Date: **January 04, 2023**

MORRISON HERSHFIELD

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Site Number:	CTL02127
	Site Name:	Newtown - Berkshire Rd.
	FA Number:	10035032
Crown Castle Designation:	**BU Number:**	806354
	Site Name:	BRG 123 943084
	JDE Job Number:	715639
	Work Order Number:	2190009
	Order Number:	614847 Rev. 0
Engineering Firm Designation:	**Morrison Hershfield Project Number:** CN8-757R4 / 2300001	
Site Data:	**21 Berkshire Road Newtown, Newtown, Fairfield County, CT 06482** **Latitude *41° 24' 45.53"*, Longitude *-73° 16' 12.34"*** **185 Foot – EEI Monopole Tower**	

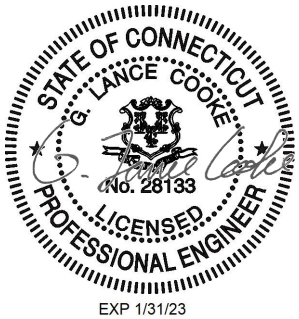
Morrison Hershfield is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

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 – 91.0%**

This analysis utilizes an ultimate 3-second gust wind speed of 116 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:



EXP 1/31/23

Digitally signed by G. Lance Cooke
Date: 2023.01.04 16:39:39+05'30'

G. Lance Cooke, P.E. (CT License No. PEN.0028133)
Senior Engineer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 185 ft Monopole tower designed by Engineered Endeavors, Inc.

The tower was modified per reinforcement drawings prepared by Vertical Structures, Inc. in February of 2009. Per the post modification inspection completed by Vertical Structures, Inc. in June of 2009, these modifications have been properly installed and were considered in this analysis.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	116 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
175.0	177.0	3	cci antennas	OPA-65R-LCUU-H6	12 6 3 2 2	1-5/8 5/8 3/8 13/16 2C
		3	cci antennas	OPA65R-BU6D		
		3	kmw communications	EPBQ-654L8H6-L2		
		3	ericsson	2012 B29		
		3	ericsson	RRUS 32 B2		
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 32 B66		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	raycap	DC6-48-60-18-8F		
	175.0	6	-	7' Pipe Mount [#P2.0 STD]		
		9	Site Pro 1	10' Pipe Mount [#P30120]		
		1	Kenwood	13 ft Platform Mount [#T1542KT12XS-M-H35]		

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)
187.0	187.0	1	-	Side Arm Mount [SO 103-3]	8	1-5/8
		1	-	Miscellaneous [NA 507-1]		
		1	-	Platform Mount [LP 712-1]		
	185.0	6	decibel	DB846F65ZAXY w/ Mount Pipe		
		6	quintel technology	QS8658-5 w/ Mount Pipe		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung	XXDWMM-12.5-65-8T-CBRS		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
			telecommunications			
		6	commscope	CBC78T-DS-43-2X		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		2	raycap	RRFDC-3315-PF-48		
182.0	188.0	1	decibel	ASP-601	1	1/2
	182.0	1	-	Side Arm Mount [SO 104-3]		
165.0	165.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe	3	1-5/8
		3	rfs/celwave	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe		
		3	rfs/celwave	APXVAALL24_43-U-NA20_TMO		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	RADIO 4480 B71_TMO		
		3	-	8' Mount Pipe [#P2.0 STD]		
		1	-	Miscellaneous [NA 507-1]		
		1	-	Platform Mount [LP 712-1]		
145.0	148.0	3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	7	1-5/8
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RRUS 11 B12		
	146.0	3	commscope	LNX-6515DS-A1M w/ Mount Pipe		
	145.0	1	-	Platform Mount [LP 712-1]		
135.0	135.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-1/2
		3	fujitsu	TA08025-B604		
		3	fujitsu	TA08025-B605		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	2297011	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	822037	CCISITES
4-TOWER MANUFACTURER DRAWINGS	822035	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2381114	CCISITES
4-POST-MODIFICATION INSPECTION	2447231	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.

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. Morrison Hershfield should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	185 - 149.46	Pole	TP36.06x29x0.25	1	-16.93	1696.19	37.4	Pass
L2	149.46 - 114.083	Pole	TP42.46x34.5503x0.3125	2	-30.43	2498.40	63.7	Pass
L3	114.083 - 76.666	Pole	TP49.15x40.6947x0.375	3	-42.10	3470.70	73.9	Pass
L4	76.666 - 38.253	Pole	TP55.9x47.0966x0.4375	4	-57.51	4605.81	75.1	Pass
L5	38.253 - 0	Pole	TP62.5x53.5604x0.5	5	-80.35	6043.85	73.7	Pass
							Summary	
						Pole (L4)	75.1	Pass
						Rating =	75.1	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	68.9	Pass
1	Base Plate		80.2	Pass
1	Base Foundation (Structure)	0	73.5	Pass
1	Base Foundation (Soil Interaction)		91.0	Pass

Structure Rating (max from all components) =	91.0%*

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

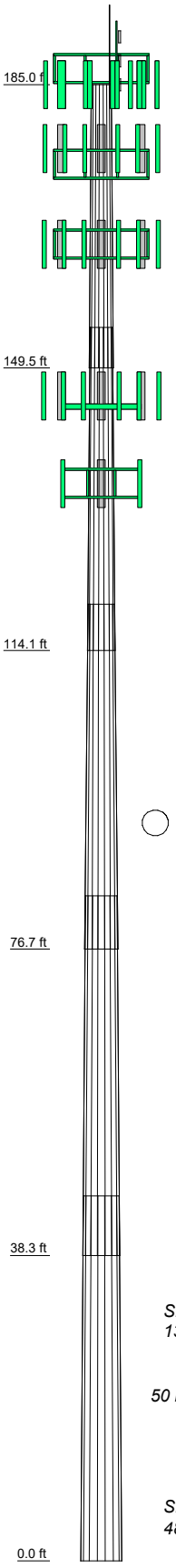
4.1) Recommendations

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

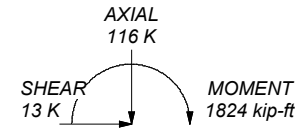
APPENDIX A

TNXTOWER OUTPUT

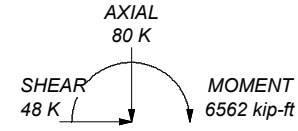
Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	35.54	18	0.2500	5.08	29.0000	36.0600		3.1
2	40.46	18	0.3125	5.83	34.5503	42.4600		5.2
3	43.25	18	0.3750	6.67	40.6947	49.1500	A572-65	7.8
4	45.08	18	0.4375	7.50	47.0966	55.9000		10.9
5	45.75	18	0.5000		53.5604	62.5000		14.2
								41.2



ALL REACTIONS ARE FACTORED



TORQUE 0 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 1 kip-ft
REACTIONS - 116 mph WIND

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 C to the TIA-222-H Standard.
3. Tower designed for a 116 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 75.1%

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Phone: (770) 379-8500
FAX: (770) 379-8501

Job:	***CN8-757R4 / 2300001***		
Project:	***806354 / BRG 123 943084***		
Client: Crown Castle USA	Drawn by: PKS	App'd:	
Code: TIA-222-H	Date: 01/04/23	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: 349.00 ft.
Basic wind speed of 116 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
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	185.00-149.46	35.54	5.08	18	29.0000	36.0600	0.2500	1.0000	A572-65 (65 ksi)
L2	149.46-114.08	40.46	5.83	18	34.5503	42.4600	0.3125	1.2500	A572-65 (65 ksi)
L3	114.08-76.67	43.25	6.67	18	40.6947	49.1500	0.3750	1.5000	A572-65 (65 ksi)
L4	76.67-38.25	45.08	7.50	18	47.0966	55.9000	0.4375	1.7500	A572-65 (65 ksi)
L5	38.25-0.00	45.75		18	53.5604	62.5000	0.5000	2.0000	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	29.4088	22.8131	2382.3081	10.2063	14.7320	161.7098	4767.7509	11.4087	4.6640	18.656
	36.5777	28.4152	4603.5975	12.7126	18.3185	251.3089	9213.2525	14.2103	5.9066	23.626
L2	36.0441	33.9596	5029.3356	12.1544	17.5515	286.5468	10065.2889	16.9830	5.5308	17.699
	43.0668	41.8051	9382.3116	14.9624	21.5697	434.9769	18776.9687	20.9065	6.9230	22.153
L3	42.4225	47.9905	9856.5919	14.3135	20.6729	476.7882	19726.1533	23.9998	6.5023	17.339
	49.8504	58.0544	17448.8767	17.3151	24.9682	698.8440	34920.7131	29.0327	7.9904	21.308
L4	49.0777	64.7920	17820.9870	16.5640	23.9251	744.8664	35665.4233	32.4022	7.5190	17.186
	56.6949	77.0166	29930.9675	19.6892	28.3972	1054.0112	59901.3189	38.5156	9.0684	20.728
L5	55.7975	84.2068	29951.9601	18.8364	27.2087	1100.8242	59943.3317	42.1114	8.5466	17.093
	63.3870	98.3940	47784.7640	22.0100	31.7500	1505.0319	95632.4044	49.2063	10.1200	20.24

