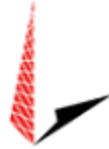




AMERICAN TOWER®
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This report was prepared for American Tower Corporation by



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PROFESSIONALS**

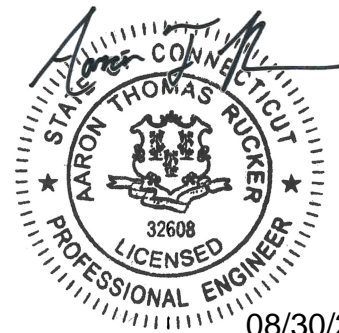
Structural Analysis Report

Structure : 350 ft Guyed Tower
ATC Site Name : N. Stonington, CT
ATC Site Number : 207945
Engineering Number : 13677777_C3_04
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : NORTH STONINGTON
Carrier Site Number : 468207
Site Location : 118B Wintechog Hill Road
North Stonington, CT 06359
41.4608, -71.9289
County : New London
Date : August 30, 2021
Max Usage : 80%
Result : Pass

Prepared By:

Austin Wilson
TEP

Reviewed By:



08/30/2021

COA : PEC.0001553



Table of Contents

Introduction.....	3
Supporting Documents.....	3
Analysis.....	3
Conclusion	3
Existing and Reserved Equipment	4
Equipment to be Removed.....	4
Proposed Equipment.....	4
Structure Usages	5
Foundations.....	5
Deflection, Twist and Sway*.....	5
Standard Conditions	6
Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 350 ft Guyed tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower Drawings	Mapping by TEP #260365.529679, dated July 2, 2021
Foundation Drawing	Mapping by Delta Oaks Group Project #BGI21-08510-03, dated June 3, 2021
Geotechnical Report	Delta Oaks Group Project #GEO21-08510-03, dated April 15, 2021
Mount Analysis	Maser Consulting Connecticut Project #21777026A, dated August 23, 2021

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	127 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	$S_s = 0.19$, $S_i = 0.05$
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
350.0	1	Dielectric DCR-H3 (FW w/o Radomes)	Leg	-	FULLER BROADCASTING INT., LLC
338.1	1	Generic 20' FM	Leg	(1) 1 5/8" Coax	
319.5	1	Generic 8' Yagi	Sector Frame	(2) 1/2" Coax	COMCAST
205.0	1	Kathrein Scala MF-950B	Leg	(1) 7/8" Coax	FULLER BROADCASTING INT., LLC
200.0	1	Kathrein Scala MF-950B	Leg	(1) 7/8" Coax	
196.2	1	Generic 3' HP Dish	Leg		
184.0	3	Andrew SBNHH-1D65A	-	(3) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
167.3	1	Generic 4' Yagi	Leg	(2) 1/2" Coax	COMCAST

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
184.0	3	Alcatel-Lucent RRH2x60 700	T-Arms	-	VERIZON WIRELESS
	3	Alcatel-Lucent B4 RRH 4X45-4R			
	2	Raycap RC2DC-3315-PF-48			
174.0	3	Amphenol Antel BXA-171085-8BF-EDIN-X	T-Arms	(3) 1 5/8" Coax	
	3	Antel BXA-80080/4CF			

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
184.0	3	Samsung RF4440d-13A	Sitepro VFA12-HD Sector Frames	(3) 1 5/8" Coax	VERIZON WIRELESS
	3	Samsung RF4439d-25A			
	1	Raycap RCMDC-6627-PF-48			
	3	Samsung MT6407-77A			
	2	Antel BXA-80080/4CF			
	3	Andrew SBNHH-1D65A			
	1	Antel BXA-80063/6CF			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines alongside existing VERIZON WIRELESS lines.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	80%	Pass
Diagonals	40%	Pass
Horizontals	23%	Pass
Guys	48%	Pass
Leg Bolts	17%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Base Axial (kips)	63.0	33%
Anchor 1 Uplift (kips)	5.8	27%
Anchor 1 Shear (kips)	11.9	18%
Anchor 2 Uplift (kips)	19.2	58%
Anchor 2 Shear (kips)	21.4	23%
Anchor 3 Uplift (kips)	3.8	11%
Anchor 3 Shear (kips)	4.0	5%
Anchor 4 Uplift (kips)	20.7	61%
Anchor 4 Shear (kips)	21.9	39%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
205.0	Kathrein Scala MF-950B	FULLER BROADCASTING INT., LLC	0.089	0.086	0.052
200.0	Kathrein Scala MF-950B	FULLER BROADCASTING INT., LLC	0.092	0.042	0.038
196.2	Generic 3' HP Dish	FULLER BROADCASTING INT., LLC	0.092	0.042	0.038
184.0	Andrew SBNHH-1D65A	VERIZON WIRELESS	0.098	0.025	0.060
	Antel BXA-80063/6CF ____				
	Antel BXA-80080/4CF				
	Raycap RCMD-6627-PF-48				
	Samsung MT6407-77A				
	Samsung RF4439d-25A				
Samsung RF4440d-13A					

*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

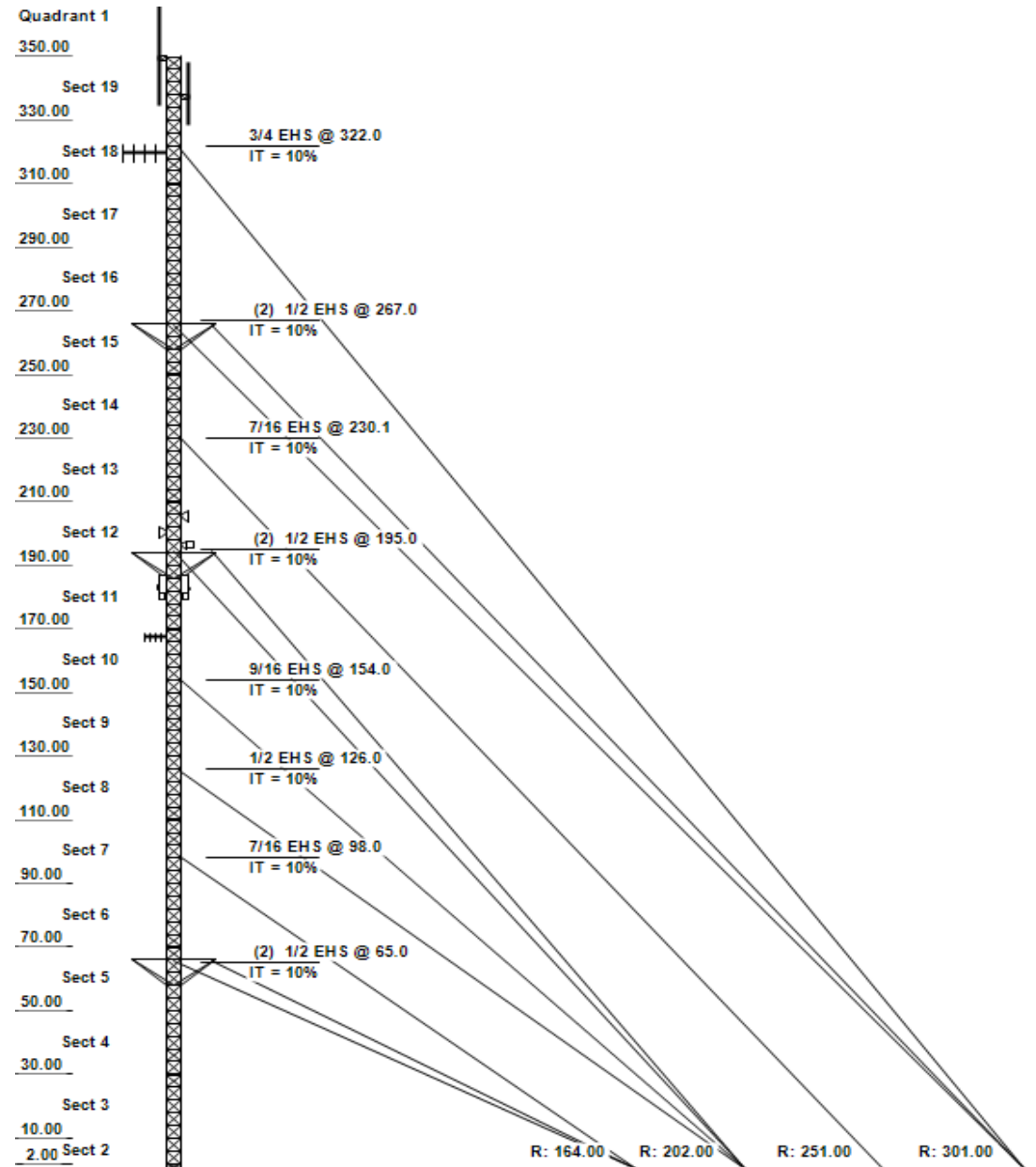
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

Asset: 207945, N. Stonington
 Client: VERIZON WIRELESS
 Code: ANSI/TIA-222-H

Height : 350 ft
 Base Width : 3 ft
 Shape : Triangle



SITE PARAMETERS

Nominal Wind : 127 mph wind with no ice Exposure : B Site Class : D
 Ice Wind: 50 mph wind with 1" radial Topo Method: Method 1 Risk Cat : II
 Service Wind : 60 mph Serviceability Topo Feature : S₂ : 0.188 S₁ : 0.053

SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1 - 6	PST 50 ksi 3" DIA PIP	SOL 36 ksi 5/8" SOLID	SAU 36 ksi 2X1.5X0.25
7 - 19	PST 50 ksi 2-1/2" DIA	SOL 36 ksi 5/8" SOLID	SAU 36 ksi 2X1.5X0.25

REDUNDANT SECONDARY BRACING

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 19	-	-	-	-	-	-

DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
350.00	FM	1	Dielectric DCR-H3 (FW w/o Rado)
338.10	FM	1	Generic 20' FM
320.00	Sector Frame	1	Generic Round Sector Frame
319.50	YAGI	1	Generic 8' Yagi
263.00	Torque Arm	1	Generic Torque Arm
205.00	DISH-GRID	1	Kathrein Scala MF-950B
200.00	DISH-GRID	1	Kathrein Scala MF-950B
196.20	DISH-HP	1	Generic 3' HP Dish
195.00	Torque Arm	1	Generic Torque Arm
184.00	BOB/SSB	1	Raycap RCMD-6627-PF-48
184.00	Other	3	VFA12-HD
184.00	PANEL	1	Antel BXA-80063/6CF
184.00	PANEL	2	Antel BXA-80080/4CF
184.00	PANEL	3	Andrew SBNHH-1D65A
184.00	PANEL	3	Samsung MT6407-77A
184.00	PANEL	3	Andrew SBNHH-1D65A
184.00	Radio/ODU	3	Samsung RF4439d-25A
184.00	Radio/ODU	3	Samsung RF4440d-13A
167.30	YAGI	1	Generic 4' Yagi
65.00	Torque Arm	1	Generic Torque Arm

LINEAR APPURTENANCE

Elev (ft)	From	To	Qty	Description
0.00	0.00	338.00	1	1 5/8" Coax
0.00	0.00	319.50	2	1/2" Coax
0.00	0.00	205.00	1	7/8" Coax
0.00	0.00	200.00	1	7/8" Coax
0.00	0.00	184.00	2	1 5/8" Hybriflex
0.00	0.00	184.00	6	1 5/8" Coax
0.00	0.00	167.30	2	1/2" Coax

Asset: 207945, N. Stonington
 Client: VERIZON WIRELESS
 Code: ANSI/TIA-222-H

Height : 350 ft
 Base Width : 3 ft
 Shape : Triangle

GLOBAL BASE FOUNDATION DESIGN LOADS

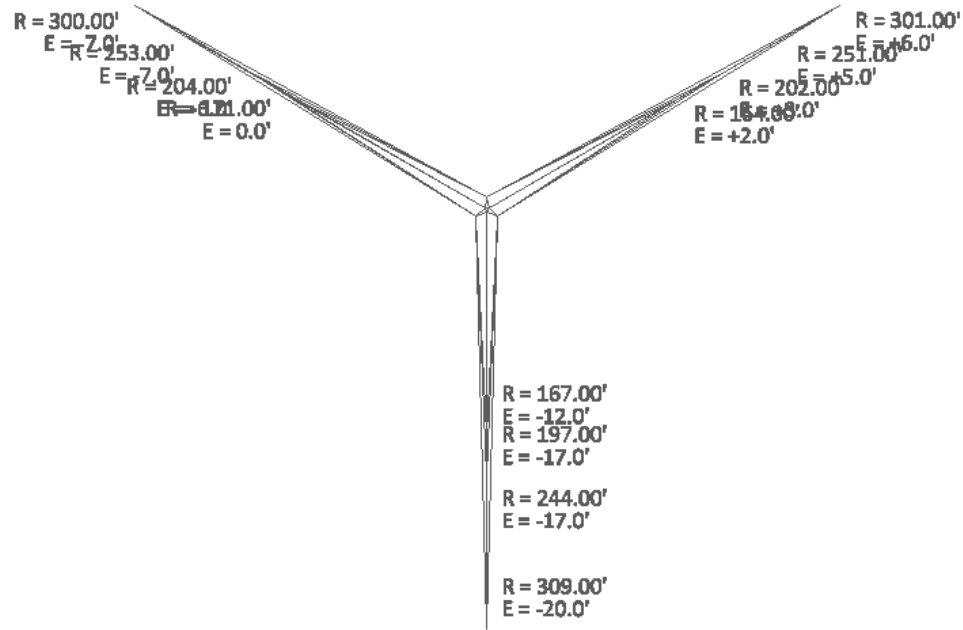
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL+WL	41.31	118.21	2.01
DL+WL+IL	13.35	173.18	0.55

INDIVIDUAL BASE FOUNDATION DESIGN LOADS

	Vertical (kip)	Uplift (kip)	Horizontal (kip)
	63.03	0.00	16.36

Asset: 207945, N. Stonington
 Client: VERIZON WIRELESS
 Code: ANSI/TIA-222-H

Height : 350 ft
 Base Width : 3 ft
 Shape : Triangle



GUY ANCHOR DESIGN LOADS				
Radius (ft)	Drop (ft)	Azimuth (o)	Uplift (kip)	Shear (kip)
164.00	2.00	120	5.03	11.86
167.00	-12.00	0	5.82	11.81
171.00	0.00	240	4.92	11.85
197.00	-17.00	0	19.19	21.27
202.00	3.00	120	16.81	21.39
204.00	-6.00	240	17.46	21.29
244.00	-17.00	0	3.80	4.00
251.00	5.00	120	3.41	4.04
253.00	-7.00	240	3.55	4.04
300.00	-7.00	240	20.64	21.78
301.00	6.00	120	19.79	21.87
309.00	-20.00	0	20.73	21.67

ANALYSIS PARAMETERS

Location:	New London County, CT	Height:	350 ft
Type and Shape:	Guyed, Triangle	Base Elevation:	0.00 ft
Manufacturer:	Undetermined	Bottom Face Width:	3.00 ft
Kd	0.85	Top Face Width:	3.00 ft
Ke:	0.98		

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed Without Ice:	127 mph
Risk Category:	II	Design Wind Speed with Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	Flat	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	432 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	0.66
T _L (sec):	6	P:	1.3
S _s :	0.188	S _{t1} :	0.053
F _a :	1.600	F _v :	2.400
S _{ds} :	0.201	S _{d1} :	0.085
		C _s :	0.043
		C _{s, Max} :	0.043
		C _{s, Min} :	0.030

LOAD CASES

1.2D + 1.0W Normal	127 mph wind with no ice
1.2D + 1.0W 60°	127 mph wind with no ice
1.2D + 1.0W 90°	127 mph wind with no ice
1.2D + 1.0W 120°	127 mph wind with no ice
1.2D + 1.0W 180°	127 mph wind with no ice
1.2D + 1.0W 210°	127 mph wind with no ice
1.2D + 1.0W 240°	127 mph wind with no ice
1.2D + 1.0W 300°	127 mph wind with no ice
1.2D + 1.0W 330°	127 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 60°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 90°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 120°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 180°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 210°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 240°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 300°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 330°	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
1.2D + 1.0Ev + 1.0Eh 60°	Seismic
1.2D + 1.0Ev + 1.0Eh 90°	Seismic
1.2D + 1.0Ev + 1.0Eh 120°	Seismic
1.2D + 1.0Ev + 1.0Eh 180°	Seismic
1.2D + 1.0Ev + 1.0Eh 210°	Seismic
1.2D + 1.0Ev + 1.0Eh 240°	Seismic
1.2D + 1.0Ev + 1.0Eh 300°	Seismic
1.2D + 1.0Ev + 1.0Eh 330°	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 60°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 90°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 120°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 180°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 210°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 240°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 300°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 330°	Seismic (Reduced DL)

ASSET: # 207945, N. Stonington

STANDARD ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.: 13677777_C3_04

LOAD CASES

1.0D + 1.0W Service Normal	60 mph Wind with No Ice
1.0D + 1.0W Service 60°	60 mph Wind with No Ice
1.0D + 1.0W Service 90°	60 mph Wind with No Ice
1.0D + 1.0W Service 120°	60 mph Wind with No Ice
1.0D + 1.0W Service 180°	60 mph Wind with No Ice
1.0D + 1.0W Service 210°	60 mph Wind with No Ice
1.0D + 1.0W Service 240°	60 mph Wind with No Ice
1.0D + 1.0W Service 300°	60 mph Wind with No Ice
1.0D + 1.0W Service 330°	60 mph Wind with No Ice

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
350.0	Dielectric DCR-H3 (FW w/o Rado)	1	243	10.6	31.7	20.7	0.0	1.00	1.00	0.0	0.00	48.84	440	292
338.1	Generic 20' FM	1	600	21.1	20.0	0.0	0.0	1.00	1.00	0.0	0.00	48.36	868	720
320.0	Generic Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.00	47.61	583	360
319.5	Generic 8' Yagi	1	30	12.0	8.0	60.0	3.0	1.00	1.00	0.0	0.00	47.58	485	36
263.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	45.01	574	600
205.0	Kathrein Scala MF-950B	1	13	7.0	3.9	46.5	18.0	1.00	1.00	3.1	776.51	42.10	250	16
200.0	Kathrein Scala MF-950B	1	13	7.0	3.9	46.5	18.0	1.00	1.00	0.0	0.00	41.62	248	16
196.2	Generic 3' HP Dish	1	140	8.9	3.0	36.0	0.0	1.00	1.00	0.0	0.00	41.40	314	168
195.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	41.32	527	600
184.0	Samsung RF4440d-13A	3	70	1.9	1.3	15.0	9.1	0.80	0.50	0.0	0.00	40.64	78	253
184.0	Samsung RF4439d-25A	3	75	2.5	1.7	15.0	10.4	0.80	0.67	0.0	0.00	40.64	139	269
184.0	Raycap RCMDC-6627-PF-48	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.00	40.64	112	38
184.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	40.64	238	294
184.0	Antel BXA-80080/4CF	2	14	4.8	4.0	11.2	5.9	0.80	0.75	0.0	0.00	40.64	199	34
184.0	Andrew SBNHH-1D65A	3	41	5.9	4.6	11.9	7.1	0.80	0.69	-1.6	537.17	40.54	336	147
184.0	Andrew SBNHH-1D65A	3	41	5.9	4.6	11.9	7.1	0.80	0.69	-1.6	537.17	40.54	336	147
184.0	Antel BXA-80063/6CF	1	15	7.6	5.9	11.2	4.5	0.80	1.00	0.0	0.00	40.64	210	18
184.0	VFA12-HD	3	738	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	40.64	840	2657
167.3	Generic 4' Yagi	1	15	4.9	4.0	48.0	3.0	1.00	1.00	0.0	0.00	39.55	165	18
65.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	30.19	385	600
Totals		33	6,069	257.9									7,325	7,282

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
350.0	Dielectric DCR-H3 (FW w/o Rado)	1	448	19.7	31.7	20.7	0.0	1.00	1.00	0.0	0.00	7.57	127	497
338.1	Generic 20' FM	1	1016	34.3	20.0	0.0	0.0	1.00	1.00	0.0	0.00	7.50	219	1136
320.0	Generic Round Sector Frame	1	565	26.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.38	165	625
319.5	Generic 8' Yagi	1	274	36.1	8.0	60.0	3.0	1.00	1.00	0.0	0.00	7.38	226	280
263.0	Generic Torque Arm	1	746	22.4	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.98	133	846
205.0	Kathrein Scala MF-950B	1	158	39.3	3.9	46.5	18.0	1.00	1.00	3.1	675.06	6.53	218	161
200.0	Kathrein Scala MF-950B	1	158	39.3	3.9	46.5	18.0	1.00	1.00	0.0	0.00	6.45	215	161
196.2	Generic 3' HP Dish	1	265	10.1	3.0	36.0	0.0	1.00	1.00	0.0	0.00	6.42	55	293
195.0	Generic Torque Arm	1	739	22.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.41	121	839
184.0	Samsung RF4440d-13A	3	111	2.5	1.3	15.0	9.1	0.80	0.50	0.0	0.00	6.30	16	376
184.0	Samsung RF4439d-25A	3	129	3.2	1.7	15.0	10.4	0.80	0.67	0.0	0.00	6.30	28	432
184.0	Raycap RCMDC-6627-PF-48	1	118	5.0	2.5	16.5	12.6	0.80	1.00	0.0	0.00	6.30	21	125
184.0	Samsung MT6407-77A	3	151	5.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	6.30	45	502
184.0	Antel BXA-80080/4CF	2	88	6.1	4.0	11.2	5.9	0.80	0.75	0.0	0.00	6.30	39	181
184.0	Andrew SBNHH-1D65A	3	133	7.3	4.6	11.9	7.1	0.80	0.69	-1.6	103.82	6.28	65	424
184.0	Andrew SBNHH-1D65A	3	133	7.3	4.6	11.9	7.1	0.80	0.69	-1.6	103.82	6.28	65	424
184.0	Antel BXA-80063/6CF	1	121	8.4	5.9	11.2	4.5	0.80	1.00	0.0	0.00	6.30	36	124
184.0	VFA12-HD	3	1354	25.7	0.0	0.0	0.0	0.75	0.75	0.0	0.00	6.30	232	4504
167.3	Generic 4' Yagi	1	112	13.6	4.0	48.0	3.0	1.00	1.00	0.0	0.00	6.13	71	115
65.0	Generic Torque Arm	1	712	21.4	0.0	0.0	0.0	1.00	1.00	0.0	0.00	4.68	85	812
Totals		33	11,643	465.5									2181	12,857

TOWER LOADING

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
350.0	Dielectric DCR-H3 (FW w/o Rado)	1	243	10.6	31.7	20.7	0.0	1.00	1.00	0.0	0.00	10.90	98	243
338.1	Generic 20' FM	1	600	21.1	20.0	0.0	0.0	1.00	1.00	0.0	0.00	10.79	194	600
320.0	Generic Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.00	10.63	130	300
319.5	Generic 8' Yagi	1	30	12.0	8.0	60.0	3.0	1.00	1.00	0.0	0.00	10.62	108	30
263.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	10.05	128	500

ASSET: # 207945, N. Stonington

STANDARD ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.: 13677777_C3_04

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
205.0	Kathrein Scala MF-950B	1	13	7.0	3.9	46.5	18.0	1.00	1.00	3.1	173.32	9.40	56	13
200.0	Kathrein Scala MF-950B	1	13	7.0	3.9	46.5	18.0	1.00	1.00	0.0	0.00	9.29	55	13
196.2	Generic 3' HP Dish	1	140	8.9	3.0	36.0	0.0	1.00	1.00	0.0	0.00	9.24	70	140
195.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	9.22	118	500
184.0	Samsung RF4440d-13A	3	70	1.9	1.3	15.0	9.1	0.80	0.50	0.0	0.00	9.07	17	211
184.0	Samsung RF4439d-25A	3	75	2.5	1.7	15.0	10.4	0.80	0.67	0.0	0.00	9.07	31	224
184.0	Raycap RCMDC-6627-PF-48	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.00	9.07	25	32
184.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	9.07	53	245
184.0	Antel BXA-80080/4CF	2	14	4.8	4.0	11.2	5.9	0.80	0.75	0.0	0.00	9.07	44	29
184.0	Andrew SBNHH-1D65A	3	41	5.9	4.6	11.9	7.1	0.80	0.69	-1.6	119.90	9.05	75	123
184.0	Andrew SBNHH-1D65A	3	41	5.9	4.6	11.9	7.1	0.80	0.69	-1.6	119.90	9.05	75	123
184.0	Antel BXA-80063/6CF	1	15	7.6	5.9	11.2	4.5	0.80	1.00	0.0	0.00	9.07	47	15
184.0	VFA12-HD	3	738	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	9.07	187	2214
167.3	Generic 4' Yagi	1	15	4.9	4.0	48.0	3.0	1.00	1.00	0.0	0.00	8.83	37	15
65.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.74	86	500
Totals		33	6,069	257.9									1,635	6,069

ASSET: # 207945, N. Stonington
 CUSTOMER VERIZON WIRELESS

STANDARD ANSI/TIA-222-H
 ENG NO.: 13677777_C3_04

TOWER LOADING

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient Factor	K _a Override
0.0	338.0	1 5/8" Coax	1	1.98	0.82	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	319.5	1/2" Coax	2	0.63	0.15	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	205.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	200.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	184.0	1 5/8" Coax	3	1.98	0.82	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	184.0	1 5/8" Coax	3	1.98	0.82	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	184.0	1 5/8" Hybriflex	2	1.98	1.30	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	167.3	1/2" Coax	2	0.63	0.15	100	1	Individual	0.00	N	1.00	1.00	0.00

SECTION FORCES

1.2D + 1.0W Normal Gust Response Factor (Gh): 0.85
 127 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Qz (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	48.44	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	791	0	1012	39	1051
18	320	47.61	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	868	0	1062	125	1187
17	300	46.74	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	810	0	977	154	1131
16	280	45.82	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	810	0	958	151	1109
15	260	44.86	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	810	0	938	148	1086
14	240	43.85	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	872	0	978	145	1123
13	220	42.77	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	810	0	894	141	1035
12	200	41.62	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	820	0	870	195	1065
11	180	40.39	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	952	0	844	680	1524
10	160	39.05	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	1075	0	871	890	1762
9	140	37.59	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	1014	0	786	863	1649
8	120	35.97	3.050	12.049	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.20	0.00	1025	0	771	826	1597
7	100	34.15	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	1076	0	762	784	1546
6	80	32.04	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	730	736	1466
5	60	29.51	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	672	678	1350
4	40	26.28	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	599	604	1202
3	20	24.19	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	551	556	1107
2	6	24.19	0.903	5.641	0.00	0.248	2.44	1.00	1.00	0.0	4.24	10.34	0.00	445	0	213	222	435
1	1	24.19	0.903	1.512	0.00	0.367	2.13	1.00	1.00	0.0	1.85	3.95	0.00	165	0	81	56	137
														16,914	0			22,563

1.2D + 1.0W 60° Gust Response Factor (Gh): 0.85
 127 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Qz (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	48.44	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	791	0	955	39	995
18	320	47.61	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	868	0	991	125	1116
17	300	46.74	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	922	154	1076
16	280	45.82	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	904	151	1055
15	260	44.86	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	885	148	1033
14	240	43.85	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	872	0	913	145	1058
13	220	42.77	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	844	141	985
12	200	41.62	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	820	0	821	195	1016
11	180	40.39	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	952	0	797	680	1477
10	160	39.05	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	1075	0	813	890	1703
9	140	37.59	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	1014	0	741	863	1605
8	120	35.97	3.050	12.049	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	1025	0	724	826	1550
7	100	34.15	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	1076	0	711	784	1495
6	80	32.04	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	1143	0	694	736	1430
5	60	29.51	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	1143	0	639	678	1317
4	40	26.28	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	1143	0	569	604	1173
3	20	24.19	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	1143	0	524	556	1080
2	6	24.19	0.903	5.641	0.00	0.248	2.44	0.80	1.00	0.0	4.06	9.90	0.00	445	0	204	222	426
1	1	24.19	0.903	1.512	0.00	0.367	2.13	0.80	1.00	0.0	1.68	3.59	0.00	165	0	74	56	129
														16,914	0			21,721

1.2D + 1.0W 90° Gust Response Factor (Gh): 0.85
 127 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Qz (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	48.44	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	791	0	970	39	1009

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
18	320	47.61	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	868	0	1009	125	1134
17	300	46.74	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	810	0	936	154	1090
16	280	45.82	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	810	0	917	151	1069
15	260	44.86	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	810	0	898	148	1046
14	240	43.85	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	872	0	929	145	1074
13	220	42.77	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	810	0	856	141	998
12	200	41.62	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	820	0	833	195	1029
11	180	40.39	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	952	0	809	680	1489
10	160	39.05	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	1075	0	828	890	1718
9	140	37.59	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	1014	0	753	863	1616
8	120	35.97	3.050	12.049	0.00	0.233	2.49	0.85	1.00	0.0	9.67	24.06	0.00	1025	0	736	826	1562
7	100	34.15	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	1076	0	724	784	1508
6	80	32.04	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	1143	0	703	736	1439
5	60	29.51	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	1143	0	648	678	1325
4	40	26.28	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	1143	0	577	604	1180
3	20	24.19	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	1143	0	531	556	1086
2	6	24.19	0.903	5.641	0.00	0.248	2.44	0.85	1.00	0.0	4.10	10.01	0.00	445	0	206	222	428
1	1	24.19	0.903	1.512	0.00	0.367	2.13	0.85	1.00	0.0	1.73	3.69	0.00	165	0	76	56	131
														16,914	0			21,931

1.2D + 1.0W 120°
 127 mph wind with no ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	48.44	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	791	0	1012	39	1051
18	320	47.61	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	868	0	1062	125	1187
17	300	46.74	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	810	0	977	154	1131
16	280	45.82	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	810	0	958	151	1109
15	260	44.86	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	810	0	938	148	1086
14	240	43.85	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	872	0	978	145	1123
13	220	42.77	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	810	0	894	141	1035
12	200	41.62	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	820	0	870	195	1065
11	180	40.39	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	952	0	844	680	1524
10	160	39.05	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	1075	0	871	890	1762
9	140	37.59	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	1014	0	786	863	1649
8	120	35.97	3.050	12.049	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.20	0.00	1025	0	771	826	1597
7	100	34.15	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	1076	0	762	784	1546
6	80	32.04	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	730	736	1466
5	60	29.51	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	672	678	1350
4	40	26.28	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	599	604	1202
3	20	24.19	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	551	556	1107
2	6	24.19	0.903	5.641	0.00	0.248	2.44	1.00	1.00	0.0	4.24	10.34	0.00	445	0	213	222	435
1	1	24.19	0.903	1.512	0.00	0.367	2.13	1.00	1.00	0.0	1.86	3.97	0.00	165	0	82	56	137
														16,914	0			22,563

1.2D + 1.0W 180°
 127 mph wind with no ice

Gust Response Factor (Gh): 0.85
 Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	48.44	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	791	0	955	39	995
18	320	47.61	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	868	0	991	125	1116
17	300	46.74	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	922	154	1076
16	280	45.82	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	904	151	1055
15	260	44.86	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	885	148	1033
14	240	43.85	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	872	0	913	145	1058
13	220	42.77	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	844	141	985
12	200	41.62	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	820	0	821	195	1016

SECTION FORCES

Table with 20 columns: Sect #, Elev (ft), Qz (psf), Ar (sf), Ar (sf), Ice Ar (sf), e, Cr, Dr, Dr, Tiz (in), Ae (sf), EPAa (sf), EPAai (sf), Wt. (lb), Ice Wt (lb), Fst (lb), Fa (lb), Force (lb). Rows 1-11.

16,914 0 21,721

1.2D + 1.0W 210°
127 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with 20 columns: Sect #, Elev (ft), Qz (psf), Ar (sf), Ar (sf), Ice Ar (sf), e, Cr, Dr, Dr, Tiz (in), Ae (sf), EPAa (sf), EPAai (sf), Wt. (lb), Ice Wt (lb), Fst (lb), Fa (lb), Force (lb). Rows 1-19.

16,914 0 21,931

1.2D + 1.0W 240°
127 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with 20 columns: Sect #, Elev (ft), Qz (psf), Ar (sf), Ar (sf), Ice Ar (sf), e, Cr, Dr, Dr, Tiz (in), Ae (sf), EPAa (sf), EPAai (sf), Wt. (lb), Ice Wt (lb), Fst (lb), Fa (lb), Force (lb). Rows 5-19.

