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

December 27, 2021

Colin Robinson
Project Manager
Network Building + Consulting
100 Apollo Drive, Suite 303
Chelmsford, MA 01824
crobinson@nbcllc.com

RE: **EM-T-MOBILE-017-211116** – T-Mobile notice of intent to modify an existing telecommunications facility located at 371 Terryville Avenue, Bristol, Connecticut.

Dear Mr. Robinson:

The Connecticut Siting Council (Council) is in receipt of your correspondence of December 16, 2021 submitted in response to the Council's December 16, 2021 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

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

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/FOC/emr

Date: **September 09, 2021**

MORRISON HERSHFIELD

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

Subject:	**Structural Analysis Report**	
Carrier Designation:		
	Site Number:	CTHA714A
	Site Name:	CT54XC710
Crown Castle Designation:	**BU Number:**	842859
	Site Name:	Bristol Center
	JDE Job Number:	678522
	Work Order Number:	2015696
	Order Number:	579393 Rev. 0
Engineering Firm Designation:	**Morrison Hershfield Project Number:** CN8-652R1 / 2101398	
Site Data:	**371 Terryville Avenue, Bristol, Hartford County, CT 06010** **Latitude *41° 40' 47.71"*, Longitude *-72° 57' 45.18"*** **168.5 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- 99.4%**

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 116 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

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

Digitally signed by G. Lance Cooke
Date: 2021.09.09 07:29:16-07'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 168.5 ft monopole tower designed by Engineered Endeavors, Inc.

The tower has been modified multiple times in the past to accommodate additional loading. All the modifications have been considered in this analysis per their respective post modification inspection reports.

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)
158.0	158.0	3	rfs/celwave	APXVAALL24_43-U-NA20_TMO	3	1-5/8
		3	ericsson	AIR6449 B41_T-MOBILE		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
		12	-	8' Mount Pipe [#P2.0 SCH 40]		
		1	Site Pro 1	Sector Frame Attachment Assembly [#MSFAA]		
		3	Site Pro 1	12.5' HD V-Frame Assembly [#VFA12-HD]		
70.0	70.0	1	gps	GPS_A	1	1/2
		1	-	Side Arm Mount [SO 701-1]		

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)
168.0	169.0	3	ericcson	RRUS 32 B30	6 6 3 3 2	1-5/8 7/8 3/8 2C 1
		3	ericcson	RRUS 4415 B25		
		3	ericcson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 32 B2		
		3	ericsson	RRUS E2 B29		
		3	raycap	DC6-48-60-18-8F		
		1	raycap	DC6-48-60-18-8C		
	168.0	2	cci antennas	TPA-65R-LCUUUU-H8 w/ Mount Pipe		
		2	kathrein	80010966 w/ Mount Pipe		
		2	cci antennas	DMP65R-BU8D w/ Mount Pipe		
		1	cci antennas	DMP65R-BU6D w/ Mount Pipe		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
168.0	168.0	1	kathrein	80010798 w/ Mount Pipe	-	-
		1	kathrein	80010965 w/ Mount Pipe		
		1	-	Platform Mount [LP 304-1_KCKR-HR-1]		
	167.0	3	kathrein	800 10121 w/ Mount Pipe		
		6	powerwave technologies	LGP21401		
148.0	148.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	fujitsu	TA08025-B604		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		
138.0	140.0	3	antel	BXA-70063/4CF w/ Mount Pipe	7 1	1-5/8 1-1/4
		3	commscope	NHH-65B-R2B w/ Mount Pipe		
		3	commscope	NHHSS-65B-R2B w/ Mount Pipe		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	CBRS RT4401-48A		
		3	samsung telecommunications	RFV01U-D2A		
		3	samsung telecommunications	RFV01U-D1A		
		1	raycap	RVZDC-6627-PF-48		
	138.0	1	-	Platform Mount [LP 303-1]		
128.0	130.0	3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe	12 3	1-5/8 1-1/4
		3	rfs/celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		3	ericsson	RADIO 4449 B12/B71		
		3	ericsson	KRY 112 144/1		
	128.0	1	-	Platform Mount [LP 303-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	5452600	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	4529295	CCISITES
4-TOWER MANUFACTURER DRAWINGS	5135435	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5111173	CCISITES
4-POST-MODIFICATION INSPECTION	5839578	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4964264	CCISITES
4-POST-MODIFICATION INSPECTION	5595874	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5111173	CCISITES

Document	Reference	Source
4-POST-MODIFICATION INSPECTION	5114340	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5907572	CCISITES
4-POST-MODIFICATION INSPECTION	6121087	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	8800798	CCISITES
4-POST-MODIFICATION INSPECTION	9239992	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. 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	% Capacity	Pass / Fail
L1	168.5 - 163.5	Pole	TP19.834x19x0.1875	Pole	10.2%	Pass
L2	163.5 - 158.5	Pole	TP20.669x19.834x0.1875	Pole	19.6%	Pass
L3	158.5 - 153.5	Pole	TP21.503x20.669x0.1875	Pole	34.6%	Pass
L4	153.5 - 148.5	Pole	TP22.337x21.503x0.1875	Pole	47.9%	Pass
L5	148.5 - 143.5	Pole	TP23.171x22.337x0.1875	Pole	63.7%	Pass
L6	143.5 - 138.5	Pole	TP24.006x23.171x0.1875	Pole	77.9%	Pass
L7	138.5 - 134.33	Pole	TP25.313x24.006x0.1875	Pole	92.3%	Pass
L8	134.33 - 129.33	Pole	TP25.15x24.327x0.25	Pole	75.8%	Pass
L9	129.33 - 125.75	Pole	TP25.739x25.15x0.25	Pole	84.0%	Pass
L10	125.75 - 125.5	Pole	TP25.78x25.739x0.25	Pole	84.5%	Pass
L11	125.5 - 120.5	Pole	TP26.603x25.78x0.25	Pole	94.5%	Pass
L12	120.5 - 120.25	Pole + Reinf.	TP26.644x26.603x0.4813	Reinf. 10 Tension Rupture	87.5%	Pass
L13	120.25 - 115.25	Pole + Reinf.	TP27.467x26.644x0.475	Reinf. 10 Tension Rupture	96.7%	Pass
L14	115.25 - 113.83	Pole + Reinf.	TP27.7x27.467x0.4688	Reinf. 10 Tension Rupture	99.2%	Pass
L15	113.83 - 113.48	Pole + Reinf.	TP27.758x27.7x0.65	Reinf. 10 Tension Rupture	69.2%	Pass
L16	113.48 - 113.25	Pole + Reinf.	TP27.796x27.758x0.65	Reinf. 10 Tension Rupture	69.5%	Pass
L17	113.25 - 108.25	Pole + Reinf.	TP28.619x27.796x0.6375	Reinf. 10 Tension Rupture	75.8%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L18	108.25 - 103.25	Pole + Reinf.	TP29.442x28.619x0.625	Reinf. 10 Tension Rupture	81.9%	Pass
L19	103.25 - 98.25	Pole + Reinf.	TP30.266x29.442x0.6125	Reinf. 10 Tension Rupture	87.6%	Pass
L20	98.25 - 93.25	Pole + Reinf.	TP31.089x30.266x0.6	Reinf. 10 Tension Rupture	93.2%	Pass
L21	93.25 - 89.28	Pole + Reinf.	TP32.493x31.089x0.6	Reinf. 10 Tension Rupture	97.4%	Pass
L22	89.28 - 83.72	Pole + Reinf.	TP32.155x31.243x0.6625	Reinf. 2 Tension Rupture	93.3%	Pass
L23	83.72 - 82.92	Pole + Reinf.	TP32.286x32.155x0.6625	Reinf. 2 Tension Rupture	94.0%	Pass
L24	82.92 - 82.67	Pole + Reinf.	TP32.327x32.286x0.95	Reinf. 2 Tension Rupture	69.4%	Pass
L25	82.67 - 82.5	Pole + Reinf.	TP32.355x32.327x0.95	Reinf. 2 Tension Rupture	69.5%	Pass
L26	82.5 - 82.25	Pole + Reinf.	TP32.396x32.355x0.6875	Reinf. 2 Tension Rupture	92.2%	Pass
L27	82.25 - 77.25	Pole + Reinf.	TP33.217x32.396x0.675	Reinf. 2 Tension Rupture	96.2%	Pass
L28	77.25 - 73.42	Pole + Reinf.	TP33.846x33.217x0.6625	Reinf. 2 Tension Rupture	99.1%	Pass
L29	73.42 - 73.17	Pole + Reinf.	TP33.887x33.846x0.9375	Reinf. 9 Tension Rupture	75.2%	Pass
L30	73.17 - 68.17	Pole + Reinf.	TP34.707x33.887x0.9125	Reinf. 9 Tension Rupture	78.3%	Pass
L31	68.17 - 64.25	Pole + Reinf.	TP35.35x34.707x0.8875	Reinf. 9 Tension Rupture	80.6%	Pass
L32	64.25 - 64	Pole + Reinf.	TP35.391x35.35x0.7375	Reinf. 3 Tension Rupture	92.7%	Pass
L33	64 - 59	Pole + Reinf.	TP36.212x35.391x0.7375	Reinf. 3 Tension Rupture	95.8%	Pass
L34	59 - 54	Pole + Reinf.	TP37.032x36.212x0.7125	Reinf. 3 Tension Rupture	98.8%	Pass
L35	54 - 53.5	Pole + Reinf.	TP37.115x37.032x0.7125	Reinf. 3 Tension Rupture	99.1%	Pass
L36	53.5 - 53.25	Pole + Reinf.	TP37.156x37.115x0.825	Reinf. 7 Tension Rupture	93.5%	Pass
L37	53.25 - 49.17	Pole + Reinf.	TP38.702x37.156x0.8125	Reinf. 7 Tension Rupture	95.7%	Pass
L38	49.17 - 42.83	Pole + Reinf.	TP38.239x37.201x0.725	Reinf. 4 Tension Rupture	98.9%	Pass
L39	42.83 - 41.75	Pole + Reinf.	TP38.415x38.239x0.725	Reinf. 4 Tension Rupture	99.4%	Pass
L40	41.75 - 41.5	Pole + Reinf.	TP38.456x38.415x0.7625	Reinf. 4 Tension Rupture	95.4%	Pass
L41	41.5 - 36.5	Pole + Reinf.	TP39.274x38.456x0.75	Reinf. 4 Tension Rupture	97.4%	Pass
L42	36.5 - 32.75	Pole + Reinf.	TP39.888x39.274x0.75	Reinf. 4 Tension Rupture	98.9%	Pass
L43	32.75 - 32.5	Pole + Reinf.	TP39.929x39.888x1	Reinf. 4 Tension Rupture	75.8%	Pass
L44	32.5 - 29.73	Pole + Reinf.	TP40.382x39.929x0.9	Reinf. 8 Tension Rupture	93.0%	Pass
L45	29.73 - 29.48	Pole + Reinf.	TP40.423x40.382x0.9	Reinf. 8 Tension Rupture	93.1%	Pass
L46	29.48 - 28.25	Pole + Reinf.	TP40.625x40.423x0.8875	Reinf. 8 Tension Rupture	93.5%	Pass
L47	28.25 - 28	Pole + Reinf.	TP40.666x40.625x0.95	Reinf. 8 Tension Rupture	85.4%	Pass
L48	28 - 23	Pole + Reinf.	TP41.485x40.666x0.95	Reinf. 8 Tension Rupture	87.1%	Pass
L49	23 - 19.25	Pole + Reinf.	TP42.099x41.485x0.9375	Reinf. 8 Tension Rupture	88.4%	Pass
L50	19.25 - 19	Pole + Reinf.	TP42.139x42.099x0.825	Reinf. 5 Tension Rupture	91.5%	Pass
L51	19 - 14	Pole + Reinf.	TP42.958x42.139x0.8	Reinf. 5 Tension Rupture	93.0%	Pass
L52	14 - 9	Pole + Reinf.	TP43.777x42.958x0.8	Reinf. 5 Tension Rupture	94.4%	Pass
L53	9 - 4	Pole + Reinf.	TP44.595x43.777x0.7875	Reinf. 5 Tension Rupture	95.6%	Pass
L54	4 - 0	Pole + Reinf.	TP45.25x44.595x0.775	Reinf. 5 Tension Rupture	96.6%	Pass
					Summary	
				Pole	94.5%	Pass
				Reinforcement	99.4%	Pass
				Overall	99.4%	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	67.0	Pass
1	Base Plate		70.0	Pass
1	Base Foundation (Structure)	0	91.2	Pass
1	Base Foundation (Soil Interaction)		60.7	Pass

Structure Rating (max from all components) =	99.4%*

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.

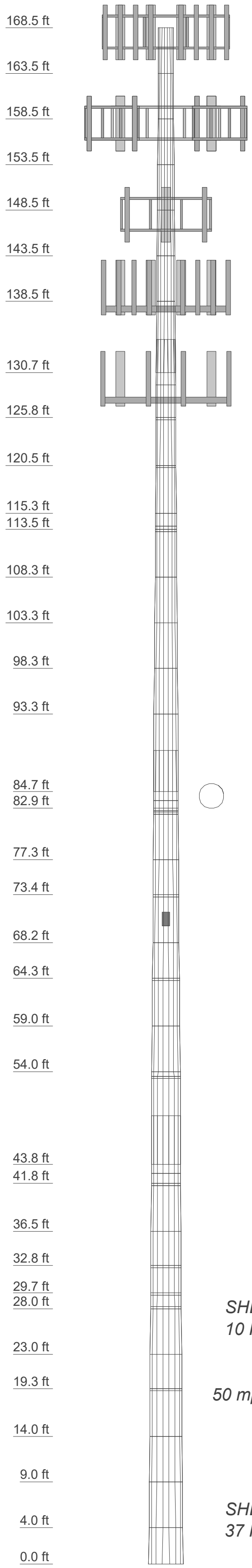
4.1) Recommendations

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	5.00	18	0.1875		19.0000	19.8343	A572-65	0.2
2	5.00	18	0.1875		19.8343	20.6685	A572-65	0.2
3	5.00	18	0.1875		20.6685	21.5028	A572-65	0.2
4	5.00	18	0.1875		21.5028	22.3370	A572-65	0.2
5	5.00	18	0.1875		22.3370	23.1713	A572-65	0.2
6	5.00	18	0.1875		23.1713	24.0056	A572-65	0.2
7	7.83	18	0.1875	3.66	24.0056	25.3125	A572-65	0.4
8–16	[illegible]	18	[illegible]		[illegible]	[illegible]	A572-65	[illegible]
17	5.00	18	[illegible]		[illegible]	[illegible]	A572-65	0.9
18	5.00	18	0.6250		28.6194	29.4425	A572-65	0.9
19	5.00	18	0.6125		29.4425	30.2655	A572-65	0.9
20	5.00	18	0.6000		30.2655	31.0886	A572-65	1.0
21	8.53	18	0.6000	4.56	31.0886	32.4932	A572-65	1.7
22–26	[illegible]	18	[illegible]		[illegible]	[illegible]	A572-65	[illegible]
27	5.00	18	[illegible]		[illegible]	[illegible]	A572-65	1.3
28–32	[illegible]	18	[illegible]		[illegible]	[illegible]	A572-65	[illegible]
33	5.00	18	[illegible]		[illegible]	[illegible]	A572-65	1.3
34	5.00	18	[illegible]		[illegible]	[illegible]	A572-65	1.3
35–36	[illegible]	18	[illegible]		[illegible]	[illegible]	A572-65	[illegible]
37	9.42	18	0.8125	5.34	37.1555	38.7021	A572-65	3.0
38–40	[illegible]	18	[illegible]		[illegible]	[illegible]	A572-65	[illegible]
41	5.00	18	[illegible]		[illegible]	[illegible]	A572-65	1.7
42–47	[illegible]	18	[illegible]		[illegible]	[illegible]	A572-65	[illegible]
48	5.00	18	[illegible]		[illegible]	[illegible]	A572-65	2.0
49–50	[illegible]	18	[illegible]		[illegible]	[illegible]	A572-65	[illegible]
51	5.00	18	[illegible]		[illegible]	[illegible]	A572-65	1.8
52	5.00	18	0.8000		42.9580	43.7764	A572-65	1.8
53	5.00	18	0.7875		43.7764	44.5951	A572-65	1.8
54	4.00	18	0.7750		44.5951	45.2500	A572-65	1.5
								39.5



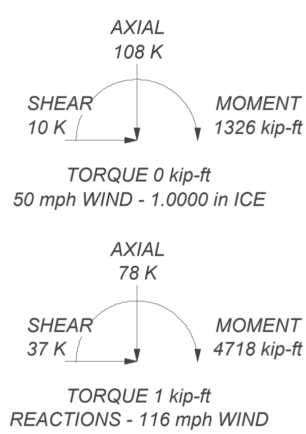
MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Hartford 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. CCIPOLE RATING IS 99.4%

ALL REACTIONS ARE FACTORED



Morrison Hershfield 1455 Lincoln Parkway, Suite 500 Atlanta, GA 30346 Phone: (770) 379-8500 FAX: (770) 379-8501 Consulting Engineers	Job: **CN8-652R1 / 2101398**		
	Project: **842859 / Bristol Center**		
	Client: Crown Castle USA	Drawn by: AL	App'd:
	Code: TIA-222-H	Date: 09/09/21	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 Hartford County, Connecticut.
Tower base elevation above sea level: 565.00 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*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	
L1	168.50-163.50	5.00	0.00	18	19.0000	19.8343	0.1875	0.7500	A572-65 (65 ksi)
L2	163.50-158.50	5.00	0.00	18	19.8343	20.6685	0.1875	0.7500	A572-65 (65 ksi)

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
L3	158.50-153.50	5.00	0.00	18	20.6685	21.5028	0.1875	0.7500	A572-65 (65 ksi)
L4	153.50-148.50	5.00	0.00	18	21.5028	22.3370	0.1875	0.7500	A572-65 (65 ksi)
L5	148.50-143.50	5.00	0.00	18	22.3370	23.1713	0.1875	0.7500	A572-65 (65 ksi)
L6	143.50-138.50	5.00	0.00	18	23.1713	24.0056	0.1875	0.7500	A572-65 (65 ksi)
L7	138.50-130.67	7.83	3.66	18	24.0056	25.3125	0.1875	0.7500	A572-65 (65 ksi)
L8	130.67-129.33	5.00	0.00	18	24.3268	25.1499	0.2500	1.0000	A572-65 (65 ksi)
L9	129.33-125.75	3.58	0.00	18	25.1499	25.7387	0.2500	1.0000	A572-65 (65 ksi)
L10	125.75-125.50	0.25	0.00	18	25.7387	25.7798	0.2500	1.0000	A572-65 (65 ksi)
L11	125.50-120.50	5.00	0.00	18	25.7798	26.6029	0.2500	1.0000	A572-65 (65 ksi)
L12	120.50-120.25	0.25	0.00	18	26.6029	26.6441	0.4813	1.9250	A572-65 (65 ksi)
L13	120.25-115.25	5.00	0.00	18	26.6441	27.4671	0.4750	1.9000	A572-65 (65 ksi)
L14	115.25-113.83	1.42	0.00	18	27.4671	27.7004	0.4688	1.8750	A572-65 (65 ksi)
L15	113.83-113.48	0.35	0.00	18	27.7004	27.7580	0.6500	2.6000	A572-65 (65 ksi)
L16	113.48-113.25	0.23	0.00	18	27.7580	27.7963	0.6500	2.6000	A572-65 (65 ksi)
L17	113.25-108.25	5.00	0.00	18	27.7963	28.6194	0.6375	2.5500	A572-65 (65 ksi)
L18	108.25-103.25	5.00	0.00	18	28.6194	29.4425	0.6250	2.5000	A572-65 (65 ksi)
L19	103.25-98.25	5.00	0.00	18	29.4425	30.2655	0.6125	2.4500	A572-65 (65 ksi)
L20	98.25-93.25	5.00	0.00	18	30.2655	31.0886	0.6000	2.4000	A572-65 (65 ksi)
L21	93.25-84.72	8.53	4.56	18	31.0886	32.4932	0.6000	2.4000	A572-65 (65 ksi)
L22	84.72-83.72	5.56	0.00	18	31.2426	32.1551	0.6625	2.6500	A572-65 (65 ksi)
L23	83.72-82.92	0.80	0.00	18	32.1551	32.2864	0.6625	2.6500	A572-65 (65 ksi)
L24	82.92-82.67	0.25	0.00	18	32.2864	32.3274	0.9500	3.8000	A572-65 (65 ksi)
L25	82.67-82.50	0.17	0.00	18	32.3274	32.3549	0.9500	3.8000	A572-65 (65 ksi)
L26	82.50-82.25	0.25	0.00	18	32.3549	32.3959	0.6875	2.7500	A572-65 (65 ksi)
L27	82.25-77.25	5.00	0.00	18	32.3959	33.2165	0.6750	2.7000	A572-65 (65 ksi)
L28	77.25-73.42	3.83	0.00	18	33.2165	33.8456	0.6625	2.6500	A572-65 (65 ksi)
L29	73.42-73.17	0.25	0.00	18	33.8456	33.8866	0.9375	3.7500	A572-65 (65 ksi)
L30	73.17-68.17	5.00	0.00	18	33.8866	34.7073	0.9125	3.6500	A572-65 (65 ksi)
L31	68.17-64.25	3.92	0.00	18	34.7073	35.3502	0.8875	3.5500	A572-65 (65 ksi)
L32	64.25-64.00	0.25	0.00	18	35.3502	35.3912	0.7375	2.9500	A572-65 (65 ksi)
L33	64.00-59.00	5.00	0.00	18	35.3912	36.2118	0.7375	2.9500	A572-65 (65 ksi)
L34	59.00-54.00	5.00	0.00	18	36.2118	37.0324	0.7125	2.8500	A572-65 (65 ksi)
L35	54.00-53.50	0.50	0.00	18	37.0324	37.1145	0.7125	2.8500	A572-65 (65 ksi)
L36	53.50-53.25	0.25	0.00	18	37.1145	37.1555	0.8250	3.3000	A572-65 (65 ksi)
L37	53.25-43.83	9.42	5.34	18	37.1555	38.7021	0.8125	3.2500	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
L38	43.83-42.83	6.34	0.00	18	37.2007	38.2386	0.7250	2.9000	(65 ksi) A572-65 (65 ksi)
L39	42.83-41.75	1.08	0.00	18	38.2386	38.4149	0.7250	2.9000	A572-65 (65 ksi)
L40	41.75-41.50	0.25	0.00	18	38.4149	38.4559	0.7625	3.0500	A572-65 (65 ksi)
L41	41.50-36.50	5.00	0.00	18	38.4559	39.2744	0.7500	3.0000	A572-65 (65 ksi)
L42	36.50-32.75	3.75	0.00	18	39.2744	39.8884	0.7500	3.0000	A572-65 (65 ksi)
L43	32.75-32.50	0.25	0.00	18	39.8884	39.9293	1.0000	4.0000	A572-65 (65 ksi)
L44	32.50-29.73	2.77	0.00	18	39.9293	40.3823	0.9000	3.6000	A572-65 (65 ksi)
L45	29.73-29.48	0.25	0.00	18	40.3823	40.4232	0.9000	3.6000	A572-65 (65 ksi)
L46	29.48-28.25	1.23	0.00	18	40.4232	40.6251	0.8875	3.5500	A572-65 (65 ksi)
L47	28.25-28.00	0.25	0.00	18	40.6251	40.6660	0.9500	3.8000	A572-65 (65 ksi)
L48	28.00-23.00	5.00	0.00	18	40.6660	41.4846	0.9500	3.8000	A572-65 (65 ksi)
L49	23.00-19.25	3.75	0.00	18	41.4846	42.0985	0.9375	3.7500	A572-65 (65 ksi)
L50	19.25-19.00	0.25	0.00	18	42.0985	42.1394	0.8250	3.3000	A572-65 (65 ksi)
L51	19.00-14.00	5.00	0.00	18	42.1394	42.9580	0.8000	3.2000	A572-65 (65 ksi)
L52	14.00-9.00	5.00	0.00	18	42.9580	43.7766	0.8000	3.2000	A572-65 (65 ksi)
L53	9.00-4.00	5.00	0.00	18	43.7766	44.5951	0.7875	3.1500	A572-65 (65 ksi)
L54	4.00-0.00	4.00		18	44.5951	45.2500	0.7750	3.1000	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	19.2642	11.1958	500.5935	6.6784	9.6520	51.8642	1001.8456	5.5990	3.0140	16.075
	20.1113	11.6923	570.1883	6.9746	10.0758	56.5899	1141.1269	5.8472	3.1608	16.858
L2	20.1113	11.6923	570.1883	6.9746	10.0758	56.5899	1141.1269	5.8472	3.1608	16.858
	20.9584	12.1888	645.9519	7.2708	10.4996	61.5215	1292.7538	6.0955	3.3077	17.641
L3	20.9584	12.1888	645.9519	7.2708	10.4996	61.5215	1292.7538	6.0955	3.3077	17.641
	21.8056	12.6853	728.1460	7.5669	10.9234	66.6592	1457.2501	6.3438	3.4545	18.424
L4	21.8056	12.6853	728.1460	7.5669	10.9234	66.6592	1457.2501	6.3438	3.4545	18.424
	22.6527	13.1817	817.0327	7.8631	11.3472	72.0029	1635.1404	6.5921	3.6013	19.207
L5	22.6527	13.1817	817.0327	7.8631	11.3472	72.0029	1635.1404	6.5921	3.6013	19.207
	23.4998	13.6782	912.8737	8.1592	11.7710	77.5527	1826.9486	6.8404	3.7481	19.99
L6	23.4998	13.6782	912.8737	8.1592	11.7710	77.5527	1826.9486	6.8404	3.7481	19.99
	24.3470	14.1747	1015.9312	8.4554	12.1948	83.3084	2033.1992	7.0887	3.8950	20.773
L7	24.3470	14.1747	1015.9312	8.4554	12.1948	83.3084	2033.1992	7.0887	3.8950	20.773
	25.6741	14.9525	1192.5150	8.9194	12.8588	92.7396	2386.5992	7.4777	4.1250	22
L8	25.2753	19.1050	1399.2068	8.5473	12.3580	113.2225	2800.2548	9.5543	3.8415	15.366
	25.4993	19.7581	1547.6621	8.8395	12.7761	121.1369	3097.3606	9.8809	3.9864	15.946
L9	25.4993	19.7581	1547.6621	8.8395	12.7761	121.1369	3097.3606	9.8809	3.9864	15.946
	26.0972	20.2253	1660.0732	9.0485	13.0753	126.9629	3322.3307	10.1146	4.0900	16.36
L10	26.0972	20.2253	1660.0732	9.0485	13.0753	126.9629	3322.3307	10.1146	4.0900	16.36
	26.1390	20.2579	1668.1270	9.0631	13.0962	127.3752	3338.4490	10.1309	4.0973	16.389
L11	26.1390	20.2579	1668.1270	9.0631	13.0962	127.3752	3338.4490	10.1309	4.0973	16.389
	26.9747	20.9110	1834.7205	9.3553	13.5143	135.7617	3671.8552	10.4575	4.2421	16.968
L12	26.9391	39.9005	3439.6736	9.2732	13.5143	254.5215	6883.8732	19.9540	3.8351	7.969
	26.9808	39.9634	3455.9562	9.2878	13.5352	255.3313	6916.4598	19.9855	3.8424	7.984
L13	26.9818	39.4538	3413.5188	9.2900	13.5352	252.1960	6831.5292	19.7306	3.8534	8.112
	27.8176	40.6947	3745.8366	9.5822	13.9533	268.4553	7496.6020	20.3512	3.9982	8.417

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
L14	27.8185	40.1685	3699.1176	9.5844	13.9533	265.1071	7403.1027	20.0881	4.0092	8.553
	28.0554	40.5155	3795.8246	9.6672	14.0718	269.7471	7596.6438	20.2616	4.0503	8.641
L15	28.0274	55.8076	5159.1411	9.6029	14.0718	366.6301	10325.0708	27.9091	3.7313	5.74
	28.0859	55.9265	5192.1764	9.6233	14.1011	368.2119	10391.1848	27.9686	3.7414	5.756
L16	28.0859	55.9265	5192.1764	9.6233	14.1011	368.2119	10391.1848	27.9686	3.7414	5.756
	28.1249	56.0056	5214.2468	9.6370	14.1205	369.2668	10435.3546	28.0081	3.7482	5.766
L17	28.1268	54.9539	5121.0405	9.6414	14.1205	362.6660	10248.8194	27.4822	3.7702	5.914
	28.9626	56.6193	5600.8768	9.9336	14.5387	385.2404	11209.1235	28.3150	3.9150	6.141
L18	28.9645	55.5339	5498.4179	9.9380	14.5387	378.1931	11004.0707	27.7722	3.9370	6.299
	29.8002	57.1666	5997.7901	10.2302	14.9568	401.0085	12003.4722	28.5887	4.0819	6.531
L19	29.8022	56.0476	5885.4864	10.2346	14.9568	393.4999	11778.7170	28.0291	4.1039	6.7
	30.6379	57.6477	6404.0823	10.5268	15.3749	416.5289	12816.5913	28.8293	4.2487	6.937
L20	30.6398	56.4950	6281.3236	10.5313	15.3749	408.5446	12570.9123	28.2529	4.2707	7.118
	31.4756	58.0624	6818.7817	10.8234	15.7930	431.7599	13646.5358	29.0367	4.4156	7.359
L21	31.4756	58.0624	6818.7817	10.8234	15.7930	431.7599	13646.5358	29.0367	4.4156	7.359
	32.9019	60.7374	7805.3056	11.3221	16.5065	472.8612	15620.8816	30.3745	4.6628	7.771
L22	32.3823	64.3030	7597.0637	10.8559	15.8712	478.6690	15204.1237	32.1576	4.3327	6.54
	32.5490	66.2219	8297.6728	11.1799	16.3348	507.9753	16606.2638	33.1172	4.4933	6.782
L23	32.5490	66.2219	8297.6728	11.1799	16.3348	507.9753	16606.2638	33.1172	4.4933	6.782
	32.6823	66.4980	8401.8916	11.2265	16.4015	512.2637	16814.8387	33.2553	4.5164	6.817
L24	32.6379	94.4887	11722.3808	11.1244	16.4015	714.7140	23460.1862	47.2533	4.0104	4.221
	32.6796	94.6124	11768.4891	11.1390	16.4223	716.6145	23552.4635	47.3152	4.0176	4.229
L25	32.6796	94.6124	11768.4891	11.1390	16.4223	716.6145	23552.4635	47.3152	4.0176	4.229
	32.7074	94.6951	11799.3563	11.1487	16.4363	717.8855	23614.2384	47.3565	4.0225	4.234
L26	32.7479	69.1021	8754.9245	11.2419	16.4363	532.6590	17521.3690	34.5576	4.4845	6.523
	32.7896	69.1917	8788.9996	11.2565	16.4571	534.0549	17589.5639	34.6024	4.4917	6.533
L27	32.7915	67.9604	8639.4089	11.2609	16.4571	524.9651	17290.1858	33.9867	4.5137	6.687
	33.6248	69.7186	9327.4182	11.5522	16.8740	552.7690	18667.1097	34.8659	4.6581	6.901
L28	33.6267	68.4538	9165.2419	11.5567	16.8740	543.1580	18342.5437	34.2334	4.6801	7.064
	34.2655	69.7766	9706.9215	11.7800	17.1936	564.5670	19426.6155	34.8949	4.7908	7.231
L29	34.2231	97.9222	13397.5217	11.6824	17.1936	779.2170	26812.6723	48.9704	4.3068	4.594
	34.2648	98.0443	13447.6990	11.6969	17.2144	781.1883	26913.0928	49.0315	4.3140	4.602
L30	34.2686	95.5022	13118.9101	11.7058	17.2144	762.0887	26255.0825	47.7602	4.3580	4.776
	35.1019	97.8790	14122.9626	11.9971	17.6313	801.0168	28264.5085	48.9488	4.5025	4.934
L31	35.1058	95.2678	13766.5387	12.0060	17.6313	780.8014	27551.1918	47.6429	4.5465	5.123
	35.7586	97.0787	14566.6234	12.2342	17.9579	811.1550	29152.4140	48.5486	4.6596	5.25
L32	35.7817	81.0222	12263.4058	12.2875	17.9579	682.8984	24542.9482	40.5188	4.9236	6.676
	35.8234	81.1182	12307.0699	12.3021	17.9787	684.5353	24630.3338	40.5668	4.9308	6.686
L33	35.8234	81.1182	12307.0699	12.3021	17.9787	684.5353	24630.3338	40.5668	4.9308	6.686
	36.6567	83.0392	13202.2663	12.5934	18.3956	717.6860	26421.9045	41.5275	5.0753	6.882
L34	36.6605	80.2808	12781.7170	12.6023	18.3956	694.8246	25580.2525	40.1480	5.1193	7.185
	37.4938	82.1366	13688.7825	12.8936	18.8125	727.6436	27395.5771	41.0761	5.2637	7.388
L35	37.4938	82.1366	13688.7825	12.8936	18.8125	727.6436	27395.5771	41.0761	5.2637	7.388
	37.5771	82.3222	13781.7796	12.9227	18.8542	730.9672	27581.6936	41.1689	5.2782	7.408
L36	37.5598	95.0259	15810.3541	12.8828	18.8542	838.5600	31641.5119	47.5220	5.0802	6.158
	37.6015	95.1333	15864.0431	12.8973	18.8750	840.4785	31748.9605	47.5757	5.0874	6.167
L37	37.6034	93.7242	15639.8109	12.9018	18.8750	828.5986	31300.2011	46.8710	5.1094	6.288
	39.1738	97.7125	17722.6150	13.4508	19.6607	901.4249	35468.5499	48.8656	5.3816	6.623
L38	38.5504	83.9360	14108.8659	12.9489	18.8979	746.5823	28236.2966	41.9760	5.2713	7.271
	38.7167	86.3245	15347.9060	13.3173	19.4252	790.1022	30716.0071	43.1704	5.4540	7.523
L39	38.7167	86.3245	15347.9060	13.3173	19.4252	790.1022	30716.0071	43.1704	5.4540	7.523
	38.8957	86.7302	15565.3376	13.3799	19.5148	797.6176	31151.1565	43.3733	5.4850	7.566
L40	38.8899	91.1255	16321.6260	13.3666	19.5148	836.3722	32664.7285	45.5714	5.4190	7.107
	38.9315	91.2245	16374.9085	13.3811	19.5356	838.2096	32771.3635	45.6209	5.4262	7.116
L41	38.9334	89.7588	16122.4965	13.3856	19.5356	825.2889	32266.2074	44.8879	5.4482	7.264
	39.7646	91.7074	17195.4853	13.6762	19.9514	861.8681	34413.5968	45.8624	5.5923	7.456
L42	39.7646	91.7074	17195.4853	13.6762	19.9514	861.8681	34413.5968	45.8624	5.5923	7.456
	40.3880	93.1689	18030.7409	13.8941	20.2633	889.8231	36085.2072	46.5933	5.7004	7.6
L43	40.3494	123.4317	23583.2321	13.8054	20.2633	1163.8404	47197.4956	61.7276	5.2604	5.26
	40.3910	123.5616	23657.7727	13.8199	20.2841	1166.3222	47346.6749	61.7925	5.2676	5.268
L44	40.4064	111.4911	21456.4994	13.8554	20.2841	1057.8000	42941.2317	55.7561	5.4436	6.048
	40.8664	112.7851	22212.3147	14.0162	20.5142	1082.7774	44453.8570	56.4033	5.5233	6.137
L45	40.8664	112.7851	22212.3147	14.0162	20.5142	1082.7774	44453.8570	56.4033	5.5233	6.137
	40.9080	112.9020	22281.4633	14.0307	20.5350	1085.0485	44592.2452	56.4617	5.5305	6.145
L46	40.9099	111.3691	21992.8524	14.0352	20.5350	1070.9939	44014.6435	55.6952	5.5525	6.256
	41.1149	111.9378	22331.4462	14.1068	20.6375	1082.0790	44692.2767	55.9795	5.5880	6.296
L47	41.1052	119.6323	23791.4702	14.0847	20.6375	1152.8250	47614.2458	59.8275	5.4780	5.766
	41.1468	119.7557	23865.1746	14.0992	20.6583	1155.2325	47761.7515	59.8892	5.4852	5.774
L48	41.1468	119.7557	23865.1746	14.0992	20.6583	1155.2325	47761.7515	59.8892	5.4852	5.774
	41.9780	122.2239	25371.4244	14.3898	21.0742	1203.9113	50776.2331	61.1236	5.6293	5.926

Section	Tip Dia.	Area	I	r	C	I/C	J	It/Q	w	w/t
	in	in^2	in^4	in	in	in^3	in^4	in^2	in	
L49	41.9799	120.6529	25060.7602	14.3942	21.0742	1189.1698	50154.4959	60.3379	5.6513	6.028
	42.6033	122.4797	26216.4266	14.6122	21.3860	1225.8664	52467.3495	61.2515	5.7593	6.143
L50	42.6207	108.0767	23260.1393	14.6521	21.3860	1087.6319	46550.8850	54.0486	5.9573	7.221
	42.6622	108.1839	23329.4043	14.6666	21.4068	1089.8112	46689.5059	54.1022	5.9645	7.23
L51	42.6661	104.9691	22663.5451	14.6755	21.4068	1058.7062	45356.9114	52.4945	6.0085	7.511
	43.4973	107.0476	24036.6766	14.9661	21.8227	1101.4547	48104.9812	53.5340	6.1526	7.691
L52	43.4973	107.0476	24036.6766	14.9661	21.8227	1101.4547	48104.9812	53.5340	6.1526	7.691
	44.3285	109.1261	25464.1805	15.2567	22.2385	1145.0494	50961.8674	54.5734	6.2967	7.871
L53	44.3304	107.4523	25088.1811	15.2611	22.2385	1128.1418	50209.3739	53.7363	6.3187	8.024
	45.1616	109.4983	26548.7817	15.5517	22.6543	1171.9075	53132.4970	54.7596	6.4627	8.207
L54	45.1635	107.7910	26149.7443	15.5562	22.6543	1154.2933	52333.8971	53.9057	6.4847	8.367
	45.8285	109.4018	27339.7126	15.7886	22.9870	1189.3554	54715.3996	54.7113	6.6000	8.516

