08
		B		0.000	0.000	4.573	0.000	0.08
		C		0.000	0.000	6.857	0.000	0.41
L21	73.25-72.25	A	1.380	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.315	0.000	0.05
L22	72.25-67.25	A	1.374	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.562	0.000	0.23
L23	67.25-62.25	A	1.364	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.551	0.000	0.22
L24	62.25-57.25	A	1.353	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.540	0.000	0.22
L25	57.25-52.25	A	1.341	0.000	0.000	0.101	0.000	0.00
		B		0.000	0.000	0.101	0.000	0.00
		C		0.000	0.000	1.630	0.000	0.23
L26	52.25-49.83	A	1.332	0.000	0.000	3.065	0.000	0.07
		B		0.000	0.000	3.065	0.000	0.07
		C		0.000	0.000	3.800	0.000	0.18
L27	49.83-49.58	A	1.328	0.000	0.000	0.316	0.000	0.01
		B		0.000	0.000	0.316	0.000	0.01
		C		0.000	0.000	0.392	0.000	0.02
L28	49.58-44.58	A	1.321	0.000	0.000	6.321	0.000	0.15
		B		0.000	0.000	6.321	0.000	0.15
		C		0.000	0.000	7.830	0.000	0.38
L29	44.58-36.33	A	1.301	0.000	0.000	10.393	0.000	0.25
		B		0.000	0.000	10.393	0.000	0.25
		C		0.000	0.000	12.848	0.000	0.62
L30	36.33-35.33	A	1.286	0.000	0.000	1.260	0.000	0.03
		B		0.000	0.000	1.260	0.000	0.03

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
		C		0.000	0.000	1.558	0.000	0.07
L31	35.33-32.25	A	1.278	0.000	0.000	3.771	0.000	0.09
		B		0.000	0.000	3.771	0.000	0.09
		C		0.000	0.000	4.675	0.000	0.23
L32	32.25-32.00	A	1.272	0.000	0.000	0.314	0.000	0.01
		B		0.000	0.000	0.314	0.000	0.01
		C		0.000	0.000	0.387	0.000	0.02
L33	32.00-27.00	A	1.261	0.000	0.000	6.261	0.000	0.15
		B		0.000	0.000	6.261	0.000	0.15
		C		0.000	0.000	7.709	0.000	0.37
L34	27.00-22.00	A	1.238	0.000	0.000	6.238	0.000	0.15
		B		0.000	0.000	6.238	0.000	0.15
		C		0.000	0.000	7.663	0.000	0.37
L35	22.00-17.00	A	1.210	0.000	0.000	6.210	0.000	0.15
		B		0.000	0.000	6.210	0.000	0.15
		C		0.000	0.000	7.607	0.000	0.37
L36	17.00-15.50	A	1.188	0.000	0.000	2.987	0.000	0.06
		B		0.000	0.000	2.987	0.000	0.06
		C		0.000	0.000	3.399	0.000	0.13
L37	15.50-15.25	A	1.181	0.000	0.000	0.535	0.000	0.01
		B		0.000	0.000	0.535	0.000	0.01
		C		0.000	0.000	0.603	0.000	0.02
L38	15.25-14.75	A	1.178	0.000	0.000	1.069	0.000	0.02
		B		0.000	0.000	1.069	0.000	0.02
		C		0.000	0.000	1.206	0.000	0.04
L39	14.75-14.50	A	1.175	0.000	0.000	0.534	0.000	0.01
		B		0.000	0.000	0.534	0.000	0.01
		C		0.000	0.000	0.602	0.000	0.02
L40	14.50-9.50	A	1.152	0.000	0.000	7.254	0.000	0.15
		B		0.000	0.000	7.254	0.000	0.15
		C		0.000	0.000	8.460	0.000	0.37
L41	9.50-4.50	A	1.092	0.000	0.000	4.425	0.000	0.08
		B		0.000	0.000	4.425	0.000	0.08
		C		0.000	0.000	4.425	0.000	0.29
L42	4.50-0.00	A	0.974	0.000	0.000	2.369	0.000	0.04
		B		0.000	0.000	2.369	0.000	0.04
		C		0.000	0.000	2.369	0.000	0.23

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	160.00-155.00	0.1651	0.1584	0.9175	0.8799
L2	155.00-150.00	0.1651	0.1584	0.9265	0.8885
L3	150.00-145.00	0.1651	0.1584	0.9345	0.8961
L4	145.00-140.00	0.1651	0.1584	0.9414	0.9028
L5	140.00-135.00	0.1651	0.1584	0.9475	0.9086
L6	135.00-130.00	0.1651	0.1584	0.9528	0.9137
L7	130.00-125.00	0.1651	0.1584	0.9573	0.9180
L8	125.00-120.00	0.1651	0.1584	0.9612	0.9217
L9	120.00-111.33	0.1651	0.1584	0.9654	0.9258
L10	111.33-111.00	0.1653	0.1585	0.9692	0.9295
L11	111.00-106.00	0.1653	0.1585	0.9673	0.9276
L12	106.00-101.00	0.1653	0.1585	0.9691	0.9293
L13	101.00-96.00	0.1653	0.1585	0.9703	0.9304
L14	96.00-91.00	0.1653	0.1585	0.9709	0.9311
L15	91.00-86.00	0.1135	0.1088	0.7105	0.6813
L16	86.00-85.75	0.0872	0.0836	0.5641	0.5409
L17	85.75-81.00	0.0829	0.0795	0.5361	0.5141
L18	81.00-80.75	0.0690	0.0662	0.4475	0.4292
L19	80.75-80.50	0.0691	0.0662	0.4479	0.4295
L20	80.50-73.25	0.1115	0.1069	0.6878	0.6596
L21	73.25-72.25	0.1654	0.1586	0.9710	0.9312
L22	72.25-67.25	0.1653	0.1586	0.9655	0.9259

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L23	67.25-62.25	0.1653	0.1586	0.9632	0.9237
L24	62.25-57.25	0.1653	0.1585	0.9602	0.9208
L25	57.25-52.25	0.1632	0.1565	0.9452	0.9064
L26	52.25-49.83	0.0911	0.0873	0.5494	0.5269
L27	49.83-49.58	0.0913	0.0876	0.5503	0.5277
L28	49.58-44.58	0.0919	0.0881	0.5517	0.5291
L29	44.58-36.33	0.0933	0.0895	0.5544	0.5317
L30	36.33-35.33	0.0936	0.0897	0.5563	0.5335
L31	35.33-32.25	0.0950	0.0911	0.5573	0.5344
L32	32.25-32.00	0.0943	0.0904	0.5515	0.5288
L33	32.00-27.00	0.0948	0.0909	0.5512	0.5286
L34	27.00-22.00	0.0958	0.0919	0.5497	0.5271
L35	22.00-17.00	0.0967	0.0928	0.5461	0.5237
L36	17.00-15.50	0.0792	0.0760	0.4390	0.4210
L37	15.50-15.25	0.0766	0.0734	0.4222	0.4049
L38	15.25-14.75	0.0766	0.0735	0.4219	0.4045
L39	14.75-14.50	0.0767	0.0736	0.4215	0.4042
L40	14.50-9.50	0.0842	0.0808	0.4511	0.4326
L41	9.50-4.50	0.0000	0.0000	0.0000	0.0000
L42	4.50-0.00	0.0000	0.0000	0.0000	0.0000