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 185.00-149.46				1	1	1			
L2 149.46-114.08				1	1	1			
L3 114.08-76.67				1	1	1			
L4 76.67-38.25				1	1	1			
L5 38.25-0.00				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	B	No	Surface Ar (CaAa)	185.00 - 11.00	1	1	-0.450 -0.450	0.3750		0.22
Climbing Pegs	B	No	Surface Ar (CaAa)	185.00 - 12.00	1	1	-0.500 -0.400	0.7050		1.80

****

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
CR 50 1873PE(1-5/8)	C	No	Surface Ar (CaAa)	175.00 - 8.00	12	12	0.045 0.500	1.9800		0.83
WR-VG82ST-BRDA(5/8)	A	No	Surface Ar (CaAa)	175.00 - 8.00	4	2	-0.400 -0.365	0.6450		0.31
****										
PWRT-608-S(13/16)	C	No	Surface Ar (CaAa)	175.00 - 8.00	2	1	0.030 0.030	0.8200		0.62
FB-L98B-034-XXX(3/8)	C	No	Surface Ar (CaAa)	175.00 - 8.00	1	1	0.023 0.023	0.3937		0.06
****										
HB158-21U6S24-xxM_TMO(1-5/8)	B	No	Surface Ar (CaAa)	165.00 - 8.00	3	3	-0.400 -0.290	1.9960		2.50
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	B	No	Surface Ar (CaAa)	145.00 - 4.00	1	1	-0.100 -0.100	1.6250		1.07
******										
CU12PSM9P6XXX(1-1/2)	B	No	Surface Ar (CaAa)	135.00 - 8.00	1	1	-0.450 -0.450	1.6000		2.35
******										

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
Ground Wire (1/2")	C	No	No	Inside Pole	185.00 - 2.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15
****									
HJ7-50A(1-5/8)	A	No	No	Inside Pole	185.00 - 8.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.04 1.04 1.04
HB158-21U6S12-XXXM-01(1-5/8)	A	No	No	Inside Pole	185.00 - 8.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.90 1.90 1.90
****									
LDF4P-50A(1/2)	C	No	No	Inside Pole	182.00 - 8.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15
FB-L98B-002-75000(3/8)	A	No	No	Inside Pole	175.00 - 8.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.06 0.06 0.06
WR-VG82ST-BRDA(5/8)	A	No	No	Inside Pole	175.00 - 8.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.31 0.31 0.31
2" Rigid Conduit	A	No	No	Inside Pole	175.00 - 8.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.80 2.80 2.80
****									
******									
LDF7-50A(1-5/8)	B	No	No	Inside Pole	145.00 - 4.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
******									

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	185.00-149.46	A	0.000	0.000	3.295	0.000	0.55
		B	0.000	0.000	13.144	0.000	0.19
		C	0.000	0.000	63.783	0.000	0.31
L2	149.46-114.08	A	0.000	0.000	4.564	0.000	0.62
		B	0.000	0.000	33.375	0.000	0.57
		C	0.000	0.000	88.349	0.000	0.42
L3	114.08-76.67	A	0.000	0.000	4.827	0.000	0.66
		B	0.000	0.000	38.513	0.000	0.67
		C	0.000	0.000	93.444	0.000	0.44
L4	76.67-38.25	A	0.000	0.000	4.955	0.000	0.68
		B	0.000	0.000	39.539	0.000	0.69
		C	0.000	0.000	95.931	0.000	0.46
L5	38.25-0.00	A	0.000	0.000	3.903	0.000	0.53
		B	0.000	0.000	31.395	0.000	0.56
		C	0.000	0.000	75.553	0.000	0.36

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	185.00-149.46	A	0.999	0.000	0.000	10.500	0.000	0.63
		B		0.000	0.000	33.561	0.000	0.44
		C		0.000	0.000	95.545	0.000	1.08
L2	149.46-114.08	A	0.976	0.000	0.000	14.544	0.000	0.73
		B		0.000	0.000	72.014	0.000	1.13
		C		0.000	0.000	132.346	0.000	1.49
L3	114.08-76.67	A	0.945	0.000	0.000	15.163	0.000	0.77
		B		0.000	0.000	82.457	0.000	1.31
		C		0.000	0.000	139.405	0.000	1.55
L4	76.67-38.25	A	0.898	0.000	0.000	15.268	0.000	0.79
		B		0.000	0.000	83.399	0.000	1.31
		C		0.000	0.000	142.341	0.000	1.55
L5	38.25-0.00	A	0.806	0.000	0.000	11.672	0.000	0.61
		B		0.000	0.000	63.919	0.000	1.02
		C		0.000	0.000	111.187	0.000	1.18

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	185.00-149.46	-3.8232	4.9604	-2.9222	3.2200
L2	149.46-114.08	-3.7534	4.4230	-2.6847	2.5746
L3	114.08-76.67	-3.9461	4.4656	-2.8238	2.4895
L4	76.67-38.25	-4.2309	4.7863	-3.0698	2.7282
L5	38.25-0.00	-3.8498	4.4105	-2.8541	2.6682

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	149.46 - 185.00	1.0000	1.0000
L1	2	Climbing Pegs	149.46 - 185.00	1.0000	1.0000
L1	12	CR 50 1873PE(1-5/8)	149.46 - 175.00	1.0000	1.0000
L1	16	WR-VG82ST-BRDA(5/8)	149.46 - 175.00	1.0000	1.0000
L1	19	PWRT-608-S(13/16)	149.46 - 175.00	1.0000	1.0000
L1	20	FB-L98B-034-XXX(3/8)	149.46 - 175.00	1.0000	1.0000
L1	25	HB158-21U6S24-xxM_TMO(1-5/8)	149.46 - 165.00	1.0000	1.0000
L2	1	Safety Line 3/8	114.08 - 149.46	1.0000	1.0000
L2	2	Climbing Pegs	114.08 - 149.46	1.0000	1.0000
L2	12	CR 50 1873PE(1-5/8)	114.08 - 149.46	1.0000	1.0000
L2	16	WR-VG82ST-BRDA(5/8)	114.08 - 149.46	1.0000	1.0000
L2	19	PWRT-608-S(13/16)	114.08 - 149.46	1.0000	1.0000
L2	20	FB-L98B-034-XXX(3/8)	114.08 - 149.46	1.0000	1.0000
L2	25	HB158-21U6S24-xxM_TMO(1-5/8)	114.08 - 149.46	1.0000	1.0000
L2	28	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	114.08 - 145.00	1.0000	1.0000
L2	30	CU12PSM9P6XXX(1-1/2)	114.08 - 135.00	1.0000	1.0000
L3	1	Safety Line 3/8	76.67 - 114.08	1.0000	1.0000
L3	2	Climbing Pegs	76.67 - 114.08	1.0000	1.0000
L3	12	CR 50 1873PE(1-5/8)	76.67 - 114.08	1.0000	1.0000
L3	16	WR-VG82ST-BRDA(5/8)	76.67 - 114.08	1.0000	1.0000
L3	19	PWRT-608-S(13/16)	76.67 - 114.08	1.0000	1.0000
L3	20	FB-L98B-034-XXX(3/8)	76.67 - 114.08	1.0000	1.0000
L3	25	HB158-21U6S24-xxM_TMO(1-5/8)	76.67 - 114.08	1.0000	1.0000
L3	28	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	76.67 - 114.08	1.0000	1.0000
L3	30	CU12PSM9P6XXX(1-1/2)	76.67 - 114.08	1.0000	1.0000
L4	1	Safety Line 3/8	38.25 - 76.67	1.0000	1.0000
L4	2	Climbing Pegs	38.25 - 76.67	1.0000	1.0000
L4	12	CR 50 1873PE(1-5/8)	38.25 - 76.67	1.0000	1.0000
L4	16	WR-VG82ST-BRDA(5/8)	38.25 - 76.67	1.0000	1.0000
L4	19	PWRT-608-S(13/16)	38.25 - 76.67	1.0000	1.0000
L4	20	FB-L98B-034-XXX(3/8)	38.25 - 76.67	1.0000	1.0000
L4	25	HB158-21U6S24-xxM_TMO(1-5/8)	38.25 - 76.67	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L4	28	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	38.25 - 76.67	1.0000	1.0000
L4	30	CU12PSM9P6XXX(1-1/2)	38.25 - 76.67	1.0000	1.0000
L5	1	Safety Line 3/8	11.00 - 38.25	1.0000	1.0000
L5	2	Climbing Pegs	12.00 - 38.25	1.0000	1.0000
L5	12	CR 50 1873PE(1-5/8)	8.00 - 38.25	1.0000	1.0000
L5	16	WR-VG82ST-BRDA(5/8)	8.00 - 38.25	1.0000	1.0000
L5	19	PWRT-608-S(13/16)	8.00 - 38.25	1.0000	1.0000
L5	20	FB-L98B-034-XXX(3/8)	8.00 - 38.25	1.0000	1.0000
L5	25	HB158-21U6S24-xxM_TMO(1-5/8)	8.00 - 38.25	1.0000	1.0000
L5	28	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	4.00 - 38.25	1.0000	1.0000
L5	30	CU12PSM9P6XXX(1-1/2)	8.00 - 38.25	1.0000	1.0000