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
L1 168.50-163.50				1	1	1			
L2 163.50-158.50				1	1	1			
L3 158.50-153.50				1	1	1			
L4 153.50-148.50				1	1	1			
L5 148.50-143.50				1	1	1			
L6 143.50-138.50				1	1	1			
L7 138.50-130.67				1	1	1			
L8 130.67-129.33				1	1	1			
L9 129.33-125.75				1	1	1			
L10 125.75-125.50				1	1	1			
L11 125.50-120.50				1	1	1			
L12 120.50-120.25				1	1	1.08476			
L13 120.25-115.25				1	1	1.08132			
L14 115.25-113.83				1	1	1.09067			
L15 113.83-113.48				1	1	0.966961			
L16 113.48-113.25				1	1	0.966139			
L17 113.25-108.25				1	1	0.967202			
L18 108.25-103.25				1	1	0.969366			
L19 103.25-98.25				1	1	0.972606			
L20 98.25-93.25				1	1	0.976906			
L21 93.25-84.72				1	1	0.965141			
L22 84.72-83.72				1	1	1.04324			
L23 83.72-82.92				1	1	1.04087			
L24 82.92-82.67				1	1	0.922256			
L25 82.67-82.50				1	1	0.921738			
L26 82.50-				1	1	1.08141			

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
82.25									
L27 82.25-77.25				1	1	1.08491			
L28 77.25-73.42				1	1	1.09295			
L29 73.42-73.17				1	1	0.961846			
L30 73.17-68.17				1	1	0.971787			
L31 68.17-64.25				1	1	0.986366			
L32 64.25-64.00				1	1	0.959035			
L33 64.00-59.00				1	1	0.946652			
L34 59.00-54.00				1	1	0.966964			
L35 54.00-53.50				1	1	0.965772			
L36 53.50-53.25				1	1	0.967544			
L37 53.25-43.83				1	1	0.971274			
L38 43.83-42.83				1	1	1.07813			
L39 42.83-41.75				1	1	1.0755			
L40 41.75-41.50				1	1	1.08883			
L41 41.50-36.50				1	1	1.09372			
L42 36.50-32.75				1	1	1.0844			
L43 32.75-32.50				1	1	0.949583			
L44 32.50-29.73				1	1	0.938695			
L45 29.73-29.48				1	1	0.938154			
L46 29.48-28.25				1	1	0.948382			
L47 28.25-28.00				1	1	1.0017			
L48 28.00-23.00				1	1	0.98944			
L49 23.00-19.25				1	1	0.99334			
L50 19.25-19.00				1	1	0.958664			
L51 19.00-14.00				1	1	0.977942			
L52 14.00-9.00				1	1	0.968244			
L53 9.00-4.00				1	1	0.97385			
L54 4.00-0.00				1	1	0.981834			

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
******										

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)	168.50 - 10.00	1	1	0.250 0.250	0.3750		0.22
Step Pegs	C	No	Surface Ar (CaAa)	168.50 - 10.00	1	1	0.200 0.300	0.3500		0.45
******										
CU12PSM9P6XXX(1-1/2)	B	No	Surface Ar (CaAa)	148.00 - 8.00	1	1	0.000 0.000	1.6000		2.35
******										
HB114-U6S12-XXX-LI(1-1/4)	A	No	Surface Ar (CaAa)	138.00 - 8.00	1	1	-0.050 -0.050	1.5400		1.70
HB158-1-08U8-S8J18(1-5/8)	A	No	Surface Ar (CaAa)	138.00 - 8.00	1	1	0.000 0.000	1.9800		1.30
MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	B	No	Surface Ar (CaAa)	128.00 - 8.00	3	3	-0.170 -0.050	1.2500		0.68
******										
LDF4-50A(1/2)	C	No	Surface Ar (CaAa)	70.00 - 8.00	1	1	0.250 0.250	0.6250		0.15
******										
Shaft Rinforcement [#PL0.625x5]	A	No	Surface Af (CaAa)	84.67 - 0.00	1	1	0.000 0.000	5.0000	11.2500	10.63
Shaft Rinforcement [#PL0.625x5]	C	No	Surface Af (CaAa)	84.67 - 0.00	1	1	0.000 0.000	5.0000	11.2500	10.63
Shaft Rinforcement [#PL0.625x5]	A	No	Surface Af (CaAa)	120.00 - 84.67	1	1	0.000 0.000	5.0000	11.2500	10.63
Shaft Rinforcement [#PL0.625x5]	B	No	Surface Af (CaAa)	120.00 - 84.67	1	1	0.000 0.000	5.0000	11.2500	10.63
Shaft Rinforcement [#PL0.625x5]	C	No	Surface Af (CaAa)	120.00 - 84.67	1	1	0.000 0.000	5.0000	11.2500	10.63
***										
Shaft Rinforcement [#PL1.25x6]	A	No	Surface Af (CaAa)	30.75 - 0.00	1	1	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	B	No	Surface Af (CaAa)	30.75 - 0.00	1	1	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	C	No	Surface Af (CaAa)	30.75 - 0.00	2	2	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	A	No	Surface Af (CaAa)	47.92 - 27.75	2	2	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	B	No	Surface Af (CaAa)	47.92 - 27.75	1	1	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	C	No	Surface Af (CaAa)	47.92 - 27.75	1	1	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x5]	A	No	Surface Af (CaAa)	75.42 - 45.38	2	2	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	B	No	Surface Af (CaAa)	75.42 - 45.38	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	C	No	Surface Af (CaAa)	75.42 - 45.38	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	A	No	Surface Af (CaAa)	87.92 - 72.75	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	B	No	Surface Af (CaAa)	87.92 - 72.75	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	C	No	Surface Af (CaAa)	87.92 - 72.75	2	2	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	A	No	Surface Af (CaAa)	115.83 - 85.83	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	B	No	Surface Af (CaAa)	115.83 - 85.83	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	C	No	Surface Af (CaAa)	115.83 - 85.83	1	1	0.000 0.000	5.0000	12.5000	0.00
***										
CCI-SFP-060100	A	No	Surface Af (CaAa)	43.75 - 0.00	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-060100	B	No	Surface Af (CaAa)	43.75 - 0.00	2	2	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-060100	C	No	Surface Af (CaAa)	43.75 - 0.00	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-045100	A	No	Surface Af (CaAa)	84.33 - 43.75	1	1	0.000 0.000	4.5000	11.0000	0.00

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
CCI-SFP-045100	B	No	Surface Af (CaAa)	84.33 - 43.75	2	2	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	C	No	Surface Af (CaAa)	84.33 - 43.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	A	No	Surface Af (CaAa)	27.75 - 17.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	B	No	Surface Af (CaAa)	27.75 - 17.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	C	No	Surface Af (CaAa)	27.75 - 17.75	2	2	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	A	No	Surface Af (CaAa)	72.75 - 62.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	B	No	Surface Af (CaAa)	72.75 - 62.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	C	No	Surface Af (CaAa)	72.75 - 62.75	2	2	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	A	No	Surface Af (CaAa)	127.33 - 87.92	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	B	No	Surface Af (CaAa)	127.33 - 87.92	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	C	No	Surface Af (CaAa)	127.33 - 87.92	1	1	0.000 0.000	4.5000	11.0000	0.00
***										
CCI-SFP-040125	A	No	Surface Af (CaAa)	122.00 - 112.00	1	1	0.000 0.000	4.0000	10.5000	0.00
CCI-SFP-040125	B	No	Surface Af (CaAa)	122.00 - 112.00	1	1	0.000 0.000	4.0000	10.5000	0.00
CCI-SFP-050125	B	No	Surface Af (CaAa)	90.50 - 80.50	1	1	0.000 0.000	5.0000	12.5000	0.00
CCI-SFP-050125	C	No	Surface Af (CaAa)	90.50 - 80.50	1	1	0.000 0.000	5.0000	12.5000	0.00
CCI-SFP-050125	B	No	Surface Af (CaAa)	55.50 - 45.50	1	1	0.000 0.000	5.0000	12.5000	0.00
CCI-SFP-050125	C	No	Surface Af (CaAa)	55.50 - 45.50	1	1	0.000 0.000	5.0000	12.5000	0.00
CCI-SFP-065125	B	No	Surface Af (CaAa)	35.50 - 25.50	1	1	0.000 0.000	6.5000	15.5000	0.00
CCI-SFP-065125	C	No	Surface Af (CaAa)	35.50 - 25.50	1	1	0.000 0.000	6.5000	15.5000	0.00
******										

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(3/8)	A	No	No	Inside Pole	168.33 - 0.00	1	No Ice	0.00	0.08
							1/2" Ice	0.00	0.08
							1" Ice	0.00	0.08
Lighting Cable(3/8)	B	No	No	Inside Pole	168.33 - 0.00	1	No Ice	0.00	0.08
							1/2" Ice	0.00	0.08
							1" Ice	0.00	0.08
******									
CONDUIT (2)	C	No	No	Inside Pole	168.00 - 2.00	3	No Ice	0.00	0.20
							1/2" Ice	0.00	0.20
							1" Ice	0.00	0.20
LDF2-50(3/8)	C	No	No	Inside Pole	168.00 - 2.00	1	No Ice	0.00	0.08
							1/2" Ice	0.00	0.08
							1" Ice	0.00	0.08
LDF7-50A(1-5/8)	C	No	No	Inside Pole	168.00 - 2.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
FB-L98B-034-XXXXXX(3/8)	C	No	No	Inside Pole	168.00 - 2.00	2	No Ice	0.00	0.05
							1/2" Ice	0.00	0.05

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							1" Ice	0.00	0.05
WR-CAT5E10P(1)	C	No	No	Inside Pole	168.00 - 2.00	2	No Ice	0.00	0.41
							1/2" Ice	0.00	0.41
							1" Ice	0.00	0.41
WR-VG86ST-BRDA(7/8)	C	No	No	Inside Pole	168.00 - 2.00	6	No Ice	0.00	0.68
							1/2" Ice	0.00	0.68
							1" Ice	0.00	0.68
******									
***									
HB158-21U6S24-xxM_TMO(1-5/8)	C	No	No	Inside Pole	158.00 - 8.00	3	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50
LDF7-50A(1-5/8)	A	No	No	Inside Pole	138.00 - 8.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
******									
LDF7-50A(1-5/8)	B	No	No	Inside Pole	128.00 - 8.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	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	168.50-163.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.362	0.000	0.05
L2	163.50-158.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.362	0.000	0.06
L3	158.50-153.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.362	0.000	0.09
L4	153.50-148.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.362	0.000	0.09
L5	148.50-143.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.720	0.000	0.01
		C	0.000	0.000	0.362	0.000	0.09
L6	143.50-138.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.800	0.000	0.01
		C	0.000	0.000	0.362	0.000	0.09
L7	138.50-130.67	A	0.000	0.000	2.581	0.000	0.06
		B	0.000	0.000	1.253	0.000	0.02
		C	0.000	0.000	0.568	0.000	0.15
L8	130.67-129.33	A	0.000	0.000	0.472	0.000	0.01
		B	0.000	0.000	0.214	0.000	0.00
		C	0.000	0.000	0.097	0.000	0.03
L9	129.33-125.75	A	0.000	0.000	2.444	0.000	0.03
		B	0.000	0.000	2.601	0.000	0.04
		C	0.000	0.000	1.444	0.000	0.07
L10	125.75-125.50	A	0.000	0.000	0.276	0.000	0.00
		B	0.000	0.000	0.321	0.000	0.00
		C	0.000	0.000	0.206	0.000	0.00
L11	125.50-120.50	A	0.000	0.000	6.510	0.000	0.04
		B	0.000	0.000	7.425	0.000	0.07
		C	0.000	0.000	4.112	0.000	0.09
L12	120.50-120.25	A	0.000	0.000	0.442	0.000	0.00
		B	0.000	0.000	0.488	0.000	0.00
		C	0.000	0.000	0.206	0.000	0.00
L13	120.25-115.25	A	0.000	0.000	13.285	0.000	0.09
		B	0.000	0.000	14.200	0.000	0.12
		C	0.000	0.000	8.554	0.000	0.14

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
L14	115.25-113.83	A	0.000	0.000	4.868	0.000	0.03
		B	0.000	0.000	5.127	0.000	0.04
		C	0.000	0.000	3.527	0.000	0.04
L15	113.83-113.48	A	0.000	0.000	1.202	0.000	0.01
		B	0.000	0.000	1.266	0.000	0.01
		C	0.000	0.000	0.871	0.000	0.01
L16	113.48-113.25	A	0.000	0.000	0.800	0.000	0.00
		B	0.000	0.000	0.843	0.000	0.01
		C	0.000	0.000	0.580	0.000	0.01
L17	113.25-108.25	A	0.000	0.000	14.677	0.000	0.09
		B	0.000	0.000	15.592	0.000	0.12
		C	0.000	0.000	12.446	0.000	0.15
L18	108.25-103.25	A	0.000	0.000	13.843	0.000	0.09
		B	0.000	0.000	14.758	0.000	0.12
		C	0.000	0.000	12.446	0.000	0.15
L19	103.25-98.25	A	0.000	0.000	13.843	0.000	0.09
		B	0.000	0.000	14.758	0.000	0.12
		C	0.000	0.000	12.446	0.000	0.15
L20	98.25-93.25	A	0.000	0.000	13.843	0.000	0.09
		B	0.000	0.000	14.758	0.000	0.12
		C	0.000	0.000	12.446	0.000	0.15
L21	93.25-84.72	A	0.000	0.000	22.964	0.000	0.16
		B	0.000	0.000	29.207	0.000	0.21
		C	0.000	0.000	27.930	0.000	0.25
L22	84.72-83.72	A	0.000	0.000	2.478	0.000	0.02
		B	0.000	0.000	3.136	0.000	0.01
		C	0.000	0.000	3.842	0.000	0.03
L23	83.72-82.92	A	0.000	0.000	2.215	0.000	0.01
		B	0.000	0.000	2.942	0.000	0.01
		C	0.000	0.000	3.306	0.000	0.02
L24	82.92-82.67	A	0.000	0.000	0.692	0.000	0.00
		B	0.000	0.000	0.919	0.000	0.00
		C	0.000	0.000	1.033	0.000	0.01
L25	82.67-82.50	A	0.000	0.000	0.462	0.000	0.00
		B	0.000	0.000	0.614	0.000	0.00
		C	0.000	0.000	0.690	0.000	0.00
L26	82.50-82.25	A	0.000	0.000	0.692	0.000	0.00
		B	0.000	0.000	0.919	0.000	0.00
		C	0.000	0.000	1.033	0.000	0.01
L27	82.25-77.25	A	0.000	0.000	13.843	0.000	0.09
		B	0.000	0.000	15.758	0.000	0.07
		C	0.000	0.000	18.029	0.000	0.15
L28	77.25-73.42	A	0.000	0.000	13.951	0.000	0.07
		B	0.000	0.000	12.663	0.000	0.05
		C	0.000	0.000	14.404	0.000	0.11
L29	73.42-73.17	A	0.000	0.000	1.109	0.000	0.00
		B	0.000	0.000	0.925	0.000	0.00
		C	0.000	0.000	1.039	0.000	0.01
L30	73.17-68.17	A	0.000	0.000	21.795	0.000	0.09
		B	0.000	0.000	18.126	0.000	0.07
		C	0.000	0.000	20.130	0.000	0.15
L31	68.17-64.25	A	0.000	0.000	17.047	0.000	0.07
		B	0.000	0.000	14.173	0.000	0.06
		C	0.000	0.000	15.870	0.000	0.12
L32	64.25-64.00	A	0.000	0.000	1.088	0.000	0.00
		B	0.000	0.000	0.905	0.000	0.00
		C	0.000	0.000	1.013	0.000	0.01
L33	64.00-59.00	A	0.000	0.000	18.948	0.000	0.09
		B	0.000	0.000	15.279	0.000	0.07
		C	0.000	0.000	14.633	0.000	0.15
L34	59.00-54.00	A	0.000	0.000	18.010	0.000	0.09
		B	0.000	0.000	15.556	0.000	0.07
		C	0.000	0.000	13.973	0.000	0.15
L35	54.00-53.50	A	0.000	0.000	1.801	0.000	0.01
		B	0.000	0.000	1.839	0.000	0.01
		C	0.000	0.000	1.681	0.000	0.01
L36	53.50-53.25	A	0.000	0.000	0.900	0.000	0.00
		B	0.000	0.000	0.919	0.000	0.00
		C	0.000	0.000	0.840	0.000	0.01

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
L37	53.25-43.83	A	0.000	0.000	39.548	0.000	0.18
		B	0.000	0.000	36.105	0.000	0.13
		C	0.000	0.000	33.121	0.000	0.28
L38	43.83-42.83	A	0.000	0.000	4.166	0.000	0.02
		B	0.000	0.000	3.497	0.000	0.01
		C	0.000	0.000	2.949	0.000	0.03
L39	42.83-41.75	A	0.000	0.000	4.508	0.000	0.02
		B	0.000	0.000	3.807	0.000	0.02
		C	0.000	0.000	3.197	0.000	0.03
L40	41.75-41.50	A	0.000	0.000	1.046	0.000	0.00
		B	0.000	0.000	0.884	0.000	0.00
		C	0.000	0.000	0.742	0.000	0.01
L41	41.50-36.50	A	0.000	0.000	20.927	0.000	0.09
		B	0.000	0.000	17.675	0.000	0.07
		C	0.000	0.000	14.842	0.000	0.15
L42	36.50-32.75	A	0.000	0.000	15.695	0.000	0.07
		B	0.000	0.000	15.894	0.000	0.05
		C	0.000	0.000	13.769	0.000	0.11
L43	32.75-32.50	A	0.000	0.000	1.046	0.000	0.00
		B	0.000	0.000	1.124	0.000	0.00
		C	0.000	0.000	0.982	0.000	0.01
L44	32.50-29.73	A	0.000	0.000	12.598	0.000	0.05
		B	0.000	0.000	13.453	0.000	0.04
		C	0.000	0.000	12.902	0.000	0.08
L45	29.73-29.48	A	0.000	0.000	1.296	0.000	0.00
		B	0.000	0.000	1.374	0.000	0.00
		C	0.000	0.000	1.482	0.000	0.01
L46	29.48-28.25	A	0.000	0.000	6.394	0.000	0.02
		B	0.000	0.000	6.774	0.000	0.02
		C	0.000	0.000	7.309	0.000	0.04
L47	28.25-28.00	A	0.000	0.000	1.296	0.000	0.00
		B	0.000	0.000	1.374	0.000	0.00
		C	0.000	0.000	1.482	0.000	0.01
L48	28.00-23.00	A	0.000	0.000	19.989	0.000	0.09
		B	0.000	0.000	23.886	0.000	0.07
		C	0.000	0.000	29.615	0.000	0.15
L49	23.00-19.25	A	0.000	0.000	14.758	0.000	0.07
		B	0.000	0.000	16.069	0.000	0.05
		C	0.000	0.000	20.506	0.000	0.11
L50	19.25-19.00	A	0.000	0.000	0.984	0.000	0.00
		B	0.000	0.000	1.071	0.000	0.00
		C	0.000	0.000	1.367	0.000	0.01
L51	19.00-14.00	A	0.000	0.000	16.864	0.000	0.09
		B	0.000	0.000	18.613	0.000	0.07
		C	0.000	0.000	21.717	0.000	0.15
L52	14.00-9.00	A	0.000	0.000	15.927	0.000	0.09
		B	0.000	0.000	17.675	0.000	0.07
		C	0.000	0.000	19.769	0.000	0.15
L53	9.00-4.00	A	0.000	0.000	14.519	0.000	0.06
		B	0.000	0.000	15.535	0.000	0.01
		C	0.000	0.000	19.229	0.000	0.11
L54	4.00-0.00	A	0.000	0.000	11.333	0.000	0.04
		B	0.000	0.000	12.000	0.000	0.00
		C	0.000	0.000	15.333	0.000	0.06

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	168.50-163.50	A	0.999	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	2.361	0.000	0.07
L2	163.50-158.50	A	0.996	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	2.354	0.000	0.07

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
L3	158.50-153.50	A	0.993	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	2.348	0.000	0.11
L4	153.50-148.50	A	0.990	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	2.342	0.000	0.11
L5	148.50-143.50	A	0.986	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.608	0.000	0.02
		C		0.000	0.000	2.335	0.000	0.11
L6	143.50-138.50	A	0.983	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.783	0.000	0.03
		C		0.000	0.000	2.328	0.000	0.11
L7	138.50-130.67	A	0.978	0.000	0.000	5.451	0.000	0.11
		B		0.000	0.000	2.786	0.000	0.04
		C		0.000	0.000	3.633	0.000	0.17
L8	130.67-129.33	A	0.975	0.000	0.000	0.996	0.000	0.02
		B		0.000	0.000	0.477	0.000	0.01
		C		0.000	0.000	0.621	0.000	0.03
L9	129.33-125.75	A	0.973	0.000	0.000	4.144	0.000	0.06
		B		0.000	0.000	4.363	0.000	0.07
		C		0.000	0.000	3.144	0.000	0.09
L10	125.75-125.50	A	0.972	0.000	0.000	0.421	0.000	0.01
		B		0.000	0.000	0.503	0.000	0.01
		C		0.000	0.000	0.351	0.000	0.01
L11	125.50-120.50	A	0.970	0.000	0.000	9.634	0.000	0.11
		B		0.000	0.000	11.260	0.000	0.15
		C		0.000	0.000	7.021	0.000	0.14
L12	120.50-120.25	A	0.967	0.000	0.000	0.623	0.000	0.01
		B		0.000	0.000	0.704	0.000	0.01
		C		0.000	0.000	0.351	0.000	0.01
L13	120.25-115.25	A	0.965	0.000	0.000	17.926	0.000	0.21
		B		0.000	0.000	19.551	0.000	0.25
		C		0.000	0.000	12.479	0.000	0.22
L14	115.25-113.83	A	0.963	0.000	0.000	6.434	0.000	0.07
		B		0.000	0.000	6.895	0.000	0.08
		C		0.000	0.000	4.891	0.000	0.07
L15	113.83-113.48	A	0.962	0.000	0.000	1.589	0.000	0.02
		B		0.000	0.000	1.703	0.000	0.02
		C		0.000	0.000	1.208	0.000	0.02
L16	113.48-113.25	A	0.962	0.000	0.000	1.058	0.000	0.01
		B		0.000	0.000	1.133	0.000	0.01
		C		0.000	0.000	0.804	0.000	0.01
L17	113.25-108.25	A	0.959	0.000	0.000	19.652	0.000	0.22
		B		0.000	0.000	21.275	0.000	0.26
		C		0.000	0.000	17.243	0.000	0.25
L18	108.25-103.25	A	0.955	0.000	0.000	18.618	0.000	0.21
		B		0.000	0.000	20.241	0.000	0.25
		C		0.000	0.000	17.221	0.000	0.25
L19	103.25-98.25	A	0.950	0.000	0.000	18.595	0.000	0.21
		B		0.000	0.000	20.216	0.000	0.25
		C		0.000	0.000	17.198	0.000	0.25
L20	98.25-93.25	A	0.946	0.000	0.000	18.571	0.000	0.21
		B		0.000	0.000	20.191	0.000	0.25
		C		0.000	0.000	17.173	0.000	0.25
L21	93.25-84.72	A	0.939	0.000	0.000	30.765	0.000	0.35
		B		0.000	0.000	38.790	0.000	0.45
		C		0.000	0.000	30.372	0.000	0.46
L22	84.72-83.72	A	0.933	0.000	0.000	3.344	0.000	0.04
		B		0.000	0.000	3.031	0.000	0.04
		C		0.000	0.000	2.954	0.000	0.06
L23	83.72-82.92	A	0.932	0.000	0.000	2.961	0.000	0.03
		B		0.000	0.000	2.382	0.000	0.03
		C		0.000	0.000	2.649	0.000	0.05
L24	82.92-82.67	A	0.932	0.000	0.000	0.925	0.000	0.01
		B		0.000	0.000	0.744	0.000	0.01
		C		0.000	0.000	0.828	0.000	0.01
L25	82.67-82.50	A	0.932	0.000	0.000	0.618	0.000	0.01
		B		0.000	0.000	0.497	0.000	0.01
		C		0.000	0.000	0.553	0.000	0.01

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
L26	82.50-82.25	A	0.931	0.000	0.000	0.925	0.000	0.01
		B		0.000	0.000	0.744	0.000	0.01
		C		0.000	0.000	0.828	0.000	0.01
L27	82.25-77.25	A	0.928	0.000	0.000	18.485	0.000	0.21
		B		0.000	0.000	11.919	0.000	0.19
		C		0.000	0.000	13.584	0.000	0.27
L28	77.25-73.42	A	0.923	0.000	0.000	14.151	0.000	0.18
		B		0.000	0.000	9.943	0.000	0.15
		C		0.000	0.000	11.216	0.000	0.21
L29	73.42-73.17	A	0.921	0.000	0.000	0.922	0.000	0.01
		B		0.000	0.000	0.769	0.000	0.01
		C		0.000	0.000	0.852	0.000	0.01
L30	73.17-68.17	A	0.917	0.000	0.000	17.711	0.000	0.25
		B		0.000	0.000	14.657	0.000	0.20
		C		0.000	0.000	17.483	0.000	0.29
L31	68.17-64.25	A	0.911	0.000	0.000	13.803	0.000	0.19
		B		0.000	0.000	11.414	0.000	0.16
		C		0.000	0.000	14.278	0.000	0.23
L32	64.25-64.00	A	0.908	0.000	0.000	0.880	0.000	0.01
		B		0.000	0.000	0.728	0.000	0.01
		C		0.000	0.000	0.910	0.000	0.01
L33	64.00-59.00	A	0.905	0.000	0.000	14.368	0.000	0.23
		B		0.000	0.000	11.324	0.000	0.18
		C		0.000	0.000	18.186	0.000	0.26
L34	59.00-54.00	A	0.897	0.000	0.000	13.264	0.000	0.22
		B		0.000	0.000	11.584	0.000	0.18
		C		0.000	0.000	19.499	0.000	0.26
L35	54.00-53.50	A	0.892	0.000	0.000	1.325	0.000	0.02
		B		0.000	0.000	1.474	0.000	0.02
		C		0.000	0.000	2.264	0.000	0.03
L36	53.50-53.25	A	0.892	0.000	0.000	0.662	0.000	0.01
		B		0.000	0.000	0.737	0.000	0.01
		C		0.000	0.000	1.132	0.000	0.01
L37	53.25-43.83	A	0.883	0.000	0.000	24.896	0.000	0.43
		B		0.000	0.000	29.449	0.000	0.39
		C		0.000	0.000	44.295	0.000	0.52
L38	43.83-42.83	A	0.873	0.000	0.000	2.873	0.000	0.05
		B		0.000	0.000	2.203	0.000	0.04
		C		0.000	0.000	4.009	0.000	0.05
L39	42.83-41.75	A	0.871	0.000	0.000	3.104	0.000	0.05
		B		0.000	0.000	2.364	0.000	0.04
		C		0.000	0.000	4.323	0.000	0.05
L40	41.75-41.50	A	0.870	0.000	0.000	0.720	0.000	0.01
		B		0.000	0.000	0.549	0.000	0.01
		C		0.000	0.000	1.003	0.000	0.01
L41	41.50-36.50	A	0.864	0.000	0.000	14.384	0.000	0.22
		B		0.000	0.000	10.953	0.000	0.18
		C		0.000	0.000	20.027	0.000	0.25
L42	36.50-32.75	A	0.854	0.000	0.000	10.757	0.000	0.17
		B		0.000	0.000	11.082	0.000	0.15
		C		0.000	0.000	17.867	0.000	0.20
L43	32.75-32.50	A	0.849	0.000	0.000	0.716	0.000	0.01
		B		0.000	0.000	0.808	0.000	0.01
		C		0.000	0.000	1.260	0.000	0.01
L44	32.50-29.73	A	0.845	0.000	0.000	9.106	0.000	0.13
		B		0.000	0.000	10.123	0.000	0.12
		C		0.000	0.000	13.927	0.000	0.16
L45	29.73-29.48	A	0.841	0.000	0.000	1.007	0.000	0.01
		B		0.000	0.000	1.098	0.000	0.01
		C		0.000	0.000	1.257	0.000	0.02
L46	29.48-28.25	A	0.839	0.000	0.000	4.962	0.000	0.06
		B		0.000	0.000	5.415	0.000	0.06
		C		0.000	0.000	6.196	0.000	0.08
L47	28.25-28.00	A	0.837	0.000	0.000	1.005	0.000	0.01
		B		0.000	0.000	1.097	0.000	0.01
		C		0.000	0.000	1.256	0.000	0.02
L48	28.00-23.00	A	0.828	0.000	0.000	24.110	0.000	0.22
		B		0.000	0.000	17.792	0.000	0.22
		C		0.000	0.000	16.898	0.000	0.32

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
L49	23.00-19.25	A	0.813	0.000	0.000	18.179	0.000	0.16
		B		0.000	0.000	11.274	0.000	0.15
		C		0.000	0.000	10.430	0.000	0.22
L50	19.25-19.00	A	0.805	0.000	0.000	1.210	0.000	0.01
		B		0.000	0.000	0.750	0.000	0.01
		C		0.000	0.000	0.693	0.000	0.01
L51	19.00-14.00	A	0.793	0.000	0.000	20.951	0.000	0.20
		B		0.000	0.000	11.780	0.000	0.18
		C		0.000	0.000	13.807	0.000	0.27
L52	14.00-9.00	A	0.765	0.000	0.000	19.751	0.000	0.19
		B		0.000	0.000	10.630	0.000	0.17
		C		0.000	0.000	13.288	0.000	0.25
L53	9.00-4.00	A	0.722	0.000	0.000	16.975	0.000	0.13
		B		0.000	0.000	6.676	0.000	0.08
		C		0.000	0.000	10.819	0.000	0.20
L54	4.00-0.00	A	0.642	0.000	0.000	12.874	0.000	0.09
		B		0.000	0.000	4.514	0.000	0.05
		C		0.000	0.000	8.361	0.000	0.12

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	168.50-163.50	-0.2823	0.4889	-0.8841	1.5312
L2	163.50-158.50	-0.2827	0.4896	-0.8910	1.5433
L3	158.50-153.50	-0.2831	0.4903	-0.8973	1.5542
L4	153.50-148.50	-0.2835	0.4910	-0.9030	1.5641
L5	148.50-143.50	0.6802	-0.0941	0.2118	0.8240
L6	143.50-138.50	0.7767	-0.1514	0.3228	0.7575
L7	138.50-130.67	-1.2017	-1.0898	-1.6710	-0.3596
L8	130.67-129.33	-1.3157	-1.1452	-1.7907	-0.4227
L9	129.33-125.75	-0.1593	-1.3708	-0.5427	-0.9473
L10	125.75-125.50	0.1699	-1.2440	-0.1040	-1.0162
L11	125.50-120.50	0.1586	-1.6911	-0.0987	-1.3518
L12	120.50-120.25	0.1363	-2.4986	-0.0879	-1.9982
L13	120.25-115.25	0.0965	-1.7676	-0.0666	-1.5225
L14	115.25-113.83	0.0777	-1.4212	-0.0551	-1.2712
L15	113.83-113.48	0.0780	-1.4274	-0.0552	-1.2766
L16	113.48-113.25	0.0781	-1.4294	-0.0553	-1.2784
L17	113.25-108.25	0.0869	-0.8689	-0.0600	-0.8029
L18	108.25-103.25	0.0919	-0.6684	-0.0622	-0.6375
L19	103.25-98.25	0.0941	-0.6828	-0.0626	-0.6507
L20	98.25-93.25	0.0962	-0.6971	-0.0629	-0.6638
L21	93.25-84.72	0.7853	0.2218	0.4942	-0.7146
L22	84.72-83.72	0.7034	1.3972	-0.6357	-0.4520
L23	83.72-82.92	0.9305	1.1110	-0.9438	-0.2169
L24	82.92-82.67	0.9326	1.1137	-0.9459	-0.2173
L25	82.67-82.50	0.9334	1.1147	-0.9466	-0.2174
L26	82.50-82.25	0.9340	1.1154	-0.9471	-0.2175
L27	82.25-77.25	0.3551	0.8406	-1.5924	-0.5612
L28	77.25-73.42	-0.5198	0.2874	-1.3059	-0.4157
L29	73.42-73.17	-0.8849	0.0160	-0.7988	-0.1512
L30	73.17-68.17	-0.9264	-0.0610	-0.8637	0.0663
L31	68.17-64.25	-0.9666	-0.0281	-0.9463	0.2096
L32	64.25-64.00	-0.9742	-0.0281	-0.9527	0.2108
L33	64.00-59.00	-1.1687	-0.9000	-1.0981	0.9795
L34	59.00-54.00	-0.8754	-1.0367	-0.8492	1.4226
L35	54.00-53.50	-0.0811	-0.5359	-0.1854	1.6806
L36	53.50-53.25	-0.0813	-0.5366	-0.1855	1.6829
L37	53.25-43.83	-0.6227	-0.8247	-0.0041	1.7270
L38	43.83-42.83	-1.0666	-1.4653	-1.1669	1.4639
L39	42.83-41.75	-1.0390	-1.4761	-1.1817	1.4728
L40	41.75-41.50	-1.0413	-1.4794	-1.1839	1.4759
L41	41.50-36.50	-1.0505	-1.4923	-1.1922	1.4878
L42	36.50-32.75	-0.1051	-0.8720	-0.3693	1.8072

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L43	32.75-32.50	0.1987	-0.6742	-0.0995	1.9154
L44	32.50-29.73	0.1819	-0.1559	-0.0914	1.3528
L45	29.73-29.48	0.1586	0.5526	-0.0805	0.5473
L46	29.48-28.25	0.1590	0.5540	-0.0801	0.5485
L47	28.25-28.00	0.1594	0.5554	-0.0796	0.5498
L48	28.00-23.00	0.6770	1.7809	-1.4979	-1.0116
L49	23.00-19.25	0.2389	1.6846	-2.1325	-1.4381
L50	19.25-19.00	0.2404	1.6953	-2.1431	-1.4483
L51	19.00-14.00	0.2811	1.1098	-2.4301	-0.8706
L52	14.00-9.00	0.3135	0.8611	-2.5267	-0.7431
L53	9.00-4.00	0.2938	1.4897	-2.7501	-0.3583
L54	4.00-0.00	0.2774	1.6965	-2.8683	-0.1486