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
4	40	26.28	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	599	604	1202
3	20	24.19	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	1143	0	551	556	1107
2	6	24.19	0.903	5.641	0.00	0.248	2.44	1.00	1.00	0.0	4.24	10.34	0.00	445	0	213	222	435
1	1	24.19	0.903	1.512	0.00	0.367	2.13	1.00	1.00	0.0	1.86	3.97	0.00	165	0	82	56	137
														16,914	0			22,563

1.2D + 1.0W 300°
127 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	48.44	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	791	0	955	39	995
18	320	47.61	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	868	0	991	125	1116
17	300	46.74	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	922	154	1076
16	280	45.82	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	904	151	1055
15	260	44.86	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	885	148	1033
14	240	43.85	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	872	0	913	145	1058
13	220	42.77	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	810	0	844	141	985
12	200	41.62	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	820	0	821	195	1016
11	180	40.39	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	952	0	797	680	1477
10	160	39.05	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	1075	0	813	890	1703
9	140	37.59	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	1014	0	741	863	1605
8	120	35.97	3.050	12.049	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	1025	0	724	826	1550
7	100	34.15	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	1076	0	711	784	1495
6	80	32.04	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	1143	0	694	736	1430
5	60	29.51	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	1143	0	639	678	1317
4	40	26.28	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	1143	0	569	604	1173
3	20	24.19	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	1143	0	524	556	1080
2	6	24.19	0.903	5.641	0.00	0.248	2.44	0.80	1.00	0.0	4.06	9.90	0.00	445	0	204	222	426
1	1	24.19	0.903	1.512	0.00	0.367	2.13	0.80	1.00	0.0	1.68	3.59	0.00	165	0	74	56	129
														16,914	0			21,721

1.2D + 1.0W 330°
127 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	48.44	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	791	0	970	39	1009
18	320	47.61	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	868	0	1009	125	1134
17	300	46.74	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	810	0	936	154	1090
16	280	45.82	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	810	0	917	151	1069
15	260	44.86	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	810	0	898	148	1046
14	240	43.85	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	872	0	929	145	1074
13	220	42.77	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	810	0	856	141	998
12	200	41.62	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	820	0	833	195	1029
11	180	40.39	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	952	0	809	680	1489
10	160	39.05	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	1075	0	828	890	1718
9	140	37.59	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	1014	0	753	863	1616
8	120	35.97	3.050	12.049	0.00	0.233	2.49	0.85	1.00	0.0	9.67	24.06	0.00	1025	0	736	826	1562
7	100	34.15	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	1076	0	724	784	1508
6	80	32.04	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	1143	0	703	736	1439
5	60	29.51	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	1143	0	648	678	1325
4	40	26.28	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	1143	0	577	604	1180
3	20	24.19	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	1143	0	531	556	1086
2	6	24.19	0.903	5.641	0.00	0.248	2.44	0.85	1.00	0.0	4.10	10.01	0.00	445	0	206	222	428
1	1	24.19	0.903	1.512	0.00	0.367	2.13	0.85	1.00	0.0	1.73	3.69	0.00	165	0	76	56	131
														16,914	0			21,931

1.2D + 1.0Di + 1.0Wi Normal
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00
Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
															44,397	27,483			6,917

1.2D + 1.0Di + 1.0Wi 300°
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00
Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
19	340	7.51	2.760	34.722	22.67	0.543	1.85	0.80	1.00	1.3	26.92	49.81	22.67	1901	1110	318	11	328	
18	320	7.38	3.550	34.584	22.54	0.553	1.84	0.80	1.00	1.3	27.65	50.91	22.54	2041	1173	319	42	361	
17	300	7.24	2.760	34.440	22.39	0.540	1.85	0.80	1.00	1.2	26.65	49.41	22.39	2074	1264	304	61	365	
16	280	7.10	2.760	34.286	22.24	0.538	1.86	0.80	1.00	1.2	26.50	49.18	22.24	2061	1251	297	60	357	
15	260	6.95	2.760	34.121	22.07	0.535	1.86	0.80	1.00	1.2	26.34	48.95	22.07	2048	1238	289	58	348	
14	240	6.80	3.550	33.945	21.90	0.544	1.85	0.80	1.00	1.2	27.03	49.98	21.90	2055	1183	289	56	344	
13	220	6.63	2.760	33.756	21.71	0.531	1.86	0.80	1.00	1.2	25.99	48.43	21.71	2018	1208	273	56	328	
12	200	6.45	2.760	33.550	21.50	0.528	1.87	0.80	1.00	1.2	25.80	48.14	21.50	2095	1275	264	77	341	
11	180	6.26	2.760	33.324	21.28	0.525	1.87	0.80	1.00	1.2	25.58	47.83	21.28	2771	1818	255	210	465	
10	160	6.05	3.550	33.075	21.03	0.533	1.86	0.80	1.00	1.2	26.19	48.74	21.03	3130	2055	251	273	524	
9	140	5.83	2.760	32.796	20.75	0.518	1.88	0.80	1.00	1.2	25.08	47.10	20.75	3081	2068	233	273	506	
8	120	5.58	3.050	32.479	20.43	0.518	1.88	0.80	1.00	1.1	25.10	47.12	20.43	3011	1986	223	259	482	
7	100	5.29	3.550	32.110	20.06	0.520	1.87	0.80	1.00	1.1	25.28	47.40	20.06	3010	1935	213	242	455	
6	80	4.97	2.708	33.724	19.62	0.524	1.87	0.80	1.00	1.1	25.83	48.31	19.62	3102	1959	204	222	426	
5	60	4.57	2.708	33.167	19.06	0.517	1.88	0.80	1.00	1.1	25.30	47.54	19.06	3025	1882	185	204	389	
4	40	4.07	2.708	32.410	18.30	0.507	1.89	0.80	1.00	1.0	24.60	46.51	18.30	2921	1779	161	181	342	
3	20	3.75	2.708	31.184	17.08	0.491	1.91	0.80	1.00	1.0	23.48	44.89	17.08	2759	1616	143	166	309	
2	6	3.75	0.903	11.525	5.88	0.453	1.97	0.80	1.00	0.8	8.38	16.49	5.88	984	539	53	67	119	
1	1	3.75	0.903	3.534	2.02	0.651	1.78	0.80	1.00	0.7	3.49	6.22	2.02	310	145	20	10	30	
															44,397	27,483			6,819

1.2D + 1.0Di + 1.0Wi 330°
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00
Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
19	340	7.51	2.760	34.722	22.67	0.543	1.85	0.85	1.00	1.3	27.06	50.07	22.67	1901	1110	320	11	330	
18	320	7.38	3.550	34.584	22.54	0.553	1.84	0.85	1.00	1.3	27.83	51.23	22.54	2041	1173	321	42	363	
17	300	7.24	2.760	34.440	22.39	0.540	1.85	0.85	1.00	1.2	26.79	49.66	22.39	2074	1264	306	61	367	
16	280	7.10	2.760	34.286	22.24	0.538	1.86	0.85	1.00	1.2	26.64	49.44	22.24	2061	1251	298	60	358	
15	260	6.95	2.760	34.121	22.07	0.535	1.86	0.85	1.00	1.2	26.48	49.21	22.07	2048	1238	291	58	349	
14	240	6.80	3.550	33.945	21.90	0.544	1.85	0.85	1.00	1.2	27.21	50.30	21.90	2055	1183	291	56	346	
13	220	6.63	2.760	33.756	21.71	0.531	1.86	0.85	1.00	1.2	26.13	48.69	21.71	2018	1208	274	56	330	
12	200	6.45	2.760	33.550	21.50	0.528	1.87	0.85	1.00	1.2	25.93	48.40	21.50	2095	1275	265	77	342	
11	180	6.26	2.760	33.324	21.28	0.525	1.87	0.85	1.00	1.2	25.72	48.09	21.28	2771	1818	256	210	466	
10	160	6.05	3.550	33.075	21.03	0.533	1.86	0.85	1.00	1.2	26.37	49.07	21.03	3130	2055	252	273	526	
9	140	5.83	2.760	32.796	20.75	0.518	1.88	0.85	1.00	1.2	25.22	47.36	20.75	3081	2068	235	273	508	
8	120	5.58	3.050	32.479	20.43	0.518	1.88	0.85	1.00	1.1	25.25	47.41	20.43	3011	1986	225	259	483	
7	100	5.29	3.550	32.110	20.06	0.520	1.87	0.85	1.00	1.1	25.46	47.74	20.06	3010	1935	215	242	457	
6	80	4.97	2.708	33.724	19.62	0.524	1.87	0.85	1.00	1.1	25.96	48.56	19.62	3102	1959	205	222	427	
5	60	4.57	2.708	33.167	19.06	0.517	1.88	0.85	1.00	1.1	25.44	47.79	19.06	3025	1882	186	204	390	
4	40	4.07	2.708	32.410	18.30	0.507	1.89	0.85	1.00	1.0	24.74	46.77	18.30	2921	1779	162	181	343	
3	20	3.75	2.708	31.184	17.08	0.491	1.91	0.85	1.00	1.0	23.62	45.15	17.08	2759	1616	144	166	309	
2	6	3.75	0.903	11.525	5.88	0.453	1.97	0.85	1.00	0.8	8.42	16.58	5.88	984	539	53	67	120	
1	1	3.75	0.903	3.534	2.02	0.651	1.78	0.85	1.00	0.7	3.54	6.30	2.02	310	145	20	10	30	
															44,397	27,483			6,844

1.0D + 1.0W Service Normal
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	10.81	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	659	0	226	9	235
18	320	10.63	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	724	0	237	28	265
17	300	10.43	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	675	0	218	34	252
16	280	10.23	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	675	0	214	34	248
15	260	10.01	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	675	0	209	33	242
14	240	9.79	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	727	0	218	32	251
13	220	9.55	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	675	0	200	32	231
12	200	9.29	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	683	0	194	44	238
11	180	9.02	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	794	0	188	152	340
10	160	8.72	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	896	0	194	199	393
9	140	8.39	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	845	0	175	193	368
8	120	8.03	3.050	12.049	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.20	0.00	854	0	172	184	356
7	100	7.62	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	896	0	170	175	345
6	80	7.15	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	952	0	163	164	327
5	60	6.59	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	952	0	150	151	301
4	40	5.87	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	952	0	134	135	268
3	20	5.40	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	952	0	123	124	247
2	6	5.40	0.903	5.641	0.00	0.248	2.44	1.00	1.00	0.0	4.24	10.34	0.00	371	0	47	50	97
1	1	5.40	0.903	1.512	0.00	0.367	2.13	1.00	1.00	0.0	1.86	3.97	0.00	137	0	18	12	31
														14,095	0			5,036

1.0D + 1.0W Service 60°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	10.81	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	659	0	213	9	222
18	320	10.63	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	724	0	221	28	249
17	300	10.43	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	675	0	206	34	240
16	280	10.23	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	675	0	202	34	236
15	260	10.01	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	675	0	198	33	231
14	240	9.79	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	727	0	204	32	236
13	220	9.55	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	675	0	188	32	220
12	200	9.29	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	683	0	183	44	227
11	180	9.02	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	794	0	178	152	330
10	160	8.72	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	896	0	181	199	380
9	140	8.39	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	845	0	165	193	358
8	120	8.03	3.050	12.049	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	854	0	162	184	346
7	100	7.62	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	896	0	159	175	334
6	80	7.15	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	155	164	319
5	60	6.59	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	143	151	294
4	40	5.87	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	127	135	262
3	20	5.40	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	117	124	241
2	6	5.40	0.903	5.641	0.00	0.248	2.44	0.80	1.00	0.0	4.06	9.90	0.00	371	0	45	50	95
1	1	5.40	0.903	1.512	0.00	0.367	2.13	0.80	1.00	0.0	1.68	3.59	0.00	137	0	16	12	29
														14,095	0			4,848

1.0D + 1.0W Service 90°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	10.81	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	659	0	216	9	225
18	320	10.63	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	724	0	225	28	253
17	300	10.43	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	209	34	243
16	280	10.23	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	205	34	239
15	260	10.01	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	200	33	234
14	240	9.79	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	727	0	207	32	240
13	220	9.55	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	191	32	223

SECTION FORCES

Table with columns: Sect #, Elev (ft), Qz (psf), Af (sf), Ar (sf), Ice Ar (sf), e, Cr, Dr, D, Tiz (in), Ae (sf), EPAa (sf), EPAai (sf), Wt. (lb), Ice Wt (lb), Fst (lb), Fa (lb), Force (lb). Rows 1-12.

14,095 0 4,895

1.0D + 1.0W Service 120°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with columns: Sect #, Elev (ft), Qz (psf), Af (sf), Ar (sf), Ice Ar (sf), e, Cr, Dr, D, Tiz (in), Ae (sf), EPAa (sf), EPAai (sf), Wt. (lb), Ice Wt (lb), Fst (lb), Fa (lb), Force (lb). Rows 1-19.

14,095 0 5,036

1.0D + 1.0W Service 180°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with columns: Sect #, Elev (ft), Qz (psf), Af (sf), Ar (sf), Ice Ar (sf), e, Cr, Dr, D, Tiz (in), Ae (sf), EPAa (sf), EPAai (sf), Wt. (lb), Ice Wt (lb), Fst (lb), Fa (lb), Force (lb). Rows 6-19.

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
5	60	6.59	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	143	151	294
4	40	5.87	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	127	135	262
3	20	5.40	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	117	124	241
2	6	5.40	0.903	5.641	0.00	0.248	2.44	0.80	1.00	0.0	4.06	9.90	0.00	371	0	45	50	95
1	1	5.40	0.903	1.512	0.00	0.367	2.13	0.80	1.00	0.0	1.68	3.59	0.00	137	0	16	12	29
														14,095	0			4,848

1.0D + 1.0W Service 210° Gust Response Factor (Gh): 0.85
 60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	10.81	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	659	0	216	9	225
18	320	10.63	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	724	0	225	28	253
17	300	10.43	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	209	34	243
16	280	10.23	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	205	34	239
15	260	10.01	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	200	33	234
14	240	9.79	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	727	0	207	32	240
13	220	9.55	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	191	32	223
12	200	9.29	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	683	0	186	44	230
11	180	9.02	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	794	0	180	152	332
10	160	8.72	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	896	0	185	199	383
9	140	8.39	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	845	0	168	193	361
8	120	8.03	3.050	12.049	0.00	0.233	2.49	0.85	1.00	0.0	9.67	24.06	0.00	854	0	164	184	349
7	100	7.62	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	896	0	162	175	337
6	80	7.15	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	952	0	157	164	321
5	60	6.59	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	952	0	145	151	296
4	40	5.87	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	952	0	129	135	263
3	20	5.40	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	952	0	118	124	242
2	6	5.40	0.903	5.641	0.00	0.248	2.44	0.85	1.00	0.0	4.10	10.01	0.00	371	0	46	50	96
1	1	5.40	0.903	1.512	0.00	0.367	2.13	0.85	1.00	0.0	1.73	3.69	0.00	137	0	17	12	29
														14,095	0			4,895

1.0D + 1.0W Service 240° Gust Response Factor (Gh): 0.85
 60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
19	340	10.81	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	659	0	226	9	235
18	320	10.63	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	724	0	237	28	265
17	300	10.43	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	675	0	218	34	252
16	280	10.23	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	675	0	214	34	248
15	260	10.01	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	675	0	209	33	242
14	240	9.79	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	727	0	218	32	251
13	220	9.55	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	675	0	200	32	231
12	200	9.29	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	683	0	194	44	238
11	180	9.02	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	794	0	188	152	340
10	160	8.72	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	896	0	194	199	393
9	140	8.39	2.760	12.049	0.00	0.229	2.50	1.00	1.00	0.0	9.82	24.59	0.00	845	0	175	193	368
8	120	8.03	3.050	12.049	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.20	0.00	854	0	172	184	356
7	100	7.62	3.550	12.049	0.00	0.241	2.47	1.00	1.00	0.0	10.65	26.25	0.00	896	0	170	175	345
6	80	7.15	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	952	0	163	164	327
5	60	6.59	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	952	0	150	151	301
4	40	5.87	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	952	0	134	135	268
3	20	5.40	2.708	14.105	0.00	0.255	2.42	1.00	1.00	0.0	11.07	26.80	0.00	952	0	123	124	247
2	6	5.40	0.903	5.641	0.00	0.248	2.44	1.00	1.00	0.0	4.24	10.34	0.00	371	0	47	50	97
1	1	5.40	0.903	1.512	0.00	0.367	2.13	1.00	1.00	0.0	1.86	3.97	0.00	137	0	18	12	31
														14,095	0			5,036

1.0D + 1.0W Service 300° Gust Response Factor (Gh): 0.85

SECTION FORCES

60 mph Wind with No Ice

Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Qz (psf)	Af (sf)	Ar (sf)	Ice Ar (sf)	e	Cf	Df	Dr	Tiz (in)	Ae (sf)	EPAa (sf)	EPAAi (sf)	Wt. (lb)	Ice Wt (lb)	Fst (lb)	Fa (lb)	Force (lb)
19	340	10.81	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	659	0	213	9	222
18	320	10.63	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	724	0	221	28	249
17	300	10.43	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	675	0	206	34	240
16	280	10.23	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	675	0	202	34	236
15	260	10.01	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	675	0	198	33	231
14	240	9.79	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	727	0	204	32	236
13	220	9.55	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	675	0	188	32	220
12	200	9.29	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	683	0	183	44	227
11	180	9.02	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	794	0	178	152	330
10	160	8.72	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	896	0	181	199	380
9	140	8.39	2.760	12.049	0.00	0.229	2.50	0.80	1.00	0.0	9.27	23.21	0.00	845	0	165	193	358
8	120	8.03	3.050	12.049	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	854	0	162	184	346
7	100	7.62	3.550	12.049	0.00	0.241	2.47	0.80	1.00	0.0	9.94	24.49	0.00	896	0	159	175	334
6	80	7.15	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	155	164	319
5	60	6.59	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	143	151	294
4	40	5.87	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	127	135	262
3	20	5.40	2.708	14.105	0.00	0.255	2.42	0.80	1.00	0.0	10.53	25.49	0.00	952	0	117	124	241
2	6	5.40	0.903	5.641	0.00	0.248	2.44	0.80	1.00	0.0	4.06	9.90	0.00	371	0	45	50	95
1	1	5.40	0.903	1.512	0.00	0.367	2.13	0.80	1.00	0.0	1.68	3.59	0.00	137	0	16	12	29
														14,095	0			4,848

1.0D + 1.0W Service 330°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Qz (psf)	Af (sf)	Ar (sf)	Ice Ar (sf)	e	Cf	Df	Dr	Tiz (in)	Ae (sf)	EPAa (sf)	EPAAi (sf)	Wt. (lb)	Ice Wt (lb)	Fst (lb)	Fa (lb)	Force (lb)
19	340	10.81	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	659	0	216	9	225
18	320	10.63	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	724	0	225	28	253
17	300	10.43	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	209	34	243
16	280	10.23	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	205	34	239
15	260	10.01	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	200	33	234
14	240	9.79	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	727	0	207	32	240
13	220	9.55	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	675	0	191	32	223
12	200	9.29	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	683	0	186	44	230
11	180	9.02	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	794	0	180	152	332
10	160	8.72	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	896	0	185	199	383
9	140	8.39	2.760	12.049	0.00	0.229	2.50	0.85	1.00	0.0	9.41	23.55	0.00	845	0	168	193	361
8	120	8.03	3.050	12.049	0.00	0.233	2.49	0.85	1.00	0.0	9.67	24.06	0.00	854	0	164	184	349
7	100	7.62	3.550	12.049	0.00	0.241	2.47	0.85	1.00	0.0	10.11	24.93	0.00	896	0	162	175	337
6	80	7.15	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	952	0	157	164	321
5	60	6.59	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	952	0	145	151	296
4	40	5.87	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	952	0	129	135	263
3	20	5.40	2.708	14.105	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.82	0.00	952	0	118	124	242
2	6	5.40	0.903	5.641	0.00	0.248	2.44	0.85	1.00	0.0	4.10	10.01	0.00	371	0	46	50	96
1	1	5.40	0.903	1.512	0.00	0.367	2.13	0.85	1.00	0.0	1.73	3.69	0.00	137	0	17	12	29
														14,095	0			4,895

EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_S):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_a):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.08
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_s :	0.04
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.66
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	1.08
Total Unfactored Dead Load:	20.16 k
Seismic Base Shear (E):	1.13 k

SEISMIC

Load Case: 0.9D - 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
19	340.00	659	355,844	0.066	74	567
18	320.00	724	365,838	0.067	76	622
17	300.00	675	318,349	0.059	66	581
16	280.00	675	295,505	0.054	61	581
15	260.00	675	272,790	0.050	57	581
14	240.00	727	269,359	0.050	56	625
13	220.00	675	227,786	0.042	47	581
12	200.00	683	208,030	0.038	43	588
11	180.00	794	215,618	0.040	45	682
10	160.00	896	214,276	0.039	44	770
9	140.00	845	174,984	0.032	36	726
8	120.00	854	149,838	0.028	31	735
7	100.00	896	129,141	0.024	27	771
6	80.00	952	107,813	0.020	22	819
5	60.00	952	79,036	0.015	16	819
4	40.00	952	51,024	0.009	11	819
3	20.00	952	24,148	0.004	5	819
2	6.00	371	2,564	0.000	1	319
1	1.00	137	137	0.000	0	118
Dielectric DCR-H3 (FW w/o Radomes)	350.00	243	135,321	0.025	28	209
Generic 20' FM	338.10	600	321,881	0.059	67	516
Generic Round Sector Frame	320.00	300	151,661	0.028	31	258
Generic 8' Yagi	319.50	30	15,141	0.003	3	26
Generic Torque Arm	263.00	500	204,539	0.038	42	430
Kathrein Scala MF-950B	205.00	13	4,064	0.001	1	11
Kathrein Scala MF-950B	200.00	13	3,957	0.001	1	11
Generic 3' HP Dish	196.20	140	41,743	0.008	9	120
Generic Torque Arm	195.00	500	148,100	0.027	31	430
Samsung RF4440d-13A	184.00	211	58,674	0.011	12	181
Samsung RF4439d-25A	184.00	224	62,346	0.012	13	193
Raycap RCMD-6627-PF-48	184.00	32	8,903	0.002	2	28
Samsung MT6407-77A	184.00	245	68,105	0.012	14	211

ASSET: # 207945, N. Stonington

STANDARD

ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.:

13677777_C3_04

Antel BXA-80080/4CF	184.00	29	7,957	0.002	2	25
Andrew SBNHH-1D65A	184.00	123	34,136	0.006	7	106
Andrew SBNHH-1D65A	184.00	123	34,136	0.006	7	106
Antel BXA-80063/6CF	184.00	15	4,145	0.001	1	13
VFA12-HD	184.00	2,214	615,951	0.113	128	1,904
Generic 4' Yagi	167.30	15	3,766	0.001	1	13
Generic Torque Arm	65.00	500	45,249	0.008	9	430
Totals		20,164	5,431,854	1.000	1,125	17,339

SEISMIC

Load Case: 1.2D + 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
19	340.00	659	355,844	0.066	74	818
18	320.00	724	365,838	0.067	76	897
17	300.00	675	318,349	0.059	66	837
16	280.00	675	295,505	0.054	61	837
15	260.00	675	272,790	0.050	57	837
14	240.00	727	269,359	0.050	56	901
13	220.00	675	227,786	0.042	47	837
12	200.00	683	208,030	0.038	43	847
11	180.00	794	215,618	0.040	45	984
10	160.00	896	214,276	0.039	44	1,111
9	140.00	845	174,984	0.032	36	1,048
8	120.00	854	149,838	0.028	31	1,059
7	100.00	896	129,141	0.024	27	1,112
6	80.00	952	107,813	0.020	22	1,181
5	60.00	952	79,036	0.015	16	1,181
4	40.00	952	51,024	0.009	11	1,181
3	20.00	952	24,148	0.004	5	1,181
2	6.00	371	2,564	0.000	1	460
1	1.00	137	137	0.000	0	170
Dielectric DCR-H3 (FW w/o Radomes)	350.00	243	135,321	0.025	28	301
Generic 20' FM	338.10	600	321,881	0.059	67	744
Generic Round Sector Frame	320.00	300	151,661	0.028	31	372
Generic 8' Yagi	319.50	30	15,141	0.003	3	37
Generic Torque Arm	263.00	500	204,539	0.038	42	620
Kathrein Scala MF-950B	205.00	13	4,064	0.001	1	16
Kathrein Scala MF-950B	200.00	13	3,957	0.001	1	16
Generic 3' HP Dish	196.20	140	41,743	0.008	9	174
Generic Torque Arm	195.00	500	148,100	0.027	31	620
Samsung RF4440d-13A	184.00	211	58,674	0.011	12	262
Samsung RF4439d-25A	184.00	224	62,346	0.012	13	278
Raycap RCMD-6627-PF-48	184.00	32	8,903	0.002	2	40
Samsung MT6407-77A	184.00	245	68,105	0.012	14	304
Antel BXA-80080/4CF	184.00	29	7,957	0.002	2	35
Andrew SBNHH-1D65A	184.00	123	34,136	0.006	7	152
Andrew SBNHH-1D65A	184.00	123	34,136	0.006	7	152
Antel BXA-80063/6CF	184.00	15	4,145	0.001	1	18
VFA12-HD	184.00	2,214	615,951	0.113	128	2,746
Generic 4' Yagi	167.30	15	3,766	0.001	1	19
Generic Torque Arm	65.00	500	45,249	0.008	9	620
Totals		20,164	5,431,854	1.000	1,125	25,005

FORCE/STRESS SUMMARY

Section 1 – Bolt Elevation 0.0 (ft) and Height 2.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	# Bolt	# Hole	Use % Controls	
	(kip)	Load Case		X	Y	Z								KL/R
L PST - 3" DIA PIPE	-62.42	1.2D + 1.0Di + 1.0Wi N	2	100	100	100	20.69	50.0	97.26	0.00	0.00	0	0	64 Member X
H SAU - 2X1.5X0.25	-1.22	1.2D + 1.0W 210°	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	5 Member Z
D SOL - 5/8" SOLID	-0.47	1.2D + 1.0W 120°	3.606	100	100	100	249.62	36.0	1.11	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use % Controls
	(kip)	Load Case									
H SAU - 2X1.5X0.25	9.16	1.2D + 1.0Ev + 1.0Eh N	36.0	58	26.24	0.00	0.00	0.00	0	0	34 Member
D SOL - 5/8" SOLID	1.22	1.2D + 1.0W 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	12 Member

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Compression	62.98	1.2D + 1.0Di + 1.0Wi 240°	0.00	0	0	

Section 2 – Bolt Elevation 2.0 (ft) and Height 8.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	# Bolt	# Hole	Use % Controls	
	(kip)	Load Case		X	Y	Z								KL/R
L PST - 3" DIA PIPE	-62.45	1.2D + 1.0Di + 1.0Wi 21	3.959	100	100	100	40.95	50.0	88.77	0.00	0.00	0	0	70 Member X
H SAU - 2X1.5X0.25	-1.47	1.2D + 1.0W 90°	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	6 Member Z
D SOL - 5/8" SOLID	-0.08	1.2D + 1.0Di + 1.0Wi 90	4.967	100	100	100	343.86	36.0	0.59	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use % Controls
	(kip)	Load Case									
H SAU - 2X1.5X0.25	0.06	1.2D + 1.0W N	36.0	58	26.24	0.00	0.00	0.00	0	0	0 Member
D SOL - 5/8" SOLID	2.49	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	25 Member

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 3 – Bolt Elevation 10.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	# Bolt	# Hole	Use % Controls	
	(kip)	Load Case		X	Y	Z								KL/R
L PST - 3" DIA PIPE	-59.79	1.2D + 1.0Di + 1.0Wi 21	3.967	100	100	100	41.04	50.0	88.72	0.00	0.00	0	0	67 Member X
H SAU - 2X1.5X0.25	-1.13	1.2D + 1.0W 90°	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	4 Member Z
D SOL - 5/8" SOLID	-0.10	1.2D + 1.0W 210°	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use % Controls
	(kip)	Load Case									
H SAU - 2X1.5X0.25	0.02	1.2D + 1.0W N	36.0	58	26.24	0.00	0.00	0.00	0	0	0 Member
D SOL - 5/8" SOLID	2.00	1.2D + 1.0W 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	20 Member

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 4 – Bolt Elevation 30.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	# Bolt	# Hole	Use % Controls	
	(kip)	Load Case		X	Y	Z								KL/R
L PST - 3" DIA PIPE	-59.50	1.2D + 1.0Di + 1.0Wi 18	3.967	100	100	100	41.04	50.0	88.72	0.00	0.00	0	0	67 Member X
H SAU - 2X1.5X0.25	-0.28	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	1 Member Z

FORCE/STRESS SUMMARY

D SOL - 5/8" SOLID	-0.15	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X
									Shear	Bear	Blk Shear				
	Pu	Load Case		Fy	Fu	ΦcPn		ΦRnv	ΦRn	Φt Pn		#	#	Use	Controls
	(kip)			(ksi)	(ksi)	(kip)		(kip)	(kip)	(kip)		Bolt	Hole	%	
Max Tension Member															
H SAU - 2X1.5X0.25	0.05	1.2D + 1.0W N		36.0	58	26.24		0.00	0.00	0.00		0	0	0	Member
D SOL - 5/8" SOLID	0.75	1.2D + 1.0W 90°		36.0	58	9.94		0.00	0.00	0.00		0	0	7	Member
Max Splice Forces	Pu	Load Case		ΦRnt	Use	Num									
	(kip)			(kip)	%	Bolts			Bolt Type						

Section 5 – Bolt Elevation 50.0 (ft) and Height 20.00 (ft)

	Pu	Load Case	Len	Bracing %		Fy	Φc Pn	ΦRnv	ΦRn	#	#	Use	Controls	
	(kip)		(ft)	X Y Z	KL/R	(ksi)	(kip)	(kip)	(kip)	Bolt	Hole	%		
Max Compression														
L PST - 3" DIA PIPE	-57.70	1.2D + 1.0Di + 1.0Wi 90	3.967	100 100 100	41.04	50.0	88.72	0.00	0.00	0	0	65	Member X	
H SAU - 2X1.5X0.25	-2.79	1.2D + 1.0W N	3	100 100 100	73.12	36.0	24.26	0.00	0.00	0	0	11	Member Z	
D SOL - 5/8" SOLID	-0.36	1.2D + 1.0W N	4.974	100 100 100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X	
Max Tension Member	Pu	Load Case		Fy	Fu	ΦcPn		ΦRnv	ΦRn	Φt Pn	#	#	Use	Controls
	(kip)			(ksi)	(ksi)	(kip)		(kip)	(kip)	(kip)	Bolt	Hole	%	
H SAU - 2X1.5X0.25	3.69	1.2D + 1.0W 300°		36.0	58	26.24		0.00	0.00	0.00	0	0	14	Member
D SOL - 5/8" SOLID	1.65	1.2D + 1.0W 210°		36.0	58	9.94		0.00	0.00	0.00	0	0	16	Member
Max Splice Forces	Pu	Load Case		ΦRnt	Use	Num								
	(kip)			(kip)	%	Bolts			Bolt Type					

Section 6 – Bolt Elevation 70.0 (ft) and Height 20.00 (ft)

	Pu	Load Case	Len	Bracing %		Fy	Φc Pn	ΦRnv	ΦRn	#	#	Use	Controls	
	(kip)		(ft)	X Y Z	KL/R	(ksi)	(kip)	(kip)	(kip)	Bolt	Hole	%		
Max Compression														
L PST - 3" DIA PIPE	-53.66	1.2D + 1.0Di + 1.0Wi 12	3.967	100 100 100	41.04	50.0	88.72	0.00	0.00	0	0	60	Member X	
H SAU - 2X1.5X0.25	-0.75	1.2D + 1.0W 210°	3	100 100 100	73.12	36.0	24.26	0.00	0.00	0	0	3	Member Z	
D SOL - 5/8" SOLID	-0.06	1.2D + 1.0W N	4.974	100 100 100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X	
Max Tension Member	Pu	Load Case		Fy	Fu	ΦcPn		ΦRnv	ΦRn	Φt Pn	#	#	Use	Controls
	(kip)			(ksi)	(ksi)	(kip)		(kip)	(kip)	(kip)	Bolt	Hole	%	
H SAU - 2X1.5X0.25	0.07	1.2D + 1.0W N		36.0	58	26.24		0.00	0.00	0.00	0	0	0	Member
D SOL - 5/8" SOLID	1.43	1.2D + 1.0W 210°		36.0	58	9.94		0.00	0.00	0.00	0	0	14	Member
Max Splice Forces	Pu	Load Case		ΦRnt	Use	Num								
	(kip)			(kip)	%	Bolts			Bolt Type					

Section 7 – Bolt Elevation 90.0 (ft) and Height 20.00 (ft)

	Pu	Load Case	Len	Bracing %		Fy	Φc Pn	ΦRnv	ΦRn	#	#	Use	Controls	
	(kip)		(ft)	X Y Z	KL/R	(ksi)	(kip)	(kip)	(kip)	Bolt	Hole	%		
Max Compression														
L PST - 2-1/2" DIA PIPE	-51.39	1.2D + 1.0Di + 1.0Wi 21	3.967	100 100 100	50.27	50.0	63.75	0.00	0.00	0	0	80	Member X	
H SAU - 2X1.5X0.25	-0.50	1.2D + 1.0W N	3	100 100 100	73.12	36.0	24.26	0.00	0.00	0	0	2	Member Z	
D SOL - 5/8" SOLID	-0.13	1.2D + 1.0W 90°	4.974	100 100 100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X	
Max Tension Member	Pu	Load Case		Fy	Fu	ΦcPn		ΦRnv	ΦRn	Φt Pn	#	#	Use	Controls
	(kip)			(ksi)	(ksi)	(kip)		(kip)	(kip)	(kip)	Bolt	Hole	%	
H SAU - 2X1.5X0.25	0.12	1.2D + 1.0W N		36.0	58	26.24		0.00	0.00	0.00	0	0	0	Member
D SOL - 5/8" SOLID	1.23	1.2D + 1.0W 210°		36.0	58	9.94		0.00	0.00	0.00	0	0	12	Member

FORCE/STRESS SUMMARY

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 8 – Bolt Elevation 110.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
				X	Y	Z						ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	-47.98	1.2D + 1.0Di + 1.0Wi	12	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	0	0	75	Member X		
H SAU - 2X1.5X0.25	-0.52	1.2D + 1.0W 60°	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	0	2	Member Z			
D SOL - 5/8" SOLID	-0.04	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	0	Member X			

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
									ΦR_{nv}	ΦR_n						
H SAU - 2X1.5X0.25	0.04	1.2D + 1.0W N	36.0	58	26.24	0.00	0.00	0.00	0	0	0	0	0	0	Member	
D SOL - 5/8" SOLID	1.89	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	19	Member				

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 9 – Bolt Elevation 130.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
				X	Y	Z						ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	-44.05	1.2D + 1.0Di + 1.0Wi N	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	0	69	Member X			
H SAU - 2X1.5X0.25	-0.76	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	0	3	Member Z			
D SOL - 5/8" SOLID	-0.22	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X				

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
									ΦR_{nv}	ΦR_n						
H SAU - 2X1.5X0.25	0.01	1.2D + 1.0W N	36.0	58	26.24	0.00	0.00	0.00	0	0	0	0	0	0	Member	
D SOL - 5/8" SOLID	1.46	1.2D + 1.0W 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	14	Member				

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 10 – Bolt Elevation 150.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
				X	Y	Z						ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	-43.66	1.2D + 1.0Di + 1.0Wi	90	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	0	68	Member X			
H SAU - 2X1.5X0.25	-1.99	1.2D + 1.0W 90°	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	8	Member Z				
D SOL - 5/8" SOLID	-0.26	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X				

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
									ΦR_{nv}	ΦR_n						
H SAU - 2X1.5X0.25	0.00	1.2D + 1.0W N	36.0	58	26.24	0.00	0.00	0.00	0	0	0	0	0	0	Member	
D SOL - 5/8" SOLID	3.64	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	36	Member				

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 11 – Bolt Elevation 170.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
				X	Y	Z						ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	-42.88	1.2D + 1.0W 180°	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	0	67	Member X			

FORCE/STRESS SUMMARY

Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	ΦtPn (kip)	# Bolt	# Hole	Use %	Controls			
H SAU - 2X1.5X0.25	-4.16	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	17	Member Z
D SOL - 5/8" SOLID	-0.32	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X

Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	ΦtPn (kip)	# Bolt	# Hole	Use %	Controls
Max Tension Member												
H SAU - 2X1.5X0.25	2.25	1.2D + 1.0W 60°	36.0	58	26.24	0.00	0.00	0.00	0	0	8	Member
D SOL - 5/8" SOLID	3.51	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	35	Member

Member	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces						

Section 12 – Bolt Elevation 190.0 (ft) and Height 20.00 (ft)

Member	Pu (kip)	Load Case	Len (ft)	Bracing %	Fy (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	# Bolt	# Hole	Use %	Controls			
Max Compression															
L PST - 2-1/2" DIA PIPE	-28.47	1.2D + 1.0Di + 1.0Wi N	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	44	Member X
H SAU - 2X1.5X0.25	-2.17	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	8	Member Z
D SOL - 5/8" SOLID	-0.46	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X

Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	ΦtPn (kip)	# Bolt	# Hole	Use %	Controls
Max Tension Member												
H SAU - 2X1.5X0.25	6.09	1.2D + 1.0W 60°	36.0	58	26.24	0.00	0.00	0.00	0	0	23	Member
D SOL - 5/8" SOLID	3.98	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	40	Member

Member	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces						

Section 13 – Bolt Elevation 210.0 (ft) and Height 20.00 (ft)