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	Safety Line 3/8	155.00 - 160.00	1.0000	1.0000
L2	1	Safety Line 3/8	150.00 - 155.00	1.0000	1.0000
L3	1	Safety Line 3/8	145.00 - 150.00	1.0000	1.0000
L4	1	Safety Line 3/8	140.00 - 145.00	1.0000	1.0000
L5	1	Safety Line 3/8	135.00 - 140.00	1.0000	1.0000
L6	1	Safety Line 3/8	130.00 - 135.00	1.0000	1.0000
L7	1	Safety Line 3/8	125.00 - 130.00	1.0000	1.0000
L8	1	Safety Line 3/8	120.00 - 125.00	1.0000	1.0000
L9	1	Safety Line 3/8	111.33 - 120.00	1.0000	1.0000
L10	1	Safety Line 3/8	111.00 - 111.33	1.0000	1.0000
L11	1	Safety Line 3/8	106.00 - 111.00	1.0000	1.0000
L12	1	Safety Line 3/8	101.00 - 106.00	1.0000	1.0000
L13	1	Safety Line 3/8	96.00 - 101.00	1.0000	1.0000
L14	1	Safety Line 3/8	91.00 - 96.00	1.0000	1.0000
L15	1	Safety Line 3/8	86.00 - 91.00	1.0000	1.0000
L15	46	CCI-AFP-060100	86.00 - 88.50	1.0000	1.0000
L15	47	CCI-AFP-060100	86.00 - 88.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L15	48	CCI-AFP-060100	86.00 - 88.50	1.0000	1.0000
L16	1	Safety Line 3/8	85.75 - 86.00	1.0000	1.0000
L16	46	CCI-AFP-060100	85.75 - 86.00	1.0000	1.0000
L16	47	CCI-AFP-060100	85.75 - 86.00	1.0000	1.0000
L16	48	CCI-AFP-060100	85.75 - 86.00	1.0000	1.0000
L17	1	Safety Line 3/8	81.00 - 85.75	1.0000	1.0000
L17	37	MK SR 2	81.00 - 82.00	1.0000	1.0000
L17	38	MK SR 2	81.00 - 82.00	1.0000	1.0000
L17	39	MK SR 2	81.00 - 82.00	1.0000	1.0000
L17	46	CCI-AFP-060100	81.00 - 85.75	1.0000	1.0000
L17	47	CCI-AFP-060100	81.00 - 85.75	1.0000	1.0000
L17	48	CCI-AFP-060100	81.00 - 85.75	1.0000	1.0000
L18	1	Safety Line 3/8	80.75 - 81.00	1.0000	1.0000
L18	37	MK SR 2	80.75 - 81.00	1.0000	1.0000
L18	38	MK SR 2	80.75 - 81.00	1.0000	1.0000
L18	39	MK SR 2	80.75 - 81.00	1.0000	1.0000
L18	46	CCI-AFP-060100	80.75 - 81.00	1.0000	1.0000
L18	47	CCI-AFP-060100	80.75 - 81.00	1.0000	1.0000
L18	48	CCI-AFP-060100	80.75 - 81.00	1.0000	1.0000
L19	1	Safety Line 3/8	80.50 - 80.75	1.0000	1.0000
L19	37	MK SR 2	80.50 - 80.75	1.0000	1.0000
L19	38	MK SR 2	80.50 - 80.75	1.0000	1.0000
L19	39	MK SR 2	80.50 - 80.75	1.0000	1.0000
L19	46	CCI-AFP-060100	80.50 - 80.75	1.0000	1.0000
L19	47	CCI-AFP-060100	80.50 - 80.75	1.0000	1.0000
L19	48	CCI-AFP-060100	80.50 - 80.75	1.0000	1.0000
L20	1	Safety Line 3/8	73.25 - 80.50	1.0000	1.0000
L20	37	MK SR 2	77.00 - 80.50	1.0000	1.0000
L20	38	MK SR 2	77.00 - 80.50	1.0000	1.0000
L20	39	MK SR 2	77.00 - 80.50	1.0000	1.0000
L20	46	CCI-AFP-060100	78.50 - 80.50	1.0000	1.0000
L20	47	CCI-AFP-060100	78.50 - 80.50	1.0000	1.0000
L20	48	CCI-AFP-060100	78.50 - 80.50	1.0000	1.0000
L21	1	Safety Line 3/8	72.25 - 73.25	1.0000	1.0000
L22	1	Safety Line 3/8	67.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L23	1	Safety Line 3/8	72.25 - 62.25	1.0000	1.0000
L24	1	Safety Line 3/8	67.25 - 57.25	1.0000	1.0000
L25	1	Safety Line 3/8	62.25 - 52.25	1.0000	1.0000
L25	43	CCI-AFP-060100	57.25 - 52.33	1.0000	1.0000
L25	44	CCI-AFP-060100	52.25 - 52.33	1.0000	1.0000
L25	45	CCI-AFP-060100	52.25 - 52.33	1.0000	1.0000
L26	1	Safety Line 3/8	49.83 - 52.25	1.0000	1.0000
L26	43	CCI-AFP-060100	49.83 - 52.25	1.0000	1.0000
L26	44	CCI-AFP-060100	49.83 - 52.25	1.0000	1.0000
L26	45	CCI-AFP-060100	49.83 - 52.25	1.0000	1.0000
L27	1	Safety Line 3/8	49.58 - 49.83	1.0000	1.0000
L27	43	CCI-AFP-060100	49.58 - 49.83	1.0000	1.0000
L27	44	CCI-AFP-060100	49.58 - 49.83	1.0000	1.0000
L27	45	CCI-AFP-060100	49.58 - 49.83	1.0000	1.0000
L28	1	Safety Line 3/8	44.58 - 49.58	1.0000	1.0000
L28	43	CCI-AFP-060100	44.58 - 49.58	1.0000	1.0000
L28	44	CCI-AFP-060100	44.58 - 49.58	1.0000	1.0000
L28	45	CCI-AFP-060100	44.58 - 49.58	1.0000	1.0000
L29	1	Safety Line 3/8	36.33 - 44.58	1.0000	1.0000
L29	43	CCI-AFP-060100	36.33 - 44.58	1.0000	1.0000
L29	44	CCI-AFP-060100	36.33 - 44.58	1.0000	1.0000
L29	45	CCI-AFP-060100	36.33 - 44.58	1.0000	1.0000
L30	1	Safety Line 3/8	35.33 - 36.33	1.0000	1.0000
L30	43	CCI-AFP-060100	35.33 - 36.33	1.0000	1.0000
L30	44	CCI-AFP-060100	35.33 - 36.33	1.0000	1.0000
L30	45	CCI-AFP-060100	35.33 - 36.33	1.0000	1.0000
L31	1	Safety Line 3/8	32.25 - 35.33	1.0000	1.0000
L31	43	CCI-AFP-060100	32.33 - 35.33	1.0000	1.0000
L31	44	CCI-AFP-060100	32.33 - 35.33	1.0000	1.0000
L31	45	CCI-AFP-060100	32.33 - 35.33	1.0000	1.0000
L32	1	Safety Line 3/8	32.00 - 32.25	1.0000	1.0000
L32	40	CCI-AFP-060100	32.00 - 32.25	1.0000	1.0000
L32	41	CCI-AFP-060100	32.00 - 32.25	1.0000	1.0000
L32	42	CCI-AFP-060100	32.00 - 32.25	1.0000	1.0000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
L33	1	Safety Line 3/8	27.00 - 32.00	1.0000	1.0000
L33	40	CCI-AFP-060100	27.00 - 32.00	1.0000	1.0000
L33	41	CCI-AFP-060100	27.00 - 32.00	1.0000	1.0000
L33	42	CCI-AFP-060100	27.00 - 32.00	1.0000	1.0000
L34	1	Safety Line 3/8	22.00 - 27.00	1.0000	1.0000
L34	40	CCI-AFP-060100	22.00 - 27.00	1.0000	1.0000
L34	41	CCI-AFP-060100	22.00 - 27.00	1.0000	1.0000
L34	42	CCI-AFP-060100	22.00 - 27.00	1.0000	1.0000
L35	1	Safety Line 3/8	17.00 - 22.00	1.0000	1.0000
L35	40	CCI-AFP-060100	17.00 - 22.00	1.0000	1.0000
L35	41	CCI-AFP-060100	17.00 - 22.00	1.0000	1.0000
L35	42	CCI-AFP-060100	17.00 - 22.00	1.0000	1.0000
L36	1	Safety Line 3/8	15.50 - 17.00	1.0000	1.0000
L36	34	MK SR 1	15.50 - 16.75	1.0000	1.0000
L36	35	MK SR 1	15.50 - 16.75	1.0000	1.0000
L36	36	MK SR 1	15.50 - 16.75	1.0000	1.0000
L36	40	CCI-AFP-060100	15.50 - 17.00	1.0000	1.0000
L36	41	CCI-AFP-060100	15.50 - 17.00	1.0000	1.0000
L36	42	CCI-AFP-060100	15.50 - 17.00	1.0000	1.0000
L37	1	Safety Line 3/8	15.25 - 15.50	1.0000	1.0000
L37	34	MK SR 1	15.25 - 15.50	1.0000	1.0000
L37	35	MK SR 1	15.25 - 15.50	1.0000	1.0000
L37	36	MK SR 1	15.25 - 15.50	1.0000	1.0000
L37	40	CCI-AFP-060100	15.25 - 15.50	1.0000	1.0000
L37	41	CCI-AFP-060100	15.25 - 15.50	1.0000	1.0000
L37	42	CCI-AFP-060100	15.25 - 15.50	1.0000	1.0000
L38	1	Safety Line 3/8	14.75 - 15.25	1.0000	1.0000
L38	34	MK SR 1	14.75 - 15.25	1.0000	1.0000
L38	35	MK SR 1	14.75 - 15.25	1.0000	1.0000
L38	36	MK SR 1	14.75 - 15.25	1.0000	1.0000
L38	40	CCI-AFP-060100	14.75 - 15.25	1.0000	1.0000
L38	41	CCI-AFP-060100	14.75 - 15.25	1.0000	1.0000
L38	42	CCI-AFP-060100	14.75 - 15.25	1.0000	1.0000
L39	1	Safety Line 3/8	14.50 - 14.75	1.0000	1.0000
L39	34	MK SR 1	14.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L39	35	MK SR 1	14.75 14.50 - 14.75	1.0000	1.0000
L39	36	MK SR 1	14.50 - 14.75	1.0000	1.0000
L39	40	CCI-AFP-060100	14.50 - 14.75	1.0000	1.0000
L39	41	CCI-AFP-060100	14.50 - 14.75	1.0000	1.0000
L39	42	CCI-AFP-060100	14.50 - 14.75	1.0000	1.0000
L40	1	Safety Line 3/8	10.00 - 14.50	1.0000	1.0000
L40	34	MK SR 1	9.50 - 14.50	1.0000	1.0000
L40	35	MK SR 1	9.50 - 14.50	1.0000	1.0000
L40	36	MK SR 1	9.50 - 14.50	1.0000	1.0000
L40	40	CCI-AFP-060100	12.25 - 14.50	1.0000	1.0000
L40	41	CCI-AFP-060100	12.25 - 14.50	1.0000	1.0000
L40	42	CCI-AFP-060100	12.25 - 14.50	1.0000	1.0000
L41	34	MK SR 1	4.50 - 9.50	1.0000	1.0000
L41	35	MK SR 1	4.50 - 9.50	1.0000	1.0000
L41	36	MK SR 1	4.50 - 9.50	1.0000	1.0000
L42	34	MK SR 1	1.75 - 4.50	1.0000	1.0000
L42	35	MK SR 1	1.75 - 4.50	1.0000	1.0000
L42	36	MK SR 1	1.75 - 4.50	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L15	46	CCI-AFP-060100	86.00 - 88.50	Auto	0.0000
L15	47	CCI-AFP-060100	86.00 - 88.50	Auto	0.0000
L15	48	CCI-AFP-060100	86.00 - 88.50	Auto	0.0000
L16	46	CCI-AFP-060100	85.75 - 86.00	Auto	0.0000
L16	47	CCI-AFP-060100	85.75 - 86.00	Auto	0.0000
L16	48	CCI-AFP-060100	85.75 - 86.00	Auto	0.0000
L17	37	MK SR 2	81.00 - 82.00	Manual	1.0000
L17	38	MK SR 2	81.00 - 82.00	Manual	1.0000
L17	39	MK SR 2	81.00 - 82.00	Manual	1.0000
L17	46	CCI-AFP-060100	81.00 - 85.75	Auto	0.0000
L17	47	CCI-AFP-060100	81.00 - 85.75	Auto	0.0000
L17	48	CCI-AFP-060100	81.00 - 85.75	Auto	0.0000
L18	37	MK SR 2	80.75 - 81.00	Manual	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L18	38	MK SR 2	80.75 - 81.00	Manual	1.0000
L18	39	MK SR 2	80.75 - 81.00	Manual	1.0000
L18	46	CCI-AFP-060100	80.75 - 81.00	Auto	0.0000
L18	47	CCI-AFP-060100	80.75 - 81.00	Auto	0.0000
L18	48	CCI-AFP-060100	80.75 - 81.00	Auto	0.0000
L19	37	MK SR 2	80.50 - 80.75	Manual	1.0000
L19	38	MK SR 2	80.50 - 80.75	Manual	1.0000
L19	39	MK SR 2	80.50 - 80.75	Manual	1.0000
L19	46	CCI-AFP-060100	80.50 - 80.75	Auto	0.0000
L19	47	CCI-AFP-060100	80.50 - 80.75	Auto	0.0000
L19	48	CCI-AFP-060100	80.50 - 80.75	Auto	0.0000
L20	37	MK SR 2	77.00 - 80.50	Manual	1.0000
L20	38	MK SR 2	77.00 - 80.50	Manual	1.0000
L20	39	MK SR 2	77.00 - 80.50	Manual	1.0000
L20	46	CCI-AFP-060100	78.50 - 80.50	Auto	0.0000
L20	47	CCI-AFP-060100	78.50 - 80.50	Auto	0.0000
L20	48	CCI-AFP-060100	78.50 - 80.50	Auto	0.0000
L25	43	CCI-AFP-060100	52.25 - 52.33	Auto	0.0000
L25	44	CCI-AFP-060100	52.25 - 52.33	Auto	0.0000
L25	45	CCI-AFP-060100	52.25 - 52.33	Auto	0.0000
L26	43	CCI-AFP-060100	49.83 - 52.25	Auto	0.0000
L26	44	CCI-AFP-060100	49.83 - 52.25	Auto	0.0000
L26	45	CCI-AFP-060100	49.83 - 52.25	Auto	0.0000
L27	43	CCI-AFP-060100	49.58 - 49.83	Auto	0.0000
L27	44	CCI-AFP-060100	49.58 - 49.83	Auto	0.0000
L27	45	CCI-AFP-060100	49.58 - 49.83	Auto	0.0000
L28	43	CCI-AFP-060100	44.58 - 49.58	Auto	0.0000
L28	44	CCI-AFP-060100	44.58 - 49.58	Auto	0.0000
L28	45	CCI-AFP-060100	44.58 - 49.58	Auto	0.0000
L29	43	CCI-AFP-060100	36.33 - 44.58	Auto	0.0000
L29	44	CCI-AFP-060100	36.33 - 44.58	Auto	0.0000
L29	45	CCI-AFP-060100	36.33 - 44.58	Auto	0.0000
L30	43	CCI-AFP-060100	35.33 - 36.33	Auto	0.0000
L30	44	CCI-AFP-060100	35.33 - 36.33	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L30	45	CCI-AFP-060100	35.33 - 36.33	Auto	0.0000
L31	43	CCI-AFP-060100	32.33 - 35.33	Auto	0.0000
L31	44	CCI-AFP-060100	32.33 - 35.33	Auto	0.0000
L31	45	CCI-AFP-060100	32.33 - 35.33	Auto	0.0000
L32	40	CCI-AFP-060100	32.00 - 32.25	Auto	0.0000
L32	41	CCI-AFP-060100	32.00 - 32.25	Auto	0.0000
L32	42	CCI-AFP-060100	32.00 - 32.25	Auto	0.0000
L33	40	CCI-AFP-060100	27.00 - 32.00	Auto	0.0000
L33	41	CCI-AFP-060100	27.00 - 32.00	Auto	0.0000
L33	42	CCI-AFP-060100	27.00 - 32.00	Auto	0.0000
L34	40	CCI-AFP-060100	22.00 - 27.00	Auto	0.0000
L34	41	CCI-AFP-060100	22.00 - 27.00	Auto	0.0000
L34	42	CCI-AFP-060100	22.00 - 27.00	Auto	0.0000
L35	40	CCI-AFP-060100	17.00 - 22.00	Auto	0.0000
L35	41	CCI-AFP-060100	17.00 - 22.00	Auto	0.0000
L35	42	CCI-AFP-060100	17.00 - 22.00	Auto	0.0000
L36	34	MK SR 1	15.50 - 16.75	Manual	1.0000
L36	35	MK SR 1	15.50 - 16.75	Manual	1.0000
L36	36	MK SR 1	15.50 - 16.75	Manual	1.0000
L36	40	CCI-AFP-060100	15.50 - 17.00	Auto	0.0000
L36	41	CCI-AFP-060100	15.50 - 17.00	Auto	0.0000
L36	42	CCI-AFP-060100	15.50 - 17.00	Auto	0.0000
L37	34	MK SR 1	15.25 - 15.50	Manual	1.0000
L37	35	MK SR 1	15.25 - 15.50	Manual	1.0000
L37	36	MK SR 1	15.25 - 15.50	Manual	1.0000
L37	40	CCI-AFP-060100	15.25 - 15.50	Auto	0.0000
L37	41	CCI-AFP-060100	15.25 - 15.50	Auto	0.0000
L37	42	CCI-AFP-060100	15.25 - 15.50	Auto	0.0000
L38	34	MK SR 1	14.75 - 15.25	Manual	1.0000
L38	35	MK SR 1	14.75 - 15.25	Manual	1.0000
L38	36	MK SR 1	14.75 - 15.25	Manual	1.0000
L38	40	CCI-AFP-060100	14.75 - 15.25	Auto	0.0000
L38	41	CCI-AFP-060100	14.75 - 15.25	Auto	0.0000
L38	42	CCI-AFP-060100	14.75 - 15.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L39	34	MK SR 1	14.50 - 14.75	Manual	1.0000
L39	35	MK SR 1	14.50 - 14.75	Manual	1.0000
L39	36	MK SR 1	14.50 - 14.75	Manual	1.0000
L39	40	CCI-AFP-060100	14.50 - 14.75	Auto	0.0000
L39	41	CCI-AFP-060100	14.50 - 14.75	Auto	0.0000
L39	42	CCI-AFP-060100	14.50 - 14.75	Auto	0.0000
L40	34	MK SR 1	9.50 - 14.50	Manual	1.0000
L40	35	MK SR 1	9.50 - 14.50	Manual	1.0000
L40	36	MK SR 1	9.50 - 14.50	Manual	1.0000
L40	40	CCI-AFP-060100	12.25 - 14.50	Auto	0.0000
L40	41	CCI-AFP-060100	12.25 - 14.50	Auto	0.0000
L40	42	CCI-AFP-060100	12.25 - 14.50	Auto	0.0000
L41	34	MK SR 1	4.50 - 9.50	Manual	1.0000
L41	35	MK SR 1	4.50 - 9.50	Manual	1.0000
L41	36	MK SR 1	4.50 - 9.50	Manual	1.0000
L42	34	MK SR 1	1.75 - 4.50	Manual	1.0000
L42	35	MK SR 1	1.75 - 4.50	Manual	1.0000
L42	36	MK SR 1	1.75 - 4.50	Manual	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
157									
Platform Mount [13' LP 713-1]	C	None		0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	35.63 38.74 41.99 49.03	35.63 38.74 41.99 49.03	1.64 2.41 3.28 5.27
3'x3"x3"x1/4" Horizontal Angle	A	From Face	4.00 0.00 2.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.90 1.12 1.35 1.83	0.07 0.11 0.16 0.27	0.01 0.02 0.03 0.07
3'x3"x3"x1/4" Horizontal Angle	B	From Face	4.00 0.00 2.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.90 1.12 1.35 1.83	0.07 0.11 0.16 0.27	0.01 0.02 0.03 0.07
3'x3"x3"x1/4" Horizontal Angle	C	From Face	4.00 0.00 2.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.90 1.12 1.35 1.83	0.07 0.11 0.16 0.27	0.01 0.02 0.03 0.07
5'x2" Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	1.19 1.50 1.81	1.19 1.50 1.81	0.02 0.03 0.04

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
							1" Ice	2.46	2.46	0.08
							2" Ice			
5'x2" Mount Pipe	B	From Face	4.00	0.00	0.0000	157.00	No Ice	1.19	1.19	0.02
			0.00				1/2" Ice	1.50	1.50	0.03
							1" Ice	1.81	1.81	0.04
							2" Ice	2.46	2.46	0.08
5'x2" Mount Pipe	C	From Face	4.00	0.00	0.0000	157.00	No Ice	1.19	1.19	0.02
			0.00				1/2" Ice	1.50	1.50	0.03
							1" Ice	1.81	1.81	0.04
							2" Ice	2.46	2.46	0.08
VV-65B-R1_TMO w/ Mount Pipe	A	From Face	4.00	0.00	0.0000	157.00	No Ice	5.82	3.48	0.07
			1.00				1/2" Ice	6.37	4.00	0.12
							1" Ice	6.94	4.54	0.19
							2" Ice	8.12	5.65	0.35
VV-65B-R1_TMO w/ Mount Pipe	B	From Face	4.00	0.00	0.0000	157.00	No Ice	5.82	3.48	0.07
			1.00				1/2" Ice	6.37	4.00	0.12
							1" Ice	6.94	4.54	0.19
							2" Ice	8.12	5.65	0.35
VV-65B-R1_TMO w/ Mount Pipe	C	From Face	4.00	0.00	0.0000	157.00	No Ice	5.82	3.48	0.07
			1.00				1/2" Ice	6.37	4.00	0.12
							1" Ice	6.94	4.54	0.19
							2" Ice	8.12	5.65	0.35
AIR 6419 B41_TMO w/ Mount Pipe	A	From Face	4.00	0.00	0.0000	157.00	No Ice	6.58	3.50	0.11
			1.00				1/2" Ice	7.06	3.90	0.16
							1" Ice	7.57	4.32	0.22
							2" Ice	8.62	5.20	0.36
AIR 6419 B41_TMO w/ Mount Pipe	B	From Face	4.00	0.00	0.0000	157.00	No Ice	6.58	3.50	0.11
			1.00				1/2" Ice	7.06	3.90	0.16
							1" Ice	7.57	4.32	0.22
							2" Ice	8.62	5.20	0.36
AIR 6419 B41_TMO w/ Mount Pipe	C	From Face	4.00	0.00	0.0000	157.00	No Ice	6.58	3.50	0.11
			1.00				1/2" Ice	7.06	3.90	0.16
							1" Ice	7.57	4.32	0.22
							2" Ice	8.62	5.20	0.36
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Face	4.00	0.00	0.0000	157.00	No Ice	14.69	6.87	0.18
			1.00				1/2" Ice	15.46	7.55	0.31
							1" Ice	16.23	8.25	0.45
							2" Ice	17.82	9.67	0.78
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Face	4.00	0.00	0.0000	157.00	No Ice	14.69	6.87	0.18
			1.00				1/2" Ice	15.46	7.55	0.31
							1" Ice	16.23	8.25	0.45
							2" Ice	17.82	9.67	0.78
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Face	4.00	0.00	0.0000	157.00	No Ice	14.69	6.87	0.18
			1.00				1/2" Ice	15.46	7.55	0.31
							1" Ice	16.23	8.25	0.45
							2" Ice	17.82	9.67	0.78
RADIO 4460 B2/B25 B66_TMO	A	From Face	4.00	0.00	0.0000	157.00	No Ice	2.14	1.69	0.11
			1.00				1/2" Ice	2.32	1.85	0.13
							1" Ice	2.51	2.02	0.16
							2" Ice	2.91	2.39	0.22
RADIO 4460 B2/B25 B66_TMO	B	From Face	4.00	0.00	0.0000	157.00	No Ice	2.14	1.69	0.11
			1.00				1/2" Ice	2.32	1.85	0.13
							1" Ice	2.51	2.02	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
						1" Ice	2.91	2.39	0.22
						2" Ice			
RADIO 4460 B2/B25 B66_TMO	C	From Face	4.00 0.00 1.00	0.0000	157.00	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 4480_TMOV2	A	From Face	4.00 0.00 1.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.88 3.09 3.31 3.78	1.40 1.56 1.73 2.09	0.08 0.10 0.13 0.19
Radio 4480_TMOV2	B	From Face	4.00 0.00 1.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.88 3.09 3.31 3.78	1.40 1.56 1.73 2.09	0.08 0.10 0.13 0.19
Radio 4480_TMOV2	C	From Face	4.00 0.00 1.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.88 3.09 3.31 3.78	1.40 1.56 1.73 2.09	0.08 0.10 0.13 0.19
**** ***149*** Platform Mount [13' LP 713-1]	C	None		0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice	35.63 38.74 41.99 49.03	35.63 38.74 41.99 49.03	1.64 2.41 3.28 5.27
(2) 4'x2'' Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	149.00	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
(2) 4'x2'' Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	149.00	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
(2) 4'x2'' Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	149.00	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
7770.00 w/ Mount Pipe	A	From Face	4.00 0.00 2.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.39 3.75 4.12 4.89	2.32 2.66 3.02 3.75	0.06 0.10 0.15 0.28
7770.00 w/ Mount Pipe	B	From Face	4.00 0.00 2.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.39 3.75 4.12 4.89	2.32 2.66 3.02 3.75	0.06 0.10 0.15 0.28
7770.00 w/ Mount Pipe	C	From Face	4.00 0.00 2.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.39 3.75 4.12 4.89	2.32 2.66 3.02 3.75	0.06 0.10 0.15 0.28
EPBQ-654L8H6-L2 w/ Mount Pipe	A	From Face	4.00 0.00 2.00	0.0000	149.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.09 11.77 12.46 13.88	4.69 5.28 5.89 7.13	0.11 0.19 0.29 0.52
EPBQ-654L8H6-L2 w/	B	From Face	4.00	0.0000	149.00	No Ice	11.09	4.69	0.11