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	2	Safety Line 3/8	163.50 - 168.50	1.0000	1.0000
L1	3	Step Pegs	163.50 - 168.50	1.0000	1.0000
L2	2	Safety Line 3/8	158.50 - 163.50	1.0000	1.0000
L2	3	Step Pegs	158.50 - 163.50	1.0000	1.0000
L3	2	Safety Line 3/8	153.50 - 158.50	1.0000	1.0000
L3	3	Step Pegs	153.50 - 158.50	1.0000	1.0000
L4	2	Safety Line 3/8	148.50 - 153.50	1.0000	1.0000
L4	3	Step Pegs	148.50 - 153.50	1.0000	1.0000
L5	2	Safety Line 3/8	143.50 - 148.50	1.0000	1.0000
L5	3	Step Pegs	143.50 - 148.50	1.0000	1.0000
L5	19	CU12PSM9P6XXX(1-1/2)	143.50 - 148.00	1.0000	1.0000
L6	2	Safety Line 3/8	138.50 - 143.50	1.0000	1.0000
L6	3	Step Pegs	138.50 - 143.50	1.0000	1.0000
L6	19	CU12PSM9P6XXX(1-1/2)	138.50 - 143.50	1.0000	1.0000
L7	2	Safety Line 3/8	130.67 - 138.50	1.0000	1.0000
L7	3	Step Pegs	130.67 - 138.50	1.0000	1.0000
L7	19	CU12PSM9P6XXX(1-1/2)	130.67 - 138.50	1.0000	1.0000
L7	21	HB114-U6S12-XXX-LI(1-1/4)	130.67 - 138.00	1.0000	1.0000
L7	22	HB158-1-08U8-S8J18(1-5/8)	130.67 - 138.00	1.0000	1.0000
L8	2	Safety Line 3/8	129.33 - 130.67	1.0000	1.0000
L8	3	Step Pegs	129.33 - 130.67	1.0000	1.0000
L8	19	CU12PSM9P6XXX(1-1/2)	129.33 - 130.67	1.0000	1.0000
L8	21	HB114-U6S12-XXX-LI(1-1/4)	129.33 - 130.67	1.0000	1.0000
L8	22	HB158-1-08U8-S8J18(1-5/8)	129.33 - 130.67	1.0000	1.0000
L9	2	Safety Line 3/8	125.75 - 129.33	1.0000	1.0000
L9	3	Step Pegs	125.75 - 129.33	1.0000	1.0000
L9	19	CU12PSM9P6XXX(1-1/2)	125.75 - 129.33	1.0000	1.0000
L9	21	HB114-U6S12-XXX-LI(1-1/4)	125.75 - 129.33	1.0000	1.0000
L9	22	HB158-1-08U8-S8J18(1-5/8)	125.75 - 129.33	1.0000	1.0000
L9	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	125.75 - 128.00	1.0000	1.0000
L9	64	CCI-SFP-045100	125.75 - 127.33	1.0000	1.0000
L9	65	CCI-SFP-045100	125.75 - 127.33	1.0000	1.0000
L9	66	CCI-SFP-045100	125.75 - 127.33	1.0000	1.0000
L10	2	Safety Line 3/8	125.50 - 125.75	1.0000	1.0000
L10	3	Step Pegs	125.50 - 125.75	1.0000	1.0000
L10	19	CU12PSM9P6XXX(1-1/2)	125.50 - 125.75	1.0000	1.0000
L10	21	HB114-U6S12-XXX-LI(1-1/4)	125.50 - 125.75	1.0000	1.0000
L10	22	HB158-1-08U8-S8J18(1-5/8)	125.50 - 125.75	1.0000	1.0000
L10	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	125.50 - 125.75	1.0000	1.0000
L10	64	CCI-SFP-045100	125.50 - 125.75	1.0000	1.0000
L10	65	CCI-SFP-045100	125.50 - 125.75	1.0000	1.0000
L10	66	CCI-SFP-045100	125.50 - 125.75	1.0000	1.0000
L11	2	Safety Line 3/8	120.50 - 125.50	1.0000	1.0000
L11	3	Step Pegs	120.50 - 125.50	1.0000	1.0000
L11	19	CU12PSM9P6XXX(1-1/2)	120.50 - 125.50	1.0000	1.0000
L11	21	HB114-U6S12-XXX-LI(1-1/4)	120.50 - 125.50	1.0000	1.0000
L11	22	HB158-1-08U8-S8J18(1-5/8)	120.50 - 125.50	1.0000	1.0000
L11	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	120.50 - 125.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L11	64	CCI-SFP-045100	120.50 - 125.50	1.0000	1.0000
L11	65	CCI-SFP-045100	120.50 - 125.50	1.0000	1.0000
L11	66	CCI-SFP-045100	120.50 - 125.50	1.0000	1.0000
L11	68	CCI-SFP-040125	120.50 - 122.00	1.0000	1.0000
L11	69	CCI-SFP-040125	120.50 - 122.00	1.0000	1.0000
L12	2	Safety Line 3/8	120.25 - 120.50	1.0000	1.0000
L12	3	Step Pegs	120.25 - 120.50	1.0000	1.0000
L12	19	CU12PSM9P6XXX(1-1/2)	120.25 - 120.50	1.0000	1.0000
L12	21	HB114-U6S12-XXX-LI(1-1/4)	120.25 - 120.50	1.0000	1.0000
L12	22	HB158-1-08U8-S8J18(1-5/8)	120.25 - 120.50	1.0000	1.0000
L12	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	120.25 - 120.50	1.0000	1.0000
L12	64	CCI-SFP-045100	120.25 - 120.50	1.0000	1.0000
L12	65	CCI-SFP-045100	120.25 - 120.50	1.0000	1.0000
L12	66	CCI-SFP-045100	120.25 - 120.50	1.0000	1.0000
L12	68	CCI-SFP-040125	120.25 - 120.50	1.0000	1.0000
L12	69	CCI-SFP-040125	120.25 - 120.50	1.0000	1.0000
L13	2	Safety Line 3/8	115.25 - 120.25	1.0000	1.0000
L13	3	Step Pegs	115.25 - 120.25	1.0000	1.0000
L13	19	CU12PSM9P6XXX(1-1/2)	115.25 - 120.25	1.0000	1.0000
L13	21	HB114-U6S12-XXX-LI(1-1/4)	115.25 - 120.25	1.0000	1.0000
L13	22	HB158-1-08U8-S8J18(1-5/8)	115.25 - 120.25	1.0000	1.0000
L13	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	115.25 - 120.25	1.0000	1.0000
L13	32	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	1.0000	1.0000
L13	33	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	1.0000	1.0000
L13	34	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	1.0000	1.0000
L13	48	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	1.0000	1.0000
L13	49	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	1.0000	1.0000
L13	50	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	1.0000	1.0000
L13	64	CCI-SFP-045100	115.25 - 120.25	1.0000	1.0000
L13	65	CCI-SFP-045100	115.25 - 120.25	1.0000	1.0000
L13	66	CCI-SFP-045100	115.25 - 120.25	1.0000	1.0000
L13	68	CCI-SFP-040125	115.25 - 120.25	1.0000	1.0000
L13	69	CCI-SFP-040125	115.25 - 120.25	1.0000	1.0000
L14	2	Safety Line 3/8	113.83 - 115.25	1.0000	1.0000
L14	3	Step Pegs	113.83 - 115.25	1.0000	1.0000
L14	19	CU12PSM9P6XXX(1-1/2)	113.83 - 115.25	1.0000	1.0000
L14	21	HB114-U6S12-XXX-LI(1-1/4)	113.83 - 115.25	1.0000	1.0000
L14	22	HB158-1-08U8-S8J18(1-5/8)	113.83 - 115.25	1.0000	1.0000
L14	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	113.83 - 115.25	1.0000	1.0000
L14	32	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	1.0000	1.0000
L14	33	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	1.0000	1.0000
L14	34	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	1.0000	1.0000
L14	48	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	1.0000	1.0000
L14	49	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	1.0000	1.0000
L14	50	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	1.0000	1.0000
L14	64	CCI-SFP-045100	113.83 - 115.25	1.0000	1.0000
L14	65	CCI-SFP-045100	113.83 - 115.25	1.0000	1.0000
L14	66	CCI-SFP-045100	113.83 - 115.25	1.0000	1.0000
L14	68	CCI-SFP-040125	113.83 - 115.25	1.0000	1.0000
L14	69	CCI-SFP-040125	113.83 - 115.25	1.0000	1.0000
L15	2	Safety Line 3/8	113.48 - 113.83	1.0000	1.0000
L15	3	Step Pegs	113.48 - 113.83	1.0000	1.0000
L15	19	CU12PSM9P6XXX(1-1/2)	113.48 - 113.83	1.0000	1.0000
L15	21	HB114-U6S12-XXX-LI(1-1/4)	113.48 - 113.83	1.0000	1.0000
L15	22	HB158-1-08U8-S8J18(1-5/8)	113.48 - 113.83	1.0000	1.0000
L15	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	113.48 - 113.83	1.0000	1.0000
L15	32	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	1.0000	1.0000
L15	33	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	1.0000	1.0000
L15	34	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	1.0000	1.0000
L15	48	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	1.0000	1.0000
L15	49	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	1.0000	1.0000
L15	50	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	1.0000	1.0000
L15	64	CCI-SFP-045100	113.48 - 113.83	1.0000	1.0000
L15	65	CCI-SFP-045100	113.48 - 113.83	1.0000	1.0000
L15	66	CCI-SFP-045100	113.48 - 113.83	1.0000	1.0000
L15	68	CCI-SFP-040125	113.48 - 113.83	1.0000	1.0000
L15	69	CCI-SFP-040125	113.48 - 113.83	1.0000	1.0000
L16	2	Safety Line 3/8	113.25 - 113.48	1.0000	1.0000
L16	3	Step Pegs	113.25 - 113.48	1.0000	1.0000
L16	19	CU12PSM9P6XXX(1-1/2)	113.25 - 113.48	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L16	21	HB114-U6S12-XXX-LI(1-1/4)	113.25 - 113.48	1.0000	1.0000
L16	22	HB158-1-08U8-S8J18(1-5/8)	113.25 - 113.48	1.0000	1.0000
L16	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	113.25 - 113.48	1.0000	1.0000
L16	32	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	1.0000	1.0000
L16	33	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	1.0000	1.0000
L16	34	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	1.0000	1.0000
L16	48	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	1.0000	1.0000
L16	49	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	1.0000	1.0000
L16	50	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	1.0000	1.0000
L16	64	CCI-SFP-045100	113.25 - 113.48	1.0000	1.0000
L16	65	CCI-SFP-045100	113.25 - 113.48	1.0000	1.0000
L16	66	CCI-SFP-045100	113.25 - 113.48	1.0000	1.0000
L16	68	CCI-SFP-040125	113.25 - 113.48	1.0000	1.0000
L16	69	CCI-SFP-040125	113.25 - 113.48	1.0000	1.0000
L17	2	Safety Line 3/8	108.25 - 113.25	1.0000	1.0000
L17	3	Step Pegs	108.25 - 113.25	1.0000	1.0000
L17	19	CU12PSM9P6XXX(1-1/2)	108.25 - 113.25	1.0000	1.0000
L17	21	HB114-U6S12-XXX-LI(1-1/4)	108.25 - 113.25	1.0000	1.0000
L17	22	HB158-1-08U8-S8J18(1-5/8)	108.25 - 113.25	1.0000	1.0000
L17	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	108.25 - 113.25	1.0000	1.0000
L17	32	Shaft Rinforcement [#PL0.625x5]	108.25 - 113.25	1.0000	1.0000
L17	33	Shaft Rinforcement [#PL0.625x5]	108.25 - 113.25	1.0000	1.0000
L17	34	Shaft Rinforcement [#PL0.625x5]	108.25 - 113.25	1.0000	1.0000
L17	48	Shaft Rinforcement [#PL1.25x5]	108.25 - 113.25	1.0000	1.0000
L17	49	Shaft Rinforcement [#PL1.25x5]	108.25 - 113.25	1.0000	1.0000
L17	50	Shaft Rinforcement [#PL1.25x5]	108.25 - 113.25	1.0000	1.0000
L17	64	CCI-SFP-045100	108.25 - 113.25	1.0000	1.0000
L17	65	CCI-SFP-045100	108.25 - 113.25	1.0000	1.0000
L17	66	CCI-SFP-045100	108.25 - 113.25	1.0000	1.0000
L17	68	CCI-SFP-040125	112.00 - 113.25	1.0000	1.0000
L17	69	CCI-SFP-040125	112.00 - 113.25	1.0000	1.0000
L18	2	Safety Line 3/8	103.25 - 108.25	1.0000	1.0000
L18	3	Step Pegs	103.25 - 108.25	1.0000	1.0000
L18	19	CU12PSM9P6XXX(1-1/2)	103.25 - 108.25	1.0000	1.0000
L18	21	HB114-U6S12-XXX-LI(1-1/4)	103.25 - 108.25	1.0000	1.0000
L18	22	HB158-1-08U8-S8J18(1-5/8)	103.25 - 108.25	1.0000	1.0000
L18	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	103.25 - 108.25	1.0000	1.0000
L18	32	Shaft Rinforcement [#PL0.625x5]	103.25 - 108.25	1.0000	1.0000
L18	33	Shaft Rinforcement [#PL0.625x5]	103.25 - 108.25	1.0000	1.0000
L18	34	Shaft Rinforcement [#PL0.625x5]	103.25 - 108.25	1.0000	1.0000
L18	48	Shaft Rinforcement [#PL1.25x5]	103.25 - 108.25	1.0000	1.0000
L18	49	Shaft Rinforcement [#PL1.25x5]	103.25 - 108.25	1.0000	1.0000
L18	50	Shaft Rinforcement [#PL1.25x5]	103.25 - 108.25	1.0000	1.0000
L18	64	CCI-SFP-045100	103.25 - 108.25	1.0000	1.0000
L18	65	CCI-SFP-045100	103.25 - 108.25	1.0000	1.0000
L18	66	CCI-SFP-045100	103.25 - 108.25	1.0000	1.0000
L19	2	Safety Line 3/8	98.25 - 103.25	1.0000	1.0000
L19	3	Step Pegs	98.25 - 103.25	1.0000	1.0000
L19	19	CU12PSM9P6XXX(1-1/2)	98.25 - 103.25	1.0000	1.0000
L19	21	HB114-U6S12-XXX-LI(1-1/4)	98.25 - 103.25	1.0000	1.0000
L19	22	HB158-1-08U8-S8J18(1-5/8)	98.25 - 103.25	1.0000	1.0000
L19	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	98.25 - 103.25	1.0000	1.0000
L19	32	Shaft Rinforcement [#PL0.625x5]	98.25 - 103.25	1.0000	1.0000
L19	33	Shaft Rinforcement [#PL0.625x5]	98.25 - 103.25	1.0000	1.0000
L19	34	Shaft Rinforcement [#PL0.625x5]	98.25 - 103.25	1.0000	1.0000
L19	48	Shaft Rinforcement [#PL1.25x5]	98.25 - 103.25	1.0000	1.0000
L19	49	Shaft Rinforcement [#PL1.25x5]	98.25 - 103.25	1.0000	1.0000
L19	50	Shaft Rinforcement [#PL1.25x5]	98.25 - 103.25	1.0000	1.0000
L19	64	CCI-SFP-045100	98.25 - 103.25	1.0000	1.0000
L19	65	CCI-SFP-045100	98.25 - 103.25	1.0000	1.0000
L19	66	CCI-SFP-045100	98.25 - 103.25	1.0000	1.0000
L20	2	Safety Line 3/8	93.25 - 98.25	1.0000	1.0000
L20	3	Step Pegs	93.25 - 98.25	1.0000	1.0000
L20	19	CU12PSM9P6XXX(1-1/2)	93.25 - 98.25	1.0000	1.0000
L20	21	HB114-U6S12-XXX-LI(1-1/4)	93.25 - 98.25	1.0000	1.0000
L20	22	HB158-1-08U8-S8J18(1-5/8)	93.25 - 98.25	1.0000	1.0000
L20	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	93.25 - 98.25	1.0000	1.0000
L20	32	Shaft Rinforcement [#PL0.625x5]	93.25 - 98.25	1.0000	1.0000
L20	33	Shaft Rinforcement [#PL0.625x5]	93.25 - 98.25	1.0000	1.0000
L20	34	Shaft Rinforcement [#PL0.625x5]	93.25 - 98.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L20	48	Shaft Rinforcement [#PL1.25x5]	93.25 - 98.25	1.0000	1.0000
L20	49	Shaft Rinforcement [#PL1.25x5]	93.25 - 98.25	1.0000	1.0000
L20	50	Shaft Rinforcement [#PL1.25x5]	93.25 - 98.25	1.0000	1.0000
L20	64	CCI-SFP-045100	93.25 - 98.25	1.0000	1.0000
L20	65	CCI-SFP-045100	93.25 - 98.25	1.0000	1.0000
L20	66	CCI-SFP-045100	93.25 - 98.25	1.0000	1.0000
L21	2	Safety Line 3/8	84.72 - 93.25	1.0000	1.0000
L21	3	Step Pegs	84.72 - 93.25	1.0000	1.0000
L21	19	CU12PSM9P6XXX(1-1/2)	84.72 - 93.25	1.0000	1.0000
L21	21	HB114-U6S12-XXX-LI(1-1/4)	84.72 - 93.25	1.0000	1.0000
L21	22	HB158-1-08U8-S8J18(1-5/8)	84.72 - 93.25	1.0000	1.0000
L21	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	84.72 - 93.25	1.0000	1.0000
L21	32	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.25	1.0000	1.0000
L21	33	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.25	1.0000	1.0000
L21	34	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.25	1.0000	1.0000
L21	45	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	1.0000	1.0000
L21	46	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	1.0000	1.0000
L21	47	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	1.0000	1.0000
L21	48	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.25	1.0000	1.0000
L21	49	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.25	1.0000	1.0000
L21	50	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.25	1.0000	1.0000
L21	64	CCI-SFP-045100	87.92 - 93.25	1.0000	1.0000
L21	65	CCI-SFP-045100	87.92 - 93.25	1.0000	1.0000
L21	66	CCI-SFP-045100	87.92 - 93.25	1.0000	1.0000
L21	70	CCI-SFP-050125	84.72 - 90.50	1.0000	1.0000
L21	71	CCI-SFP-050125	84.72 - 90.50	1.0000	1.0000
L22	2	Safety Line 3/8	83.72 - 84.72	1.0000	1.0000
L22	3	Step Pegs	83.72 - 84.72	1.0000	1.0000
L22	19	CU12PSM9P6XXX(1-1/2)	83.72 - 84.72	1.0000	1.0000
L22	21	HB114-U6S12-XXX-LI(1-1/4)	83.72 - 84.72	1.0000	1.0000
L22	22	HB158-1-08U8-S8J18(1-5/8)	83.72 - 84.72	1.0000	1.0000
L22	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	83.72 - 84.72	1.0000	1.0000
L22	30	Shaft Rinforcement [#PL0.625x5]	83.72 - 84.67	1.0000	1.0000
L22	31	Shaft Rinforcement [#PL0.625x5]	83.72 - 84.67	1.0000	1.0000
L22	32	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	1.0000	1.0000
L22	33	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	1.0000	1.0000
L22	34	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	1.0000	1.0000
L22	45	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	1.0000	1.0000
L22	46	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	1.0000	1.0000
L22	47	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	1.0000	1.0000
L22	55	CCI-SFP-045100	83.72 - 84.33	1.0000	1.0000
L22	56	CCI-SFP-045100	83.72 - 84.33	1.0000	1.0000
L22	57	CCI-SFP-045100	83.72 - 84.33	1.0000	1.0000
L22	70	CCI-SFP-050125	83.72 - 84.72	1.0000	1.0000
L22	71	CCI-SFP-050125	83.72 - 84.72	1.0000	1.0000
L23	2	Safety Line 3/8	82.92 - 83.72	1.0000	1.0000
L23	3	Step Pegs	82.92 - 83.72	1.0000	1.0000
L23	19	CU12PSM9P6XXX(1-1/2)	82.92 - 83.72	1.0000	1.0000
L23	21	HB114-U6S12-XXX-LI(1-1/4)	82.92 - 83.72	1.0000	1.0000
L23	22	HB158-1-08U8-S8J18(1-5/8)	82.92 - 83.72	1.0000	1.0000
L23	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	82.92 - 83.72	1.0000	1.0000
L23	30	Shaft Rinforcement [#PL0.625x5]	82.92 - 83.72	1.0000	1.0000
L23	31	Shaft Rinforcement [#PL0.625x5]	82.92 - 83.72	1.0000	1.0000
L23	45	Shaft Rinforcement [#PL1.25x5]	82.92 - 83.72	1.0000	1.0000
L23	46	Shaft Rinforcement [#PL1.25x5]	82.92 - 83.72	1.0000	1.0000
L23	47	Shaft Rinforcement [#PL1.25x5]	82.92 - 83.72	1.0000	1.0000
L23	55	CCI-SFP-045100	82.92 - 83.72	1.0000	1.0000
L23	56	CCI-SFP-045100	82.92 - 83.72	1.0000	1.0000
L23	57	CCI-SFP-045100	82.92 - 83.72	1.0000	1.0000
L23	70	CCI-SFP-050125	82.92 - 83.72	1.0000	1.0000
L23	71	CCI-SFP-050125	82.92 - 83.72	1.0000	1.0000
L24	2	Safety Line 3/8	82.67 - 82.92	1.0000	1.0000
L24	3	Step Pegs	82.67 - 82.92	1.0000	1.0000
L24	19	CU12PSM9P6XXX(1-1/2)	82.67 - 82.92	1.0000	1.0000
L24	21	HB114-U6S12-XXX-LI(1-1/4)	82.67 - 82.92	1.0000	1.0000
L24	22	HB158-1-08U8-S8J18(1-5/8)	82.67 - 82.92	1.0000	1.0000
L24	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	82.67 - 82.92	1.0000	1.0000
L24	30	Shaft Rinforcement [#PL0.625x5]	82.67 - 82.92	1.0000	1.0000
L24	31	Shaft Rinforcement [#PL0.625x5]	82.67 - 82.92	1.0000	1.0000
L24	45	Shaft Rinforcement [#PL1.25x5]	82.67 - 82.92	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	46	Shaft Rinforcement [#PL1.25x5]	82.67 - 82.92	1.0000	1.0000
L24	47	Shaft Rinforcement [#PL1.25x5]	82.67 - 82.92	1.0000	1.0000
L24	55	CCI-SFP-045100	82.67 - 82.92	1.0000	1.0000
L24	56	CCI-SFP-045100	82.67 - 82.92	1.0000	1.0000
L24	57	CCI-SFP-045100	82.67 - 82.92	1.0000	1.0000
L24	70	CCI-SFP-050125	82.67 - 82.92	1.0000	1.0000
L24	71	CCI-SFP-050125	82.67 - 82.92	1.0000	1.0000
L25	2	Safety Line 3/8	82.50 - 82.67	1.0000	1.0000
L25	3	Step Pegs	82.50 - 82.67	1.0000	1.0000
L25	19	CU12PSM9P6XXX(1-1/2)	82.50 - 82.67	1.0000	1.0000
L25	21	HB114-U6S12-XXX-LI(1-1/4)	82.50 - 82.67	1.0000	1.0000
L25	22	HB158-1-08U8-S8J18(1-5/8)	82.50 - 82.67	1.0000	1.0000
L25	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	82.50 - 82.67	1.0000	1.0000
L25	30	Shaft Rinforcement [#PL0.625x5]	82.50 - 82.67	1.0000	1.0000
L25	31	Shaft Rinforcement [#PL0.625x5]	82.50 - 82.67	1.0000	1.0000
L25	45	Shaft Rinforcement [#PL1.25x5]	82.50 - 82.67	1.0000	1.0000
L25	46	Shaft Rinforcement [#PL1.25x5]	82.50 - 82.67	1.0000	1.0000
L25	47	Shaft Rinforcement [#PL1.25x5]	82.50 - 82.67	1.0000	1.0000
L25	55	CCI-SFP-045100	82.50 - 82.67	1.0000	1.0000
L25	56	CCI-SFP-045100	82.50 - 82.67	1.0000	1.0000
L25	57	CCI-SFP-045100	82.50 - 82.67	1.0000	1.0000
L25	70	CCI-SFP-050125	82.50 - 82.67	1.0000	1.0000
L25	71	CCI-SFP-050125	82.50 - 82.67	1.0000	1.0000
L26	2	Safety Line 3/8	82.25 - 82.50	1.0000	1.0000
L26	3	Step Pegs	82.25 - 82.50	1.0000	1.0000
L26	19	CU12PSM9P6XXX(1-1/2)	82.25 - 82.50	1.0000	1.0000
L26	21	HB114-U6S12-XXX-LI(1-1/4)	82.25 - 82.50	1.0000	1.0000
L26	22	HB158-1-08U8-S8J18(1-5/8)	82.25 - 82.50	1.0000	1.0000
L26	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	82.25 - 82.50	1.0000	1.0000
L26	30	Shaft Rinforcement [#PL0.625x5]	82.25 - 82.50	1.0000	1.0000
L26	31	Shaft Rinforcement [#PL0.625x5]	82.25 - 82.50	1.0000	1.0000
L26	45	Shaft Rinforcement [#PL1.25x5]	82.25 - 82.50	1.0000	1.0000
L26	46	Shaft Rinforcement [#PL1.25x5]	82.25 - 82.50	1.0000	1.0000
L26	47	Shaft Rinforcement [#PL1.25x5]	82.25 - 82.50	1.0000	1.0000
L26	55	CCI-SFP-045100	82.25 - 82.50	1.0000	1.0000
L26	56	CCI-SFP-045100	82.25 - 82.50	1.0000	1.0000
L26	57	CCI-SFP-045100	82.25 - 82.50	1.0000	1.0000
L26	70	CCI-SFP-050125	82.25 - 82.50	1.0000	1.0000
L26	71	CCI-SFP-050125	82.25 - 82.50	1.0000	1.0000
L27	2	Safety Line 3/8	77.25 - 82.25	1.0000	1.0000
L27	3	Step Pegs	77.25 - 82.25	1.0000	1.0000
L27	19	CU12PSM9P6XXX(1-1/2)	77.25 - 82.25	1.0000	1.0000
L27	21	HB114-U6S12-XXX-LI(1-1/4)	77.25 - 82.25	1.0000	1.0000
L27	22	HB158-1-08U8-S8J18(1-5/8)	77.25 - 82.25	1.0000	1.0000
L27	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	77.25 - 82.25	1.0000	1.0000
L27	30	Shaft Rinforcement [#PL0.625x5]	77.25 - 82.25	1.0000	1.0000
L27	31	Shaft Rinforcement [#PL0.625x5]	77.25 - 82.25	1.0000	1.0000
L27	45	Shaft Rinforcement [#PL1.25x5]	77.25 - 82.25	1.0000	1.0000
L27	46	Shaft Rinforcement [#PL1.25x5]	77.25 - 82.25	1.0000	1.0000
L27	47	Shaft Rinforcement [#PL1.25x5]	77.25 - 82.25	1.0000	1.0000
L27	55	CCI-SFP-045100	77.25 - 82.25	1.0000	1.0000
L27	56	CCI-SFP-045100	77.25 - 82.25	1.0000	1.0000
L27	57	CCI-SFP-045100	77.25 - 82.25	1.0000	1.0000
L27	70	CCI-SFP-050125	80.50 - 82.25	1.0000	1.0000
L27	71	CCI-SFP-050125	80.50 - 82.25	1.0000	1.0000
L28	2	Safety Line 3/8	73.42 - 77.25	1.0000	1.0000
L28	3	Step Pegs	73.42 - 77.25	1.0000	1.0000
L28	19	CU12PSM9P6XXX(1-1/2)	73.42 - 77.25	1.0000	1.0000
L28	21	HB114-U6S12-XXX-LI(1-1/4)	73.42 - 77.25	1.0000	1.0000
L28	22	HB158-1-08U8-S8J18(1-5/8)	73.42 - 77.25	1.0000	1.0000
L28	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	73.42 - 77.25	1.0000	1.0000
L28	30	Shaft Rinforcement [#PL0.625x5]	73.42 - 77.25	1.0000	1.0000
L28	31	Shaft Rinforcement [#PL0.625x5]	73.42 - 77.25	1.0000	1.0000
L28	42	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	1.0000	1.0000
L28	43	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	1.0000	1.0000
L28	44	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	1.0000	1.0000
L28	45	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.25	1.0000	1.0000
L28	46	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.25	1.0000	1.0000
L28	47	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.25	1.0000	1.0000
L28	55	CCI-SFP-045100	73.42 - 77.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L28	56	CCI-SFP-045100	73.42 - 77.25	1.0000	1.0000
L28	57	CCI-SFP-045100	73.42 - 77.25	1.0000	1.0000
L29	2	Safety Line 3/8	73.17 - 73.42	1.0000	1.0000
L29	3	Step Pegs	73.17 - 73.42	1.0000	1.0000
L29	19	CU12PSM9P6XXX(1-1/2)	73.17 - 73.42	1.0000	1.0000
L29	21	HB114-U6S12-XXX-LI(1-1/4)	73.17 - 73.42	1.0000	1.0000
L29	22	HB158-1-08U8-S8J18(1-5/8)	73.17 - 73.42	1.0000	1.0000
L29	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	73.17 - 73.42	1.0000	1.0000
L29	30	Shaft Rinforcement [#PL0.625x5]	73.17 - 73.42	1.0000	1.0000
L29	31	Shaft Rinforcement [#PL0.625x5]	73.17 - 73.42	1.0000	1.0000
L29	42	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L29	43	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L29	44	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L29	45	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L29	46	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L29	47	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L29	55	CCI-SFP-045100	73.17 - 73.42	1.0000	1.0000
L29	56	CCI-SFP-045100	73.17 - 73.42	1.0000	1.0000
L29	57	CCI-SFP-045100	73.17 - 73.42	1.0000	1.0000
L30	2	Safety Line 3/8	68.17 - 73.17	1.0000	1.0000
L30	3	Step Pegs	68.17 - 73.17	1.0000	1.0000
L30	19	CU12PSM9P6XXX(1-1/2)	68.17 - 73.17	1.0000	1.0000
L30	21	HB114-U6S12-XXX-LI(1-1/4)	68.17 - 73.17	1.0000	1.0000
L30	22	HB158-1-08U8-S8J18(1-5/8)	68.17 - 73.17	1.0000	1.0000
L30	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	68.17 - 73.17	1.0000	1.0000
L30	28	LDF4-50A(1/2)	68.17 - 70.00	1.0000	1.0000
L30	30	Shaft Rinforcement [#PL0.625x5]	68.17 - 73.17	1.0000	1.0000
L30	31	Shaft Rinforcement [#PL0.625x5]	68.17 - 73.17	1.0000	1.0000
L30	42	Shaft Rinforcement [#PL1.25x5]	68.17 - 73.17	1.0000	1.0000
L30	43	Shaft Rinforcement [#PL1.25x5]	68.17 - 73.17	1.0000	1.0000
L30	44	Shaft Rinforcement [#PL1.25x5]	68.17 - 73.17	1.0000	1.0000
L30	45	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	1.0000	1.0000
L30	46	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	1.0000	1.0000
L30	47	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	1.0000	1.0000
L30	55	CCI-SFP-045100	68.17 - 73.17	1.0000	1.0000
L30	56	CCI-SFP-045100	68.17 - 73.17	1.0000	1.0000
L30	57	CCI-SFP-045100	68.17 - 73.17	1.0000	1.0000
L30	61	CCI-SFP-045100	68.17 - 72.75	1.0000	1.0000
L30	62	CCI-SFP-045100	68.17 - 72.75	1.0000	1.0000
L30	63	CCI-SFP-045100	68.17 - 72.75	1.0000	1.0000
L31	2	Safety Line 3/8	64.25 - 68.17	1.0000	1.0000
L31	3	Step Pegs	64.25 - 68.17	1.0000	1.0000
L31	19	CU12PSM9P6XXX(1-1/2)	64.25 - 68.17	1.0000	1.0000
L31	21	HB114-U6S12-XXX-LI(1-1/4)	64.25 - 68.17	1.0000	1.0000
L31	22	HB158-1-08U8-S8J18(1-5/8)	64.25 - 68.17	1.0000	1.0000
L31	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	64.25 - 68.17	1.0000	1.0000
L31	28	LDF4-50A(1/2)	64.25 - 68.17	1.0000	1.0000
L31	30	Shaft Rinforcement [#PL0.625x5]	64.25 - 68.17	1.0000	1.0000
L31	31	Shaft Rinforcement [#PL0.625x5]	64.25 - 68.17	1.0000	1.0000
L31	42	Shaft Rinforcement [#PL1.25x5]	64.25 - 68.17	1.0000	1.0000
L31	43	Shaft Rinforcement [#PL1.25x5]	64.25 - 68.17	1.0000	1.0000
L31	44	Shaft Rinforcement [#PL1.25x5]	64.25 - 68.17	1.0000	1.0000
L31	55	CCI-SFP-045100	64.25 - 68.17	1.0000	1.0000
L31	56	CCI-SFP-045100	64.25 - 68.17	1.0000	1.0000
L31	57	CCI-SFP-045100	64.25 - 68.17	1.0000	1.0000
L31	61	CCI-SFP-045100	64.25 - 68.17	1.0000	1.0000
L31	62	CCI-SFP-045100	64.25 - 68.17	1.0000	1.0000
L31	63	CCI-SFP-045100	64.25 - 68.17	1.0000	1.0000
L32	2	Safety Line 3/8	64.00 - 64.25	1.0000	1.0000
L32	3	Step Pegs	64.00 - 64.25	1.0000	1.0000
L32	19	CU12PSM9P6XXX(1-1/2)	64.00 - 64.25	1.0000	1.0000
L32	21	HB114-U6S12-XXX-LI(1-1/4)	64.00 - 64.25	1.0000	1.0000
L32	22	HB158-1-08U8-S8J18(1-5/8)	64.00 - 64.25	1.0000	1.0000
L32	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	64.00 - 64.25	1.0000	1.0000
L32	28	LDF4-50A(1/2)	64.00 - 64.25	1.0000	1.0000
L32	30	Shaft Rinforcement [#PL0.625x5]	64.00 - 64.25	1.0000	1.0000
L32	31	Shaft Rinforcement [#PL0.625x5]	64.00 - 64.25	1.0000	1.0000
L32	42	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	1.0000	1.0000
L32	43	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	1.0000	1.0000
L32	44	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L32	55	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L32	56	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L32	57	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L32	61	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L32	62	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L32	63	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L33	2	Safety Line 3/8	59.00 - 64.00	1.0000	1.0000
L33	3	Step Pegs	59.00 - 64.00	1.0000	1.0000
L33	19	CU12PSM9P6XXX(1-1/2)	59.00 - 64.00	1.0000	1.0000
L33	21	HB114-U6S12-XXX-LI(1-1/4)	59.00 - 64.00	1.0000	1.0000
L33	22	HB158-1-08U8-S8J18(1-5/8)	59.00 - 64.00	1.0000	1.0000
L33	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	59.00 - 64.00	1.0000	1.0000
L33	28	LDF4-50A(1/2)	59.00 - 64.00	1.0000	1.0000
L33	30	Shaft Rinforcement [#PL0.625x5]	59.00 - 64.00	1.0000	1.0000
L33	31	Shaft Rinforcement [#PL0.625x5]	59.00 - 64.00	1.0000	1.0000
L33	42	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	1.0000	1.0000
L33	43	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	1.0000	1.0000
L33	44	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	1.0000	1.0000
L33	55	CCI-SFP-045100	59.00 - 64.00	1.0000	1.0000
L33	56	CCI-SFP-045100	59.00 - 64.00	1.0000	1.0000
L33	57	CCI-SFP-045100	59.00 - 64.00	1.0000	1.0000
L33	61	CCI-SFP-045100	62.75 - 64.00	1.0000	1.0000
L33	62	CCI-SFP-045100	62.75 - 64.00	1.0000	1.0000
L33	63	CCI-SFP-045100	62.75 - 64.00	1.0000	1.0000
L34	2	Safety Line 3/8	54.00 - 59.00	1.0000	1.0000
L34	3	Step Pegs	54.00 - 59.00	1.0000	1.0000
L34	19	CU12PSM9P6XXX(1-1/2)	54.00 - 59.00	1.0000	1.0000
L34	21	HB114-U6S12-XXX-LI(1-1/4)	54.00 - 59.00	1.0000	1.0000
L34	22	HB158-1-08U8-S8J18(1-5/8)	54.00 - 59.00	1.0000	1.0000
L34	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	54.00 - 59.00	1.0000	1.0000
L34	28	LDF4-50A(1/2)	54.00 - 59.00	1.0000	1.0000
L34	30	Shaft Rinforcement [#PL0.625x5]	54.00 - 59.00	1.0000	1.0000
L34	31	Shaft Rinforcement [#PL0.625x5]	54.00 - 59.00	1.0000	1.0000
L34	42	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	1.0000	1.0000
L34	43	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	1.0000	1.0000
L34	44	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	1.0000	1.0000
L34	55	CCI-SFP-045100	54.00 - 59.00	1.0000	1.0000
L34	56	CCI-SFP-045100	54.00 - 59.00	1.0000	1.0000
L34	57	CCI-SFP-045100	54.00 - 59.00	1.0000	1.0000
L34	72	CCI-SFP-050125	54.00 - 55.50	1.0000	1.0000
L34	73	CCI-SFP-050125	54.00 - 55.50	1.0000	1.0000
L35	2	Safety Line 3/8	53.50 - 54.00	1.0000	1.0000
L35	3	Step Pegs	53.50 - 54.00	1.0000	1.0000
L35	19	CU12PSM9P6XXX(1-1/2)	53.50 - 54.00	1.0000	1.0000
L35	21	HB114-U6S12-XXX-LI(1-1/4)	53.50 - 54.00	1.0000	1.0000
L35	22	HB158-1-08U8-S8J18(1-5/8)	53.50 - 54.00	1.0000	1.0000
L35	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	53.50 - 54.00	1.0000	1.0000
L35	28	LDF4-50A(1/2)	53.50 - 54.00	1.0000	1.0000
L35	30	Shaft Rinforcement [#PL0.625x5]	53.50 - 54.00	1.0000	1.0000
L35	31	Shaft Rinforcement [#PL0.625x5]	53.50 - 54.00	1.0000	1.0000
L35	42	Shaft Rinforcement [#PL1.25x5]	53.50 - 54.00	1.0000	1.0000
L35	43	Shaft Rinforcement [#PL1.25x5]	53.50 - 54.00	1.0000	1.0000
L35	44	Shaft Rinforcement [#PL1.25x5]	53.50 - 54.00	1.0000	1.0000
L35	55	CCI-SFP-045100	53.50 - 54.00	1.0000	1.0000
L35	56	CCI-SFP-045100	53.50 - 54.00	1.0000	1.0000
L35	57	CCI-SFP-045100	53.50 - 54.00	1.0000	1.0000
L35	72	CCI-SFP-050125	53.50 - 54.00	1.0000	1.0000
L35	73	CCI-SFP-050125	53.50 - 54.00	1.0000	1.0000
L36	2	Safety Line 3/8	53.25 - 53.50	1.0000	1.0000
L36	3	Step Pegs	53.25 - 53.50	1.0000	1.0000
L36	19	CU12PSM9P6XXX(1-1/2)	53.25 - 53.50	1.0000	1.0000
L36	21	HB114-U6S12-XXX-LI(1-1/4)	53.25 - 53.50	1.0000	1.0000
L36	22	HB158-1-08U8-S8J18(1-5/8)	53.25 - 53.50	1.0000	1.0000
L36	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	53.25 - 53.50	1.0000	1.0000
L36	28	LDF4-50A(1/2)	53.25 - 53.50	1.0000	1.0000
L36	30	Shaft Rinforcement [#PL0.625x5]	53.25 - 53.50	1.0000	1.0000
L36	31	Shaft Rinforcement [#PL0.625x5]	53.25 - 53.50	1.0000	1.0000
L36	42	Shaft Rinforcement [#PL1.25x5]	53.25 - 53.50	1.0000	1.0000
L36	43	Shaft Rinforcement [#PL1.25x5]	53.25 - 53.50	1.0000	1.0000
L36	44	Shaft Rinforcement [#PL1.25x5]	53.25 - 53.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L36	55	CCI-SFP-045100	53.25 - 53.50	1.0000	1.0000
L36	56	CCI-SFP-045100	53.25 - 53.50	1.0000	1.0000
L36	57	CCI-SFP-045100	53.25 - 53.50	1.0000	1.0000
L36	72	CCI-SFP-050125	53.25 - 53.50	1.0000	1.0000
L36	73	CCI-SFP-050125	53.25 - 53.50	1.0000	1.0000
L37	2	Safety Line 3/8	43.83 - 53.25	1.0000	1.0000
L37	3	Step Pegs	43.83 - 53.25	1.0000	1.0000
L37	19	CU12PSM9P6XXX(1-1/2)	43.83 - 53.25	1.0000	1.0000
L37	21	HB114-U6S12-XXX-LI(1-1/4)	43.83 - 53.25	1.0000	1.0000
L37	22	HB158-1-08U8-S8J18(1-5/8)	43.83 - 53.25	1.0000	1.0000
L37	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	43.83 - 53.25	1.0000	1.0000
L37	28	LDF4-50A(1/2)	43.83 - 53.25	1.0000	1.0000
L37	30	Shaft Rinforcement [#PL0.625x5]	43.83 - 53.25	1.0000	1.0000
L37	31	Shaft Rinforcement [#PL0.625x5]	43.83 - 53.25	1.0000	1.0000
L37	39	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	1.0000	1.0000
L37	40	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	1.0000	1.0000
L37	41	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	1.0000	1.0000
L37	42	Shaft Rinforcement [#PL1.25x5]	45.38 - 53.25	1.0000	1.0000
L37	43	Shaft Rinforcement [#PL1.25x5]	45.38 - 53.25	1.0000	1.0000
L37	44	Shaft Rinforcement [#PL1.25x5]	45.38 - 53.25	1.0000	1.0000
L37	55	CCI-SFP-045100	43.83 - 53.25	1.0000	1.0000
L37	56	CCI-SFP-045100	43.83 - 53.25	1.0000	1.0000
L37	57	CCI-SFP-045100	43.83 - 53.25	1.0000	1.0000
L37	72	CCI-SFP-050125	45.50 - 53.25	1.0000	1.0000
L37	73	CCI-SFP-050125	45.50 - 53.25	1.0000	1.0000
L38	2	Safety Line 3/8	42.83 - 43.83	1.0000	1.0000
L38	3	Step Pegs	42.83 - 43.83	1.0000	1.0000
L38	19	CU12PSM9P6XXX(1-1/2)	42.83 - 43.83	1.0000	1.0000
L38	21	HB114-U6S12-XXX-LI(1-1/4)	42.83 - 43.83	1.0000	1.0000
L38	22	HB158-1-08U8-S8J18(1-5/8)	42.83 - 43.83	1.0000	1.0000
L38	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	42.83 - 43.83	1.0000	1.0000
L38	28	LDF4-50A(1/2)	42.83 - 43.83	1.0000	1.0000
L38	30	Shaft Rinforcement [#PL0.625x5]	42.83 - 43.83	1.0000	1.0000
L38	31	Shaft Rinforcement [#PL0.625x5]	42.83 - 43.83	1.0000	1.0000
L38	39	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	1.0000	1.0000
L38	40	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	1.0000	1.0000
L38	41	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	1.0000	1.0000
L38	52	CCI-SFP-060100	42.83 - 43.75	1.0000	1.0000
L38	53	CCI-SFP-060100	42.83 - 43.75	1.0000	1.0000
L38	54	CCI-SFP-060100	42.83 - 43.75	1.0000	1.0000
L38	55	CCI-SFP-045100	43.75 - 43.83	1.0000	1.0000
L38	56	CCI-SFP-045100	43.75 - 43.83	1.0000	1.0000
L38	57	CCI-SFP-045100	43.75 - 43.83	1.0000	1.0000
L39	2	Safety Line 3/8	41.75 - 42.83	1.0000	1.0000
L39	3	Step Pegs	41.75 - 42.83	1.0000	1.0000
L39	19	CU12PSM9P6XXX(1-1/2)	41.75 - 42.83	1.0000	1.0000
L39	21	HB114-U6S12-XXX-LI(1-1/4)	41.75 - 42.83	1.0000	1.0000
L39	22	HB158-1-08U8-S8J18(1-5/8)	41.75 - 42.83	1.0000	1.0000
L39	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	41.75 - 42.83	1.0000	1.0000
L39	28	LDF4-50A(1/2)	41.75 - 42.83	1.0000	1.0000
L39	30	Shaft Rinforcement [#PL0.625x5]	41.75 - 42.83	1.0000	1.0000
L39	31	Shaft Rinforcement [#PL0.625x5]	41.75 - 42.83	1.0000	1.0000
L39	39	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	1.0000	1.0000
L39	40	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	1.0000	1.0000
L39	41	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	1.0000	1.0000
L39	52	CCI-SFP-060100	41.75 - 42.83	1.0000	1.0000
L39	53	CCI-SFP-060100	41.75 - 42.83	1.0000	1.0000
L39	54	CCI-SFP-060100	41.75 - 42.83	1.0000	1.0000
L40	2	Safety Line 3/8	41.50 - 41.75	1.0000	1.0000
L40	3	Step Pegs	41.50 - 41.75	1.0000	1.0000
L40	19	CU12PSM9P6XXX(1-1/2)	41.50 - 41.75	1.0000	1.0000
L40	21	HB114-U6S12-XXX-LI(1-1/4)	41.50 - 41.75	1.0000	1.0000
L40	22	HB158-1-08U8-S8J18(1-5/8)	41.50 - 41.75	1.0000	1.0000
L40	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	41.50 - 41.75	1.0000	1.0000
L40	28	LDF4-50A(1/2)	41.50 - 41.75	1.0000	1.0000
L40	30	Shaft Rinforcement [#PL0.625x5]	41.50 - 41.75	1.0000	1.0000
L40	31	Shaft Rinforcement [#PL0.625x5]	41.50 - 41.75	1.0000	1.0000
L40	39	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	1.0000	1.0000
L40	40	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	1.0000	1.0000
L40	41	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L40	52	CCI-SFP-060100	41.50 - 41.75	1.0000	1.0000
L40	53	CCI-SFP-060100	41.50 - 41.75	1.0000	1.0000
L40	54	CCI-SFP-060100	41.50 - 41.75	1.0000	1.0000
L41	2	Safety Line 3/8	36.50 - 41.50	1.0000	1.0000
L41	3	Step Pegs	36.50 - 41.50	1.0000	1.0000
L41	19	CU12PSM9P6XXX(1-1/2)	36.50 - 41.50	1.0000	1.0000
L41	21	HB114-U6S12-XXX-LI(1-1/4)	36.50 - 41.50	1.0000	1.0000
L41	22	HB158-1-08U8-S8J18(1-5/8)	36.50 - 41.50	1.0000	1.0000
L41	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	36.50 - 41.50	1.0000	1.0000
L41	28	LDF4-50A(1/2)	36.50 - 41.50	1.0000	1.0000
L41	30	Shaft Rinforcement [#PL0.625x5]	36.50 - 41.50	1.0000	1.0000
L41	31	Shaft Rinforcement [#PL0.625x5]	36.50 - 41.50	1.0000	1.0000
L41	39	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	1.0000	1.0000
L41	40	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	1.0000	1.0000
L41	41	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	1.0000	1.0000
L41	52	CCI-SFP-060100	36.50 - 41.50	1.0000	1.0000
L41	53	CCI-SFP-060100	36.50 - 41.50	1.0000	1.0000
L41	54	CCI-SFP-060100	36.50 - 41.50	1.0000	1.0000
L42	2	Safety Line 3/8	32.75 - 36.50	1.0000	1.0000
L42	3	Step Pegs	32.75 - 36.50	1.0000	1.0000
L42	19	CU12PSM9P6XXX(1-1/2)	32.75 - 36.50	1.0000	1.0000
L42	21	HB114-U6S12-XXX-LI(1-1/4)	32.75 - 36.50	1.0000	1.0000
L42	22	HB158-1-08U8-S8J18(1-5/8)	32.75 - 36.50	1.0000	1.0000
L42	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	32.75 - 36.50	1.0000	1.0000
L42	28	LDF4-50A(1/2)	32.75 - 36.50	1.0000	1.0000
L42	30	Shaft Rinforcement [#PL0.625x5]	32.75 - 36.50	1.0000	1.0000
L42	31	Shaft Rinforcement [#PL0.625x5]	32.75 - 36.50	1.0000	1.0000
L42	39	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	1.0000	1.0000
L42	40	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	1.0000	1.0000
L42	41	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	1.0000	1.0000
L42	52	CCI-SFP-060100	32.75 - 36.50	1.0000	1.0000
L42	53	CCI-SFP-060100	32.75 - 36.50	1.0000	1.0000
L42	54	CCI-SFP-060100	32.75 - 36.50	1.0000	1.0000
L42	74	CCI-SFP-065125	32.75 - 35.50	1.0000	1.0000
L42	75	CCI-SFP-065125	32.75 - 35.50	1.0000	1.0000
L43	2	Safety Line 3/8	32.50 - 32.75	1.0000	1.0000
L43	3	Step Pegs	32.50 - 32.75	1.0000	1.0000
L43	19	CU12PSM9P6XXX(1-1/2)	32.50 - 32.75	1.0000	1.0000
L43	21	HB114-U6S12-XXX-LI(1-1/4)	32.50 - 32.75	1.0000	1.0000
L43	22	HB158-1-08U8-S8J18(1-5/8)	32.50 - 32.75	1.0000	1.0000
L43	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	32.50 - 32.75	1.0000	1.0000
L43	28	LDF4-50A(1/2)	32.50 - 32.75	1.0000	1.0000
L43	30	Shaft Rinforcement [#PL0.625x5]	32.50 - 32.75	1.0000	1.0000
L43	31	Shaft Rinforcement [#PL0.625x5]	32.50 - 32.75	1.0000	1.0000
L43	39	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	1.0000	1.0000
L43	40	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	1.0000	1.0000
L43	41	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	1.0000	1.0000
L43	52	CCI-SFP-060100	32.50 - 32.75	1.0000	1.0000
L43	53	CCI-SFP-060100	32.50 - 32.75	1.0000	1.0000
L43	54	CCI-SFP-060100	32.50 - 32.75	1.0000	1.0000
L43	74	CCI-SFP-065125	32.50 - 32.75	1.0000	1.0000
L43	75	CCI-SFP-065125	32.50 - 32.75	1.0000	1.0000
L44	2	Safety Line 3/8	29.73 - 32.50	1.0000	1.0000
L44	3	Step Pegs	29.73 - 32.50	1.0000	1.0000
L44	19	CU12PSM9P6XXX(1-1/2)	29.73 - 32.50	1.0000	1.0000
L44	21	HB114-U6S12-XXX-LI(1-1/4)	29.73 - 32.50	1.0000	1.0000
L44	22	HB158-1-08U8-S8J18(1-5/8)	29.73 - 32.50	1.0000	1.0000
L44	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	29.73 - 32.50	1.0000	1.0000
L44	28	LDF4-50A(1/2)	29.73 - 32.50	1.0000	1.0000
L44	30	Shaft Rinforcement [#PL0.625x5]	29.73 - 32.50	1.0000	1.0000
L44	31	Shaft Rinforcement [#PL0.625x5]	29.73 - 32.50	1.0000	1.0000
L44	36	Shaft Rinforcement [#PL1.25x6]	29.73 - 30.75	1.0000	1.0000
L44	37	Shaft Rinforcement [#PL1.25x6]	29.73 - 30.75	1.0000	1.0000
L44	38	Shaft Rinforcement [#PL1.25x6]	29.73 - 30.75	1.0000	1.0000
L44	39	Shaft Rinforcement [#PL1.25x6]	29.73 - 32.50	1.0000	1.0000
L44	40	Shaft Rinforcement [#PL1.25x6]	29.73 - 32.50	1.0000	1.0000
L44	41	Shaft Rinforcement [#PL1.25x6]	29.73 - 32.50	1.0000	1.0000
L44	52	CCI-SFP-060100	29.73 - 32.50	1.0000	1.0000
L44	53	CCI-SFP-060100	29.73 - 32.50	1.0000	1.0000
L44	54	CCI-SFP-060100	29.73 - 32.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L44	74	CCI-SFP-065125	29.73 - 32.50	1.0000	1.0000
L44	75	CCI-SFP-065125	29.73 - 32.50	1.0000	1.0000
L45	2	Safety Line 3/8	29.48 - 29.73	1.0000	1.0000
L45	3	Step Pegs	29.48 - 29.73	1.0000	1.0000
L45	19	CU12PSM9P6XXX(1-1/2)	29.48 - 29.73	1.0000	1.0000
L45	21	HB114-U6S12-XXX-LI(1-1/4)	29.48 - 29.73	1.0000	1.0000
L45	22	HB158-1-08U8-S8J18(1-5/8)	29.48 - 29.73	1.0000	1.0000
L45	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	29.48 - 29.73	1.0000	1.0000
L45	28	LDF4-50A(1/2)	29.48 - 29.73	1.0000	1.0000
L45	30	Shaft Rinforcement [#PL0.625x5]	29.48 - 29.73	1.0000	1.0000
L45	31	Shaft Rinforcement [#PL0.625x5]	29.48 - 29.73	1.0000	1.0000
L45	36	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	1.0000	1.0000
L45	37	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	1.0000	1.0000
L45	38	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	1.0000	1.0000
L45	39	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	1.0000	1.0000
L45	40	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	1.0000	1.0000
L45	41	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	1.0000	1.0000
L45	52	CCI-SFP-060100	29.48 - 29.73	1.0000	1.0000
L45	53	CCI-SFP-060100	29.48 - 29.73	1.0000	1.0000
L45	54	CCI-SFP-060100	29.48 - 29.73	1.0000	1.0000
L45	74	CCI-SFP-065125	29.48 - 29.73	1.0000	1.0000
L45	75	CCI-SFP-065125	29.48 - 29.73	1.0000	1.0000
L46	2	Safety Line 3/8	28.25 - 29.48	1.0000	1.0000
L46	3	Step Pegs	28.25 - 29.48	1.0000	1.0000
L46	19	CU12PSM9P6XXX(1-1/2)	28.25 - 29.48	1.0000	1.0000
L46	21	HB114-U6S12-XXX-LI(1-1/4)	28.25 - 29.48	1.0000	1.0000
L46	22	HB158-1-08U8-S8J18(1-5/8)	28.25 - 29.48	1.0000	1.0000
L46	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	28.25 - 29.48	1.0000	1.0000
L46	28	LDF4-50A(1/2)	28.25 - 29.48	1.0000	1.0000
L46	30	Shaft Rinforcement [#PL0.625x5]	28.25 - 29.48	1.0000	1.0000
L46	31	Shaft Rinforcement [#PL0.625x5]	28.25 - 29.48	1.0000	1.0000
L46	36	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	1.0000	1.0000
L46	37	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	1.0000	1.0000
L46	38	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	1.0000	1.0000
L46	39	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	1.0000	1.0000
L46	40	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	1.0000	1.0000
L46	41	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	1.0000	1.0000
L46	52	CCI-SFP-060100	28.25 - 29.48	1.0000	1.0000
L46	53	CCI-SFP-060100	28.25 - 29.48	1.0000	1.0000
L46	54	CCI-SFP-060100	28.25 - 29.48	1.0000	1.0000
L46	74	CCI-SFP-065125	28.25 - 29.48	1.0000	1.0000
L46	75	CCI-SFP-065125	28.25 - 29.48	1.0000	1.0000
L47	2	Safety Line 3/8	28.00 - 28.25	1.0000	1.0000
L47	3	Step Pegs	28.00 - 28.25	1.0000	1.0000
L47	19	CU12PSM9P6XXX(1-1/2)	28.00 - 28.25	1.0000	1.0000
L47	21	HB114-U6S12-XXX-LI(1-1/4)	28.00 - 28.25	1.0000	1.0000
L47	22	HB158-1-08U8-S8J18(1-5/8)	28.00 - 28.25	1.0000	1.0000
L47	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	28.00 - 28.25	1.0000	1.0000
L47	28	LDF4-50A(1/2)	28.00 - 28.25	1.0000	1.0000
L47	30	Shaft Rinforcement [#PL0.625x5]	28.00 - 28.25	1.0000	1.0000
L47	31	Shaft Rinforcement [#PL0.625x5]	28.00 - 28.25	1.0000	1.0000
L47	36	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L47	37	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L47	38	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L47	39	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L47	40	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L47	41	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L47	52	CCI-SFP-060100	28.00 - 28.25	1.0000	1.0000
L47	53	CCI-SFP-060100	28.00 - 28.25	1.0000	1.0000
L47	54	CCI-SFP-060100	28.00 - 28.25	1.0000	1.0000
L47	74	CCI-SFP-065125	28.00 - 28.25	1.0000	1.0000
L47	75	CCI-SFP-065125	28.00 - 28.25	1.0000	1.0000
L48	2	Safety Line 3/8	23.00 - 28.00	1.0000	1.0000
L48	3	Step Pegs	23.00 - 28.00	1.0000	1.0000
L48	19	CU12PSM9P6XXX(1-1/2)	23.00 - 28.00	1.0000	1.0000
L48	21	HB114-U6S12-XXX-LI(1-1/4)	23.00 - 28.00	1.0000	1.0000
L48	22	HB158-1-08U8-S8J18(1-5/8)	23.00 - 28.00	1.0000	1.0000
L48	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	23.00 - 28.00	1.0000	1.0000
L48	28	LDF4-50A(1/2)	23.00 - 28.00	1.0000	1.0000
L48	30	Shaft Rinforcement [#PL0.625x5]	23.00 - 28.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L48	31	Shaft Rinforcement [#PL0.625x5]	23.00 - 28.00	1.0000	1.0000
L48	36	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	1.0000	1.0000
L48	37	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	1.0000	1.0000
L48	38	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	1.0000	1.0000
L48	39	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	1.0000	1.0000
L48	40	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	1.0000	1.0000
L48	41	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	1.0000	1.0000
L48	52	CCI-SFP-060100	23.00 - 28.00	1.0000	1.0000
L48	53	CCI-SFP-060100	23.00 - 28.00	1.0000	1.0000
L48	54	CCI-SFP-060100	23.00 - 28.00	1.0000	1.0000
L48	58	CCI-SFP-045100	23.00 - 27.75	1.0000	1.0000
L48	59	CCI-SFP-045100	23.00 - 27.75	1.0000	1.0000
L48	60	CCI-SFP-045100	23.00 - 27.75	1.0000	1.0000
L48	74	CCI-SFP-065125	25.50 - 28.00	1.0000	1.0000
L48	75	CCI-SFP-065125	25.50 - 28.00	1.0000	1.0000
L49	2	Safety Line 3/8	19.25 - 23.00	1.0000	1.0000
L49	3	Step Pegs	19.25 - 23.00	1.0000	1.0000
L49	19	CU12PSM9P6XXX(1-1/2)	19.25 - 23.00	1.0000	1.0000
L49	21	HB114-U6S12-XXX-LI(1-1/4)	19.25 - 23.00	1.0000	1.0000
L49	22	HB158-1-08U8-S8J18(1-5/8)	19.25 - 23.00	1.0000	1.0000
L49	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	19.25 - 23.00	1.0000	1.0000
L49	28	LDF4-50A(1/2)	19.25 - 23.00	1.0000	1.0000
L49	30	Shaft Rinforcement [#PL0.625x5]	19.25 - 23.00	1.0000	1.0000
L49	31	Shaft Rinforcement [#PL0.625x5]	19.25 - 23.00	1.0000	1.0000
L49	36	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	1.0000	1.0000
L49	37	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	1.0000	1.0000
L49	38	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	1.0000	1.0000
L49	52	CCI-SFP-060100	19.25 - 23.00	1.0000	1.0000
L49	53	CCI-SFP-060100	19.25 - 23.00	1.0000	1.0000
L49	54	CCI-SFP-060100	19.25 - 23.00	1.0000	1.0000
L49	58	CCI-SFP-045100	19.25 - 23.00	1.0000	1.0000
L49	59	CCI-SFP-045100	19.25 - 23.00	1.0000	1.0000
L49	60	CCI-SFP-045100	19.25 - 23.00	1.0000	1.0000
L50	2	Safety Line 3/8	19.00 - 19.25	1.0000	1.0000
L50	3	Step Pegs	19.00 - 19.25	1.0000	1.0000
L50	19	CU12PSM9P6XXX(1-1/2)	19.00 - 19.25	1.0000	1.0000
L50	21	HB114-U6S12-XXX-LI(1-1/4)	19.00 - 19.25	1.0000	1.0000
L50	22	HB158-1-08U8-S8J18(1-5/8)	19.00 - 19.25	1.0000	1.0000
L50	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	19.00 - 19.25	1.0000	1.0000
L50	28	LDF4-50A(1/2)	19.00 - 19.25	1.0000	1.0000
L50	30	Shaft Rinforcement [#PL0.625x5]	19.00 - 19.25	1.0000	1.0000
L50	31	Shaft Rinforcement [#PL0.625x5]	19.00 - 19.25	1.0000	1.0000
L50	36	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	1.0000	1.0000
L50	37	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	1.0000	1.0000
L50	38	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	1.0000	1.0000
L50	52	CCI-SFP-060100	19.00 - 19.25	1.0000	1.0000
L50	53	CCI-SFP-060100	19.00 - 19.25	1.0000	1.0000
L50	54	CCI-SFP-060100	19.00 - 19.25	1.0000	1.0000
L50	58	CCI-SFP-045100	19.00 - 19.25	1.0000	1.0000
L50	59	CCI-SFP-045100	19.00 - 19.25	1.0000	1.0000
L50	60	CCI-SFP-045100	19.00 - 19.25	1.0000	1.0000
L51	2	Safety Line 3/8	14.00 - 19.00	1.0000	1.0000
L51	3	Step Pegs	14.00 - 19.00	1.0000	1.0000
L51	19	CU12PSM9P6XXX(1-1/2)	14.00 - 19.00	1.0000	1.0000
L51	21	HB114-U6S12-XXX-LI(1-1/4)	14.00 - 19.00	1.0000	1.0000
L51	22	HB158-1-08U8-S8J18(1-5/8)	14.00 - 19.00	1.0000	1.0000
L51	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	14.00 - 19.00	1.0000	1.0000
L51	28	LDF4-50A(1/2)	14.00 - 19.00	1.0000	1.0000
L51	30	Shaft Rinforcement [#PL0.625x5]	14.00 - 19.00	1.0000	1.0000
L51	31	Shaft Rinforcement [#PL0.625x5]	14.00 - 19.00	1.0000	1.0000
L51	36	Shaft Rinforcement [#PL1.25x6]	14.00 - 19.00	1.0000	1.0000
L51	37	Shaft Rinforcement [#PL1.25x6]	14.00 - 19.00	1.0000	1.0000
L51	38	Shaft Rinforcement [#PL1.25x6]	14.00 - 19.00	1.0000	1.0000
L51	52	CCI-SFP-060100	14.00 - 19.00	1.0000	1.0000
L51	53	CCI-SFP-060100	14.00 - 19.00	1.0000	1.0000
L51	54	CCI-SFP-060100	14.00 - 19.00	1.0000	1.0000
L51	58	CCI-SFP-045100	17.75 - 19.00	1.0000	1.0000
L51	59	CCI-SFP-045100	17.75 - 19.00	1.0000	1.0000
L51	60	CCI-SFP-045100	17.75 - 19.00	1.0000	1.0000
L52	2	Safety Line 3/8	10.00 - 14.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L52	3	Step Pegs	10.00 - 14.00	1.0000	1.0000
L52	19	CU12PSM9P6XXX(1-1/2)	9.00 - 14.00	1.0000	1.0000
L52	21	HB114-U6S12-XXX-LI(1-1/4)	9.00 - 14.00	1.0000	1.0000
L52	22	HB158-1-08U8-S8J18(1-5/8)	9.00 - 14.00	1.0000	1.0000
L52	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	9.00 - 14.00	1.0000	1.0000
L52	28	LDF4-50A(1/2)	9.00 - 14.00	1.0000	1.0000
L52	30	Shaft Rinforcement [#PL0.625x5]	9.00 - 14.00	1.0000	1.0000
L52	31	Shaft Rinforcement [#PL0.625x5]	9.00 - 14.00	1.0000	1.0000
L52	36	Shaft Rinforcement [#PL1.25x6]	9.00 - 14.00	1.0000	1.0000
L52	37	Shaft Rinforcement [#PL1.25x6]	9.00 - 14.00	1.0000	1.0000
L52	38	Shaft Rinforcement [#PL1.25x6]	9.00 - 14.00	1.0000	1.0000
L52	52	CCI-SFP-060100	9.00 - 14.00	1.0000	1.0000
L52	53	CCI-SFP-060100	9.00 - 14.00	1.0000	1.0000
L52	54	CCI-SFP-060100	9.00 - 14.00	1.0000	1.0000
L53	19	CU12PSM9P6XXX(1-1/2)	8.00 - 9.00	1.0000	1.0000
L53	21	HB114-U6S12-XXX-LI(1-1/4)	8.00 - 9.00	1.0000	1.0000
L53	22	HB158-1-08U8-S8J18(1-5/8)	8.00 - 9.00	1.0000	1.0000
L53	26	MLE Hybrid 3Power/6Fiber RL 2(1-1/4)	8.00 - 9.00	1.0000	1.0000
L53	28	LDF4-50A(1/2)	8.00 - 9.00	1.0000	1.0000
L53	30	Shaft Rinforcement [#PL0.625x5]	4.00 - 9.00	1.0000	1.0000
L53	31	Shaft Rinforcement [#PL0.625x5]	4.00 - 9.00	1.0000	1.0000
L53	36	Shaft Rinforcement [#PL1.25x6]	4.00 - 9.00	1.0000	1.0000
L53	37	Shaft Rinforcement [#PL1.25x6]	4.00 - 9.00	1.0000	1.0000
L53	38	Shaft Rinforcement [#PL1.25x6]	4.00 - 9.00	1.0000	1.0000
L53	52	CCI-SFP-060100	4.00 - 9.00	1.0000	1.0000
L53	53	CCI-SFP-060100	4.00 - 9.00	1.0000	1.0000
L53	54	CCI-SFP-060100	4.00 - 9.00	1.0000	1.0000
L54	30	Shaft Rinforcement [#PL0.625x5]	0.00 - 4.00	1.0000	1.0000
L54	31	Shaft Rinforcement [#PL0.625x5]	0.00 - 4.00	1.0000	1.0000
L54	36	Shaft Rinforcement [#PL1.25x6]	0.00 - 4.00	1.0000	1.0000
L54	37	Shaft Rinforcement [#PL1.25x6]	0.00 - 4.00	1.0000	1.0000
L54	38	Shaft Rinforcement [#PL1.25x6]	0.00 - 4.00	1.0000	1.0000
L54	52	CCI-SFP-060100	0.00 - 4.00	1.0000	1.0000
L54	53	CCI-SFP-060100	0.00 - 4.00	1.0000	1.0000
L54	54	CCI-SFP-060100	0.00 - 4.00	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
L9	64	CCI-SFP-045100	125.75 - 127.33	Auto	0.0962
L9	65	CCI-SFP-045100	125.75 - 127.33	Auto	0.0962
L9	66	CCI-SFP-045100	125.75 - 127.33	Auto	0.0962
L10	64	CCI-SFP-045100	125.50 - 125.75	Auto	0.0903
L10	65	CCI-SFP-045100	125.50 - 125.75	Auto	0.0903
L10	66	CCI-SFP-045100	125.50 - 125.75	Auto	0.0903
L11	64	CCI-SFP-045100	120.50 - 125.50	Auto	0.0734
L11	65	CCI-SFP-045100	120.50 - 125.50	Auto	0.0734
L11	66	CCI-SFP-045100	120.50 - 125.50	Auto	0.0734
L11	68	CCI-SFP-040125	120.50 - 122.00	Auto	0.0000
L11	69	CCI-SFP-040125	120.50 - 122.00	Auto	0.0000
L12	64	CCI-SFP-045100	120.25 - 120.50	Auto	0.1469
L12	65	CCI-SFP-045100	120.25 - 120.50	Auto	0.1469
L12	66	CCI-SFP-045100	120.25 - 120.50	Auto	0.1469
L12	68	CCI-SFP-040125	120.25 - 120.50	Auto	0.0403
L12	69	CCI-SFP-040125	120.25 - 120.50	Auto	0.0403
L13	32	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	Auto	0.2141
L13	33	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	Auto	0.2141
L13	34	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	Auto	0.2141
L13	48	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	Auto	0.2020
L13	49	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	Auto	0.2020
L13	50	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	Auto	0.2020
L13	64	CCI-SFP-045100	115.25 - 120.25	Auto	0.1276
L13	65	CCI-SFP-045100	115.25 - 120.25	Auto	0.1276
L13	66	CCI-SFP-045100	115.25 - 120.25	Auto	0.1276