Discrete Tower Loads

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
Lightning Rod 5/8" x 10'	B	From Leg	0.00 0.00 5.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	0.63 1.64 2.67	0.63 1.64 2.67	0.04 0.05 0.06
4.5' x 2" Mount Pipe	B	From Leg	0.50 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	1.02 1.30 1.58	1.02 1.30 1.58	0.00 0.01 0.02
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XXDWMM-12.5-65-8T-CBRS	A	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.01 1.14 1.27	0.65 0.76 0.88	0.02 0.03 0.04
XXDWMM-12.5-65-8T-CBRS	B	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.01 1.14 1.27	0.65 0.76 0.88	0.02 0.03 0.04
XXDWMM-12.5-65-8T-CBRS	C	From Face	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.01 1.14 1.27	0.65 0.76 0.88	0.02 0.03 0.04
(2) QS8658-5 w/ Mount Pipe	A	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	5.42 5.92 6.43	5.62 6.12 6.63	0.13 0.22 0.33
(2) QS8658-5 w/ Mount Pipe	B	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	5.42 5.92 6.43	5.62 6.12 6.63	0.13 0.22 0.33
(2) QS8658-5 w/ Mount Pipe	C	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	5.42 5.92 6.43	5.62 6.12 6.63	0.13 0.22 0.33
DB846F65ZAXY w/ Mount Pipe	A	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	6.10 6.80 7.51	6.81 7.52 8.24	0.06 0.12 0.19

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
DB846F65ZAXY w/ Mount Pipe	B	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	6.10 6.80 7.51	6.81 7.52 8.24	0.06 0.12 0.19
(2) DB846F65ZAXY w/ Mount Pipe	C	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	6.10 6.80 7.51	6.81 7.52 8.24	0.06 0.12 0.19
DB846F65ZAXY w/ Mount Pipe	A	From Face	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	6.10 6.80 7.51	6.81 7.52 8.24	0.06 0.12 0.19
DB846F65ZAXY w/ Mount Pipe	B	From Face	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	6.10 6.80 7.51	6.81 7.52 8.24	0.06 0.12 0.19
CBC78T-DS-43-2X	A	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	0.02 0.03 0.04
CBC78T-DS-43-2X	A	From Face	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	0.02 0.03 0.04
CBC78T-DS-43-2X	B	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	0.02 0.03 0.04
CBC78T-DS-43-2X	B	From Face	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	0.02 0.03 0.04
CBC78T-DS-43-2X	C	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	0.02 0.03 0.04
CBC78T-DS-43-2X	C	From Face	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	0.02 0.03 0.04
RRFDC-3315-PF-48	A	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	3.79 4.04 4.30	2.51 2.73 2.95	0.03 0.06 0.10
RRFDC-3315-PF-48	B	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	3.79 4.04 4.30	2.51 2.73 2.95	0.03 0.06 0.10
(2) RFV01U-D1A	A	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D1A	C	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D2A	A	From Face	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RFV01U-D2A	C	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RFV01U-D2A	C	From Face	4.00	0.0000	187.00	No Ice	1.88	1.01	0.07

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 -2.00			1/2" Ice 1" Ice	2.05 2.22	1.14 1.28	0.09 0.11
8' Ladder	B	From Leg	2.00 0.00 -8.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	1.53 4.36 7.19	5.33 8.08 10.83	0.10 0.11 0.13
Miscellaneous [NA 507-1]	C	None		0.0000	187.00	No Ice 1/2" Ice 1" Ice	4.56 6.39 8.18	4.56 6.39 8.18	0.25 0.31 0.40
Platform Mount [LP 712-1]	C	None		0.0000	187.00	No Ice 1/2" Ice 1" Ice	24.56 27.92 31.27	24.56 27.92 31.27	1.34 1.91 2.55
Side Arm Mount [SO 103-3]	C	None		0.0000	187.00	No Ice 1/2" Ice 1" Ice	7.64 8.80 10.16	7.64 8.80 10.16	0.23 0.36 0.52
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MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	4.91 5.26 5.61	2.68 3.14 3.62	0.10 0.14 0.18
MT6407-77A w/ Mount Pipe	B	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	4.91 5.26 5.61	2.68 3.14 3.62	0.10 0.14 0.18
MT6407-77A w/ Mount Pipe	C	From Leg	4.00 0.00 -2.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	4.91 5.26 5.61	2.68 3.14 3.62	0.10 0.14 0.18
Side-By-Side Mouting Bracket	A	From Leg	4.00 0.00 0.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.32 1.58 1.84	1.32 1.58 1.84	0.07 0.08 0.09
Side-By-Side Mouting Bracket	B	From Leg	4.00 0.00 0.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.32 1.58 1.84	1.32 1.58 1.84	0.07 0.08 0.09
Side-By-Side Mouting Bracket	C	From Leg	4.00 0.00 0.00	0.0000	187.00	No Ice 1/2" Ice 1" Ice	1.32 1.58 1.84	1.32 1.58 1.84	0.07 0.08 0.09
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ASP-601	B	From Leg	1.00 0.00 6.00	0.0000	182.00	No Ice 1/2" Ice 1" Ice	2.34 4.21 6.08	2.34 4.21 6.08	0.03 0.04 0.04
6' x 2" Mount Pipe	B	From Leg	1.00 0.00 6.00	0.0000	182.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
Side Arm Mount [SO 104-3]	C	None		0.0000	182.00	No Ice 1/2" Ice 1" Ice	2.62 3.30 3.98	2.62 3.30 3.98	0.29 0.41 0.53
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EPBQ-654L8H6-L2	A	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	11.13 11.82 12.52	3.34 3.92 4.51	0.08 0.16 0.23
EPBQ-654L8H6-L2	B	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice	11.13 11.82 12.52	3.34 3.92 4.51	0.08 0.16 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			
EPBQ-654L8H6-L2	C	From Leg	4.00	0.0000	175.00	No Ice	11.13	3.34	0.08
			0.00			1/2" Ice	11.82	3.92	0.16
			2.00			1" Ice	12.52	4.51	0.23
OPA-65R-LCUU-H6	A	From Leg	4.00	0.0000	175.00	No Ice	9.20	4.63	0.08
			0.00			1/2" Ice	9.97	5.34	0.14
			2.00			1" Ice	10.76	6.07	0.20
OPA-65R-LCUU-H6	B	From Leg	4.00	0.0000	175.00	No Ice	9.20	4.63	0.08
			0.00			1/2" Ice	9.97	5.34	0.14
			2.00			1" Ice	10.76	6.07	0.20
OPA-65R-LCUU-H6	C	From Leg	4.00	0.0000	175.00	No Ice	9.20	4.63	0.08
			0.00			1/2" Ice	9.97	5.34	0.14
			2.00			1" Ice	10.76	6.07	0.20
RRUS 4478 B14	A	From Leg	4.00	0.0000	175.00	No Ice	1.84	1.06	0.06
			0.00			1/2" Ice	2.01	1.20	0.08
			2.00			1" Ice	2.19	1.34	0.09
RRUS 4478 B14	B	From Leg	4.00	0.0000	175.00	No Ice	1.84	1.06	0.06
			0.00			1/2" Ice	2.01	1.20	0.08
			2.00			1" Ice	2.19	1.34	0.09
RRUS 4478 B14	C	From Leg	4.00	0.0000	175.00	No Ice	1.84	1.06	0.06
			0.00			1/2" Ice	2.01	1.20	0.08
			2.00			1" Ice	2.19	1.34	0.09
RRUS 32 B66	A	From Leg	4.00	0.0000	175.00	No Ice	2.74	1.67	0.05
			0.00			1/2" Ice	2.96	1.86	0.07
			2.00			1" Ice	3.19	2.05	0.10
RRUS 32 B66	B	From Leg	4.00	0.0000	175.00	No Ice	2.74	1.67	0.05
			0.00			1/2" Ice	2.96	1.86	0.07
			2.00			1" Ice	3.19	2.05	0.10
RRUS 32 B66	C	From Leg	4.00	0.0000	175.00	No Ice	2.74	1.67	0.05
			0.00			1/2" Ice	2.96	1.86	0.07
			2.00			1" Ice	3.19	2.05	0.10
RRUS 32 B2	A	From Leg	4.00	0.0000	175.00	No Ice	2.73	1.67	0.05
			0.00			1/2" Ice	2.95	1.86	0.07
			2.00			1" Ice	3.18	2.05	0.10
RRUS 32 B2	B	From Leg	4.00	0.0000	175.00	No Ice	2.73	1.67	0.05
			0.00			1/2" Ice	2.95	1.86	0.07
			2.00			1" Ice	3.18	2.05	0.10
RRUS 32 B2	C	From Leg	4.00	0.0000	175.00	No Ice	2.73	1.67	0.05
			0.00			1/2" Ice	2.95	1.86	0.07
			2.00			1" Ice	3.18	2.05	0.10
DC6-48-60-18-8F	A	From Leg	4.00	0.0000	175.00	No Ice	0.92	0.92	0.02
			0.00			1/2" Ice	1.46	1.46	0.04
			2.00			1" Ice	1.64	1.64	0.06
DC6-48-60-18-8F	B	From Leg	4.00	0.0000	175.00	No Ice	0.92	0.92	0.02
			0.00			1/2" Ice	1.46	1.46	0.04
			2.00			1" Ice	1.64	1.64	0.06
DC6-48-60-18-8F	C	From Leg	4.00	0.0000	175.00	No Ice	0.92	0.92	0.02
			0.00			1/2" Ice	1.46	1.46	0.04
			2.00			1" Ice	1.64	1.64	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
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OPA65R-BU6D	A	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	12.22 12.98 13.75	4.54 5.19 5.86	0.06 0.14 0.22
OPA65R-BU6D	B	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	12.22 12.98 13.75	4.54 5.19 5.86	0.06 0.14 0.22
OPA65R-BU6D	C	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	12.22 12.98 13.75	4.54 5.19 5.86	0.06 0.14 0.22
RRUS 32 B30	A	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	B	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	C	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
2012 B29	A	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.86 2.03 2.20	0.70 0.81 0.94	0.04 0.06 0.07
2012 B29	B	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.86 2.03 2.20	0.70 0.81 0.94	0.04 0.06 0.07
2012 B29	C	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.86 2.03 2.20	0.70 0.81 0.94	0.04 0.06 0.07
RRUS 4449 B5/B12	A	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.07 0.09 0.11
RRUS 4449 B5/B12	B	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.07 0.09 0.11
RRUS 4449 B5/B12	C	From Leg	4.00 0.00 2.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.07 0.09 0.11
(3) 10' Pipe Mount [#P30120]	A	From Leg	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	3.00 4.03 5.03	3.00 4.03 5.03	0.08 0.10 0.13
(3) 10' Pipe Mount [#P30120]	B	From Leg	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	3.00 4.03 5.03	3.00 4.03 5.03	0.08 0.10 0.13
(3) 10' Pipe Mount [#P30120]	C	From Leg	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	3.00 4.03 5.03	3.00 4.03 5.03	0.08 0.10 0.13
(2) 7' Pipe Mount [#P2.0 STD]	A	From Leg	2.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.66 2.39 2.83	1.66 2.39 2.83	0.03 0.04 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
(2) 7' Pipe Mount [#P2.0 STD]	B	From Leg	2.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.66 2.39 2.83	1.66 2.39 2.83	0.03 0.04 0.06
(2) 7' Pipe Mount [#P2.0 STD]	C	From Leg	2.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	1.66 2.39 2.83	1.66 2.39 2.83	0.03 0.04 0.06
13 ft Platform Mount [#T1542KT12XS-M-H35]	C	None		0.0000	175.00	No Ice 1/2" Ice 1" Ice	29.12 34.31 39.45	29.12 34.31 39.50	2.02 2.69 3.35
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8' Ladder	A	From Leg	2.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	1.53 4.36 7.19	5.33 8.08 10.83	0.10 0.11 0.13
Miscellaneous [NA 507-1]	C	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	4.56 6.39 8.18	4.56 6.39 8.18	0.25 0.31 0.40
Platform Mount [LP 712-1]	C	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	24.56 27.92 31.27	24.56 27.92 31.27	1.34 1.91 2.55
***									
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	6.29 6.86 7.45	2.76 3.27 3.79	0.06 0.11 0.16
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	6.29 6.86 7.45	2.76 3.27 3.79	0.06 0.11 0.16
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	6.29 6.86 7.45	2.76 3.27 3.79	0.06 0.11 0.16
APXVAALL24_43-U-NA20_TMO	A	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
APXVAALL24_43-U-NA20_TMO	B	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
APXVAALL24_43-U-NA20_TMO	C	From Leg	4.00 0.00 0.00	0.0000	165.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00	0.0000	165.00	No Ice 1/2"	2.14 2.32	1.69 1.85	0.11 0.13