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
Mount Pipe			0.00			1/2"	11.77	5.28	0.19
			2.00			Ice	12.46	5.89	0.29
						1" Ice	13.88	7.13	0.52
						2" Ice			
EPBQ-654L8H6-L2 w/ Mount Pipe	C	From Face	4.00	0.0000	149.00	No Ice	11.09	4.69	0.11
			0.00			1/2"	11.77	5.28	0.19
			2.00			Ice	12.46	5.89	0.29
						1" Ice	13.88	7.13	0.52
						2" Ice			
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Face	4.00	0.0000	149.00	No Ice	9.22	6.25	0.07
			0.00			1/2"	9.98	6.96	0.14
			2.00			Ice	10.76	7.70	0.22
						1" Ice	12.36	9.22	0.42
						2" Ice			
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Face	4.00	0.0000	149.00	No Ice	9.22	6.25	0.07
			0.00			1/2"	9.98	6.96	0.14
			2.00			Ice	10.76	7.70	0.22
						1" Ice	12.36	9.22	0.42
						2" Ice			
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Face	4.00	0.0000	149.00	No Ice	9.22	6.25	0.07
			0.00			1/2"	9.98	6.96	0.14
			2.00			Ice	10.76	7.70	0.22
						1" Ice	12.36	9.22	0.42
						2" Ice			
(2) LGP21401	A	From Face	4.00	0.0000	149.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			0.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
(2) LGP21401	B	From Face	4.00	0.0000	149.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			0.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
(2) LGP21401	C	From Face	4.00	0.0000	149.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			0.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
RRUS 11 B12	A	From Face	4.00	0.0000	149.00	No Ice	2.83	1.18	0.05
			0.00			1/2"	3.04	1.33	0.07
			0.00			Ice	3.26	1.48	0.10
						1" Ice	3.71	1.83	0.15
						2" Ice			
RRUS 11 B12	B	From Face	4.00	0.0000	149.00	No Ice	2.83	1.18	0.05
			0.00			1/2"	3.04	1.33	0.07
			0.00			Ice	3.26	1.48	0.10
						1" Ice	3.71	1.83	0.15
						2" Ice			
RRUS 11 B12	C	From Face	4.00	0.0000	149.00	No Ice	2.83	1.18	0.05
			0.00			1/2"	3.04	1.33	0.07
			0.00			Ice	3.26	1.48	0.10
						1" Ice	3.71	1.83	0.15
						2" Ice			
RRUS 32 B30	A	From Face	4.00	0.0000	149.00	No Ice	2.69	1.57	0.06
			0.00			1/2"	2.91	1.76	0.08
			2.00			Ice	3.14	1.95	0.10
						1" Ice	3.61	2.35	0.16
						2" Ice			
RRUS 32 B30	B	From Face	4.00	0.0000	149.00	No Ice	2.69	1.57	0.06
			0.00			1/2"	2.91	1.76	0.08
			2.00			Ice	3.14	1.95	0.10
						1" Ice	3.61	2.35	0.16
						2" Ice			
RRUS 32 B30	C	From Face	4.00	0.0000	149.00	No Ice	2.69	1.57	0.06

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert ft ft ft*	*Azimuth Adjustment ° *	*Placement ft*		*C_AA_A Front ft^2*	*C_AA_A Side ft^2*	*Weight K*
			0.00			1/2"	2.91	1.76	0.08
			2.00			Ice	3.14	1.95	0.10
						1" Ice	3.61	2.35	0.16
						2" Ice			
DC6-48-60-18-8F	A	From Face	4.00	0.0000	149.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			0.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
DC6-48-60-18-8F	B	From Face	4.00	0.0000	149.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			0.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
DC6-48-60-18-8F	C	From Face	4.00	0.0000	149.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			0.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
RRUS 4449 B5/B12	A	From Face	4.00	0.0000	149.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			2.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 4449 B5/B12	B	From Face	4.00	0.0000	149.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			2.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 4449 B5/B12	C	From Face	4.00	0.0000	149.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			2.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 8843 B2/B66A	A	From Face	4.00	0.0000	149.00	No Ice	1.64	1.35	0.07
			0.00			1/2"	1.80	1.50	0.09
			2.00			Ice	1.97	1.65	0.11
						1" Ice	2.32	1.99	0.16
						2" Ice			
RRUS 8843 B2/B66A	B	From Face	4.00	0.0000	149.00	No Ice	1.64	1.35	0.07
			0.00			1/2"	1.80	1.50	0.09
			2.00			Ice	1.97	1.65	0.11
						1" Ice	2.32	1.99	0.16
						2" Ice			
RRUS 8843 B2/B66A	C	From Face	4.00	0.0000	149.00	No Ice	1.64	1.35	0.07
			0.00			1/2"	1.80	1.50	0.09
			2.00			Ice	1.97	1.65	0.11
						1" Ice	2.32	1.99	0.16
						2" Ice			
139									
Platform Mount [LP 713-1]	C	None		0.0000	139.00	No Ice	32.89	32.89	1.51
						1/2"	35.76	35.76	2.23
						Ice	38.76	38.76	3.03
						1" Ice	45.26	45.26	4.86
						2" Ice			
Mount Reinforcement Specifications	C	None		0.0000	139.00	No Ice	28.63	28.63	0.28
						1/2"	37.31	37.31	0.67
						Ice	45.80	45.80	0.94
						1" Ice	62.38	62.38	1.63
						2" Ice			
BSAMNT-SBS-2-2 Side By Side Bracket	A	From Face	3.00	0.0000	139.00	No Ice	0.00	0.00	0.07
			0.00			1/2"	0.00	0.00	0.09
			0.00			Ice	0.00	0.00	0.11
						1" Ice	0.00	0.00	0.15
						2" Ice			

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
BSAMNT-SBS-2-2 Side By Side Bracket	B	From Face	3.00 0.00 0.00	0.0000	139.00	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-2-2 Side By Side Bracket	C	From Face	3.00 0.00 0.00	0.0000	139.00	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) 4'x2" Mount Pipe	A	From Face	3.00 0.00 0.00	0.0000	139.00	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
(2) 4'x2" Mount Pipe	B	From Face	3.00 0.00 0.00	0.0000	139.00	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
(2) 4'x2" Mount Pipe	C	From Face	3.00 0.00 0.00	0.0000	139.00	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
(2) DB846F65ZAXY w/ Mount Pipe	A	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.10 6.80 7.51 8.98	6.81 7.52 8.24 9.73	0.06 0.12 0.19 0.37
(2) DB846F65ZAXY w/ Mount Pipe	B	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.10 6.80 7.51 8.98	6.81 7.52 8.24 9.73	0.06 0.12 0.19 0.37
(2) DB846F65ZAXY w/ Mount Pipe	C	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.10 6.80 7.51 8.98	6.81 7.52 8.24 9.73	0.06 0.12 0.19 0.37
(2) MX06FRO860-03 w/ Mount Pipe	A	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.84 9.51 10.20 11.61	7.49 8.15 8.82 10.20	0.12 0.22 0.34 0.63
(2) MX06FRO860-03 w/ Mount Pipe	B	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.84 9.51 10.20 11.61	7.49 8.15 8.82 10.20	0.12 0.22 0.34 0.63
(2) MX06FRO860-03 w/ Mount Pipe	C	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.84 9.51 10.20 11.61	7.49 8.15 8.82 10.20	0.12 0.22 0.34 0.63
MT6407-77A w/ Mount Pipe	A	From Face	3.00 0.00 3.00	0.0000	139.00	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 Face	3.00 0.00 3.00	0.0000	139.00	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

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
MT6407-77A w/ Mount Pipe	C	From Face	3.00 0.00 3.00	0.0000	139.00	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
(2) FD9R6004/2C-3L	A	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.31 0.39 0.47 0.65	0.08 0.12 0.17 0.29	0.00 0.01 0.01 0.02
(2) FD9R6004/2C-3L	B	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.31 0.39 0.47 0.65	0.08 0.12 0.17 0.29	0.00 0.01 0.01 0.02
(2) FD9R6004/2C-3L	C	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.31 0.39 0.47 0.65	0.08 0.12 0.17 0.29	0.00 0.01 0.01 0.02
RVZDC-6627-PF-48	A	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.79 4.04 4.30 4.84	2.51 2.73 2.95 3.42	0.03 0.06 0.10 0.18
RF4440D-13A	A	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.87 2.03 2.21 2.59	1.13 1.27 1.41 1.72	0.07 0.09 0.11 0.16
RF4440D-13A	C	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.87 2.03 2.21 2.59	1.13 1.27 1.41 1.72	0.07 0.09 0.11 0.16
RF4440D-13A	C	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.87 2.03 2.21 2.59	1.13 1.27 1.41 1.72	0.07 0.09 0.11 0.16
RF4439D-25A	B	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.87 2.03 2.21 2.59	1.25 1.39 1.54 1.87	0.07 0.09 0.11 0.17
RF4439D-25A	C	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.87 2.03 2.21 2.59	1.25 1.39 1.54 1.87	0.07 0.09 0.11 0.17
RF4439D-25A	C	From Face	3.00 0.00 3.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.87 2.03 2.21 2.59	1.25 1.39 1.54 1.87	0.07 0.09 0.11 0.17
129 Commscope MC-PK8-DSH	C	None		0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	34.24 62.95 91.66 149.08	34.24 62.95 91.66 149.08	1.75 2.10 2.45 3.15
(2) 8'x2" Mount Pipe	A	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" 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

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) 8'x2'' Mount Pipe	B	From Face	3.00 0.00 0.00	0.0000	129.00	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) 8'x2'' Mount Pipe	C	From Face	3.00 0.00 0.00	0.0000	129.00	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
MX08FRO665-21 w/ Mount Pipe	A	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.11 0.19 0.29 0.52
MX08FRO665-21 w/ Mount Pipe	B	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.11 0.19 0.29 0.52
MX08FRO665-21 w/ Mount Pipe	C	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.11 0.19 0.29 0.52
TA08025-B604	A	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.06 0.08 0.10 0.15
TA08025-B604	B	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.06 0.08 0.10 0.15
TA08025-B604	C	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	0.98 1.11 1.25 1.55	0.06 0.08 0.10 0.15
TA08025-B605	A	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.08 0.09 0.11 0.16
TA08025-B605	B	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.08 0.09 0.11 0.16
TA08025-B605	C	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.96 2.14 2.32 2.71	1.13 1.27 1.41 1.72	0.08 0.09 0.11 0.16
RDIDC-9181-PF-48	A	From Face	3.00 0.00 0.00	0.0000	129.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.01 2.19 2.37 2.76	1.17 1.31 1.46 1.78	0.02 0.04 0.06 0.11
116 Platform Mount [LP 712-1]	C	None		0.0000	116.00	No Ice 1/2" Ice	24.56 27.92 31.27	24.56 27.92 31.27	1.34 1.91 2.55

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	37.98	37.98	3.97
						2" Ice			
Miscellaneous [NA 507-1]	C	None		0.0000	116.00	No Ice	4.56	4.56	0.25
						1/2" Ice	6.39	6.39	0.31
						1" Ice	8.18	8.18	0.40
						2" Ice	11.66	11.66	0.66
6'x2" Mount Pipe	A	From Face	3.00 0.00 0.00	0.0000	116.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
6'x2" Mount Pipe	B	From Face	3.00 0.00 0.00	0.0000	116.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
6'x2" Mount Pipe	C	From Face	3.00 0.00 0.00	0.0000	116.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	14.69	6.87	0.19
						1/2" Ice	15.46	7.55	0.31
						1" Ice	16.23	8.25	0.46
						2" Ice	17.82	9.67	0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	14.69	6.87	0.19
						1/2" Ice	15.46	7.55	0.31
						1" Ice	16.23	8.25	0.46
						2" Ice	17.82	9.67	0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	14.69	6.87	0.19
						1/2" Ice	15.46	7.55	0.31
						1" Ice	16.23	8.25	0.46
						2" Ice	17.82	9.67	0.79
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	3.76	3.15	0.19
						1/2" Ice	4.12	3.49	0.25
						1" Ice	4.48	3.84	0.32
						2" Ice	5.24	4.58	0.48
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	3.76	3.15	0.19
						1/2" Ice	4.12	3.49	0.25
						1" Ice	4.48	3.84	0.32
						2" Ice	5.24	4.58	0.48
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	3.76	3.15	0.19
						1/2" Ice	4.12	3.49	0.25
						1" Ice	4.48	3.84	0.32
						2" Ice	5.24	4.58	0.48
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	3.14	2.59	0.11
						1/2" Ice	3.45	2.88	0.16
						1" Ice	3.77	3.19	0.23
						2" Ice	4.43	3.84	0.38
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	3.14	2.59	0.11
						1/2" Ice	3.45	2.88	0.16
						1" Ice	3.77	3.19	0.23
						2" Ice	4.43	3.84	0.38
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice	3.14	2.59	0.11
						1/2" Ice	3.45	2.88	0.16
						1" Ice	3.77	3.19	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
						1" Ice	4.43	3.84	0.38
						2" Ice			
RADIO 4449 B12/B71	A	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.30 1.44 1.60 1.92	0.08 0.09 0.11 0.16
RADIO 4449 B12/B71	B	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.30 1.44 1.60 1.92	0.08 0.09 0.11 0.16
RADIO 4449 B12/B71	C	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.30 1.44 1.60 1.92	0.08 0.09 0.11 0.16
KRY 112 144/1	A	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.35 0.43 0.51 0.70	0.17 0.23 0.30 0.46	0.01 0.01 0.02 0.03
KRY 112 144/1	B	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.35 0.43 0.51 0.70	0.17 0.23 0.30 0.46	0.01 0.01 0.02 0.03
KRY 112 144/1	C	From Face	3.00 0.00 2.00	0.0000	116.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.35 0.43 0.51 0.70	0.17 0.23 0.30 0.46	0.01 0.01 0.02 0.03
84									
Side Arm Mount [4' SO 702-1]	C	From Face	1.50 0.00 0.00	0.0000	84.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.41 0.49 0.59 0.83	0.99 1.38 1.69 2.37	0.02 0.03 0.04 0.08
GPS_A	C	From Face	3.00 0.00 0.00	0.0000	84.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.26 0.32 0.39 0.56	0.26 0.32 0.39 0.56	0.00 0.00 0.01 0.02
40									
Pipe Mount [PM 601-1]	A	From Face	1.00 0.00 0.00	0.0000	40.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.32 1.58 1.84 2.40	1.32 1.58 1.84 2.40	0.07 0.08 0.09 0.13
GPS-QBW-20N	A	From Face	1.00 0.00 0.00	0.0000	40.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.13 0.18 0.23 0.37	0.13 0.18 0.23 0.37	0.00 0.00 0.00 0.01
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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+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
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
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 Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	160 - 155	Pole	Max Tension	14	0.00	-0.00	0.00
			Max. Compression	26	-10.36	0.00	-0.02
			Max. Mx	20	-3.83	12.94	-0.00
			Max. My	14	-3.83	-0.00	-12.94
			Max. Vy	20	-5.04	12.94	-0.00
			Max. Vx	14	5.04	-0.00	-12.94
			Max. Torque	8			0.00
L2	155 - 150	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-10.99	0.01	-0.05
			Max. Mx	20	-4.18	39.10	-0.00
			Max. My	14	-4.18	-0.00	-39.11
			Max. Vy	20	-5.43	39.10	-0.00
			Max. Vx	14	5.43	-0.00	-39.11
			Max. Torque	8			0.00
L3	150 - 145	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-21.71	0.02	-0.09
			Max. Mx	20	-8.00	90.90	-0.01
			Max. My	14	-8.00	-0.00	-90.92
			Max. Vy	20	-10.60	90.90	-0.01
			Max. Vx	14	10.60	-0.00	-90.92
			Max. Torque	8			0.00
L4	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.44	0.03	-0.13
			Max. Mx	20	-8.45	144.93	-0.01
			Max. My	14	-8.45	-0.00	-144.96
			Max. Vy	20	-11.02	144.93	-0.01
			Max. Vx	14	11.02	-0.00	-144.96
			Max. Torque	8			0.00
L5	140 - 135	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.10	0.52	-1.70
			Max. Mx	20	-12.92	238.33	-0.78
			Max. My	14	-12.91	-0.05	-239.49
			Max. Vy	20	-18.07	238.33	-0.78
			Max. Vx	14	18.11	-0.05	-239.49
			Max. Torque	10			-0.49
L6	135 - 130	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.96	0.54	-1.75
			Max. Mx	20	-13.53	329.70	-0.69
			Max. My	14	-13.52	-0.15	-331.10
			Max. Vy	20	-18.49	329.70	-0.69
			Max. Vx	14	18.54	-0.15	-331.10
			Max. Torque	10			-0.49
L7	130 - 125	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.76	0.86	-1.62
			Max. Mx	20	-17.13	434.89	-0.51
			Max. My	14	-17.12	-0.22	-436.33
			Max. Vy	20	-21.82	434.89	-0.51
			Max. Vx	14	21.85	-0.22	-436.33
			Max. Torque	12			-0.52
L8	125 - 120	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.68	0.88	-1.67
			Max. Mx	20	-17.83	544.97	-0.35
			Max. My	14	-17.82	-0.38	-546.58
			Max. Vy	20	-22.23	544.97	-0.35
			Max. Vx	14	22.27	-0.38	-546.58
			Max. Torque	12			-0.52
L9	120 - 111.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.49	0.89	-1.71
			Max. Mx	20	-18.45	634.53	-0.23
			Max. My	14	-18.45	-0.51	-636.28
			Max. Vy	20	-22.57	634.53	-0.23
			Max. Vx	14	22.60	-0.51	-636.28
			Max. Torque	12			-0.52
L10	111.333 - 111	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.35	0.90	-1.76
			Max. Mx	20	-23.62	768.46	-0.08
			Max. My	14	-23.61	-0.67	-770.38
			Max. Vy	20	-26.38	768.46	-0.08
			Max. Vx	14	26.41	-0.67	-770.38
			Max. Torque	12			-0.52
L11	111 - 106	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.62	0.91	-1.81
			Max. Mx	20	-24.65	901.39	0.08
			Max. My	14	-24.65	-0.83	-903.49
			Max. Vy	20	-26.82	901.39	0.08