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L13	68	CCI-SFP-040125	115.25 - 120.25	Auto	0.0186
L13	69	CCI-SFP-040125	115.25 - 120.25	Auto	0.0186
L14	32	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	Auto	0.1941
L14	33	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	Auto	0.1941
L14	34	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	Auto	0.1941
L14	48	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	Auto	0.1941
L14	49	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	Auto	0.1941
L14	50	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	Auto	0.1941
L14	64	CCI-SFP-045100	113.83 - 115.25	Auto	0.1045
L14	65	CCI-SFP-045100	113.83 - 115.25	Auto	0.1045
L14	66	CCI-SFP-045100	113.83 - 115.25	Auto	0.1045
L14	68	CCI-SFP-040125	113.83 - 115.25	Auto	0.0000
L14	69	CCI-SFP-040125	113.83 - 115.25	Auto	0.0000
L15	32	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	Auto	0.2527
L15	33	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	Auto	0.2527
L15	34	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	Auto	0.2527
L15	48	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	Auto	0.2527
L15	49	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	Auto	0.2527
L15	50	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	Auto	0.2527
L15	64	CCI-SFP-045100	113.48 - 113.83	Auto	0.1697
L15	65	CCI-SFP-045100	113.48 - 113.83	Auto	0.1697
L15	66	CCI-SFP-045100	113.48 - 113.83	Auto	0.1697
L15	68	CCI-SFP-040125	113.48 - 113.83	Auto	0.0659
L15	69	CCI-SFP-040125	113.48 - 113.83	Auto	0.0659
L16	32	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	Auto	0.2510
L16	33	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	Auto	0.2510
L16	34	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	Auto	0.2510
L16	48	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	Auto	0.2510
L16	49	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	Auto	0.2510
L16	50	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	Auto	0.2510
L16	64	CCI-SFP-045100	113.25 - 113.48	Auto	0.1678
L16	65	CCI-SFP-045100	113.25 - 113.48	Auto	0.1678
L16	66	CCI-SFP-045100	113.25 - 113.48	Auto	0.1678
L16	68	CCI-SFP-040125	113.25 - 113.48	Auto	0.0638
L16	69	CCI-SFP-040125	113.25 - 113.48	Auto	0.0638
L17	32	Shaft Rinforcement [#PL0.625x5]	108.25 - 113.25	Auto	0.2315
L17	33	Shaft Rinforcement [#PL0.625x5]	108.25 - 113.25	Auto	0.2315
L17	34	Shaft Rinforcement [#PL0.625x5]	108.25 - 113.25	Auto	0.2315
L17	48	Shaft Rinforcement [#PL1.25x5]	108.25 - 113.25	Auto	0.2315
L17	49	Shaft Rinforcement [#PL1.25x5]	108.25 - 113.25	Auto	0.2315
L17	50	Shaft Rinforcement [#PL1.25x5]	108.25 - 113.25	Auto	0.2315
L17	64	CCI-SFP-045100	108.25 - 113.25	Auto	0.1461
L17	65	CCI-SFP-045100	108.25 - 113.25	Auto	0.1461
L17	66	CCI-SFP-045100	108.25 - 113.25	Auto	0.1461
L17	68	CCI-SFP-040125	112.00 - 113.25	Auto	0.0529
L17	69	CCI-SFP-040125	112.00 - 113.25	Auto	0.0529
L18	32	Shaft Rinforcement [#PL0.625x5]	103.25 - 108.25	Auto	0.1981
L18	33	Shaft Rinforcement [#PL0.625x5]	103.25 - 108.25	Auto	0.1981
L18	34	Shaft Rinforcement [#PL0.625x5]	103.25 - 108.25	Auto	0.1981
L18	48	Shaft Rinforcement [#PL1.25x5]	103.25 - 108.25	Auto	0.1981
L18	49	Shaft Rinforcement [#PL1.25x5]	103.25 - 108.25	Auto	0.1981
L18	50	Shaft Rinforcement [#PL1.25x5]	103.25 - 108.25	Auto	0.1981
L18	64	CCI-SFP-045100	103.25 - 108.25	Auto	0.1090
L18	65	CCI-SFP-045100	103.25 - 108.25	Auto	0.1090
L18	66	CCI-SFP-045100	103.25 - 108.25	Auto	0.1090
L19	32	Shaft Rinforcement [#PL0.625x5]	98.25 - 103.25	Auto	0.1647
L19	33	Shaft Rinforcement [#PL0.625x5]	98.25 - 103.25	Auto	0.1647
L19	34	Shaft Rinforcement [#PL0.625x5]	98.25 - 103.25	Auto	0.1647
L19	48	Shaft Rinforcement [#PL1.25x5]	98.25 - 103.25	Auto	0.1647
L19	49	Shaft Rinforcement [#PL1.25x5]	98.25 - 103.25	Auto	0.1647
L19	50	Shaft Rinforcement [#PL1.25x5]	98.25 - 103.25	Auto	0.1647
L19	64	CCI-SFP-045100	98.25 - 103.25	Auto	0.0719
L19	65	CCI-SFP-045100	98.25 - 103.25	Auto	0.0719
L19	66	CCI-SFP-045100	98.25 - 103.25	Auto	0.0719
L20	32	Shaft Rinforcement [#PL0.625x5]	93.25 - 98.25	Auto	0.1314
L20	33	Shaft Rinforcement [#PL0.625x5]	93.25 - 98.25	Auto	0.1314
L20	34	Shaft Rinforcement [#PL0.625x5]	93.25 - 98.25	Auto	0.1314
L20	48	Shaft Rinforcement [#PL1.25x5]	93.25 - 98.25	Auto	0.1314

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L20	49	Shaft Rinforcement [#PL1.25x5]	93.25 - 98.25	Auto	0.1314
L20	50	Shaft Rinforcement [#PL1.25x5]	93.25 - 98.25	Auto	0.1314
L20	64	CCI-SFP-045100	93.25 - 98.25	Auto	0.0349
L20	65	CCI-SFP-045100	93.25 - 98.25	Auto	0.0349
L20	66	CCI-SFP-045100	93.25 - 98.25	Auto	0.0349
L21	32	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.25	Auto	0.0922
L21	33	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.25	Auto	0.0922
L21	34	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.25	Auto	0.0922
L21	45	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	Auto	0.0767
L21	46	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	Auto	0.0767
L21	47	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	Auto	0.0767
L21	48	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.25	Auto	0.0954
L21	49	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.25	Auto	0.0954
L21	50	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.25	Auto	0.0954
L21	64	CCI-SFP-045100	87.92 - 93.25	Auto	0.0051
L21	65	CCI-SFP-045100	87.92 - 93.25	Auto	0.0051
L21	66	CCI-SFP-045100	87.92 - 93.25	Auto	0.0051
L21	70	CCI-SFP-050125	84.72 - 90.50	Auto	0.0842
L21	71	CCI-SFP-050125	84.72 - 90.50	Auto	0.0842
L22	30	Shaft Rinforcement [#PL0.625x5]	83.72 - 84.67	Auto	0.1041
L22	31	Shaft Rinforcement [#PL0.625x5]	83.72 - 84.67	Auto	0.1041
L22	32	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	Auto	0.1070
L22	33	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	Auto	0.1070
L22	34	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	Auto	0.1070
L22	45	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	Auto	0.1042
L22	46	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	Auto	0.1042
L22	47	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	Auto	0.1042
L22	55	CCI-SFP-045100	83.72 - 84.33	Auto	0.0035
L22	56	CCI-SFP-045100	83.72 - 84.33	Auto	0.0035
L22	57	CCI-SFP-045100	83.72 - 84.33	Auto	0.0035
L22	70	CCI-SFP-050125	83.72 - 84.72	Auto	0.1042
L22	71	CCI-SFP-050125	83.72 - 84.72	Auto	0.1042
L23	30	Shaft Rinforcement [#PL0.625x5]	82.92 - 83.72	Auto	0.0990
L23	31	Shaft Rinforcement [#PL0.625x5]	82.92 - 83.72	Auto	0.0990
L23	45	Shaft Rinforcement [#PL1.25x5]	82.92 - 83.72	Auto	0.0990
L23	46	Shaft Rinforcement [#PL1.25x5]	82.92 - 83.72	Auto	0.0990
L23	47	Shaft Rinforcement [#PL1.25x5]	82.92 - 83.72	Auto	0.0990
L23	55	CCI-SFP-045100	82.92 - 83.72	Auto	0.0002
L23	56	CCI-SFP-045100	82.92 - 83.72	Auto	0.0002
L23	57	CCI-SFP-045100	82.92 - 83.72	Auto	0.0002
L23	70	CCI-SFP-050125	82.92 - 83.72	Auto	0.0990
L23	71	CCI-SFP-050125	82.92 - 83.72	Auto	0.0990
L24	30	Shaft Rinforcement [#PL0.625x5]	82.67 - 82.92	Auto	0.1972
L24	31	Shaft Rinforcement [#PL0.625x5]	82.67 - 82.92	Auto	0.1972
L24	45	Shaft Rinforcement [#PL1.25x5]	82.67 - 82.92	Auto	0.1972
L24	46	Shaft Rinforcement [#PL1.25x5]	82.67 - 82.92	Auto	0.1972
L24	47	Shaft Rinforcement [#PL1.25x5]	82.67 - 82.92	Auto	0.1972
L24	55	CCI-SFP-045100	82.67 - 82.92	Auto	0.1080
L24	56	CCI-SFP-045100	82.67 - 82.92	Auto	0.1080
L24	57	CCI-SFP-045100	82.67 - 82.92	Auto	0.1080
L24	70	CCI-SFP-050125	82.67 - 82.92	Auto	0.1972
L24	71	CCI-SFP-050125	82.67 - 82.92	Auto	0.1972
L25	30	Shaft Rinforcement [#PL0.625x5]	82.50 - 82.67	Auto	0.1960
L25	31	Shaft Rinforcement [#PL0.625x5]	82.50 - 82.67	Auto	0.1960
L25	45	Shaft Rinforcement [#PL1.25x5]	82.50 - 82.67	Auto	0.1960
L25	46	Shaft Rinforcement [#PL1.25x5]	82.50 - 82.67	Auto	0.1960
L25	47	Shaft Rinforcement [#PL1.25x5]	82.50 - 82.67	Auto	0.1960
L25	55	CCI-SFP-045100	82.50 - 82.67	Auto	0.1067
L25	56	CCI-SFP-045100	82.50 - 82.67	Auto	0.1067
L25	57	CCI-SFP-045100	82.50 - 82.67	Auto	0.1067
L25	70	CCI-SFP-050125	82.50 - 82.67	Auto	0.1960
L25	71	CCI-SFP-050125	82.50 - 82.67	Auto	0.1960
L26	30	Shaft Rinforcement [#PL0.625x5]	82.25 - 82.50	Auto	0.1024
L26	31	Shaft Rinforcement [#PL0.625x5]	82.25 - 82.50	Auto	0.1024
L26	45	Shaft Rinforcement [#PL1.25x5]	82.25 - 82.50	Auto	0.1024
L26	46	Shaft Rinforcement [#PL1.25x5]	82.25 - 82.50	Auto	0.1024
L26	47	Shaft Rinforcement [#PL1.25x5]	82.25 - 82.50	Auto	0.1024
L26	55	CCI-SFP-045100	82.25 - 82.50	Auto	0.0027