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			Ice	2.51	2.02	0.16
						1" Ice			
RADIO 4460 B2/B25	B	From Leg	4.00	0.0000	165.00	No Ice	2.14	1.69	0.11
B66_TMO			0.00			1/2"	2.32	1.85	0.13
			0.00			Ice	2.51	2.02	0.16
						1" Ice			
RADIO 4460 B2/B25	C	From Leg	4.00	0.0000	165.00	No Ice	2.14	1.69	0.11
B66_TMO			0.00			1/2"	2.32	1.85	0.13
			0.00			Ice	2.51	2.02	0.16
						1" Ice			
RADIO 4480 B71_TMO	A	From Leg	4.00	0.0000	165.00	No Ice	2.85	1.38	0.09
			0.00			1/2"	3.06	1.54	0.11
			0.00			Ice	3.28	1.71	0.14
						1" Ice			
RADIO 4480 B71_TMO	B	From Leg	4.00	0.0000	165.00	No Ice	2.85	1.38	0.09
			0.00			1/2"	3.06	1.54	0.11
			0.00			Ice	3.28	1.71	0.14
						1" Ice			
RADIO 4480 B71_TMO	C	From Leg	4.00	0.0000	165.00	No Ice	2.85	1.38	0.09
			0.00			1/2"	3.06	1.54	0.11
			0.00			Ice	3.28	1.71	0.14
						1" Ice			
8' Mount Pipe [#P2.0 STD]	A	From Leg	4.00	0.0000	165.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
8' Mount Pipe [#P2.0 STD]	B	From Leg	4.00	0.0000	165.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
8' Mount Pipe [#P2.0 STD]	C	From Leg	4.00	0.0000	165.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
******									
LNX-6515DS-A1M w/	A	From Leg	4.00	0.0000	145.00	No Ice	5.31	4.27	0.08
Mount Pipe			0.00			1/2"	5.80	4.75	0.17
			1.00			Ice	6.30	5.24	0.26
						1" Ice			
LNX-6515DS-A1M w/	B	From Leg	4.00	0.0000	145.00	No Ice	5.31	4.27	0.08
Mount Pipe			0.00			1/2"	5.80	4.75	0.17
			1.00			Ice	6.30	5.24	0.26
						1" Ice			
LNX-6515DS-A1M w/	C	From Leg	4.00	0.0000	145.00	No Ice	5.31	4.27	0.08
Mount Pipe			0.00			1/2"	5.80	4.75	0.17
			1.00			Ice	6.30	5.24	0.26
						1" Ice			
ERICSSON AIR 21 B4A	A	From Leg	4.00	0.0000	145.00	No Ice	3.14	2.59	0.11
B2P w/ Mount Pipe			0.00			1/2"	3.45	2.88	0.16
			3.00			Ice	3.77	3.19	0.22
						1" Ice			
ERICSSON AIR 21 B4A	B	From Leg	4.00	0.0000	145.00	No Ice	3.14	2.59	0.11
B2P w/ Mount Pipe			0.00			1/2"	3.45	2.88	0.16
			3.00			Ice	3.77	3.19	0.22
						1" Ice			
ERICSSON AIR 21 B4A	C	From Leg	4.00	0.0000	145.00	No Ice	3.14	2.59	0.11
B2P w/ Mount Pipe			0.00			1/2"	3.45	2.88	0.16
			3.00			Ice	3.77	3.19	0.22
						1" Ice			
ERICSSON AIR 21 B2A	A	From Leg	4.00	0.0000	145.00	No Ice	3.14	2.59	0.11
B4P w/ Mount Pipe			0.00			1/2"	3.45	2.88	0.16
			3.00			Ice	3.77	3.19	0.23
						1" Ice			
ERICSSON AIR 21 B2A	B	From Leg	4.00	0.0000	145.00	No Ice	3.14	2.59	0.11
B4P w/ Mount Pipe			0.00			1/2"	3.45	2.88	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
			3.00			Ice 1" Ice	3.77	3.19	0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 3.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	3.14 3.45 3.77	2.59 2.88 3.19	0.11 0.16 0.23
RRUS 11 B12	A	From Leg	4.00 0.00 3.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B12	B	From Leg	4.00 0.00 3.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B12	C	From Leg	4.00 0.00 3.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
KRY 112 144/1	A	From Leg	4.00 0.00 3.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	0.35 0.43 0.51	0.17 0.23 0.30	0.01 0.01 0.02
KRY 112 144/1	B	From Leg	4.00 0.00 3.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	0.35 0.43 0.51	0.17 0.23 0.30	0.01 0.01 0.02
KRY 112 144/1	C	From Leg	4.00 0.00 3.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	0.35 0.43 0.51	0.17 0.23 0.30	0.01 0.01 0.02
8' Ladder	A	From Leg	2.00 0.00 -4.00	0.0000	145.00	No Ice 1/2" Ice 1" Ice	1.53 4.36 7.19	5.33 8.08 10.83	0.10 0.11 0.13
Platform Mount [LP 712-1]	C	None		0.0000	145.00	No Ice 1/2" Ice 1" Ice	24.56 27.92 31.27	24.56 27.92 31.27	1.34 1.91 2.55
******									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
TA08025-B604	A	From Leg	4.00 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	B	From Leg	4.00 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	C	From Leg	4.00 0.00 0.00	0.0000	135.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B605	A	From Leg	4.00 0.00	0.0000	135.00	No Ice 1/2"	1.96 2.14	1.13 1.27	0.08 0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	2.32	1.41	0.11
						1" Ice			
TA08025-B605	B	From Leg	4.00	0.0000	135.00	No Ice	1.96	1.13	0.08
			0.00			1/2"	2.14	1.27	0.09
			0.00			Ice	2.32	1.41	0.11
						1" Ice			
TA08025-B605	C	From Leg	4.00	0.0000	135.00	No Ice	1.96	1.13	0.08
			0.00			1/2"	2.14	1.27	0.09
			0.00			Ice	2.32	1.41	0.11
						1" Ice			
RDIDC-9181-PF-48	B	From Leg	4.00	0.0000	135.00	No Ice	2.01	1.17	0.02
			0.00			1/2"	2.19	1.31	0.04
			0.00			Ice	2.37	1.46	0.06
						1" Ice			
(2) 8' x 2" Mount Pipe	A	From Leg	4.00	0.0000	135.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
(2) 8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	135.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
(2) 8' x 2" Mount Pipe	C	From Leg	4.00	0.0000	135.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
Commscope MC-PK8-DSH	C	None		0.0000	135.00	No Ice	34.24	34.24	1.75
						1/2"	62.95	62.95	2.10
						Ice	91.66	91.66	2.45
						1" Ice			
******									
GPS_A	C	From Face	3.00	0.0000	110.00	No Ice	0.26	0.26	0.00
			0.00			1/2"	0.32	0.32	0.00
			1.00			Ice	0.39	0.39	0.01
						1" Ice			
2.4" Dia x 18" Pipe	C	From Face	3.00	0.0000	110.00	No Ice	0.24	0.24	0.01
			0.00			1/2"	0.34	0.34	0.01
			0.00			Ice	0.46	0.46	0.01
						1" Ice			
Side Arm Mount [SO 701-1]	C	From Face	1.50	0.0000	110.00	No Ice	0.85	1.67	0.07
			0.00			1/2"	1.14	2.34	0.08
			0.00			Ice	1.43	3.01	0.09
						1" Ice			
******									
GPS_A	C	From Leg	3.00	0.0000	108.00	No Ice	0.26	0.26	0.00
			0.00			1/2"	0.32	0.32	0.00
			1.00			Ice	0.39	0.39	0.01
						1" Ice			
2.4" Dia x 18" Pipe	C	From Leg	3.00	0.0000	108.00	No Ice	0.24	0.24	0.01
			0.00			1/2"	0.34	0.34	0.01
			0.00			Ice	0.46	0.46	0.01
						1" Ice			
Side Arm Mount [SO 701-1]	C	From Leg	1.50	0.0000	108.00	No Ice	0.85	1.67	0.07
			0.00			1/2"	1.14	2.34	0.08
			0.00			Ice	1.43	3.01	0.09
						1" Ice			
******									
GPS_A	C	From Face	3.00	0.0000	52.00	No Ice	0.26	0.26	0.00
			0.00			1/2"	0.32	0.32	0.00
			1.00			Ice	0.39	0.39	0.01
						1" Ice			
2.4" Dia x 18" Pipe	C	From Face	3.00	0.0000	52.00	No Ice	0.24	0.24	0.01
			0.00			1/2"	0.34	0.34	0.01
			0.00			Ice	0.46	0.46	0.01
						1" 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
Side Arm Mount [SO 701-1] ******	C	From Face	1.50 0.00 0.00	0.0000	52.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09