Member	Pu (kip)	Load Case	Len (ft)	Bracing %	Fy (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	# Bolt	# Hole	Use %	Controls			
Max Compression															
L PST - 2-1/2" DIA PIPE	-28.98	1.2D + 1.0Di + 1.0Wi N	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	45	Member X
H SAU - 2X1.5X0.25	-0.77	1.2D + 1.0W 120°	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	3	Member Z
D SOL - 5/8" SOLID	-0.06	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X

Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	ΦtPn (kip)	# Bolt	# Hole	Use %	Controls
Max Tension Member												
H SAU - 2X1.5X0.25	0.27	1.2D + 1.0W 210°	36.0	58	26.24	0.00	0.00	0.00	0	0	1	Member
D SOL - 5/8" SOLID	1.23	1.2D + 1.0W 120°	36.0	58	9.94	0.00	0.00	0.00	0	0	12	Member

Member	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces						

Section 14 – Bolt Elevation 230.0 (ft) and Height 20.00 (ft)

Member	Pu (kip)	Load Case	Len (ft)	Bracing %	Fy (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	# Bolt	# Hole	Use %	Controls			
Max Compression															
L PST - 2-1/2" DIA PIPE	-25.95	1.2D + 1.0Di + 1.0Wi N	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	40	Member X
H SAU - 2X1.5X0.25	-0.41	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	1	Member Z
D SOL - 5/8" SOLID	-0.03	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X

Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	ΦtPn (kip)	# Bolt	# Hole	Use %	Controls
Max Tension Member												
H SAU - 2X1.5X0.25	0.19	1.2D + 1.0W N	36.0	58	26.24	0.00	0.00	0.00	0	0	0	Member
D SOL - 5/8" SOLID	0.79	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	7	Member

FORCE/STRESS SUMMARY

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 15 – Bolt Elevation 250.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
				X	Y	Z						ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	-32.76	1.2D + 1.0W 120°	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	0	0	51	Member X		
H SAU - 2X1.5X0.25	-3.56	1.2D + 1.0W 120°	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	0	14	Member Z			
D SOL - 5/8" SOLID	-0.08	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	0	Member X			

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
									ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	3.11	1.2D + 1.0W 180°	50.0	65	76.68	0.00	0.00	0.00	0	0	4	Member				
H SAU - 2X1.5X0.25	5.91	1.2D + 1.0W 60°	36.0	58	26.24	0.00	0.00	0.00	0	0	22	Member				
D SOL - 5/8" SOLID	3.11	1.2D + 1.0W 120°	36.0	58	9.94	0.00	0.00	0.00	0	0	31	Member				

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	3.32	1.2D + 1.0W 210°	0.00	0	0	

Section 16 – Bolt Elevation 270.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
				X	Y	Z						ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	-29.80	1.2D + 1.0W 120°	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	0	0	46	Member X		
H SAU - 2X1.5X0.25	-1.43	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	0	5	Member Z			
D SOL - 5/8" SOLID	-0.29	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	0	Member X			

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
									ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	3.15	1.2D + 1.0W 180°	50.0	65	76.68	0.00	0.00	0.00	0	0	4	Member				
H SAU - 2X1.5X0.25	0.66	1.2D + 1.0Ev + 1.0Eh N	36.0	58	26.24	0.00	0.00	0.00	0	0	2	Member				
D SOL - 5/8" SOLID	2.45	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	24	Member				

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	3.32	1.2D + 1.0W 210°	61.02	5	3	5/8 A325

Section 17 – Bolt Elevation 290.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
				X	Y	Z						ΦR_{nv}	ΦR_n						
L PST - 2-1/2" DIA PIPE	-19.13	1.2D + 1.0W 120°	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	0	0	30	Member X		
H SAU - 2X1.5X0.25	-0.78	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	0	3	Member Z			
D SOL - 5/8" SOLID	-0.30	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	0	Member X			

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
									ΦR_{nv}	ΦR_n						
H SAU - 2X1.5X0.25	0.63	1.2D + 1.0Ev + 1.0Eh N	36.0	58	26.24	0.00	0.00	0.00	0	0	2	Member				
D SOL - 5/8" SOLID	1.35	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	13	Member				

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 18 – Bolt Elevation 310.0 (ft) and Height 20.00 (ft)

FORCE/STRESS SUMMARY

Max Compression	Pu		Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case		X	Y	Z			KL/R	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)					
L PST - 2-1/2" DIA PIPE	-22.25	1.2D + 1.0W 240°	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	34	Member X	
H SAU - 2X1.5X0.25	-2.24	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	9	Member Z	
D SOL - 5/8" SOLID	-0.39	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X	

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case										
L PST - 2-1/2" DIA PIPE	14.54	1.2D + 1.0W 180°	50.0	65	76.68	0.00	0.00	0	0	18	Member	
H SAU - 2X1.5X0.25	0.60	1.2D + 1.0Ev + 1.0Eh N	36.0	58	26.24	0.00	0.00	0.00	0	0	2	Member
D SOL - 5/8" SOLID	3.80	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	38	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	10.19	1.2D + 1.0W 180°	0.00	0	0	

Section 19 – Bolt Elevation 330.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case		X	Y	Z			KL/R	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)					
L PST - 2-1/2" DIA PIPE	-11.94	1.2D + 1.0W 240°	3.967	100	100	100	50.27	50.0	63.75	0.00	0.00	0	0	18	Member X	
H SAU - 2X1.5X0.25	-1.93	1.2D + 1.0W N	3	100	100	100	73.12	36.0	24.26	0.00	0.00	0	0	7	Member Z	
D SOL - 5/8" SOLID	-0.31	1.2D + 1.0W N	4.974	100	100	100	344.32	36.0	0.58	0.00	0.00	0	0	0	Member X	

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case										
L PST - 2-1/2" DIA PIPE	10.24	1.2D + 1.0W 180°	50.0	65	76.68	0.00	0.00	0	0	13	Member	
H SAU - 2X1.5X0.25	0.27	1.2D + 1.0W 60°	36.0	58	26.24	0.00	0.00	0.00	0	0	1	Member
D SOL - 5/8" SOLID	3.32	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	33	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	10.19	1.2D + 1.0W 180°	61.02	17	3	5/8 A325

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0W Normal	1.73	0.00	0	1	0.00	47.79	-0.22
	1.73	0.00	120	1a	0.38	29.82	-0.91
	1.73	0.00	240	1b	-0.37	30.02	-0.89
	167.00	-12.00	0	A1	0.00	-1.37	2.83
	164.00	2.00	120	A1a	7.49	-3.81	-4.63
	171.00	0.00	240	A1b	-7.51	-3.76	-4.66
	197.00	-17.00	0	A2	0.00	-2.28	1.96
	202.00	3.00	120	A2a	13.04	-12.08	-8.38
	204.00	-6.00	240	A2b	-13.05	-12.64	-8.40
	244.00	-17.00	0	A3	0.00	-0.93	0.79
	251.00	5.00	120	A3a	2.61	-2.65	-1.76
	253.00	-7.00	240	A3b	-2.62	-2.79	-1.77
	309.00	-20.00	0	A4	0.00	-4.15	3.54
	301.00	6.00	120	A4a	13.81	-14.98	-9.32
	300.00	-7.00	240	A4b	-13.80	-15.70	-9.33
1.2D + 1.0W 60°	1.73	0.00	0	1	-0.17	46.66	-0.11
	1.73	0.00	120	1a	-0.18	46.47	-0.09
	1.73	0.00	240	1b	-1.37	23.93	-0.79
	167.00	-12.00	0	A1	-0.28	-2.91	5.60
	164.00	2.00	120	A1a	4.70	-2.47	-3.03
	171.00	0.00	240	A1b	-9.81	-4.92	-5.66
	197.00	-17.00	0	A2	-0.74	-7.15	7.47
	202.00	3.00	120	A2a	6.14	-6.20	-4.39
	204.00	-6.00	240	A2b	-18.44	-17.46	-10.64
	244.00	-17.00	0	A3	-0.22	-1.91	1.82
	251.00	5.00	120	A3a	1.50	-1.72	-1.12
	253.00	-7.00	240	A3b	-3.50	-3.55	-2.02
	309.00	-20.00	0	A4	-1.20	-9.79	9.41
	301.00	6.00	120	A4a	7.62	-9.25	-5.74
	300.00	-7.00	240	A4b	-18.86	-20.64	-10.90
1.2D + 1.0W 90°	1.73	0.00	0	1	-0.32	39.23	0.14
	1.73	0.00	120	1a	-0.21	48.32	0.04
	1.73	0.00	240	1b	-1.41	25.57	-0.20
	167.00	-12.00	0	A1	-0.35	-3.70	7.19
	164.00	2.00	120	A1a	3.16	-1.59	-1.95
	171.00	0.00	240	A1b	-9.15	-4.52	-5.16
	197.00	-17.00	0	A2	-0.92	-10.26	11.22
	202.00	3.00	120	A2a	3.03	-3.27	-2.14
	204.00	-6.00	240	A2b	-16.91	-15.77	-9.35
	244.00	-17.00	0	A3	-0.27	-2.41	2.43
	251.00	5.00	120	A3a	0.91	-1.10	-0.65
	253.00	-7.00	240	A3b	-3.28	-3.26	-1.77
	309.00	-20.00	0	A4	-1.48	-12.73	12.93
	301.00	6.00	120	A4a	4.51	-5.74	-3.25
	300.00	-7.00	240	A4b	-17.62	-18.87	-9.51
1.2D + 1.0W 120°	1.73	0.00	0	1	-0.73	29.73	0.62
	1.73	0.00	120	1a	-0.18	48.15	0.13
	1.73	0.00	240	1b	-0.89	29.46	0.28
	167.00	-12.00	0	A1	-0.27	-4.42	8.71
	164.00	2.00	120	A1a	2.43	-1.11	-1.40
	171.00	0.00	240	A1b	-7.65	-3.68	-4.10
	197.00	-17.00	0	A2	-0.74	-13.30	14.81
	202.00	3.00	120	A2a	1.13	-1.43	-0.65
	204.00	-6.00	240	A2b	-13.18	-12.03	-6.74
	244.00	-17.00	0	A3	-0.22	-2.87	3.01
	251.00	5.00	120	A3a	0.60	-0.72	-0.35
	253.00	-7.00	240	A3b	-2.75	-2.69	-1.33
	309.00	-20.00	0	A4	-1.20	-15.52	16.28
	301.00	6.00	120	A4a	2.81	-3.55	-1.62
	300.00	-7.00	240	A4b	-14.65	-15.32	-7.10
1.2D + 1.0W 180°	1.73	0.00	0	1	0.01	23.50	1.62
	1.73	0.00	120	1a	-0.01	47.35	0.20
	1.73	0.00	240	1b	0.01	47.36	0.20
	167.00	-12.00	0	A1	0.00	-5.82	11.28
	164.00	2.00	120	A1a	4.95	-2.45	-2.54
	171.00	0.00	240	A1b	-4.97	-2.42	-2.54
	197.00	-17.00	0	A2	0.00	-19.19	21.27
	202.00	3.00	120	A2a	6.76	-6.10	-3.06

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down			
					*Fx (kip)	*Fy (kip)	*Fz (kip)	
1.2D + 1.0W 210°	204.00	-6.00	240	A2b	-6.78	-6.40	-3.06	
	244.00	-17.00	0	A3	0.00	-3.80	4.00	
	251.00	5.00	120	A3a	1.70	-1.70	-0.73	
	253.00	-7.00	240	A3b	-1.71	-1.79	-0.73	
	309.00	-20.00	0	A4	0.00	-20.73	21.67	
	301.00	6.00	120	A4a	8.64	-9.10	-3.65	
	300.00	-7.00	240	A4b	-8.58	-9.49	-3.60	
	1.73	0.00	0	1	0.54	25.62	1.33	
	1.73	0.00	120	1a	0.28	39.57	0.21	
	1.73	0.00	240	1b	0.14	48.85	0.16	
	167.00	-12.00	0	A1	0.11	-5.39	10.51	
	164.00	2.00	120	A1a	6.36	-3.12	-3.27	
	171.00	0.00	240	A1b	-3.27	-1.57	-1.76	
	197.00	-17.00	0	A2	0.37	-17.50	19.46	
	202.00	3.00	120	A2a	10.23	-8.93	-4.84	
	204.00	-6.00	240	A2b	-3.43	-3.49	-1.58	
	244.00	-17.00	0	A3	0.11	-3.52	3.72	
	251.00	5.00	120	A3a	2.30	-2.19	-1.01	
	253.00	-7.00	240	A3b	-1.03	-1.17	-0.47	
	309.00	-20.00	0	A4	0.59	-19.17	20.13	
301.00	6.00	120	A4a	11.97	-12.05	-5.25		
300.00	-7.00	240	A4b	-5.05	-6.02	-2.25		
1.2D + 1.0W 240°	1.73	0.00	0	1	0.73	29.93	0.61	
	1.73	0.00	120	1a	0.89	29.36	0.29	
	1.73	0.00	240	1b	0.18	48.46	0.13	
	167.00	-12.00	0	A1	0.27	-4.44	8.73	
	164.00	2.00	120	A1a	7.65	-3.75	-4.11	
	171.00	0.00	240	A1b	-2.46	-1.10	-1.42	
	197.00	-17.00	0	A2	0.75	-13.52	15.05	
	202.00	3.00	120	A2a	13.34	-11.68	-6.85	
	204.00	-6.00	240	A2b	-1.32	-1.68	-0.76	
	244.00	-17.00	0	A3	0.22	-2.91	3.05	
	251.00	5.00	120	A3a	2.78	-2.61	-1.35	
	253.00	-7.00	240	A3b	-0.64	-0.80	-0.37	
	309.00	-20.00	0	A4	1.20	-15.81	16.56	
	301.00	6.00	120	A4a	14.88	-14.88	-7.25	
	300.00	-7.00	240	A4b	-2.98	-3.98	-1.72	
	1.2D + 1.0W 300°	1.73	0.00	0	1	0.16	46.41	-0.11
		1.73	0.00	120	1a	1.37	24.14	-0.78
		1.73	0.00	240	1b	0.18	46.25	-0.09
		167.00	-12.00	0	A1	0.28	-2.96	5.68
		164.00	2.00	120	A1a	9.88	-5.03	-5.70
171.00		0.00	240	A1b	-4.79	-2.47	-3.09	
197.00		-17.00	0	A2	0.74	-7.27	7.60	
202.00		3.00	120	A2a	18.53	-16.81	-10.69	
204.00		-6.00	240	A2b	-6.25	-6.61	-4.46	
244.00		-17.00	0	A3	0.22	-1.93	1.83	
251.00		5.00	120	A3a	3.50	-3.41	-2.02	
253.00		-7.00	240	A3b	-1.53	-1.84	-1.14	
309.00		-20.00	0	A4	1.20	-9.92	9.53	
301.00		6.00	120	A4a	18.94	-19.79	-10.93	
300.00		-7.00	240	A4b	-7.65	-9.77	-5.77	
1.2D + 1.0W 330°		1.73	0.00	0	1	0.07	47.99	-0.20
		1.73	0.00	120	1a	0.91	25.27	-1.11
		1.73	0.00	240	1b	0.04	39.64	-0.35
		167.00	-12.00	0	A1	0.12	-1.98	3.85
		164.00	2.00	120	A1a	9.16	-4.65	-5.41
	171.00	0.00	240	A1b	-6.18	-3.16	-3.98	
	197.00	-17.00	0	A2	0.35	-4.11	4.00	
	202.00	3.00	120	A2a	16.90	-15.43	-10.16	
	204.00	-6.00	240	A2b	-9.59	-9.63	-6.62	
	244.00	-17.00	0	A3	0.11	-1.30	1.15	
	251.00	5.00	120	A3a	3.21	-3.17	-1.98	
	253.00	-7.00	240	A3b	-2.08	-2.34	-1.52	
	309.00	-20.00	0	A4	0.58	-6.33	5.71	
	301.00	6.00	120	A4a	17.26	-18.25	-10.61	
	300.00	-7.00	240	A4b	-10.66	-12.80	-7.83	
	1.2D + 1.0Di + 1.0Wi Normal	1.73	0.00	0	1	0.00	62.47	7.44
		1.73	0.00	120	1a	6.62	55.84	-4.01

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down			
					*Fx (kip)	*Fy (kip)	*Fz (kip)	
1.2D + 1.0Di + 1.0Wi 60°	1.73	0.00	240	1b	-6.61	56.24	-4.01	
	167.00	-12.00	0	A1	0.00	-4.32	9.25	
	164.00	2.00	120	A1a	9.82	-4.53	-5.91	
	171.00	0.00	240	A1b	-9.80	-4.42	-5.92	
	197.00	-17.00	0	A2	0.00	-8.60	10.31	
	202.00	3.00	120	A2a	13.12	-10.91	-8.24	
	204.00	-6.00	240	A2b	-13.16	-11.47	-8.27	
	244.00	-17.00	0	A3	0.00	-2.03	2.24	
	251.00	5.00	120	A3a	3.05	-2.75	-1.99	
	253.00	-7.00	240	A3b	-3.07	-2.90	-2.01	
	309.00	-20.00	0	A4	0.00	-9.99	11.15	
	301.00	6.00	120	A4a	14.03	-13.54	-9.08	
	300.00	-7.00	240	A4b	-14.00	-14.22	-9.07	
	1.2D + 1.0Di + 1.0Wi 90°	1.73	0.00	0	1	0.06	60.87	7.11
		1.73	0.00	120	1a	6.43	59.48	-3.55
1.73		0.00	240	1b	-6.95	53.23	-3.84	
167.00		-12.00	0	A1	-0.22	-4.62	9.81	
164.00		2.00	120	A1a	8.38	-3.87	-5.09	
171.00		0.00	240	A1b	-10.26	-4.61	-5.92	
197.00		-17.00	0	A2	-0.59	-9.89	11.81	
202.00		3.00	120	A2a	9.92	-8.41	-6.40	
204.00		-6.00	240	A2b	-14.86	-12.78	-8.58	
244.00		-17.00	0	A3	-0.21	-2.43	2.70	
251.00		5.00	120	A3a	2.30	-2.19	-1.56	
253.00		-7.00	240	A3b	-3.44	-3.14	-1.99	
309.00		-20.00	0	A4	-0.89	-11.45	12.82	
301.00		6.00	120	A4a	10.71	-10.79	-7.17	
300.00		-7.00	240	A4b	-15.89	-15.67	-9.17	
1.2D + 1.0Di + 1.0Wi 120°	1.73	0.00	0	1	-0.03	59.06	7.44	
	1.73	0.00	120	1a	6.44	61.55	-3.74	
	1.73	0.00	240	1b	-6.95	54.20	-3.70	
	167.00	-12.00	0	A1	-0.28	-5.00	10.64	
	164.00	2.00	120	A1a	8.07	-3.68	-4.76	
	171.00	0.00	240	A1b	-10.26	-4.57	-5.81	
	197.00	-17.00	0	A2	-0.73	-11.30	13.64	
	202.00	3.00	120	A2a	9.08	-7.57	-5.55	
	204.00	-6.00	240	A2b	-14.63	-12.40	-8.12	
	244.00	-17.00	0	A3	-0.25	-2.77	3.15	
	251.00	5.00	120	A3a	2.08	-1.95	-1.31	
	253.00	-7.00	240	A3b	-3.43	-3.08	-1.86	
	309.00	-20.00	0	A4	-1.09	-12.96	14.81	
	301.00	6.00	120	A4a	9.89	-9.84	-6.19	
	300.00	-7.00	240	A4b	-15.77	-15.32	-8.63	
1.2D + 1.0Di + 1.0Wi 180°	1.73	0.00	0	1	-0.15	57.10	7.70	
	1.73	0.00	120	1a	6.45	62.36	-3.72	
	1.73	0.00	240	1b	-6.75	56.69	-3.73	
	167.00	-12.00	0	A1	-0.22	-5.40	11.48	
	164.00	2.00	120	A1a	7.99	-3.60	-4.61	
	171.00	0.00	240	A1b	-10.05	-4.44	-5.54	
	197.00	-17.00	0	A2	-0.59	-12.82	15.58	
	202.00	3.00	120	A2a	8.95	-7.29	-5.16	
	204.00	-6.00	240	A2b	-13.74	-11.47	-7.25	
	244.00	-17.00	0	A3	-0.21	-3.10	3.59	
	251.00	5.00	120	A3a	2.04	-1.86	-1.18	
	253.00	-7.00	240	A3b	-3.27	-2.90	-1.65	
	309.00	-20.00	0	A4	-0.88	-14.48	16.81	
	301.00	6.00	120	A4a	9.78	-9.49	-5.65	
	300.00	-7.00	240	A4b	-14.93	-14.30	-7.63	

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0Di + 1.0Wi 210°	253.00	-7.00	240	A3b	-2.53	-2.32	-1.22
	309.00	-20.00	0	A4	0.00	-15.86	18.40
	301.00	6.00	120	A4a	11.55	-10.77	-5.68
	300.00	-7.00	240	A4b	-11.48	-11.28	-5.63
	1.73	0.00	0	1	0.30	54.70	7.80
	1.73	0.00	120	1a	6.51	57.42	-3.65
	1.73	0.00	240	1b	-6.46	62.81	-3.70
	167.00	-12.00	0	A1	0.09	-5.55	11.81
	164.00	2.00	120	A1a	9.35	-4.21	-5.07
	171.00	0.00	240	A1b	-8.21	-3.61	-4.63
	197.00	-17.00	0	A2	0.28	-13.91	16.87
	202.00	3.00	120	A2a	12.11	-9.59	-6.14
	204.00	-6.00	240	A2b	-9.38	-7.99	-5.09
	244.00	-17.00	0	A3	0.10	-3.28	3.82
	1.2D + 1.0Di + 1.0Wi 240°	251.00	5.00	120	A3a	2.92	-2.49
253.00		-7.00	240	A3b	-2.18	-2.04	-1.14
309.00		-20.00	0	A4	0.42	-15.47	18.00
301.00		6.00	120	A4a	13.33	-12.16	-6.47
300.00		-7.00	240	A4b	-10.18	-10.25	-5.39
1.73		0.00	0	1	0.15	56.87	7.71
1.73		0.00	120	1a	6.79	55.66	-3.72
1.73		0.00	240	1b	-6.44	63.03	-3.72
167.00		-12.00	0	A1	0.22	-5.39	11.48
164.00		2.00	120	A1a	10.04	-4.54	-5.54
171.00		0.00	240	A1b	-8.05	-3.54	-4.65
197.00		-17.00	0	A2	0.59	-12.82	15.59
202.00		3.00	120	A2a	13.70	-10.90	-7.23
204.00		-6.00	240	A2b	-8.93	-7.66	-5.15
244.00		-17.00	0	A3	0.20	-3.09	3.58
1.2D + 1.0Di + 1.0Wi 300°	251.00	5.00	120	A3a	3.24	-2.74	-1.63
	253.00	-7.00	240	A3b	-2.05	-1.97	-1.18
	309.00	-20.00	0	A4	0.88	-14.46	16.78
	301.00	6.00	120	A4a	14.93	-13.60	-7.64
	300.00	-7.00	240	A4b	-9.67	-9.91	-5.58
	1.73	0.00	0	1	0.06	60.45	7.49
	1.73	0.00	120	1a	6.87	52.59	-3.98
	1.73	0.00	240	1b	-6.46	60.13	-3.79
	167.00	-12.00	0	A1	0.22	-4.64	9.85
	164.00	2.00	120	A1a	10.27	-4.72	-5.93
	171.00	0.00	240	A1b	-8.42	-3.80	-5.12
	197.00	-17.00	0	A2	0.59	-9.90	11.82
	202.00	3.00	120	A2a	14.85	-12.21	-8.57
	204.00	-6.00	240	A2b	-9.94	-8.85	-6.42
	244.00	-17.00	0	A3	0.21	-2.43	2.69
1.2D + 1.0Di + 1.0Wi 330°	251.00	5.00	120	A3a	3.40	-2.97	-1.96
	253.00	-7.00	240	A3b	-2.32	-2.32	-1.58
	309.00	-20.00	0	A4	0.88	-11.45	12.83
	301.00	6.00	120	A4a	15.90	-14.93	-9.18
	300.00	-7.00	240	A4b	-10.64	-11.31	-7.14
	1.73	0.00	0	1	0.00	61.20	7.43
	1.73	0.00	120	1a	6.72	52.99	-4.19
	1.73	0.00	240	1b	-6.40	59.53	-3.72
	167.00	-12.00	0	A1	0.09	-4.39	9.35
	164.00	2.00	120	A1a	10.16	-4.68	-5.97
	171.00	0.00	240	A1b	-9.14	-4.15	-5.61
	197.00	-17.00	0	A2	0.28	-8.97	10.70
	202.00	3.00	120	A2a	14.38	-11.87	-8.61
	204.00	-6.00	240	A2b	-11.42	-10.11	-7.44
	244.00	-17.00	0	A3	0.10	-2.15	2.36
1.2D + 1.0Ev + 1.0Eh Normal	251.00	5.00	120	A3a	3.30	-2.91	-2.02
	253.00	-7.00	240	A3b	-2.68	-2.62	-1.84
	309.00	-20.00	0	A4	0.43	-10.37	11.54
	301.00	6.00	120	A4a	15.32	-14.52	-9.31
	300.00	-7.00	240	A4b	-12.20	-12.73	-8.27
	1.73	0.00	0	1	0.00	31.97	15.96
	1.73	0.00	120	1a	13.89	31.24	-7.98
	1.73	0.00	240	1b	-13.89	31.30	-7.98
	167.00	-12.00	0	A1	0.00	-4.64	9.10
	164.00	2.00	120	A1a	7.97	-3.99	-4.60

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down			
					*Fx (kip)	*Fy (kip)	*Fz (kip)	
1.2D + 1.0Ev + 1.0Eh 60°	171.00	0.00	240	A1b	-7.97	-3.92	-4.60	
	197.00	-17.00	0	A2	0.00	-8.24	9.27	
	202.00	3.00	120	A2a	8.37	-7.45	-4.83	
	204.00	-6.00	240	A2b	-8.38	-7.81	-4.84	
	244.00	-17.00	0	A3	0.00	-1.47	1.51	
	251.00	5.00	120	A3a	1.40	-1.39	-0.81	
	253.00	-7.00	240	A3b	-1.39	-1.45	-0.80	
	309.00	-20.00	0	A4	0.00	-7.70	8.00	
	301.00	6.00	120	A4a	7.37	-7.76	-4.26	
	300.00	-7.00	240	A4b	-7.35	-8.13	-4.25	
	1.73	0.00	0	1	0.00	31.97	15.96	
	1.73	0.00	120	1a	13.88	31.23	-7.98	
	1.73	0.00	240	1b	-13.89	31.29	-7.98	
	167.00	-12.00	0	A1	0.00	-4.65	9.13	
	164.00	2.00	120	A1a	7.93	-3.97	-4.57	
	171.00	0.00	240	A1b	-7.99	-3.93	-4.61	
	197.00	-17.00	0	A2	0.00	-8.38	9.41	
	202.00	3.00	120	A2a	8.11	-7.19	-4.68	
	204.00	-6.00	240	A2b	-8.50	-7.93	-4.91	
	1.2D + 1.0Ev + 1.0Eh 90°	244.00	-17.00	0	A3	0.00	-1.49	1.53
251.00		5.00	120	A3a	1.35	-1.34	-0.78	
253.00		-7.00	240	A3b	-1.41	-1.47	-0.82	
309.00		-20.00	0	A4	0.00	-7.86	8.15	
301.00		6.00	120	A4a	7.06	-7.41	-4.08	
300.00		-7.00	240	A4b	-7.51	-8.31	-4.33	
1.73		0.00	0	1	-0.01	32.14	15.93	
1.73		0.00	120	1a	13.93	30.70	-8.00	
1.73		0.00	240	1b	-13.89	31.65	-7.94	
167.00		-12.00	0	A1	0.00	-4.67	9.15	
164.00		2.00	120	A1a	7.89	-3.95	-4.55	
171.00		0.00	240	A1b	-8.00	-3.94	-4.61	
197.00		-17.00	0	A2	0.00	-8.52	9.55	
202.00		3.00	120	A2a	8.01	-7.09	-4.62	
204.00		-6.00	240	A2b	-8.47	-7.90	-4.88	
244.00		-17.00	0	A3	0.00	-1.52	1.56	
251.00		5.00	120	A3a	1.34	-1.33	-0.77	
253.00		-7.00	240	A3b	-1.40	-1.46	-0.81	
309.00		-20.00	0	A4	0.00	-8.03	8.32	
301.00		6.00	120	A4a	6.95	-7.27	-4.01	
300.00	-7.00	240	A4b	-7.47	-8.26	-4.31		
1.2D + 1.0Ev + 1.0Eh 120°	1.73	0.00	0	1	0.00	32.15	15.96	
	1.73	0.00	120	1a	13.88	31.06	-7.97	
	1.73	0.00	240	1b	-13.89	31.28	-7.99	
	167.00	-12.00	0	A1	0.00	-4.68	9.18	
	164.00	2.00	120	A1a	7.90	-3.95	-4.56	
	171.00	0.00	240	A1b	-7.97	-3.92	-4.59	
	197.00	-17.00	0	A2	0.00	-8.65	9.69	
	202.00	3.00	120	A2a	7.98	-7.06	-4.60	
	204.00	-6.00	240	A2b	-8.37	-7.79	-4.83	
	244.00	-17.00	0	A3	0.00	-1.54	1.58	
	251.00	5.00	120	A3a	1.33	-1.32	-0.77	
	253.00	-7.00	240	A3b	-1.39	-1.44	-0.80	
	309.00	-20.00	0	A4	0.00	-8.21	8.49	
	301.00	6.00	120	A4a	6.90	-7.22	-3.98	
	300.00	-7.00	240	A4b	-7.35	-8.13	-4.24	
	1.2D + 1.0Ev + 1.0Eh 180°	1.73	0.00	0	1	0.00	32.27	15.96
		1.73	0.00	120	1a	13.88	31.09	-7.98
		1.73	0.00	240	1b	-13.88	31.12	-7.98
		167.00	-12.00	0	A1	0.00	-4.70	9.21
		164.00	2.00	120	A1a	7.92	-3.96	-4.57
171.00		0.00	240	A1b	-7.91	-3.89	-4.56	
197.00		-17.00	0	A2	0.00	-8.78	9.82	
202.00		3.00	120	A2a	8.11	-7.19	-4.68	
204.00		-6.00	240	A2b	-8.12	-7.54	-4.69	
244.00		-17.00	0	A3	0.00	-1.57	1.61	
251.00		5.00	120	A3a	1.34	-1.33	-0.78	
253.00		-7.00	240	A3b	-1.35	-1.40	-0.78	
309.00		-20.00	0	A4	0.00	-8.40	8.66	
301.00		6.00	120	A4a	7.06	-7.40	-4.07	

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0Ev + 1.0Eh 210°	300.00	-7.00	240	A4b	-7.04	-7.76	-4.06
	1.73	0.00	0	1	-0.01	32.09	15.96
	1.73	0.00	120	1a	13.88	31.32	-7.98
	1.73	0.00	240	1b	-13.88	31.08	-7.98
	167.00	-12.00	0	A1	0.00	-4.69	9.20
	164.00	2.00	120	A1a	7.96	-3.98	-4.59
	171.00	0.00	240	A1b	-7.89	-3.88	-4.55
	197.00	-17.00	0	A2	0.00	-8.76	9.80
	202.00	3.00	120	A2a	8.22	-7.31	-4.74
	204.00	-6.00	240	A2b	-8.03	-7.45	-4.63
	244.00	-17.00	0	A3	0.00	-1.55	1.59
	251.00	5.00	120	A3a	1.37	-1.36	-0.79
	253.00	-7.00	240	A3b	-1.34	-1.39	-0.77
	309.00	-20.00	0	A4	0.00	-8.36	8.63
	1.2D + 1.0Ev + 1.0Eh 240°	301.00	6.00	120	A4a	7.21	-7.58
300.00		-7.00	240	A4b	-6.93	-7.62	-4.00
1.73		0.00	0	1	-0.01	32.11	15.96
1.73		0.00	120	1a	13.88	31.32	-7.98
1.73		0.00	240	1b	-13.88	31.06	-7.98
167.00		-12.00	0	A1	0.00	-4.68	9.18
164.00		2.00	120	A1a	7.98	-4.00	-4.60
171.00		0.00	240	A1b	-7.88	-3.88	-4.55
197.00		-17.00	0	A2	0.00	-8.66	9.70
202.00		3.00	120	A2a	8.36	-7.44	-4.82
204.00		-6.00	240	A2b	-8.00	-7.41	-4.62
244.00		-17.00	0	A3	0.00	-1.54	1.58
251.00		5.00	120	A3a	1.39	-1.38	-0.80
253.00		-7.00	240	A3b	-1.34	-1.39	-0.77
1.2D + 1.0Ev + 1.0Eh 300°		309.00	-20.00	0	A4	0.00	-8.22
	301.00	6.00	120	A4a	7.37	-7.76	-4.25
	300.00	-7.00	240	A4b	-6.90	-7.59	-3.98
	1.73	0.00	0	1	0.00	31.86	15.97
	1.73	0.00	120	1a	13.88	31.38	-7.98
	1.73	0.00	240	1b	-13.88	31.27	-7.97
	167.00	-12.00	0	A1	0.00	-4.65	9.12
	164.00	2.00	120	A1a	8.00	-4.01	-4.62
	171.00	0.00	240	A1b	-7.92	-3.89	-4.57
	197.00	-17.00	0	A2	0.00	-8.38	9.41
	202.00	3.00	120	A2a	8.49	-7.57	-4.90
	204.00	-6.00	240	A2b	-8.14	-7.55	-4.70
	244.00	-17.00	0	A3	0.00	-1.50	1.54
	251.00	5.00	120	A3a	1.41	-1.40	-0.81
	253.00	-7.00	240	A3b	-1.35	-1.40	-0.78
1.2D + 1.0Ev + 1.0Eh 330°	309.00	-20.00	0	A4	0.00	-7.87	8.16
	301.00	6.00	120	A4a	7.52	-7.93	-4.34
	300.00	-7.00	240	A4b	-7.07	-7.78	-4.08
	1.73	0.00	0	1	0.00	32.01	15.95
	1.73	0.00	120	1a	13.89	31.24	-7.98
	1.73	0.00	240	1b	-13.89	31.26	-7.98
	167.00	-12.00	0	A1	0.00	-4.64	9.11
	164.00	2.00	120	A1a	7.99	-4.00	-4.61
	171.00	0.00	240	A1b	-7.94	-3.91	-4.58
	197.00	-17.00	0	A2	0.00	-8.28	9.31
	202.00	3.00	120	A2a	8.46	-7.54	-4.88
	204.00	-6.00	240	A2b	-8.26	-7.68	-4.77
	244.00	-17.00	0	A3	0.00	-1.48	1.52
	251.00	5.00	120	A3a	1.41	-1.40	-0.81
	253.00	-7.00	240	A3b	-1.37	-1.42	-0.79
0.9D - 1.0Ev + 1.0Eh Normal	309.00	-20.00	0	A4	0.00	-7.74	8.03
	301.00	6.00	120	A4a	7.48	-7.89	-4.32
	300.00	-7.00	240	A4b	-7.21	-7.96	-4.17
	1.73	0.00	0	1	0.00	29.62	16.09
	1.73	0.00	120	1a	13.99	28.98	-8.04
	1.73	0.00	240	1b	-13.99	29.06	-8.04
	167.00	-12.00	0	A1	0.00	-4.67	9.16
	164.00	2.00	120	A1a	8.01	-4.01	-4.62
	171.00	0.00	240	A1b	-8.01	-3.95	-4.62
197.00	-17.00	0	A2	0.00	-8.38	9.41	
202.00	3.00	120	A2a	8.49	-7.56	-4.90	