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L26	56	CCI-SFP-045100	82.25 - 82.50	Auto	0.0027
L26	57	CCI-SFP-045100	82.25 - 82.50	Auto	0.0027
L26	70	CCI-SFP-050125	82.25 - 82.50	Auto	0.1024
L26	71	CCI-SFP-050125	82.25 - 82.50	Auto	0.1024
L27	30	Shaft Rinforcement [#PL0.625x5]	77.25 - 82.25	Auto	0.0828
L27	31	Shaft Rinforcement [#PL0.625x5]	77.25 - 82.25	Auto	0.0828
L27	45	Shaft Rinforcement [#PL1.25x5]	77.25 - 82.25	Auto	0.0828
L27	46	Shaft Rinforcement [#PL1.25x5]	77.25 - 82.25	Auto	0.0828
L27	47	Shaft Rinforcement [#PL1.25x5]	77.25 - 82.25	Auto	0.0828
L27	55	CCI-SFP-045100	77.25 - 82.25	Auto	0.0000
L27	56	CCI-SFP-045100	77.25 - 82.25	Auto	0.0000
L27	57	CCI-SFP-045100	77.25 - 82.25	Auto	0.0000
L27	70	CCI-SFP-050125	80.50 - 82.25	Auto	0.0922
L27	71	CCI-SFP-050125	80.50 - 82.25	Auto	0.0922
L28	30	Shaft Rinforcement [#PL0.625x5]	73.42 - 77.25	Auto	0.0529
L28	31	Shaft Rinforcement [#PL0.625x5]	73.42 - 77.25	Auto	0.0529
L28	42	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	Auto	0.0476
L28	43	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	Auto	0.0476
L28	44	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	Auto	0.0476
L28	45	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.25	Auto	0.0529
L28	46	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.25	Auto	0.0529
L28	47	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.25	Auto	0.0529
L28	55	CCI-SFP-045100	73.42 - 77.25	Auto	0.0000
L28	56	CCI-SFP-045100	73.42 - 77.25	Auto	0.0000
L28	57	CCI-SFP-045100	73.42 - 77.25	Auto	0.0000
L29	30	Shaft Rinforcement [#PL0.625x5]	73.17 - 73.42	Auto	0.1379
L29	31	Shaft Rinforcement [#PL0.625x5]	73.17 - 73.42	Auto	0.1379
L29	42	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	Auto	0.1379
L29	43	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	Auto	0.1379
L29	44	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	Auto	0.1379
L29	45	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	Auto	0.1379
L29	46	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	Auto	0.1379
L29	47	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	Auto	0.1379
L29	55	CCI-SFP-045100	73.17 - 73.42	Auto	0.0421
L29	56	CCI-SFP-045100	73.17 - 73.42	Auto	0.0421
L29	57	CCI-SFP-045100	73.17 - 73.42	Auto	0.0421
L30	30	Shaft Rinforcement [#PL0.625x5]	68.17 - 73.17	Auto	0.1139
L30	31	Shaft Rinforcement [#PL0.625x5]	68.17 - 73.17	Auto	0.1139
L30	42	Shaft Rinforcement [#PL1.25x5]	68.17 - 73.17	Auto	0.1139
L30	43	Shaft Rinforcement [#PL1.25x5]	68.17 - 73.17	Auto	0.1139
L30	44	Shaft Rinforcement [#PL1.25x5]	68.17 - 73.17	Auto	0.1139
L30	45	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	Auto	0.1272
L30	46	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	Auto	0.1272
L30	47	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	Auto	0.1272
L30	55	CCI-SFP-045100	68.17 - 73.17	Auto	0.0155
L30	56	CCI-SFP-045100	68.17 - 73.17	Auto	0.0155
L30	57	CCI-SFP-045100	68.17 - 73.17	Auto	0.0155
L30	61	CCI-SFP-045100	68.17 - 72.75	Auto	0.0142
L30	62	CCI-SFP-045100	68.17 - 72.75	Auto	0.0142
L30	63	CCI-SFP-045100	68.17 - 72.75	Auto	0.0142
L31	30	Shaft Rinforcement [#PL0.625x5]	64.25 - 68.17	Auto	0.0794
L31	31	Shaft Rinforcement [#PL0.625x5]	64.25 - 68.17	Auto	0.0794
L31	42	Shaft Rinforcement [#PL1.25x5]	64.25 - 68.17	Auto	0.0794
L31	43	Shaft Rinforcement [#PL1.25x5]	64.25 - 68.17	Auto	0.0794
L31	44	Shaft Rinforcement [#PL1.25x5]	64.25 - 68.17	Auto	0.0794
L31	55	CCI-SFP-045100	64.25 - 68.17	Auto	0.0000
L31	56	CCI-SFP-045100	64.25 - 68.17	Auto	0.0000
L31	57	CCI-SFP-045100	64.25 - 68.17	Auto	0.0000
L31	61	CCI-SFP-045100	64.25 - 68.17	Auto	0.0000
L31	62	CCI-SFP-045100	64.25 - 68.17	Auto	0.0000
L31	63	CCI-SFP-045100	64.25 - 68.17	Auto	0.0000
L32	30	Shaft Rinforcement [#PL0.625x5]	64.00 - 64.25	Auto	0.0146
L32	31	Shaft Rinforcement [#PL0.625x5]	64.00 - 64.25	Auto	0.0146
L32	42	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	Auto	0.0146
L32	43	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	Auto	0.0146
L32	44	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	Auto	0.0146
L32	55	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L32	56	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L32	57	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L32	61	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L32	62	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L32	63	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L33	30	Shaft Rinforcement [#PL0.625x5]	59.00 - 64.00	Auto	0.0033
L33	31	Shaft Rinforcement [#PL0.625x5]	59.00 - 64.00	Auto	0.0033
L33	42	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	Auto	0.0033
L33	43	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	Auto	0.0033
L33	44	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	Auto	0.0033
L33	55	CCI-SFP-045100	59.00 - 64.00	Auto	0.0000
L33	56	CCI-SFP-045100	59.00 - 64.00	Auto	0.0000
L33	57	CCI-SFP-045100	59.00 - 64.00	Auto	0.0000
L33	61	CCI-SFP-045100	62.75 - 64.00	Auto	0.0000
L33	62	CCI-SFP-045100	62.75 - 64.00	Auto	0.0000
L33	63	CCI-SFP-045100	62.75 - 64.00	Auto	0.0000
L34	30	Shaft Rinforcement [#PL0.625x5]	54.00 - 59.00	Auto	0.0000
L34	31	Shaft Rinforcement [#PL0.625x5]	54.00 - 59.00	Auto	0.0000
L34	42	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	Auto	0.0000
L34	43	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	Auto	0.0000
L34	44	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	Auto	0.0000
L34	55	CCI-SFP-045100	54.00 - 59.00	Auto	0.0000
L34	56	CCI-SFP-045100	54.00 - 59.00	Auto	0.0000
L34	57	CCI-SFP-045100	54.00 - 59.00	Auto	0.0000
L34	72	CCI-SFP-050125	54.00 - 55.50	Auto	0.0000
L34	73	CCI-SFP-050125	54.00 - 55.50	Auto	0.0000
L35	30	Shaft Rinforcement [#PL0.625x5]	53.50 - 54.00	Auto	0.0000
L35	31	Shaft Rinforcement [#PL0.625x5]	53.50 - 54.00	Auto	0.0000
L35	42	Shaft Rinforcement [#PL1.25x5]	53.50 - 54.00	Auto	0.0000
L35	43	Shaft Rinforcement [#PL1.25x5]	53.50 - 54.00	Auto	0.0000
L35	44	Shaft Rinforcement [#PL1.25x5]	53.50 - 54.00	Auto	0.0000
L35	55	CCI-SFP-045100	53.50 - 54.00	Auto	0.0000
L35	56	CCI-SFP-045100	53.50 - 54.00	Auto	0.0000
L35	57	CCI-SFP-045100	53.50 - 54.00	Auto	0.0000
L35	72	CCI-SFP-050125	53.50 - 54.00	Auto	0.0000
L35	73	CCI-SFP-050125	53.50 - 54.00	Auto	0.0000
L36	30	Shaft Rinforcement [#PL0.625x5]	53.25 - 53.50	Auto	0.0000
L36	31	Shaft Rinforcement [#PL0.625x5]	53.25 - 53.50	Auto	0.0000
L36	42	Shaft Rinforcement [#PL1.25x5]	53.25 - 53.50	Auto	0.0000
L36	43	Shaft Rinforcement [#PL1.25x5]	53.25 - 53.50	Auto	0.0000
L36	44	Shaft Rinforcement [#PL1.25x5]	53.25 - 53.50	Auto	0.0000
L36	55	CCI-SFP-045100	53.25 - 53.50	Auto	0.0000
L36	56	CCI-SFP-045100	53.25 - 53.50	Auto	0.0000
L36	57	CCI-SFP-045100	53.25 - 53.50	Auto	0.0000
L36	72	CCI-SFP-050125	53.25 - 53.50	Auto	0.0000
L36	73	CCI-SFP-050125	53.25 - 53.50	Auto	0.0000
L37	30	Shaft Rinforcement [#PL0.625x5]	43.83 - 53.25	Auto	0.0000
L37	31	Shaft Rinforcement [#PL0.625x5]	43.83 - 53.25	Auto	0.0000
L37	39	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	Auto	0.1129
L37	40	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	Auto	0.1129
L37	41	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	Auto	0.1129
L37	42	Shaft Rinforcement [#PL1.25x5]	45.38 - 53.25	Auto	0.0000
L37	43	Shaft Rinforcement [#PL1.25x5]	45.38 - 53.25	Auto	0.0000
L37	44	Shaft Rinforcement [#PL1.25x5]	45.38 - 53.25	Auto	0.0000
L37	55	CCI-SFP-045100	43.83 - 53.25	Auto	0.0000
L37	56	CCI-SFP-045100	43.83 - 53.25	Auto	0.0000
L37	57	CCI-SFP-045100	43.83 - 53.25	Auto	0.0000
L37	72	CCI-SFP-050125	45.50 - 53.25	Auto	0.0000
L37	73	CCI-SFP-050125	45.50 - 53.25	Auto	0.0000
L38	30	Shaft Rinforcement [#PL0.625x5]	42.83 - 43.83	Auto	0.0000
L38	31	Shaft Rinforcement [#PL0.625x5]	42.83 - 43.83	Auto	0.0000
L38	39	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	Auto	0.0934
L38	40	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	Auto	0.0934
L38	41	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	Auto	0.0934
L38	52	CCI-SFP-060100	42.83 - 43.75	Auto	0.0932
L38	53	CCI-SFP-060100	42.83 - 43.75	Auto	0.0932
L38	54	CCI-SFP-060100	42.83 - 43.75	Auto	0.0932
L38	55	CCI-SFP-045100	43.75 - 43.83	Auto	0.0000
L38	56	CCI-SFP-045100	43.75 - 43.83	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L38	57	CCI-SFP-045100	43.75 - 43.83	Auto	0.0000
L39	30	Shaft Rinforcement [#PL0.625x5]	41.75 - 42.83	Auto	0.0000
L39	31	Shaft Rinforcement [#PL0.625x5]	41.75 - 42.83	Auto	0.0000
L39	39	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	Auto	0.0884
L39	40	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	Auto	0.0884
L39	41	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	Auto	0.0884
L39	52	CCI-SFP-060100	41.75 - 42.83	Auto	0.0884
L39	53	CCI-SFP-060100	41.75 - 42.83	Auto	0.0884
L39	54	CCI-SFP-060100	41.75 - 42.83	Auto	0.0884
L40	30	Shaft Rinforcement [#PL0.625x5]	41.50 - 41.75	Auto	0.0000
L40	31	Shaft Rinforcement [#PL0.625x5]	41.50 - 41.75	Auto	0.0000
L40	39	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	Auto	0.0962
L40	40	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	Auto	0.0962
L40	41	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	Auto	0.0962
L40	52	CCI-SFP-060100	41.50 - 41.75	Auto	0.0962
L40	53	CCI-SFP-060100	41.50 - 41.75	Auto	0.0962
L40	54	CCI-SFP-060100	41.50 - 41.75	Auto	0.0962
L41	30	Shaft Rinforcement [#PL0.625x5]	36.50 - 41.50	Auto	0.0000
L41	31	Shaft Rinforcement [#PL0.625x5]	36.50 - 41.50	Auto	0.0000
L41	39	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	Auto	0.0800
L41	40	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	Auto	0.0800
L41	41	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	Auto	0.0800
L41	52	CCI-SFP-060100	36.50 - 41.50	Auto	0.0800
L41	53	CCI-SFP-060100	36.50 - 41.50	Auto	0.0800
L41	54	CCI-SFP-060100	36.50 - 41.50	Auto	0.0800
L42	30	Shaft Rinforcement [#PL0.625x5]	32.75 - 36.50	Auto	0.0000
L42	31	Shaft Rinforcement [#PL0.625x5]	32.75 - 36.50	Auto	0.0000
L42	39	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	Auto	0.0589
L42	40	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	Auto	0.0589
L42	41	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	Auto	0.0589
L42	52	CCI-SFP-060100	32.75 - 36.50	Auto	0.0589
L42	53	CCI-SFP-060100	32.75 - 36.50	Auto	0.0589
L42	54	CCI-SFP-060100	32.75 - 36.50	Auto	0.0589
L42	74	CCI-SFP-065125	32.75 - 35.50	Auto	0.1291
L42	75	CCI-SFP-065125	32.75 - 35.50	Auto	0.1291
L43	30	Shaft Rinforcement [#PL0.625x5]	32.50 - 32.75	Auto	0.0000
L43	31	Shaft Rinforcement [#PL0.625x5]	32.50 - 32.75	Auto	0.0000
L43	39	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	Auto	0.1227
L43	40	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	Auto	0.1227
L43	41	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	Auto	0.1227
L43	52	CCI-SFP-060100	32.50 - 32.75	Auto	0.1227
L43	53	CCI-SFP-060100	32.50 - 32.75	Auto	0.1227
L43	54	CCI-SFP-060100	32.50 - 32.75	Auto	0.1227
L43	74	CCI-SFP-065125	32.50 - 32.75	Auto	0.1902
L43	75	CCI-SFP-065125	32.50 - 32.75	Auto	0.1902
L44	30	Shaft Rinforcement [#PL0.625x5]	29.73 - 32.50	Auto	0.0000
L44	31	Shaft Rinforcement [#PL0.625x5]	29.73 - 32.50	Auto	0.0000
L44	36	Shaft Rinforcement [#PL1.25x6]	29.73 - 30.75	Auto	0.0819
L44	37	Shaft Rinforcement [#PL1.25x6]	29.73 - 30.75	Auto	0.0819
L44	38	Shaft Rinforcement [#PL1.25x6]	29.73 - 30.75	Auto	0.0819
L44	39	Shaft Rinforcement [#PL1.25x6]	29.73 - 32.50	Auto	0.0861
L44	40	Shaft Rinforcement [#PL1.25x6]	29.73 - 32.50	Auto	0.0861
L44	41	Shaft Rinforcement [#PL1.25x6]	29.73 - 32.50	Auto	0.0861
L44	52	CCI-SFP-060100	29.73 - 32.50	Auto	0.0861
L44	53	CCI-SFP-060100	29.73 - 32.50	Auto	0.0861
L44	54	CCI-SFP-060100	29.73 - 32.50	Auto	0.0861
L44	74	CCI-SFP-065125	29.73 - 32.50	Auto	0.1564
L44	75	CCI-SFP-065125	29.73 - 32.50	Auto	0.1564
L45	30	Shaft Rinforcement [#PL0.625x5]	29.48 - 29.73	Auto	0.0000
L45	31	Shaft Rinforcement [#PL0.625x5]	29.48 - 29.73	Auto	0.0000
L45	36	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	Auto	0.0789
L45	37	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	Auto	0.0789
L45	38	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	Auto	0.0789
L45	39	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	Auto	0.0789
L45	40	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	Auto	0.0789
L45	41	Shaft Rinforcement [#PL1.25x6]	29.48 - 29.73	Auto	0.0789
L45	52	CCI-SFP-060100	29.48 - 29.73	Auto	0.0789
L45	53	CCI-SFP-060100	29.48 - 29.73	Auto	0.0789

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L45	54	CCI-SFP-060100	29.48 - 29.73	Auto	0.0789
L45	74	CCI-SFP-065125	29.48 - 29.73	Auto	0.1497
L45	75	CCI-SFP-065125	29.48 - 29.73	Auto	0.1497
L46	30	Shaft Rinforcement [#PL0.625x5]	28.25 - 29.48	Auto	0.0000
L46	31	Shaft Rinforcement [#PL0.625x5]	28.25 - 29.48	Auto	0.0000
L46	36	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	Auto	0.0716
L46	37	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	Auto	0.0716
L46	38	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	Auto	0.0716
L46	39	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	Auto	0.0716
L46	40	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	Auto	0.0716
L46	41	Shaft Rinforcement [#PL1.25x6]	28.25 - 29.48	Auto	0.0716
L46	52	CCI-SFP-060100	28.25 - 29.48	Auto	0.0716
L46	53	CCI-SFP-060100	28.25 - 29.48	Auto	0.0716
L46	54	CCI-SFP-060100	28.25 - 29.48	Auto	0.0716
L46	74	CCI-SFP-065125	28.25 - 29.48	Auto	0.1430
L46	75	CCI-SFP-065125	28.25 - 29.48	Auto	0.1430
L47	30	Shaft Rinforcement [#PL0.625x5]	28.00 - 28.25	Auto	0.0000
L47	31	Shaft Rinforcement [#PL0.625x5]	28.00 - 28.25	Auto	0.0000
L47	36	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0864
L47	37	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0864
L47	38	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0864
L47	39	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0864
L47	40	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0864
L47	41	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0864
L47	52	CCI-SFP-060100	28.00 - 28.25	Auto	0.0864
L47	53	CCI-SFP-060100	28.00 - 28.25	Auto	0.0864
L47	54	CCI-SFP-060100	28.00 - 28.25	Auto	0.0864
L47	74	CCI-SFP-065125	28.00 - 28.25	Auto	0.1567
L47	75	CCI-SFP-065125	28.00 - 28.25	Auto	0.1567
L48	30	Shaft Rinforcement [#PL0.625x5]	23.00 - 28.00	Auto	0.0000
L48	31	Shaft Rinforcement [#PL0.625x5]	23.00 - 28.00	Auto	0.0000
L48	36	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	Auto	0.0738
L48	37	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	Auto	0.0738
L48	38	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	Auto	0.0738
L48	39	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	Auto	0.0852
L48	40	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	Auto	0.0852
L48	41	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	Auto	0.0852
L48	52	CCI-SFP-060100	23.00 - 28.00	Auto	0.0738
L48	53	CCI-SFP-060100	23.00 - 28.00	Auto	0.0738
L48	54	CCI-SFP-060100	23.00 - 28.00	Auto	0.0738
L48	58	CCI-SFP-045100	23.00 - 27.75	Auto	0.0000
L48	59	CCI-SFP-045100	23.00 - 27.75	Auto	0.0000
L48	60	CCI-SFP-045100	23.00 - 27.75	Auto	0.0000
L48	74	CCI-SFP-065125	25.50 - 28.00	Auto	0.1506
L48	75	CCI-SFP-065125	25.50 - 28.00	Auto	0.1506
L49	30	Shaft Rinforcement [#PL0.625x5]	19.25 - 23.00	Auto	0.0000
L49	31	Shaft Rinforcement [#PL0.625x5]	19.25 - 23.00	Auto	0.0000
L49	36	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	Auto	0.0491
L49	37	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	Auto	0.0491
L49	38	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	Auto	0.0491
L49	52	CCI-SFP-060100	19.25 - 23.00	Auto	0.0491
L49	53	CCI-SFP-060100	19.25 - 23.00	Auto	0.0491
L49	54	CCI-SFP-060100	19.25 - 23.00	Auto	0.0491
L49	58	CCI-SFP-045100	19.25 - 23.00	Auto	0.0000
L49	59	CCI-SFP-045100	19.25 - 23.00	Auto	0.0000
L49	60	CCI-SFP-045100	19.25 - 23.00	Auto	0.0000
L50	30	Shaft Rinforcement [#PL0.625x5]	19.00 - 19.25	Auto	0.0000
L50	31	Shaft Rinforcement [#PL0.625x5]	19.00 - 19.25	Auto	0.0000
L50	36	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	Auto	0.0065
L50	37	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	Auto	0.0065
L50	38	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	Auto	0.0065
L50	52	CCI-SFP-060100	19.00 - 19.25	Auto	0.0065
L50	53	CCI-SFP-060100	19.00 - 19.25	Auto	0.0065
L50	54	CCI-SFP-060100	19.00 - 19.25	Auto	0.0065
L50	58	CCI-SFP-045100	19.00 - 19.25	Auto	0.0000
L50	59	CCI-SFP-045100	19.00 - 19.25	Auto	0.0000
L50	60	CCI-SFP-045100	19.00 - 19.25	Auto	0.0000
L51	30	Shaft Rinforcement [#PL0.625x5]	14.00 - 19.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L51	31	Shaft Rinforcement [#PL0.625x5]	14.00 - 19.00	Auto	0.0000
L51	36	Shaft Rinforcement [#PL1.25x6]	14.00 - 19.00	Auto	0.0000
L51	37	Shaft Rinforcement [#PL1.25x6]	14.00 - 19.00	Auto	0.0000
L51	38	Shaft Rinforcement [#PL1.25x6]	14.00 - 19.00	Auto	0.0000
L51	52	CCI-SFP-060100	14.00 - 19.00	Auto	0.0000
L51	53	CCI-SFP-060100	14.00 - 19.00	Auto	0.0000
L51	54	CCI-SFP-060100	14.00 - 19.00	Auto	0.0000
L51	58	CCI-SFP-045100	17.75 - 19.00	Auto	0.0000
L51	59	CCI-SFP-045100	17.75 - 19.00	Auto	0.0000
L51	60	CCI-SFP-045100	17.75 - 19.00	Auto	0.0000
L52	30	Shaft Rinforcement [#PL0.625x5]	9.00 - 14.00	Auto	0.0000
L52	31	Shaft Rinforcement [#PL0.625x5]	9.00 - 14.00	Auto	0.0000
L52	36	Shaft Rinforcement [#PL1.25x6]	9.00 - 14.00	Auto	0.0000
L52	37	Shaft Rinforcement [#PL1.25x6]	9.00 - 14.00	Auto	0.0000
L52	38	Shaft Rinforcement [#PL1.25x6]	9.00 - 14.00	Auto	0.0000
L52	52	CCI-SFP-060100	9.00 - 14.00	Auto	0.0000
L52	53	CCI-SFP-060100	9.00 - 14.00	Auto	0.0000
L52	54	CCI-SFP-060100	9.00 - 14.00	Auto	0.0000
L53	30	Shaft Rinforcement [#PL0.625x5]	4.00 - 9.00	Auto	0.0000
L53	31	Shaft Rinforcement [#PL0.625x5]	4.00 - 9.00	Auto	0.0000
L53	36	Shaft Rinforcement [#PL1.25x6]	4.00 - 9.00	Auto	0.0000
L53	37	Shaft Rinforcement [#PL1.25x6]	4.00 - 9.00	Auto	0.0000
L53	38	Shaft Rinforcement [#PL1.25x6]	4.00 - 9.00	Auto	0.0000
L53	52	CCI-SFP-060100	4.00 - 9.00	Auto	0.0000
L53	53	CCI-SFP-060100	4.00 - 9.00	Auto	0.0000
L53	54	CCI-SFP-060100	4.00 - 9.00	Auto	0.0000
L54	30	Shaft Rinforcement [#PL0.625x5]	0.00 - 4.00	Auto	0.0000
L54	31	Shaft Rinforcement [#PL0.625x5]	0.00 - 4.00	Auto	0.0000
L54	36	Shaft Rinforcement [#PL1.25x6]	0.00 - 4.00	Auto	0.0000
L54	37	Shaft Rinforcement [#PL1.25x6]	0.00 - 4.00	Auto	0.0000
L54	38	Shaft Rinforcement [#PL1.25x6]	0.00 - 4.00	Auto	0.0000
L54	52	CCI-SFP-060100	0.00 - 4.00	Auto	0.0000
L54	53	CCI-SFP-060100	0.00 - 4.00	Auto	0.0000
L54	54	CCI-SFP-060100	0.00 - 4.00	Auto	0.0000

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
******									
800 10121 w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	3.60 4.00 4.42	2.95 3.34 3.74	0.07 0.11 0.17
800 10121 w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	3.60 4.00 4.42	2.95 3.34 3.74	0.07 0.11 0.17
800 10121 w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	3.60 4.00 4.42	2.95 3.34 3.74	0.07 0.11 0.17
DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	11.96 12.70 13.46	5.97 6.63 7.30	0.11 0.20 0.30
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	15.89 16.81 17.76	7.89 8.74 9.60	0.14 0.25 0.38

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
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	15.89 16.81 17.76	7.89 8.74 9.60	0.14 0.25 0.38
TPA-65R-LCUUUU-H8 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	11.85 12.77 13.71	8.99 9.88 10.79	0.11 0.21 0.32
TPA-65R-LCUUUU-H8 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	11.85 12.77 13.71	8.99 9.88 10.79	0.11 0.21 0.32
80010798 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	7.79 8.40 9.02	4.90 5.47 6.06	0.11 0.19 0.27
80010965 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	12.26 13.03 13.80	5.79 6.47 7.17	0.14 0.23 0.33
80010966 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	14.61 15.47 16.35	6.84 7.63 8.42	0.16 0.27 0.39
80010966 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	14.61 15.47 16.35	6.84 7.63 8.42	0.16 0.27 0.39
RRUS 32 B2	A	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	B	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	C	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B30	A	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	B	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	C	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 4415 B25	A	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.79 0.91	0.04 0.06 0.07
RRUS 4415 B25	B	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.79 0.91	0.04 0.06 0.07
RRUS 4415 B25	C	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.79 0.91	0.04 0.06 0.07
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	168.00	No Ice	1.41	1.97	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			1/2"	1.56	2.14	0.09
			1.00			Ice	1.73	2.33	0.11
						1" Ice			
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	168.00	No Ice	1.41	1.97	0.07
			0.00			1/2"	1.56	2.14	0.09
			1.00			Ice	1.73	2.33	0.11
						1" Ice			
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	168.00	No Ice	1.41	1.97	0.07
			0.00			1/2"	1.56	2.14	0.09
			1.00			Ice	1.73	2.33	0.11
						1" Ice			
RRUS E2 B29	A	From Leg	4.00	0.0000	168.00	No Ice	3.15	1.29	0.06
			0.00			1/2"	3.36	1.44	0.08
			1.00			Ice	3.59	1.60	0.11
						1" Ice			
RRUS E2 B29	B	From Leg	4.00	0.0000	168.00	No Ice	3.15	1.29	0.06
			0.00			1/2"	3.36	1.44	0.08
			1.00			Ice	3.59	1.60	0.11
						1" Ice			
RRUS E2 B29	C	From Leg	4.00	0.0000	168.00	No Ice	3.15	1.29	0.06
			0.00			1/2"	3.36	1.44	0.08
			1.00			Ice	3.59	1.60	0.11
						1" Ice			
(2) LGP21401	A	From Leg	4.00	0.0000	168.00	No Ice	1.10	0.21	0.01
			0.00			1/2"	1.24	0.27	0.02
			-1.00			Ice	1.38	0.35	0.03
						1" Ice			
(2) LGP21401	B	From Leg	4.00	0.0000	168.00	No Ice	1.10	0.21	0.01
			0.00			1/2"	1.24	0.27	0.02
			-1.00			Ice	1.38	0.35	0.03
						1" Ice			
(2) LGP21401	C	From Leg	4.00	0.0000	168.00	No Ice	1.10	0.21	0.01
			0.00			1/2"	1.24	0.27	0.02
			-1.00			Ice	1.38	0.35	0.03
						1" Ice			
DC6-48-60-18-8C	B	From Leg	1.00	0.0000	168.00	No Ice	2.74	2.74	0.03
			0.00			1/2"	2.96	2.96	0.05
			1.00			Ice	3.20	3.20	0.08
						1" Ice			
DC6-48-60-18-8F	A	From Leg	1.00	0.0000	168.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			1.00			Ice	1.64	1.64	0.06
						1" Ice			
DC6-48-60-18-8F	B	From Leg	1.00	0.0000	168.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			1.00			Ice	1.64	1.64	0.06
						1" Ice			
DC6-48-60-18-8F	C	From Leg	1.00	0.0000	168.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			1.00			Ice	1.64	1.64	0.06
						1" Ice			
Platform Mount [LP 304-1_KCKR-HR-1]	A	None		0.0000	168.00	No Ice	32.63	32.63	1.88
						1/2"	40.84	40.84	2.47
						Ice	49.05	49.05	3.20
						1" Ice			
***									
***									
AIR6449 B41_T-MOBILE	A	From Leg	4.00	0.0000	158.00	No Ice	5.27	2.03	0.11
			0.00			1/2"	5.70	2.36	0.15
			0.00			Ice	6.14	2.70	0.20
						1" Ice			
AIR6449 B41_T-MOBILE	B	From Leg	4.00	0.0000	158.00	No Ice	5.27	2.03	0.11
			0.00			1/2"	5.70	2.36	0.15
			0.00			Ice	6.14	2.70	0.20
						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
AIR6449 B41_T-MOBILE	C	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	5.27 5.70 6.14	2.03 2.36 2.70	0.11 0.15 0.20
APXVAALL24_43-U-NA20_TMO	A	From Leg	4.00 0.00 0.00	0.0000	158.00	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	158.00	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	158.00	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 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
Radio 4480_TMOV2	A	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
Radio 4480_TMOV2	B	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
Radio 4480_TMOV2	C	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
(4) 8' Mount Pipe [#P2.0 SCH 40]	A	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(4) 8' Mount Pipe [#P2.0 SCH 40]	B	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(4) 8' Mount Pipe [#P2.0 SCH 40]	C	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
Sector Frame Attachment Assembly [#MSFAA]	C	None		0.0000	158.00	No Ice 1/2" Ice 1" Ice	6.67 7.70 8.74	6.67 7.70 8.74	0.79 1.06 1.34
12.5' HD V-Frame Assembly [#VFA12-HD]	A	From Leg	2.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 20.00	0.66 0.80 1.01
12.5' HD V-Frame Assembly [#VFA12-HD]	B	From Leg	2.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 20.00	0.66 0.80 1.01
12.5' HD V-Frame	C	From Leg	2.00	0.0000	158.00	No Ice	13.20	9.20	0.66

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
Assembly [#VFA12-HD]			0.00 0.00			1/2" Ice 1" Ice	19.50 25.80	14.60 20.00	0.80 1.01
******									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00	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	148.00	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	148.00	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	148.00	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	148.00	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	148.00	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 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
RDIDC-9181-PF-48	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	2.01 2.19 2.37	1.17 1.31 1.46	0.02 0.04 0.06
(2) 8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
Commscope MC-PK8-DSH	A	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice	34.24 62.95 91.66	34.24 62.95 91.66	1.75 2.10 2.45
******									
BXA-70063/4CF w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.84 5.35 5.88	3.54 4.03 4.53	0.04 0.08 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
BXA-70063/4CF w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.84 5.35 5.88	3.54 4.03 4.53	0.04 0.08 0.12
BXA-70063/4CF w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.84 5.35 5.88	3.54 4.03 4.53	0.04 0.08 0.12
RFV01U-D1A	A	From Leg	4.00 0.00 2.00	0.0000	138.00	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	B	From Leg	4.00 0.00 2.00	0.0000	138.00	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	138.00	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 Leg	4.00 0.00 2.00	0.0000	138.00	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	B	From Leg	4.00 0.00 2.00	0.0000	138.00	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	138.00	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
RVZDC-6627-PF-48	B	From Leg	4.00 0.00 2.00	0.0000	138.00	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
Platform Mount [LP 303-1]	A	None		0.0000	138.00	No Ice 1/2" Ice 1" Ice	14.69 18.01 21.34	14.69 18.01 21.34	1.25 1.57 1.94
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NHH-65B-R2B w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	3.29 3.67 4.06	0.07 0.13 0.21
NHH-65B-R2B w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	3.29 3.67 4.06	0.07 0.13 0.21
NHH-65B-R2B w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	3.29 3.67 4.06	0.07 0.13 0.21
NHHSS-65B-R2B w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	3.89 4.27 4.65	3.14 3.50 3.87	0.09 0.15 0.23
NHHSS-65B-R2B w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	3.89 4.27 4.65	3.14 3.50 3.87	0.09 0.15 0.23
NHHSS-65B-R2B w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	3.89 4.27 4.65	3.14 3.50 3.87	0.09 0.15 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
MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	138.00	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	138.00	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	138.00	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
CBRS RT4401-48A	A	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	0.99 1.12 1.26	0.50 0.60 0.70	0.02 0.03 0.04
CBRS RT4401-48A	B	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	0.99 1.12 1.26	0.50 0.60 0.70	0.02 0.03 0.04
CBRS RT4401-48A	C	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	0.99 1.12 1.26	0.50 0.60 0.70	0.02 0.03 0.04
******									
6' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	128.00	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
6' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	128.00	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
6' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	128.00	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
Platform Mount [LP 303-1]	A	None		0.0000	128.00	No Ice 1/2" Ice 1" Ice	14.69 18.01 21.34	14.69 18.01 21.34	1.25 1.57 1.94
***									
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	3.76 4.12 4.48	3.15 3.49 3.84	0.19 0.25 0.32
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	3.76 4.12 4.48	3.15 3.49 3.84	0.19 0.25 0.32
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	3.76 4.12 4.48	3.15 3.49 3.84	0.19 0.25 0.32
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.19 0.31 0.46
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.19 0.31 0.46
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.19 0.31 0.46

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) RADIO 4449 B12/B71	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.65 1.81 1.98	1.16 1.30 1.45	0.07 0.09 0.11
RADIO 4449 B12/B71	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.65 1.81 1.98	1.16 1.30 1.45	0.07 0.09 0.11
KRY 112 144/1	B	From Leg	4.00 0.00 2.00	0.0000	128.00	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
(2) KRY 112 144/1	C	From Leg	4.00 0.00 2.00	0.0000	128.00	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
****** GPS_A	A	From Leg	3.00 0.00 0.00	0.0000	70.00	No Ice 1/2" Ice 1" Ice	0.26 0.32 0.39	0.26 0.32 0.39	0.00 0.00 0.01
Side Arm Mount [SO 701-1]	A	From Leg	1.50 0.00 0.00	0.0000	70.00	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

Comb. No.	Description
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	168.5 - 163.5	Pole	Max Tension	27	0.00	0.00	-0.00
			Max. Compression	26	-9.98	-0.14	-1.05
			Max. Mx	8	-4.23	-34.08	-0.11
			Max. My	14	-4.26	-0.06	-33.75
			Max. Vy	8	7.61	-34.08	-0.11
			Max. Vx	14	7.48	-0.06	-33.75
			Max. Torque	9			-1.25
L2	163.5 - 158.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-10.44	-0.15	-1.07
			Max. Mx	8	-4.51	-72.93	-0.13
			Max. My	14	-4.54	-0.07	-71.96
			Max. Vy	8	7.94	-72.93	-0.13
			Max. Vx	14	7.81	-0.07	-71.96
			Max. Torque	9			-1.25
L3	158.5 - 153.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.56	-0.16	-1.10
			Max. Mx	8	-9.47	-136.54	-0.15
			Max. My	14	-9.51	-0.08	-134.91
			Max. Vy	8	13.40	-136.54	-0.15
			Max. Vx	2	-13.27	-0.06	134.29
			Max. Torque	9			-1.25
L4	153.5 - 148.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.10	-0.17	-1.13
			Max. Mx	8	-9.87	-204.31	-0.17
			Max. My	14	-9.90	-0.09	-202.01
			Max. Vy	8	13.72	-204.31	-0.17
			Max. Vx	2	-13.58	-0.06	201.39
			Max. Torque	21			1.25
L5	148.5 - 143.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-25.59	-0.21	-0.83
			Max. Mx	8	-13.06	-289.39	-0.10
			Max. My	14	-13.09	-0.12	-286.42
			Max. Vy	8	17.52	-289.39	-0.10
			Max. Vx	2	-17.41	-0.07	286.04
			Max. Torque	21			1.24
L6	143.5 - 138.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.19	-0.25	-0.84
			Max. Mx	8	-13.57	-377.63	-0.11
			Max. My	14	-13.60	-0.15	-374.11