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	185 - 149.46	Pole	Max Tension	48	0.00	-0.00	-0.00
			Max. Compression	26	-33.66	0.81	0.12
			Max. Mx	20	-16.93	496.88	-0.57
			Max. My	2	-17.04	-0.32	495.97
			Max. Vy	8	23.32	-495.81	1.10
			Max. Vx	14	23.04	1.35	-495.25
			Max. Torque	20			-1.44
L2	149.46 - 114.083	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.33	-0.79	-1.23
			Max. Mx	8	-30.43	-1515.62	2.60
			Max. My	2	-30.64	-2.54	1488.33
			Max. Vy	8	34.45	-1515.62	2.60
			Max. Vx	14	33.14	2.16	-1487.60
			Max. Torque	20			-2.28
L3	114.083 - 76.666	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.52	-2.22	-3.88
			Max. Mx	8	-42.10	-2873.16	2.78
			Max. My	14	-42.31	2.46	-2780.55
			Max. Vy	8	39.52	-2873.16	2.78
			Max. Vx	14	37.31	2.46	-2780.55
			Max. Torque	20			-2.16
L4	76.666 - 38.253	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.44	-4.19	-6.38
			Max. Mx	8	-57.51	-4449.20	2.79
			Max. My	14	-57.66	2.17	-4259.91
			Max. Vy	8	44.11	-4449.20	2.79
			Max. Vx	14	41.21	2.17	-4259.91
			Max. Torque	20			-1.66
L5	38.253 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-115.87	-6.32	-8.54
			Max. Mx	8	-80.35	-6561.80	3.16
			Max. My	14	-80.36	1.89	-6235.72
			Max. Vy	8	47.69	-6561.80	3.16
			Max. Vx	14	44.75	1.89	-6235.72
			Max. Torque	18			-1.35

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	30	115.87	-12.95	-0.00
	Max. H_x	20	80.39	47.64	-0.02
	Max. H_z	3	60.29	-0.02	44.70
	Max. M_x	2	6232.30	-0.02	44.70
	Max. M_z	8	6561.80	-47.64	0.02
	Max. Torsion	6	1.19	-38.88	22.36
	Min. Vert	5	60.29	-22.46	38.72
	Min. H_x	8	80.39	-47.64	0.02
	Min. H_z	15	60.29	0.02	-44.70
	Min. M_x	14	-6235.72	0.02	-44.70
	Min. M_z	20	-6555.81	47.64	-0.02
	Min. Torsion	18	-1.35	38.88	-22.36

Tower Mast Reaction Summary

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 Only	66.99	0.00	0.00	1.37	-2.40	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	80.39	0.02	-44.70	-6232.30	-7.91	-0.43
0.9 Dead+1.0 Wind 0 deg - No Ice	60.29	0.02	-44.70	-6138.03	-7.03	-0.41
1.2 Dead+1.0 Wind 30 deg - No Ice	80.39	22.46	-38.72	-5399.52	-3133.63	-0.94
0.9 Dead+1.0 Wind 30 deg - No Ice	60.29	22.46	-38.72	-5317.92	-3085.35	-0.91
1.2 Dead+1.0 Wind 60 deg - No Ice	80.39	38.88	-22.36	-3119.49	-5420.49	-1.19
0.9 Dead+1.0 Wind 60 deg - No Ice	60.29	38.88	-22.36	-3072.52	-5337.52	-1.18
1.2 Dead+1.0 Wind 90 deg - No Ice	80.39	47.64	-0.02	-3.16	-6561.80	-1.18
0.9 Dead+1.0 Wind 90 deg - No Ice	60.29	47.64	-0.02	-3.51	-6462.52	-1.18
1.2 Dead+1.0 Wind 120 deg - No Ice	80.39	38.92	22.37	3119.27	-5423.87	-0.91
0.9 Dead+1.0 Wind 120 deg - No Ice	60.29	38.92	22.37	3071.50	-5340.90	-0.92
1.2 Dead+1.0 Wind 150 deg - No Ice	80.39	22.43	38.70	5398.09	-3125.15	-0.39
0.9 Dead+1.0 Wind 150 deg - No Ice	60.29	22.43	38.70	5315.70	-3077.03	-0.41
1.2 Dead+1.0 Wind 180 deg - No Ice	80.39	-0.02	44.70	6235.72	1.89	0.29
0.9 Dead+1.0 Wind 180 deg - No Ice	60.29	-0.02	44.70	6140.57	2.57	0.27
1.2 Dead+1.0 Wind 210 deg - No Ice	80.39	-22.46	38.72	5402.96	3127.60	0.95
0.9 Dead+1.0 Wind 210 deg - No Ice	60.29	-22.46	38.72	5320.47	3080.88	0.93
1.2 Dead+1.0 Wind 240 deg - No Ice	80.39	-38.88	22.36	3122.97	5414.47	1.35
0.9 Dead+1.0 Wind 240 deg - No Ice	60.29	-38.88	22.36	3075.09	5333.06	1.33
1.2 Dead+1.0 Wind 270 deg - No Ice	80.39	-47.64	0.02	6.64	6555.81	1.33
0.9 Dead+1.0 Wind 270 deg - No Ice	60.29	-47.64	0.02	6.09	6458.08	1.32
1.2 Dead+1.0 Wind 300 deg - No Ice	80.39	-38.92	-22.37	-3115.81	5417.90	0.90
0.9 Dead+1.0 Wind 300 deg - No Ice	60.29	-38.92	-22.37	-3068.94	5336.47	0.91
1.2 Dead+1.0 Wind 330 deg - No Ice	80.39	-22.43	-38.70	-5394.67	3119.17	0.24
0.9 Dead+1.0 Wind 330 deg - No Ice	60.29	-22.43	-38.70	-5313.16	3072.60	0.25
1.2 Dead+1.0 Ice+1.0 Temp	115.87	0.00	0.00	8.54	-6.32	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	115.87	-0.00	-12.91	-1802.30	-7.00	0.06
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	115.87	6.47	-11.18	-1559.88	-914.28	-0.13
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	115.87	11.21	-6.45	-897.11	-1578.33	-0.28
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	115.87	12.95	0.00	8.41	-1821.22	-0.36
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	115.87	11.21	6.46	914.05	-1577.87	-0.35
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	115.87	6.47	11.18	1577.15	-913.48	-0.24
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	115.87	0.00	12.91	1820.02	-6.08	-0.07
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	115.87	-6.47	11.18	1577.60	901.19	0.13