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
0.9D - 1.0Ev + 1.0Eh 60°	204.00	-6.00	240	A2b	-8.49	-7.92	-4.90
	244.00	-17.00	0	A3	0.00	-1.48	1.52
	251.00	5.00	120	A3a	1.42	-1.41	-0.82
	253.00	-7.00	240	A3b	-1.42	-1.48	-0.82
	309.00	-20.00	0	A4	0.00	-7.78	8.08
	301.00	6.00	120	A4a	7.46	-7.86	-4.31
	300.00	-7.00	240	A4b	-7.45	-8.24	-4.30
	1.73	0.00	0	1	0.01	29.73	16.09
	1.73	0.00	120	1a	13.99	28.90	-8.04
	1.73	0.00	240	1b	-13.99	29.02	-8.05
	167.00	-12.00	0	A1	0.00	-4.68	9.18
	164.00	2.00	120	A1a	7.96	-3.98	-4.59
	171.00	0.00	240	A1b	-8.04	-3.96	-4.64
	197.00	-17.00	0	A2	0.00	-8.51	9.55
	0.9D - 1.0Ev + 1.0Eh 90°	202.00	3.00	120	A2a	8.24	-7.32
204.00		-6.00	240	A2b	-8.60	-8.03	-4.96
244.00		-17.00	0	A3	0.00	-1.51	1.55
251.00		5.00	120	A3a	1.37	-1.36	-0.79
253.00		-7.00	240	A3b	-1.44	-1.49	-0.83
309.00		-20.00	0	A4	0.00	-7.96	8.25
301.00		6.00	120	A4a	7.15	-7.51	-4.13
300.00		-7.00	240	A4b	-7.58	-8.40	-4.38
1.73		0.00	0	1	0.01	29.73	16.09
1.73		0.00	120	1a	13.98	28.88	-8.04
1.73		0.00	240	1b	-13.99	29.04	-8.05
167.00		-12.00	0	A1	0.00	-4.70	9.21
164.00		2.00	120	A1a	7.94	-3.97	-4.58
171.00		0.00	240	A1b	-8.02	-3.95	-4.63
197.00		-17.00	0	A2	0.00	-8.64	9.68
0.9D - 1.0Ev + 1.0Eh 120°	202.00	3.00	120	A2a	8.14	-7.22	-4.70
	204.00	-6.00	240	A2b	-8.58	-8.00	-4.95
	244.00	-17.00	0	A3	0.00	-1.53	1.57
	251.00	5.00	120	A3a	1.35	-1.34	-0.78
	253.00	-7.00	240	A3b	-1.43	-1.49	-0.83
	309.00	-20.00	0	A4	0.00	-8.14	8.41
	301.00	6.00	120	A4a	7.05	-7.38	-4.07
	300.00	-7.00	240	A4b	-7.54	-8.34	-4.35
	1.73	0.00	0	1	0.01	29.82	16.08
	1.73	0.00	120	1a	13.99	28.80	-8.04
	1.73	0.00	240	1b	-13.99	29.02	-8.05
	167.00	-12.00	0	A1	0.00	-4.71	9.23
	164.00	2.00	120	A1a	7.94	-3.97	-4.58
	171.00	0.00	240	A1b	-8.01	-3.95	-4.62
	197.00	-17.00	0	A2	0.00	-8.77	9.82
0.9D - 1.0Ev + 1.0Eh 180°	202.00	3.00	120	A2a	8.10	-7.18	-4.68
	204.00	-6.00	240	A2b	-8.48	-7.91	-4.89
	244.00	-17.00	0	A3	0.00	-1.57	1.61
	251.00	5.00	120	A3a	1.34	-1.33	-0.77
	253.00	-7.00	240	A3b	-1.41	-1.47	-0.81
	309.00	-20.00	0	A4	0.00	-8.32	8.59
	301.00	6.00	120	A4a	6.99	-7.32	-4.03
	300.00	-7.00	240	A4b	-7.43	-8.22	-4.29
	1.73	0.00	0	1	0.00	29.97	16.09
	1.73	0.00	120	1a	13.98	28.81	-8.05
	1.73	0.00	240	1b	-13.98	28.86	-8.05
	167.00	-12.00	0	A1	0.00	-4.73	9.26
	164.00	2.00	120	A1a	7.97	-3.99	-4.59
	171.00	0.00	240	A1b	-7.95	-3.91	-4.59
	197.00	-17.00	0	A2	0.00	-8.92	9.97
0.9D - 1.0Ev + 1.0Eh 210°	202.00	3.00	120	A2a	8.21	-7.29	-4.74
	204.00	-6.00	240	A2b	-8.24	-7.65	-4.75
	244.00	-17.00	0	A3	0.00	-1.59	1.62
	251.00	5.00	120	A3a	1.37	-1.36	-0.79
	253.00	-7.00	240	A3b	-1.37	-1.42	-0.79
	309.00	-20.00	0	A4	0.00	-8.49	8.75
	301.00	6.00	120	A4a	7.15	-7.50	-4.13
	300.00	-7.00	240	A4b	-7.13	-7.86	-4.12
	1.73	0.00	0	1	-0.05	29.95	16.06
	1.73	0.00	120	1a	14.03	28.86	-8.06

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
0.9D - 1.0Ev + 1.0Eh 240°	1.73	0.00	240	1b	-13.99	28.84	-8.01
	167.00	-12.00	0	A1	0.00	-4.72	9.25
	164.00	2.00	120	A1a	7.99	-4.00	-4.61
	171.00	0.00	240	A1b	-7.93	-3.90	-4.58
	197.00	-17.00	0	A2	0.00	-8.88	9.93
	202.00	3.00	120	A2a	8.34	-7.42	-4.81
	204.00	-6.00	240	A2b	-8.15	-7.57	-4.70
	244.00	-17.00	0	A3	0.00	-1.58	1.62
	251.00	5.00	120	A3a	1.39	-1.38	-0.80
	253.00	-7.00	240	A3b	-1.36	-1.41	-0.78
	309.00	-20.00	0	A4	0.00	-8.45	8.71
	301.00	6.00	120	A4a	7.30	-7.67	-4.21
	300.00	-7.00	240	A4b	-7.02	-7.73	-4.05
	1.73	0.00	0	1	0.01	29.70	16.09
	1.73	0.00	120	1a	13.98	29.10	-8.05
	1.73	0.00	240	1b	-13.99	28.86	-8.03
0.9D - 1.0Ev + 1.0Eh 300°	167.00	-12.00	0	A1	0.00	-4.71	9.23
	164.00	2.00	120	A1a	8.02	-4.02	-4.63
	171.00	0.00	240	A1b	-7.93	-3.90	-4.58
	197.00	-17.00	0	A2	0.00	-8.78	9.83
	202.00	3.00	120	A2a	8.47	-7.54	-4.89
	204.00	-6.00	240	A2b	-8.13	-7.54	-4.69
	244.00	-17.00	0	A3	0.00	-1.57	1.60
	251.00	5.00	120	A3a	1.42	-1.41	-0.82
	253.00	-7.00	240	A3b	-1.34	-1.39	-0.78
	309.00	-20.00	0	A4	0.00	-8.31	8.58
	301.00	6.00	120	A4a	7.45	-7.85	-4.30
	300.00	-7.00	240	A4b	-7.00	-7.70	-4.04
	1.73	0.00	0	1	-0.01	29.71	16.09
	1.73	0.00	120	1a	13.99	29.06	-8.05
	1.73	0.00	240	1b	-13.99	28.90	-8.04
	0.9D - 1.0Ev + 1.0Eh 330°	167.00	-12.00	0	A1	0.00	-4.68
164.00		2.00	120	A1a	8.04	-4.03	-4.64
171.00		0.00	240	A1b	-7.96	-3.92	-4.59
197.00		-17.00	0	A2	0.00	-8.52	9.56
202.00		3.00	120	A2a	8.60	-7.68	-4.96
204.00		-6.00	240	A2b	-8.25	-7.67	-4.76
244.00		-17.00	0	A3	0.00	-1.51	1.55
251.00		5.00	120	A3a	1.43	-1.43	-0.83
253.00		-7.00	240	A3b	-1.37	-1.43	-0.79
309.00		-20.00	0	A4	0.00	-7.97	8.26
301.00		6.00	120	A4a	7.61	-8.02	-4.39
300.00		-7.00	240	A4b	-7.15	-7.88	-4.13
1.73		0.00	0	1	0.00	29.66	16.09
1.73		0.00	120	1a	13.99	29.00	-8.04
1.73		0.00	240	1b	-13.99	29.00	-8.04
1.0D + 1.0W Service Normal		167.00	-12.00	0	A1	0.00	-4.67
	164.00	2.00	120	A1a	8.03	-4.02	-4.63
	171.00	0.00	240	A1b	-7.99	-3.93	-4.61
	197.00	-17.00	0	A2	0.00	-8.42	9.45
	202.00	3.00	120	A2a	8.58	-7.65	-4.95
	204.00	-6.00	240	A2b	-8.37	-7.80	-4.83
	244.00	-17.00	0	A3	0.00	-1.49	1.53
	251.00	5.00	120	A3a	1.43	-1.42	-0.83
	253.00	-7.00	240	A3b	-1.40	-1.45	-0.81
	309.00	-20.00	0	A4	0.00	-7.85	8.14
	301.00	6.00	120	A4a	7.57	-7.98	-4.37
	300.00	-7.00	240	A4b	-7.29	-8.05	-4.21
	1.73	0.00	0	1	0.00	33.45	15.71
	1.73	0.00	120	1a	14.04	29.35	-8.07
	1.73	0.00	240	1b	-14.04	29.27	-8.07
	167.00	-12.00	0	A1	0.00	-4.24	8.33
164.00	2.00	120	A1a	8.38	-4.21	-4.91	
171.00	0.00	240	A1b	-8.39	-4.15	-4.92	
197.00	-17.00	0	A2	0.00	-7.00	7.80	
202.00	3.00	120	A2a	9.32	-8.35	-5.57	
204.00	-6.00	240	A2b	-9.33	-8.75	-5.58	
244.00	-17.00	0	A3	0.00	-1.30	1.30	
251.00	5.00	120	A3a	1.59	-1.59	-0.98	

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.0D + 1.0W Service 60°	253.00	-7.00	240	A3b	-1.60	-1.67	-0.98
	309.00	-20.00	0	A4	0.00	-6.80	6.92
	301.00	6.00	120	A4a	8.31	-8.81	-5.09
	300.00	-7.00	240	A4b	-8.29	-9.22	-5.09
	1.73	0.00	0	1	-0.01	32.17	15.85
	1.73	0.00	120	1a	13.82	31.81	-7.91
	1.73	0.00	240	1b	-14.18	27.88	-8.14
	167.00	-12.00	0	A1	-0.06	-4.47	8.75
	164.00	2.00	120	A1a	7.55	-3.80	-4.43
	171.00	0.00	240	A1b	-8.76	-4.33	-5.05
	197.00	-17.00	0	A2	-0.17	-7.86	8.75
	202.00	3.00	120	A2a	7.48	-6.75	-4.51
	204.00	-6.00	240	A2b	-10.20	-9.52	-5.89
	244.00	-17.00	0	A3	-0.05	-1.47	1.49
	1.0D + 1.0W Service 90°	251.00	5.00	120	A3a	1.29	-1.33
253.00		-7.00	240	A3b	-1.74	-1.78	-1.00
309.00		-20.00	0	A4	-0.27	-7.66	7.82
301.00		6.00	120	A4a	6.67	-7.23	-4.15
300.00		-7.00	240	A4b	-9.15	-10.01	-5.28
1.73		0.00	0	1	0.10	31.24	16.04
1.73		0.00	120	1a	13.62	32.84	-7.90
1.73		0.00	240	1b	-14.15	28.01	-8.14
167.00		-12.00	0	A1	-0.08	-4.70	9.20
164.00		2.00	120	A1a	7.30	-3.66	-4.24
171.00		0.00	240	A1b	-8.66	-4.26	-4.96
197.00		-17.00	0	A2	-0.21	-8.69	9.73
202.00		3.00	120	A2a	6.86	-6.16	-4.05
204.00		-6.00	240	A2b	-10.00	-9.28	-5.68
244.00		-17.00	0	A3	-0.06	-1.62	1.66
1.0D + 1.0W Service 120°	251.00	5.00	120	A3a	1.19	-1.22	-0.71
	253.00	-7.00	240	A3b	-1.71	-1.74	-0.96
	309.00	-20.00	0	A4	-0.33	-8.50	8.78
	301.00	6.00	120	A4a	6.16	-6.65	-3.70
	300.00	-7.00	240	A4b	-9.02	-9.80	-5.07
	1.73	0.00	0	1	0.03	29.72	16.19
	1.73	0.00	120	1a	13.59	33.54	-7.84
	1.73	0.00	240	1b	-14.02	29.07	-8.13
	167.00	-12.00	0	A1	-0.06	-4.93	9.66
	164.00	2.00	120	A1a	7.18	-3.58	-4.14
	171.00	0.00	240	A1b	-8.42	-4.13	-4.78
	197.00	-17.00	0	A2	-0.17	-9.57	10.76
	202.00	3.00	120	A2a	6.65	-5.92	-3.84
	204.00	-6.00	240	A2b	-9.38	-8.65	-5.22
	244.00	-17.00	0	A3	-0.05	-1.77	1.83
1.0D + 1.0W Service 180°	251.00	5.00	120	A3a	1.14	-1.16	-0.66
	253.00	-7.00	240	A3b	-1.63	-1.66	-0.89
	309.00	-20.00	0	A4	-0.26	-9.34	9.74
	301.00	6.00	120	A4a	6.01	-6.41	-3.47
	300.00	-7.00	240	A4b	-8.54	-9.21	-4.63
	1.73	0.00	0	1	0.00	28.14	16.35
	1.73	0.00	120	1a	13.73	32.17	-7.95
	1.73	0.00	240	1b	-13.74	31.70	-7.97
	167.00	-12.00	0	A1	0.00	-5.13	10.05
	164.00	2.00	120	A1a	7.61	-3.80	-4.32
	171.00	0.00	240	A1b	-7.61	-3.74	-4.32
	197.00	-17.00	0	A2	0.00	-10.49	11.77
	202.00	3.00	120	A2a	7.58	-6.70	-4.18
	204.00	-6.00	240	A2b	-7.58	-7.01	-4.18
	244.00	-17.00	0	A3	0.00	-1.89	1.96
1.0D + 1.0W Service 210°	251.00	5.00	120	A3a	1.33	-1.32	-0.71
	253.00	-7.00	240	A3b	-1.34	-1.39	-0.72
	309.00	-20.00	0	A4	0.00	-10.12	10.57
	301.00	6.00	120	A4a	6.90	-7.21	-3.69
	300.00	-7.00	240	A4b	-6.88	-7.54	-3.67
	1.73	0.00	0	1	0.01	28.46	16.33
	1.73	0.00	120	1a	13.86	30.37	-8.11
	1.73	0.00	240	1b	-13.64	33.30	-7.83
	167.00	-12.00	0	A1	0.03	-5.07	9.95
	164.00	2.00	120	A1a	8.03	-4.00	-4.54

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down			
					*Fx (kip)	*Fy (kip)	*Fz (kip)	
1.0D + 1.0W Service 240°	171.00	0.00	240	A1b	-7.32	-3.59	-4.19	
	197.00	-17.00	0	A2	0.08	-10.27	11.53	
	202.00	3.00	120	A2a	8.47	-7.45	-4.65	
	204.00	-6.00	240	A2b	-6.95	-6.46	-3.92	
	244.00	-17.00	0	A3	0.02	-1.86	1.94	
	251.00	5.00	120	A3a	1.49	-1.46	-0.79	
	253.00	-7.00	240	A3b	-1.21	-1.27	-0.67	
	309.00	-20.00	0	A4	0.13	-9.92	10.36	
	301.00	6.00	120	A4a	7.76	-8.00	-4.12	
	300.00	-7.00	240	A4b	-6.25	-6.95	-3.46	
	1.73	0.00	0	1	-0.03	29.61	16.20	
	1.73	0.00	120	1a	14.02	29.06	-8.13	
	1.73	0.00	240	1b	-13.59	33.59	-7.84	
	167.00	-12.00	0	A1	0.06	-4.93	9.66	
	164.00	2.00	120	A1a	8.41	-4.20	-4.78	
	171.00	0.00	240	A1b	-7.22	-3.54	-4.16	
	197.00	-17.00	0	A2	0.17	-9.63	10.82	
	202.00	3.00	120	A2a	9.40	-8.28	-5.24	
	204.00	-6.00	240	A2b	-6.68	-6.23	-3.85	
	244.00	-17.00	0	A3	0.05	-1.77	1.83	
251.00	5.00	120	A3a	1.63	-1.58	-0.89		
253.00	-7.00	240	A3b	-1.15	-1.23	-0.67		
309.00	-20.00	0	A4	0.26	-9.35	9.75		
301.00	6.00	120	A4a	8.58	-8.82	-4.66		
300.00	-7.00	240	A4b	-5.99	-6.72	-3.46		
1.0D + 1.0W Service 300°	1.73	0.00	0	1	0.01	32.20	15.85	
	1.73	0.00	120	1a	14.19	27.75	-8.14	
	1.73	0.00	240	1b	-13.82	31.89	-7.91	
	167.00	-12.00	0	A1	0.06	-4.49	8.77	
	164.00	2.00	120	A1a	8.75	-4.39	-5.05	
	171.00	0.00	240	A1b	-7.58	-3.75	-4.45	
	197.00	-17.00	0	A2	0.17	-7.89	8.78	
	202.00	3.00	120	A2a	10.24	-9.13	-5.91	
	204.00	-6.00	240	A2b	-7.53	-7.13	-4.54	
	244.00	-17.00	0	A3	0.05	-1.48	1.50	
	251.00	5.00	120	A3a	1.73	-1.69	-1.00	
	253.00	-7.00	240	A3b	-1.30	-1.40	-0.81	
	309.00	-20.00	0	A4	0.26	-7.69	7.85	
	301.00	6.00	120	A4a	9.18	-9.58	-5.30	
	300.00	-7.00	240	A4b	-6.66	-7.59	-4.14	
	1.0D + 1.0W Service 330°	1.73	0.00	0	1	0.02	33.07	15.75
		1.73	0.00	120	1a	14.14	28.18	-8.16
		1.73	0.00	240	1b	-13.94	30.68	-7.95
		167.00	-12.00	0	A1	0.03	-4.32	8.46
		164.00	2.00	120	A1a	8.67	-4.35	-5.03
171.00		0.00	240	A1b	-7.97	-3.95	-4.69	
197.00		-17.00	0	A2	0.08	-7.27	8.09	
202.00		3.00	120	A2a	10.00	-8.93	-5.86	
204.00		-6.00	240	A2b	-8.39	-7.92	-5.09	
244.00		-17.00	0	A3	0.02	-1.36	1.36	
251.00		5.00	120	A3a	1.69	-1.67	-1.00	
253.00		-7.00	240	A3b	-1.45	-1.55	-0.91	
309.00		-20.00	0	A4	0.13	-7.07	7.18	
301.00		6.00	120	A4a	8.93	-9.37	-5.30	
300.00		-7.00	240	A4b	-7.43	-8.39	-4.66	

ASSET: # 207945, N. Stonington

STANDARD ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.: 13677777_C3_04

GUY ANCHOR DESIGN LOADS

Radius (ft)	Drop (ft)	Azimuth (deg)	Uplift (kip)	Shear (kip)
164.00	2.00	120	5.03	11.86
167.00	-12.00	0	5.82	11.81
171.00	0.00	240	4.92	11.85
197.00	-17.00	0	19.19	21.27
202.00	3.00	120	16.81	21.39
204.00	-6.00	240	17.46	21.29
244.00	-17.00	0	3.80	4.00
251.00	5.00	120	3.41	4.04
253.00	-7.00	240	3.55	4.04
300.00	-7.00	240	20.64	21.78
301.00	6.00	120	19.79	21.87
309.00	-20.00	0	20.73	21.67

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0W Normal	65.95	1/2 EHS	A1a	T1	16.14	3.41	21
		1/2 EHS	A1	T1	16.14	1.46	9
		1/2 EHS	A1b	T1a	16.14	3.37	21
		1/2 EHS	A1a	T1a	16.14	3.39	21
		1/2 EHS	A1	T1b	16.14	1.46	9
		1/2 EHS	A1b	T1b	16.14	3.41	21
	98.02	7/16 EHS	A1	36	12.48	0.36	3
		7/16 EHS	A1a	36a	12.48	2.94	24
		7/16 EHS	A1b	36b	12.48	2.96	24
	125.95	1/2 EHS	A2	45	16.14	0.4	2
		1/2 EHS	A2a	45a	16.14	4.17	26
		1/2 EHS	A2b	45b	16.14	4.22	26
	154.05	9/16 EHS	A2	56	21	0.68	3
		9/16 EHS	A2a	56a	21	5.87	28
		9/16 EHS	A2b	56b	21	6	29
	194.05	1/2 EHS	A2	T5	16.14	1.18	7
		1/2 EHS	A2a	T5	16.14	5.1	32
		1/2 EHS	A2a	T5a	16.14	4.94	31
		1/2 EHS	A2b	T5a	16.14	4.97	31
		1/2 EHS	A2	T5b	16.14	1.16	7
		1/2 EHS	A2b	T5b	16.14	5.27	33
	230.08	7/16 EHS	A3	83	12.48	1.32	11
		7/16 EHS	A3a	83a	12.48	4.2	34
		7/16 EHS	A3b	83b	12.48	4.31	35
265.95	1/2 EHS	A4	T7	16.14	1.76	11	
	1/2 EHS	A4a	T7	16.14	5.38	33	
	1/2 EHS	A4b	T7a	16.14	5.53	34	
	1/2 EHS	A4a	T7a	16.14	5.46	34	
	1/2 EHS	A4b	T7b	16.14	5.62	35	
	1/2 EHS	A4	T7b	16.14	1.71	11	
321.98	3/4 EHS	A4	114	34.98	2.67	8	
	3/4 EHS	A4a	114a	34.98	12.22	35	
	3/4 EHS	A4b	114b	34.98	12.42	36	
1.2D + 1.0W 60°	65.95	1/2 EHS	A1a	T1	16.14	2.31	14
		1/2 EHS	A1	T1	16.14	2.4	15
		1/2 EHS	A1a	T1a	16.14	2.18	14
		1/2 EHS	A1b	T1a	16.14	4.25	26
		1/2 EHS	A1	T1b	16.14	2.25	14
		1/2 EHS	A1b	T1b	16.14	4.24	26
	98.02	7/16 EHS	A1	36	12.48	1.81	14
		7/16 EHS	A1a	36a	12.48	1.74	14
		7/16 EHS	A1b	36b	12.48	4.01	32
	125.95	1/2 EHS	A2	45	16.14	2.43	15
		1/2 EHS	A2a	45a	16.14	2.36	15
		1/2 EHS	A2b	45b	16.14	5.59	35
	154.05	9/16 EHS	A2	56	21	2.96	14
		9/16 EHS	A2a	56a	21	2.71	13
		9/16 EHS	A2b	56b	21	8.3	40
	194.05	1/2 EHS	A2	T5	16.14	2.81	17
		1/2 EHS	A2a	T5	16.14	2.63	16
		1/2 EHS	A2a	T5a	16.14	2.46	15
		1/2 EHS	A2b	T5a	16.14	7.06	44
		1/2 EHS	A2	T5b	16.14	2.61	16
		1/2 EHS	A2b	T5b	16.14	7.04	44
	230.08	7/16 EHS	A3	83	12.48	2.75	22
		7/16 EHS	A3a	83a	12.48	2.63	21
		7/16 EHS	A3b	83b	12.48	5.47	44
	265.95	1/2 EHS	A4	T7	16.14	3.88	24
		1/2 EHS	A4a	T7	16.14	3.69	23
		1/2 EHS	A4a	T7a	16.14	3.62	22
		1/2 EHS	A4b	T7a	16.14	6.88	43
		1/2 EHS	A4b	T7b	16.14	6.96	43
		1/2 EHS	A4	T7b	16.14	3.7	23
321.98	3/4 EHS	A4	114	34.98	6.75	19	
	3/4 EHS	A4a	114a	34.98	6.62	19	
	3/4 EHS	A4b	114b	34.98	16.85	48	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0W 90°	65.95	1/2 EHS	A1	T1	16.14	2.93	18
		1/2 EHS	A1a	T1	16.14	1.64	10
		1/2 EHS	A1a	T1a	16.14	1.6	10
		1/2 EHS	A1b	T1a	16.14	3.95	24
		1/2 EHS	A1b	T1b	16.14	3.97	25
		1/2 EHS	A1	T1b	16.14	2.82	17
	98.02	7/16 EHS	A1	36	12.48	2.48	20
		7/16 EHS	A1a	36a	12.48	0.91	7
		7/16 EHS	A1b	36b	12.48	3.65	29
	125.95	1/2 EHS	A2	45	16.14	3.46	21
		1/2 EHS	A2a	45a	16.14	1.13	7
		1/2 EHS	A2b	45b	16.14	5.13	32
	154.05	9/16 EHS	A2	56	21	4.51	21
		9/16 EHS	A2a	56a	21	1.28	6
		9/16 EHS	A2b	56b	21	7.49	36
	194.05	1/2 EHS	A2	T5	16.14	4	25
		1/2 EHS	A2a	T5	16.14	1.51	9
		1/2 EHS	A2b	T5a	16.14	6.45	40
		1/2 EHS	A2a	T5a	16.14	1.4	9
		1/2 EHS	A2	T5b	16.14	3.7	23
		1/2 EHS	A2b	T5b	16.14	6.33	39
	230.08	7/16 EHS	A3	83	12.48	3.53	28
		7/16 EHS	A3a	83a	12.48	1.66	13
		7/16 EHS	A3b	83b	12.48	5.04	40
	265.95	1/2 EHS	A4	T7	16.14	4.84	30
		1/2 EHS	A4a	T7	16.14	2.4	15
		1/2 EHS	A4a	T7a	16.14	2.34	14
		1/2 EHS	A4b	T7a	16.14	6.33	39
		1/2 EHS	A4	T7b	16.14	4.68	29
		1/2 EHS	A4b	T7b	16.14	6.48	40
321.98	3/4 EHS	A4	114	34.98	9.38	27	
	3/4 EHS	A4a	114a	34.98	3.89	11	
	3/4 EHS	A4b	114b	34.98	15.38	44	
1.2D + 1.0W 120°	65.95	1/2 EHS	A1a	T1	16.14	1.41	9
		1/2 EHS	A1	T1	16.14	3.49	22
		1/2 EHS	A1a	T1a	16.14	1.43	9
		1/2 EHS	A1b	T1a	16.14	3.38	21
		1/2 EHS	A1b	T1b	16.14	3.32	21
		1/2 EHS	A1	T1b	16.14	3.44	21
	98.02	7/16 EHS	A1	36	12.48	2.98	24
		7/16 EHS	A1a	36a	12.48	0.28	2
		7/16 EHS	A1b	36b	12.48	2.86	23
	125.95	1/2 EHS	A2	45	16.14	4.19	26
		1/2 EHS	A2a	45a	16.14	0.07	0
		1/2 EHS	A2b	45b	16.14	4.04	25
	154.05	9/16 EHS	A2	56	21	5.99	29
		9/16 EHS	A2a	56a	21	0.38	2
		9/16 EHS	A2b	56b	21	5.67	27
	194.05	1/2 EHS	A2	T5	16.14	5.18	32
		1/2 EHS	A2a	T5	16.14	0.92	6
		1/2 EHS	A2b	T5a	16.14	5.05	31
		1/2 EHS	A2a	T5a	16.14	0.92	6
		1/2 EHS	A2	T5b	16.14	5.01	31
		1/2 EHS	A2b	T5b	16.14	4.75	29
	230.08	7/16 EHS	A3	83	12.48	4.26	34
		7/16 EHS	A3a	83a	12.48	1.09	9
		7/16 EHS	A3b	83b	12.48	4.17	33
	265.95	1/2 EHS	A4	T7	16.14	5.52	34
		1/2 EHS	A4a	T7	16.14	1.54	10
		1/2 EHS	A4b	T7a	16.14	5.46	34
		1/2 EHS	A4a	T7a	16.14	1.54	10
		1/2 EHS	A4	T7b	16.14	5.52	34
		1/2 EHS	A4b	T7b	16.14	5.42	34
321.98	3/4 EHS	A4	114	34.98	12.19	35	
	3/4 EHS	A4a	114a	34.98	2.36	7	
	3/4 EHS	A4b	114b	34.98	12.15	35	
1.2D + 1.0W 180°	65.95	1/2 EHS	A1	T1	16.14	4.35	27
		1/2 EHS	A1a	T1	16.14	2.16	13

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1/2 EHS	A1a	T1a	16.14	2.32	14
		1/2 EHS	A1b	T1a	16.14	2.32	14
		1/2 EHS	A1b	T1b	16.14	2.17	13
		1/2 EHS	A1	T1b	16.14	4.35	27
	98.02	7/16 EHS	A1	36	12.48	4.15	33
		7/16 EHS	A1a	36a	12.48	1.72	14
		7/16 EHS	A1b	36b	12.48	1.72	14
	125.95	1/2 EHS	A2	45	16.14	5.82	36
		1/2 EHS	A2a	45a	16.14	2.32	14
		1/2 EHS	A2b	45b	16.14	2.35	15
	154.05	9/16 EHS	A2	56	21	8.77	42
		9/16 EHS	A2a	56a	21	2.68	13
		9/16 EHS	A2b	56b	21	2.75	13
	194.05	1/2 EHS	A2	T5	16.14	7.22	45
		1/2 EHS	A2a	T5	16.14	2.42	15
		1/2 EHS	A2a	T5a	16.14	2.59	16
		1/2 EHS	A2b	T5a	16.14	2.68	17
		1/2 EHS	A2b	T5b	16.14	2.46	15
		1/2 EHS	A2	T5b	16.14	7.32	45
	230.08	7/16 EHS	A3	83	12.48	5.62	45
		7/16 EHS	A3a	83a	12.48	2.6	21
		7/16 EHS	A3b	83b	12.48	2.67	21
	265.95	1/2 EHS	A4	T7	16.14	6.91	43
		1/2 EHS	A4a	T7	16.14	3.56	22
		1/2 EHS	A4b	T7a	16.14	3.77	23
		1/2 EHS	A4a	T7a	16.14	3.66	23
		1/2 EHS	A4	T7b	16.14	7.01	43
		1/2 EHS	A4b	T7b	16.14	3.59	22
	321.98	3/4 EHS	A4	114	34.98	16.78	48
		3/4 EHS	A4a	114a	34.98	6.5	19
		3/4 EHS	A4b	114b	34.98	6.6	19
1.2D + 1.0W 210°	65.95	1/2 EHS	A1a	T1	16.14	2.72	17
		1/2 EHS	A1	T1	16.14	4.09	25
		1/2 EHS	A1a	T1a	16.14	2.85	18
		1/2 EHS	A1b	T1a	16.14	1.65	10
		1/2 EHS	A1b	T1b	16.14	1.57	10
		1/2 EHS	A1	T1b	16.14	4.07	25
	98.02	7/16 EHS	A1	36	12.48	3.81	31
		7/16 EHS	A1a	36a	12.48	2.36	19
		7/16 EHS	A1b	36b	12.48	0.92	7
	125.95	1/2 EHS	A2	45	16.14	5.36	33
		1/2 EHS	A2a	45a	16.14	3.33	21
		1/2 EHS	A2b	45b	16.14	1.18	7
	154.05	9/16 EHS	A2	56	21	7.99	38
		9/16 EHS	A2a	56a	21	4.21	20
		9/16 EHS	A2b	56b	21	1.33	6
	194.05	1/2 EHS	A2	T5	16.14	6.59	41
		1/2 EHS	A2a	T5	16.14	3.49	22
		1/2 EHS	A2b	T5a	16.14	1.58	10
		1/2 EHS	A2a	T5a	16.14	3.79	23
		1/2 EHS	A2	T5b	16.14	6.71	42
		1/2 EHS	A2b	T5b	16.14	1.46	9
	230.08	7/16 EHS	A3	83	12.48	5.22	42
		7/16 EHS	A3a	83a	12.48	3.42	27
		7/16 EHS	A3b	83b	12.48	1.72	14
	265.95	1/2 EHS	A4	T7	16.14	6.52	40
		1/2 EHS	A4a	T7	16.14	4.56	28
		1/2 EHS	A4b	T7a	16.14	2.51	16
		1/2 EHS	A4a	T7a	16.14	4.63	29
		1/2 EHS	A4b	T7b	16.14	2.36	15
		1/2 EHS	A4	T7b	16.14	6.53	40
	321.98	3/4 EHS	A4	114	34.98	15.47	44
		3/4 EHS	A4a	114a	34.98	9.23	26
		3/4 EHS	A4b	114b	34.98	3.97	11
1.2D + 1.0W 240°	65.95	1/2 EHS	A1	T1	16.14	3.44	21
		1/2 EHS	A1a	T1	16.14	3.33	21
		1/2 EHS	A1b	T1a	16.14	1.44	9
		1/2 EHS	A1a	T1a	16.14	3.4	21