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	17.79	-377.63	-0.11
			Max. Vx	2	-17.69	-0.08	373.74
			Max. Torque	21			1.04
L7	138.5 - 130.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.28	-0.69	-1.09
			Max. Mx	8	-16.88	-468.76	-0.29
			Max. My	14	-16.91	-0.38	-464.59
			Max. Vy	8	21.27	-468.76	-0.29
			Max. Vx	2	-21.14	-0.07	464.06
			Max. Torque	19			1.28
L8	130.667 - 129.327	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.41	-0.67	-1.07
			Max. Mx	8	-17.74	-575.93	-0.39
			Max. My	14	-17.78	-0.49	-571.09
			Max. Vy	8	21.62	-575.93	-0.39
			Max. Vx	2	-21.49	0.03	570.60
			Max. Torque	19			1.28
L9	129.327 - 125.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.33	-1.12	-0.27
			Max. Mx	8	-21.22	-663.68	0.03
			Max. My	2	-21.25	-0.17	658.18
			Max. Vy	8	24.67	-663.68	0.03
			Max. Vx	2	-24.55	-0.17	658.18
			Max. Torque	19			1.28
L10	125.75 - 125.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.38	-1.12	-0.27
			Max. Mx	8	-21.29	-669.84	0.02
			Max. My	2	-21.32	-0.16	664.32
			Max. Vy	8	24.66	-669.84	0.02
			Max. Vx	2	-24.55	-0.16	664.32
			Max. Torque	19			1.12
L11	125.5 - 120.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.40	-1.13	-0.21
			Max. Mx	8	-22.14	-793.63	-0.09
			Max. My	2	-22.17	-0.04	787.56
			Max. Vy	8	24.88	-793.63	-0.09
			Max. Vx	2	-24.77	-0.04	787.56
			Max. Torque	19			1.12
L12	120.5 - 120.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.47	-1.13	-0.21
			Max. Mx	8	-22.23	-799.85	-0.10
			Max. My	2	-22.26	-0.04	793.74
			Max. Vy	8	24.88	-799.85	-0.10
			Max. Vx	2	-24.77	-0.04	793.74
			Max. Torque	19			1.11
L13	120.25 - 115.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.27	-1.15	-0.13
			Max. Mx	8	-23.64	-925.14	-0.21
			Max. My	2	-23.66	0.09	918.48
			Max. Vy	8	25.25	-925.14	-0.21
			Max. Vx	2	-25.14	0.09	918.48
			Max. Torque	19			1.11
L14	115.25 - 113.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.80	-1.15	-0.11
			Max. Mx	8	-24.04	-960.98	-0.24
			Max. My	2	-24.07	0.12	954.16
			Max. Vy	8	25.36	-960.98	-0.24
			Max. Vx	2	-25.24	0.12	954.16
			Max. Torque	19			1.11
L15	113.833 - 113.483	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.95	-1.15	-0.10
			Max. Mx	8	-24.17	-969.85	-0.25
			Max. My	2	-24.20	0.13	962.99
			Max. Vy	8	25.37	-969.85	-0.25
			Max. Vx	2	-25.26	0.13	962.99
			Max. Torque	19			1.11
L16	113.483 - 113.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.05	-1.15	-0.10
			Max. Mx	8	-24.25	-975.76	-0.26

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-24.27	0.13	968.88
			Max. Vy	8	25.39	-975.76	-0.26
			Max. Vx	2	-25.28	0.13	968.88
			Max. Torque	19			1.11
L17	113.25 - 108.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.12	-1.17	-0.04
			Max. Mx	8	-25.86	-1103.70	-0.37
			Max. My	2	-25.88	0.26	1096.26
			Max. Vy	8	25.80	-1103.70	-0.37
			Max. Vx	2	-25.68	0.26	1096.26
			Max. Torque	19			1.11
L18	108.25 - 103.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.19	-1.19	0.01
			Max. Mx	8	-27.50	-1233.61	-0.48
			Max. My	2	-27.52	0.38	1225.60
			Max. Vy	8	26.19	-1233.61	-0.48
			Max. Vx	2	-26.07	0.38	1225.60
			Max. Torque	19			1.11
L19	103.25 - 98.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.27	-1.20	0.06
			Max. Mx	8	-29.17	-1365.43	-0.60
			Max. My	2	-29.19	0.50	1356.85
			Max. Vy	8	26.56	-1365.43	-0.60
			Max. Vx	2	-26.45	0.50	1356.85
			Max. Torque	19			1.11
L20	98.25 - 93.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.37	-1.22	0.11
			Max. Mx	8	-30.85	-1499.07	-0.71
			Max. My	2	-30.87	0.63	1489.93
			Max. Vy	8	26.92	-1499.07	-0.71
			Max. Vx	2	-26.81	0.63	1489.93
			Max. Torque	19			1.11
L21	93.25 - 84.717	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.08	-1.25	0.13
			Max. Mx	8	-32.21	-1606.54	-0.79
			Max. My	2	-32.23	0.72	1596.93
			Max. Vy	8	27.22	-1606.54	-0.79
			Max. Vx	2	-27.09	0.72	1596.93
			Max. Torque	19			1.11
L22	84.717 - 83.717	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.98	-1.28	0.15
			Max. Mx	8	-35.36	-1759.41	-0.92
			Max. My	2	-35.39	0.88	1749.05
			Max. Vy	8	27.78	-1759.41	-0.92
			Max. Vx	2	-27.64	0.88	1749.05
			Max. Torque	19			1.11
L23	83.717 - 82.917	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.36	-1.28	0.14
			Max. Mx	8	-35.67	-1781.63	-0.95
			Max. My	2	-35.69	0.91	1771.16
			Max. Vy	8	27.84	-1781.63	-0.95
			Max. Vx	2	-27.69	0.91	1771.16
			Max. Torque	19			1.11
L24	82.917 - 82.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.49	-1.27	0.14
			Max. Mx	8	-35.79	-1788.59	-0.96
			Max. My	2	-35.81	0.92	1778.08
			Max. Vy	8	27.85	-1788.59	-0.96
			Max. Vx	2	-27.70	0.92	1778.08
			Max. Torque	19			1.11
L25	82.667 - 82.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.58	-1.27	0.14
			Max. Mx	8	-35.87	-1793.24	-0.96
			Max. My	2	-35.89	0.92	1782.71
			Max. Vy	8	27.87	-1793.24	-0.96
			Max. Vx	2	-27.71	0.92	1782.71
			Max. Torque	19			1.11
L26	82.5 - 82.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.71	-1.27	0.14

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-35.96	-1800.20	-0.97
			Max. My	2	-35.99	0.93	1789.64
			Max. Vy	8	27.89	-1800.20	-0.97
			Max. Vx	2	-27.73	0.93	1789.64
			Max. Torque	19			1.11
L27	82.25 - 77.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.16	-1.21	0.11
			Max. Mx	8	-37.97	-1940.39	-1.12
			Max. My	2	-37.99	1.14	1929.09
			Max. Vy	8	28.24	-1940.39	-1.12
			Max. Vx	2	-28.08	1.14	1929.09
			Max. Torque	19			1.11
L28	77.25 - 73.417	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.07	-1.15	0.10
			Max. Mx	8	-39.52	-2048.99	-1.24
			Max. My	2	-39.54	1.29	2037.12
			Max. Vy	8	28.50	-2048.99	-1.24
			Max. Vx	2	-28.34	1.29	2037.12
			Max. Torque	19			1.11
L29	73.417 - 73.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.22	-1.14	0.09
			Max. Mx	8	-39.66	-2056.11	-1.25
			Max. My	2	-39.68	1.30	2044.20
			Max. Vy	8	28.50	-2056.11	-1.25
			Max. Vx	2	-28.34	1.30	2044.20
			Max. Torque	19			1.11
L30	73.167 - 68.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.25	-1.04	0.43
			Max. Mx	8	-42.10	-2199.66	-1.18
			Max. My	2	-42.12	1.51	2187.13
			Max. Vy	20	-28.99	2198.80	2.67
			Max. Vx	2	-28.78	1.51	2187.13
			Max. Torque	19			1.11
L31	68.167 - 64.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.56	-0.97	0.41
			Max. Mx	8	-43.98	-2313.68	-1.30
			Max. My	2	-44.00	1.67	2300.36
			Max. Vy	20	-29.30	2312.94	2.76
			Max. Vx	2	-29.08	1.67	2300.36
			Max. Torque	19			0.90
L32	64.25 - 64	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.69	-0.96	0.41
			Max. Mx	8	-44.09	-2321.00	-1.31
			Max. My	2	-44.11	1.68	2307.62
			Max. Vy	20	-29.30	2320.26	2.77
			Max. Vx	2	-29.08	1.68	2307.62
			Max. Torque	19			0.90
L33	64 - 59	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.21	-0.86	0.40
			Max. Mx	8	-46.16	-2468.15	-1.46
			Max. My	2	-46.18	1.88	2453.73
			Max. Vy	20	-29.62	2467.55	2.88
			Max. Vx	2	-29.40	1.88	2453.73
			Max. Torque	19			0.90
L34	59 - 54	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.74	-0.77	0.40
			Max. Mx	8	-48.26	-2616.77	-1.62
			Max. My	2	-48.27	2.09	2601.32
			Max. Vy	20	-29.91	2616.33	3.00
			Max. Vx	2	-29.69	2.09	2601.32
			Max. Torque	19			0.90
L35	54 - 53.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.00	-0.76	0.40
			Max. Mx	8	-48.48	-2631.71	-1.63
			Max. My	2	-48.49	2.11	2616.15
			Max. Vy	20	-29.92	2631.28	3.01
			Max. Vx	2	-29.70	2.11	2616.15
			Max. Torque	19			0.90
L36	53.5 - 53.25	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	-73.14	-0.76	0.39
			Max. Mx	8	-48.60	-2639.19	-1.64
			Max. My	2	-48.62	2.12	2623.58
			Max. Vy	20	-29.94	2638.77	3.01
			Max. Vx	2	-29.72	2.12	2623.58
			Max. Torque	19			0.90
L37	53.25 - 43.827	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-75.48	-0.69	0.39
			Max. Mx	8	-50.51	-2761.85	-1.77
			Max. My	2	-50.53	2.30	2745.36
			Max. Vy	20	-30.21	2761.55	3.10
			Max. Vx	2	-29.98	2.30	2745.36
			Max. Torque	19			0.90
L38	43.827 - 42.827	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.37	-0.58	0.37
			Max. Mx	8	-55.49	-2955.02	-1.97
			Max. My	2	-55.50	2.56	2937.10
			Max. Vy	20	-30.77	2954.92	3.25
			Max. Vx	2	-30.52	2.56	2937.10
			Max. Torque	19			0.90
L39	42.827 - 41.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.98	-0.56	0.38
			Max. Mx	8	-56.00	-2988.13	-2.00
			Max. My	2	-56.02	2.61	2969.96
			Max. Vy	20	-30.82	2988.07	3.27
			Max. Vx	2	-30.57	2.61	2969.96
			Max. Torque	19			0.90
L40	41.75 - 41.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-82.13	-0.55	0.38
			Max. Mx	8	-56.14	-2995.83	-2.01
			Max. My	2	-56.16	2.62	2977.60
			Max. Vy	20	-30.81	2995.77	3.28
			Max. Vx	2	-30.57	2.62	2977.60
			Max. Torque	19			0.90
L41	41.5 - 36.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.09	-0.45	0.38
			Max. Mx	20	-58.66	3150.43	3.39
			Max. My	2	-58.67	2.83	3130.93
			Max. Vy	20	-31.05	3150.43	3.39
			Max. Vx	2	-30.81	2.83	3130.93
			Max. Torque	19			0.90
L42	36.5 - 32.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.36	-0.39	0.38
			Max. Mx	20	-60.57	3267.14	3.47
			Max. My	2	-60.58	2.99	3246.66
			Max. Vy	20	-31.22	3267.14	3.47
			Max. Vx	2	-30.98	2.99	3246.66
			Max. Torque	19			0.90
L43	32.75 - 32.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.53	-0.39	0.37
			Max. Mx	20	-60.73	3274.94	3.47
			Max. My	2	-60.74	3.00	3254.39
			Max. Vy	20	-31.20	3274.94	3.47
			Max. Vx	2	-30.96	3.00	3254.39
			Max. Torque	19			0.90
L44	32.5 - 29.733	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.28	-0.36	0.36
			Max. Mx	20	-62.17	3361.50	3.53
			Max. My	2	-62.18	3.12	3340.22
			Max. Vy	20	-31.37	3361.50	3.53
			Max. Vx	2	-31.12	3.12	3340.22
			Max. Torque	19			0.90
L45	29.733 - 29.483	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.45	-0.35	0.36
			Max. Mx	20	-62.32	3369.35	3.54
			Max. My	2	-62.33	3.13	3347.99
			Max. Vy	20	-31.36	3369.35	3.54
			Max. Vx	2	-31.11	3.13	3347.99
			Max. Torque	19			0.90

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L46	29.483 - 28.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.25	-0.34	0.34
			Max. Mx	20	-62.96	3408.06	3.57
			Max. My	2	-62.97	3.19	3386.36
			Max. Vy	20	-31.45	3408.06	3.57
			Max. Vx	2	-31.18	3.19	3386.36
			Max. Torque	19			0.90
L47	28.25 - 28	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.43	-0.33	0.34
			Max. Mx	20	-63.12	3415.92	3.57
			Max. My	2	-63.13	3.20	3394.15
			Max. Vy	20	-31.44	3415.92	3.57
			Max. Vx	2	-31.18	3.20	3394.15
			Max. Torque	19			0.90
L48	28 - 23	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-93.90	-0.28	0.26
			Max. Mx	20	-66.03	3573.76	3.68
			Max. My	2	-66.04	3.41	3550.55
			Max. Vy	20	-31.69	3573.76	3.68
			Max. Vx	2	-31.42	3.41	3550.55
			Max. Torque	19			0.90
L49	23 - 19.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.50	-0.21	0.21
			Max. Mx	20	-68.23	3692.88	3.76
			Max. My	2	-68.24	3.57	3668.57
			Max. Vy	20	-31.85	3692.88	3.76
			Max. Vx	2	-31.58	3.57	3668.57
			Max. Torque	19			0.90
L50	19.25 - 19	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.65	-0.21	0.20
			Max. Mx	20	-68.38	3700.84	3.76
			Max. My	2	-68.38	3.58	3676.46
			Max. Vy	20	-31.84	3700.84	3.76
			Max. Vx	2	-31.57	3.58	3676.46
			Max. Torque	19			0.90
L51	19 - 14	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-99.69	-0.13	0.15
			Max. Mx	20	-70.98	3860.43	3.87
			Max. My	2	-70.99	3.80	3834.57
			Max. Vy	20	-31.99	3860.43	3.87
			Max. Vx	4	-31.73	-2106.90	3637.04
			Max. Torque	19			0.90
L52	14 - 9	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-102.71	-0.04	0.12
			Max. Mx	20	-73.62	4020.63	3.97
			Max. My	2	-73.62	4.02	3993.32
			Max. Vy	20	-32.11	4020.63	3.97
			Max. Vx	4	-31.85	-2198.77	3795.83
			Max. Torque	19			0.90
L53	9 - 4	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.52	0.06	0.04
			Max. Mx	20	-76.12	4181.41	4.05
			Max. My	2	-76.13	4.24	4152.61
			Max. Vy	20	-32.22	4181.41	4.05
			Max. Vx	2	-31.95	4.24	4152.61
			Max. Torque	19			0.90
L54	4 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-107.69	0.15	-0.04
			Max. Mx	20	-78.10	4310.39	4.10
			Max. My	2	-78.10	4.43	4280.40
			Max. Vy	20	-32.29	4310.39	4.10
			Max. Vx	2	-32.03	4.43	4280.40
			Max. Torque	19			0.90

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	36	107.69	9.33	0.00
	Max. H_x	20	78.11	32.26	0.03
	Max. H_z	3	58.58	0.03	32.00
	Max. M_x	2	4280.40	0.03	32.00
	Max. M_z	8	4308.98	-32.26	-0.03
	Max. Torsion	19	0.90	27.81	-15.98
	Min. Vert	7	58.58	-27.81	15.98
	Min. H_x	8	78.11	-32.26	-0.03
	Min. H_z	14	78.11	-0.03	-32.00
	Min. M_x	14	-4279.71	-0.03	-32.00
	Min. M_z	20	-4310.39	32.26	0.03
	Min. Torsion	7	-0.89	-27.81	15.98

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	65.09	0.00	0.00	-0.24	0.61	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	78.11	-0.03	-32.00	-4280.40	4.43	0.54
0.9 Dead+1.0 Wind 0 deg - No Ice	58.58	-0.03	-32.00	-4193.24	4.18	0.54
1.2 Dead+1.0 Wind 30 deg - No Ice	78.11	18.49	-31.94	-4082.70	-2364.73	0.75
0.9 Dead+1.0 Wind 30 deg - No Ice	58.58	18.49	-31.94	-4002.19	-2318.28	0.76
1.2 Dead+1.0 Wind 60 deg - No Ice	78.11	27.81	-15.98	-2137.13	-3722.44	0.88
0.9 Dead+1.0 Wind 60 deg - No Ice	58.58	27.81	-15.98	-2093.57	-3646.84	0.89
1.2 Dead+1.0 Wind 90 deg - No Ice	78.11	32.26	0.03	3.33	-4308.98	0.70
0.9 Dead+1.0 Wind 90 deg - No Ice	58.58	32.26	0.03	3.37	-4221.53	0.72
1.2 Dead+1.0 Wind 120 deg - No Ice	78.11	27.84	16.02	2142.80	-3726.16	0.34
0.9 Dead+1.0 Wind 120 deg - No Ice	58.58	27.84	16.02	2099.32	-3650.48	0.36
1.2 Dead+1.0 Wind 150 deg - No Ice	78.11	17.35	29.91	3907.70	-2268.43	-0.14
0.9 Dead+1.0 Wind 150 deg - No Ice	58.58	17.35	29.91	3829.61	-2223.17	-0.13
1.2 Dead+1.0 Wind 180 deg - No Ice	78.11	0.03	32.00	4279.71	-3.00	-0.54
0.9 Dead+1.0 Wind 180 deg - No Ice	58.58	0.03	32.00	4192.75	-3.10	-0.54
1.2 Dead+1.0 Wind 210 deg - No Ice	78.11	-18.49	31.94	4081.98	2366.19	-0.75
0.9 Dead+1.0 Wind 210 deg - No Ice	58.58	-18.49	31.94	4001.68	2319.39	-0.75
1.2 Dead+1.0 Wind 240 deg - No Ice	78.11	-27.81	15.98	2136.38	3723.89	-0.88
0.9 Dead+1.0 Wind 240 deg - No Ice	58.58	-27.81	15.98	2093.02	3647.94	-0.90
1.2 Dead+1.0 Wind 270 deg - No Ice	78.11	-32.26	-0.03	-4.10	4310.39	-0.71
0.9 Dead+1.0 Wind 270 deg - No Ice	58.58	-32.26	-0.03	-3.92	4222.60	-0.73
1.2 Dead+1.0 Wind 300 deg - No Ice	78.11	-27.84	-16.02	-2143.54	3727.54	-0.34
0.9 Dead+1.0 Wind 300 deg	58.58	-27.84	-16.02	-2099.86	3651.53	-0.36

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
- No Ice 1.2 Dead+1.0 Wind 330 deg	78.11	-17.35	-29.91	-3908.40	2269.82	0.14
- No Ice 0.9 Dead+1.0 Wind 330 deg	58.58	-17.35	-29.91	-3830.11	2224.22	0.14
- No Ice 1.2 Dead+1.0 Ice+1.0 Temp	107.69	0.00	0.00	0.04	0.15	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	107.69	-0.00	-9.30	-1277.55	0.76	0.11
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	107.69	4.89	-8.45	-1147.47	-664.31	0.12
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	107.69	8.08	-4.65	-638.11	-1109.92	0.15
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	107.69	9.33	0.00	0.77	-1282.07	0.11
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	107.69	8.08	4.66	639.44	-1110.69	0.04
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	107.69	4.74	8.18	1121.54	-650.22	-0.05
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	107.69	0.00	9.30	1277.56	-0.77	-0.11
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	107.69	-4.89	8.45	1147.48	664.31	-0.12
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	107.69	-8.08	4.65	638.12	1109.92	-0.15
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	107.69	-9.33	-0.00	-0.76	1282.07	-0.11
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	107.69	-8.08	-4.66	-639.44	1110.69	-0.04
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	107.69	-4.74	-8.18	-1121.54	650.22	0.05
Dead+Wind 0 deg - Service	65.09	-0.01	-8.06	-1067.00	1.51	0.14
Dead+Wind 30 deg - Service	65.09	4.66	-8.05	-1018.32	-589.30	0.20
Dead+Wind 60 deg - Service	65.09	7.01	-4.03	-532.84	-927.36	0.23
Dead+Wind 90 deg - Service	65.09	8.13	0.01	0.64	-1073.57	0.19
Dead+Wind 120 deg - Service	65.09	7.01	4.04	533.88	-928.29	0.09
Dead+Wind 150 deg - Service	65.09	4.37	7.54	974.04	-565.13	-0.03
Dead+Wind 180 deg - Service	65.09	0.01	8.06	1066.44	-0.34	-0.14
Dead+Wind 210 deg - Service	65.09	-4.66	8.05	1017.75	590.47	-0.20
Dead+Wind 240 deg - Service	65.09	-7.01	4.03	532.27	928.53	-0.23
Dead+Wind 270 deg - Service	65.09	-8.13	-0.01	-1.21	1074.73	-0.19
Dead+Wind 300 deg - Service	65.09	-7.01	-4.04	-534.44	929.45	-0.09
Dead+Wind 330 deg - Service	65.09	-4.37	-7.54	-974.60	566.30	0.03

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	-65.09	0.00	0.00	65.09	0.00	0.000%
2	-0.03	-78.11	-32.00	0.03	78.11	32.00	0.000%
3	-0.03	-58.58	-32.00	0.03	58.58	32.00	0.000%
4	18.49	-78.11	-31.94	-18.49	78.11	31.94	0.000%
5	18.49	-58.58	-31.94	-18.49	58.58	31.94	0.000%
6	27.81	-78.11	-15.98	-27.81	78.11	15.98	0.000%
7	27.81	-58.58	-15.98	-27.81	58.58	15.98	0.000%
8	32.26	-78.11	0.03	-32.26	78.11	-0.03	0.000%
9	32.26	-58.58	0.03	-32.26	58.58	-0.03	0.000%
10	27.84	-78.11	16.02	-27.84	78.11	-16.02	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
11	27.84	-58.58	16.02	-27.84	58.58	-16.02	0.000%
12	17.35	-78.11	29.91	-17.35	78.11	-29.91	0.000%
13	17.35	-58.58	29.91	-17.35	58.58	-29.91	0.000%
14	0.03	-78.11	32.00	-0.03	78.11	-32.00	0.000%
15	0.03	-58.58	32.00	-0.03	58.58	-32.00	0.000%
16	-18.49	-78.11	31.94	18.49	78.11	-31.94	0.000%
17	-18.49	-58.58	31.94	18.49	58.58	-31.94	0.000%
18	-27.81	-78.11	15.98	27.81	78.11	-15.98	0.000%
19	-27.81	-58.58	15.98	27.81	58.58	-15.98	0.000%
20	-32.26	-78.11	-0.03	32.26	78.11	0.03	0.000%
21	-32.26	-58.58	-0.03	32.26	58.58	0.03	0.000%
22	-27.84	-78.11	-16.02	27.84	78.11	16.02	0.000%
23	-27.84	-58.58	-16.02	27.84	58.58	16.02	0.000%
24	-17.35	-78.11	-29.91	17.35	78.11	29.91	0.000%
25	-17.35	-58.58	-29.91	17.35	58.58	29.91	0.000%
26	0.00	-107.69	0.00	-0.00	107.69	-0.00	0.000%
27	-0.00	-107.69	-9.30	0.00	107.69	9.30	0.000%
28	4.89	-107.69	-8.45	-4.89	107.69	8.45	0.000%
29	8.08	-107.69	-4.65	-8.08	107.69	4.65	0.000%
30	9.33	-107.69	0.00	-9.33	107.69	-0.00	0.000%
31	8.08	-107.69	4.66	-8.08	107.69	-4.66	0.000%
32	4.74	-107.69	8.18	-4.74	107.69	-8.18	0.000%
33	0.00	-107.69	9.30	-0.00	107.69	-9.30	0.000%
34	-4.89	-107.69	8.45	4.89	107.69	-8.45	0.000%
35	-8.08	-107.69	4.65	8.08	107.69	-4.65	0.000%
36	-9.33	-107.69	-0.00	9.33	107.69	0.00	0.000%
37	-8.08	-107.69	-4.66	8.08	107.69	4.66	0.000%
38	-4.74	-107.69	-8.18	4.74	107.69	8.18	0.000%
39	-0.01	-65.09	-8.06	0.01	65.09	8.06	0.000%
40	4.66	-65.09	-8.05	-4.66	65.09	8.05	0.000%
41	7.01	-65.09	-4.03	-7.01	65.09	4.03	0.000%
42	8.13	-65.09	0.01	-8.13	65.09	-0.01	0.000%
43	7.01	-65.09	4.04	-7.01	65.09	-4.04	0.000%
44	4.37	-65.09	7.54	-4.37	65.09	-7.54	0.000%
45	0.01	-65.09	8.06	-0.01	65.09	-8.06	0.000%
46	-4.66	-65.09	8.05	4.66	65.09	-8.05	0.000%
47	-7.01	-65.09	4.03	7.01	65.09	-4.03	0.000%
48	-8.13	-65.09	-0.01	8.13	65.09	0.01	0.000%
49	-7.01	-65.09	-4.04	7.01	65.09	4.04	0.000%
50	-4.37	-65.09	-7.54	4.37	65.09	7.54	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	6	0.00000001	0.00018746
3	Yes	5	0.00000001	0.00090000
4	Yes	8	0.00000001	0.00014288
5	Yes	7	0.00000001	0.00038209
6	Yes	8	0.00000001	0.00012688
7	Yes	7	0.00000001	0.00034399
8	Yes	6	0.00000001	0.00030726
9	Yes	6	0.00000001	0.00010670
10	Yes	8	0.00000001	0.00012938
11	Yes	7	0.00000001	0.00035135
12	Yes	8	0.00000001	0.00013607
13	Yes	7	0.00000001	0.00036627
14	Yes	6	0.00000001	0.00024402
15	Yes	6	0.00000001	0.00008051
16	Yes	8	0.00000001	0.00014019
17	Yes	7	0.00000001	0.00037429
18	Yes	8	0.00000001	0.00012992
19	Yes	7	0.00000001	0.00035311
20	Yes	6	0.00000001	0.00024271
21	Yes	6	0.00000001	0.00008314

22	Yes	8	0.00000001	0.00012806
23	Yes	7	0.00000001	0.00034723
24	Yes	8	0.00000001	0.00013607
25	Yes	7	0.00000001	0.00036617
26	Yes	4	0.00000001	0.00018944
27	Yes	7	0.00000001	0.00096940
28	Yes	8	0.00000001	0.00024138
29	Yes	8	0.00000001	0.00023147
30	Yes	7	0.00000001	0.00097539
31	Yes	8	0.00000001	0.00023265
32	Yes	8	0.00000001	0.00023621
33	Yes	7	0.00000001	0.00097039
34	Yes	8	0.00000001	0.00023967
35	Yes	8	0.00000001	0.00023169
36	Yes	7	0.00000001	0.00097187
37	Yes	8	0.00000001	0.00023140
38	Yes	8	0.00000001	0.00023499
39	Yes	5	0.00000001	0.00034437
40	Yes	6	0.00000001	0.00035017
41	Yes	6	0.00000001	0.00028134
42	Yes	5	0.00000001	0.00037473
43	Yes	6	0.00000001	0.00029356
44	Yes	6	0.00000001	0.00031908
45	Yes	5	0.00000001	0.00034814
46	Yes	6	0.00000001	0.00033457
47	Yes	6	0.00000001	0.00029632
48	Yes	5	0.00000001	0.00036840
49	Yes	6	0.00000001	0.00028634
50	Yes	6	0.00000001	0.00031814

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	168.5 - 163.5	40.357	40	2.4328	0.0067
L2	163.5 - 158.5	37.813	40	2.4234	0.0058
L3	158.5 - 153.5	35.291	40	2.3931	0.0048
L4	153.5 - 148.5	32.812	40	2.3408	0.0040
L5	148.5 - 143.5	30.400	40	2.2637	0.0033
L6	143.5 - 138.5	28.081	40	2.1638	0.0028
L7	138.5 - 130.667	25.878	40	2.0422	0.0024
L8	134.327 - 129.327	24.144	40	1.9247	0.0019
L9	129.327 - 125.75	22.166	40	1.8396	0.0017
L10	125.75 - 125.5	20.825	40	1.7420	0.0014
L11	125.5 - 120.5	20.734	40	1.7349	0.0014
L12	120.5 - 120.25	18.994	40	1.5870	0.0011
L13	120.25 - 115.25	18.911	40	1.5829	0.0011
L14	115.25 - 113.833	17.298	40	1.4975	0.0010
L15	113.833 - 113.483	16.857	40	1.4725	0.0009
L16	113.483 - 113.25	16.750	40	1.4679	0.0009
L17	113.25 - 108.25	16.678	40	1.4648	0.0009
L18	108.25 - 103.25	15.180	40	1.3957	0.0008
L19	103.25 - 98.25	13.757	40	1.3230	0.0007
L20	98.25 - 93.25	12.411	40	1.2469	0.0006
L21	93.25 - 84.717	11.147	40	1.1678	0.0006
L22	89.277 - 83.717	10.202	40	1.1041	0.0005
L23	83.717 - 82.917	8.942	40	1.0525	0.0005
L24	82.917 - 82.667	8.767	40	1.0401	0.0004
L25	82.667 - 82.5	8.713	40	1.0374	0.0004
L26	82.5 - 82.25	8.677	40	1.0355	0.0004
L27	82.25 - 77.25	8.622	40	1.0318	0.0004
L28	77.25 - 73.417	7.582	40	0.9552	0.0004
L29	73.417 - 73.167	6.839	40	0.8954	0.0003
L30	73.167 - 68.167	6.793	40	0.8925	0.0003
L31	68.167 - 64.25	5.888	40	0.8346	0.0003
L32	64.25 - 64	5.223	40	0.7882	0.0003
L33	64 - 59	5.182	40	0.7846	0.0003
L34	59 - 54	4.397	40	0.7144	0.0002

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L35	54 - 53.5	3.686	40	0.6423	0.0002
L36	53.5 - 53.25	3.620	40	0.6351	0.0002
L37	53.25 - 43.827	3.586	40	0.6320	0.0002
L38	49.167 - 42.827	3.068	40	0.5802	0.0002
L39	42.827 - 41.75	2.327	40	0.5294	0.0002
L40	41.75 - 41.5	2.209	40	0.5137	0.0002
L41	41.5 - 36.5	2.182	40	0.5103	0.0002
L42	36.5 - 32.75	1.685	40	0.4401	0.0001
L43	32.75 - 32.5	1.360	40	0.3879	0.0001
L44	32.5 - 29.733	1.340	40	0.3853	0.0001
L45	29.733 - 29.483	1.126	40	0.3531	0.0001
L46	29.483 - 28.25	1.107	40	0.3502	0.0001
L47	28.25 - 28	1.019	40	0.3359	0.0001
L48	28 - 23	1.001	40	0.3331	0.0001
L49	23 - 19.25	0.681	40	0.2787	0.0001
L50	19.25 - 19	0.478	40	0.2378	0.0001
L51	19 - 14	0.466	40	0.2347	0.0001
L52	14 - 9	0.253	40	0.1723	0.0000
L53	9 - 4	0.104	40	0.1108	0.0000
L54	4 - 0	0.021	46	0.0493	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
168.00	800 10121 w/ Mount Pipe	40	40.102	2.4323	0.0066	13561
158.00	AIR6449 B41_T-MOBILE	40	35.041	2.3889	0.0047	6552
148.00	MX08FRO665-21 w/ Mount Pipe	40	30.163	2.2546	0.0033	3148
138.00	BXA-70063/4CF w/ Mount Pipe	40	25.665	2.0275	0.0024	2242
128.00	6' x 2" Mount Pipe	40	21.661	1.8066	0.0016	2270
70.00	GPS_A	40	6.213	0.8558	0.0003	4842

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	168.5 - 163.5	161.459	4	9.7784	0.0265
L2	163.5 - 158.5	151.317	4	9.7393	0.0228
L3	158.5 - 153.5	141.260	4	9.6169	0.0190
L4	153.5 - 148.5	131.370	4	9.4058	0.0157
L5	148.5 - 143.5	121.748	4	9.0953	0.0128
L6	143.5 - 138.5	112.491	4	8.6936	0.0106
L7	138.5 - 130.667	103.692	4	8.2042	0.0090
L8	134.327 - 129.327	96.763	4	7.7319	0.0073
L9	129.327 - 125.75	88.859	4	7.3896	0.0063
L10	125.75 - 125.5	83.492	4	6.9976	0.0054
L11	125.5 - 120.5	83.128	4	6.9692	0.0054
L12	120.5 - 120.25	76.165	4	6.3754	0.0042
L13	120.25 - 115.25	75.833	4	6.3590	0.0042
L14	115.25 - 113.833	69.374	4	6.0159	0.0037
L15	113.833 - 113.483	67.609	4	5.9154	0.0035
L16	113.483 - 113.25	67.177	4	5.8969	0.0035
L17	113.25 - 108.25	66.890	4	5.8845	0.0035
L18	108.25 - 103.25	60.890	4	5.6070	0.0031
L19	103.25 - 98.25	55.186	4	5.3147	0.0028
L20	98.25 - 93.25	49.793	4	5.0090	0.0024
L21	93.25 - 84.717	44.724	4	4.6912	0.0021
L22	89.277 - 83.717	40.934	4	4.4352	0.0019
L23	83.717 - 82.917	35.883	4	4.2279	0.0018
L24	82.917 - 82.667	35.180	4	4.1782	0.0017

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L25	82.667 - 82.5	34.961	4	4.1670	0.0017
L26	82.5 - 82.25	34.816	4	4.1596	0.0017
L27	82.25 - 77.25	34.599	4	4.1445	0.0017
L28	77.25 - 73.417	30.426	4	3.8367	0.0015
L29	73.417 - 73.167	27.446	4	3.5963	0.0013
L30	73.167 - 68.167	27.258	4	3.5849	0.0013
L31	68.167 - 64.25	23.630	4	3.3522	0.0012
L32	64.25 - 64	20.959	4	3.1654	0.0011
L33	64 - 59	20.794	4	3.1513	0.0011
L34	59 - 54	17.644	4	2.8691	0.0009
L35	54 - 53.5	14.793	4	2.5790	0.0008
L36	53.5 - 53.25	14.525	4	2.5502	0.0008
L37	53.25 - 43.827	14.392	4	2.5376	0.0008
L38	49.167 - 42.827	12.312	4	2.3296	0.0007
L39	42.827 - 41.75	9.337	4	2.1254	0.0006
L40	41.75 - 41.5	8.865	4	2.0626	0.0006
L41	41.5 - 36.5	8.757	4	2.0487	0.0006
L42	36.5 - 32.75	6.761	4	1.7665	0.0005
L43	32.75 - 32.5	5.456	4	1.5570	0.0004
L44	32.5 - 29.733	5.375	4	1.5464	0.0004
L45	29.733 - 29.483	4.516	4	1.4172	0.0004
L46	29.483 - 28.25	4.442	4	1.4056	0.0004
L47	28.25 - 28	4.087	4	1.3480	0.0004
L48	28 - 23	4.016	4	1.3370	0.0004
L49	23 - 19.25	2.731	4	1.1183	0.0003
L50	19.25 - 19	1.917	4	0.9542	0.0003
L51	19 - 14	1.868	4	0.9419	0.0002
L52	14 - 9	1.013	4	0.6914	0.0002
L53	9 - 4	0.419	4	0.4445	0.0001
L54	4 - 0	0.083	16	0.1977	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
168.00	800 10121 w/ Mount Pipe	4	160.443	9.7763	0.0262	3618
158.00	AIR6449 B41_T-MOBILE	4	140.262	9.5998	0.0187	1722
148.00	MX08FRO665-21 w/ Mount Pipe	4	120.805	9.0587	0.0132	819
138.00	BXA-70063/4CF w/ Mount Pipe	4	102.843	8.1453	0.0094	578
128.00	6' x 2" Mount Pipe	4	86.836	7.2570	0.0063	581
70.00	GPS_A	4	24.932	3.4372	0.0012	1214

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	168.5 - 163.5 (1)	TP19.8343x19x0.1875	5.00	0.00	0.0	11.6923	-4.23	684.00	0.006
L2	163.5 - 158.5 (2)	TP20.6685x19.8343x0.1875	5.00	0.00	0.0	12.1888	-4.51	713.04	0.006
L3	158.5 - 153.5 (3)	TP21.5028x20.6685x0.1875	5.00	0.00	0.0	12.6853	-9.47	742.09	0.013
L4	153.5 - 148.5 (4)	TP22.337x21.5028x0.1875	5.00	0.00	0.0	13.1817	-9.87	771.13	0.013
L5	148.5 - 143.5 (5)	TP23.1713x22.337x0.1875	5.00	0.00	0.0	13.6782	-13.06	800.18	0.016
L6	143.5 - 138.5 (6)	TP24.0056x23.1713x0.1875	5.00	0.00	0.0	14.1747	-13.57	829.22	0.016
L7	138.5 - 130.667 (7)	TP25.3125x24.0056x0.1875	7.83	0.00	0.0	14.5891	-16.88	853.46	0.020
L8	130.667 - 129.327 (8)	TP25.1499x24.3268x0.25	5.00	0.00	0.0	19.7581	-17.74	1155.85	0.015
L9	129.327 - 125.75 (9)	TP25.7387x25.1499x0.25	3.58	0.00	0.0	20.2253	-21.22	1183.18	0.018
L10	125.75 - 125.5 (10)	TP25.7798x25.7387x0.25	0.25	0.00	0.0	20.2579	-21.29	1185.09	0.018
L11	125.5 - 120.5 (11)	TP26.6029x25.7798x0.25	5.00	0.00	0.0	20.9110	-22.15	1223.30	0.018