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	26.85	-0.83	-903.49
			Max. Torque	12			-0.52
L12	106 - 101	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.92	0.91	-1.84
			Max. Mx	20	-25.73	1036.50	0.24
			Max. My	14	-25.72	-0.99	-1038.77
			Max. Vy	20	-27.25	1036.50	0.24
			Max. Vx	14	27.29	-0.99	-1038.77
			Max. Torque	12			-0.52
L13	101 - 96	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.26	0.91	-1.86
			Max. Mx	20	-26.84	1173.80	0.39
			Max. My	14	-26.83	-1.15	-1176.23
			Max. Vy	20	-27.69	1173.80	0.39
			Max. Vx	14	27.72	-1.15	-1176.23
			Max. Torque	12			-0.52
L14	96 - 91	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.64	0.91	-1.88
			Max. Mx	20	-27.98	1313.26	0.55
			Max. My	14	-27.97	-1.31	-1315.86
			Max. Vy	20	-28.13	1313.26	0.55
			Max. Vx	14	28.16	-1.31	-1315.86
			Max. Torque	12			-0.52
L15	91 - 86	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.13	0.91	-1.91
			Max. Mx	20	-29.15	1454.90	0.70
			Max. My	14	-29.15	-1.47	-1457.67
			Max. Vy	20	-28.56	1454.90	0.70
			Max. Vx	14	28.60	-1.47	-1457.67
			Max. Torque	12			-0.52
L16	86 - 85.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.22	0.92	-1.91
			Max. Mx	20	-29.24	1462.04	0.71
			Max. My	14	-29.24	-1.48	-1464.82
			Max. Vy	20	-28.58	1462.04	0.71
			Max. Vx	14	28.61	-1.48	-1464.82
			Max. Torque	12			-0.52
L17	85.75 - 81	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.23	0.91	-2.19
			Max. Mx	20	-30.74	1599.01	0.80
			Max. My	14	-30.73	-1.63	-1601.96
			Max. Vy	20	-29.11	1599.01	0.80
			Max. Vx	14	29.12	-1.63	-1601.96
			Max. Torque	10			-0.61
L18	81 - 80.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.33	0.92	-2.20
			Max. Mx	20	-30.81	1606.28	0.80
			Max. My	14	-30.81	-1.64	-1609.24
			Max. Vy	20	-29.13	1606.28	0.80
			Max. Vx	14	29.14	-1.64	-1609.24
			Max. Torque	10			-0.61
L19	80.75 - 80.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.42	0.92	-2.20
			Max. Mx	20	-30.88	1613.57	0.81
			Max. My	14	-30.88	-1.65	-1616.52
			Max. Vy	20	-29.15	1613.57	0.81
			Max. Vx	14	29.16	-1.65	-1616.52
			Max. Torque	10			-0.61
L20	80.5 - 73.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.92	0.91	-2.20
			Max. Mx	20	-31.26	1657.37	0.86
			Max. My	14	-31.26	-1.70	-1660.35
			Max. Vy	20	-29.29	1657.37	0.86
			Max. Vx	14	29.30	-1.70	-1660.35
			Max. Torque	10			-0.61
L21	73.25 - 72.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.77	0.91	-2.24
			Max. Mx	20	-34.17	1857.55	1.07

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-34.17	-1.91	-1860.62
			Max. Vy	20	-30.04	1857.55	1.07
			Max. Vx	14	30.05	-1.91	-1860.62
			Max. Torque	10			-0.61
L22	72.25 - 67.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.45	0.91	-2.27
			Max. Mx	20	-35.59	2008.75	1.23
			Max. My	14	-35.59	-2.08	-2011.89
			Max. Vy	20	-30.48	2008.75	1.23
			Max. Vx	14	30.49	-2.08	-2011.89
			Max. Torque	10			-0.61
L23	67.25 - 62.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.18	0.91	-2.30
			Max. Mx	20	-37.04	2162.14	1.38
			Max. My	14	-37.04	-2.24	-2165.34
			Max. Vy	20	-30.91	2162.14	1.38
			Max. Vx	14	30.92	-2.24	-2165.34
			Max. Torque	10			-0.61
L24	62.25 - 57.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.94	0.91	-2.32
			Max. Mx	20	-38.53	2317.67	1.54
			Max. My	14	-38.53	-2.40	-2320.94
			Max. Vy	20	-31.34	2317.67	1.54
			Max. Vx	14	31.35	-2.40	-2320.94
			Max. Torque	10			-0.61
L25	57.25 - 52.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.75	0.91	-2.35
			Max. Mx	20	-40.06	2475.33	1.69
			Max. My	14	-40.06	-2.56	-2478.67
			Max. Vy	20	-31.76	2475.33	1.69
			Max. Vx	14	31.77	-2.56	-2478.67
			Max. Torque	10			-0.61
L26	52.25 - 49.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.88	0.91	-2.37
			Max. Mx	20	-40.99	2552.39	1.77
			Max. My	14	-40.99	-2.63	-2555.77
			Max. Vy	20	-31.97	2552.39	1.77
			Max. Vx	14	31.98	-2.63	-2555.77
			Max. Torque	10			-0.60
L27	49.83 - 49.58	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.00	0.92	-2.37
			Max. Mx	20	-41.10	2560.39	1.78
			Max. My	14	-41.10	-2.64	-2563.76
			Max. Vy	20	-31.98	2560.39	1.78
			Max. Vx	14	32.00	-2.64	-2563.76
			Max. Torque	10			-0.60
L28	49.58 - 44.58	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.37	0.91	-2.40
			Max. Mx	20	-43.03	2721.28	1.93
			Max. My	14	-43.03	-2.80	-2724.72
			Max. Vy	20	-32.41	2721.28	1.93
			Max. Vx	14	32.42	-2.80	-2724.72
			Max. Torque	10			-0.60
L29	44.58 - 36.3333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.13	0.91	-2.40
			Max. Mx	20	-43.65	2772.55	1.98
			Max. My	14	-43.64	-2.85	-2776.02
			Max. Vy	20	-32.54	2772.55	1.98
			Max. Vx	14	32.56	-2.85	-2776.02
			Max. Torque	10			-0.60
L30	36.3333 -	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	35.3333						
			Max. Compression	26	-87.28	1.24	-2.26
			Max. Mx	20	-48.48	3025.34	2.33
			Max. My	14	-48.48	-2.89	-3028.58
			Max. Vy	20	-33.36	3025.34	2.33
			Max. Vx	14	33.37	-2.89	-3028.58
			Max. Torque	12			-0.64
L31	35.3333 - 32.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.83	1.24	-2.28
			Max. Mx	20	-49.77	3128.48	2.43
			Max. My	14	-49.77	-2.99	-3131.76
			Max. Vy	20	-33.59	3128.48	2.43
			Max. Vx	14	33.60	-2.99	-3131.76
			Max. Torque	12			-0.64
L32	32.25 - 32	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.96	1.24	-2.28
			Max. Mx	20	-49.89	3136.87	2.44
			Max. My	14	-49.89	-3.00	-3140.16
			Max. Vy	20	-33.60	3136.87	2.44
			Max. Vx	14	33.61	-3.00	-3140.16
			Max. Torque	12			-0.64
L33	32 - 27	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.52	1.24	-2.31
			Max. Mx	20	-52.01	3305.67	2.59
			Max. My	14	-52.01	-3.16	-3309.02
			Max. Vy	20	-33.96	3305.67	2.59
			Max. Vx	14	33.97	-3.16	-3309.02
			Max. Torque	12			-0.64
L34	27 - 22	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-94.11	1.24	-2.34
			Max. Mx	20	-54.18	3476.23	2.74
			Max. My	14	-54.18	-3.31	-3479.64
			Max. Vy	20	-34.31	3476.23	2.74
			Max. Vx	14	34.32	-3.31	-3479.64
			Max. Torque	12			-0.64
L35	22 - 17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.74	1.24	-2.37
			Max. Mx	20	-56.39	3648.55	2.90
			Max. My	14	-56.39	-3.47	-3652.03
			Max. Vy	20	-34.66	3648.55	2.90
			Max. Vx	14	34.68	-3.47	-3652.03
			Max. Torque	12			-0.64
L36	17 - 15.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-97.60	1.24	-2.37
			Max. Mx	20	-57.09	3700.60	2.94
			Max. My	14	-57.09	-3.52	-3704.09
			Max. Vy	20	-34.78	3700.60	2.94
			Max. Vx	14	34.79	-3.52	-3704.09
			Max. Torque	12			-0.64
L37	15.5 - 15.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-97.74	1.24	-2.38
			Max. Mx	20	-57.23	3709.29	2.95
			Max. My	14	-57.23	-3.52	-3712.79
			Max. Vy	20	-34.78	3709.29	2.95
			Max. Vx	14	34.79	-3.52	-3712.79
			Max. Torque	12			-0.64
L38	15.25 - 14.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-98.04	1.24	-2.38
			Max. Mx	20	-57.47	3726.68	2.96
			Max. My	14	-57.47	-3.54	-3730.18
			Max. Vy	20	-34.82	3726.68	2.96
			Max. Vx	14	34.83	-3.54	-3730.18
			Max. Torque	12			-0.64
L39	14.75 - 14.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-98.18	1.24	-2.38
			Max. Mx	20	-57.59	3735.39	2.97
			Max. My	14	-57.59	-3.55	-3738.89

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	-34.83	3735.39	2.97
			Max. Vx	14	34.84	-3.55	-3738.89
			Max. Torque	12			-0.64
L40	14.5 - 9.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-100.85	1.24	-2.40
			Max. Mx	20	-59.82	3910.39	3.12
			Max. My	14	-59.82	-3.70	-3913.96
			Max. Vy	20	-35.20	3910.39	3.12
			Max. Vx	14	35.21	-3.70	-3913.96
			Max. Torque	12			-0.64
L41	9.5 - 4.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-103.30	1.24	-2.40
			Max. Mx	20	-61.93	4087.19	3.28
			Max. My	14	-61.93	-3.86	-4090.81
			Max. Vy	20	-35.56	4087.19	3.28
			Max. Vx	14	35.57	-3.86	-4090.81
			Max. Torque	12			-0.64
L42	4.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.40	1.24	-2.40
			Max. Mx	20	-63.79	4247.84	3.42
			Max. My	14	-63.79	-4.00	-4251.51
			Max. Vy	20	-35.89	4247.84	3.42
			Max. Vx	14	35.90	-4.00	-4251.51
			Max. Torque	12			-0.64

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	33	105.40	-0.01	-8.95
	Max. H_x	20	63.80	35.86	0.03
	Max. H_z	2	63.80	0.03	35.87
	Max. M_x	2	4249.49	0.03	35.87
	Max. M_z	8	4246.96	-35.86	-0.03
	Max. Torsion	24	0.63	17.96	31.08
	Min. Vert	19	47.85	31.04	-17.91
	Min. H_x	8	63.80	-35.86	-0.03
	Min. H_z	14	63.80	-0.03	-35.87
	Min. M_x	14	-4251.51	-0.03	-35.87
	Min. M_z	20	-4247.84	35.86	0.03
	Min. Torsion	12	-0.64	-17.96	-31.08

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	53.17	0.00	0.00	0.76	0.34	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	63.80	-0.03	-35.87	-4249.49	4.87	-0.51
0.9 Dead+1.0 Wind 0 deg - No Ice	47.85	-0.03	-35.87	-4187.98	4.69	-0.51
1.2 Dead+1.0 Wind 30 deg - No Ice	63.80	17.91	-31.05	-3677.83	-2119.43	-0.25
0.9 Dead+1.0 Wind 30 deg - No Ice	47.85	17.91	-31.05	-3624.63	-2088.74	-0.26
1.2 Dead+1.0 Wind 60 deg - No Ice	63.80	31.04	-17.91	-2120.41	-3675.71	0.08
0.9 Dead+1.0 Wind 60 deg - No Ice	47.85	31.04	-17.91	-2089.85	-3622.41	0.06

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 90 deg - No Ice	63.80	35.86	0.03	5.45	-4246.96	0.40
0.9 Dead+1.0 Wind 90 deg - No Ice	47.85	35.86	0.03	5.11	-4185.35	0.37
1.2 Dead+1.0 Wind 120 deg - No Ice	63.80	31.07	17.96	2130.11	-3680.12	0.60
0.9 Dead+1.0 Wind 120 deg - No Ice	47.85	31.07	17.96	2098.88	-3626.74	0.58
1.2 Dead+1.0 Wind 150 deg - No Ice	63.80	17.96	31.08	3684.26	-2127.09	0.64
0.9 Dead+1.0 Wind 150 deg - No Ice	47.85	17.96	31.08	3630.45	-2096.28	0.62
1.2 Dead+1.0 Wind 180 deg - No Ice	63.80	0.03	35.87	4251.51	-4.00	0.50
0.9 Dead+1.0 Wind 180 deg - No Ice	47.85	0.03	35.87	4189.45	-4.04	0.50
1.2 Dead+1.0 Wind 210 deg - No Ice	63.80	-17.91	31.05	3679.86	2120.30	0.24
0.9 Dead+1.0 Wind 210 deg - No Ice	47.85	-17.91	31.05	3626.11	2089.38	0.24
1.2 Dead+1.0 Wind 240 deg - No Ice	63.80	-31.04	17.91	2122.45	3676.59	-0.09
0.9 Dead+1.0 Wind 240 deg - No Ice	47.85	-31.04	17.91	2091.33	3623.05	-0.07
1.2 Dead+1.0 Wind 270 deg - No Ice	63.80	-35.86	-0.03	-3.42	4247.84	-0.39
0.9 Dead+1.0 Wind 270 deg - No Ice	47.85	-35.86	-0.03	-3.63	4186.00	-0.37
1.2 Dead+1.0 Wind 300 deg - No Ice	63.80	-31.07	-17.96	-2128.08	3681.00	-0.59
0.9 Dead+1.0 Wind 300 deg - No Ice	47.85	-31.07	-17.96	-2097.40	3627.40	-0.56
1.2 Dead+1.0 Wind 330 deg - No Ice	63.80	-17.96	-31.08	-3682.24	2127.97	-0.63
0.9 Dead+1.0 Wind 330 deg - No Ice	47.85	-17.96	-31.08	-3628.97	2096.93	-0.62
1.2 Dead+1.0 Ice+1.0 Temp	105.40	-0.00	0.00	2.40	1.24	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	105.40	-0.01	-8.95	-1145.62	2.28	-0.14
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	105.40	4.47	-7.75	-991.32	-571.81	-0.06
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	105.40	7.75	-4.47	-570.68	-992.32	0.04
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	105.40	8.95	0.01	3.59	-1146.57	0.13
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	105.40	7.76	4.48	577.63	-993.23	0.18
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	105.40	4.48	7.76	997.60	-573.39	0.18
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	105.40	0.01	8.95	1150.99	0.46	0.14
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	105.40	-4.47	7.75	996.69	574.55	0.06
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	105.40	-7.75	4.47	576.05	995.05	-0.04
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	105.40	-8.95	-0.01	1.77	1149.30	-0.13
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	105.40	-7.76	-4.48	-572.26	995.96	-0.18
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	105.40	-4.48	-7.76	-992.23	576.12	-0.18
Dead+Wind 0 deg - Service	53.17	-0.01	-8.45	-992.51	1.40	-0.12
Dead+Wind 30 deg - Service	53.17	4.22	-7.31	-858.91	-495.05	-0.06
Dead+Wind 60 deg - Service	53.17	7.31	-4.22	-494.94	-858.75	0.02
Dead+Wind 90 deg - Service	53.17	8.45	0.01	1.87	-992.25	0.09
Dead+Wind 120 deg - Service	53.17	7.32	4.23	498.40	-859.78	0.14
Dead+Wind 150 deg - Service	53.17	4.23	7.32	861.61	-496.84	0.15

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
Dead+Wind 180 deg - Service	53.17	0.01	8.45	994.18	-0.67	0.12
Dead+Wind 210 deg - Service	53.17	-4.22	7.31	860.58	495.78	0.06
Dead+Wind 240 deg - Service	53.17	-7.31	4.22	496.61	859.48	-0.02
Dead+Wind 270 deg - Service	53.17	-8.45	-0.01	-0.20	992.98	-0.09
Dead+Wind 300 deg - Service	53.17	-7.32	-4.23	-496.73	860.51	-0.14
Dead+Wind 330 deg - Service	53.17	-4.23	-7.32	-859.94	497.57	-0.15