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0W 300°	98.02	1/2 EHS	A1	T1b	16.14	3.49	22	
		1/2 EHS	A1b	T1b	16.14	1.42	9	
	125.95	7/16 EHS	A1	36	12.48	3.01	24	
		7/16 EHS	A1a	36a	12.48	2.86	23	
	154.05	7/16 EHS	A1b	36b	12.48	0.29	2	
		1/2 EHS	A2	45	16.14	4.26	26	
	194.05	1/2 EHS	A2a	45a	16.14	4.04	25	
		1/2 EHS	A2b	45b	16.14	0.16	1	
		9/16 EHS	A2	56	21	6.1	29	
		9/16 EHS	A2a	56a	21	5.65	27	
	230.08	9/16 EHS	A2b	56b	21	0.48	2	
		1/2 EHS	A2	T5	16.14	5.05	31	
		1/2 EHS	A2a	T5	16.14	4.75	29	
		1/2 EHS	A2b	T5a	16.14	1.01	6	
		1/2 EHS	A2a	T5a	16.14	4.99	31	
		1/2 EHS	A2	T5b	16.14	5.29	33	
	265.95	1/2 EHS	A2b	T5b	16.14	1	6	
		7/16 EHS	A3	83	12.48	4.32	35	
		7/16 EHS	A3a	83a	12.48	4.14	33	
		7/16 EHS	A3b	83b	12.48	1.18	9	
		1/2 EHS	A4a	T7	16.14	5.41	33	
		1/2 EHS	A4	T7	16.14	5.57	35	
	321.98	1/2 EHS	A4a	T7a	16.14	5.35	33	
		1/2 EHS	A4b	T7a	16.14	1.7	11	
		1/2 EHS	A4	T7b	16.14	5.65	35	
		1/2 EHS	A4b	T7b	16.14	1.65	10	
		3/4 EHS	A4	114	34.98	12.41	35	
		3/4 EHS	A4a	114a	34.98	12.15	35	
	65.95	3/4 EHS	A4b	114b	34.98	2.57	7	
		1/2 EHS	A1a	T1	16.14	4.3	27	
		1/2 EHS	A1	T1	16.14	2.27	14	
		1/2 EHS	A1a	T1a	16.14	4.31	27	
		1/2 EHS	A1b	T1a	16.14	2.22	14	
		1/2 EHS	A1	T1b	16.14	2.43	15	
		1/2 EHS	A1b	T1b	16.14	2.35	15	
		98.02	7/16 EHS	A1	36	12.48	1.85	15
		7/16 EHS	A1a	36a	12.48	4	32	
		7/16 EHS	A1b	36b	12.48	1.77	14	
		125.95	1/2 EHS	A2	45	16.14	2.47	15
		154.05	1/2 EHS	A2a	45a	16.14	5.56	34
	1/2 EHS		A2b	45b	16.14	2.41	15	
	9/16 EHS		A2	56	21	3	14	
	9/16 EHS		A2a	56a	21	8.19	39	
	194.05	9/16 EHS	A2b	56b	21	2.84	14	
		1/2 EHS	A2a	T5	16.14	6.9	43	
		1/2 EHS	A2	T5	16.14	2.67	17	
		1/2 EHS	A2b	T5a	16.14	2.55	16	
	230.08	1/2 EHS	A2a	T5a	16.14	7.01	43	
1/2 EHS		A2	T5b	16.14	2.84	18		
1/2 EHS		A2b	T5b	16.14	2.74	17		
7/16 EHS		A3	83	12.48	2.77	22		
265.95	7/16 EHS	A3a	83a	12.48	5.38	43		
	7/16 EHS	A3b	83b	12.48	2.74	22		
	1/2 EHS	A4a	T7	16.14	6.75	42		
	1/2 EHS	A4	T7	16.14	3.76	23		
321.98	1/2 EHS	A4a	T7a	16.14	6.78	42		
	1/2 EHS	A4b	T7a	16.14	3.71	23		
	1/2 EHS	A4	T7b	16.14	3.89	24		
	1/2 EHS	A4b	T7b	16.14	3.83	24		
	3/4 EHS	A4	114	34.98	6.86	20		
	3/4 EHS	A4a	114a	34.98	16.63	48		
65.95	3/4 EHS	A4b	114b	34.98	6.81	19		
	1/2 EHS	A1	T1	16.14	1.68	10		
	1/2 EHS	A1a	T1	16.14	4.01	25		
	1/2 EHS	A1b	T1a	16.14	2.8	17		
	1/2 EHS	A1a	T1a	16.14	4.05	25		
	1/2 EHS	A1	T1b	16.14	1.74	11		
	1/2 EHS	A1b	T1b	16.14	2.9	18		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0Di + 1.0Wi Normal	98.02	7/16 EHS	A1	36	12.48	1.04	8	
		7/16 EHS	A1a	36a	12.48	3.69	30	
		7/16 EHS	A1b	36b	12.48	2.44	20	
	125.95	1/2 EHS	A2	45	16.14	1.3	8	
		1/2 EHS	A2a	45a	16.14	5.16	32	
		1/2 EHS	A2b	45b	16.14	3.43	21	
	154.05	9/16 EHS	A2	56	21	1.5	7	
		9/16 EHS	A2a	56a	21	7.53	36	
		9/16 EHS	A2b	56b	21	4.46	21	
	194.05	1/2 EHS	A2a	T5	16.14	6.38	40	
		1/2 EHS	A2	T5	16.14	1.64	10	
		1/2 EHS	A2b	T5a	16.14	3.66	23	
		1/2 EHS	A2a	T5a	16.14	6.42	40	
		1/2 EHS	A2	T5b	16.14	1.73	11	
		1/2 EHS	A2b	T5b	16.14	4	25	
	230.08	7/16 EHS	A3	83	12.48	1.84	15	
		7/16 EHS	A3a	83a	12.48	5.02	40	
		7/16 EHS	A3b	83b	12.48	3.57	29	
	265.95	1/2 EHS	A4a	T7	16.14	6.22	39	
		1/2 EHS	A4	T7	16.14	2.51	16	
		1/2 EHS	A4a	T7a	16.14	6.42	40	
		1/2 EHS	A4b	T7a	16.14	4.7	29	
		1/2 EHS	A4	T7b	16.14	2.57	16	
		1/2 EHS	A4b	T7b	16.14	4.85	30	
	321.98	3/4 EHS	A4	114	34.98	4.16	12	
		3/4 EHS	A4a	114a	34.98	15.29	44	
		3/4 EHS	A4b	114b	34.98	9.53	27	
		65.95	1/2 EHS	A1	T1	16.14	3.91	24
		1/2 EHS	A1a	T1	16.14	4.52	28	
		1/2 EHS	A1b	T1a	16.14	4.49	28	
		1/2 EHS	A1a	T1a	16.14	4.5	28	
		1/2 EHS	A1	T1b	16.14	3.9	24	
		1/2 EHS	A1b	T1b	16.14	4.51	28	
	98.02	7/16 EHS	A1	36	12.48	3.04	24	
		7/16 EHS	A1a	36a	12.48	3.86	31	
		7/16 EHS	A1b	36b	12.48	3.84	31	
	125.95	1/2 EHS	A2	45	16.14	3.92	24	
		1/2 EHS	A2a	45a	16.14	4.93	31	
		1/2 EHS	A2b	45b	16.14	5.05	31	
	154.05	9/16 EHS	A2	56	21	4.4	21	
	9/16 EHS	A2a	56a	21	5.8	28		
	9/16 EHS	A2b	56b	21	5.9	28		
194.05	1/2 EHS	A2	T5	16.14	3.59	22		
	1/2 EHS	A2a	T5	16.14	5.1	32		
	1/2 EHS	A2b	T5a	16.14	5.06	31		
	1/2 EHS	A2a	T5a	16.14	4.95	31		
	1/2 EHS	A2	T5b	16.14	3.55	22		
	1/2 EHS	A2b	T5b	16.14	5.25	33		
230.08	7/16 EHS	A3	83	12.48	3.66	29		
	7/16 EHS	A3a	83a	12.48	5.14	41		
	7/16 EHS	A3b	83b	12.48	5.29	42		
265.95	1/2 EHS	A4a	T7	16.14	6.58	41		
	1/2 EHS	A4	T7	16.14	5.14	32		
	1/2 EHS	A4a	T7a	16.14	6.58	41		
	1/2 EHS	A4b	T7a	16.14	6.74	42		
	1/2 EHS	A4	T7b	16.14	5.11	32		
	1/2 EHS	A4b	T7b	16.14	6.76	42		
321.98	3/4 EHS	A4	114	34.98	7.68	22		
	3/4 EHS	A4a	114a	34.98	11.07	32		
	3/4 EHS	A4b	114b	34.98	11.27	32		
	65.95	1/2 EHS	A1	T1	16.14	4.13	26	
	1/2 EHS	A1a	T1	16.14	3.99	25		
	1/2 EHS	A1b	T1a	16.14	4.64	29		
	1/2 EHS	A1a	T1a	16.14	3.94	24		
	1/2 EHS	A1b	T1b	16.14	4.61	29		
	1/2 EHS	A1	T1b	16.14	4.04	25		
98.02	7/16 EHS	A1	36	12.48	3.31	27		
	7/16 EHS	A1a	36a	12.48	3.16	25		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0Di + 1.0Wi 90°	125.95	7/16 EHS	A1b	36b	12.48	4.03	32	
		1/2 EHS	A2	45	16.14	4.28	27	
		1/2 EHS	A2a	45a	16.14	4.08	25	
		1/2 EHS	A2b	45b	16.14	5.28	33	
	154.05	9/16 EHS	A2	56	21	4.89	23	
		9/16 EHS	A2a	56a	21	4.51	21	
		9/16 EHS	A2b	56b	21	6.53	31	
		1/2 EHS	A2	T5	16.14	4.27	26	
	194.05	1/2 EHS	A2a	T5	16.14	3.96	25	
		1/2 EHS	A2a	T5a	16.14	3.78	23	
		1/2 EHS	A2b	T5a	16.14	5.78	36	
		1/2 EHS	A2b	T5b	16.14	5.76	36	
		1/2 EHS	A2	T5b	16.14	4.02	25	
		230.08	7/16 EHS	A3	83	12.48	4.27	34
			7/16 EHS	A3a	83a	12.48	4.12	33
			7/16 EHS	A3b	83b	12.48	5.67	45
	265.95	1/2 EHS	A4	T7	16.14	5.75	36	
		1/2 EHS	A4a	T7	16.14	5.48	34	
		1/2 EHS	A4b	T7a	16.14	7.2	45	
		1/2 EHS	A4a	T7a	16.14	5.38	33	
		1/2 EHS	A4	T7b	16.14	5.57	35	
		1/2 EHS	A4b	T7b	16.14	7.19	45	
		321.98	3/4 EHS	A4	114	34.98	8.85	25
			3/4 EHS	A4a	114a	34.98	8.68	25
	3/4 EHS		A4b	114b	34.98	12.59	36	
	65.95	1/2 EHS	A1a	T1	16.14	3.8	24	
		1/2 EHS	A1	T1	16.14	4.43	27	
		1/2 EHS	A1a	T1a	16.14	3.84	24	
		1/2 EHS	A1b	T1a	16.14	4.65	29	
		1/2 EHS	A1b	T1b	16.14	4.56	28	
		1/2 EHS	A1	T1b	16.14	4.32	27	
		98.02	7/16 EHS	A1	36	12.48	3.65	29
			7/16 EHS	A1a	36a	12.48	2.97	24
			7/16 EHS	A1b	36b	12.48	4	32
		125.95	1/2 EHS	A2	45	16.14	4.76	29
			1/2 EHS	A2a	45a	16.14	3.8	24
			1/2 EHS	A2b	45b	16.14	5.25	33
	154.05	9/16 EHS	A2	56	21	5.56	26	
		9/16 EHS	A2a	56a	21	4.14	20	
		9/16 EHS	A2b	56b	21	6.34	30	
194.05	1/2 EHS	A2	T5	16.14	4.86	30		
	1/2 EHS	A2a	T5	16.14	3.5	22		
	1/2 EHS	A2b	T5a	16.14	5.66	35		
	1/2 EHS	A2a	T5a	16.14	3.46	21		
	1/2 EHS	A2	T5b	16.14	4.6	28		
	1/2 EHS	A2b	T5b	16.14	5.51	34		
	230.08	7/16 EHS	A3	83	12.48	4.84	39	
		7/16 EHS	A3a	83a	12.48	3.71	30	
7/16 EHS		A3b	83b	12.48	5.58	45		
265.95	1/2 EHS	A4a	T7	16.14	5.03	31		
	1/2 EHS	A4	T7	16.14	6.39	40		
	1/2 EHS	A4a	T7a	16.14	5.05	31		
	1/2 EHS	A4b	T7a	16.14	7.09	44		
	1/2 EHS	A4	T7b	16.14	6.23	39		
	1/2 EHS	A4b	T7b	16.14	7.11	44		
	321.98	3/4 EHS	A4	114	34.98	10.06	29	
		3/4 EHS	A4a	114a	34.98	7.9	23	
3/4 EHS		A4b	114b	34.98	12.26	35		
65.95	1/2 EHS	A1	T1	16.14	4.68	29		
	1/2 EHS	A1a	T1	16.14	3.76	23		
	1/2 EHS	A1b	T1a	16.14	4.57	28		
	1/2 EHS	A1a	T1a	16.14	3.79	23		
	1/2 EHS	A1	T1b	16.14	4.61	29		
	1/2 EHS	A1b	T1b	16.14	4.46	28		
	98.02	7/16 EHS	A1	36	12.48	4.04	32	
		7/16 EHS	A1a	36a	12.48	2.9	23	
		7/16 EHS	A1b	36b	12.48	3.84	31	
	125.95	1/2 EHS	A2	45	16.14	5.22	32	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Di + 1.0Wi 180°	154.05	1/2 EHS	A2a	45a	16.14	3.76	23
		1/2 EHS	A2b	45b	16.14	5.03	31
		9/16 EHS	A2	56	21	6.28	30
		9/16 EHS	A2a	56a	21	4.07	19
		9/16 EHS	A2b	56b	21	5.89	28
		194.05	1/2 EHS	A2a	T5	16.14	3.32
	230.08	1/2 EHS	A2	T5	16.14	5.46	34
		1/2 EHS	A2b	T5a	16.14	5.29	33
		1/2 EHS	A2a	T5a	16.14	3.32	21
		1/2 EHS	A2b	T5b	16.14	5.04	31
		1/2 EHS	A2	T5b	16.14	5.28	33
		7/16 EHS	A3	83	12.48	5.38	43
	265.95	7/16 EHS	A3a	83a	12.48	3.59	29
		7/16 EHS	A3b	83b	12.48	5.28	42
		1/2 EHS	A4a	T7	16.14	4.92	30
		1/2 EHS	A4	T7	16.14	6.94	43
		1/2 EHS	A4b	T7a	16.14	6.81	42
		1/2 EHS	A4a	T7a	16.14	4.97	31
	321.98	1/2 EHS	A4b	T7b	16.14	6.73	42
		1/2 EHS	A4	T7b	16.14	6.89	43
		3/4 EHS	A4	114	34.98	11.35	32
		3/4 EHS	A4a	114a	34.98	7.58	22
		3/4 EHS	A4b	114b	34.98	11.34	32
		65.95	1/2 EHS	A1a	T1	16.14	3.88
	1/2 EHS		A1	T1	16.14	4.77	30
	1/2 EHS		A1a	T1a	16.14	4.04	25
	1/2 EHS		A1b	T1a	16.14	4.05	25
	1/2 EHS		A1b	T1b	16.14	3.92	24
	1/2 EHS		A1	T1b	16.14	4.79	30
	98.02		7/16 EHS	A1	36	12.48	4.14
7/16 EHS			A1a	36a	12.48	3.22	26
7/16 EHS			A1b	36b	12.48	3.19	26
125.95	1/2 EHS		A2	45	16.14	5.58	35
	1/2 EHS		A2a	45a	16.14	4.06	25
	1/2 EHS		A2b	45b	16.14	4.1	25
154.05	9/16 EHS	A2	56	21	6.99	33	
	9/16 EHS	A2a	56a	21	4.49	21	
	9/16 EHS	A2b	56b	21	4.59	22	
194.05	1/2 EHS	A2	T5	16.14	5.98	37	
	1/2 EHS	A2a	T5	16.14	3.77	23	
	1/2 EHS	A2b	T5a	16.14	4.11	25	
	1/2 EHS	A2a	T5a	16.14	3.99	25	
	1/2 EHS	A2	T5b	16.14	6	37	
	1/2 EHS	A2b	T5b	16.14	3.85	24	
230.08	7/16 EHS	A3	83	12.48	5.76	46	
	7/16 EHS	A3a	83a	12.48	4.11	33	
	7/16 EHS	A3b	83b	12.48	4.24	34	
265.95	1/2 EHS	A4	T7	16.14	7.33	45	
	1/2 EHS	A4a	T7	16.14	5.34	33	
	1/2 EHS	A4b	T7a	16.14	5.64	35	
	1/2 EHS	A4a	T7a	16.14	5.49	34	
	1/2 EHS	A4b	T7b	16.14	5.44	34	
	1/2 EHS	A4	T7b	16.14	7.34	46	
321.98	3/4 EHS	A4	114	34.98	12.59	36	
	3/4 EHS	A4a	114a	34.98	8.66	25	
	3/4 EHS	A4b	114b	34.98	8.81	25	
	65.95	1/2 EHS	A1a	T1	16.14	4.15	26
		1/2 EHS	A1	T1	16.14	4.77	30
		1/2 EHS	A1b	T1a	16.14	3.89	24
1/2 EHS		A1a	T1a	16.14	4.3	27	
1/2 EHS		A1b	T1b	16.14	3.79	23	
1/2 EHS		A1	T1b	16.14	4.77	30	
98.02		7/16 EHS	A1	36	12.48	4.16	33
		7/16 EHS	A1a	36a	12.48	3.54	28
		7/16 EHS	A1b	36b	12.48	2.97	24
125.95		1/2 EHS	A2	45	16.14	5.49	34
		1/2 EHS	A2a	45a	16.14	4.52	28
		1/2 EHS	A2b	45b	16.14	3.84	24