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L12	120.5 - 120.25 (12)	TP26.6441x26.6029x0.4813	0.25	0.00	0.0	39.9634	-22.23	2337.86	0.010
L13	120.25 - 115.25 (13)	TP27.4671x26.6441x0.475	5.00	0.00	0.0	40.6947	-23.45	2380.64	0.010
L14	115.25 - 113.833 (14)	TP27.7004x27.4671x0.4688	1.42	0.00	0.0	40.5155	-23.84	2370.16	0.010
L15	113.833 - 113.483 (15)	TP27.758x27.7004x0.65	0.35	0.00	0.0	55.9265	-23.97	3271.70	0.007
L16	113.483 - 113.25 (16)	TP27.7963x27.758x0.65	0.23	0.00	0.0	56.0056	-24.04	3276.33	0.007
L17	113.25 - 108.25 (17)	TP28.6194x27.7963x0.6375	5.00	0.00	0.0	56.6193	-25.61	3312.23	0.008
L18	108.25 - 103.25 (18)	TP29.4425x28.6194x0.625	5.00	0.00	0.0	57.1666	-27.22	3344.25	0.008
L19	103.25 - 98.25 (19)	TP30.2655x29.4425x0.6125	5.00	0.00	0.0	57.6477	-28.86	3372.39	0.009
L20	98.25 - 93.25 (20)	TP31.0886x30.2655x0.6	5.00	0.00	0.0	58.0624	-30.52	3396.65	0.009
L21	93.25 - 84.717 (21)	TP32.4932x31.0886x0.6	8.53	0.00	0.0	59.3079	-31.88	3469.51	0.009
L22	84.717 - 83.717 (22)	TP32.1551x31.2426x0.6625	5.56	0.00	0.0	66.2219	-35.04	3873.98	0.009
L23	83.717 - 82.917 (23)	TP32.2864x32.1551x0.6625	0.80	0.00	0.0	66.4980	-35.35	3890.13	0.009
L24	82.917 - 82.667 (24)	TP32.3274x32.2864x0.95	0.25	0.00	0.0	94.6124	-35.47	5534.83	0.006
L25	82.667 - 82.5 (25)	TP32.3549x32.3274x0.95	0.17	0.00	0.0	94.6951	-35.55	5539.66	0.006
L26	82.5 - 82.25 (26)	TP32.3959x32.3549x0.6875	0.25	0.00	0.0	69.1917	-35.65	4047.71	0.009
L27	82.25 - 77.25 (27)	TP33.2165x32.3959x0.675	5.00	0.00	0.0	69.7186	-37.66	4078.54	0.009
L28	77.25 - 73.417 (28)	TP33.8456x33.2165x0.6625	3.83	0.00	0.0	69.7766	-39.21	4081.93	0.010
L29	73.417 - 73.167 (29)	TP33.8866x33.8456x0.9375	0.25	0.00	0.0	98.0443	-39.35	5735.59	0.007
L30	73.167 - 68.167 (30)	TP34.7073x33.8866x0.9125	5.00	0.00	0.0	97.8790	-41.78	5725.92	0.007
L31	68.167 - 64.25 (31)	TP35.3502x34.7073x0.8875	3.92	0.00	0.0	97.0787	-43.65	5679.10	0.008
L32	64.25 - 64 (32)	TP35.3912x35.3502x0.7375	0.25	0.00	0.0	81.1182	-43.77	4745.42	0.009
L33	64 - 59 (33)	TP36.2118x35.3912x0.7375	5.00	0.00	0.0	83.0392	-45.85	4857.79	0.009
L34	59 - 54 (34)	TP37.0324x36.2118x0.7125	5.00	0.00	0.0	82.1367	-47.97	4804.99	0.010
L35	54 - 53.5 (35)	TP37.1145x37.0324x0.7125	0.50	0.00	0.0	82.3222	-48.20	4815.85	0.010
L36	53.5 - 53.25 (36)	TP37.1555x37.1145x0.825	0.25	0.00	0.0	95.1333	-48.32	5565.30	0.009
L37	53.25 - 43.827 (37)	TP38.7021x37.1555x0.8125	9.42	0.00	0.0	95.4523	-50.25	5583.96	0.009
L38	43.827 - 42.827 (38)	TP38.2386x37.2007x0.725	6.34	0.00	0.0	86.3245	-55.24	5049.98	0.011
L39	42.827 - 41.75 (39)	TP38.4149x38.2386x0.725	1.08	0.00	0.0	86.7302	-55.76	5073.72	0.011
L40	41.75 - 41.5 (40)	TP38.4559x38.4149x0.7625	0.25	0.00	0.0	91.2245	-55.91	5336.64	0.010
L41	41.5 - 36.5 (41)	TP39.2744x38.4559x0.75	5.00	0.00	0.0	91.7074	-58.45	5364.88	0.011
L42	36.5 - 32.75 (42)	TP39.8884x39.2744x0.75	3.75	0.00	0.0	93.1689	-60.38	5450.38	0.011
L43	32.75 - 32.5 (43)	TP39.9293x39.8884x1	0.25	0.00	0.0	123.5620	-60.54	7228.35	0.008
L44	32.5 - 29.733 (44)	TP40.3823x39.9293x0.9	2.77	0.00	0.0	112.7850	-62.00	6597.93	0.009
L45	29.733 - 29.483 (45)	TP40.4232x40.3823x0.9	0.25	0.00	0.0	112.9020	-62.15	6604.77	0.009
L46	29.483 - 28.25 (46)	TP40.6251x40.4232x0.8875	1.23	0.00	0.0	111.9380	-62.79	6548.36	0.010
L47	28.25 - 28 (47)	TP40.666x40.6251x0.95	0.25	0.00	0.0	119.7560	-62.95	7005.71	0.009
L48	28 - 23 (48)	TP41.4846x40.666x0.95	5.00	0.00	0.0	122.2240	-65.89	7150.10	0.009
L49	23 - 19.25 (49)	TP42.0985x41.4846x0.9375	3.75	0.00	0.0	122.4800	-68.11	7165.06	0.010
L50	19.25 - 19 (50)	TP42.1394x42.0985x0.825	0.25	0.00	0.0	108.1840	-68.26	6328.76	0.011
L51	19 - 14 (51)	TP42.958x42.1394x0.8	5.00	0.00	0.0	107.0480	-70.89	6262.28	0.011
L52	14 - 9 (52)	TP43.7766x42.958x0.8	5.00	0.00	0.0	109.1260	-73.55	6383.88	0.012
L53	9 - 4 (53)	TP44.5951x43.7766x0.7875	5.00	0.00	0.0	109.4980	-76.10	6405.65	0.012
L54	4 - 0 (54)	TP45.25x44.5951x0.775	4.00	0.00	0.0	109.4020	-78.09	6400.01	0.012

Pole Bending Design Data

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L1	168.5 - 163.5 (1)	TP19.8343x19x0.1875	34.08	341.82	0.100	0.00	341.82	0.000
L2	163.5 - 158.5 (2)	TP20.6685x19.8343x0.1875	72.93	367.36	0.199	0.00	367.36	0.000
L3	158.5 - 153.5 (3)	TP21.5028x20.6685x0.1875	136.54	393.44	0.347	0.00	393.44	0.000
L4	153.5 - 148.5 (4)	TP22.337x21.5028x0.1875	204.31	420.00	0.486	0.00	420.00	0.000
L5	148.5 - 143.5 (5)	TP23.1713x22.337x0.1875	289.39	447.02	0.647	0.00	447.02	0.000
L6	143.5 - 138.5 (6)	TP24.0056x23.1713x0.1875	377.63	474.44	0.796	0.00	474.44	0.000
L7	138.5 - 130.667 (7)	TP25.3125x24.0056x0.1875	468.76	497.60	0.942	0.00	497.60	0.000
L8	130.667 - 129.327 (8)	TP25.1499x24.3268x0.25	575.93	741.46	0.777	0.00	741.46	0.000
L9	129.327 - 125.75 (9)	TP25.7387x25.1499x0.25	663.67	772.47	0.859	0.00	772.47	0.000
L10	125.75 - 125.5 (10)	TP25.7798x25.7387x0.25	669.84	774.66	0.865	0.00	774.66	0.000
L11	125.5 - 120.5 (11)	TP26.6029x25.7798x0.25	793.63	818.72	0.969	0.00	818.72	0.000
L12	120.5 - 120.25 (12)	TP26.6441x26.6029x0.4813	799.85	1580.82	0.506	0.00	1580.82	0.000
L13	120.25 - 115.25 (13)	TP27.4671x26.6441x0.475	927.35	1662.08	0.558	0.00	1662.08	0.000
L14	115.25 - 113.833 (14)	TP27.7004x27.4671x0.4688	964.18	1670.08	0.577	0.00	1670.08	0.000
L15	113.833 - 113.483 (15)	TP27.758x27.7004x0.65	973.33	2279.69	0.427	0.00	2279.69	0.000
L16	113.483 - 113.25 (16)	TP27.7963x27.758x0.65	979.43	2286.22	0.428	0.00	2286.22	0.000

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L17	113.25 - 108.25 (17)	TP28.6194x27.7963x0.6375	1112.53	2385.12	0.466	0.00	2385.12	0.000
L18	108.25 - 103.25 (18)	TP29.4425x28.6194x0.625	1249.72	2482.74	0.503	0.00	2482.74	0.000
L19	103.25 - 98.25 (19)	TP30.2655x29.4425x0.6125	1390.93	2578.83	0.539	0.00	2578.83	0.000
L20	98.25 - 93.25 (20)	TP31.0886x30.2655x0.6	1536.08	2673.13	0.575	0.00	2673.13	0.000
L21	93.25 - 84.717 (21)	TP32.4932x31.0886x0.6	1653.71	2790.18	0.593	0.00	2790.18	0.000
L22	84.717 - 83.717 (22)	TP32.1551x31.2426x0.6625	1821.35	3145.00	0.579	0.00	3145.00	0.000
L23	83.717 - 82.917 (23)	TP32.2864x32.1551x0.6625	1845.75	3171.55	0.582	0.00	3171.55	0.000
L24	82.917 - 82.667 (24)	TP32.3274x32.2864x0.95	1853.39	4436.74	0.418	0.00	4436.74	0.000
L25	82.667 - 82.5 (25)	TP32.3549x32.3274x0.95	1858.50	4444.61	0.418	0.00	4444.61	0.000
L26	82.5 - 82.25 (26)	TP32.3959x32.3549x0.6875	1866.15	3306.47	0.564	0.00	3306.47	0.000
L27	82.25 - 77.25 (27)	TP33.2165x32.3959x0.675	2020.31	3422.33	0.590	0.00	3422.33	0.000
L28	77.25 - 73.417 (28)	TP33.8456x33.2165x0.6625	2140.47	3495.38	0.612	0.00	3495.38	0.000
L29	73.417 - 73.167 (29)	TP33.8866x33.8456x0.9375	2148.39	4836.53	0.444	0.00	4836.53	0.000
L30	73.167 - 68.167 (30)	TP34.7073x33.8866x0.9125	2309.22	4959.29	0.466	0.00	4959.29	0.000
L31	68.167 - 64.25 (31)	TP35.3502x34.7073x0.8875	2438.07	5022.07	0.485	0.00	5022.07	0.000
L32	64.25 - 64 (32)	TP35.3912x35.3502x0.7375	2446.38	4238.13	0.577	0.00	4238.13	0.000
L33	64 - 59 (33)	TP36.2118x35.3912x0.7375	2613.68	4443.38	0.588	0.00	4443.38	0.000
L34	59 - 54 (34)	TP37.0324x36.2118x0.7125	2782.91	4505.02	0.618	0.00	4505.02	0.000
L35	54 - 53.5 (35)	TP37.1145x37.0324x0.7125	2799.93	4525.60	0.619	0.00	4525.60	0.000
L36	53.5 - 53.25 (36)	TP37.1555x37.1145x0.825	2808.46	5203.61	0.540	0.00	5203.61	0.000
L37	53.25 - 43.827 (37)	TP38.7021x37.1555x0.8125	2948.28	5323.10	0.554	0.00	5323.10	0.000
L38	43.827 - 42.827 (38)	TP38.2386x37.2007x0.725	3168.63	4891.72	0.648	0.00	4891.72	0.000
L39	42.827 - 41.75 (39)	TP38.4149x38.2386x0.725	3206.42	4938.25	0.649	0.00	4938.25	0.000
L40	41.75 - 41.5 (40)	TP38.4559x38.4149x0.7625	3215.20	5189.57	0.620	0.00	5189.57	0.000
L41	41.5 - 36.5 (41)	TP39.2744x38.4559x0.75	3391.63	5336.04	0.636	0.00	5336.04	0.000
L42	36.5 - 32.75 (42)	TP39.8884x39.2744x0.75	3524.86	5509.12	0.640	0.00	5509.12	0.000
L43	32.75 - 32.5 (43)	TP39.9293x39.8884x1	3533.78	7220.99	0.489	0.00	7220.99	0.000
L44	32.5 - 29.733 (44)	TP40.3823x39.9293x0.9	3632.63	6703.74	0.542	0.00	6703.74	0.000
L45	29.733 - 29.483 (45)	TP40.4232x40.3823x0.9	3641.59	6717.81	0.542	0.00	6717.81	0.000
L46	29.483 - 28.25 (46)	TP40.6251x40.4232x0.8875	3685.82	6699.42	0.550	0.00	6699.42	0.000
L47	28.25 - 28 (47)	TP40.666x40.6251x0.95	3694.79	7152.33	0.517	0.00	7152.33	0.000
L48	28 - 23 (48)	TP41.4846x40.666x0.95	3875.18	7453.72	0.520	0.00	7453.72	0.000
L49	23 - 19.25 (49)	TP42.0985x41.4846x0.9375	4011.44	7589.64	0.529	0.00	7589.64	0.000
L50	19.25 - 19 (50)	TP42.1394x42.0985x0.825	4020.55	6747.29	0.596	0.00	6747.29	0.000
L51	19 - 14 (51)	TP42.958x42.1394x0.8	4203.23	6819.38	0.616	0.00	6819.38	0.000
L52	14 - 9 (52)	TP43.7766x42.958x0.8	4386.68	7089.28	0.619	0.00	7089.28	0.000
L53	9 - 4 (53)	TP44.5951x43.7766x0.7875	4570.66	7255.57	0.630	0.00	7255.57	0.000
L54	4 - 0 (54)	TP45.25x44.5951x0.775	4718.20	7363.60	0.641	0.00	7363.60	0.000

Pole Shear Design Data

Section No.	Elevation	Size	Actual V_u	ϕV_n	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u	ϕT_n	Ratio $\frac{T_u}{\phi T_n}$
	ft		K	K		kip-ft	kip-ft	
L1	168.5 - 163.5 (1)	TP19.8343x19x0.1875	7.61	205.20	0.037	1.24	353.06	0.004
L2	163.5 - 158.5 (2)	TP20.6685x19.8343x0.1875	7.94	213.91	0.037	1.24	383.68	0.003
L3	158.5 - 153.5 (3)	TP21.5028x20.6685x0.1875	13.40	222.63	0.060	1.24	415.57	0.003
L4	153.5 - 148.5 (4)	TP22.337x21.5028x0.1875	13.72	231.34	0.059	1.24	448.74	0.003
L5	148.5 - 143.5 (5)	TP23.1713x22.337x0.1875	17.52	240.05	0.073	1.03	483.18	0.002
L6	143.5 - 138.5 (6)	TP24.0056x23.1713x0.1875	17.79	248.77	0.072	1.03	518.89	0.002
L7	138.5 - 130.667 (7)	TP25.3125x24.0056x0.1875	21.27	256.04	0.083	1.25	549.67	0.002
L8	130.667 - 129.327 (8)	TP25.1499x24.3268x0.25	21.62	346.75	0.062	1.25	756.13	0.002
L9	129.327 - 125.75 (9)	TP25.7387x25.1499x0.25	24.67	354.95	0.069	0.95	792.32	0.001
L10	125.75 - 125.5 (10)	TP25.7798x25.7387x0.25	24.66	355.53	0.069	0.95	794.88	0.001
L11	125.5 - 120.5 (11)	TP26.6029x25.7798x0.25	24.88	366.99	0.068	0.95	846.96	0.001
L12	120.5 - 120.25 (12)	TP26.6441x26.6029x0.4813	24.88	701.36	0.035	0.95	1606.96	0.001
L13	120.25 - 115.25 (13)	TP27.4671x26.6441x0.475	25.89	714.19	0.036	0.93	1688.23	0.001
L14	115.25 - 113.833 (14)	TP27.7004x27.4671x0.4688	26.12	711.05	0.037	0.93	1695.72	0.001
L15	113.833 - 113.483 (15)	TP27.758x27.7004x0.65	26.17	981.51	0.027	0.93	2330.08	0.000
L16	113.483 - 113.25 (16)	TP27.7963x27.758x0.65	26.21	982.90	0.027	0.93	2336.68	0.000
L17	113.25 - 108.25 (17)	TP28.6194x27.7963x0.6375	27.04	993.67	0.027	0.92	2435.00	0.000
L18	108.25 - 103.25 (18)	TP29.4425x28.6194x0.625	27.85	1003.27	0.028	0.91	2531.95	0.000
L19	103.25 - 98.25 (19)	TP30.2655x29.4425x0.6125	28.65	1011.72	0.028	0.91	2627.29	0.000
L20	98.25 - 93.25 (20)	TP31.0886x30.2655x0.6	29.44	1019.00	0.029	0.90	2720.76	0.000
L21	93.25 - 84.717 (21)	TP32.4932x31.0886x0.6	29.81	1040.85	0.029	0.90	2838.73	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 $\frac{T_u}{\phi T_n}$
L22	84.717 - 83.717 (22)	TP32.1551x31.2426x0.6625	30.49	1162.19	0.026	0.90	3205.29	0.000
L23	83.717 - 82.917 (23)	TP32.2864x32.1551x0.6625	30.56	1167.04	0.026	0.90	3232.07	0.000
L24	82.917 - 82.667 (24)	TP32.3274x32.2864x0.95	30.58	1660.45	0.018	0.90	4562.71	0.000
L25	82.667 - 82.5 (25)	TP32.3549x32.3274x0.95	30.60	1661.90	0.018	0.90	4570.68	0.000
L26	82.5 - 82.25 (26)	TP32.3959x32.3549x0.6875	30.62	1214.31	0.025	0.90	3371.98	0.000
L27	82.25 - 77.25 (27)	TP33.2165x32.3959x0.675	31.09	1223.56	0.025	0.90	3486.93	0.000
L28	77.25 - 73.417 (28)	TP33.8456x33.2165x0.6625	31.68	1224.58	0.026	0.90	3558.64	0.000
L29	73.417 - 73.167 (29)	TP33.8866x33.8456x0.9375	31.70	1720.68	0.018	0.90	4965.05	0.000
L30	73.167 - 68.167 (30)	TP34.7073x33.8866x0.9125	32.61	1717.78	0.019	0.77	5083.89	0.000
L31	68.167 - 64.25 (31)	TP35.3502x34.7073x0.8875	33.25	1703.73	0.020	0.75	5141.98	0.000
L32	64.25 - 64 (32)	TP35.3912x35.3502x0.7375	33.27	1423.62	0.023	0.75	4320.41	0.000
L33	64 - 59 (33)	TP36.2118x35.3912x0.7375	33.70	1457.34	0.023	0.75	4527.46	0.000
L34	59 - 54 (34)	TP37.0324x36.2118x0.7125	34.07	1441.50	0.024	0.75	4585.00	0.000
L35	54 - 53.5 (35)	TP37.1145x37.0324x0.7125	34.09	1444.76	0.024	0.75	4605.74	0.000
L36	53.5 - 53.25 (36)	TP37.1555x37.1145x0.825	34.10	1669.59	0.020	0.75	5312.04	0.000
L37	53.25 - 43.827 (37)	TP38.7021x37.1555x0.8125	34.44	1675.19	0.021	0.75	5430.00	0.000
L38	43.827 - 42.827 (38)	TP38.2386x37.2007x0.725	35.10	1514.99	0.023	0.75	4977.14	0.000
L39	42.827 - 41.75 (39)	TP38.4149x38.2386x0.725	35.17	1522.11	0.023	0.75	5024.03	0.000
L40	41.75 - 41.5 (40)	TP38.4559x38.4149x0.7625	35.16	1600.99	0.022	0.75	5284.86	0.000
L41	41.5 - 36.5 (41)	TP39.2744x38.4559x0.75	35.47	1609.47	0.022	0.75	5429.98	0.000
L42	36.5 - 32.75 (42)	TP39.8884x39.2744x0.75	35.68	1635.11	0.022	0.75	5604.42	0.000
L43	32.75 - 32.5 (43)	TP39.9293x39.8884x1	35.66	2168.51	0.016	0.75	7392.93	0.000
L44	32.5 - 29.733 (44)	TP40.3823x39.9293x0.9	35.86	1979.38	0.018	0.75	6844.02	0.000
L45	29.733 - 29.483 (45)	TP40.4232x40.3823x0.9	35.85	1981.43	0.018	0.75	6858.22	0.000
L46	29.483 - 28.25 (46)	TP40.6251x40.4232x0.8875	35.95	1964.51	0.018	0.75	6836.52	0.000
L47	28.25 - 28 (47)	TP40.666x40.6251x0.95	35.94	2101.71	0.017	0.75	7310.02	0.000
L48	28 - 23 (48)	TP41.4846x40.666x0.95	36.27	2145.03	0.017	0.75	7614.46	0.000
L49	23 - 19.25 (49)	TP42.0985x41.4846x0.9375	36.48	2149.52	0.017	0.75	7748.32	0.000
L50	19.25 - 19 (50)	TP42.1394x42.0985x0.825	36.47	1898.63	0.019	0.75	6869.44	0.000
L51	19 - 14 (51)	TP42.958x42.1394x0.8	36.66	1878.69	0.020	0.75	6936.08	0.000
L52	14 - 9 (52)	TP43.7766x42.958x0.8	36.81	1915.16	0.019	0.75	7208.05	0.000
L53	9 - 4 (53)	TP44.5951x43.7766x0.7875	36.89	1921.70	0.019	0.75	7372.49	0.000
L54	4 - 0 (54)	TP45.25x44.5951x0.775	36.94	1920.00	0.019	0.75	7478.21	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	168.5 - 163.5 (1)	0.006	0.100	0.000	0.037	0.004	0.108	1.050	4.8.2
L2	163.5 - 158.5 (2)	0.006	0.199	0.000	0.037	0.003	0.206	1.050	4.8.2
L3	158.5 - 153.5 (3)	0.013	0.347	0.000	0.060	0.003	0.364	1.050	4.8.2
L4	153.5 - 148.5 (4)	0.013	0.486	0.000	0.059	0.003	0.503	1.050	4.8.2
L5	148.5 - 143.5 (5)	0.016	0.647	0.000	0.073	0.002	0.669	1.050	4.8.2
L6	143.5 - 138.5 (6)	0.016	0.796	0.000	0.072	0.002	0.818	1.050	4.8.2
L7	138.5 - 130.667 (7)	0.020	0.942	0.000	0.083	0.002	0.969	1.050	4.8.2
L8	130.667 - 129.327 (8)	0.015	0.777	0.000	0.062	0.002	0.796	1.050	4.8.2
L9	129.327 - 125.75 (9)	0.018	0.859	0.000	0.069	0.001	0.882	1.050	4.8.2
L10	125.75 - 125.5 (10)	0.018	0.865	0.000	0.069	0.001	0.888	1.050	4.8.2
L11	125.5 - 120.5 (11)	0.018	0.969	0.000	0.068	0.001	0.992	1.050	4.8.2
L12	120.5 - 120.25 (12)	0.010	0.506	0.000	0.035	0.001	0.517	1.050	4.8.2
L13	120.25 - 115.25 (13)	0.010	0.558	0.000	0.036	0.001	0.569	1.050	4.8.2
L14	115.25 - 113.833 (14)	0.010	0.577	0.000	0.037	0.001	0.589	1.050	4.8.2
L15	113.833 - 113.483 (15)	0.007	0.427	0.000	0.027	0.000	0.435	1.050	4.8.2
L16	113.483 - 113.25 (16)	0.007	0.428	0.000	0.027	0.000	0.436	1.050	4.8.2
L17	113.25 - 108.25 (17)	0.008	0.466	0.000	0.027	0.000	0.475	1.050	4.8.2
L18	108.25 - 103.25 (18)	0.008	0.503	0.000	0.028	0.000	0.512	1.050	4.8.2
L19	103.25 - 98.25 (19)	0.009	0.539	0.000	0.028	0.000	0.549	1.050	4.8.2
L20	98.25 - 93.25 (20)	0.009	0.575	0.000	0.029	0.000	0.584	1.050	4.8.2
L21	93.25 - 84.717 (21)	0.009	0.593	0.000	0.029	0.000	0.603	1.050	4.8.2
L22	84.717 - 83.717 (22)	0.009	0.579	0.000	0.026	0.000	0.589	1.050	4.8.2
L23	83.717 - 82.917 (23)	0.009	0.582	0.000	0.026	0.000	0.592	1.050	4.8.2
L24	82.917 - 82.667 (24)	0.006	0.418	0.000	0.018	0.000	0.424	1.050	4.8.2
L25	82.667 - 82.5 (25)	0.006	0.418	0.000	0.018	0.000	0.425	1.050	4.8.2
L26	82.5 - 82.25 (26)	0.009	0.564	0.000	0.025	0.000	0.574	1.050	4.8.2

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
L27	82.25 - 77.25 (27)	0.009	0.590	0.000	0.025	0.000	0.600	1.050	4.8.2
L28	77.25 - 73.417 (28)	0.010	0.612	0.000	0.026	0.000	0.623	1.050	4.8.2
L29	73.417 - 73.167 (29)	0.007	0.444	0.000	0.018	0.000	0.451	1.050	4.8.2
L30	73.167 - 68.167 (30)	0.007	0.466	0.000	0.019	0.000	0.473	1.050	4.8.2
L31	68.167 - 64.25 (31)	0.008	0.485	0.000	0.020	0.000	0.494	1.050	4.8.2
L32	64.25 - 64 (32)	0.009	0.577	0.000	0.023	0.000	0.587	1.050	4.8.2
L33	64 - 59 (33)	0.009	0.588	0.000	0.023	0.000	0.598	1.050	4.8.2
L34	59 - 54 (34)	0.010	0.618	0.000	0.024	0.000	0.628	1.050	4.8.2
L35	54 - 53.5 (35)	0.010	0.619	0.000	0.024	0.000	0.629	1.050	4.8.2
L36	53.5 - 53.25 (36)	0.009	0.540	0.000	0.020	0.000	0.549	1.050	4.8.2
L37	53.25 - 43.827 (37)	0.009	0.554	0.000	0.021	0.000	0.563	1.050	4.8.2
L38	43.827 - 42.827 (38)	0.011	0.648	0.000	0.023	0.000	0.659	1.050	4.8.2
L39	42.827 - 41.75 (39)	0.011	0.649	0.000	0.023	0.000	0.661	1.050	4.8.2
L40	41.75 - 41.5 (40)	0.010	0.620	0.000	0.022	0.000	0.631	1.050	4.8.2
L41	41.5 - 36.5 (41)	0.011	0.636	0.000	0.022	0.000	0.647	1.050	4.8.2
L42	36.5 - 32.75 (42)	0.011	0.640	0.000	0.022	0.000	0.651	1.050	4.8.2
L43	32.75 - 32.5 (43)	0.008	0.489	0.000	0.016	0.000	0.498	1.050	4.8.2
L44	32.5 - 29.733 (44)	0.009	0.542	0.000	0.018	0.000	0.552	1.050	4.8.2
L45	29.733 - 29.483 (45)	0.009	0.542	0.000	0.018	0.000	0.552	1.050	4.8.2
L46	29.483 - 28.25 (46)	0.010	0.550	0.000	0.018	0.000	0.560	1.050	4.8.2
L47	28.25 - 28 (47)	0.009	0.517	0.000	0.017	0.000	0.526	1.050	4.8.2
L48	28 - 23 (48)	0.009	0.520	0.000	0.017	0.000	0.529	1.050	4.8.2
L49	23 - 19.25 (49)	0.010	0.529	0.000	0.017	0.000	0.538	1.050	4.8.2
L50	19.25 - 19 (50)	0.011	0.596	0.000	0.019	0.000	0.607	1.050	4.8.2
L51	19 - 14 (51)	0.011	0.616	0.000	0.020	0.000	0.628	1.050	4.8.2
L52	14 - 9 (52)	0.012	0.619	0.000	0.019	0.000	0.631	1.050	4.8.2
L53	9 - 4 (53)	0.012	0.630	0.000	0.019	0.000	0.642	1.050	4.8.2
L54	4 - 0 (54)	0.012	0.641	0.000	0.019	0.000	0.653	1.050	4.8.2

Section Capacity Table

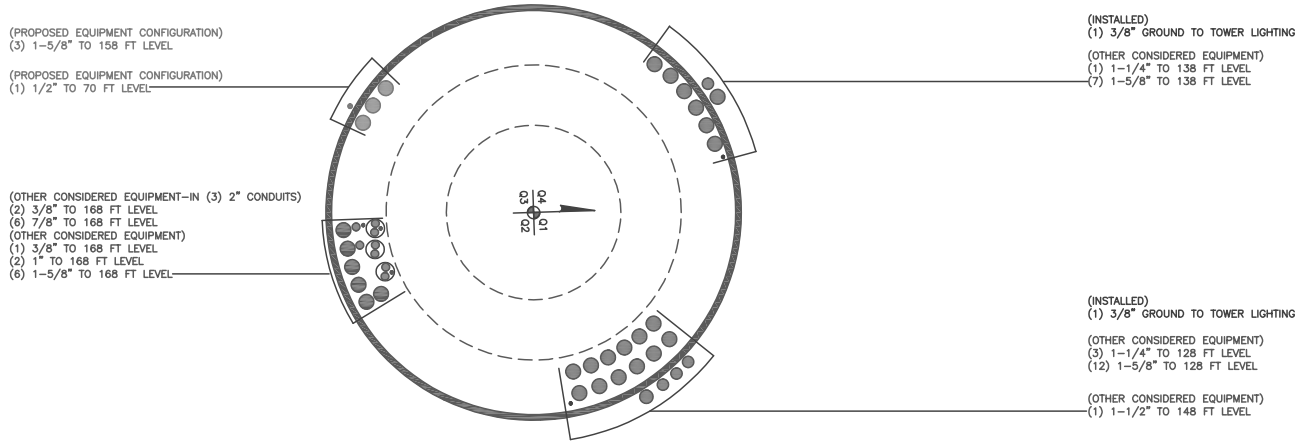
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	168.5 - 163.5	Pole	TP19.8343x19x0.1875	1	-4.23	718.20	10.2	Pass
L2	163.5 - 158.5	Pole	TP20.6685x19.8343x0.1875	2	-4.51	748.70	19.7	Pass
L3	158.5 - 153.5	Pole	TP21.5028x20.6685x0.1875	3	-9.47	779.19	34.6	Pass
L4	153.5 - 148.5	Pole	TP22.337x21.5028x0.1875	4	-9.87	809.69	47.9	Pass
L5	148.5 - 143.5	Pole	TP23.1713x22.337x0.1875	5	-13.06	840.18	63.7	Pass
L6	143.5 - 138.5	Pole	TP24.0056x23.1713x0.1875	6	-13.57	870.68	77.9	Pass
L7	138.5 - 130.667	Pole	TP25.3125x24.0056x0.1875	7	-16.88	896.14	92.3	Pass
L8	130.667 - 129.327	Pole	TP25.1499x24.3268x0.25	8	-17.74	1213.64	75.8	Pass
L9	129.327 - 125.75	Pole	TP25.7387x25.1499x0.25	9	-21.22	1242.34	84.0	Pass
L10	125.75 - 125.5	Pole	TP25.7798x25.7387x0.25	10	-21.29	1244.34	84.5	Pass
L11	125.5 - 120.5	Pole	TP26.6029x25.7798x0.25	11	-22.15	1284.46	94.5	Pass
L12	120.5 - 120.25	Pole	TP26.6441x26.6029x0.4813	12	-22.23	2454.75	49.2	Pass
L13	120.25 - 115.25	Pole	TP27.4671x26.6441x0.475	13	-23.45	2499.67	54.2	Pass
L14	115.25 - 113.833	Pole	TP27.7004x27.4671x0.4688	14	-23.84	2488.67	56.1	Pass
L15	113.833 - 113.483	Pole	TP27.758x27.7004x0.65	15	-23.97	3435.28	41.4	Pass
L16	113.483 - 113.25	Pole	TP27.7963x27.758x0.65	16	-24.04	3440.15	41.6	Pass
L17	113.25 - 108.25	Pole	TP28.6194x27.7963x0.6375	17	-25.61	3477.84	45.2	Pass
L18	108.25 - 103.25	Pole	TP29.4425x28.6194x0.625	18	-27.22	3511.46	48.8	Pass
L19	103.25 - 98.25	Pole	TP30.2655x29.4425x0.6125	19	-28.86	3541.01	52.3	Pass
L20	98.25 - 93.25	Pole	TP31.0886x30.2655x0.6	20	-30.52	3566.48	55.7	Pass
L21	93.25 - 84.717	Pole	TP32.4932x31.0886x0.6	21	-31.88	3642.99	57.4	Pass
L22	84.717 - 83.717	Pole	TP32.1551x31.2426x0.6625	22	-35.04	4067.68	56.1	Pass
L23	83.717 - 82.917	Pole	TP32.2864x32.1551x0.6625	23	-35.35	4084.64	56.4	Pass
L24	82.917 - 82.667	Pole	TP32.3274x32.2864x0.95	24	-35.47	5811.57	40.4	Pass
L25	82.667 - 82.5	Pole	TP32.3549x32.3274x0.95	25	-35.55	5816.64	40.5	Pass
L26	82.5 - 82.25	Pole	TP32.3959x32.3549x0.6875	26	-35.65	4250.10	54.7	Pass
L27	82.25 - 77.25	Pole	TP33.2165x32.3959x0.675	27	-37.66	4282.47	57.2	Pass
L28	77.25 - 73.417	Pole	TP33.8456x33.2165x0.6625	28	-39.21	4286.03	59.3	Pass
L29	73.417 - 73.167	Pole	TP33.8866x33.8456x0.9375	29	-39.35	6022.37	43.0	Pass
L30	73.167 - 68.167	Pole	TP34.7073x33.8866x0.9125	30	-41.78	6012.22	45.1	Pass
L31	68.167 - 64.25	Pole	TP35.3502x34.7073x0.8875	31	-43.65	5963.05	47.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L32	64.25 - 64	Pole	TP35.3912x35.3502x0.7375	32	-43.77	4982.69	55.9	Pass
L33	64 - 59	Pole	TP36.2118x35.3912x0.7375	33	-45.85	5100.68	57.0	Pass
L34	59 - 54	Pole	TP37.0324x36.2118x0.7125	34	-47.97	5045.24	59.8	Pass
L35	54 - 53.5	Pole	TP37.1145x37.0324x0.7125	35	-48.20	5056.64	59.9	Pass
L36	53.5 - 53.25	Pole	TP37.1555x37.1145x0.825	36	-48.32	5843.56	52.3	Pass
L37	53.25 - 43.827	Pole	TP38.7021x37.1555x0.8125	37	-50.25	5863.16	53.6	Pass
L38	43.827 - 42.827	Pole	TP38.2386x37.2007x0.725	38	-55.24	5302.48	62.8	Pass
L39	42.827 - 41.75	Pole	TP38.4149x38.2386x0.725	39	-55.76	5327.41	62.9	Pass
L40	41.75 - 41.5	Pole	TP38.4559x38.4149x0.7625	40	-55.91	5603.47	60.0	Pass
L41	41.5 - 36.5	Pole	TP39.2744x38.4559x0.75	41	-58.45	5633.12	61.6	Pass
L42	36.5 - 32.75	Pole	TP39.8884x39.2744x0.75	42	-60.38	5722.90	62.0	Pass
L43	32.75 - 32.5	Pole	TP39.9293x39.8884x1	43	-60.54	7589.77	47.4	Pass
L44	32.5 - 29.733	Pole	TP40.3823x39.9293x0.9	44	-62.00	6927.83	52.5	Pass
L45	29.733 - 29.483	Pole	TP40.4232x40.3823x0.9	45	-62.15	6935.01	52.6	Pass
L46	29.483 - 28.25	Pole	TP40.6251x40.4232x0.8875	46	-62.79	6875.78	53.3	Pass
L47	28.25 - 28	Pole	TP40.666x40.6251x0.95	47	-62.95	7356.00	50.1	Pass
L48	28 - 23	Pole	TP41.4846x40.666x0.95	48	-65.89	7507.60	50.4	Pass
L49	23 - 19.25	Pole	TP42.0985x41.4846x0.9375	49	-68.11	7523.31	51.3	Pass
L50	19.25 - 19	Pole	TP42.1394x42.0985x0.825	50	-68.26	6645.20	57.8	Pass
L51	19 - 14	Pole	TP42.958x42.1394x0.8	51	-70.89	6575.39	59.8	Pass
L52	14 - 9	Pole	TP43.7766x42.958x0.8	52	-73.55	6703.07	60.1	Pass
L53	9 - 4	Pole	TP44.5951x43.7766x0.7875	53	-76.10	6725.93	61.2	Pass
L54	4 - 0	Pole	TP45.25x44.5951x0.775	54	-78.09	6720.01	62.2	Pass
							Summary	
						Pole (L11)	94.5	Pass
						RATING =	**94.5**	**Pass**

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

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 842859 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 842859