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-53.17	0.00	0.00	53.17	0.00	0.000%
2	-0.03	-63.80	-35.87	0.03	63.80	35.87	0.000%
3	-0.03	-47.85	-35.87	0.03	47.85	35.87	0.000%
4	17.91	-63.80	-31.05	-17.91	63.80	31.05	0.000%
5	17.91	-47.85	-31.05	-17.91	47.85	31.05	0.000%
6	31.04	-63.80	-17.91	-31.04	63.80	17.91	0.000%
7	31.04	-47.85	-17.91	-31.04	47.85	17.91	0.000%
8	35.86	-63.80	0.03	-35.86	63.80	-0.03	0.000%
9	35.86	-47.85	0.03	-35.86	47.85	-0.03	0.000%
10	31.07	-63.80	17.96	-31.07	63.80	-17.96	0.000%
11	31.07	-47.85	17.96	-31.07	47.85	-17.96	0.000%
12	17.96	-63.80	31.08	-17.96	63.80	-31.08	0.000%
13	17.96	-47.85	31.08	-17.96	47.85	-31.08	0.000%
14	0.03	-63.80	35.87	-0.03	63.80	-35.87	0.000%
15	0.03	-47.85	35.87	-0.03	47.85	-35.87	0.000%
16	-17.91	-63.80	31.05	17.91	63.80	-31.05	0.000%
17	-17.91	-47.85	31.05	17.91	47.85	-31.05	0.000%
18	-31.04	-63.80	17.91	31.04	63.80	-17.91	0.000%
19	-31.04	-47.85	17.91	31.04	47.85	-17.91	0.000%
20	-35.86	-63.80	-0.03	35.86	63.80	0.03	0.000%
21	-35.86	-47.85	-0.03	35.86	47.85	0.03	0.000%
22	-31.07	-63.80	-17.96	31.07	63.80	17.96	0.000%
23	-31.07	-47.85	-17.96	31.07	47.85	17.96	0.000%
24	-17.96	-63.80	-31.08	17.96	63.80	31.08	0.000%
25	-17.96	-47.85	-31.08	17.96	47.85	31.08	0.000%
26	0.00	-105.40	0.00	0.00	105.40	-0.00	0.000%
27	-0.01	-105.40	-8.95	0.01	105.40	8.95	0.000%
28	4.47	-105.40	-7.75	-4.47	105.40	7.75	0.000%
29	7.75	-105.40	-4.47	-7.75	105.40	4.47	0.000%
30	8.95	-105.40	0.01	-8.95	105.40	-0.01	0.000%
31	7.76	-105.40	4.48	-7.76	105.40	-4.48	0.000%
32	4.48	-105.40	7.76	-4.48	105.40	-7.76	0.000%
33	0.01	-105.40	8.95	-0.01	105.40	-8.95	0.000%
34	-4.47	-105.40	7.75	4.47	105.40	-7.75	0.000%
35	-7.75	-105.40	4.47	7.75	105.40	-4.47	0.000%
36	-8.95	-105.40	-0.01	8.95	105.40	0.01	0.000%
37	-7.76	-105.40	-4.48	7.76	105.40	4.48	0.000%
38	-4.48	-105.40	-7.76	4.48	105.40	7.76	0.000%
39	-0.01	-53.17	-8.45	0.01	53.17	8.45	0.000%
40	4.22	-53.17	-7.31	-4.22	53.17	7.31	0.000%
41	7.31	-53.17	-4.22	-7.31	53.17	4.22	0.000%
42	8.45	-53.17	0.01	-8.45	53.17	-0.01	0.000%
43	7.32	-53.17	4.23	-7.32	53.17	-4.23	0.000%
44	4.23	-53.17	7.32	-4.23	53.17	-7.32	0.000%
45	0.01	-53.17	8.45	-0.01	53.17	-8.45	0.000%
46	-4.22	-53.17	7.31	4.22	53.17	-7.31	0.000%
47	-7.31	-53.17	4.22	7.31	53.17	-4.22	0.000%
48	-8.45	-53.17	-0.01	8.45	53.17	0.01	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
49	-7.32	-53.17	-4.23	7.32	53.17	4.23	0.000%
50	-4.23	-53.17	-7.32	4.23	53.17	7.32	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	5	0.00000001	0.00068921
3	Yes	5	0.00000001	0.00027793
4	Yes	7	0.00000001	0.00015558
5	Yes	6	0.00000001	0.00077044
6	Yes	7	0.00000001	0.00015564
7	Yes	6	0.00000001	0.00077102
8	Yes	5	0.00000001	0.00069215
9	Yes	5	0.00000001	0.00027280
10	Yes	7	0.00000001	0.00015785
11	Yes	6	0.00000001	0.00078141
12	Yes	7	0.00000001	0.00015570
13	Yes	6	0.00000001	0.00077062
14	Yes	5	0.00000001	0.00059229
15	Yes	5	0.00000001	0.00022331
16	Yes	7	0.00000001	0.00015656
17	Yes	6	0.00000001	0.00077521
18	Yes	7	0.00000001	0.00015644
19	Yes	6	0.00000001	0.00077441
20	Yes	5	0.00000001	0.00059347
21	Yes	5	0.00000001	0.00021976
22	Yes	7	0.00000001	0.00015552
23	Yes	6	0.00000001	0.00077006
24	Yes	7	0.00000001	0.00015773
25	Yes	6	0.00000001	0.00078107
26	Yes	4	0.00000001	0.00030258
27	Yes	7	0.00000001	0.00041163
28	Yes	7	0.00000001	0.00051791
29	Yes	7	0.00000001	0.00051771
30	Yes	7	0.00000001	0.00041237
31	Yes	7	0.00000001	0.00052467
32	Yes	7	0.00000001	0.00052329
33	Yes	7	0.00000001	0.00041538
34	Yes	7	0.00000001	0.00052508
35	Yes	7	0.00000001	0.00052503
36	Yes	7	0.00000001	0.00041409
37	Yes	7	0.00000001	0.00052061
38	Yes	7	0.00000001	0.00052223
39	Yes	5	0.00000001	0.00011243
40	Yes	5	0.00000001	0.00055933
41	Yes	5	0.00000001	0.00055981
42	Yes	5	0.00000001	0.00011241
43	Yes	5	0.00000001	0.00057930
44	Yes	5	0.00000001	0.00056022
45	Yes	5	0.00000001	0.00011249
46	Yes	5	0.00000001	0.00057023
47	Yes	5	0.00000001	0.00056920
48	Yes	5	0.00000001	0.00011213
49	Yes	5	0.00000001	0.00055736
50	Yes	5	0.00000001	0.00057693

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	28.154	44	1.5948	0.0009
L2	155 - 150	26.484	44	1.5935	0.0009
L3	150 - 145	24.820	44	1.5848	0.0009
L4	145 - 140	23.170	44	1.5664	0.0009
L5	140 - 135	21.544	44	1.5375	0.0009
L6	135 - 130	19.955	44	1.4962	0.0008
L7	130 - 125	18.416	44	1.4432	0.0007
L8	125 - 120	16.936	44	1.3814	0.0006
L9	120 - 111.333	15.526	44	1.3117	0.0006
L10	116 - 111	14.452	44	1.2517	0.0005
L11	111 - 106	13.159	44	1.2150	0.0005
L12	106 - 101	11.921	44	1.1497	0.0004
L13	101 - 96	10.752	44	1.0822	0.0004
L14	96 - 91	9.655	44	1.0131	0.0003
L15	91 - 86	8.631	44	0.9431	0.0003
L16	86 - 85.75	7.680	44	0.8728	0.0003
L17	85.75 - 81	7.635	44	0.8704	0.0003
L18	81 - 80.75	6.792	44	0.8244	0.0002
L19	80.75 - 80.5	6.749	44	0.8209	0.0002
L20	80.5 - 73.25	6.706	44	0.8174	0.0002
L21	79 - 72.25	6.452	44	0.7964	0.0002
L22	72.25 - 67.25	5.358	44	0.7461	0.0002
L23	67.25 - 62.25	4.609	44	0.6844	0.0002
L24	62.25 - 57.25	3.924	44	0.6235	0.0002
L25	57.25 - 52.25	3.303	44	0.5635	0.0001
L26	52.25 - 49.83	2.744	44	0.5046	0.0001
L27	49.83 - 49.58	2.495	44	0.4764	0.0001
L28	49.58 - 44.58	2.470	44	0.4736	0.0001
L29	44.58 - 36.3333	2.005	44	0.4162	0.0001
L30	43 - 35.3333	1.870	44	0.3983	0.0001
L31	35.3333 - 32.25	1.264	44	0.3509	0.0001
L32	32.25 - 32	1.048	44	0.3180	0.0001
L33	32 - 27	1.032	44	0.3154	0.0001
L34	27 - 22	0.729	44	0.2631	0.0001
L35	22 - 17	0.480	44	0.2119	0.0000
L36	17 - 15.5	0.285	44	0.1619	0.0000
L37	15.5 - 15.25	0.236	44	0.1472	0.0000
L38	15.25 - 14.75	0.229	44	0.1448	0.0000
L39	14.75 - 14.5	0.214	44	0.1399	0.0000
L40	14.5 - 9.5	0.206	44	0.1374	0.0000
L41	9.5 - 4.5	0.088	44	0.0890	0.0000
L42	4.5 - 0	0.020	44	0.0417	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
157.00	Platform Mount [13' LP 713-1]	44	27.152	1.5946	0.0009	60074
149.00	Platform Mount [13' LP 713-1]	44	24.489	1.5820	0.0009	18846
139.00	Platform Mount [LP 713-1]	44	21.223	1.5302	0.0009	7736
129.00	Commscope MC-PK8-DSH	44	18.115	1.4314	0.0007	4859
116.00	Platform Mount [LP 712-1]	44	14.452	1.2517	0.0005	5263
84.00	Side Arm Mount [4' SO 702-1]	44	7.319	0.8554	0.0003	5298
40.00	Pipe Mount [PM 601-1]	44	1.623	0.3774	0.0001	8494

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	120.362	14	6.8266	0.0039
L2	155 - 150	113.234	14	6.8213	0.0039
L3	150 - 145	106.127	14	6.7839	0.0039
L4	145 - 140	99.079	14	6.7049	0.0039
L5	140 - 135	92.137	14	6.5807	0.0039
L6	135 - 130	85.349	14	6.4056	0.0035
L7	130 - 125	78.772	14	6.1806	0.0031
L8	125 - 120	72.449	14	5.9169	0.0027
L9	120 - 111.333	66.420	12	5.6191	0.0024
L10	116 - 111	61.832	12	5.3625	0.0021
L11	111 - 106	56.306	12	5.2053	0.0020
L12	106 - 101	51.012	12	4.9259	0.0018
L13	101 - 96	46.015	12	4.6364	0.0016
L14	96 - 91	41.323	12	4.3404	0.0014
L15	91 - 86	36.941	12	4.0406	0.0012
L16	86 - 85.75	32.873	12	3.7391	0.0011
L17	85.75 - 81	32.678	12	3.7289	0.0011
L18	81 - 80.75	29.070	12	3.5319	0.0010
L19	80.75 - 80.5	28.886	12	3.5169	0.0010
L20	80.5 - 73.25	28.702	12	3.5019	0.0010
L21	79 - 72.25	27.617	12	3.4118	0.0010
L22	72.25 - 67.25	22.935	12	3.1960	0.0009
L23	67.25 - 62.25	19.729	12	2.9315	0.0008
L24	62.25 - 57.25	16.798	12	2.6706	0.0007
L25	57.25 - 52.25	14.138	12	2.4136	0.0006
L26	52.25 - 49.83	11.744	12	2.1610	0.0005
L27	49.83 - 49.58	10.680	12	2.0403	0.0005
L28	49.58 - 44.58	10.574	12	2.0279	0.0005
L29	44.58 - 36.3333	8.580	12	1.7823	0.0004
L30	43 - 35.3333	8.003	12	1.7056	0.0004
L31	35.3333 - 32.25	5.411	12	1.5021	0.0003
L32	32.25 - 32	4.487	12	1.3614	0.0003
L33	32 - 27	4.416	12	1.3501	0.0003
L34	27 - 22	3.120	12	1.1261	0.0002
L35	22 - 17	2.056	12	0.9070	0.0002
L36	17 - 15.5	1.219	12	0.6927	0.0001
L37	15.5 - 15.25	1.011	12	0.6300	0.0001
L38	15.25 - 14.75	0.978	12	0.6195	0.0001
L39	14.75 - 14.5	0.914	12	0.5985	0.0001
L40	14.5 - 9.5	0.883	12	0.5881	0.0001
L41	9.5 - 4.5	0.376	12	0.3809	0.0001
L42	4.5 - 0	0.084	12	0.1784	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
157.00	Platform Mount [13' LP 713-1]	14	116.084	6.8258	0.0040	14385
149.00	Platform Mount [13' LP 713-1]	14	104.711	6.7716	0.0040	4507
139.00	Platform Mount [LP 713-1]	14	90.766	6.5499	0.0039	1860
129.00	Commscope MC-PK8-DSH	14	77.486	6.1302	0.0031	1165
116.00	Platform Mount [LP 712-1]	12	61.832	5.3625	0.0021	1252
84.00	Side Arm Mount [4' SO 702-1]	12	31.326	3.6646	0.0011	1246
40.00	Pipe Mount [PM 601-1]	12	6.946	1.6159	0.0004	1986

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	160 - 155 (1)	TP20.801x19.6x0.25	5.00	0.00	0.0	16.5436	-3.83	967.80	0.004
L2	155 - 150 (2)	TP22.0021x20.801x0.25	5.00	0.00	0.0	17.5104	-4.18	1024.36	0.004
L3	150 - 145 (3)	TP23.2031x22.0021x0.25	5.00	0.00	0.0	18.4772	-8.00	1080.92	0.007
L4	145 - 140 (4)	TP24.4041x23.2031x0.25	5.00	0.00	0.0	19.4441	-8.45	1137.48	0.007
L5	140 - 135 (5)	TP25.6051x24.4041x0.25	5.00	0.00	0.0	20.4109	-12.91	1194.04	0.011
L6	135 - 130 (6)	TP26.8062x25.6051x0.25	5.00	0.00	0.0	21.3777	-13.52	1250.60	0.011
L7	130 - 125 (7)	TP28.0072x26.8062x0.25	5.00	0.00	0.0	22.3445	-17.12	1307.16	0.013
L8	125 - 120 (8)	TP29.2082x28.0072x0.25	5.00	0.00	0.0	23.3114	-17.82	1363.71	0.013
L9	120 - 111.333 (9)	TP31.29x29.2082x0.25	8.67	0.00	0.0	24.0848	-18.44	1408.96	0.013
L10	111.333 - 111 (10)	TP30.867x29.669x0.3438	5.00	0.00	0.0	33.7855	-23.61	1976.45	0.012
L11	111 - 106 (11)	TP32.065x30.867x0.3438	5.00	0.00	0.0	35.1115	-24.64	2054.02	0.012
L12	106 - 101 (12)	TP33.2631x32.065x0.3438	5.00	0.00	0.0	36.4376	-25.72	2131.60	0.012
L13	101 - 96 (13)	TP34.4611x33.2631x0.3438	5.00	0.00	0.0	37.7636	-26.83	2209.17	0.012
L14	96 - 91 (14)	TP35.6591x34.4611x0.3438	5.00	0.00	0.0	39.0896	-27.97	2286.74	0.012
L15	91 - 86 (15)	TP36.8571x35.6591x0.3438	5.00	0.00	0.0	40.4157	-29.14	2364.32	0.012
L16	86 - 85.75 (16)	TP36.917x36.8571x0.5125	0.25	0.00	0.0	60.0765	-29.24	3514.48	0.008
L17	85.75 - 81 (17)	TP38.0551x36.917x0.5063	4.75	0.00	0.0	61.2093	-30.73	3580.74	0.009
L18	81 - 80.75 (18)	TP38.115x38.0551x0.3438	0.25	0.00	0.0	41.8080	-30.81	2445.77	0.013
L19	80.75 - 80.5 (19)	TP38.1749x38.115x0.3438	0.25	0.00	0.0	41.8743	-30.88	2449.65	0.013
L20	80.5 - 73.25 (20)	TP39.912x38.1749x0.3438	7.25	0.00	0.0	42.2722	-31.26	2472.92	0.013
L21	73.25 - 72.25 (21)	TP39.467x37.8468x0.4063	6.75	0.00	0.0	51.0963	-34.16	2989.13	0.011
L22	72.25 - 67.25 (22)	TP40.6671x39.467x0.4063	5.00	0.00	0.0	52.6663	-35.58	3080.98	0.012
L23	67.25 - 62.25 (23)	TP41.8673x40.6671x0.4063	5.00	0.00	0.0	54.2362	-37.04	3172.82	0.012
L24	62.25 - 57.25 (24)	TP43.0674x41.8673x0.4063	5.00	0.00	0.0	55.8061	-38.53	3264.66	0.012
L25	57.25 - 52.25 (25)	TP44.2675x43.0674x0.4063	5.00	0.00	0.0	57.3761	-40.06	3356.50	0.012
L26	52.25 - 49.83 (26)	TP44.8484x44.2675x0.4063	2.42	0.00	0.0	58.1359	-40.99	3400.95	0.012
L27	49.83 - 49.58 (27)	TP44.9084x44.8484x0.4063	0.25	0.00	0.0	58.2144	-41.10	3405.54	0.012
L28	49.58 - 44.58 (28)	TP46.1086x44.9084x0.4063	5.00	0.00	0.0	59.7843	-43.03	3497.38	0.012
L29	44.58 - 36.3333 (29)	TP48.088x46.1086x0.4063	8.25	0.00	0.0	60.2804	-43.64	3526.41	0.012
L30	36.3333 - 35.3333 (30)	TP47.5161x45.6753x0.4375	7.67	0.00	0.0	66.3220	-48.48	3879.84	0.012
L31	35.3333 - 32.25 (31)	TP48.2565x47.5161x0.4375	3.08	0.00	0.0	67.3650	-49.77	3940.85	0.013
L32	32.25 - 32 (32)	TP48.3165x48.2565x0.4375	0.25	0.00	0.0	67.4495	-49.88	3945.80	0.013
L33	32 - 27 (33)	TP49.5171x48.3165x0.4375	5.00	0.00	0.0	69.1408	-52.01	4044.74	0.013
L34	27 - 22 (34)	TP50.7176x49.5171x0.4375	5.00	0.00	0.0	70.8321	-54.18	4143.68	0.013