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Di + 1.0Wi 240°	154.05	9/16 EHS	A2	56	21	6.76	32
		9/16 EHS	A2a	56a	21	5.12	24
		9/16 EHS	A2b	56b	21	4.23	20
	194.05	1/2 EHS	A2a	T5	16.14	4.27	26
		1/2 EHS	A2	T5	16.14	5.78	36
		1/2 EHS	A2a	T5a	16.14	4.54	28
		1/2 EHS	A2b	T5a	16.14	3.64	23
		1/2 EHS	A2b	T5b	16.14	3.54	22
		1/2 EHS	A2	T5b	16.14	5.89	37
	230.08	7/16 EHS	A3	83	12.48	5.67	45
		7/16 EHS	A3a	83a	12.48	4.66	37
		7/16 EHS	A3b	83b	12.48	3.81	30
	265.95	1/2 EHS	A4	T7	16.14	7.24	45
		1/2 EHS	A4a	T7	16.14	5.96	37
		1/2 EHS	A4a	T7a	16.14	6.1	38
		1/2 EHS	A4b	T7a	16.14	5.19	32
		1/2 EHS	A4b	T7b	16.14	5.09	32
		1/2 EHS	A4	T7b	16.14	7.22	45
	321.98	3/4 EHS	A4	114	34.98	12.25	35
		3/4 EHS	A4a	114a	34.98	9.83	28
		3/4 EHS	A4b	114b	34.98	7.98	23
	65.95	1/2 EHS	A1	T1	16.14	4.62	29
		1/2 EHS	A1a	T1	16.14	4.46	28
		1/2 EHS	A1b	T1a	16.14	3.81	24
		1/2 EHS	A1a	T1a	16.14	4.56	28
		1/2 EHS	A1b	T1b	16.14	3.77	23
		1/2 EHS	A1	T1b	16.14	4.7	29
	98.02	7/16 EHS	A1	36	12.48	4.01	32
		7/16 EHS	A1a	36a	12.48	3.86	31
		7/16 EHS	A1b	36b	12.48	2.93	23
125.95	1/2 EHS	A2	45	16.14	5.23	32	
	1/2 EHS	A2a	45a	16.14	4.96	31	
	1/2 EHS	A2b	45b	16.14	3.78	23	
154.05	9/16 EHS	A2	56	21	6.28	30	
	9/16 EHS	A2a	56a	21	5.76	27	
	9/16 EHS	A2b	56b	21	4.15	20	
194.05	1/2 EHS	A2	T5	16.14	5.26	33	
	1/2 EHS	A2a	T5	16.14	4.92	30	
	1/2 EHS	A2a	T5a	16.14	5.14	32	
	1/2 EHS	A2b	T5a	16.14	3.43	21	
	1/2 EHS	A2b	T5b	16.14	3.4	21	
	1/2 EHS	A2	T5b	16.14	5.47	34	
230.08	7/16 EHS	A3	83	12.48	5.37	43	
	7/16 EHS	A3a	83a	12.48	5.12	41	
	7/16 EHS	A3b	83b	12.48	3.69	30	
265.95	1/2 EHS	A4a	T7	16.14	6.58	41	
	1/2 EHS	A4	T7	16.14	6.88	43	
	1/2 EHS	A4a	T7a	16.14	6.63	41	
	1/2 EHS	A4b	T7a	16.14	5.08	31	
	1/2 EHS	A4b	T7b	16.14	5	31	
	1/2 EHS	A4	T7b	16.14	6.93	43	
321.98	3/4 EHS	A4	114	34.98	11.33	32	
	3/4 EHS	A4a	114a	34.98	11.12	32	
	3/4 EHS	A4b	114b	34.98	7.69	22	
65.95	1/2 EHS	A1a	T1	16.14	4.63	29	
	1/2 EHS	A1	T1	16.14	4.05	25	
	1/2 EHS	A1a	T1a	16.14	4.67	29	
	1/2 EHS	A1b	T1a	16.14	3.95	24	
	1/2 EHS	A1b	T1b	16.14	3.99	25	
	1/2 EHS	A1	T1b	16.14	4.14	26	
98.02	7/16 EHS	A1	36	12.48	3.34	27	
	7/16 EHS	A1a	36a	12.48	4.02	32	
	7/16 EHS	A1b	36b	12.48	3.17	25	
125.95	1/2 EHS	A2	45	16.14	4.26	26	
	1/2 EHS	A2a	45a	16.14	5.22	32	
	1/2 EHS	A2b	45b	16.14	4.15	26	
154.05	9/16 EHS	A2	56	21	4.91	23	
	9/16 EHS	A2a	56a	21	6.38	30	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Di + 1.0Wi 330°	194.05	9/16 EHS	A2b	56b	21	4.62	22
		1/2 EHS	A2	T5	16.14	4.04	25
		1/2 EHS	A2a	T5	16.14	5.62	35
		1/2 EHS	A2b	T5a	16.14	3.87	24
		1/2 EHS	A2a	T5a	16.14	5.67	35
		1/2 EHS	A2	T5b	16.14	4.26	26
	230.08	1/2 EHS	A2b	T5b	16.14	4.07	25
		7/16 EHS	A3	83	12.48	4.27	34
		7/16 EHS	A3a	83a	12.48	5.5	44
		7/16 EHS	A3b	83b	12.48	4.25	34
	265.95	1/2 EHS	A4	T7	16.14	5.59	35
		1/2 EHS	A4a	T7	16.14	7	43
		1/2 EHS	A4a	T7a	16.14	7.02	44
		1/2 EHS	A4b	T7a	16.14	5.49	34
		1/2 EHS	A4b	T7b	16.14	5.61	35
		1/2 EHS	A4	T7b	16.14	5.73	36
	321.98	3/4 EHS	A4	114	34.98	8.86	25
		3/4 EHS	A4a	114a	34.98	12.38	35
		3/4 EHS	A4b	114b	34.98	8.83	25
	65.95	1/2 EHS	A1	T1	16.14	3.94	24
1/2 EHS		A1a	T1	16.14	4.61	29	
1/2 EHS		A1a	T1a	16.14	4.6	29	
1/2 EHS		A1b	T1a	16.14	4.24	26	
1/2 EHS		A1	T1b	16.14	3.93	24	
1/2 EHS		A1b	T1b	16.14	4.3	27	
98.02	7/16 EHS	A1	36	12.48	3.1	25	
	7/16 EHS	A1a	36a	12.48	4.01	32	
	7/16 EHS	A1b	36b	12.48	3.52	28	
125.95	1/2 EHS	A2	45	16.14	4	25	
	1/2 EHS	A2a	45a	16.14	5.19	32	
	1/2 EHS	A2b	45b	16.14	4.57	28	
154.05	9/16 EHS	A2	56	21	4.52	22	
	9/16 EHS	A2a	56a	21	6.21	30	
	9/16 EHS	A2b	56b	21	5.27	25	
194.05	1/2 EHS	A2a	T5	16.14	5.51	34	
	1/2 EHS	A2	T5	16.14	3.73	23	
	1/2 EHS	A2b	T5a	16.14	4.4	27	
	1/2 EHS	A2a	T5a	16.14	5.48	34	
	1/2 EHS	A2	T5b	16.14	3.76	23	
	1/2 EHS	A2b	T5b	16.14	4.66	29	
230.08	7/16 EHS	A3	83	12.48	3.83	31	
	7/16 EHS	A3a	83a	12.48	5.42	43	
	7/16 EHS	A3b	83b	12.48	4.79	38	
265.95	1/2 EHS	A4a	T7	16.14	6.87	43	
	1/2 EHS	A4	T7	16.14	5.22	32	
	1/2 EHS	A4a	T7a	16.14	6.93	43	
	1/2 EHS	A4b	T7a	16.14	6.11	38	
	1/2 EHS	A4	T7b	16.14	5.26	33	
	1/2 EHS	A4b	T7b	16.14	6.22	39	
321.98	3/4 EHS	A4	114	34.98	8	23	
	3/4 EHS	A4a	114a	34.98	12.01	34	
	3/4 EHS	A4b	114b	34.98	9.99	29	
65.95	1/2 EHS	A1	T1	16.14	3.85	24	
	1/2 EHS	A1a	T1	16.14	3.74	23	
	1/2 EHS	A1a	T1a	16.14	3.8	24	
	1/2 EHS	A1b	T1a	16.14	3.79	23	
	1/2 EHS	A1b	T1b	16.14	3.73	23	
	1/2 EHS	A1	T1b	16.14	3.85	24	
98.02	7/16 EHS	A1	36	12.48	2.66	21	
	7/16 EHS	A1a	36a	12.48	2.63	21	
	7/16 EHS	A1b	36b	12.48	2.61	21	
125.95	1/2 EHS	A2	45	16.14	3.37	21	
	1/2 EHS	A2a	45a	16.14	3.22	20	
	1/2 EHS	A2b	45b	16.14	3.29	20	
154.05	9/16 EHS	A2	56	21	3.99	19	
	9/16 EHS	A2a	56a	21	3.89	19	
	9/16 EHS	A2b	56b	21	3.97	19	
194.05	1/2 EHS	A2	T5	16.14	2.75	17	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0Ev + 1.0Eh 60°	230.08	1/2 EHS	A2a	T5	16.14	2.75	17	
		1/2 EHS	A2b	T5a	16.14	2.8	17	
		1/2 EHS	A2a	T5a	16.14	2.74	17	
		1/2 EHS	A2	T5b	16.14	2.73	17	
		1/2 EHS	A2b	T5b	16.14	2.79	17	
		7/16 EHS	A3	83	12.48	2.2	18	
	265.95	7/16 EHS	A3a	83a	12.48	2.22	18	
		7/16 EHS	A3b	83b	12.48	2.26	18	
		1/2 EHS	A4	T7	16.14	2.94	18	
		1/2 EHS	A4a	T7	16.14	2.94	18	
		1/2 EHS	A4a	T7a	16.14	2.95	18	
		1/2 EHS	A4b	T7a	16.14	3.03	19	
	321.98	1/2 EHS	A4	T7b	16.14	2.92	18	
		1/2 EHS	A4b	T7b	16.14	3	19	
		3/4 EHS	A4	114	34.98	5.94	17	
		3/4 EHS	A4a	114a	34.98	6.26	18	
		3/4 EHS	A4b	114b	34.98	6.39	18	
		65.95	1/2 EHS	A1a	T1	16.14	3.71	23
	1/2 EHS		A1	T1	16.14	3.87	24	
	1/2 EHS		A1a	T1a	16.14	3.77	23	
	1/2 EHS		A1b	T1a	16.14	3.81	24	
	1/2 EHS		A1	T1b	16.14	3.86	24	
	1/2 EHS		A1b	T1b	16.14	3.74	23	
	98.02		7/16 EHS	A1	36	12.48	2.67	21
			7/16 EHS	A1a	36a	12.48	2.62	21
			7/16 EHS	A1b	36b	12.48	2.61	21
	125.95		1/2 EHS	A2	45	16.14	3.38	21
1/2 EHS			A2a	45a	16.14	3.19	20	
1/2 EHS			A2b	45b	16.14	3.3	20	
154.05	9/16 EHS	A2	56	21	4.05	19		
	9/16 EHS	A2a	56a	21	3.77	18		
	9/16 EHS	A2b	56b	21	4.03	19		
194.05	1/2 EHS	A2	T5	16.14	2.83	18		
	1/2 EHS	A2a	T5	16.14	2.62	16		
	1/2 EHS	A2b	T5a	16.14	2.88	18		
	1/2 EHS	A2a	T5a	16.14	2.62	16		
	1/2 EHS	A2	T5b	16.14	2.77	17		
	1/2 EHS	A2b	T5b	16.14	2.82	17		
230.08	7/16 EHS	A3	83	12.48	2.23	18		
	7/16 EHS	A3a	83a	12.48	2.15	17		
	7/16 EHS	A3b	83b	12.48	2.29	18		
	265.95	1/2 EHS	A4a	T7	16.14	2.86	18	
		1/2 EHS	A4	T7	16.14	2.98	18	
		1/2 EHS	A4b	T7a	16.14	3.07	19	
1/2 EHS		A4a	T7a	16.14	2.87	18		
1/2 EHS		A4b	T7b	16.14	3.04	19		
1/2 EHS		A4	T7b	16.14	2.96	18		
321.98	3/4 EHS	A4	114	34.98	6.08	17		
	3/4 EHS	A4a	114a	34.98	5.93	17		
	3/4 EHS	A4b	114b	34.98	6.57	19		
	65.95	1/2 EHS	A1	T1	16.14	3.9	24	
		1/2 EHS	A1a	T1	16.14	3.69	23	
		1/2 EHS	A1a	T1a	16.14	3.76	23	
1/2 EHS		A1b	T1a	16.14	3.82	24		
1/2 EHS		A1b	T1b	16.14	3.73	23		
1/2 EHS		A1	T1b	16.14	3.86	24		
98.02		7/16 EHS	A1	36	12.48	2.67	21	
		7/16 EHS	A1a	36a	12.48	2.61	21	
		7/16 EHS	A1b	36b	12.48	2.63	21	
125.95		1/2 EHS	A2	45	16.14	3.39	21	
		1/2 EHS	A2a	45a	16.14	3.18	20	
		1/2 EHS	A2b	45b	16.14	3.3	20	
154.05	9/16 EHS	A2	56	21	4.13	20		
	9/16 EHS	A2a	56a	21	3.72	18		
	9/16 EHS	A2b	56b	21	4	19		
194.05	1/2 EHS	A2	T5	16.14	2.89	18		
	1/2 EHS	A2a	T5	16.14	2.56	16		
	1/2 EHS	A2b	T5a	16.14	2.88	18		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Ev + 1.0Eh 120°	230.08	1/2 EHS	A2a	T5a	16.14	2.59	16
		1/2 EHS	A2	T5b	16.14	2.83	18
		1/2 EHS	A2b	T5b	16.14	2.8	17
		7/16 EHS	A3	83	12.48	2.27	18
		7/16 EHS	A3a	83a	12.48	2.13	17
		7/16 EHS	A3b	83b	12.48	2.27	18
	265.95	1/2 EHS	A4	T7	16.14	3.02	19
		1/2 EHS	A4a	T7	16.14	2.83	18
		1/2 EHS	A4a	T7a	16.14	2.84	18
		1/2 EHS	A4b	T7a	16.14	3.05	19
		1/2 EHS	A4	T7b	16.14	3	19
		1/2 EHS	A4b	T7b	16.14	3.03	19
	321.98	3/4 EHS	A4	114	34.98	6.24	18
		3/4 EHS	A4a	114a	34.98	5.79	17
		3/4 EHS	A4b	114b	34.98	6.53	19
		1/2 EHS	A1a	T1	16.14	3.7	23
		1/2 EHS	A1	T1	16.14	3.89	24
		1/2 EHS	A1a	T1a	16.14	3.77	23
98.02	1/2 EHS	A1b	T1a	16.14	3.8	24	
	1/2 EHS	A1b	T1b	16.14	3.72	23	
	1/2 EHS	A1	T1b	16.14	3.88	24	
	7/16 EHS	A1	36	12.48	2.69	22	
	7/16 EHS	A1a	36a	12.48	2.59	21	
	7/16 EHS	A1b	36b	12.48	2.61	21	
125.95	1/2 EHS	A2	45	16.14	3.41	21	
	1/2 EHS	A2a	45a	16.14	3.17	20	
	1/2 EHS	A2b	45b	16.14	3.28	20	
	9/16 EHS	A2	56	21	4.18	20	
	9/16 EHS	A2a	56a	21	3.69	18	
	9/16 EHS	A2b	56b	21	3.97	19	
194.05	1/2 EHS	A2	T5	16.14	2.94	18	
	1/2 EHS	A2a	T5	16.14	2.55	16	
	1/2 EHS	A2b	T5a	16.14	2.83	18	
	1/2 EHS	A2a	T5a	16.14	2.59	16	
	1/2 EHS	A2	T5b	16.14	2.89	18	
	1/2 EHS	A2b	T5b	16.14	2.74	17	
230.08	7/16 EHS	A3	83	12.48	2.3	18	
	7/16 EHS	A3a	83a	12.48	2.11	17	
	7/16 EHS	A3b	83b	12.48	2.25	18	
	1/2 EHS	A4	T7	16.14	3.05	19	
	1/2 EHS	A4a	T7	16.14	2.81	17	
	1/2 EHS	A4b	T7a	16.14	3.03	19	
265.95	1/2 EHS	A4a	T7a	16.14	2.83	18	
	1/2 EHS	A4	T7b	16.14	3.04	19	
	1/2 EHS	A4b	T7b	16.14	3	19	
	3/4 EHS	A4	114	34.98	6.41	18	
	3/4 EHS	A4a	114a	34.98	5.75	16	
	3/4 EHS	A4b	114b	34.98	6.39	18	
65.95	1/2 EHS	A1	T1	16.14	3.89	24	
	1/2 EHS	A1a	T1	16.14	3.7	23	
	1/2 EHS	A1a	T1a	16.14	3.79	23	
	1/2 EHS	A1b	T1a	16.14	3.78	23	
	1/2 EHS	A1	T1b	16.14	3.89	24	
	1/2 EHS	A1b	T1b	16.14	3.7	23	
98.02	7/16 EHS	A1	36	12.48	2.71	22	
	7/16 EHS	A1a	36a	12.48	2.61	21	
	7/16 EHS	A1b	36b	12.48	2.58	21	
	1/2 EHS	A2	45	16.14	3.43	21	
	1/2 EHS	A2a	45a	16.14	3.18	20	
	1/2 EHS	A2b	45b	16.14	3.26	20	
154.05	9/16 EHS	A2	56	21	4.25	20	
	9/16 EHS	A2a	56a	21	3.76	18	
	9/16 EHS	A2b	56b	21	3.83	18	
	1/2 EHS	A2	T5	16.14	2.98	18	
	1/2 EHS	A2a	T5	16.14	2.59	16	
	1/2 EHS	A2b	T5a	16.14	2.72	17	
194.05	1/2 EHS	A2a	T5a	16.14	2.67	17	
	1/2 EHS	A2	T5b	16.14	2.96	18	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Ev + 1.0Eh 210°	230.08	1/2 EHS	A2b	T5b	16.14	2.63	16
		7/16 EHS	A3	83	12.48	2.34	19
		7/16 EHS	A3a	83a	12.48	2.14	17
	265.95	7/16 EHS	A3b	83b	12.48	2.19	18
		1/2 EHS	A4a	T7	16.14	2.85	18
		1/2 EHS	A4	T7	16.14	3.1	19
		1/2 EHS	A4b	T7a	16.14	2.94	18
		1/2 EHS	A4a	T7a	16.14	2.87	18
		1/2 EHS	A4b	T7b	16.14	2.91	18
	321.98	1/2 EHS	A4	T7b	16.14	3.08	19
		3/4 EHS	A4	114	34.98	6.57	19
		3/4 EHS	A4a	114a	34.98	5.92	17
	65.95	3/4 EHS	A4b	114b	34.98	6.05	17
		1/2 EHS	A1a	T1	16.14	3.71	23
		1/2 EHS	A1	T1	16.14	3.88	24
		1/2 EHS	A1a	T1a	16.14	3.8	24
		1/2 EHS	A1b	T1a	16.14	3.76	23
		1/2 EHS	A1b	T1b	16.14	3.69	23
1/2 EHS		A1	T1b	16.14	3.9	24	
98.02		7/16 EHS	A1	36	12.48	2.69	22
		7/16 EHS	A1a	36a	12.48	2.64	21
		7/16 EHS	A1b	36b	12.48	2.58	21
125.95		1/2 EHS	A2	45	16.14	3.43	21
		1/2 EHS	A2a	45a	16.14	3.19	20
	1/2 EHS	A2b	45b	16.14	3.25	20	
154.05	9/16 EHS	A2	56	21	4.23	20	
	9/16 EHS	A2a	56a	21	3.83	18	
	9/16 EHS	A2b	56b	21	3.79	18	
194.05	1/2 EHS	A2	T5	16.14	2.96	18	
	1/2 EHS	A2a	T5	16.14	2.63	16	
	1/2 EHS	A2b	T5a	16.14	2.67	17	
	1/2 EHS	A2a	T5a	16.14	2.72	17	
	1/2 EHS	A2	T5b	16.14	2.97	18	
	1/2 EHS	A2b	T5b	16.14	2.6	16	
230.08	7/16 EHS	A3	83	12.48	2.32	19	
	7/16 EHS	A3a	83a	12.48	2.18	17	
	7/16 EHS	A3b	83b	12.48	2.17	17	
265.95	1/2 EHS	A4	T7	16.14	3.08	19	
	1/2 EHS	A4a	T7	16.14	2.89	18	
	1/2 EHS	A4b	T7a	16.14	2.91	18	
	1/2 EHS	A4a	T7a	16.14	2.91	18	
	1/2 EHS	A4b	T7b	16.14	2.88	18	
	1/2 EHS	A4	T7b	16.14	3.08	19	
321.98	3/4 EHS	A4	114	34.98	6.54	19	
	3/4 EHS	A4a	114a	34.98	6.09	17	
	3/4 EHS	A4b	114b	34.98	5.92	17	
65.95	1/2 EHS	A1	T1	16.14	3.87	24	
	1/2 EHS	A1a	T1	16.14	3.72	23	
	1/2 EHS	A1b	T1a	16.14	3.76	23	
	1/2 EHS	A1a	T1a	16.14	3.81	24	
	1/2 EHS	A1	T1b	16.14	3.9	24	
	1/2 EHS	A1b	T1b	16.14	3.69	23	
	98.02	7/16 EHS	A1	36	12.48	2.68	22
		7/16 EHS	A1a	36a	12.48	2.65	21
		7/16 EHS	A1b	36b	12.48	2.57	21
	125.95	1/2 EHS	A2	45	16.14	3.41	21
		1/2 EHS	A2a	45a	16.14	3.21	20
		1/2 EHS	A2b	45b	16.14	3.24	20
154.05	9/16 EHS	A2	56	21	4.18	20	
	9/16 EHS	A2a	56a	21	3.89	19	
	9/16 EHS	A2b	56b	21	3.78	18	
194.05	1/2 EHS	A2	T5	16.14	2.9	18	
	1/2 EHS	A2a	T5	16.14	2.7	17	
	1/2 EHS	A2b	T5a	16.14	2.64	16	
	1/2 EHS	A2a	T5a	16.14	2.78	17	
	1/2 EHS	A2	T5b	16.14	2.94	18	
	1/2 EHS	A2b	T5b	16.14	2.59	16	
230.08	7/16 EHS	A3	83	12.48	2.3	18	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Ev + 1.0Eh 300°	265.95	7/16 EHS	A3a	83a	12.48	2.2	18
		7/16 EHS	A3b	83b	12.48	2.17	17
		1/2 EHS	A4a	T7	16.14	2.93	18
		1/2 EHS	A4	T7	16.14	3.05	19
		1/2 EHS	A4a	T7a	16.14	2.96	18
		1/2 EHS	A4b	T7a	16.14	2.9	18
		1/2 EHS	A4	T7b	16.14	3.05	19
	321.98	1/2 EHS	A4b	T7b	16.14	2.88	18
		3/4 EHS	A4	114	34.98	6.42	18
		3/4 EHS	A4a	114a	34.98	6.26	18
	65.95	3/4 EHS	A4b	114b	34.98	5.89	17
		1/2 EHS	A1	T1	16.14	3.85	24
		1/2 EHS	A1a	T1	16.14	3.74	23
		1/2 EHS	A1a	T1a	16.14	3.82	24
1/2 EHS		A1b	T1a	16.14	3.77	23	
1/2 EHS		A1b	T1b	16.14	3.72	23	
1/2 EHS		A1	T1b	16.14	3.87	24	
98.02		7/16 EHS	A1	36	12.48	2.67	21
		7/16 EHS	A1a	36a	12.48	2.65	21
125.95		7/16 EHS	A1b	36b	12.48	2.58	21
	1/2 EHS	A2	45	16.14	3.38	21	
	1/2 EHS	A2a	45a	16.14	3.23	20	
	1/2 EHS	A2b	45b	16.14	3.26	20	
154.05	9/16 EHS	A2	56	21	4.05	19	
	9/16 EHS	A2a	56a	21	3.95	19	
	9/16 EHS	A2b	56b	21	3.86	18	
194.05	1/2 EHS	A2	T5	16.14	2.78	17	
	1/2 EHS	A2a	T5	16.14	2.78	17	
	1/2 EHS	A2b	T5a	16.14	2.68	17	
	1/2 EHS	A2a	T5a	16.14	2.83	18	
	1/2 EHS	A2	T5b	16.14	2.83	18	
	1/2 EHS	A2b	T5b	16.14	2.67	17	
	230.08	7/16 EHS	A3	83	12.48	2.24	18
265.95	7/16 EHS	A3a	83a	12.48	2.24	18	
	7/16 EHS	A3b	83b	12.48	2.19	18	
321.98	1/2 EHS	A4	T7	16.14	2.97	18	
	1/2 EHS	A4a	T7	16.14	2.98	18	
	1/2 EHS	A4b	T7a	16.14	2.94	18	
	1/2 EHS	A4a	T7a	16.14	2.99	19	
	1/2 EHS	A4b	T7b	16.14	2.93	18	
	1/2 EHS	A4	T7b	16.14	2.97	18	
	3/4 EHS	A4	114	34.98	6.09	17	
	3/4 EHS	A4a	114a	34.98	6.42	18	
	3/4 EHS	A4b	114b	34.98	6.07	17	
	65.95	1/2 EHS	A1a	T1	16.14	3.74	23
1/2 EHS		A1	T1	16.14	3.85	24	
1/2 EHS		A1b	T1a	16.14	3.78	23	
1/2 EHS		A1a	T1a	16.14	3.81	24	
1/2 EHS		A1	T1b	16.14	3.86	24	
1/2 EHS		A1b	T1b	16.14	3.72	23	
98.02		7/16 EHS	A1	36	12.48	2.66	21
		7/16 EHS	A1a	36a	12.48	2.64	21
		7/16 EHS	A1b	36b	12.48	2.6	21
125.95		1/2 EHS	A2	45	16.14	3.37	21
		1/2 EHS	A2a	45a	16.14	3.23	20
		1/2 EHS	A2b	45b	16.14	3.28	20
		9/16 EHS	A2	56	21	4.02	19
154.05		9/16 EHS	A2a	56a	21	3.93	19
	9/16 EHS	A2b	56b	21	3.91	19	
	1/2 EHS	A2	T5	16.14	2.75	17	
194.05	1/2 EHS	A2a	T5	16.14	2.78	17	
	1/2 EHS	A2b	T5a	16.14	2.74	17	
	1/2 EHS	A2a	T5a	16.14	2.8	17	
	1/2 EHS	A2	T5b	16.14	2.76	17	
	1/2 EHS	A2b	T5b	16.14	2.74	17	
	230.08	7/16 EHS	A3	83	12.48	2.22	18
	7/16 EHS	A3a	83a	12.48	2.24	18	
	7/16 EHS	A3b	83b	12.48	2.22	18	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
0.9D - 1.0Ev + 1.0Eh Normal	265.95	1/2 EHS	A4a	T7	16.14	2.97	18	
		1/2 EHS	A4	T7	16.14	2.94	18	
		1/2 EHS	A4a	T7a	16.14	2.98	18	
		1/2 EHS	A4b	T7a	16.14	2.99	18	
		1/2 EHS	A4	T7b	16.14	2.94	18	
		1/2 EHS	A4b	T7b	16.14	2.97	18	
	321.98	3/4 EHS	A4	114	34.98	5.97	17	
		3/4 EHS	A4a	114a	34.98	6.39	18	
		3/4 EHS	A4b	114b	34.98	6.23	18	
	65.95	1/2 EHS	A1	T1	16.14	3.87	24	
		1/2 EHS	A1a	T1	16.14	3.76	23	
		1/2 EHS	A1a	T1a	16.14	3.81	24	
		1/2 EHS	A1b	T1a	16.14	3.8	24	
		1/2 EHS	A1b	T1b	16.14	3.74	23	
		1/2 EHS	A1	T1b	16.14	3.87	24	
		98.02	7/16 EHS	A1	36	12.48	2.69	22
			7/16 EHS	A1a	36a	12.48	2.64	21
			7/16 EHS	A1b	36b	12.48	2.64	21
125.95		1/2 EHS	A2	45	16.14	3.39	21	
		1/2 EHS	A2a	45a	16.14	3.27	20	
		1/2 EHS	A2b	45b	16.14	3.31	21	
154.05	9/16 EHS	A2	56	21	4.05	19		
	9/16 EHS	A2a	56a	21	3.93	19		
	9/16 EHS	A2b	56b	21	4.03	19		
194.05	1/2 EHS	A2	T5	16.14	2.81	17		
	1/2 EHS	A2a	T5	16.14	2.79	17		
	1/2 EHS	A2a	T5a	16.14	2.78	17		
	1/2 EHS	A2b	T5a	16.14	2.84	18		
	1/2 EHS	A2b	T5b	16.14	2.84	18		
	1/2 EHS	A2	T5b	16.14	2.79	17		
230.08	7/16 EHS	A3	83	12.48	2.22	18		
	7/16 EHS	A3a	83a	12.48	2.25	18		
	7/16 EHS	A3b	83b	12.48	2.3	18		
265.95	1/2 EHS	A4	T7	16.14	2.96	18		
	1/2 EHS	A4a	T7	16.14	2.98	18		
	1/2 EHS	A4a	T7a	16.14	2.98	18		
	1/2 EHS	A4b	T7a	16.14	3.06	19		
	1/2 EHS	A4b	T7b	16.14	3.04	19		
	1/2 EHS	A4	T7b	16.14	2.95	18		
321.98	3/4 EHS	A4	114	34.98	5.99	17		
	3/4 EHS	A4a	114a	34.98	6.34	18		
	3/4 EHS	A4b	114b	34.98	6.48	19		
0.9D - 1.0Ev + 1.0Eh 60°	65.95	1/2 EHS	A1a	T1	16.14	3.73	23	
		1/2 EHS	A1	T1	16.14	3.88	24	
		1/2 EHS	A1a	T1a	16.14	3.79	24	
		1/2 EHS	A1b	T1a	16.14	3.82	24	
		1/2 EHS	A1	T1b	16.14	3.88	24	
		1/2 EHS	A1b	T1b	16.14	3.75	23	
	98.02	7/16 EHS	A1	36	12.48	2.69	22	
		7/16 EHS	A1a	36a	12.48	2.62	21	
		7/16 EHS	A1b	36b	12.48	2.66	21	
	125.95	1/2 EHS	A2	45	16.14	3.41	21	
		1/2 EHS	A2a	45a	16.14	3.23	20	
		1/2 EHS	A2b	45b	16.14	3.33	21	
154.05	9/16 EHS	A2	56	21	4.12	20		
	9/16 EHS	A2a	56a	21	3.82	18		
	9/16 EHS	A2b	56b	21	4.07	19		
194.05	1/2 EHS	A2	T5	16.14	2.88	18		
	1/2 EHS	A2a	T5	16.14	2.68	17		
	1/2 EHS	A2a	T5a	16.14	2.68	17		
	1/2 EHS	A2b	T5a	16.14	2.92	18		
	1/2 EHS	A2b	T5b	16.14	2.87	18		
	1/2 EHS	A2	T5b	16.14	2.82	17		
230.08	7/16 EHS	A3	83	12.48	2.26	18		
	7/16 EHS	A3a	83a	12.48	2.17	17		
	7/16 EHS	A3b	83b	12.48	2.33	19		
265.95	1/2 EHS	A4a	T7	16.14	2.89	18		
	1/2 EHS	A4	T7	16.14	3	19		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
0.9D - 1.0Ev + 1.0Eh 90°	321.98	1/2 EHS	A4b	T7a	16.14	3.1	19	
		1/2 EHS	A4a	T7a	16.14	2.9	18	
		1/2 EHS	A4b	T7b	16.14	3.08	19	
		1/2 EHS	A4	T7b	16.14	2.99	19	
		3/4 EHS	A4	114	34.98	6.16	18	
		3/4 EHS	A4a	114a	34.98	6.01	17	
	65.95	3/4 EHS	A4b	114b	34.98	6.62	19	
		1/2 EHS	A1a	T1	16.14	3.72	23	
		1/2 EHS	A1	T1	16.14	3.89	24	
		1/2 EHS	A1b	T1a	16.14	3.82	24	
		1/2 EHS	A1a	T1a	16.14	3.78	23	
		1/2 EHS	A1b	T1b	16.14	3.75	23	
		1/2 EHS	A1	T1b	16.14	3.88	24	
		98.02	7/16 EHS	A1	36	12.48	2.72	22
			7/16 EHS	A1a	36a	12.48	2.62	21
			7/16 EHS	A1b	36b	12.48	2.64	21
		125.95	1/2 EHS	A2	45	16.14	3.42	21
			1/2 EHS	A2a	45a	16.14	3.22	20
			1/2 EHS	A2b	45b	16.14	3.33	21
		154.05	9/16 EHS	A2	56	21	4.18	20
9/16 EHS	A2a		56a	21	3.75	18		
9/16 EHS	A2b		56b	21	4.07	19		
194.05	1/2 EHS	A2	T5	16.14	2.93	18		
	1/2 EHS	A2a	T5	16.14	2.63	16		
	1/2 EHS	A2b	T5a	16.14	2.91	18		
	1/2 EHS	A2a	T5a	16.14	2.65	16		
	1/2 EHS	A2	T5b	16.14	2.87	18		
	1/2 EHS	A2b	T5b	16.14	2.84	18		
230.08	7/16 EHS	A3	83	12.48	2.3	18		
	7/16 EHS	A3a	83a	12.48	2.15	17		
	7/16 EHS	A3b	83b	12.48	2.32	19		
265.95	1/2 EHS	A4	T7	16.14	3.04	19		
	1/2 EHS	A4a	T7	16.14	2.87	18		
	1/2 EHS	A4a	T7a	16.14	2.87	18		
	1/2 EHS	A4b	T7a	16.14	3.09	19		
	1/2 EHS	A4	T7b	16.14	3.03	19		
	1/2 EHS	A4b	T7b	16.14	3.07	19		
	321.98	3/4 EHS	A4	114	34.98	6.32	18	
		3/4 EHS	A4a	114a	34.98	5.89	17	
		3/4 EHS	A4b	114b	34.98	6.57	19	
	0.9D - 1.0Ev + 1.0Eh 120°	65.95	1/2 EHS	A1a	T1	16.14	3.71	23
1/2 EHS			A1	T1	16.14	3.91	24	
1/2 EHS			A1a	T1a	16.14	3.78	23	
1/2 EHS			A1b	T1a	16.14	3.81	24	
1/2 EHS			A1b	T1b	16.14	3.73	23	
1/2 EHS			A1	T1b	16.14	3.9	24	
98.02		7/16 EHS	A1	36	12.48	2.7	22	
		7/16 EHS	A1a	36a	12.48	2.62	21	
		7/16 EHS	A1b	36b	12.48	2.65	21	
125.95		1/2 EHS	A2	45	16.14	3.45	21	
		1/2 EHS	A2a	45a	16.14	3.2	20	
		1/2 EHS	A2b	45b	16.14	3.32	21	
154.05		9/16 EHS	A2	56	21	4.25	20	
		9/16 EHS	A2a	56a	21	3.75	18	
		9/16 EHS	A2b	56b	21	4	19	
194.05		1/2 EHS	A2a	T5	16.14	2.61	16	
		1/2 EHS	A2	T5	16.14	2.97	18	
		1/2 EHS	A2b	T5a	16.14	2.89	18	
	1/2 EHS	A2a	T5a	16.14	2.64	16		
	1/2 EHS	A2	T5b	16.14	2.92	18		
	1/2 EHS	A2b	T5b	16.14	2.8	17		
230.08	7/16 EHS	A3	83	12.48	2.35	19		
	7/16 EHS	A3a	83a	12.48	2.13	17		
	7/16 EHS	A3b	83b	12.48	2.29	18		
265.95	1/2 EHS	A4	T7	16.14	3.09	19		
	1/2 EHS	A4a	T7	16.14	2.85	18		
	1/2 EHS	A4b	T7a	16.14	3.06	19		
	1/2 EHS	A4a	T7a	16.14	2.86	18		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
0.9D - 1.0Ev + 1.0Eh 180°	321.98	1/2 EHS	A4	T7b	16.14	3.08	19
		1/2 EHS	A4b	T7b	16.14	3.03	19
		3/4 EHS	A4	114	34.98	6.48	19
		3/4 EHS	A4a	114a	34.98	5.83	17
		3/4 EHS	A4b	114b	34.98	6.46	18
		1/2 EHS	A1	T1	16.14	3.91	24
	65.95	1/2 EHS	A1a	T1	16.14	3.72	23
		1/2 EHS	A1b	T1a	16.14	3.79	24
		1/2 EHS	A1a	T1a	16.14	3.81	24
		1/2 EHS	A1	T1b	16.14	3.91	24
		1/2 EHS	A1b	T1b	16.14	3.71	23
		7/16 EHS	A1	36	12.48	2.73	22
	98.02	7/16 EHS	A1a	36a	12.48	2.63	21
		7/16 EHS	A1b	36b	12.48	2.61	21
		1/2 EHS	A2	45	16.14	3.46	21
		1/2 EHS	A2a	45a	16.14	3.21	20
		1/2 EHS	A2b	45b	16.14	3.3	20
		9/16 EHS	A2	56	21	4.31	21
125.95	9/16 EHS	A2a	56a	21	3.81	18	
	9/16 EHS	A2b	56b	21	3.88	18	
	1/2 EHS	A2	T5	16.14	3.03	19	
	1/2 EHS	A2a	T5	16.14	2.63	16	
	1/2 EHS	A2b	T5a	16.14	2.76	17	
	1/2 EHS	A2a	T5a	16.14	2.71	17	
154.05	1/2 EHS	A2	T5b	16.14	3.02	19	
	1/2 EHS	A2b	T5b	16.14	2.69	17	
	7/16 EHS	A3	83	12.48	2.37	19	
	7/16 EHS	A3a	83a	12.48	2.18	17	
	7/16 EHS	A3b	83b	12.48	2.22	18	
	1/2 EHS	A4a	T7	16.14	2.89	18	
194.05	1/2 EHS	A4	T7	16.14	3.12	19	
	1/2 EHS	A4a	T7a	16.14	2.9	18	
	1/2 EHS	A4b	T7a	16.14	2.97	18	
	1/2 EHS	A4	T7b	16.14	3.12	19	
	1/2 EHS	A4b	T7b	16.14	2.95	18	
	3/4 EHS	A4	114	34.98	6.65	19	
230.08	3/4 EHS	A4a	114a	34.98	5.99	17	
	3/4 EHS	A4b	114b	34.98	6.12	18	
	1/2 EHS	A1a	T1	16.14	3.73	23	
	1/2 EHS	A1	T1	16.14	3.9	24	
	1/2 EHS	A1a	T1a	16.14	3.81	24	
	1/2 EHS	A1b	T1a	16.14	3.79	23	
65.95	1/2 EHS	A1b	T1b	16.14	3.71	23	
	1/2 EHS	A1	T1b	16.14	3.91	24	
	7/16 EHS	A1	36	12.48	2.73	22	
	7/16 EHS	A1a	36a	12.48	2.65	21	
	7/16 EHS	A1b	36b	12.48	2.59	21	
	1/2 EHS	A2	45	16.14	3.46	21	
98.02	1/2 EHS	A2a	45a	16.14	3.23	20	
	1/2 EHS	A2b	45b	16.14	3.28	20	
	9/16 EHS	A2	56	21	4.31	21	
	9/16 EHS	A2a	56a	21	3.86	18	
	9/16 EHS	A2b	56b	21	3.84	18	
	1/2 EHS	A2	T5	16.14	2.99	19	
125.95	1/2 EHS	A2a	T5	16.14	2.7	17	
	1/2 EHS	A2b	T5a	16.14	2.71	17	
	1/2 EHS	A2a	T5a	16.14	2.77	17	
	1/2 EHS	A2	T5b	16.14	3.01	19	
	1/2 EHS	A2b	T5b	16.14	2.66	16	
	7/16 EHS	A3	83	12.48	2.36	19	
230.08	7/16 EHS	A3a	83a	12.48	2.21	18	
	7/16 EHS	A3b	83b	12.48	2.2	18	
	1/2 EHS	A4	T7	16.14	3.12	19	
	1/2 EHS	A4a	T7	16.14	2.93	18	
	1/2 EHS	A4b	T7a	16.14	2.94	18	
	1/2 EHS	A4a	T7a	16.14	2.94	18	
265.95	1/2 EHS	A4b	T7b	16.14	2.92	18	
	1/2 EHS	A4	T7b	16.14	3.11	19	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
0.9D - 1.0Ev + 1.0Eh 240°	321.98	3/4 EHS	A4	114	34.98	6.6	19
		3/4 EHS	A4a	114a	34.98	6.16	18
		3/4 EHS	A4b	114b	34.98	6.01	17
	65.95	1/2 EHS	A1	T1	16.14	3.88	24
		1/2 EHS	A1a	T1	16.14	3.74	23
		1/2 EHS	A1b	T1a	16.14	3.78	23
		1/2 EHS	A1a	T1a	16.14	3.83	24
		1/2 EHS	A1	T1b	16.14	3.9	24
		1/2 EHS	A1b	T1b	16.14	3.72	23
	98.02	7/16 EHS	A1	36	12.48	2.73	22
		7/16 EHS	A1a	36a	12.48	2.66	21
		7/16 EHS	A1b	36b	12.48	2.58	21
	125.95	1/2 EHS	A2	45	16.14	3.44	21
		1/2 EHS	A2a	45a	16.14	3.25	20
		1/2 EHS	A2b	45b	16.14	3.28	20
	154.05	9/16 EHS	A2	56	21	4.25	20
		9/16 EHS	A2a	56a	21	3.93	19
		9/16 EHS	A2b	56b	21	3.83	18
194.05	1/2 EHS	A2	T5	16.14	2.95	18	
	1/2 EHS	A2a	T5	16.14	2.75	17	
	1/2 EHS	A2b	T5a	16.14	2.7	17	
	1/2 EHS	A2a	T5a	16.14	2.82	17	
	1/2 EHS	A2	T5b	16.14	2.98	18	
	1/2 EHS	A2b	T5b	16.14	2.66	16	
230.08	7/16 EHS	A3	83	12.48	2.34	19	
	7/16 EHS	A3a	83a	12.48	2.25	18	
	7/16 EHS	A3b	83b	12.48	2.18	17	
265.95	1/2 EHS	A4a	T7	16.14	2.97	18	
	1/2 EHS	A4	T7	16.14	3.08	19	
	1/2 EHS	A4a	T7a	16.14	2.99	19	
	1/2 EHS	A4b	T7a	16.14	2.93	18	
	1/2 EHS	A4	T7b	16.14	3.08	19	
	1/2 EHS	A4b	T7b	16.14	2.92	18	
321.98	3/4 EHS	A4	114	34.98	6.48	19	
	3/4 EHS	A4a	114a	34.98	6.32	18	
	3/4 EHS	A4b	114b	34.98	5.97	17	
0.9D - 1.0Ev + 1.0Eh 300°	65.95	1/2 EHS	A1a	T1	16.14	3.76	23
		1/2 EHS	A1	T1	16.14	3.87	24
		1/2 EHS	A1b	T1a	16.14	3.78	23
		1/2 EHS	A1a	T1a	16.14	3.83	24
		1/2 EHS	A1	T1b	16.14	3.89	24
		1/2 EHS	A1b	T1b	16.14	3.72	23
	98.02	7/16 EHS	A1	36	12.48	2.69	22
		7/16 EHS	A1a	36a	12.48	2.67	21
		7/16 EHS	A1b	36b	12.48	2.61	21
	125.95	1/2 EHS	A2	45	16.14	3.42	21
		1/2 EHS	A2a	45a	16.14	3.26	20
		1/2 EHS	A2b	45b	16.14	3.29	20
	154.05	9/16 EHS	A2	56	21	4.11	20
		9/16 EHS	A2a	56a	21	4	19
		9/16 EHS	A2b	56b	21	3.9	19
	194.05	1/2 EHS	A2	T5	16.14	2.84	18
		1/2 EHS	A2a	T5	16.14	2.83	18
		1/2 EHS	A2a	T5a	16.14	2.86	18
	1/2 EHS	A2b	T5a	16.14	2.73	17	
	1/2 EHS	A2	T5b	16.14	2.87	18	
	1/2 EHS	A2b	T5b	16.14	2.72	17	
230.08	7/16 EHS	A3	83	12.48	2.27	18	
	7/16 EHS	A3a	83a	12.48	2.27	18	
	7/16 EHS	A3b	83b	12.48	2.23	18	
265.95	1/2 EHS	A4a	T7	16.14	3.02	19	
	1/2 EHS	A4	T7	16.14	3	19	
	1/2 EHS	A4a	T7a	16.14	3.02	19	
	1/2 EHS	A4b	T7a	16.14	2.97	18	
	1/2 EHS	A4b	T7b	16.14	2.96	18	
	1/2 EHS	A4	T7b	16.14	3	19	
321.98	3/4 EHS	A4	114	34.98	6.17	18	
	3/4 EHS	A4a	114a	34.98	6.49	19	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
0.9D - 1.0Ev + 1.0Eh 330°	65.95	3/4 EHS	A4b	114b	34.98	6.14	18
		1/2 EHS	A1	T1	16.14	3.87	24
		1/2 EHS	A1a	T1	16.14	3.76	23
		1/2 EHS	A1b	T1a	16.14	3.8	24
		1/2 EHS	A1a	T1a	16.14	3.82	24
		1/2 EHS	A1	T1b	16.14	3.87	24
	98.02	1/2 EHS	A1b	T1b	16.14	3.74	23
		7/16 EHS	A1	36	12.48	2.69	22
		7/16 EHS	A1a	36a	12.48	2.66	21
	125.95	7/16 EHS	A1b	36b	12.48	2.63	21
		1/2 EHS	A2	45	16.14	3.41	21
		1/2 EHS	A2a	45a	16.14	3.28	20
	154.05	1/2 EHS	A2b	45b	16.14	3.28	20
		9/16 EHS	A2	56	21	4.06	19
		9/16 EHS	A2a	56a	21	3.97	19
	194.05	9/16 EHS	A2b	56b	21	3.98	19
		1/2 EHS	A2	T5	16.14	2.81	17
		1/2 EHS	A2a	T5	16.14	2.83	18
		1/2 EHS	A2b	T5a	16.14	2.78	17
		1/2 EHS	A2a	T5a	16.14	2.84	18
		1/2 EHS	A2	T5b	16.14	2.81	17
	230.08	1/2 EHS	A2b	T5b	16.14	2.79	17
		7/16 EHS	A3	83	12.48	2.24	18
		7/16 EHS	A3a	83a	12.48	2.27	18
	265.95	7/16 EHS	A3b	83b	12.48	2.26	18
		1/2 EHS	A4a	T7	16.14	3.01	19
		1/2 EHS	A4	T7	16.14	2.97	18
1/2 EHS		A4a	T7a	16.14	3.01	19	
1/2 EHS		A4b	T7a	16.14	3.01	19	
1/2 EHS		A4	T7b	16.14	2.97	18	
321.98	1/2 EHS	A4b	T7b	16.14	3	19	
	3/4 EHS	A4	114	34.98	6.05	17	
	3/4 EHS	A4a	114a	34.98	6.45	18	
1.0D + 1.0W Service Normal	65.95	3/4 EHS	A4b	114b	34.98	6.3	18
		1/2 EHS	A1a	T1	16.14	3.95	24
		1/2 EHS	A1	T1	16.14	3.56	22
		1/2 EHS	A1b	T1a	16.14	3.94	24
		1/2 EHS	A1a	T1a	16.14	3.96	25
		1/2 EHS	A1	T1b	16.14	3.56	22
	98.02	1/2 EHS	A1b	T1b	16.14	3.94	24
		7/16 EHS	A1	36	12.48	2.37	19
		7/16 EHS	A1a	36a	12.48	2.82	23
	125.95	7/16 EHS	A1b	36b	12.48	2.83	23
		1/2 EHS	A2	45	16.14	2.94	18
		1/2 EHS	A2a	45a	16.14	3.53	22
	154.05	1/2 EHS	A2b	45b	16.14	3.58	22
		9/16 EHS	A2	56	21	3.38	16
		9/16 EHS	A2a	56a	21	4.32	21
	194.05	9/16 EHS	A2b	56b	21	4.4	21
		1/2 EHS	A2a	T5	16.14	3.18	20
		1/2 EHS	A2	T5	16.14	2.31	14
		1/2 EHS	A2b	T5a	16.14	3.13	19
		1/2 EHS	A2a	T5a	16.14	3.06	19
		1/2 EHS	A2b	T5b	16.14	3.26	20
	230.08	1/2 EHS	A2	T5b	16.14	2.29	14
		7/16 EHS	A3	83	12.48	1.94	16
		7/16 EHS	A3a	83a	12.48	2.55	20
	265.95	7/16 EHS	A3b	83b	12.48	2.61	21
		1/2 EHS	A4	T7	16.14	2.71	17
		1/2 EHS	A4a	T7	16.14	3.35	21
1/2 EHS		A4a	T7a	16.14	3.33	21	
1/2 EHS		A4b	T7a	16.14	3.4	21	
1/2 EHS		A4	T7b	16.14	2.68	17	
321.98	1/2 EHS	A4b	T7b	16.14	3.44	21	
	3/4 EHS	A4	114	34.98	5	14	
	3/4 EHS	A4a	114a	34.98	7.1	20	
1.0D + 1.0W Service 60°	65.95	3/4 EHS	A4b	114b	34.98	7.23	21
		1/2 EHS	A1	T1	16.14	3.75	23

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1/2 EHS	A1a	T1	16.14	3.62	22
		1/2 EHS	A1a	T1a	16.14	3.62	22
		1/2 EHS	A1b	T1a	16.14	4.11	25
		1/2 EHS	A1	T1b	16.14	3.67	23
		1/2 EHS	A1b	T1b	16.14	4.05	25
	98.02	7/16 EHS	A1	36	12.48	2.55	20
		7/16 EHS	A1a	36a	12.48	2.43	19
		7/16 EHS	A1b	36b	12.48	2.98	24
	125.95	1/2 EHS	A2	45	16.14	3.19	20
		1/2 EHS	A2a	45a	16.14	3.04	19
		1/2 EHS	A2b	45b	16.14	3.75	23
	154.05	9/16 EHS	A2	56	21	3.76	18
		9/16 EHS	A2a	56a	21	3.49	17
		9/16 EHS	A2b	56b	21	4.78	23
	194.05	1/2 EHS	A2a	T5	16.14	2.52	16
		1/2 EHS	A2	T5	16.14	2.71	17
		1/2 EHS	A2b	T5a	16.14	3.53	22
		1/2 EHS	A2a	T5a	16.14	2.39	15
		1/2 EHS	A2b	T5b	16.14	3.51	22
		1/2 EHS	A2	T5b	16.14	2.55	16
	230.08	7/16 EHS	A3	83	12.48	2.19	18
		7/16 EHS	A3a	83a	12.48	2.11	17
		7/16 EHS	A3b	83b	12.48	2.78	22
	265.95	1/2 EHS	A4	T7	16.14	2.98	18
		1/2 EHS	A4a	T7	16.14	2.86	18
		1/2 EHS	A4b	T7a	16.14	3.63	23
		1/2 EHS	A4a	T7a	16.14	2.83	18
		1/2 EHS	A4b	T7b	16.14	3.63	22
		1/2 EHS	A4	T7b	16.14	2.9	18
	321.98	3/4 EHS	A4	114	34.98	5.77	16
		3/4 EHS	A4a	114a	34.98	5.62	16
		3/4 EHS	A4b	114b	34.98	7.96	23
1.0D + 1.0W Service 90°	65.95	1/2 EHS	A1	T1	16.14	3.93	24
		1/2 EHS	A1a	T1	16.14	3.46	21
		1/2 EHS	A1a	T1a	16.14	3.51	22
		1/2 EHS	A1b	T1a	16.14	4.08	25
		1/2 EHS	A1b	T1b	16.14	3.98	25
		1/2 EHS	A1	T1b	16.14	3.85	24
	98.02	7/16 EHS	A1	36	12.48	2.7	22
		7/16 EHS	A1a	36a	12.48	2.35	19
		7/16 EHS	A1b	36b	12.48	2.92	23
	125.95	1/2 EHS	A2	45	16.14	3.45	21
		1/2 EHS	A2a	45a	16.14	2.84	18
		1/2 EHS	A2b	45b	16.14	3.71	23
	154.05	9/16 EHS	A2	56	21	4.19	20
		9/16 EHS	A2a	56a	21	3.19	15
		9/16 EHS	A2b	56b	21	4.64	22
	194.05	1/2 EHS	A2	T5	16.14	3.01	19
		1/2 EHS	A2a	T5	16.14	2.24	14
		1/2 EHS	A2a	T5a	16.14	2.2	14
		1/2 EHS	A2b	T5a	16.14	3.48	22
		1/2 EHS	A2	T5b	16.14	2.84	18
		1/2 EHS	A2b	T5b	16.14	3.37	21
	230.08	7/16 EHS	A3	83	12.48	2.42	19
		7/16 EHS	A3a	83a	12.48	1.94	16
		7/16 EHS	A3b	83b	12.48	2.72	22
	265.95	1/2 EHS	A4a	T7	16.14	2.66	16
		1/2 EHS	A4	T7	16.14	3.25	20
		1/2 EHS	A4b	T7a	16.14	3.58	22
		1/2 EHS	A4a	T7a	16.14	2.67	17
		1/2 EHS	A4	T7b	16.14	3.17	20
		1/2 EHS	A4b	T7b	16.14	3.57	22
	321.98	3/4 EHS	A4	114	34.98	6.5	19
		3/4 EHS	A4a	114a	34.98	5.1	15
		3/4 EHS	A4b	114b	34.98	7.77	22
1.0D + 1.0W Service 120°	65.95	1/2 EHS	A1	T1	16.14	4.08	25
		1/2 EHS	A1a	T1	16.14	3.42	21
		1/2 EHS	A1a	T1a	16.14	3.48	22