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
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	115.87	-11.21	6.45	914.84	1565.25	0.29
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	115.87	-12.95	-0.00	9.33	1808.14	0.37
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	115.87	-11.21	-6.46	-896.32	1564.80	0.35
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	115.87	-6.47	-11.18	-1559.42	900.41	0.23
Dead+Wind 0 deg - Service	66.99	0.00	-11.27	-1556.75	-3.71	-0.09
Dead+Wind 30 deg - Service	66.99	5.66	-9.76	-1348.62	-784.99	-0.24
Dead+Wind 60 deg - Service	66.99	9.80	-5.64	-778.73	-1356.60	-0.32
Dead+Wind 90 deg - Service	66.99	12.01	-0.00	0.20	-1642.16	-0.32
Dead+Wind 120 deg - Service	66.99	9.81	5.64	780.65	-1357.45	-0.24
Dead+Wind 150 deg - Service	66.99	5.65	9.75	1350.23	-782.87	-0.09
Dead+Wind 180 deg - Service	66.99	-0.00	11.27	1559.58	-1.27	0.08
Dead+Wind 210 deg - Service	66.99	-5.66	9.76	1351.46	780.01	0.24
Dead+Wind 240 deg - Service	66.99	-9.80	5.64	781.57	1351.62	0.33
Dead+Wind 270 deg - Service	66.99	-12.01	0.00	2.64	1637.19	0.33
Dead+Wind 300 deg - Service	66.99	-9.81	-5.64	-777.81	1352.47	0.23
Dead+Wind 330 deg - Service	66.99	-5.65	-9.75	-1347.40	777.90	0.08

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-66.99	0.00	0.00	66.99	0.00	0.000%
2	0.02	-80.39	-44.70	-0.02	80.39	44.70	0.000%
3	0.02	-60.29	-44.70	-0.02	60.29	44.70	0.000%
4	22.46	-80.39	-38.72	-22.46	80.39	38.72	0.000%
5	22.46	-60.29	-38.72	-22.46	60.29	38.72	0.000%
6	38.88	-80.39	-22.36	-38.88	80.39	22.36	0.000%
7	38.88	-60.29	-22.36	-38.88	60.29	22.36	0.000%
8	47.64	-80.39	-0.02	-47.64	80.39	0.02	0.000%
9	47.64	-60.29	-0.02	-47.64	60.29	0.02	0.000%
10	38.92	-80.39	22.37	-38.92	80.39	-22.37	0.000%
11	38.92	-60.29	22.37	-38.92	60.29	-22.37	0.000%
12	22.43	-80.39	38.70	-22.43	80.39	-38.70	0.000%
13	22.43	-60.29	38.70	-22.43	60.29	-38.70	0.000%
14	-0.02	-80.39	44.70	0.02	80.39	-44.70	0.000%
15	-0.02	-60.29	44.70	0.02	60.29	-44.70	0.000%
16	-22.46	-80.39	38.72	22.46	80.39	-38.72	0.000%
17	-22.46	-60.29	38.72	22.46	60.29	-38.72	0.000%
18	-38.88	-80.39	22.36	38.88	80.39	-22.36	0.000%
19	-38.88	-60.29	22.36	38.88	60.29	-22.36	0.000%
20	-47.64	-80.39	0.02	47.64	80.39	-0.02	0.000%
21	-47.64	-60.29	0.02	47.64	60.29	-0.02	0.000%
22	-38.92	-80.39	-22.37	38.92	80.39	22.37	0.000%
23	-38.92	-60.29	-22.37	38.92	60.29	22.37	0.000%
24	-22.43	-80.39	-38.70	22.43	80.39	38.70	0.000%
25	-22.43	-60.29	-38.70	22.43	60.29	38.70	0.000%
26	0.00	-115.87	0.00	-0.00	115.87	-0.00	0.000%
27	-0.00	-115.87	-12.91	0.00	115.87	12.91	0.000%
28	6.47	-115.87	-11.18	-6.47	115.87	11.18	0.000%
29	11.21	-115.87	-6.45	-11.21	115.87	6.45	0.000%
30	12.95	-115.87	0.00	-12.95	115.87	-0.00	0.000%
31	11.21	-115.87	6.46	-11.21	115.87	-6.46	0.000%
32	6.47	-115.87	11.18	-6.47	115.87	-11.18	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
33	0.00	-115.87	12.91	-0.00	115.87	-12.91	0.000%
34	-6.47	-115.87	11.18	6.47	115.87	-11.18	0.000%
35	-11.21	-115.87	6.45	11.21	115.87	-6.45	0.000%
36	-12.95	-115.87	-0.00	12.95	115.87	0.00	0.000%
37	-11.21	-115.87	-6.46	11.21	115.87	6.46	0.000%
38	-6.47	-115.87	-11.18	6.47	115.87	11.18	0.000%
39	0.00	-66.99	-11.27	-0.00	66.99	11.27	0.000%
40	5.66	-66.99	-9.76	-5.66	66.99	9.76	0.000%
41	9.80	-66.99	-5.64	-9.80	66.99	5.64	0.000%
42	12.01	-66.99	-0.00	-12.01	66.99	0.00	0.000%
43	9.81	-66.99	5.64	-9.81	66.99	-5.64	0.000%
44	5.65	-66.99	9.75	-5.65	66.99	-9.75	0.000%
45	-0.00	-66.99	11.27	0.00	66.99	-11.27	0.000%
46	-5.66	-66.99	9.76	5.66	66.99	-9.76	0.000%
47	-9.80	-66.99	5.64	9.80	66.99	-5.64	0.000%
48	-12.01	-66.99	0.00	12.01	66.99	-0.00	0.000%
49	-9.81	-66.99	-5.64	9.81	66.99	5.64	0.000%
50	-5.65	-66.99	-9.75	5.65	66.99	9.75	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	0.00006374
3	Yes	4	0.00000001	0.00064063
4	Yes	6	0.00000001	0.00050842
5	Yes	6	0.00000001	0.00016394
6	Yes	6	0.00000001	0.00051869
7	Yes	6	0.00000001	0.00016771
8	Yes	5	0.00000001	0.00019929
9	Yes	5	0.00000001	0.00009285
10	Yes	6	0.00000001	0.00050615
11	Yes	6	0.00000001	0.00016316
12	Yes	6	0.00000001	0.00051390
13	Yes	6	0.00000001	0.00016621
14	Yes	5	0.00000001	0.00007145
15	Yes	4	0.00000001	0.00070563
16	Yes	6	0.00000001	0.00051724
17	Yes	6	0.00000001	0.00016721
18	Yes	6	0.00000001	0.00050531
19	Yes	6	0.00000001	0.00016281
20	Yes	5	0.00000001	0.00017823
21	Yes	5	0.00000001	0.00008319
22	Yes	6	0.00000001	0.00051659
23	Yes	6	0.00000001	0.00016715
24	Yes	6	0.00000001	0.00050819
25	Yes	6	0.00000001	0.00016416
26	Yes	4	0.00000001	0.00004738
27	Yes	6	0.00000001	0.00015059
28	Yes	6	0.00000001	0.00023092
29	Yes	6	0.00000001	0.00023212
30	Yes	6	0.00000001	0.00015187
31	Yes	6	0.00000001	0.00023211
32	Yes	6	0.00000001	0.00023451
33	Yes	6	0.00000001	0.00015193
34	Yes	6	0.00000001	0.00023248
35	Yes	6	0.00000001	0.00023139
36	Yes	6	0.00000001	0.00015107
37	Yes	6	0.00000001	0.00023064
38	Yes	6	0.00000001	0.00022817
39	Yes	4	0.00000001	0.00022838
40	Yes	5	0.00000001	0.00013667
41	Yes	5	0.00000001	0.00014512
42	Yes	4	0.00000001	0.00030471
43	Yes	5	0.00000001	0.00013556

44	Yes	5	0.00000001	0.00014127
45	Yes	4	0.00000001	0.00022915
46	Yes	5	0.00000001	0.00014311
47	Yes	5	0.00000001	0.00013475
48	Yes	4	0.00000001	0.00030059
49	Yes	5	0.00000001	0.00014330
50	Yes	5	0.00000001	0.00013655

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	185 - 149.46	36.055	42	1.6825	0.0024
L2	154.543 - 114.083	25.571	42	1.5619	0.0017
L3	119.916 - 76.666	15.263	42	1.2344	0.0008
L4	83.333 - 38.253	7.233	42	0.8256	0.0004
L5	45.753 - 0	2.179	42	0.4290	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
187.00	XXDWMM-12.5-65-8T-CBRS	42	36.055	1.6825	0.0024	47687
185.00	Lightning Rod 5/8'' x 10'	42	36.055	1.6825	0.0024	47687
182.00	ASP-601	42	35.000	1.6741	0.0023	47687
175.00	EPBQ-654L8H6-L2	42	32.544	1.6538	0.0021	23843
165.00	8' Ladder	42	29.083	1.6175	0.0019	11921
145.00	LNX-6515DS-A1M w/ Mount Pipe	42	22.505	1.4897	0.0014	6819
135.00	MX08FRO665-21 w/ Mount Pipe	42	19.465	1.3960	0.0011	6006
110.00	GPS_A	42	12.784	1.1238	0.0006	5185
108.00	GPS_A	42	12.312	1.1014	0.0006	5207
52.00	GPS_A	42	2.778	0.4919	0.0002	4688

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	185 - 149.46	144.218	8	6.7430	0.0101
L2	154.543 - 114.083	102.288	8	6.2578	0.0068
L3	119.916 - 76.666	61.060	8	4.9443	0.0032
L4	83.333 - 38.253	28.933	8	3.3048	0.0015
L5	45.753 - 0	8.712	8	1.7159	0.0005