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L35	22 - 17 (35)	TP51.9181x50.7176x0.4375	5.00	0.00	0.0	72.5234	-56.39	4242.62	0.013
L36	17 - 15.5 (36)	TP52.2783x51.9181x0.4375	1.50	0.00	0.0	73.0307	-57.09	4272.30	0.013
L37	15.5 - 15.25 (37)	TP52.3383x52.2783x0.4375	0.25	0.00	0.0	73.1153	-57.23	4277.25	0.013
L38	15.25 - 14.75 (38)	TP52.4584x52.3383x0.4375	0.50	0.00	0.0	73.2844	-57.47	4287.14	0.013
L39	14.75 - 14.5 (39)	TP52.5184x52.4584x0.4375	0.25	0.00	0.0	73.3690	-57.59	4292.09	0.013
L40	14.5 - 9.5 (40)	TP53.719x52.5184x0.4375	5.00	0.00	0.0	75.0603	-59.82	4391.03	0.014
L41	9.5 - 4.5 (41)	TP54.9195x53.719x0.4375	5.00	0.00	0.0	76.7515	-61.93	4489.96	0.014
L42	4.5 - 0 (42)	TP56x54.9195x0.4375	4.50	0.00	0.0	78.2737	-63.79	4579.01	0.014

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	160 - 155 (1)	TP20.801x19.6x0.25	12.94	508.14	0.025	0.00	508.14	0.000
L2	155 - 150 (2)	TP22.0021x20.801x0.25	39.11	559.87	0.070	0.00	559.87	0.000
L3	150 - 145 (3)	TP23.2031x22.0021x0.25	90.92	612.89	0.148	0.00	612.89	0.000
L4	145 - 140 (4)	TP24.4041x23.2031x0.25	144.96	667.00	0.217	0.00	667.00	0.000
L5	140 - 135 (5)	TP25.6051x24.4041x0.25	239.49	722.04	0.332	0.00	722.04	0.000
L6	135 - 130 (6)	TP26.8062x25.6051x0.25	331.10	777.82	0.426	0.00	777.82	0.000
L7	130 - 125 (7)	TP28.0072x26.8062x0.25	436.33	834.16	0.523	0.00	834.16	0.000
L8	125 - 120 (8)	TP29.2082x28.0072x0.25	546.62	890.88	0.614	0.00	890.88	0.000
L9	120 - 111.333 (9)	TP31.29x29.2082x0.25	636.39	936.40	0.680	0.00	936.40	0.000
L10	111.333 - 111 (10)	TP30.867x29.669x0.3438	770.59	1506.34	0.512	0.00	1506.34	0.000
L11	111 - 106 (11)	TP32.065x30.867x0.3438	903.79	1606.85	0.562	0.00	1606.85	0.000
L12	106 - 101 (12)	TP33.2631x32.065x0.3438	1039.18	1708.83	0.608	0.00	1708.83	0.000
L13	101 - 96 (13)	TP34.4611x33.2631x0.3438	1176.73	1812.13	0.649	0.00	1812.13	0.000
L14	96 - 91 (14)	TP35.6591x34.4611x0.3438	1316.47	1916.55	0.687	0.00	1916.55	0.000
L15	91 - 86 (15)	TP36.8571x35.6591x0.3438	1458.38	2021.91	0.721	0.00	2021.91	0.000
L16	86 - 85.75 (16)	TP36.917x36.8571x0.5125	1465.53	3264.29	0.449	0.00	3264.29	0.000
L17	85.75 - 81 (17)	TP38.0551x36.917x0.5063	1602.77	3432.41	0.467	0.00	3432.41	0.000
L18	81 - 80.75 (18)	TP38.115x38.0551x0.3438	1610.06	2133.36	0.755	0.00	2133.36	0.000
L19	80.75 - 80.5 (19)	TP38.1749x38.115x0.3438	1617.35	2138.68	0.756	0.00	2138.68	0.000
L20	80.5 - 73.25 (20)	TP39.912x38.1749x0.3438	1661.21	2170.66	0.765	0.00	2170.66	0.000
L21	73.25 - 72.25 (21)	TP39.467x37.8468x0.4063	1861.65	2839.37	0.656	0.00	2839.37	0.000
L22	72.25 - 67.25 (22)	TP40.6671x39.467x0.4063	2013.04	2983.96	0.675	0.00	2983.96	0.000
L23	67.25 - 62.25 (23)	TP41.8673x40.6671x0.4063	2166.62	3129.88	0.692	0.00	3129.88	0.000
L24	62.25 - 57.25 (24)	TP43.0674x41.8673x0.4063	2322.34	3276.97	0.709	0.00	3276.97	0.000
L25	57.25 - 52.25 (25)	TP44.2675x43.0674x0.4063	2480.19	3425.04	0.724	0.00	3425.04	0.000
L26	52.25 - 49.83 (26)	TP44.8484x44.2675x0.4063	2557.35	3497.01	0.731	0.00	3497.01	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L27	49.83 - 49.58 (27)	TP44.9084x44.8484x0.4063	2565.35	3504.46	0.732	0.00	3504.46	0.000
L28	49.58 - 44.58 (28)	TP46.1086x44.9084x0.4063	2726.43	3653.68	0.746	0.00	3653.68	0.000
L29	44.58 - 36.3333 (29)	TP48.088x46.1086x0.4063	2777.76	3700.96	0.751	0.00	3700.96	0.000
L30	36.3333 - 35.3333 (30)	TP47.5161x45.6753x0.4375	3030.43	4255.33	0.712	0.00	4255.33	0.000
L31	35.3333 - 32.25 (31)	TP48.2565x47.5161x0.4375	3133.68	4361.67	0.718	0.00	4361.67	0.000
L32	32.25 - 32 (32)	TP48.3165x48.2565x0.4375	3142.08	4370.30	0.719	0.00	4370.30	0.000
L33	32 - 27 (33)	TP49.5171x48.3165x0.4375	3311.07	4543.38	0.729	0.00	4543.38	0.000
L34	27 - 22 (34)	TP50.7176x49.5171x0.4375	3481.81	4717.04	0.738	0.00	4717.04	0.000
L35	22 - 17 (35)	TP51.9181x50.7176x0.4375	3654.32	4891.11	0.747	0.00	4891.11	0.000
L36	17 - 15.5 (36)	TP52.2783x51.9181x0.4375	3706.42	4943.38	0.750	0.00	4943.38	0.000
L37	15.5 - 15.25 (37)	TP52.3383x52.2783x0.4375	3715.12	4952.09	0.750	0.00	4952.09	0.000
L38	15.25 - 14.75 (38)	TP52.4584x52.3383x0.4375	3732.53	4969.52	0.751	0.00	4969.52	0.000
L39	14.75 - 14.5 (39)	TP52.5184x52.4584x0.4375	3741.24	4978.23	0.752	0.00	4978.23	0.000
L40	14.5 - 9.5 (40)	TP53.719x52.5184x0.4375	3916.43	5152.57	0.760	0.00	5152.57	0.000
L41	9.5 - 4.5 (41)	TP54.9195x53.719x0.4375	4093.40	5326.86	0.768	0.00	5326.86	0.000
L42	4.5 - 0 (42)	TP56x54.9195x0.4375	4254.21	5483.53	0.776	0.00	5483.53	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	160 - 155 (1)	TP20.801x19.6x0.25	5.04	286.95	0.018	0.00	524.86	0.000
L2	155 - 150 (2)	TP22.0021x20.801x0.25	5.43	303.91	0.018	0.00	588.00	0.000
L3	150 - 145 (3)	TP23.2031x22.0021x0.25	10.60	324.27	0.033	0.00	654.72	0.000
L4	145 - 140 (4)	TP24.4041x23.2031x0.25	11.02	341.24	0.032	0.00	725.03	0.000
L5	140 - 135 (5)	TP25.6051x24.4041x0.25	18.11	358.21	0.051	0.27	798.92	0.000
L6	135 - 130 (6)	TP26.8062x25.6051x0.25	18.54	375.18	0.049	0.27	876.40	0.000
L7	130 - 125 (7)	TP28.0072x26.8062x0.25	21.85	392.15	0.056	0.41	957.47	0.000
L8	125 - 120 (8)	TP29.2082x28.0072x0.25	22.29	409.11	0.054	0.52	1042.12	0.000
L9	120 - 111.333 (9)	TP31.29x29.2082x0.25	22.62	422.69	0.054	0.52	1112.42	0.000
L10	111.333 - 111 (10)	TP30.867x29.669x0.3438	26.43	592.93	0.045	0.52	1591.98	0.000
L11	111 - 106 (11)	TP32.065x30.867x0.3438	26.87	616.21	0.044	0.52	1719.40	0.000
L12	106 - 101 (12)	TP33.2631x32.065x0.3438	27.31	639.48	0.043	0.52	1851.72	0.000
L13	101 - 96 (13)	TP34.4611x33.2631x0.3438	27.74	662.75	0.042	0.52	1988.96	0.000
L14	96 - 91 (14)	TP35.6591x34.4611x0.3438	28.18	686.02	0.041	0.52	2131.09	0.000
L15	91 - 86 (15)	TP36.8571x35.6591x0.3438	28.62	709.29	0.040	0.52	2278.13	0.000
L16	86 - 85.75 (16)	TP36.917x36.8571x0.5125	28.63	1054.34	0.027	0.52	3376.27	0.000
L17	85.75 - 81 (17)	TP38.0551x36.917x0.5063	29.14	1074.22	0.027	0.59	3548.06	0.000
L18	81 - 80.75 (18)	TP38.115x38.0551x0.3438	29.16	733.73	0.040	0.59	2437.80	0.000
L19	80.75 - 80.5	TP38.1749x38.115x0.343	29.18	734.89	0.040	0.59	2445.54	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
	(19)	8						
L20	80.5 - 73.25	TP39.912x38.1749x0.343	29.33	741.88	0.040	0.59	2492.22	0.000
	(20)	8						
L21	73.25 - 72.25	TP39.467x37.8468x0.406	30.08	896.74	0.034	0.59	3081.11	0.000
	(21)	3						
L22	72.25 - 67.25	TP40.6671x39.467x0.406	30.51	924.29	0.033	0.59	3273.35	0.000
	(22)	3						
L23	67.25 - 62.25	TP41.8673x40.6671x0.40	30.95	951.85	0.033	0.59	3471.41	0.000
	(23)	63						
L24	62.25 - 57.25	TP43.0674x41.8673x0.40	31.38	979.40	0.032	0.59	3675.29	0.000
	(24)	63						
L25	57.25 - 52.25	TP44.2675x43.0674x0.40	31.80	1006.95	0.032	0.59	3884.98	0.000
	(25)	63						
L26	52.25 - 49.83	TP44.8484x44.2675x0.40	32.01	1020.29	0.031	0.59	3988.57	0.000
	(26)	63						
L27	49.83 - 49.58	TP44.9084x44.8484x0.40	32.01	1021.66	0.031	0.59	3999.34	0.000
	(27)	63						
L28	49.58 - 44.58	TP46.1086x44.9084x0.40	32.44	1049.22	0.031	0.58	4217.96	0.000
	(28)	63						
L29	44.58 -	TP48.088x46.1086x0.406	32.58	1057.92	0.031	0.58	4288.25	0.000
	36.3333 (29)	3						
L30	36.3333 -	TP47.5161x45.6753x0.43	33.39	1163.95	0.029	0.64	4820.13	0.000
	35.3333 (30)	75						
L31	35.3333 -	TP48.2565x47.5161x0.43	33.62	1182.26	0.028	0.64	4972.92	0.000
	32.25 (31)	75						
L32	32.25 - 32	TP48.3165x48.2565x0.43	33.63	1183.74	0.028	0.64	4985.42	0.000
	(32)	75						
L33	32 - 27 (33)	TP49.5171x48.3165x0.43	33.99	1213.42	0.028	0.64	5238.56	0.000
		75						
L34	27 - 22 (34)	TP50.7176x49.5171x0.43	34.34	1243.10	0.028	0.64	5497.98	0.000
		75						
L35	22 - 17 (35)	TP51.9181x50.7176x0.43	34.70	1272.78	0.027	0.64	5763.67	0.000
		75						
L36	17 - 15.5 (36)	TP52.2783x51.9181x0.43	34.82	1281.69	0.027	0.64	5844.59	0.000
		75						
L37	15.5 - 15.25	TP52.3383x52.2783x0.43	34.81	1283.17	0.027	0.64	5858.14	0.000
	(37)	75						
L38	15.25 - 14.75	TP52.4584x52.3383x0.43	34.85	1286.14	0.027	0.64	5885.27	0.000
	(38)	75						
L39	14.75 - 14.5	TP52.5184x52.4584x0.43	34.86	1287.63	0.027	0.64	5898.86	0.000
	(39)	75						
L40	14.5 - 9.5 (40)	TP53.719x52.5184x0.437	35.24	1317.31	0.027	0.64	6173.95	0.000
		5						
L41	9.5 - 4.5 (41)	TP54.9195x53.719x0.437	35.60	1346.99	0.026	0.64	6455.31	0.000
		5						
L42	4.5 - 0 (42)	TP56x54.9195x0.4375	35.92	1373.70	0.026	0.64	6713.89	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	160 - 155 (1)	0.004	0.025	0.000	0.018	0.000	0.030	1.050	4.8.2
L2	155 - 150 (2)	0.004	0.070	0.000	0.018	0.000	0.074	1.050	4.8.2
L3	150 - 145 (3)	0.007	0.148	0.000	0.033	0.000	0.157	1.050	4.8.2
L4	145 - 140 (4)	0.007	0.217	0.000	0.032	0.000	0.226	1.050	4.8.2
L5	140 - 135 (5)	0.011	0.332	0.000	0.051	0.000	0.345	1.050	4.8.2
L6	135 - 130 (6)	0.011	0.426	0.000	0.049	0.000	0.439	1.050	4.8.2
L7	130 - 125 (7)	0.013	0.523	0.000	0.056	0.000	0.539	1.050	4.8.2
L8	125 - 120 (8)	0.013	0.614	0.000	0.054	0.000	0.630	1.050	4.8.2
L9	120 - 111.333 (9)	0.013	0.680	0.000	0.054	0.000	0.696	1.050	4.8.2
L10	111.333 - 111	0.012	0.512	0.000	0.045	0.000	0.526	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	(10)								
L11	111 - 106 (11)	0.012	0.562	0.000	0.044	0.000	0.576	1.050	4.8.2
L12	106 - 101 (12)	0.012	0.608	0.000	0.043	0.000	0.622	1.050	4.8.2
L13	101 - 96 (13)	0.012	0.649	0.000	0.042	0.000	0.663	1.050	4.8.2
L14	96 - 91 (14)	0.012	0.687	0.000	0.041	0.000	0.701	1.050	4.8.2
L15	91 - 86 (15)	0.012	0.721	0.000	0.040	0.000	0.735	1.050	4.8.2
L16	86 - 85.75 (16)	0.008	0.449	0.000	0.027	0.000	0.458	1.050	4.8.2
L17	85.75 - 81 (17)	0.009	0.467	0.000	0.027	0.000	0.476	1.050	4.8.2
L18	81 - 80.75 (18)	0.013	0.755	0.000	0.040	0.000	0.769	1.050	4.8.2
L19	80.75 - 80.5 (19)	0.013	0.756	0.000	0.040	0.000	0.770	1.050	4.8.2
L20	80.5 - 73.25 (20)	0.013	0.765	0.000	0.040	0.000	0.780	1.050	4.8.2
L21	73.25 - 72.25 (21)	0.011	0.656	0.000	0.034	0.000	0.668	1.050	4.8.2
L22	72.25 - 67.25 (22)	0.012	0.675	0.000	0.033	0.000	0.687	1.050	4.8.2
L23	67.25 - 62.25 (23)	0.012	0.692	0.000	0.033	0.000	0.705	1.050	4.8.2
L24	62.25 - 57.25 (24)	0.012	0.709	0.000	0.032	0.000	0.722	1.050	4.8.2
L25	57.25 - 52.25 (25)	0.012	0.724	0.000	0.032	0.000	0.737	1.050	4.8.2
L26	52.25 - 49.83 (26)	0.012	0.731	0.000	0.031	0.000	0.744	1.050	4.8.2
L27	49.83 - 49.58 (27)	0.012	0.732	0.000	0.031	0.000	0.745	1.050	4.8.2
L28	49.58 - 44.58 (28)	0.012	0.746	0.000	0.031	0.000	0.759	1.050	4.8.2
L29	44.58 - 36.3333 (29)	0.012	0.751	0.000	0.031	0.000	0.764	1.050	4.8.2
L30	36.3333 - 35.3333 (30)	0.012	0.712	0.000	0.029	0.000	0.725	1.050	4.8.2
L31	35.3333 - 32.25 (31)	0.013	0.718	0.000	0.028	0.000	0.732	1.050	4.8.2
L32	32.25 - 32 (32)	0.013	0.719	0.000	0.028	0.000	0.732	1.050	4.8.2
L33	32 - 27 (33)	0.013	0.729	0.000	0.028	0.000	0.742	1.050	4.8.2
L34	27 - 22 (34)	0.013	0.738	0.000	0.028	0.000	0.752	1.050	4.8.2
L35	22 - 17 (35)	0.013	0.747	0.000	0.027	0.000	0.761	1.050	4.8.2
L36	17 - 15.5 (36)	0.013	0.750	0.000	0.027	0.000	0.764	1.050	4.8.2
L37	15.5 - 15.25 (37)	0.013	0.750	0.000	0.027	0.000	0.764	1.050	4.8.2
L38	15.25 - 14.75 (38)	0.013	0.751	0.000	0.027	0.000	0.765	1.050	4.8.2
L39	14.75 - 14.5 (39)	0.013	0.752	0.000	0.027	0.000	0.766	1.050	4.8.2
L40	14.5 - 9.5 (40)	0.014	0.760	0.000	0.027	0.000	0.774	1.050	4.8.2
L41	9.5 - 4.5 (41)	0.014	0.768	0.000	0.026	0.000	0.783	1.050	4.8.2
L42	4.5 - 0 (42)	0.014	0.776	0.000	0.026	0.000	0.790	1.050	4.8.2