Work Order: 2015696

CROWN CASTLE

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	168.5	37.833	3.66	18	19	25.3125	0.1875	Auto	A572-65
2	134.327	49.61	4.56	18	24.33	32.4932	0.25	Auto	A572-65
3	89.277	45.45	5.34	18	31.24	38.7021	0.3125	Auto	A572-65
4	49.167	49.167	0	18	37.20	45.25	0.375	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	13	14	15	16	17	18
1	87.833	113.833	plate	PL5"x1.25"	3				E2						E2						E2		
2	73.417	85.917	plate	PL5"x1.25"	4			E2					E2						E2				E2
3	47.354	73.417	plate	PL5"x1.25"	4		E2				E2					E2				E2			
4	29.833	45.417	plate	PL6"x1.25"	4			E2					E2						E2				E2
5	0	28.25	plate	PL6"x1.25" (Welded)	4		E2				E2					E2				E2			
6	0	41.75	plate	CCI-CFP-060100	4	E4						E4			E4						E4		
7	41.75	82.917	plate	CCI-CFP-045100	4	E4						E4			E4						E4		
8	19.25	29.83	plate	CCI-SFP-045100	4			E4					E4						E4				E4
9	64.25	73.417	plate	CCI-SFP-045100	4			E4					E4						E4				E4
10	87.9	125.75	plate	CCI-SFP-045100 (MOD	3			E4					E4						E4				
11	28.25	32.75	plate	CCI-SFP-065125	2					E5							E5						
12	47.5	53.5	plate	CCI-SFP-050125	2					E5							E5						
13	82.5	88.5	plate	CCI-SFP-050125	2					E5							E5						
14	113.5	120.5	plate	CCI-SFP-040125	1									E5									
15	113.5	120.5	plate	PL3.125"x1.25"	1																		E5
16																							

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	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	18.000	4.688	1.1875	A572-65
2	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	18.000	4.688	1.1875	A572-65
3	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	18.000	4.688	1.1875	A572-65
4	6	1.25	7.5	0.625	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	18.000	5.938	1.1875	A572-65
5	6	1.25	7.5	0.625	Welded	n/a	PC 8.8 - M20 (100)	30.000	18.000	5.938	1.1875	A572-65
6	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	12.000	4.750	1.1875	A572-65
7	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	12.000	3.250	1.1875	A572-65
8	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
9	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
10	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	19.000	20.000	3.250	1.1875	A572-65
11	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
12	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	23.000	4.688	1.1875	A572-65
13	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	23.000	4.688	1.1875	A572-65
14	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	3.438	1.1875	A572-65
15	3.125	1.25	3.90625	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	15.000	2.344	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)
PL5"x1.25"	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
PL6"x1.25"	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	10	N	3	3	-	-	-	-	-	-	-	-	-
PL6"x1.25" (Welded)	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	70	None	-	-	-	-	36	0.375	-
CCI-CFP-045100	Top	6	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	-	-	-	-	-	-	-	-	-
CCI-CFP-060100	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
CCI-SFP-045100 (MOD)	Top	7	N	3	1	-	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	-	-	-	-	-	-	-	-	-
PL3.125"x1.25"	Top	6	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	6	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	168.5 - 163.5	5		18	19.000	19.834	0.1875	A572-65	1.000
2	163.5 - 158.5	5		18	19.834	20.669	0.1875	A572-65	1.000
3	158.5 - 153.5	5		18	20.669	21.503	0.1875	A572-65	1.000
4	153.5 - 148.5	5		18	21.503	22.337	0.1875	A572-65	1.000
5	148.5 - 143.5	5		18	22.337	23.171	0.1875	A572-65	1.000
6	143.5 - 138.5	5		18	23.171	24.006	0.1875	A572-65	1.000
7	138.5 - 134.327	7.833	3.66	18	24.006	25.313	0.1875	A572-65	1.000
8	134.327 - 129.327	5		18	24.327	25.150	0.25	A572-65	1.000
9	129.327 - 125.75	3.577		18	25.150	25.739	0.25	A572-65	1.000
10	125.75 - 125.5	0.25		18	25.739	25.780	0.25	A572-65	1.000
11	125.5 - 120.5	5		18	25.780	26.603	0.25	A572-65	1.000
12	120.5 - 120.25	0.25		18	26.603	26.644	0.48125	A572-65	1.085
13	120.25 - 115.25	5		18	26.644	27.467	0.475	A572-65	1.081
14	115.25 - 113.833	1.417		18	27.467	27.700	0.46875	A572-65	1.091
15	113.833 - 113.483	0.35		18	27.700	27.758	0.65	A572-65	0.967
16	113.483 - 113.25	0.233		18	27.758	27.796	0.65	A572-65	0.966
17	113.25 - 108.25	5		18	27.796	28.619	0.6375	A572-65	0.967
18	108.25 - 103.25	5		18	28.619	29.442	0.625	A572-65	0.969
19	103.25 - 98.25	5		18	29.442	30.266	0.6125	A572-65	0.973
20	98.25 - 93.25	5		18	30.266	31.089	0.6	A572-65	0.977
21	93.25 - 89.277	8.533	4.56	18	31.089	32.493	0.6	A572-65	0.965
22	89.277 - 83.717	5.56		18	31.243	32.155	0.6625	A572-65	1.043
23	83.717 - 82.917	0.8		18	32.155	32.286	0.6625	A572-65	1.041
24	82.917 - 82.667	0.25		18	32.286	32.327	0.95	A572-65	0.922
25	82.667 - 82.5	0.167		18	32.327	32.355	0.95	A572-65	0.922
26	82.5 - 82.25	0.25		18	32.355	32.396	0.6875	A572-65	1.081
27	82.25 - 77.25	5		18	32.396	33.217	0.675	A572-65	1.085
28	77.25 - 73.417	3.833		18	33.217	33.846	0.6625	A572-65	1.093
29	73.417 - 73.167	0.25		18	33.846	33.887	0.9375	A572-65	0.962
30	73.167 - 68.167	5		18	33.887	34.707	0.9125	A572-65	0.972
31	68.167 - 64.25	3.917		18	34.707	35.350	0.8875	A572-65	0.986
32	64.25 - 64	0.25		18	35.350	35.391	0.7375	A572-65	0.959
33	64 - 59	5		18	35.391	36.212	0.7375	A572-65	0.947
34	59 - 54	5		18	36.212	37.032	0.7125	A572-65	0.967
35	54 - 53.5	0.5		18	37.032	37.115	0.7125	A572-65	0.966
36	53.5 - 53.25	0.25		18	37.115	37.156	0.825	A572-65	0.968
37	53.25 - 49.167	9.423	5.34	18	37.156	38.702	0.8125	A572-65	0.971
38	49.167 - 42.827	6.34		18	37.201	38.239	0.725	A572-65	1.078
39	42.827 - 41.75	1.077		18	38.239	38.415	0.725	A572-65	1.076
40	41.75 - 41.5	0.25		18	38.415	38.456	0.7625	A572-65	1.089
41	41.5 - 36.5	5		18	38.456	39.274	0.75	A572-65	1.094
42	36.5 - 32.75	3.75		18	39.274	39.888	0.75	A572-65	1.084
43	32.75 - 32.5	0.25		18	39.888	39.929	1	A572-65	0.950
44	32.5 - 29.733	2.767		18	39.929	40.382	0.9	A572-65	0.939
45	29.733 - 29.483	0.25		18	40.382	40.423	0.9	A572-65	0.938
46	29.483 - 28.25	1.233		18	40.423	40.625	0.8875	A572-65	0.948
47	28.25 - 28	0.25		18	40.625	40.666	0.95	A572-65	1.002
48	28 - 23	5		18	40.666	41.485	0.95	A572-65	0.989
49	23 - 19.25	3.75		18	41.485	42.099	0.9375	A572-65	0.993
50	19.25 - 19	0.25		18	42.099	42.139	0.825	A572-65	0.959
51	19 - 14	5		18	42.139	42.958	0.8	A572-65	0.978
52	14 - 9	5		18	42.958	43.777	0.8	A572-65	0.968
53	9 - 4	5		18	43.777	44.595	0.7875	A572-65	0.974
54	4 - 0	4		18	44.595	45.250	0.775	A572-65	0.982

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	168.5 - 163.5	4.23	34.08	7.61
2	163.5 - 158.5	4.51	72.93	7.94
3	158.5 - 153.5	9.47	136.54	13.40
4	153.5 - 148.5	9.87	204.31	13.72
5	148.5 - 143.5	13.06	289.39	17.52
6	143.5 - 138.5	13.57	377.63	17.79
7	138.5 - 134.327	16.88	468.76	21.27
8	134.327 - 129.327	17.74	575.93	21.62
9	129.327 - 125.75	21.22	663.68	24.67
10	125.75 - 125.5	21.29	669.84	24.66
11	125.5 - 120.5	22.14	793.63	24.88
12	120.5 - 120.25	22.09	799.90	25.10
13	120.25 - 115.25	23.45	927.35	25.89
14	115.25 - 113.833	23.84	964.18	26.12
15	113.833 - 113.483	23.97	973.33	26.17
16	113.483 - 113.25	24.04	979.43	26.21
17	113.25 - 108.25	25.61	1112.53	27.04
18	108.25 - 103.25	27.22	1249.72	27.85
19	103.25 - 98.25	28.86	1390.92	28.65
20	98.25 - 93.25	30.52	1536.08	29.44
21	93.25 - 89.277	31.88	1653.71	29.81
22	89.277 - 83.717	35.04	1821.35	30.49
23	83.717 - 82.917	35.35	1845.75	30.56
24	82.917 - 82.667	35.47	1853.39	30.58
25	82.667 - 82.5	35.55	1858.50	30.60
26	82.5 - 82.25	35.65	1866.15	30.62
27	82.25 - 77.25	37.66	2020.31	31.09
28	77.25 - 73.417	39.21	2140.48	31.68
29	73.417 - 73.167	39.35	2148.39	31.70
30	73.167 - 68.167	41.78	2309.21	32.61
31	68.167 - 64.25	43.65	2438.07	33.25
32	64.25 - 64	43.77	2446.38	33.27
33	64 - 59	45.85	2613.68	33.70
34	59 - 54	47.97	2782.91	34.07
35	54 - 53.5	48.20	2799.94	34.09
36	53.5 - 53.25	48.32	2808.45	34.10
37	53.25 - 49.167	50.25	2948.27	34.44
38	49.167 - 42.827	55.24	3168.62	35.10
39	42.827 - 41.75	55.76	3206.42	35.17
40	41.75 - 41.5	55.91	3215.20	35.16
41	41.5 - 36.5	58.45	3391.63	35.47
42	36.5 - 32.75	60.38	3524.86	35.68
43	32.75 - 32.5	60.54	3533.77	35.66
44	32.5 - 29.733	62.00	3632.63	35.86
45	29.733 - 29.483	62.15	3641.59	35.85
46	29.483 - 28.25	62.79	3685.81	35.95
47	28.25 - 28	62.95	3694.79	35.94
48	28 - 23	65.89	3875.19	36.27
49	23 - 19.25	68.11	4011.44	36.48
50	19.25 - 19	68.26	4020.55	36.47
51	19 - 14	70.89	4203.22	36.66
52	14 - 9	73.55	4386.68	36.81
53	9 - 4	76.10	4570.66	36.89
54	4 - 0	78.09	4718.20	36.94

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
168.5 - 163.5	Pole	TP19.834x19x0.1875	Pole	10.2%	Pass
163.5 - 158.5	Pole	TP20.669x19.834x0.1875	Pole	19.6%	Pass
158.5 - 153.5	Pole	TP21.503x20.669x0.1875	Pole	34.6%	Pass
153.5 - 148.5	Pole	TP22.337x21.503x0.1875	Pole	47.9%	Pass
148.5 - 143.5	Pole	TP23.171x22.337x0.1875	Pole	63.7%	Pass
143.5 - 138.5	Pole	TP24.006x23.171x0.1875	Pole	77.9%	Pass
138.5 - 134.33	Pole	TP25.313x24.006x0.1875	Pole	92.3%	Pass
134.33 - 129.33	Pole	TP25.15x24.327x0.25	Pole	75.8%	Pass
129.33 - 125.75	Pole	TP25.739x25.15x0.25	Pole	84.0%	Pass
125.75 - 125.5	Pole	TP25.78x25.739x0.25	Pole	84.5%	Pass
125.5 - 120.5	Pole	TP26.603x25.78x0.25	Pole	94.5%	Pass
120.5 - 120.25	Pole + Reinf.	TP26.644x26.603x0.4813	Reinf. 10 Tension Rupture	87.5%	Pass
120.25 - 115.25	Pole + Reinf.	TP27.467x26.644x0.475	Reinf. 10 Tension Rupture	96.7%	Pass
115.25 - 113.83	Pole + Reinf.	TP27.7x27.467x0.4688	Reinf. 10 Tension Rupture	99.2%	Pass
113.83 - 113.48	Pole + Reinf.	TP27.758x27.7x0.65	Reinf. 10 Tension Rupture	69.2%	Pass
113.48 - 113.25	Pole + Reinf.	TP27.796x27.758x0.65	Reinf. 10 Tension Rupture	69.5%	Pass
113.25 - 108.25	Pole + Reinf.	TP28.619x27.796x0.6375	Reinf. 10 Tension Rupture	75.8%	Pass
108.25 - 103.25	Pole + Reinf.	TP29.442x28.619x0.625	Reinf. 10 Tension Rupture	81.9%	Pass
103.25 - 98.25	Pole + Reinf.	TP30.266x29.442x0.6125	Reinf. 10 Tension Rupture	87.6%	Pass
98.25 - 93.25	Pole + Reinf.	TP31.089x30.266x0.6	Reinf. 10 Tension Rupture	93.2%	Pass
93.25 - 89.28	Pole + Reinf.	TP32.493x31.089x0.6	Reinf. 10 Tension Rupture	97.4%	Pass
89.28 - 83.72	Pole + Reinf.	TP32.155x31.243x0.6625	Reinf. 2 Tension Rupture	93.3%	Pass
83.72 - 82.92	Pole + Reinf.	TP32.286x32.155x0.6625	Reinf. 2 Tension Rupture	94.0%	Pass
82.92 - 82.67	Pole + Reinf.	TP32.327x32.286x0.95	Reinf. 2 Tension Rupture	69.4%	Pass
82.67 - 82.5	Pole + Reinf.	TP32.355x32.327x0.95	Reinf. 2 Tension Rupture	69.5%	Pass
82.5 - 82.25	Pole + Reinf.	TP32.396x32.355x0.6875	Reinf. 2 Tension Rupture	92.2%	Pass
82.25 - 77.25	Pole + Reinf.	TP33.217x32.396x0.675	Reinf. 2 Tension Rupture	96.2%	Pass
77.25 - 73.42	Pole + Reinf.	TP33.846x33.217x0.6625	Reinf. 2 Tension Rupture	99.1%	Pass
73.42 - 73.17	Pole + Reinf.	TP33.887x33.846x0.9375	Reinf. 9 Tension Rupture	75.2%	Pass
73.17 - 68.17	Pole + Reinf.	TP34.707x33.887x0.9125	Reinf. 9 Tension Rupture	78.3%	Pass
68.17 - 64.25	Pole + Reinf.	TP35.35x34.707x0.8875	Reinf. 9 Tension Rupture	80.6%	Pass
64.25 - 64	Pole + Reinf.	TP35.391x35.35x0.7375	Reinf. 3 Tension Rupture	92.7%	Pass
64 - 59	Pole + Reinf.	TP36.212x35.391x0.7375	Reinf. 3 Tension Rupture	95.8%	Pass
59 - 54	Pole + Reinf.	TP37.032x36.212x0.7125	Reinf. 3 Tension Rupture	98.8%	Pass
54 - 53.5	Pole + Reinf.	TP37.115x37.032x0.7125	Reinf. 3 Tension Rupture	99.1%	Pass
53.5 - 53.25	Pole + Reinf.	TP37.156x37.115x0.825	Reinf. 7 Tension Rupture	93.5%	Pass
53.25 - 49.17	Pole + Reinf.	TP38.702x37.156x0.8125	Reinf. 7 Tension Rupture	95.7%	Pass
49.17 - 42.83	Pole + Reinf.	TP38.239x37.201x0.725	Reinf. 4 Tension Rupture	98.9%	Pass
42.83 - 41.75	Pole + Reinf.	TP38.415x38.239x0.725	Reinf. 4 Tension Rupture	99.4%	Pass
41.75 - 41.5	Pole + Reinf.	TP38.456x38.415x0.7625	Reinf. 4 Tension Rupture	95.4%	Pass
41.5 - 36.5	Pole + Reinf.	TP39.274x38.456x0.75	Reinf. 4 Tension Rupture	97.4%	Pass
36.5 - 32.75	Pole + Reinf.	TP39.888x39.274x0.75	Reinf. 4 Tension Rupture	98.9%	Pass
32.75 - 32.5	Pole + Reinf.	TP39.929x39.888x1	Reinf. 4 Tension Rupture	75.8%	Pass
32.5 - 29.73	Pole + Reinf.	TP40.382x39.929x0.9	Reinf. 8 Tension Rupture	93.0%	Pass
29.73 - 29.48	Pole + Reinf.	TP40.423x40.382x0.9	Reinf. 8 Tension Rupture	93.1%	Pass
29.48 - 28.25	Pole + Reinf.	TP40.625x40.423x0.8875	Reinf. 8 Tension Rupture	93.5%	Pass
28.25 - 28	Pole + Reinf.	TP40.666x40.625x0.95	Reinf. 8 Tension Rupture	85.4%	Pass
28 - 23	Pole + Reinf.	TP41.485x40.666x0.95	Reinf. 8 Tension Rupture	87.1%	Pass
23 - 19.25	Pole + Reinf.	TP42.099x41.485x0.9375	Reinf. 8 Tension Rupture	88.4%	Pass
19.25 - 19	Pole + Reinf.	TP42.139x42.099x0.825	Reinf. 5 Tension Rupture	91.5%	Pass
19 - 14	Pole + Reinf.	TP42.958x42.139x0.8	Reinf. 5 Tension Rupture	93.0%	Pass
14 - 9	Pole + Reinf.	TP43.777x42.958x0.8	Reinf. 5 Tension Rupture	94.4%	Pass
9 - 4	Pole + Reinf.	TP44.595x43.777x0.7875	Reinf. 5 Tension Rupture	95.6%	Pass
4 - 0	Pole + Reinf.	TP45.25x44.595x0.775	Reinf. 5 Tension Rupture	96.6%	Pass
				Summary	
			Pole	94.5%	Pass
			Reinforcement	99.4%	Pass
			Overall	99.4%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*														
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
168.5 - 163.5	570	n/a	570	11.69	n/a	11.69	10.2%															
163.5 - 158.5	646	n/a	646	12.19	n/a	12.19	19.6%															
158.5 - 153.5	728	n/a	728	12.68	n/a	12.68	34.6%															
153.5 - 148.5	817	n/a	817	13.18	n/a	13.18	47.9%															
148.5 - 143.5	913	n/a	913	13.68	n/a	13.68	63.7%															
143.5 - 138.5	1016	n/a	1016	14.17	n/a	14.17	77.9%															
138.5 - 134.33	1107	n/a	1107	14.59	n/a	14.59	92.3%															
134.33 - 129.33	1547	n/a	1547	19.76	n/a	19.76	75.8%															
129.33 - 125.75	1659	n/a	1659	20.22	n/a	20.22	84.0%															
125.75 - 125.5	1668	n/a	1668	20.26	n/a	20.26	84.5%															
125.5 - 120.5	1834	n/a	1834	20.91	n/a	20.91	94.5%															
120.5 - 120.25	1846	1607	3452	20.94	22.41	43.35	51.8%										87.5%				65.2%	82.6%
120.25 - 115.25	2024	1703	3726	21.60	22.41	44.00	57.7%										96.7%				72.4%	91.6%
115.25 - 113.83	2076	1730	3807	21.78	22.41	44.19	59.3%										99.2%				74.4%	94.1%
113.83 - 113.48	2089	3148	5237	21.83	32.25	54.08	43.7%	68.7%									69.2%					
113.48 - 113.25	2098	3156	5254	21.86	32.25	54.11	43.9%	69.0%									69.5%					
113.25 - 108.25	2291	3336	5628	22.51	32.25	54.76	48.3%	75.2%									75.8%					
108.25 - 103.25	2497	3521	6018	23.16	32.25	55.41	52.6%	81.1%									81.9%					
103.25 - 98.25	2714	3711	6425	23.82	32.25	56.07	56.8%	86.8%									87.6%					
98.25 - 93.25	2943	3907	6850	24.47	32.25	56.72	60.9%	92.3%									93.2%					
93.25 - 89.28	3134	4065	7200	24.99	32.25	57.24	64.1%	96.4%									97.4%					
89.28 - 83.72	4045	4262	8307	31.58	37.50	69.08	56.9%		93.3%											80.6%		
83.72 - 82.92	4095	4295	8390	31.71	37.50	69.21	57.4%		94.0%											81.2%		
82.92 - 82.67	4115	7665	11781	31.75	55.50	87.25	41.6%		69.4%					69.2%						69.4%		
82.67 - 82.5	4126	7678	11804	31.78	55.50	87.28	41.7%		69.5%					69.4%						69.5%		
82.5 - 82.25	4140	4621	8761	31.82	43.00	74.82	56.9%		92.2%					84.0%								
82.25 - 77.25	4466	4847	9313	32.64	43.00	75.64	59.8%		96.2%					87.8%								
77.25 - 73.42	4727	5024	9751	33.26	43.00	76.26	61.9%		99.1%					90.5%								
73.42 - 73.17	4741	8584	13326	33.30	61.00	94.30	45.0%			72.3%				71.6%		75.2%						
73.17 - 68.17	5098	8989	14086	34.11	61.00	95.11	47.2%			75.2%				74.5%		78.3%						
68.17 - 64.25	5389	9312	14700	34.75	61.00	95.75	48.9%			77.5%				76.8%		80.6%						
64.25 - 64	5407	6960	12367	34.79	43.00	77.79	58.0%			92.7%				91.8%								
64 - 59	5796	7273	13069	35.61	43.00	78.61	60.4%			95.8%				94.9%								
59 - 54	6202	7594	13797	36.42	43.00	79.42	62.7%			98.8%				97.9%								
54 - 53.5	6244	7627	13871	36.50	43.00	79.50	62.9%			99.1%				98.2%								
53.5 - 53.25	6289	9571	15859	36.54	55.50	92.04	57.6%			86.7%				93.5%					79.3%			
53.25 - 49.17	6638	9907	16544	37.21	55.50	92.71	59.4%			88.7%				95.7%					81.2%			
49.17 - 42.83	8166	7263	15429	45.07	48.00	93.07	64.5%				98.9%			97.6%								
42.83 - 41.75	8280	7327	15608	45.28	48.00	93.28	64.9%				99.4%			98.1%								
41.75 - 41.5	8306	7993	16300	45.32	54.00	99.32	62.3%				95.4%		83.7%									
41.5 - 36.5	8853	8323	17176	46.30	54.00	100.30	64.0%				97.4%		85.6%									
36.5 - 32.75	9279	8574	17854	47.03	54.00	101.03	65.3%				98.9%		87.0%									
32.75 - 32.5	9312	14582	23895	47.08	70.25	117.33	48.6%				75.8%		73.2%					74.1%				
32.5 - 29.73	9636	12402	22038	47.62	58.25	105.87	55.0%						84.5%		93.0%			82.4%				
29.73 - 29.48	9665	12427	22092	47.67	58.25	105.92	55.1%						84.6%		93.1%			82.5%				
29.48 - 28.25	9812	12547	22359	47.91	58.25	106.16	55.4%						85.0%		93.5%			82.9%				
28.25 - 28	9833	14252	24085	47.95	72.00	119.95	51.4%					77.1%	73.4%		85.4%							
28 - 23	10444	14811	25256	48.93	72.00	120.93	52.7%					78.7%	74.9%		87.1%							
23 - 19.25	10919	15238	26157	49.66	72.00	121.66	53.7%					79.8%	76.0%		88.4%							
19.25 - 19	10951	12195	23146	49.71	54.00	103.71	60.6%					91.5%	87.0%									
19 - 14	11607	12657	24264	50.68	54.00	104.68	61.9%					93.0%	88.5%									
14 - 9	12290	13128	25417	51.66	54.00	105.66	63.3%					94.4%	89.8%									
9 - 4	12998	13607	26605	52.63	54.00	106.63	64.5%					95.6%	91.1%									
4 - 0	13584	13997	27581	53.41	54.00	107.41	65.5%					96.6%	92.1%									

Note: Section capacity checked using 5 degree increments.
Rating per TIA-222-H Section 15.5.

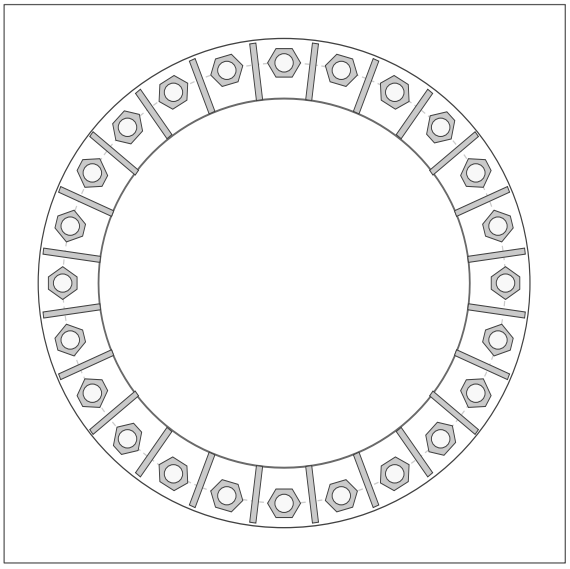
Monopole Base Plate Connection

Site Info	
BU #	842859
Site Name	Bristol Center
Order #	579393 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
I_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	4718.20
Axial Force (kips)	78.09
Shear Force (kips)	36.94

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 54" BC
GROUP 2: (12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 54" BC

Base Plate Data

60" OD x 2" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

(24) 15"H x 7"W x 0.75"T, Notch: 0.75"
plate: Fy= 65 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.375" groove, 45° dbl bevel, 0.375" fillet
vert. weld: 0.3125" fillet

Pole Data

45.25" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

GROUP 1:		
Pu_t = 171.37	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.54	ϕVn = 149.1	**67.0%**
Mu = n/a	ϕMn = n/a	Pass
GROUP 2:		
Pu_t = 171.37	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.54	ϕVn = 149.1	**67.0%**
Mu = n/a	ϕMn = n/a	Pass

Base Plate Summary

Max Stress (ksi):	28.94	(Roark's Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**51.0%**	Pass

Stiffener Summary

Horizontal Weld:	**55.6%**	Pass
Vertical Weld:	**70.0%**	Pass
Plate Flexure+Shear:	**24.9%**	Pass
Plate Tension+Shear:	**54.3%**	Pass
Plate Compression:	**67.7%**	Pass

Pole Summary

Punching Shear:	**22.6%**	Pass

CCIplate

Elevation (ft)	0	*(Base)*

note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	Yes	No	
2	Yes	Yes	Yes	Yes	No	

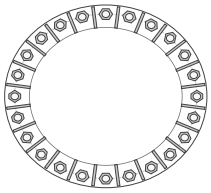
Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	2.25	A615-75	54	0.5	0	N-Included		No
2	1	30	2.25	A615-75	54	0.5	0	N-Included		No
3	1	60	2.25	A615-75	54	0.5	0	N-Included		No
4	1	90	2.25	A615-75	54	0.5	0	N-Included		No
5	1	120	2.25	A615-75	54	0.5	0	N-Included		No
6	1	150	2.25	A615-75	54	0.5	0	N-Included		No
7	1	180	2.25	A615-75	54	0.5	0	N-Included		No
8	1	210	2.25	A615-75	54	0.5	0	N-Included		No
9	1	240	2.25	A615-75	54	0.5	0	N-Included		No
10	1	270	2.25	A615-75	54	0.5	0	N-Included		No
11	1	300	2.25	A615-75	54	0.5	0	N-Included		No
12	1	330	2.25	A615-75	54	0.5	0	N-Included		No
13	2	15	2.25	A615-75	54	0.5	0	N-Included		No
14	2	45	2.25	A615-75	54	0.5	0	N-Included		No
15	2	75	2.25	A615-75	54	0.5	0	N-Included		No
16	2	105	2.25	A615-75	54	0.5	0	N-Included		No
17	2	135	2.25	A615-75	54	0.5	0	N-Included		No
18	2	165	2.25	A615-75	54	0.5	0	N-Included		No
19	2	195	2.25	A615-75	54	0.5	0	N-Included		No
20	2	225	2.25	A615-75	54	0.5	0	N-Included		No
21	2	255	2.25	A615-75	54	0.5	0	N-Included		No
22	2	285	2.25	A615-75	54	0.5	0	N-Included		No
23	2	315	2.25	A615-75	54	0.5	0	N-Included		No
24	2	345	2.25	A615-75	54	0.5	0	N-Included		No

Custom Stiffener Connection

Stiffener	Stiffener Group ID	Location (deg.)	Width (in)	Height (in)	Thickness (in)	H. Notch (in)	V. Notch (in)	Grade (ksi)	Weld Type	Groove Depth (in)	Groove Angle (deg.)	H. Fillet Weld Size (in)	V. Fillet Weld Size (in)	Weld Strength (ksi)
1	1	7.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
2	1	22.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
3	1	37.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
4	1	52.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
5	1	67.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
6	1	82.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
7	1	97.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
8	1	112.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
9	1	127.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
10	1	142.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
11	1	157.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
12	1	172.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
13	1	187.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
14	1	202.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
15	1	217.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
16	1	232.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
17	1	247.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
18	1	262.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
19	1	277.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
20	1	292.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
21	1	307.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
22	1	322.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
23	1	337.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
24	1	352.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80

Plot Graphic



Drilled Pier Foundation

BU # :	842859
Site Name:	Bristol Center
Order Number:	579393 Rev. 0
TIA-222 Revison:	H
Tower Type:	Monopole

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	☐
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☐
Override Critical Depth:	☐

Go to Soil Calculations

Applied Loads	Comp.	Uplift
Moment (kip-ft)	4718.2	
Axial Force (kips)	78.11	
Shear Force (kips)	36.91	

Material Properties			Rebar 2, Fy Override (ksi)
Concrete Strength, f'c:	4	ksi	
Rebar Strength, Fy:	60	ksi	
Tie Yield Strength, Fyt:	60	ksi	

Pier Design Data		
Depth	26	ft
Ext. Above Grade	1	ft
Pier Section 1		
From 1' above grade to 19' below grade		
Pier Diameter	6.5	ft
Rebar Quantity	16	
Rebar Size	11	
Rebar Cage Diameter	67	in
Tie Size	5	
Tie Spacing	12	in
Rebar Quantity	8	
Rebar Size	11	
Rebar Cage Diameter	64	in
Pier Section 2		
From 19' below grade to 26' below grade		
Pier Diameter	6.5	ft
Rebar Quantity	16	
Rebar Size	11	
Rebar Cage Diameter	67	in
Tie Size	5	
Tie Spacing	12	in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{ef/D}$ (ft from TOC)	8.03	-
Soil Safety Factor	2.09	-
Max Moment (kip-ft)	4985.19	-
Rating*	*60.7%*	-
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	529.45	-
End Bearing (kips)	412.76	-
Weight of Concrete (kips)	161.27	-
Total Capacity (kips)	942.20	-
Axial (kips)	239.38	-
Rating*	*24.2%*	-
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	16.66	-
Critical Moment (kip-ft)	3732.72	-
Critical Moment Capacity	3897.97	-
Rating*	*91.2%*	-
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	20.78	-
Critical Shear (kip)	559.75	-
Critical Shear Capacity	596.43	-
Rating*	*89.4%*	-

Structural Foundation Rating*	**91.2%**
Soil Interaction Rating*	**60.7%**

*Rating per TIA-222-H Section 15.5

Soil Profile

Groundwater Depth	N/A	# of Layers	8

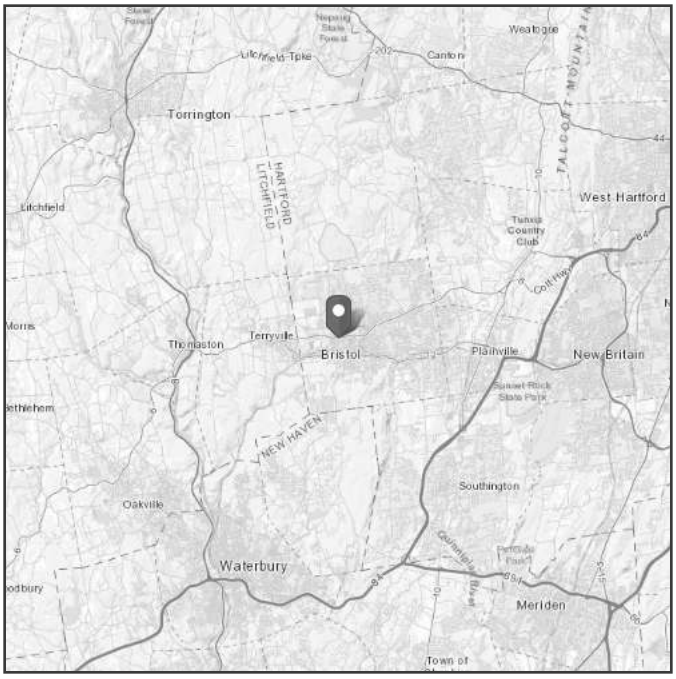
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	4	4	105	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	4	5	1	110	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	5	6	1	110	150	0	30	0.000	0.000	1.35	1.35			Cohesionless
4	6	8	2	115	150	0	31	0.000	0.000	0.57	0.57			Cohesionless
5	8	12	4	120	150	0	33	0.000	0.000	1.19	1.19			Cohesionless
6	12	20	8	115	150	0	31	0.000	0.000	1.73	1.73			Cohesionless
7	20	25	5	125	150	0	35	0.00	0.00	2.22	2.22			Cohesionless
8	25	26	1	130	150	0	37	0.00	0.00	2.38	2.38	13.56		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 564.8 ft (NAVD 88)
Latitude: 41.679919
Longitude: -72.96255



Wind

Results:

Wind Speed:	116 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 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: Mon Sep 06 2021

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.

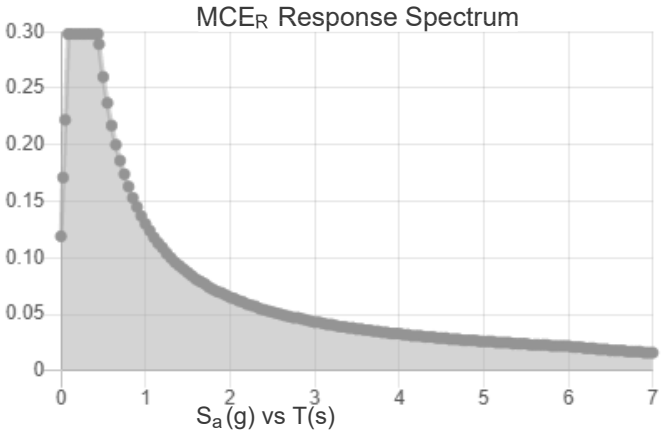
Seismic

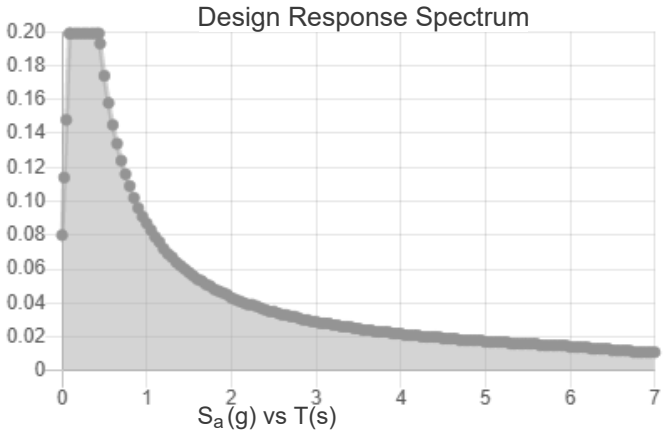
Site Soil Class: D - Stiff Soil

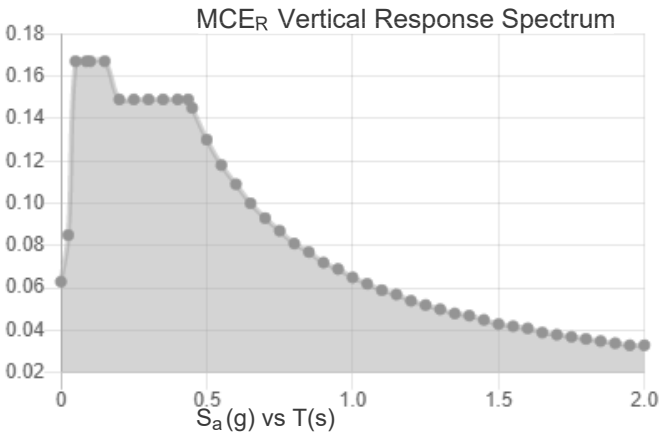
Results:

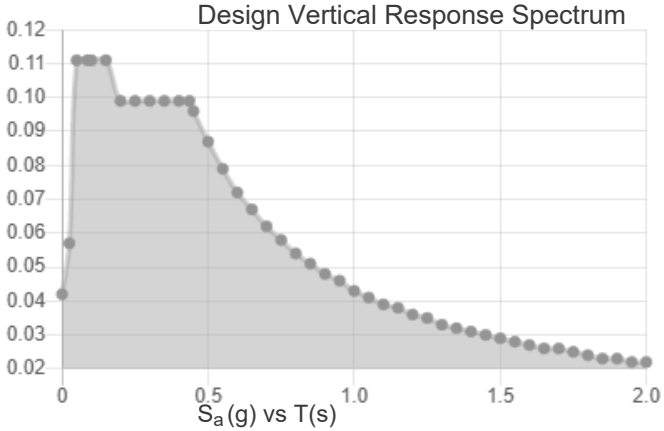
S_S :	0.186	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.101
F_v :	2.4	PGA_M :	0.161
S_{MS} :	0.298	F_{PGA} :	1.598
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.199	C_v :	0.7

Seismic Design Category B









Data Accessed: Mon Sep 06 2021

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:	Mon Sep 06 2021

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.