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
187.00	XXDWMM-12.5-65-8T-CBRS	8	144.218	6.7430	0.0101	12221
185.00	Lightning Rod 5/8'' x 10'	8	144.218	6.7430	0.0101	12221
182.00	ASP-601	8	139.996	6.7099	0.0098	12221
175.00	EPBQ-654L8H6-L2	8	130.176	6.6283	0.0090	6109
165.00	8' Ladder	8	116.334	6.4817	0.0079	3052

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
145.00	LNX-6515DS-A1M w/ Mount Pipe	8	90.028	5.9679	0.0057	1740
135.00	MX08FRO665-21 w/ Mount Pipe	8	77.866	5.5921	0.0047	1526
110.00	GPS_A	8	51.142	4.5006	0.0025	1309
108.00	GPS_A	8	49.253	4.4106	0.0024	1314
52.00	GPS_A	8	11.109	1.9677	0.0007	1173

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	185 - 149.46 (1)	TP36.06x29x0.25	35.54	0.00	0.0	27.6140	-16.93	1615.42	0.010
L2	149.46 - 114.083 (2)	TP42.46x34.5503x0.3125	40.46	0.00	0.0	40.6740	-30.43	2379.43	0.013
L3	114.083 - 76.666 (3)	TP49.15x40.6947x0.375	43.25	0.00	0.0	56.5031	-42.10	3305.43	0.013
L4	76.666 - 38.253 (4)	TP55.9x47.0966x0.4375	45.08	0.00	0.0	74.9828	-57.51	4386.49	0.013
L5	38.253 - 0 (5)	TP62.5x53.5604x0.5	45.75	0.00	0.0	98.3940	-80.35	5756.05	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	185 - 149.46 (1)	TP36.06x29x0.25	496.88	1306.51	0.380	0.00	1306.51	0.000
L2	149.46 - 114.083 (2)	TP42.46x34.5503x0.3125	1515.62	2317.66	0.654	0.00	2317.66	0.000
L3	114.083 - 76.666 (3)	TP49.15x40.6947x0.375	2873.17	3773.73	0.761	0.00	3773.73	0.000
L4	76.666 - 38.253 (4)	TP55.9x47.0966x0.4375	4449.20	5744.41	0.775	0.00	5744.41	0.000
L5	38.253 - 0 (5)	TP62.5x53.5604x0.5	6561.80	8641.83	0.759	0.00	8641.83	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	185 - 149.46 (1)	TP36.06x29x0.25	23.32	484.63	0.048	1.44	1476.96	0.001
L2	149.46 - 114.083 (2)	TP42.46x34.5503x0.3125	34.45	713.83	0.048	2.01	2563.50	0.001
L3	114.083 - 76.666 (3)	TP49.15x40.6947x0.375	39.52	991.63	0.040	1.51	4122.52	0.000
L4	76.666 - 38.253 (4)	TP55.9x47.0966x0.4375	44.11	1315.95	0.034	1.18	6222.93	0.000
L5	38.253 - 0 (5)	TP62.5x53.5604x0.5	47.69	1726.81	0.028	1.18	9376.00	0.000

Pole Interaction Design Data

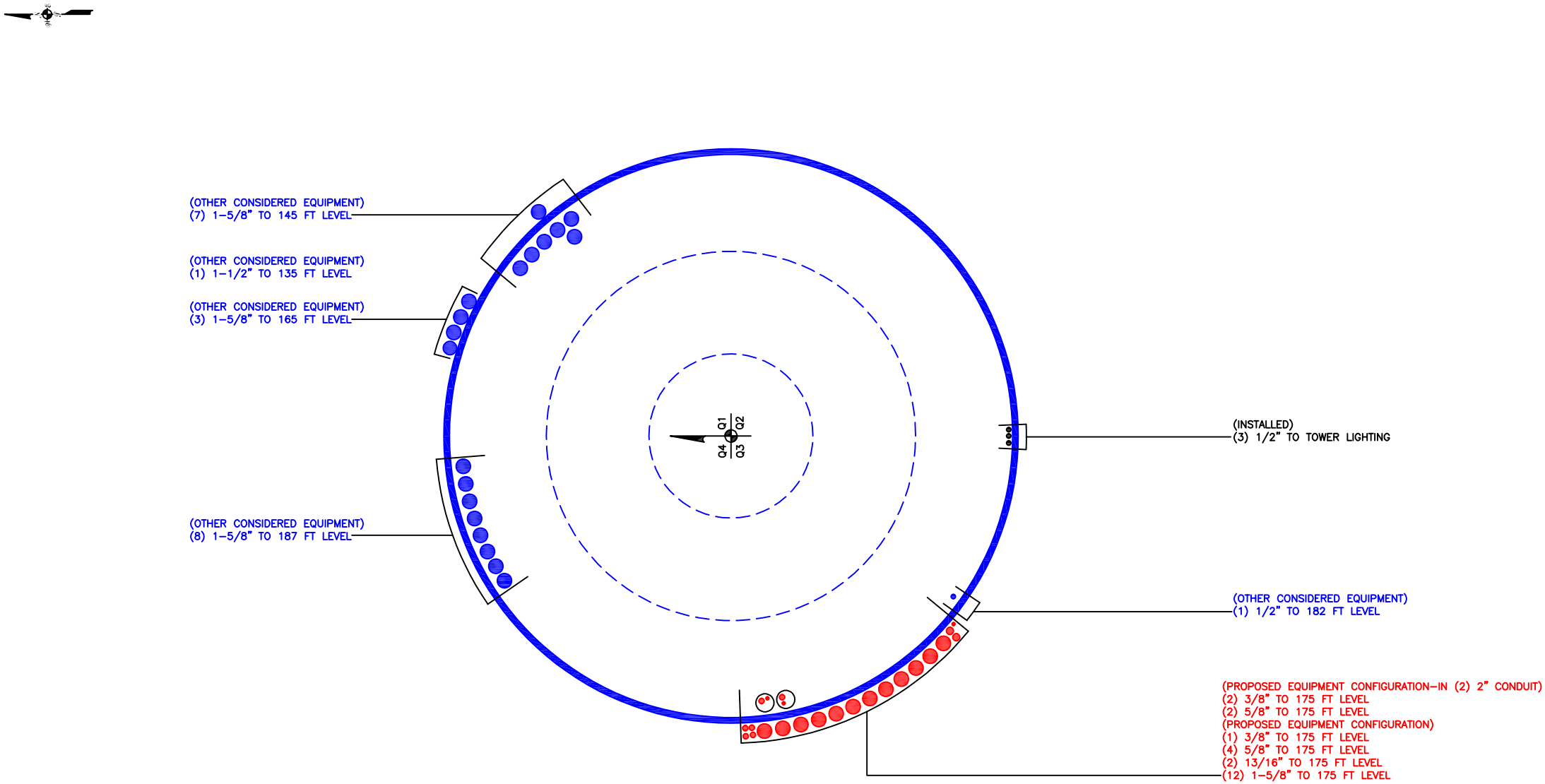
Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	185 - 149.46 (1)	0.010	0.380	0.000	0.048	0.001	0.393	1.050	4.8.2
L2	149.46 - 114.083 (2)	0.013	0.654	0.000	0.048	0.001	0.669	1.050	4.8.2
L3	114.083 - 76.666 (3)	0.013	0.761	0.000	0.040	0.000	0.776	1.050	4.8.2
L4	76.666 - 38.253 (4)	0.013	0.775	0.000	0.034	0.000	0.789	1.050	4.8.2
L5	38.253 - 0 (5)	0.014	0.759	0.000	0.028	0.000	0.774	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	185 - 149.46	Pole	TP36.06x29x0.25	1	-16.93	1696.19	37.4	Pass
L2	149.46 - 114.083	Pole	TP42.46x34.5503x0.3125	2	-30.43	2498.40	63.7	Pass
L3	114.083 - 76.666	Pole	TP49.15x40.6947x0.375	3	-42.10	3470.70	73.9	Pass
L4	76.666 - 38.253	Pole	TP55.9x47.0966x0.4375	4	-57.51	4605.81	75.1	Pass
L5	38.253 - 0	Pole	TP62.5x53.5604x0.5	5	-80.35	6043.85	73.7	Pass
							Summary	
						Pole (L4)	75.1	Pass
						RATING =	**75.1**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 806354 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

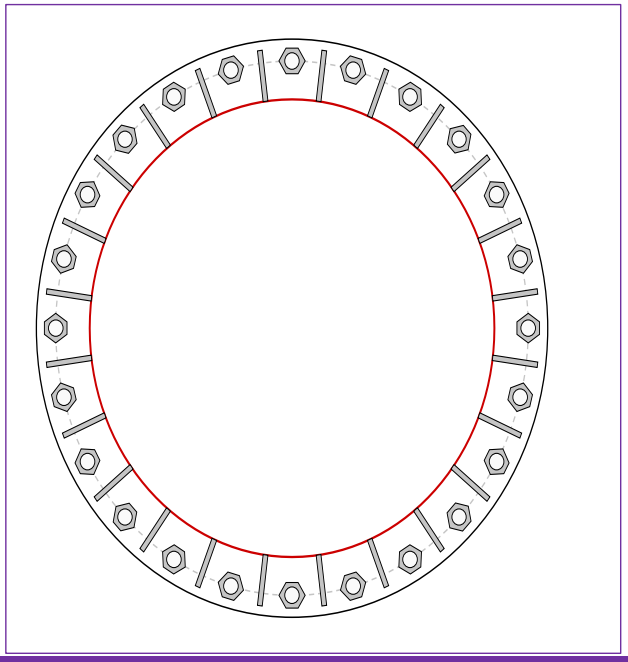
Monopole Base Plate Connection

Site Info	
BU #	806354
Site Name	BRG 123 943084
Order #	614847 Rev.0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	2.25