Section Capacity Table

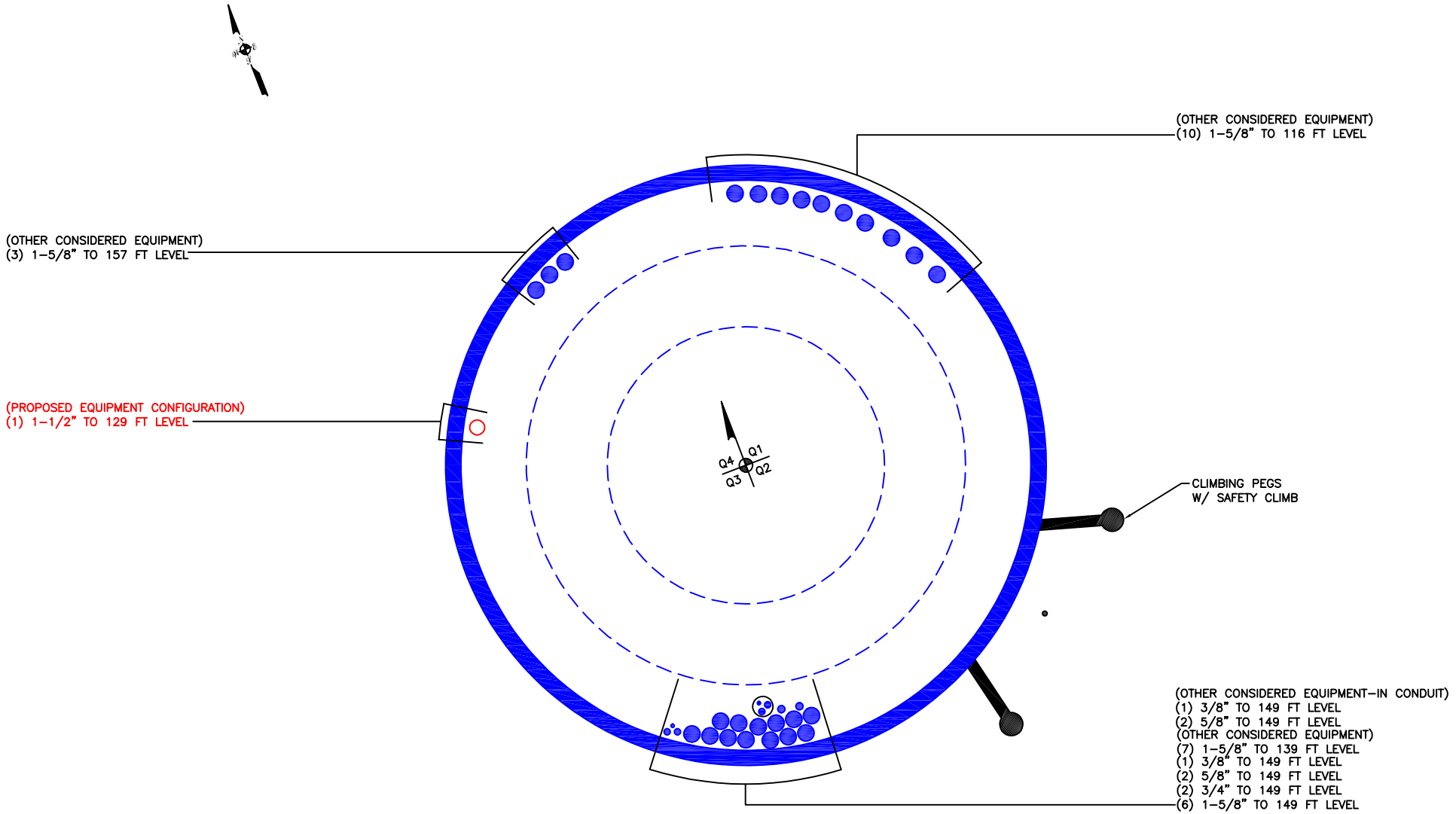
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	160 - 155	Pole	TP20.801x19.6x0.25	1	-3.83	1016.19	2.8	Pass
L2	155 - 150	Pole	TP22.0021x20.801x0.25	2	-4.18	1075.58	7.1	Pass
L3	150 - 145	Pole	TP23.2031x22.0021x0.25	3	-8.00	1134.97	14.9	Pass
L4	145 - 140	Pole	TP24.4041x23.2031x0.25	4	-8.45	1194.35	21.5	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L5	140 - 135	Pole	TP25.6051x24.4041x0.25	5	-12.91	1253.74	32.9	Pass
L6	135 - 130	Pole	TP26.8062x25.6051x0.25	6	-13.52	1313.13	41.8	Pass
L7	130 - 125	Pole	TP28.0072x26.8062x0.25	7	-17.12	1372.52	51.4	Pass
L8	125 - 120	Pole	TP29.2082x28.0072x0.25	8	-17.82	1431.90	60.0	Pass
L9	120 - 111.333	Pole	TP31.29x29.2082x0.25	9	-18.44	1479.41	66.2	Pass
L10	111.333 - 111	Pole	TP30.867x29.669x0.3438	10	-23.61	2075.27	50.1	Pass
L11	111 - 106	Pole	TP32.065x30.867x0.3438	11	-24.64	2156.72	54.9	Pass
L12	106 - 101	Pole	TP33.2631x32.065x0.3438	12	-25.72	2238.18	59.2	Pass
L13	101 - 96	Pole	TP34.4611x33.2631x0.3438	13	-26.83	2319.63	63.2	Pass
L14	96 - 91	Pole	TP35.6591x34.4611x0.3438	14	-27.97	2401.08	66.7	Pass
L15	91 - 86	Pole	TP36.8571x35.6591x0.3438	15	-29.14	2482.54	70.0	Pass
L16	86 - 85.75	Pole	TP36.917x36.8571x0.5125	16	-29.24	3690.20	43.6	Pass
L17	85.75 - 81	Pole	TP38.0551x36.917x0.5063	17	-30.73	3759.78	45.4	Pass
L18	81 - 80.75	Pole	TP38.115x38.0551x0.3438	18	-30.81	2568.06	73.2	Pass
L19	80.75 - 80.5	Pole	TP38.1749x38.115x0.3438	19	-30.88	2572.13	73.4	Pass
L20	80.5 - 73.25	Pole	TP39.912x38.1749x0.3438	20	-31.26	2596.57	74.2	Pass
L21	73.25 - 72.25	Pole	TP39.467x37.8468x0.4063	21	-34.16	3138.59	63.6	Pass
L22	72.25 - 67.25	Pole	TP40.6671x39.467x0.4063	22	-35.58	3235.03	65.5	Pass
L23	67.25 - 62.25	Pole	TP41.8673x40.6671x0.4063	23	-37.04	3331.46	67.1	Pass
L24	62.25 - 57.25	Pole	TP43.0674x41.8673x0.4063	24	-38.53	3427.89	68.7	Pass
L25	57.25 - 52.25	Pole	TP44.2675x43.0674x0.4063	25	-40.06	3524.32	70.2	Pass
L26	52.25 - 49.83	Pole	TP44.8484x44.2675x0.4063	26	-40.99	3571.00	70.9	Pass
L27	49.83 - 49.58	Pole	TP44.9084x44.8484x0.4063	27	-41.10	3575.82	71.0	Pass
L28	49.58 - 44.58	Pole	TP46.1086x44.9084x0.4063	28	-43.03	3672.25	72.3	Pass
L29	44.58 - 36.3333	Pole	TP48.088x46.1086x0.4063	29	-43.64	3702.73	72.8	Pass
L30	36.3333 - 35.3333	Pole	TP47.5161x45.6753x0.4375	30	-48.48	4073.83	69.1	Pass
L31	35.3333 - 32.25	Pole	TP48.2565x47.5161x0.4375	31	-49.77	4137.89	69.7	Pass
L32	32.25 - 32	Pole	TP48.3165x48.2565x0.4375	32	-49.88	4143.09	69.8	Pass
L33	32 - 27	Pole	TP49.5171x48.3165x0.4375	33	-52.01	4246.98	70.7	Pass
L34	27 - 22	Pole	TP50.7176x49.5171x0.4375	34	-54.18	4350.86	71.6	Pass
L35	22 - 17	Pole	TP51.9181x50.7176x0.4375	35	-56.39	4454.75	72.5	Pass
L36	17 - 15.5	Pole	TP52.2783x51.9181x0.4375	36	-57.09	4485.91	72.8	Pass
L37	15.5 - 15.25	Pole	TP52.3383x52.2783x0.4375	37	-57.23	4491.11	72.8	Pass
L38	15.25 - 14.75	Pole	TP52.4584x52.3383x0.4375	38	-57.47	4501.50	72.9	Pass
L39	14.75 - 14.5	Pole	TP52.5184x52.4584x0.4375	39	-57.59	4506.69	72.9	Pass
L40	14.5 - 9.5	Pole	TP53.719x52.5184x0.4375	40	-59.82	4610.58	73.8	Pass
L41	9.5 - 4.5	Pole	TP54.9195x53.719x0.4375	41	-61.93	4714.46	74.6	Pass
L42	4.5 - 0	Pole	TP56x54.9195x0.4375	42	-63.79	4807.96	75.3	Pass
							Summary	
						Pole (L42)	75.3	Pass
						RATING =	**75.3**	**Pass**

***Note: Above stress ratio for reinforced sections are approximate. More exact calculations are presented in Appendix C.**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 806953 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 806953

Work Order: 2140886

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	160	48.6667	4.6667	12	19.6	31.29	0.25	Auto	A572-65
2	116	42.75	5.75	12	29.67	39.912	0.34375	Auto	A572-65
3	79	42.6667	6.6667	12	37.85	48.088	0.40625	Auto	A572-65
4	43	43	0	12	45.68	56	0.4375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	0	15.5	plate	MK SR 1													
2	78.25	80.75	plate	MK SR 2													
3	14.75	32.25	plate	CCI-AFP-060100													
4	32.25	49.83	plate	CCI-AFP-060100													
5	81	86	plate	CCI-AFP-060100	3		E				E				E		
6																	
7																	
8																	
9																	
10																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	4	0.75	3	0.375	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	15.000	2.063	1.1875	A572-65
2	4	0.75	3	0.375	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	15.000	2.069	1.1788	A572-65
3	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
4	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
5	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
MK SR 1	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	5	N	3	3	-	-	-	-	-	-	-	-	-
MK SR 2	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	5	N	3	3	-	-	-	-	-	-	-	-	-

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	160 - 155	5		12	19.600	20.801	0.25	A572-65	1.000
2	155 - 150	5		12	20.801	22.002	0.25	A572-65	1.000
3	150 - 145	5		12	22.002	23.203	0.25	A572-65	1.000
4	145 - 140	5		12	23.203	24.404	0.25	A572-65	1.000
5	140 - 135	5		12	24.404	25.605	0.25	A572-65	1.000
6	135 - 130	5		12	25.605	26.806	0.25	A572-65	1.000
7	130 - 125	5		12	26.806	28.007	0.25	A572-65	1.000
8	125 - 120	5		12	28.007	29.208	0.25	A572-65	1.000
9	120 - 116	8.6667	4.6667	12	29.208	31.290	0.25	A572-65	1.000
10	116 - 111	5		12	29.669	30.867	0.34375	A572-65	1.000
11	111 - 106	5		12	30.867	32.065	0.34375	A572-65	1.000
12	106 - 101	5		12	32.065	33.263	0.34375	A572-65	1.000
13	101 - 96	5		12	33.263	34.461	0.34375	A572-65	1.000
14	96 - 91	5		12	34.461	35.659	0.34375	A572-65	1.000
15	91 - 86	5		12	35.659	36.857	0.34375	A572-65	1.000
16	86 - 85.75	0.25		12	36.857	36.917	0.5125	A572-65	0.974
17	85.75 - 81	4.75		12	36.917	38.055	0.50625	A572-65	0.976
18	81 - 80.75	0.25		12	38.055	38.115	0.34375	A572-65	1.000
19	80.75 - 80.5	0.25		12	38.115	38.175	0.34375	A572-65	1.000
20	80.5 - 79	7.25	5.75	12	38.175	39.912	0.34375	A572-65	1.000
21	79 - 72.25	6.75		12	37.847	39.467	0.40625	A572-65	1.000
22	72.25 - 67.25	5		12	39.467	40.667	0.40625	A572-65	1.000
23	67.25 - 62.25	5		12	40.667	41.867	0.40625	A572-65	1.000
24	62.25 - 57.25	5		12	41.867	43.067	0.40625	A572-65	1.000
25	57.25 - 52.25	5		12	43.067	44.268	0.40625	A572-65	1.000
26	52.25 - 49.83	2.42		12	44.268	44.848	0.40625	A572-65	1.000
27	49.83 - 49.58	0.25		12	44.848	44.908	0.40625	A572-65	1.000
28	49.58 - 44.58	5		12	44.908	46.109	0.40625	A572-65	1.000
29	44.58 - 43	8.2467	6.6667	12	46.109	48.088	0.40625	A572-65	1.000
30	43 - 35.3333	7.6667		12	45.675	47.516	0.4375	A572-65	1.000
31	35.3333 - 32.25	3.0833		12	47.516	48.256	0.4375	A572-65	1.000
32	32.25 - 32	0.25		12	48.256	48.317	0.4375	A572-65	1.000
33	32 - 27	5		12	48.317	49.517	0.4375	A572-65	1.000
34	27 - 22	5		12	49.517	50.718	0.4375	A572-65	1.000
35	22 - 17	5		12	50.718	51.918	0.4375	A572-65	1.000
36	17 - 15.5	1.5		12	51.918	52.278	0.4375	A572-65	1.000
37	15.5 - 15.25	0.25		12	52.278	52.338	0.4375	A572-65	1.000
38	15.25 - 14.75	0.5		12	52.338	52.458	0.4375	A572-65	1.000
39	14.75 - 14.5	0.25		12	52.458	52.518	0.4375	A572-65	1.000
40	14.5 - 9.5	5		12	52.518	53.719	0.4375	A572-65	1.000
41	9.5 - 4.5	5		12	53.719	54.920	0.4375	A572-65	1.000
42	4.5 - 0	4.5		12	54.920	56.000	0.4375	A572-65	1.000

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	160 - 155	3.83	12.94	5.04
2	155 - 150	4.18	39.11	5.43
3	150 - 145	8.00	90.92	10.60
4	145 - 140	8.45	144.96	11.02
5	140 - 135	12.91	239.49	18.11
6	135 - 130	13.52	331.10	18.54
7	130 - 125	17.12	436.33	21.85
8	125 - 120	17.82	546.62	22.29
9	120 - 116	18.44	636.39	22.62
10	116 - 111	23.61	770.59	26.43
11	111 - 106	24.64	903.80	26.87
12	106 - 101	25.72	1039.18	27.31
13	101 - 96	26.83	1176.74	27.74
14	96 - 91	27.97	1316.47	28.18
15	91 - 86	29.14	1458.37	28.62
16	86 - 85.75	29.24	1465.53	28.63
17	85.75 - 81	30.73	1602.77	29.14
18	81 - 80.75	30.81	1610.06	29.16
19	80.75 - 80.5	30.88	1617.35	29.18
20	80.5 - 79	31.26	1661.21	29.33
21	79 - 72.25	34.16	1861.65	30.08
22	72.25 - 67.25	35.58	2013.04	30.51
23	67.25 - 62.25	37.04	2166.62	30.95
24	62.25 - 57.25	38.53	2322.34	31.38
25	57.25 - 52.25	40.06	2480.19	31.80
26	52.25 - 49.83	40.99	2557.35	32.01
27	49.83 - 49.58	41.10	2565.35	32.01
28	49.58 - 44.58	43.03	2726.43	32.44
29	44.58 - 43	43.64	2777.76	32.58
30	43 - 35.3333	48.48	3030.43	33.39
31	35.3333 - 32.25	49.77	3133.68	33.62
32	32.25 - 32	49.88	3142.09	33.62
33	32 - 27	52.01	3311.07	33.99
34	27 - 22	54.18	3481.81	34.35
35	22 - 17	56.39	3654.32	34.70
36	17 - 15.5	57.09	3706.42	34.82
37	15.5 - 15.25	57.23	3715.12	34.81
38	15.25 - 14.75	57.47	3732.53	34.85
39	14.75 - 14.5	57.59	3741.24	34.86
40	14.5 - 9.5	59.82	3916.43	35.24
41	9.5 - 4.5	61.93	4093.40	35.60
42	4.5 - 0	63.79	4254.21	35.92