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		1/2 EHS	A1b	T1a	16.14	3.98	25
		1/2 EHS	A1b	T1b	16.14	3.86	24
		1/2 EHS	A1	T1b	16.14	4.03	25
	98.02	7/16 EHS	A1	36	12.48	2.89	23
		7/16 EHS	A1a	36a	12.48	2.27	18
		7/16 EHS	A1b	36b	12.48	2.82	23
	125.95	1/2 EHS	A2	45	16.14	3.7	23
		1/2 EHS	A2a	45a	16.14	2.77	17
		1/2 EHS	A2b	45b	16.14	3.54	22
	154.05	9/16 EHS	A2	56	21	4.6	22
		9/16 EHS	A2a	56a	21	3.09	15
		9/16 EHS	A2b	56b	21	4.35	21
	194.05	1/2 EHS	A2a	T5	16.14	2.11	13
		1/2 EHS	A2	T5	16.14	3.34	21
		1/2 EHS	A2a	T5a	16.14	2.13	13
		1/2 EHS	A2b	T5a	16.14	3.26	20
		1/2 EHS	A2b	T5b	16.14	3.06	19
		1/2 EHS	A2	T5b	16.14	3.21	20
	230.08	7/16 EHS	A3	83	12.48	2.65	21
		7/16 EHS	A3a	83a	12.48	1.85	15
		7/16 EHS	A3b	83b	12.48	2.58	21
	265.95	1/2 EHS	A4	T7	16.14	3.48	22
		1/2 EHS	A4a	T7	16.14	2.59	16
		1/2 EHS	A4a	T7a	16.14	2.61	16
		1/2 EHS	A4b	T7a	16.14	3.45	21
		1/2 EHS	A4b	T7b	16.14	3.39	21
		1/2 EHS	A4	T7b	16.14	3.45	21
	321.98	3/4 EHS	A4	114	34.98	7.26	21
		3/4 EHS	A4a	114a	34.98	4.88	14
		3/4 EHS	A4b	114b	34.98	7.22	21
1.0D + 1.0W Service 180°	65.95	1/2 EHS	A1a	T1	16.14	3.53	22
		1/2 EHS	A1	T1	16.14	4.2	26
		1/2 EHS	A1b	T1a	16.14	3.65	23
		1/2 EHS	A1a	T1a	16.14	3.67	23
		1/2 EHS	A1b	T1b	16.14	3.52	22
		1/2 EHS	A1	T1b	16.14	4.21	26
	98.02	7/16 EHS	A1	36	12.48	3.01	24
		7/16 EHS	A1a	36a	12.48	2.46	20
		7/16 EHS	A1b	36b	12.48	2.48	20
	125.95	1/2 EHS	A2	45	16.14	3.93	24
		1/2 EHS	A2a	45a	16.14	3	19
		1/2 EHS	A2b	45b	16.14	3.04	19
	154.05	9/16 EHS	A2	56	21	5.02	24
		9/16 EHS	A2a	56a	21	3.46	16
		9/16 EHS	A2b	56b	21	3.52	17
	194.05	1/2 EHS	A2a	T5	16.14	2.36	15
		1/2 EHS	A2	T5	16.14	3.63	22
		1/2 EHS	A2a	T5a	16.14	2.52	16
		1/2 EHS	A2b	T5a	16.14	2.59	16
		1/2 EHS	A2b	T5b	16.14	2.4	15
		1/2 EHS	A2	T5b	16.14	3.63	23
	230.08	7/16 EHS	A3	83	12.48	2.82	23
		7/16 EHS	A3a	83a	12.48	2.1	17
		7/16 EHS	A3b	83b	12.48	2.16	17
	265.95	1/2 EHS	A4a	T7	16.14	2.81	17
		1/2 EHS	A4	T7	16.14	3.66	23
		1/2 EHS	A4a	T7a	16.14	2.86	18
		1/2 EHS	A4b	T7a	16.14	2.95	18
		1/2 EHS	A4b	T7b	16.14	2.85	18
		1/2 EHS	A4	T7b	16.14	3.68	23
	321.98	3/4 EHS	A4	114	34.98	7.99	23
		3/4 EHS	A4a	114a	34.98	5.61	16
		3/4 EHS	A4b	114b	34.98	5.71	16
1.0D + 1.0W Service 210°	65.95	1/2 EHS	A1a	T1	16.14	3.69	23
		1/2 EHS	A1	T1	16.14	4.15	26
		1/2 EHS	A1b	T1a	16.14	3.53	22
		1/2 EHS	A1a	T1a	16.14	3.84	24
		1/2 EHS	A1b	T1b	16.14	3.43	21

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
	98.02	1/2 EHS	A1	T1b	16.14	4.17	26
		7/16 EHS	A1	36	12.48	2.99	24
		7/16 EHS	A1a	36a	12.48	2.66	21
		7/16 EHS	A1b	36b	12.48	2.32	19
	125.95	1/2 EHS	A2	45	16.14	3.88	24
		1/2 EHS	A2a	45a	16.14	3.24	20
		1/2 EHS	A2b	45b	16.14	2.88	18
	154.05	9/16 EHS	A2	56	21	4.92	23
		9/16 EHS	A2a	56a	21	3.84	18
		9/16 EHS	A2b	56b	21	3.27	16
	194.05	1/2 EHS	A2a	T5	16.14	2.66	16
		1/2 EHS	A2	T5	16.14	3.51	22
		1/2 EHS	A2a	T5a	16.14	2.86	18
		1/2 EHS	A2b	T5a	16.14	2.32	14
		1/2 EHS	A2	T5b	16.14	3.58	22
		1/2 EHS	A2b	T5b	16.14	2.2	14
	230.08	7/16 EHS	A3	83	12.48	2.78	22
		7/16 EHS	A3a	83a	12.48	2.32	19
		7/16 EHS	A3b	83b	12.48	1.98	16
	265.95	1/2 EHS	A4	T7	16.14	3.61	22
		1/2 EHS	A4a	T7	16.14	3.06	19
		1/2 EHS	A4a	T7a	16.14	3.13	19
		1/2 EHS	A4b	T7a	16.14	2.76	17
		1/2 EHS	A4b	T7b	16.14	2.7	17
		1/2 EHS	A4	T7b	16.14	3.63	22
	321.98	3/4 EHS	A4	114	34.98	7.8	22
		3/4 EHS	A4a	114a	34.98	6.34	18
		3/4 EHS	A4b	114b	34.98	5.17	15
1.0D + 1.0W Service 240°	65.95	1/2 EHS	A1	T1	16.14	4.02	25
		1/2 EHS	A1a	T1	16.14	3.87	24
		1/2 EHS	A1a	T1a	16.14	4	25
		1/2 EHS	A1b	T1a	16.14	3.48	22
		1/2 EHS	A1b	T1b	16.14	3.42	21
		1/2 EHS	A1	T1b	16.14	4.09	25
	98.02	7/16 EHS	A1	36	12.48	2.89	23
		7/16 EHS	A1a	36a	12.48	2.81	23
		7/16 EHS	A1b	36b	12.48	2.29	18
	125.95	1/2 EHS	A2	45	16.14	3.72	23
		1/2 EHS	A2a	45a	16.14	3.51	22
		1/2 EHS	A2b	45b	16.14	2.8	17
	154.05	9/16 EHS	A2	56	21	4.62	22
		9/16 EHS	A2a	56a	21	4.27	20
		9/16 EHS	A2b	56b	21	3.17	15
	194.05	1/2 EHS	A2a	T5	16.14	3.02	19
		1/2 EHS	A2	T5	16.14	3.22	20
		1/2 EHS	A2a	T5a	16.14	3.19	20
		1/2 EHS	A2b	T5a	16.14	2.2	14
		1/2 EHS	A2	T5b	16.14	3.36	21
		1/2 EHS	A2b	T5b	16.14	2.15	13
	230.08	7/16 EHS	A3	83	12.48	2.65	21
		7/16 EHS	A3a	83a	12.48	2.53	20
		7/16 EHS	A3b	83b	12.48	1.91	15
	265.95	1/2 EHS	A4	T7	16.14	3.45	21
		1/2 EHS	A4a	T7	16.14	3.32	21
		1/2 EHS	A4b	T7a	16.14	2.69	17
		1/2 EHS	A4a	T7a	16.14	3.36	21
		1/2 EHS	A4	T7b	16.14	3.49	22
		1/2 EHS	A4b	T7b	16.14	2.65	16
	321.98	3/4 EHS	A4	114	34.98	7.28	21
		3/4 EHS	A4a	114a	34.98	7.11	20
		3/4 EHS	A4b	114b	34.98	4.97	14
1.0D + 1.0W Service 300°	65.95	1/2 EHS	A1a	T1	16.14	4.06	25
		1/2 EHS	A1	T1	16.14	3.68	23
		1/2 EHS	A1b	T1a	16.14	3.62	22
		1/2 EHS	A1a	T1a	16.14	4.12	26
		1/2 EHS	A1b	T1b	16.14	3.63	22
		1/2 EHS	A1	T1b	16.14	3.76	23
	98.02	7/16 EHS	A1	36	12.48	2.56	21

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.0D + 1.0W Service 330°	125.95	7/16 EHS	A1a	36a	12.48	2.98	24	
		7/16 EHS	A1b	36b	12.48	2.44	20	
		1/2 EHS	A2	45	16.14	3.19	20	
		1/2 EHS	A2a	45a	16.14	3.73	23	
	154.05	1/2 EHS	A2b	45b	16.14	3.08	19	
		9/16 EHS	A2	56	21	3.78	18	
		9/16 EHS	A2a	56a	21	4.69	22	
		9/16 EHS	A2b	56b	21	3.59	17	
	194.05	1/2 EHS	A2a	T5	16.14	3.45	21	
		1/2 EHS	A2	T5	16.14	2.56	16	
		1/2 EHS	A2a	T5a	16.14	3.48	22	
		1/2 EHS	A2b	T5a	16.14	2.46	15	
		1/2 EHS	A2	T5b	16.14	2.71	17	
		1/2 EHS	A2b	T5b	16.14	2.59	16	
		230.08	7/16 EHS	A3	83	12.48	2.21	18
			7/16 EHS	A3a	83a	12.48	2.71	22
	7/16 EHS		A3b	83b	12.48	2.18	17	
	265.95	1/2 EHS	A4	T7	16.14	2.92	18	
		1/2 EHS	A4a	T7	16.14	3.54	22	
		1/2 EHS	A4b	T7a	16.14	2.89	18	
		1/2 EHS	A4a	T7a	16.14	3.56	22	
		1/2 EHS	A4	T7b	16.14	2.98	18	
		1/2 EHS	A4b	T7b	16.14	2.94	18	
		321.98	3/4 EHS	A4	114	34.98	5.79	17
	3/4 EHS		A4a	114a	34.98	7.84	22	
	3/4 EHS		A4b	114b	34.98	5.74	16	
	65.95		1/2 EHS	A1a	T1	16.14	4.03	25
		1/2 EHS	A1	T1	16.14	3.59	22	
		1/2 EHS	A1a	T1a	16.14	4.07	25	
		1/2 EHS	A1b	T1a	16.14	3.77	23	
		1/2 EHS	A1	T1b	16.14	3.63	23	
		1/2 EHS	A1b	T1b	16.14	3.79	23	
		98.02	7/16 EHS	A1	36	12.48	2.41	19
			7/16 EHS	A1a	36a	12.48	2.96	24
		125.95	7/16 EHS	A1b	36b	12.48	2.63	21
			1/2 EHS	A2	45	16.14	3.01	19
	1/2 EHS		A2a	45a	16.14	3.69	23	
	154.05	1/2 EHS	A2b	45b	16.14	3.34	21	
		9/16 EHS	A2	56	21	3.5	17	
		9/16 EHS	A2a	56a	21	4.58	22	
9/16 EHS		A2b	56b	21	4	19		
194.05	1/2 EHS	A2a	T5	16.14	3.41	21		
	1/2 EHS	A2	T5	16.14	2.39	15		
	1/2 EHS	A2a	T5a	16.14	3.36	21		
	1/2 EHS	A2b	T5a	16.14	2.76	17		
	1/2 EHS	A2	T5b	16.14	2.42	15		
	1/2 EHS	A2b	T5b	16.14	2.93	18		
	230.08	7/16 EHS	A3	83	12.48	2.02	16	
		7/16 EHS	A3a	83a	12.48	2.67	21	
7/16 EHS		A3b	83b	12.48	2.4	19		
265.95	1/2 EHS	A4	T7	16.14	2.76	17		
	1/2 EHS	A4a	T7	16.14	3.49	22		
	1/2 EHS	A4b	T7a	16.14	3.14	19		
	1/2 EHS	A4a	T7a	16.14	3.49	22		
	1/2 EHS	A4	T7b	16.14	2.77	17		
	1/2 EHS	A4b	T7b	16.14	3.2	20		
	321.98	3/4 EHS	A4	114	34.98	5.23	15	
		3/4 EHS	A4a	114a	34.98	7.65	22	
		3/4 EHS	A4b	114b	34.98	6.46	18	

MAXIMUM CABLE FORCES SUMMARY

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Allowed Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0Di + 1.0Wi 180°	65.95	1/2 EHS	A1	T1	16.14	4.77	30

MAXIMUM CABLE FORCES SUMMARY

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Allowed Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0W 180°	98.02	7/16 EHS	A1	36	12.48	4.15	33
1.2D + 1.0W 180°	125.95	1/2 EHS	A2	45	16.14	5.82	36
1.2D + 1.0W 180°	154.05	9/16 EHS	A2	56	21.00	8.77	42
1.2D + 1.0W 180°	194.05	1/2 EHS	A2	T5	16.14	7.22	45
1.2D + 1.0Di + 1.0Wi 180°	230.08	7/16 EHS	A3	83	12.48	5.76	46
1.2D + 1.0Di + 1.0Wi 180°	265.95	1/2 EHS	A4	T7b	16.14	7.34	46
1.2D + 1.0W 60°	321.98	3/4 EHS	A4b	114b	34.98	16.85	48

MAXIMUM TORQUE ARM STRESS SUMMARY

Load Case	Elevation (ft)	Member	Type	Compression %	Tension %
1.2D + 1.0W 210°	65.00	3X3X0.25	Kicker	30	0
1.2D + 1.0W 300°	65.00	3X3X0.25	Horiz	0	22
1.2D + 1.0W Normal	100.00	PL 5" x 0.25"	Horiz	0	2
1.2D + 1.0Di + 1.0Wi Normal	125.00	PL 3 x 0.375	Horiz	0	13
1.2D + 1.0W Normal	153.00	PL 5" x 0.5"	Horiz	0	7
1.2D + 1.0W 60°	195.00	3X3X0.25	Horiz	0	34
1.2D + 1.0W 180°	195.00	3X3X0.25	Kicker	63	0
1.2D + 1.0W 210°	231.00	PL 5" x 0.5"	Horiz	0	5
1.2D + 1.0W 60°	267.00	3X3X0.25	Horiz	0	37
1.2D + 1.0Di + 1.0Wi 180°	267.00	3X3X0.25	Kicker	45	0
1.2D + 1.0W 240°	321.00	PL 5" x 0.5"	Horiz	0	12

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W Normal 127 mph wind with no ice	65.95	0.0513	-0.0075	0.0477	0.0478
1.2D + 1.0W Normal 127 mph wind with no ice	165.95	0.3905	0.0370	0.3362	0.3378
1.2D + 1.0W Normal 127 mph wind with no ice	185.95	0.4574	0.0498	0.0736	0.0857
1.2D + 1.0W Normal 127 mph wind with no ice	194.05	0.4472	0.0608	0.0609	0.086
1.2D + 1.0W Normal 127 mph wind with no ice	198.02	0.4507	0.1377	0.0707	0.1538
1.2D + 1.0W Normal 127 mph wind with no ice	205.95	0.4523	0.3601	0.0312	0.3615
1.2D + 1.0W Normal 127 mph wind with no ice	261.98	0.3502	0.0915	0.0415	0.1004
1.2D + 1.0W Normal 127 mph wind with no ice	318.02	0.7045	0.9609	0.5142	1.0898
1.2D + 1.0W Normal 127 mph wind with no ice	338.02	0.9736	1.2687	0.7609	1.4794
1.2D + 1.0W Normal 127 mph wind with no ice	350.00	1.1306	1.3557	0.7603	1.5543
1.2D + 1.0W 60° 127 mph wind with no ice	65.95	0.0949	-0.0146	0.1149	0.1151
1.2D + 1.0W 60° 127 mph wind with no ice	165.95	0.4595	-0.0649	0.3609	0.3663
1.2D + 1.0W 60° 127 mph wind with no ice	185.95	0.546	0.0128	0.1431	0.1431
1.2D + 1.0W 60° 127 mph wind with no ice	194.05	0.5471	0.0127	0.1108	0.1115
1.2D + 1.0W 60° 127 mph wind with no ice	198.02	0.5583	-0.0322	0.1867	0.1887
1.2D + 1.0W 60° 127 mph wind with no ice	205.95	0.5781	-0.0073	0.1132	0.1134
1.2D + 1.0W 60° 127 mph wind with no ice	261.98	0.6633	0.0985	0.0839	0.1294
1.2D + 1.0W 60° 127 mph wind with no ice	318.02	0.9585	1.1275	0.3459	1.1794
1.2D + 1.0W 60° 127 mph wind with no ice	338.02	1.1011	1.0689	0.5387	1.197
1.2D + 1.0W 60° 127 mph wind with no ice	350.00	1.2131	1.0699	0.5457	1.201
1.2D + 1.0W 90° 127 mph wind with no ice	65.95	0.0774	0.0274	0.0982	0.1005
1.2D + 1.0W 90° 127 mph wind with no ice	165.95	0.4397	-0.1582	0.3444	0.3781
1.2D + 1.0W 90° 127 mph wind with no ice	185.95	0.5151	0.0760	0.1155	0.1336
1.2D + 1.0W 90° 127 mph wind with no ice	194.05	0.5082	0.0849	0.0923	0.1226
1.2D + 1.0W 90° 127 mph wind with no ice	198.02	0.5151	0.1037	0.1485	0.179
1.2D + 1.0W 90° 127 mph wind with no ice	205.95	0.5195	0.1122	0.1690	0.2028
1.2D + 1.0W 90° 127 mph wind with no ice	261.98	0.5337	0.1508	0.0876	0.1723
1.2D + 1.0W 90° 127 mph wind with no ice	318.02	0.831	0.6357	0.4095	0.7562
1.2D + 1.0W 90° 127 mph wind with no ice	338.02	0.9939	0.4229	0.6285	0.7575
1.2D + 1.0W 90° 127 mph wind with no ice	350.00	1.1197	0.3572	0.6304	0.7245
1.2D + 1.0W 120° 127 mph wind with no ice	65.95	0.0551	0.0078	0.0506	0.0508
1.2D + 1.0W 120° 127 mph wind with no ice	165.95	0.3861	0.0573	0.3174	0.3219
1.2D + 1.0W 120° 127 mph wind with no ice	185.95	0.4522	-0.0336	0.1054	0.1106
1.2D + 1.0W 120° 127 mph wind with no ice	194.05	0.4405	-0.0442	0.0811	0.0924
1.2D + 1.0W 120° 127 mph wind with no ice	198.02	0.443	-0.1029	0.0407	0.1095
1.2D + 1.0W 120° 127 mph wind with no ice	205.95	0.4359	-0.1869	0.1573	0.2443
1.2D + 1.0W 120° 127 mph wind with no ice	261.98	0.3191	-0.0117	0.0676	0.0686

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W 120° 127 mph wind with no ice	318.02	0.6591	-0.1864	0.4880	0.5224
1.2D + 1.0W 120° 127 mph wind with no ice	338.02	0.9099	-0.4966	0.7489	0.8986
1.2D + 1.0W 120° 127 mph wind with no ice	350.00	1.0646	-0.5832	0.7483	0.9487
1.2D + 1.0W 180° 127 mph wind with no ice	65.95	0.1052	-0.0165	0.1195	0.1199
1.2D + 1.0W 180° 127 mph wind with no ice	165.95	0.5172	0.0491	0.3566	0.36
1.2D + 1.0W 180° 127 mph wind with no ice	185.95	0.6068	-0.0439	0.0529	0.0668
1.2D + 1.0W 180° 127 mph wind with no ice	194.05	0.6061	-0.0590	0.0863	0.0977
1.2D + 1.0W 180° 127 mph wind with no ice	198.02	0.618	-0.1099	0.1935	0.2207
1.2D + 1.0W 180° 127 mph wind with no ice	205.95	0.6405	-0.2193	0.2456	0.3293
1.2D + 1.0W 180° 127 mph wind with no ice	261.98	0.6948	-0.0664	0.0432	0.0793
1.2D + 1.0W 180° 127 mph wind with no ice	318.02	0.9552	-1.3163	0.3557	1.3635
1.2D + 1.0W 180° 127 mph wind with no ice	338.02	1.174	-1.7568	0.5898	1.8532
1.2D + 1.0W 180° 127 mph wind with no ice	350.00	1.2942	-1.8296	0.5773	1.9185
1.2D + 1.0W 210° 127 mph wind with no ice	65.95	0.0873	0.0247	0.0946	0.0964
1.2D + 1.0W 210° 127 mph wind with no ice	165.95	0.4832	-0.1309	0.3544	0.3772
1.2D + 1.0W 210° 127 mph wind with no ice	185.95	0.562	0.0692	0.0387	0.0761
1.2D + 1.0W 210° 127 mph wind with no ice	194.05	0.5546	0.0765	0.0778	0.1063
1.2D + 1.0W 210° 127 mph wind with no ice	198.02	0.5615	0.0958	0.1396	0.1674
1.2D + 1.0W 210° 127 mph wind with no ice	205.95	0.5662	0.0822	0.2397	0.2534
1.2D + 1.0W 210° 127 mph wind with no ice	261.98	0.5685	-0.0093	0.0435	0.0441
1.2D + 1.0W 210° 127 mph wind with no ice	318.02	0.866	-0.9772	0.4753	1.0867
1.2D + 1.0W 210° 127 mph wind with no ice	338.02	1.0755	-1.1719	0.6791	1.3544
1.2D + 1.0W 210° 127 mph wind with no ice	350.00	1.2111	-1.2247	0.6761	1.3989
1.2D + 1.0W 240° 127 mph wind with no ice	65.95	0.0574	-0.0074	0.0484	0.0485
1.2D + 1.0W 240° 127 mph wind with no ice	165.95	0.3926	0.0402	0.3407	0.3431
1.2D + 1.0W 240° 127 mph wind with no ice	185.95	0.4589	-0.0051	0.1115	0.1115
1.2D + 1.0W 240° 127 mph wind with no ice	194.05	0.448	-0.0213	0.0448	0.0472
1.2D + 1.0W 240° 127 mph wind with no ice	198.02	0.449	-0.0298	0.0498	0.0577
1.2D + 1.0W 240° 127 mph wind with no ice	205.95	0.4441	-0.0975	0.1580	0.1856
1.2D + 1.0W 240° 127 mph wind with no ice	261.98	0.3361	-0.0847	0.0595	0.1035
1.2D + 1.0W 240° 127 mph wind with no ice	318.02	0.7139	-0.8788	0.5459	1.0345
1.2D + 1.0W 240° 127 mph wind with no ice	338.02	0.9337	-0.8781	0.7687	1.167
1.2D + 1.0W 240° 127 mph wind with no ice	350.00	1.0927	-0.8771	0.7693	1.1667
1.2D + 1.0W 300° 127 mph wind with no ice	65.95	0.0953	0.0147	0.1056	0.1059
1.2D + 1.0W 300° 127 mph wind with no ice	165.95	0.4336	0.0667	0.3526	0.3589
1.2D + 1.0W 300° 127 mph wind with no ice	185.95	0.5162	0.0317	0.1431	0.1466
1.2D + 1.0W 300° 127 mph wind with no ice	194.05	0.5166	0.0433	0.1077	0.1118
1.2D + 1.0W 300° 127 mph wind with no ice	198.02	0.5286	0.1008	0.1896	0.213
1.2D + 1.0W 300° 127 mph wind with no ice	205.95	0.5509	0.2097	0.1667	0.2679
1.2D + 1.0W 300° 127 mph wind with no ice	261.98	0.6167	0.0152	0.0694	0.071
1.2D + 1.0W 300° 127 mph wind with no ice	318.02	0.876	0.0364	0.3340	0.336
1.2D + 1.0W 300° 127 mph wind with no ice	338.02	1.0618	0.4860	0.5815	0.7579
1.2D + 1.0W 300° 127 mph wind with no ice	350.00	1.1806	0.5592	0.5692	0.7979
1.2D + 1.0W 330° 127 mph wind with no ice	65.95	0.078	0.0254	0.0993	0.1011
1.2D + 1.0W 330° 127 mph wind with no ice	165.95	0.4174	-0.1110	0.3381	0.3552
1.2D + 1.0W 330° 127 mph wind with no ice	185.95	0.4941	0.1191	0.1012	0.154
1.2D + 1.0W 330° 127 mph wind with no ice	194.05	0.4879	0.1361	0.0871	0.159
1.2D + 1.0W 330° 127 mph wind with no ice	198.02	0.4964	0.1927	0.1519	0.2435
1.2D + 1.0W 330° 127 mph wind with no ice	205.95	0.5105	0.3044	0.1054	0.3221
1.2D + 1.0W 330° 127 mph wind with no ice	261.98	0.5123	0.1430	0.0447	0.1498
1.2D + 1.0W 330° 127 mph wind with no ice	318.02	0.7844	0.8755	0.4248	0.9731
1.2D + 1.0W 330° 127 mph wind with no ice	338.02	1.0386	1.2759	0.6724	1.4422
1.2D + 1.0W 330° 127 mph wind with no ice	350.00	1.174	1.3536	0.6582	1.5051
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	65.95	0.0141	0.0032	0.0504	0.0504
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	165.95	0.0069	0.1260	0.0132	0.1264
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	185.95	0.0335	0.0216	0.2439	0.2445
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	194.05	0.0611	0.0304	0.1734	0.1761
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	198.02	0.0688	0.0942	0.1064	0.1421
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	205.95	0.0723	0.2259	0.0288	0.2277
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	261.98	0.1759	0.0149	0.0631	0.0647
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	318.02	0.0802	0.2736	0.1380	0.3064
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	338.02	0.0005	0.3942	0.2146	0.4488
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	350.00	0.0445	0.4070	0.2133	0.4595
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	65.95	0.024	-0.0091	0.0812	0.0815
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	165.95	0.1267	-0.0365	0.1099	0.1156
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	185.95	0.1502	0.0168	0.0533	0.0551
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	194.05	0.1391	0.0216	0.0244	0.0326
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	198.02	0.1427	0.0533	0.0685	0.0861

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	205.95	0.1431	0.0912	0.1533	0.1784
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	261.98	0.1404	0.0366	0.0706	0.0784
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	318.02	0.2135	0.4931	0.0858	0.5006
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	338.02	0.2361	0.4749	0.1200	0.4898
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	350.00	0.2604	0.4750	0.1221	0.4905
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	65.95	0.022	0.0200	0.0792	0.0813
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	165.95	0.1002	0.2144	0.1272	0.249
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	185.95	0.0958	0.0358	0.1386	0.1421
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	194.05	0.0818	0.0297	0.1518	0.1543
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	198.02	0.0846	0.0706	0.1106	0.1305
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	205.95	0.0893	0.1627	0.1575	0.2265
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	261.98	0.1455	0.0949	0.1204	0.1527
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	318.02	0.1831	0.3509	0.0672	0.3573
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	338.02	0.2013	0.2697	0.1216	0.2958
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	350.00	0.2143	0.2631	0.1250	0.2913
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	65.95	0.0281	0.0079	0.0539	0.0543
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	165.95	0.0874	0.1757	0.0396	0.179
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	185.95	0.0763	-0.0254	0.1424	0.1439
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	194.05	0.0533	-0.0386	0.1609	0.1654
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	198.02	0.0518	-0.0969	0.1079	0.1449
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	205.95	0.0502	-0.2186	0.1325	0.2556
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	261.98	0.1037	0.0164	0.1335	0.1345
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	318.02	0.062	0.0716	0.0667	0.0979
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	338.02	0.0317	-0.0513	0.1414	0.1504
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	350.00	0.0305	-0.0639	0.1396	0.1536
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	65.95	0.0412	0.0025	0.0174	0.0174
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	165.95	0.1872	0.0433	0.1026	0.111
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	185.95	0.2091	-0.0227	0.0693	0.073
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	194.05	0.194	-0.0352	0.0473	0.059
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	198.02	0.1961	-0.0839	0.0743	0.1112
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	205.95	0.2008	-0.1911	0.0771	0.206
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	261.98	0.151	-0.0308	0.1184	0.1219
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	318.02	0.1709	-0.4386	0.0444	0.4408
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	338.02	0.2134	-0.5204	0.1189	0.5338
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	350.00	0.2363	-0.5314	0.1244	0.5458
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	65.95	0.0372	-0.0051	0.0510	0.0512
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	165.95	0.1538	0.1160	0.1153	0.1631
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	185.95	0.1754	0.0515	0.1601	0.1668
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	194.05	0.1675	0.0427	0.1379	0.1437
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	198.02	0.1699	0.0573	0.0735	0.0932
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	205.95	0.1676	-0.0506	0.1183	0.1286
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	261.98	0.1942	0.0271	0.1290	0.1313
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	318.02	0.1548	-0.2552	0.0903	0.2707
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	338.02	0.1626	-0.3076	0.1757	0.3542
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	350.00	0.1689	-0.3142	0.1831	0.3637
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	65.95	0.0339	-0.0147	0.0664	0.0678
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	165.95	0.079	-0.2625	0.0166	0.263
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	185.95	0.0683	0.0052	0.1509	0.1509
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	194.05	0.0516	0.0109	0.1607	0.1611
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	198.02	0.05	0.0210	0.1035	0.1056
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	205.95	0.0486	0.0681	0.1558	0.1701
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	261.98	0.1579	-0.0284	0.1372	0.14
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	318.02	0.0885	-0.3708	0.1164	0.3886
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	338.02	0.0386	-0.3575	0.2031	0.4111
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	350.00	0.0188	-0.3574	0.2101	0.4145
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	65.95	0.0314	0.0186	0.1002	0.1015
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	165.95	0.1117	-0.0110	0.1040	0.1046
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	185.95	0.1342	0.0094	0.0522	0.0527
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	194.05	0.1233	0.0244	0.0562	0.0613
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	198.02	0.1255	0.0821	0.0906	0.1216
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	205.95	0.1307	0.1921	0.1252	0.2293
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	261.98	0.0918	0.0012	0.0512	0.0512
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	318.02	0.1739	-0.1657	0.1077	0.1976
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	338.02	0.2195	-0.0893	0.1769	0.1982
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	350.00	0.2566	-0.0782	0.1817	0.1978
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	65.95	0.0227	0.0226	0.0916	0.094
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	165.95	0.0826	0.0916	0.1076	0.141
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	185.95	0.1146	0.0780	0.1721	0.189