Applied Loads	
Moment (kip-ft)	6561.80
Axial Force (kips)	80.35
Shear Force (kips)	47.69

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(24) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 73" BC

Base Plate Data

79" OD x 2.5" Plate (A871 GR60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

(24) 15"H x 7"W x 0.75"T, Notch: 0.5"
plate: Fy= 50 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.5" fillet
vert. weld: 0.375" fillet

Pole Data

62.5" x 0.5" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

Pu_t = 176.36	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.99	ϕVn = 149.1	**68.9%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	22.06	(Roark's Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**38.9%**	**Pass**

Stiffener Summary

Horizontal Weld:	**80.2%**	**Pass**
Vertical Weld:	**55.4%**	**Pass**
Plate Flexure+Shear:	**27.8%**	**Pass**
Plate Tension+Shear:	**57.7%**	**Pass**
Plate Compression:	**74.9%**	**Pass**

Pole Summary

Punching Shear:	**13.9%**	**Pass**

Pier and Pad Foundation

BU # :	806354
Site Name:	BRG 123 943084
App. Number:	614847 Rev.0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	80.39	kips
Base Shear, Vu_comp:	48	kips
Moment, M_u:	6561.8	ft-kips
Tower Height, **H**:	185	ft
BP Dist. Above Fdn, bp_{dist}:	4.5	in

Pier Properties		
Pier Shape:	Square	
Pier Diameter, **dpier**:	8	ft
Ext. Above Grade, **E**:	1	ft
Pier Rebar Size, **Sc**:	9	
Pier Rebar Quantity, **mc**:	48	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	5	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	5.5	in

Pad Properties		
Depth, **D**:	6	ft
Pad Width, W_1:	28	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Top dir.2), Sp_{top2}:	9	
Pad Rebar Quantity (Top dir. 2), mp_{top2}:	20	
Pad Rebar Size (Bottom dir. 2), Sp_2:	9	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	45	
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:	120	pcf
Ultimate Net Bearing, Qnet:	6.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	34	degrees
SPT Blow Count, N_{blows}:	26	
Base Friction, μ:	0.6	
Neglected Depth, **N**:	4.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	10	ft

<--Toggle between Gross and Net

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	379.68	48.00	**12.0%**	**Pass**
Bearing Pressure (ksf)	5.04	3.55	**70.5%**	**Pass**
*Overturning (kip*ft)*	7595.74	6915.80	**91.0%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	8757.13	6753.80	**73.5%**	**Pass**
Pier Compression (kip)	40734.72	126.47	**0.3%**	**Pass**
*Pad Flexure (kip*ft)*	6100.57	3312.59	**51.7%**	**Pass**
Pad Shear - 1-way (kips)	997.97	454.16	**43.3%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	5333.66	4052.28	**72.4%**	**Pass**

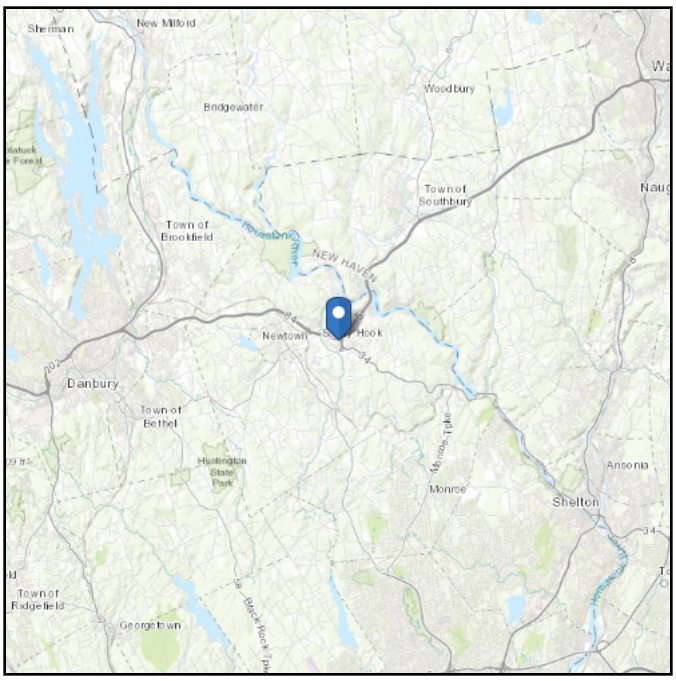
**Rating per TIA-222-H Section 15.5*

Structural Rating*:	**73.5%**
Soil Rating*:	**91.0%**

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.412647
Risk Category:	II	**Longitude:**	-73.270094
Soil Class:	D - Stiff Soil	**Elevation:**	349.26 ft (NAVD 88)



Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Wed Jan 04 2023

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 7-16 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 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Seismic

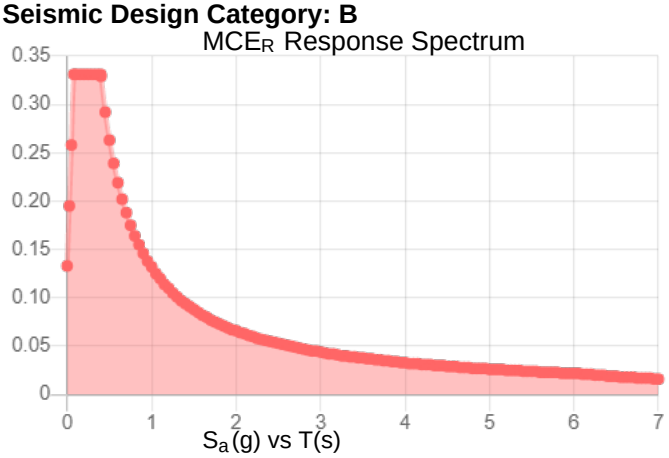
D - Stiff Soil

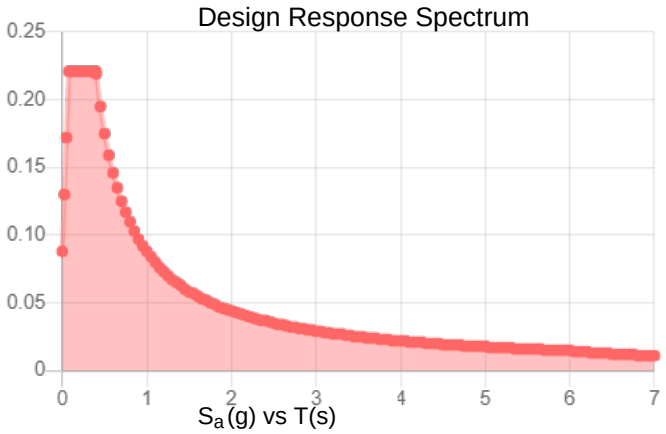
Site Soil Class:

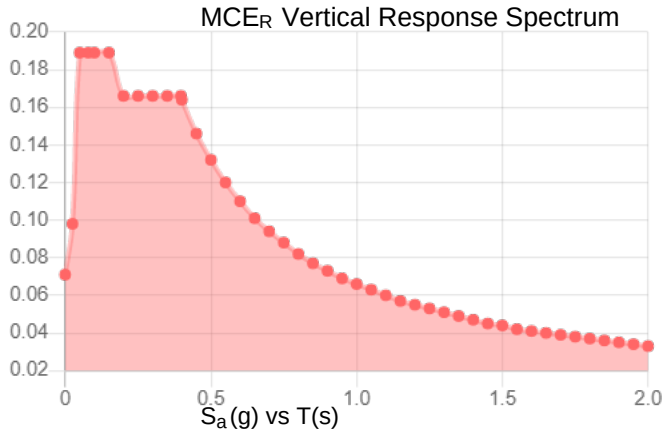
Results:

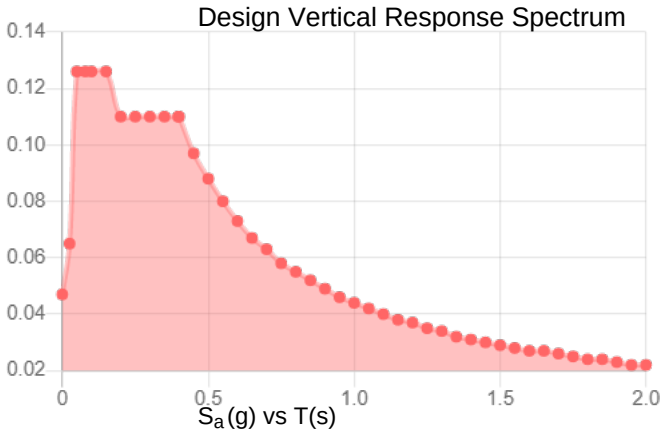
S_S :	0.207	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.117
F_v :	2.4	PGA_M :	0.183
S_{MS} :	0.331	F_{PGA} :	1.566
S_{M1} :	0.132	I_e :	1
S_{DS} :	0.221	C_v :	0.714

Seismic Design Category: B









Data Accessed: **Wed Jan 04 2023**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Wed Jan 04 2023

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 500-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.