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP20.801x19.6x0.25	Pole	2.8%	Pass
155 - 150	Pole	TP22.002x20.801x0.25	Pole	7.1%	Pass
150 - 145	Pole	TP23.203x22.002x0.25	Pole	14.9%	Pass
145 - 140	Pole	TP24.404x23.203x0.25	Pole	21.4%	Pass
140 - 135	Pole	TP25.605x24.404x0.25	Pole	32.8%	Pass
135 - 130	Pole	TP26.806x25.605x0.25	Pole	41.7%	Pass
130 - 125	Pole	TP28.007x26.806x0.25	Pole	51.2%	Pass
125 - 120	Pole	TP29.208x28.007x0.25	Pole	59.8%	Pass
120 - 116	Pole	TP31.29x29.208x0.25	Pole	66.1%	Pass
116 - 111	Pole	TP30.867x29.669x0.3438	Pole	49.9%	Pass
111 - 106	Pole	TP32.065x30.867x0.3438	Pole	54.7%	Pass
106 - 101	Pole	TP33.263x32.065x0.3438	Pole	59.1%	Pass
101 - 96	Pole	TP34.461x33.263x0.3438	Pole	63.0%	Pass
96 - 91	Pole	TP35.659x34.461x0.3438	Pole	66.6%	Pass
91 - 86	Pole	TP36.857x35.659x0.3438	Pole	69.8%	Pass
86 - 85.75	Pole + Reinf.	TP36.917x36.857x0.5125	Reinf. 5 Tension Rupture	66.6%	Pass
85.75 - 81	Pole + Reinf.	TP38.055x36.917x0.5063	Reinf. 5 Tension Rupture	69.1%	Pass
81 - 80.75	Pole	TP38.115x38.055x0.3438	Pole	73.0%	Pass
80.75 - 80.5	Pole	TP38.175x38.115x0.3438	Pole	73.2%	Pass
80.5 - 79	Pole	TP39.912x38.175x0.3438	Pole	74.0%	Pass
79 - 72.25	Pole	TP39.467x37.847x0.4063	Pole	63.5%	Pass
72.25 - 67.25	Pole	TP40.667x39.467x0.4063	Pole	65.3%	Pass
67.25 - 62.25	Pole	TP41.867x40.667x0.4063	Pole	67.0%	Pass
62.25 - 57.25	Pole	TP43.067x41.867x0.4063	Pole	68.5%	Pass
57.25 - 52.25	Pole	TP44.268x43.067x0.4063	Pole	70.0%	Pass
52.25 - 49.83	Pole	TP44.848x44.268x0.4063	Pole	70.7%	Pass
49.83 - 49.58	Pole	TP44.908x44.848x0.4063	Pole	70.8%	Pass
49.58 - 44.58	Pole	TP46.109x44.908x0.4063	Pole	72.1%	Pass
44.58 - 43	Pole	TP48.088x46.109x0.4063	Pole	72.6%	Pass
43 - 35.33	Pole	TP47.516x45.675x0.4375	Pole	68.9%	Pass
35.33 - 32.25	Pole	TP48.256x47.516x0.4375	Pole	69.5%	Pass
32.25 - 32	Pole	TP48.317x48.256x0.4375	Pole	69.6%	Pass
32 - 27	Pole	TP49.517x48.317x0.4375	Pole	70.5%	Pass
27 - 22	Pole	TP50.718x49.517x0.4375	Pole	71.4%	Pass
22 - 17	Pole	TP51.918x50.718x0.4375	Pole	72.3%	Pass
17 - 15.5	Pole	TP52.278x51.918x0.4375	Pole	72.6%	Pass
15.5 - 15.25	Pole	TP52.338x52.278x0.4375	Pole	72.6%	Pass
15.25 - 14.75	Pole	TP52.458x52.338x0.4375	Pole	72.7%	Pass
14.75 - 14.5	Pole	TP52.518x52.458x0.4375	Pole	72.7%	Pass
14.5 - 9.5	Pole	TP53.719x52.518x0.4375	Pole	73.6%	Pass
9.5 - 4.5	Pole	TP54.92x53.719x0.4375	Pole	74.4%	Pass
4.5 - 0	Pole	TP56x54.92x0.4375	Pole	75.1%	Pass
				Summary	
			Pole	75.1%	Pass
			Reinforcement	69.1%	Pass
			Overall	75.1%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity* (100% Max. Allowable)					
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5
160 - 155	893	n/a	893	16.52	n/a	16.52	2.8%					
155 - 150	1059	n/a	1059	17.49	n/a	17.49	7.1%					
150 - 145	1244	n/a	1244	18.45	n/a	18.45	14.9%					
145 - 140	1450	n/a	1450	19.42	n/a	19.42	21.4%					
140 - 135	1677	n/a	1677	20.38	n/a	20.38	32.8%					
135 - 130	1927	n/a	1927	21.35	n/a	21.35	41.7%					
130 - 125	2200	n/a	2200	22.31	n/a	22.31	51.2%					
125 - 120	2499	n/a	2499	23.28	n/a	23.28	59.8%					
120 - 116	2756	n/a	2756	24.05	n/a	24.05	66.1%					
116 - 111	4023	n/a	4023	33.74	n/a	33.74	49.9%					
111 - 106	4516	n/a	4516	35.06	n/a	35.06	54.7%					
106 - 101	5047	n/a	5047	36.39	n/a	36.39	59.1%					
101 - 96	5618	n/a	5618	37.71	n/a	37.71	63.0%					
96 - 91	6231	n/a	6231	39.03	n/a	39.03	66.6%					
91 - 86	6887	n/a	6887	40.36	n/a	40.36	69.8%					
86 - 85.75	6921	3263	10183	40.42	18.00	58.42	46.0%					66.6%
85.75 - 81	7587	3460	11047	41.68	18.00	59.68	48.4%					69.1%
81 - 80.75	7623	n/a	7623	41.75	n/a	41.75	73.0%					
80.75 - 80.5	7660	n/a	7660	41.81	n/a	41.81	73.2%					
80.5 - 79	7880	n/a	7880	42.21	n/a	42.21	74.0%					
79 - 72.25	9964	n/a	9964	51.02	n/a	51.02	63.5%					
72.25 - 67.25	10911	n/a	10911	52.59	n/a	52.59	65.3%					
67.25 - 62.25	11916	n/a	11916	54.16	n/a	54.16	67.0%					
62.25 - 57.25	12981	n/a	12981	55.73	n/a	55.73	68.5%					
57.25 - 52.25	14108	n/a	14108	57.29	n/a	57.29	70.0%					
52.25 - 49.83	14676	n/a	14676	58.05	n/a	58.05	70.7%					
49.83 - 49.58	14735	n/a	14735	58.13	n/a	58.13	70.8%					
49.58 - 44.58	15960	n/a	15960	59.70	n/a	59.70	72.1%					
44.58 - 43	16361	n/a	16361	60.19	n/a	60.19	72.6%					
43 - 35.33	18788	n/a	18788	66.23	n/a	66.23	68.9%					
35.33 - 32.25	19688	n/a	19688	67.27	n/a	67.27	69.5%					
32.25 - 32	19762	n/a	19762	67.35	n/a	67.35	69.6%					
32 - 27	21287	n/a	21287	69.04	n/a	69.04	70.5%					
27 - 22	22887	n/a	22887	70.73	n/a	70.73	71.4%					
22 - 17	24566	n/a	24566	72.42	n/a	72.42	72.3%					
17 - 15.5	25085	n/a	25085	72.93	n/a	72.93	72.6%					
15.5 - 15.25	25172	n/a	25172	73.01	n/a	73.01	72.6%					
15.25 - 14.75	25348	n/a	25348	73.18	n/a	73.18	72.7%					
14.75 - 14.5	25435	n/a	25435	73.26	n/a	73.26	72.7%					
14.5 - 9.5	27235	n/a	27235	74.95	n/a	74.95	73.6%					
9.5 - 4.5	29118	n/a	29118	76.64	n/a	76.64	74.4%					
4.5 - 0	30885	n/a	30885	78.16	n/a	78.16	75.1%					

Note: Section capacity checked using 5 degree increments.

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

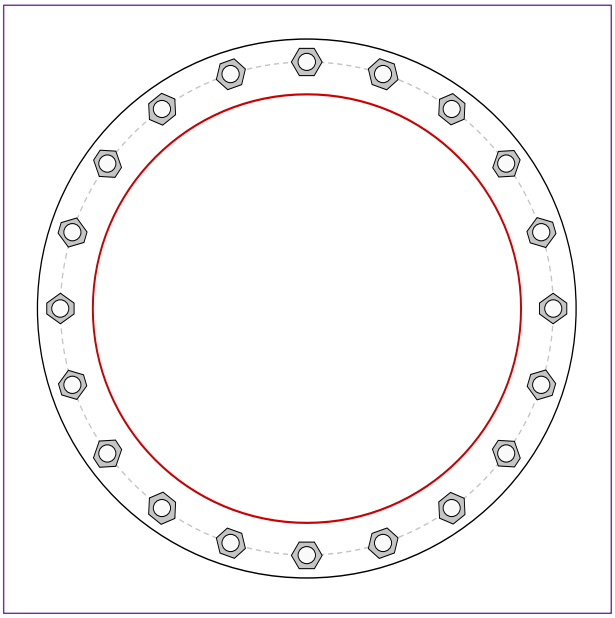
Monopole Base Plate Connection

Site Info	
BU #	806953
Site Name	BRG 2044 (A) 943097
Order #	548687 Rev. 4

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.0625

Applied Loads	
Moment (kip-ft)	4254.21
Axial Force (kips)	63.79
Shear Force (kips)	35.92

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(20) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 64.48" BC

Base Plate Data

70.48" OD x 2.75" Plate (A633-60; Fy=60 ksi, Fu=80 ksi)

Stiffener Data

N/A

Pole Data

56" x 0.4375" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_t = 155.08	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.8	ϕVn = 149.1	**60.6%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	24.87	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**43.9%**	**Pass**

Pier and Pad Foundation

BU # :	806953
Site Name:	BRG 2044 (A) 9430
App. Number:	548687 Rev. 4

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions

Compression, P_{comp}:	63.8	kips
Base Shear, Vu_comp:	35.9	kips
Moment, M_u:	4254.21	ft-kips
Tower Height, **H**:	160	ft
BP Dist. Above Fdn, bp_{dist}:	6	in
Bolt Circle / Bearing Plate Width, **BC**:	64.48	in

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	195.69	35.90	**17.5%**	**Pass**
Bearing Pressure (ksf)	30.00	2.76	**9.2%**	**Pass**
*Overturning (kip*ft)*	6391.57	4451.66	**69.6%**	**Pass**
*Pad Flexure (kip*ft)*	8047.81	2175.21	**25.7%**	**Pass**
Pad Shear - 1-way (kips)	1630.75	255.30	**14.9%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.002	**1.2%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	6537.76	0.00	**0.0%**	**Pass**

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

Structural Rating*:	**25.7%**
Soil Rating*:	**69.6%**

Pad Properties

Depth, **D**:	3.5	ft
Pad Width, W_1:	26	ft
Pad Thickness, **T**:	5	ft
Pad Rebar Size (Top dir.2), Sp_{top2}:	8	
Pad Rebar Quantity (Top dir. 2), mp_{top2}:	18	
Pad Rebar Size (Bottom dir. 2), Sp_2:	10	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	26	
Pad Clear Cover, 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:	130	pcf
Ultimate Gross Bearing, Qult:	40.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	40	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.5	
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

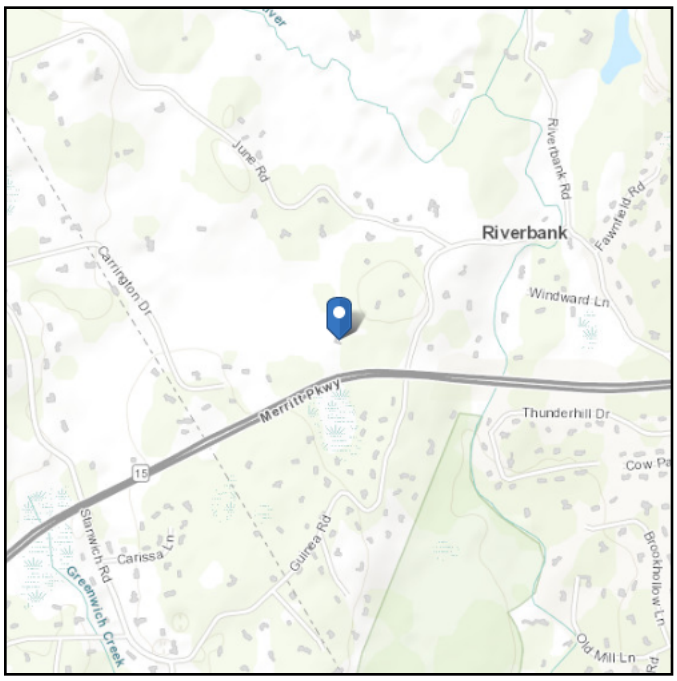
<--Toggle between Gross and Net

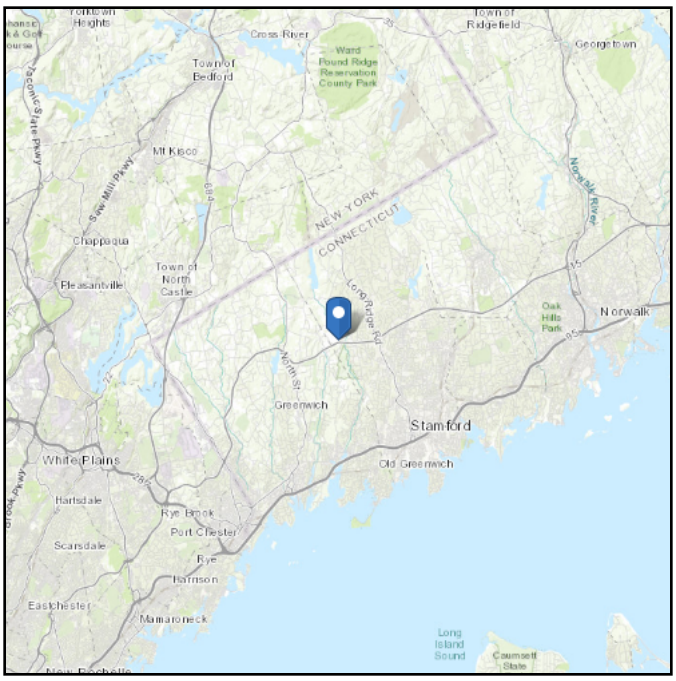
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 246.84 ft (NAVD 88)
Latitude: 41.10175
Longitude: -73.594444





Wind

Results:

Wind Speed	~~117 Vmph~~ 120 mph per jurisdictional requirement
10-year MRI	76 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Thu Jul 21 2022

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

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

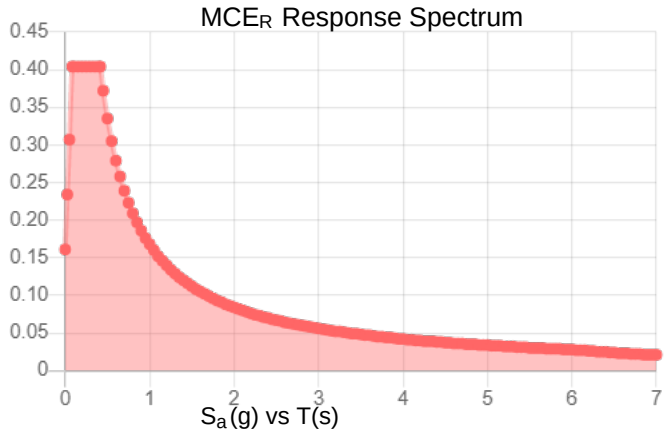
Seismic

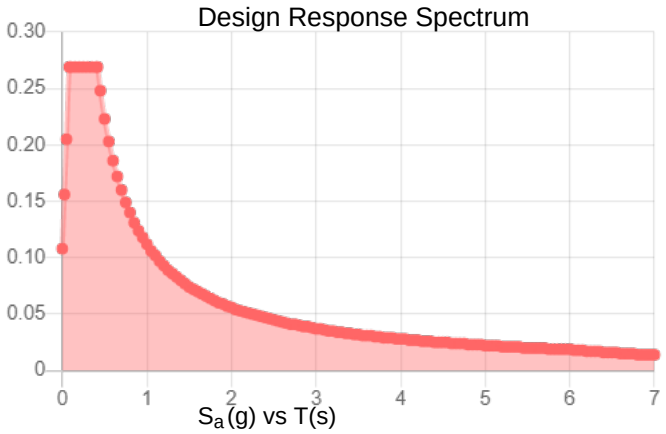
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.253	S_{DS} :	0.269
S_1 :	0.07	S_{D1} :	0.112
F_a :	1.598	T_L :	6
F_v :	2.4	PGA :	0.148
S_{MS} :	0.404	PGA_M :	0.222
S_{M1} :	0.168	F_{PGA} :	1.505
		I_e :	1

Seismic Design Category B





Data Accessed: **Thu Jul 21 2022**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Jul 21 2022

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.