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	194.05	0.1207	0.0874	0.1202	0.1478
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	198.02	0.1268	0.1475	0.0973	0.1767
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	205.95	0.132	0.2716	0.0205	0.2724
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	261.98	0.1654	0.0616	0.0488	0.0776
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	318.02	0.1313	0.2715	0.1264	0.2995
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	338.02	0.1695	0.3891	0.2013	0.4381
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	350.00	0.1991	0.4022	0.2061	0.4519
1.2D + 1.0Ev + 1.0Eh Normal Seismic	65.95	0.0061	0.0006	0.0506	0.0506
1.2D + 1.0Ev + 1.0Eh Normal Seismic	165.95	0.004	0.0117	0.0485	0.0498
1.2D + 1.0Ev + 1.0Eh Normal Seismic	185.95	0.0047	0.0019	0.0144	0.0144
1.2D + 1.0Ev + 1.0Eh Normal Seismic	194.05	0.0035	0.0021	0.0238	0.0239
1.2D + 1.0Ev + 1.0Eh Normal Seismic	198.02	0.003	0.0085	0.0341	0.0351
1.2D + 1.0Ev + 1.0Eh Normal Seismic	205.95	0.0065	0.0139	0.0219	0.0259
1.2D + 1.0Ev + 1.0Eh Normal Seismic	261.98	0.0119	-0.0158	0.0202	0.0257
1.2D + 1.0Ev + 1.0Eh Normal Seismic	318.02	0.0315	0.0003	0.0334	0.0334
1.2D + 1.0Ev + 1.0Eh Normal Seismic	338.02	0.0464	0.0002	0.0451	0.0451
1.2D + 1.0Ev + 1.0Eh Normal Seismic	350.00	0.0558	0.0003	0.0458	0.0458
1.2D + 1.0Ev + 1.0Eh 60° Seismic	65.95	0.0068	0.0037	0.0518	0.0519
1.2D + 1.0Ev + 1.0Eh 60° Seismic	165.95	0.0182	0.0048	0.0573	0.0574
1.2D + 1.0Ev + 1.0Eh 60° Seismic	185.95	0.0215	-0.0010	0.0202	0.0202
1.2D + 1.0Ev + 1.0Eh 60° Seismic	194.05	0.0182	-0.0014	0.0296	0.0296
1.2D + 1.0Ev + 1.0Eh 60° Seismic	198.02	0.0176	-0.0162	0.0455	0.0482
1.2D + 1.0Ev + 1.0Eh 60° Seismic	205.95	0.0189	-0.0656	0.0233	0.0696
1.2D + 1.0Ev + 1.0Eh 60° Seismic	261.98	0.0217	-0.0043	0.0231	0.0235
1.2D + 1.0Ev + 1.0Eh 60° Seismic	318.02	0.0394	0.0205	0.0304	0.0366
1.2D + 1.0Ev + 1.0Eh 60° Seismic	338.02	0.0527	0.0201	0.0425	0.047
1.2D + 1.0Ev + 1.0Eh 60° Seismic	350.00	0.0616	0.0200	0.0432	0.0476
1.2D + 1.0Ev + 1.0Eh 90° Seismic	65.95	0.0078	0.0011	0.0558	0.0558
1.2D + 1.0Ev + 1.0Eh 90° Seismic	165.95	0.025	-0.0058	0.0481	0.0484
1.2D + 1.0Ev + 1.0Eh 90° Seismic	185.95	0.0291	-0.0028	0.0186	0.0187
1.2D + 1.0Ev + 1.0Eh 90° Seismic	194.05	0.025	0.0029	0.0511	0.0512
1.2D + 1.0Ev + 1.0Eh 90° Seismic	198.02	0.023	0.0154	0.0363	0.0394
1.2D + 1.0Ev + 1.0Eh 90° Seismic	205.95	0.0219	-0.0332	0.0196	0.0385
1.2D + 1.0Ev + 1.0Eh 90° Seismic	261.98	0.0239	-0.0033	0.0232	0.0234
1.2D + 1.0Ev + 1.0Eh 90° Seismic	318.02	0.0409	0.0009	0.0276	0.0276
1.2D + 1.0Ev + 1.0Eh 90° Seismic	338.02	0.0536	0.0010	0.0397	0.0397
1.2D + 1.0Ev + 1.0Eh 90° Seismic	350.00	0.0619	0.0010	0.0404	0.0404
1.2D + 1.0Ev + 1.0Eh 120° Seismic	65.95	0.008	-0.0015	0.0595	0.0595
1.2D + 1.0Ev + 1.0Eh 120° Seismic	165.95	0.0298	-0.0146	0.0382	0.0409
1.2D + 1.0Ev + 1.0Eh 120° Seismic	185.95	0.034	-0.0062	0.0166	0.0176
1.2D + 1.0Ev + 1.0Eh 120° Seismic	194.05	0.0291	-0.0041	0.0422	0.0424
1.2D + 1.0Ev + 1.0Eh 120° Seismic	198.02	0.0267	-0.0145	0.0470	0.0492
1.2D + 1.0Ev + 1.0Eh 120° Seismic	205.95	0.0251	-0.0616	0.0219	0.0654
1.2D + 1.0Ev + 1.0Eh 120° Seismic	261.98	0.0266	0.0153	0.0233	0.0279
1.2D + 1.0Ev + 1.0Eh 120° Seismic	318.02	0.0407	-0.0033	0.0224	0.0227
1.2D + 1.0Ev + 1.0Eh 120° Seismic	338.02	0.0515	-0.0033	0.0346	0.0348
1.2D + 1.0Ev + 1.0Eh 120° Seismic	350.00	0.0589	-0.0034	0.0353	0.0355
1.2D + 1.0Ev + 1.0Eh 180° Seismic	65.95	0.0088	0.0019	0.0644	0.0644
1.2D + 1.0Ev + 1.0Eh 180° Seismic	165.95	0.0321	0.0060	0.0221	0.0228
1.2D + 1.0Ev + 1.0Eh 180° Seismic	185.95	0.037	-0.0031	0.0246	0.0248
1.2D + 1.0Ev + 1.0Eh 180° Seismic	194.05	0.0319	-0.0016	0.0450	0.045
1.2D + 1.0Ev + 1.0Eh 180° Seismic	198.02	0.0297	0.0004	0.0408	0.0408
1.2D + 1.0Ev + 1.0Eh 180° Seismic	205.95	0.0242	0.0167	0.0202	0.0262
1.2D + 1.0Ev + 1.0Eh 180° Seismic	261.98	0.0256	0.0058	0.0245	0.0251
1.2D + 1.0Ev + 1.0Eh 180° Seismic	318.02	0.0351	-0.0331	0.0209	0.0391
1.2D + 1.0Ev + 1.0Eh 180° Seismic	338.02	0.0451	-0.0326	0.0332	0.0465
1.2D + 1.0Ev + 1.0Eh 180° Seismic	350.00	0.0519	-0.0325	0.0339	0.047
1.2D + 1.0Ev + 1.0Eh 210° Seismic	65.95	0.0088	0.0040	0.0556	0.0557
1.2D + 1.0Ev + 1.0Eh 210° Seismic	165.95	0.0315	0.0338	0.0444	0.0557
1.2D + 1.0Ev + 1.0Eh 210° Seismic	185.95	0.0363	0.0029	0.0221	0.0222
1.2D + 1.0Ev + 1.0Eh 210° Seismic	194.05	0.0314	0.0038	0.0449	0.0451
1.2D + 1.0Ev + 1.0Eh 210° Seismic	198.02	0.0288	0.0175	0.0460	0.0492
1.2D + 1.0Ev + 1.0Eh 210° Seismic	205.95	0.0219	0.0452	0.0275	0.0529
1.2D + 1.0Ev + 1.0Eh 210° Seismic	261.98	0.0218	-0.0024	0.0174	0.0176
1.2D + 1.0Ev + 1.0Eh 210° Seismic	318.02	0.0324	0.0222	0.0231	0.032
1.2D + 1.0Ev + 1.0Eh 210° Seismic	338.02	0.0415	0.0219	0.0357	0.0419
1.2D + 1.0Ev + 1.0Eh 210° Seismic	350.00	0.0489	0.0219	0.0364	0.0425
1.2D + 1.0Ev + 1.0Eh 240° Seismic	65.95	0.0084	0.0046	0.0559	0.0561

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh 240° Seismic	165.95	0.0269	-0.0537	0.0405	0.067
1.2D + 1.0Ev + 1.0Eh 240° Seismic	185.95	0.0316	0.0016	0.0304	0.0305
1.2D + 1.0Ev + 1.0Eh 240° Seismic	194.05	0.0273	0.0051	0.0382	0.0385
1.2D + 1.0Ev + 1.0Eh 240° Seismic	198.02	0.0256	0.0252	0.0512	0.057
1.2D + 1.0Ev + 1.0Eh 240° Seismic	205.95	0.0201	0.0547	0.0187	0.0578
1.2D + 1.0Ev + 1.0Eh 240° Seismic	261.98	0.0164	-0.0090	0.0217	0.0235
1.2D + 1.0Ev + 1.0Eh 240° Seismic	318.02	0.0281	0.0020	0.0254	0.0255
1.2D + 1.0Ev + 1.0Eh 240° Seismic	338.02	0.0383	0.0020	0.0378	0.0379
1.2D + 1.0Ev + 1.0Eh 240° Seismic	350.00	0.0462	0.0020	0.0385	0.0386
1.2D + 1.0Ev + 1.0Eh 300° Seismic	65.95	0.0066	0.0026	0.0539	0.0539
1.2D + 1.0Ev + 1.0Eh 300° Seismic	165.95	0.0136	-0.0151	0.0449	0.0474
1.2D + 1.0Ev + 1.0Eh 300° Seismic	185.95	0.0178	0.0021	0.0183	0.0183
1.2D + 1.0Ev + 1.0Eh 300° Seismic	194.05	0.0148	0.0019	0.0327	0.0328
1.2D + 1.0Ev + 1.0Eh 300° Seismic	198.02	0.0137	0.0130	0.0425	0.0444
1.2D + 1.0Ev + 1.0Eh 300° Seismic	205.95	0.0123	0.0521	0.0189	0.0554
1.2D + 1.0Ev + 1.0Eh 300° Seismic	261.98	0.0049	0.0002	0.0165	0.0165
1.2D + 1.0Ev + 1.0Eh 300° Seismic	318.02	0.0233	0.0000	0.0306	0.0306
1.2D + 1.0Ev + 1.0Eh 300° Seismic	338.02	0.0369	-0.0001	0.0428	0.0428
1.2D + 1.0Ev + 1.0Eh 300° Seismic	350.00	0.0459	-0.0001	0.0434	0.0434
1.2D + 1.0Ev + 1.0Eh 330° Seismic	65.95	0.0065	0.0012	0.0511	0.0512
1.2D + 1.0Ev + 1.0Eh 330° Seismic	165.95	0.0078	0.0467	0.0707	0.0847
1.2D + 1.0Ev + 1.0Eh 330° Seismic	185.95	0.0065	0.0054	0.0314	0.0318
1.2D + 1.0Ev + 1.0Eh 330° Seismic	194.05	0.0056	0.0011	0.0207	0.0207
1.2D + 1.0Ev + 1.0Eh 330° Seismic	198.02	0.0056	0.0075	0.0328	0.0336
1.2D + 1.0Ev + 1.0Eh 330° Seismic	205.95	0.0066	0.0187	0.0196	0.0271
1.2D + 1.0Ev + 1.0Eh 330° Seismic	261.98	0.0082	0.0084	0.0123	0.0147
1.2D + 1.0Ev + 1.0Eh 330° Seismic	318.02	0.0276	0.0000	0.0331	0.0331
1.2D + 1.0Ev + 1.0Eh 330° Seismic	338.02	0.0425	-0.0001	0.0454	0.0454
1.2D + 1.0Ev + 1.0Eh 330° Seismic	350.00	0.052	0.0000	0.0461	0.0461
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	65.95	0.0061	-0.0014	0.0468	0.0468
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	165.95	0.0048	0.0255	0.0453	0.0519
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	185.95	0.0045	0.0021	0.0191	0.0192
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	194.05	0.0037	0.0030	0.0161	0.0164
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	198.02	0.0032	0.0101	0.0293	0.031
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	205.95	0.005	0.0118	0.0232	0.026
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	261.98	0.0127	0.0013	0.0111	0.0112
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	318.02	0.0325	-0.0014	0.0343	0.0344
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	338.02	0.048	-0.0014	0.0468	0.0469
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	350.00	0.0577	-0.0014	0.0475	0.0476
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	65.95	0.0068	-0.0020	0.0506	0.0506
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	165.95	0.0161	0.0101	0.0416	0.0428
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	185.95	0.0201	0.0013	0.0210	0.0211
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	194.05	0.0172	0.0007	0.0287	0.0287
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	198.02	0.0163	-0.0064	0.0337	0.0343
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	205.95	0.0173	-0.0455	0.0201	0.0498
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	261.98	0.0216	0.0017	0.0204	0.0204
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	318.02	0.0357	-0.0008	0.0283	0.0283
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	338.02	0.0487	-0.0007	0.0396	0.0396
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	350.00	0.0569	-0.0007	0.0402	0.0402
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	65.95	0.0073	0.0058	0.0618	0.0621
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	165.95	0.019	0.0509	0.0423	0.0662
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	185.95	0.0261	-0.0028	0.0382	0.0383
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	194.05	0.0225	-0.0019	0.0212	0.0213
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	198.02	0.0216	-0.0132	0.0330	0.0355
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	205.95	0.0222	-0.0566	0.0191	0.0597
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	261.98	0.0243	-0.0086	0.0183	0.0202
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	318.02	0.0373	-0.0011	0.0257	0.0257
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	338.02	0.0492	-0.0009	0.0369	0.0369
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	350.00	0.057	-0.0010	0.0375	0.0376
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	65.95	0.0083	-0.0042	0.0524	0.0526
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	165.95	0.0255	0.0919	0.0341	0.098
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	185.95	0.0313	-0.0030	0.0361	0.0361
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	194.05	0.0267	-0.0026	0.0276	0.0277
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	198.02	0.0252	-0.0169	0.0441	0.0471
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	205.95	0.0245	-0.0171	0.0179	0.0248
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	261.98	0.0258	-0.0005	0.0158	0.0158
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	318.02	0.0393	-0.0006	0.0255	0.0255
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	338.02	0.051	-0.0004	0.0376	0.0376

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	350.00	0.0589	-0.0005	0.0383	0.0383
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	65.95	0.0089	0.0002	0.0591	0.0591
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	165.95	0.0287	0.0481	0.0278	0.0555
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	185.95	0.0361	0.0023	0.0025	0.0031
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	194.05	0.032	0.0028	0.0358	0.0359
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	198.02	0.03	0.0122	0.0344	0.0365
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	205.95	0.0234	0.0536	0.0454	0.0702
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	261.98	0.023	0.0063	0.0154	0.0165
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	318.02	0.0353	-0.0017	0.0242	0.0242
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	338.02	0.0455	-0.0016	0.0364	0.0365
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	350.00	0.053	-0.0017	0.0371	0.0372
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	65.95	0.0086	0.0005	0.0563	0.0563
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	165.95	0.0234	0.0012	0.0361	0.0362
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	185.95	0.0325	-0.0014	0.0098	0.0098
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	194.05	0.0286	0.0033	0.0273	0.0274
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	198.02	0.0269	0.0154	0.0364	0.0395
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	205.95	0.0213	0.0558	0.0263	0.0616
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	261.98	0.0211	-0.0081	0.0150	0.0168
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	318.02	0.0311	0.0000	0.0240	0.024
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	338.02	0.0406	0.0000	0.0362	0.0362
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	350.00	0.0481	0.0000	0.0368	0.0368
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	65.95	0.0075	0.0057	0.0667	0.0669
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	165.95	0.022	0.0050	0.0399	0.0402
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	185.95	0.0288	0.0020	0.0198	0.0199
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	194.05	0.0255	-0.0002	0.0339	0.0339
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	198.02	0.0237	0.0037	0.0217	0.022
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	205.95	0.0221	-0.0097	0.0230	0.025
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	261.98	0.0152	-0.0063	0.0160	0.0172
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	318.02	0.0263	0.0010	0.0262	0.0262
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	338.02	0.0367	0.0008	0.0382	0.0382
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	350.00	0.0446	0.0008	0.0388	0.0388
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	65.95	0.007	0.0042	0.0509	0.051
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	165.95	0.0128	0.0586	0.0512	0.0777
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	185.95	0.0154	0.0024	0.0268	0.0268
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	194.05	0.0135	0.0043	0.0247	0.025
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	198.02	0.0135	0.0263	0.0413	0.0489
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	205.95	0.0114	0.0522	0.0257	0.0582
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	261.98	0.0056	0.0024	0.0117	0.0119
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	318.02	0.0226	-0.0002	0.0297	0.0297
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	338.02	0.0358	-0.0003	0.0419	0.0419
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	350.00	0.0447	-0.0003	0.0426	0.0426
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	65.95	0.0063	0.0013	0.0482	0.0483
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	165.95	0.0054	0.0219	0.0604	0.0642
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	185.95	0.006	0.0034	0.0238	0.024
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	194.05	0.0055	0.0026	0.0166	0.0167
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	198.02	0.0055	0.0118	0.0309	0.033
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	205.95	0.0062	0.0335	0.0303	0.0452
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	261.98	0.0071	0.0021	0.0116	0.0118
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	318.02	0.0262	-0.0005	0.0315	0.0315
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	338.02	0.0404	-0.0006	0.0436	0.0436
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	350.00	0.0495	-0.0005	0.0442	0.0442
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	65.95	0.0113	0.0017	0.0446	0.0446
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	165.95	0.0412	0.0108	0.0404	0.0418
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	185.95	0.0472	0.0055	0.0498	0.0499
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	194.05	0.038	0.0114	0.0530	0.0542
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	198.02	0.0381	0.0429	0.0235	0.0489
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	205.95	0.0382	0.1036	0.0222	0.106
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	261.98	0.0099	0.0148	0.0352	0.0382
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	318.02	0.0381	0.2564	0.0560	0.2625
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	338.02	0.0751	0.2979	0.1092	0.3173
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	350.00	0.0977	0.3065	0.1113	0.3261
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	65.95	0.0147	-0.0076	0.0542	0.0545
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	165.95	0.0642	-0.0864	0.0740	0.1134
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	185.95	0.0764	-0.0020	0.0323	0.0323
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	194.05	0.0698	-0.0031	0.0377	0.0378
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	198.02	0.0707	-0.0304	0.0418	0.0513
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	205.95	0.0705	-0.0383	0.0514	0.0641
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	261.98	0.0661	0.0229	0.0259	0.0338

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	318.02	0.1125	0.3407	0.0472	0.344
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	338.02	0.1309	0.3299	0.0886	0.3416
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	350.00	0.1495	0.3300	0.0908	0.3422
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	65.95	0.0173	0.0065	0.0443	0.0447
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	165.95	0.0639	-0.1376	0.0651	0.1515
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	185.95	0.0705	0.0055	0.0485	0.0488
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	194.05	0.0623	0.0136	0.0376	0.0392
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	198.02	0.0627	0.0272	0.0297	0.0398
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	205.95	0.0622	0.0581	0.0423	0.0719
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	261.98	0.0483	0.0232	0.0455	0.0509
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	318.02	0.0864	0.2198	0.0375	0.223
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	338.02	0.1045	0.1848	0.0858	0.2037
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	350.00	0.1211	0.1798	0.0879	0.2001
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	65.95	0.0204	0.0021	0.0301	0.0302
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	165.95	0.067	0.0246	0.0414	0.0478
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	185.95	0.0705	-0.0093	0.0479	0.0483
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	194.05	0.0597	-0.0108	0.0520	0.0531
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	198.02	0.059	-0.0215	0.0205	0.0297
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	205.95	0.0562	-0.0250	0.0243	0.0348
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	261.98	0.018	0.0028	0.0580	0.0581
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	318.02	0.0417	-0.0385	0.0333	0.051
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	338.02	0.0697	-0.0814	0.0885	0.1202
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	350.00	0.088	-0.0900	0.0905	0.1276
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	65.95	0.0255	-0.0005	0.0159	0.0159
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	165.95	0.0871	0.0046	0.0544	0.0545
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	185.95	0.0992	-0.0092	0.0427	0.0437
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	194.05	0.0911	-0.0136	0.0455	0.0475
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	198.02	0.0884	-0.0269	0.0413	0.0493
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	205.95	0.0845	-0.0313	0.0224	0.0385
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	261.98	0.0708	-0.0235	0.0348	0.0416
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	318.02	0.1016	-0.3605	0.0481	0.3637
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	338.02	0.1397	-0.4168	0.1023	0.4292
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	350.00	0.1607	-0.4254	0.1058	0.4384
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	65.95	0.024	0.0043	0.0381	0.0383
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	165.95	0.0797	-0.0762	0.0642	0.0993
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	185.95	0.0886	0.0056	0.0410	0.0414
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	194.05	0.0796	0.0061	0.0414	0.0416
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	198.02	0.079	-0.0016	0.0123	0.0124
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	205.95	0.0766	-0.0660	0.0278	0.0717
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	261.98	0.0573	-0.0012	0.0470	0.047
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	318.02	0.0779	-0.2769	0.0530	0.2819
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	338.02	0.1096	-0.3006	0.1095	0.32
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	350.00	0.1296	-0.3055	0.1140	0.3261
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	65.95	0.0217	-0.0028	0.0294	0.0295
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	165.95	0.0647	-0.0702	0.0543	0.0887
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	185.95	0.0681	-0.0035	0.0388	0.0389
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	194.05	0.0578	-0.0045	0.0462	0.0464
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	198.02	0.0567	-0.0173	0.0270	0.032
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	205.95	0.0529	-0.0730	0.0388	0.0827
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	261.98	0.012	-0.0119	0.0519	0.0532
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	318.02	0.0381	-0.2256	0.0553	0.2323
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	338.02	0.0649	-0.2238	0.1163	0.2522
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	350.00	0.0892	-0.2237	0.1211	0.2544
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	65.95	0.0158	0.0076	0.0528	0.0531
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	165.95	0.0553	0.0226	0.0842	0.087
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	185.95	0.0687	0.0100	0.0071	0.0116
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	194.05	0.0625	0.0104	0.0152	0.0184
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	198.02	0.0635	0.0337	0.0457	0.0565
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	205.95	0.0631	0.0449	0.0522	0.0688
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	261.98	0.0503	0.0037	0.0179	0.0183
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	318.02	0.088	0.0337	0.0513	0.0614
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	338.02	0.1246	0.0916	0.1153	0.1472
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	350.00	0.1488	0.1002	0.1186	0.1552
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	65.95	0.0129	0.0112	0.0538	0.0547
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	165.95	0.0457	-0.0891	0.0700	0.1129
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	185.95	0.0568	0.0228	0.0590	0.0632
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	194.05	0.0504	0.0235	0.0335	0.0404
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	198.02	0.0516	0.0430	0.0137	0.0451

ASSET: # 207945, N. Stonington

STANDARD ANSI/TIA-222-H

CUSTOMER VERIZON WIRELESS

ENG NO.: 13677777_C3_04

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	205.95	0.0492	0.0176	0.0250	0.0306
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	261.98	0.0357	0.0200	0.0270	0.0333
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	318.02	0.059	0.2788	0.0580	0.2848
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	338.02	0.1068	0.3274	0.1136	0.3466
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	350.00	0.1302	0.3373	0.1161	0.3567

Site Name: N. Stonington, CT
Site Number: 207945
Tower Type: GT
Design Loads (Factored) - Analysis per TIA-222-H Standards

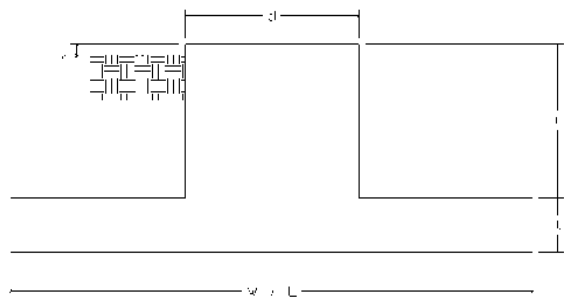
Monolithic Mat & Pier Foundation Analysis

Foundation Analysis Parameters		
Design / Analysis / Mapping:	Mapping	-
Compression/Leg:	63.0	k
Uplift/Leg:	0.0	k
Total Shear:	2.0	k
Moment:	41.3	k-ft
Total Combined Axial Compressive Load:	118.2	k
Depth to Base of Foundation (l + t - h):	4	ft
Diameter of Pier (d):	4	ft
Length of Pier (l):	1.5	ft
Height of Pier above Ground (h):	0.5	ft
Width of Pad (W):	6	ft
Length of Pad (L):	6	ft
Thickness of Pad (t):	3	ft
Tower Leg Center to Center:	3	ft
Number of Tower Legs:	1	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	99	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	120	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	57.6	pcf
Friction Angle of Uplift:	15	°
Coefficient of Shear Friction:	0.35	-
Ultimate Compressive Bearing Pressure:	30,000	psf
Ultimate Passive Pressure on Pad Face:	1,294	psf
$f_{\text{Soil and Concrete Weight}}$:	0.9	-
f_{Soil} :	0.6	-

Overturning Moment Usage		
Design OTM:	50.4	k-ft
OTM Resistance:	316.8	k-ft
Design OTM / OTM Resistance:	16%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	5939	psf
Factored Nominal Bearing Pressure:	18000	psf
Factored Nominal (Net) Bearing Pressure:	33%	Pass
Load Direction Controlling Design Bearing Pressure:	<i>Diagonal to Pad Edge</i>	

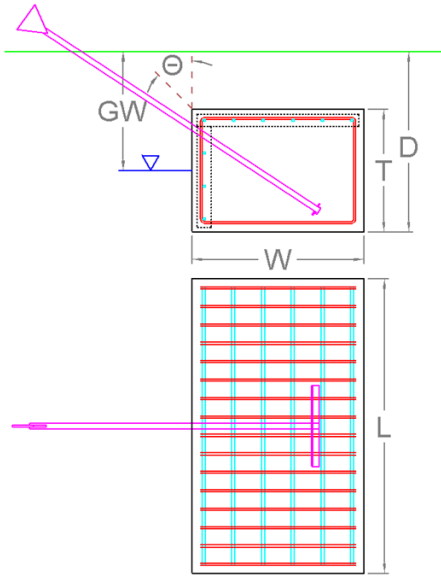
Sliding Factor of Safety		
Ultimate Friction Resistance:	42.1	k
Ultimate Passive Pressure Resistance:	14.0	k
Total Factored Sliding Resistance:	33.7	k
Sliding Design / Sliding Resistance:	6%	Pass



Guy Anchor Block Analysis (ANSI/TIA-222-H)

Anchor Block Parameters			
Include Berm?		N	
Analyze Anchor Rod?		Y	
Ignore Rebar?		Y	
Base Depth	<i>D</i>	5.0	ft
Width	<i>W</i>	6.0	ft
Length	<i>L</i>	16.0	ft
Thickness	<i>T</i>	5.0	ft
Water Table Depth [BGL]	<i>GW</i>	99	ft
Unit Weight of Concrete		150	pcf
Unit Weight of Soil Above Water Table		105.0	pcf
Unit Weight of Water		62.4	pcf
Unit Weight of Soil [Submerged]		42.6	pcf
Friction Angle		28	°
Cohesion		0	psf
Ultimate Skin Friction		140	psf
Coefficient of Shear Friction		0.35	
Conical Failure Angle	Θ	15	°
Soil Uplift at _____ of Anchor		Top	
Capacity Increase (Transient Loads)		1.00	
Uplift Strength Reduction Factor, ϕ_u		0.75	
Shear Strength Reduction Factor, ϕ_v		0.75	
Dead Load Factor		0.90	

Reactions		
Uplift, T_u	5.8	k
Shear, V_u	11.9	k
Anchor Radius	167	ft
Node	A1	-



Soil Uplift Capacity		
Uplift Resistance from Skin Friction and Soil Shear	14.9	k
Nominal Uplift Resistance, $\phi_u T_n$	76.0	k
$T_u / \phi_u T_n$	7.7%	

Soil Shear Capacity		
Shear Resistance from Skin Friction	7.5	k
Shear Friction Resistance Due to Normal Force	20.6	k
Passive Pressure	727	psf
Passive Pressure Resistance	58.2	k
Nominal Shear Resistance, $\phi_v V_n$	64.8	k
$V_u / \phi_v V_n$	18.3%	



Anchor Rod Capacity

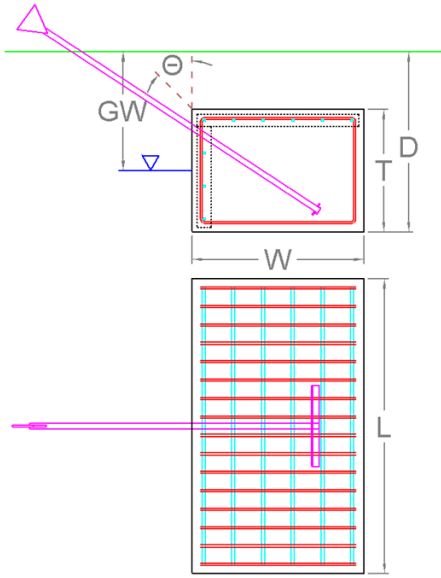
Anchor Rod Shape	Solid Rod	
Quantity of Rods	1	
Gross Area (Individual)	1.23	in ²
Net Area (Individual)	1.23	in ²
Yield Strength, F_y	50	ksi
Tensile Strength, F_u	65	ksi
Yield Strength Reduction Factor, ϕ_y	0.80	
Tensile Strength Reduction Factor, ϕ_t	0.65	
Resultant Tensile Load, T_u	13.2	k
Tensile Resistance, ϕT_n	49.2	k
$T_u / \phi T_n$:	26.8%	



Guy Anchor Block Analysis (ANSI/TIA-222-H)

Anchor Block Parameters			
Include Berm?		N	
Analyze Anchor Rod?		Y	
Ignore Rebar?		Y	
Base Depth	<i>D</i>	5.0	ft
Width	<i>W</i>	8.0	ft
Length	<i>L</i>	22.0	ft
Thickness	<i>T</i>	5.0	ft
Water Table Depth [BGL]	<i>GW</i>	99	ft
Unit Weight of Concrete		150	pcf
Unit Weight of Soil Above Water Table		105.0	pcf
Unit Weight of Water		62.4	pcf
Unit Weight of Soil [Submerged]		42.6	pcf
Friction Angle		28	°
Cohesion		0	psf
Ultimate Skin Friction		140	psf
Coefficient of Shear Friction		0.35	
Conical Failure Angle	Θ	15	°
Soil Uplift at _____ of Anchor		Top	
Capacity Increase (Transient Loads)		1.00	
Uplift Strength Reduction Factor, ϕ_u		0.75	
Shear Strength Reduction Factor, ϕ_v		0.75	
Dead Load Factor		0.90	

Reactions		
Uplift, T_u	19.2	k
Shear, V_u	21.4	k
Anchor Radius	197	ft
Node	A2	-



Soil Uplift Capacity		
Uplift Resistance from Skin Friction and Soil Shear	22.9	k
Nominal Uplift Resistance, $\phi_u T_n$	135.4	k
$T_u / \phi_u T_n$	14.2%	

Soil Shear Capacity		
Shear Resistance from Skin Friction	8.3	k
Shear Friction Resistance Due to Normal Force	34.9	k
Passive Pressure	727	psf
Passive Pressure Resistance	80.0	k
Nominal Shear Resistance, $\phi_v V_n$	92.4	k
$V_u / \phi_v V_n$	23.2%	



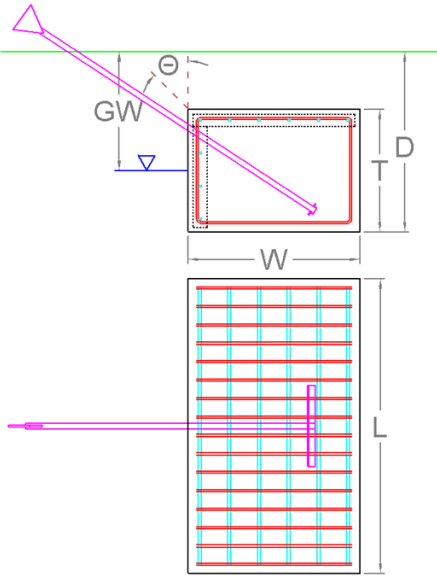
Anchor Rod Capacity		
Anchor Rod Shape	Solid Rod	
Quantity of Rods	1	
Gross Area (Individual)	1.23	in ²
Net Area (Individual)	1.23	in ²
Yield Strength, F_y	50	ksi
Tensile Strength, F_u	65	ksi
Yield Strength Reduction Factor, ϕ_y	0.80	
Tensile Strength Reduction Factor, ϕ_t	0.65	
Resultant Tensile Load, T_u	28.7	k
Tensile Resistance, ϕT_n	49.2	k
$T_u / \phi T_n$:	58.4%	



Guy Anchor Block Analysis (ANSI/TIA-222-H)

Anchor Block Parameters			
Include Berm?		N	
Analyze Anchor Rod?		Y	
Ignore Rebar?		Y	
Base Depth	<i>D</i>	5.0	ft
Width	<i>W</i>	9.0	ft
Length	<i>L</i>	20.0	ft
Thickness	<i>T</i>	5.0	ft
Water Table Depth [BGL]	<i>GW</i>	99	ft
Unit Weight of Concrete		150	pcf
Unit Weight of Soil Above Water Table		105.0	pcf
Unit Weight of Water		62.4	pcf
Unit Weight of Soil [Submerged]		42.6	pcf
Friction Angle		28	°
Cohesion		0	psf
Ultimate Skin Friction		140	psf
Coefficient of Shear Friction		0.30	
Conical Failure Angle	Θ	15	°
Soil Uplift at _____ of Anchor		Top	
Capacity Increase (Transient Loads)		1.00	
Uplift Strength Reduction Factor, ϕ_u		0.75	
Shear Strength Reduction Factor, ϕ_v		0.75	
Dead Load Factor		0.90	

Reactions		
Uplift, T_u	3.8	k
Shear, V_u	4.0	k
Anchor Radius	244	ft
Node	A3	-



Soil Uplift Capacity		
Uplift Resistance from Skin Friction and Soil Shear	22.7	k
Nominal Uplift Resistance, $\phi_u T_n$	137.5	k
$T_u / \phi_u T_n$	2.8%	

Soil Shear Capacity		
Shear Resistance from Skin Friction	9.1	k
Shear Friction Resistance Due to Normal Force	35.3	k
Passive Pressure	727	psf
Passive Pressure Resistance	72.7	k
Nominal Shear Resistance, $\phi_v V_n$	87.9	k
$V_u / \phi_v V_n$	4.6%	



Anchor Rod Capacity

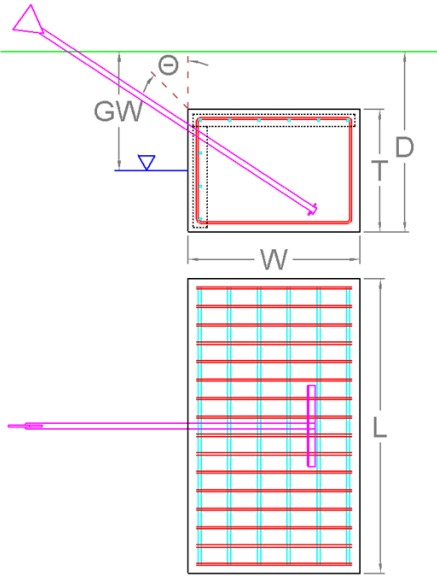
Anchor Rod Shape	Solid Rod	
Quantity of Rods	1	
Gross Area (Individual)	1.23	in ²
Net Area (Individual)	1.23	in ²
Yield Strength, F_y	50	ksi
Tensile Strength, F_u	65	ksi
Yield Strength Reduction Factor, ϕ_y	0.80	
Tensile Strength Reduction Factor, ϕ_t	0.65	
Resultant Tensile Load, T_u	5.5	k
Tensile Resistance, ϕT_n	49.2	k
$T_u / \phi T_n$:	11.2%	



Guy Anchor Block Analysis (ANSI/TIA-222-H)

Anchor Block Parameters			
Include Berm?		N	
Analyze Anchor Rod?		Y	
Ignore Rebar?		Y	
Base Depth	<i>D</i>	5.0	ft
Width	<i>W</i>	8.0	ft
Length	<i>L</i>	14.0	ft
Thickness	<i>T</i>	5.0	ft
Water Table Depth [BGL]	<i>GW</i>	99	ft
Unit Weight of Concrete		150	pcf
Unit Weight of Soil Above Water Table		105.0	pcf
Unit Weight of Water		62.4	pcf
Unit Weight of Soil [Submerged]		42.6	pcf
Friction Angle		28	°
Cohesion		0	psf
Ultimate Skin Friction		140	psf
Coefficient of Shear Friction		0.30	
Conical Failure Angle	Θ	15	°
Soil Uplift at _____ of Anchor		Top	
Capacity Increase (Transient Loads)		1.00	
Uplift Strength Reduction Factor, ϕ_u		0.75	
Shear Strength Reduction Factor, ϕ_v		0.75	
Dead Load Factor		0.90	

Reactions		
Uplift, T_u	20.7	k
Shear, V_u	21.9	k
Anchor Radius	309	ft
Node	A4	-



Soil Uplift Capacity		
Uplift Resistance from Skin Friction and Soil Shear	17.5	k
Nominal Uplift Resistance, $\phi_u T_n$	88.0	k
$T_u / \phi_u T_n$	23.6%	

Soil Shear Capacity		
Shear Resistance from Skin Friction	8.1	k
Shear Friction Resistance Due to Normal Force	16.5	k
Passive Pressure	727	psf
Passive Pressure Resistance	50.9	k
Nominal Shear Resistance, $\phi_v V_n$	56.6	k
$V_u / \phi_v V_n$	38.6%	



Anchor Rod Capacity		
Anchor Rod Shape	Solid Rod	
Quantity of Rods	1	
Gross Area (Individual)	1.23	in ²
Net Area (Individual)	1.23	in ²
Yield Strength, F_y	50	ksi
Tensile Strength, F_u	65	ksi
Yield Strength Reduction Factor, ϕ_y	0.80	
Tensile Strength Reduction Factor, ϕ_t	0.65	
Resultant Tensile Load, T_u	30.1	k
Tensile Resistance, ϕT_n	49.2	k
$T_u / \phi T_n$:	61.2%	

