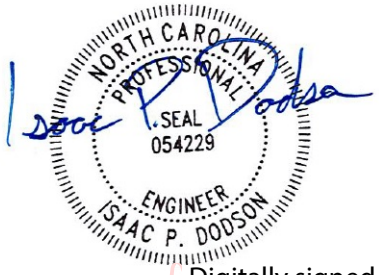
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	249 ft Monopole
ATC Asset Name	:	PALMETTO DR NC
ATC Asset Number	:	280360
Engineering Number	:	14884015_C3_03
Proposed Carrier	:	AT&T MOBILITY
Carrier Site Name	:	368-336
Carrier Site Number	:	WSVWN0054767
Site Location	:	101 Cypress Drive SPRING LAKE, NC 28390-8117 35.2908° N, 78.9865° W
County	:	Harnett
Date	:	February 26, 2025
Max Usage	:	65%
Analysis Result	:	Pass



Isaac Dodson

Digitally signed by Isaac Dodson
Date: 2025.02.28 10:49:27 -05'00'

COA: P-1177

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 249 ft Monopole tower to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower:	Valmont Order #232104, dated October 15, 2013
Foundation:	Valmont Drawing #232104FP, dated October 17, 2013
Geotechnical:	TEP Project #46830.5128, dated August 29, 2013
Modification:	ATC Job#13732937_C7_05, dated May 24, 2022

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:	118 mph (3-second gust)
Basic Wind Speed w/ Ice:	37 mph (3-second gust) w/ 0.62" radial ice concurrent
Code(s):	ANSI/TIA-222-I / 2015 IBC / 2018 North Carolina Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	S_{DS} = 0.18, S_{D1} = 0.11
Site Class:	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 reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact **Engineering@americantower.com** Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

Structure Usages

Structural Component	Usage	Control	Result
Pole Shaft	65.0%	1.2D + 1.0W	Pass
Serviceability Usage	56.7%	1.0D + 1.0W	Pass
Base Plate @ 0.0 ft	58.9%	Rods	Pass
Pier	49.4%	Shear [Steel]	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Shear (k)
Monopole Base	8,375.7	107.6	51.0

Reactions shown reflect the results from the Load Case with maximum Moment excluding Overstrength Load Cases

Structure base reactions were analyzed using available geotechnical and foundation information.

AT&T MOBILITY Final Loading

Elev (ft)	Qty	Equipment	Lines
249.0	2	Raycap DC6-48-60-18-8C-EV (Enclosure)	(2) 0.39" (10mm) Fiber Trunk (3) 0.78" (19.7mm) 8 AWG 6 (1) 0.92" (23.4mm) Cable (3) 2" conduit
248.0	2	Ericsson AIR 6472 B77G B77M (67.2lbs)	-
	3	Ericsson Radio 4490HP 44B5 44B12A C (20.6" Height)	
	3	Ericsson Radio 4494 44B14 20B29 M01	
	3	Ericsson Radio 4890HP B2/B25 B66	
	4	Kathrein Scala 800372991	
247.0	1	Ericsson AIR 6472 B77G B77M (67.2lbs)	-
	2	Kathrein Scala 800372991	
245.0	1	Mount Reinforcement	-
	3	Light Sector Frame	

Install proposed lines inside the pole shaft.

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines
251.0	-	-	(2) 2" conduit
232.0	1	Raycap RC3DC-3315-PF-48	(2) 1 5/8" (1.63"-41.3mm) Fiber
	1	Raycap RCMDC-6627-PF-48	
	3	Ericsson 8843 Rev 2	
	3	Ericsson Air 6449 B77D	
	3	Ericsson Radio 4449 - B13&B5	
	3	Mount Reinforcement	
	3	T-Arm with Platform	
	6	Commscope NHH-65C-R2B	
220.0	1	Platform with Handrails	(3) 2.00" (50.8mm) Hybrid
	3	Amphenol Antel APXVAALL24M-U-J20	
	3	Ericsson AIR 6419 B41	
	3	Ericsson Radio 4460 B25+B66	
	3	Ericsson Radio 4480 B71+B85	
171.0	1	Platform with Handrails	(1) 1.75" (44.5mm) Hybrid
	1	JMA Wireless MX08FRO665-21	
	1	Raycap RDIDC-9181-PF-48	
	2	CellMax CMA-UBTULBULBHH/6516/16/21/21	
	3	Fujitsu TA08025-B604	
	3	Fujitsu TA08025-B605	

(If table breaks across pages, please see previous page for data in merged cells)

Standard Conditions

All engineering services performed by A.T. Engineering Services, 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 Services, PLLC

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

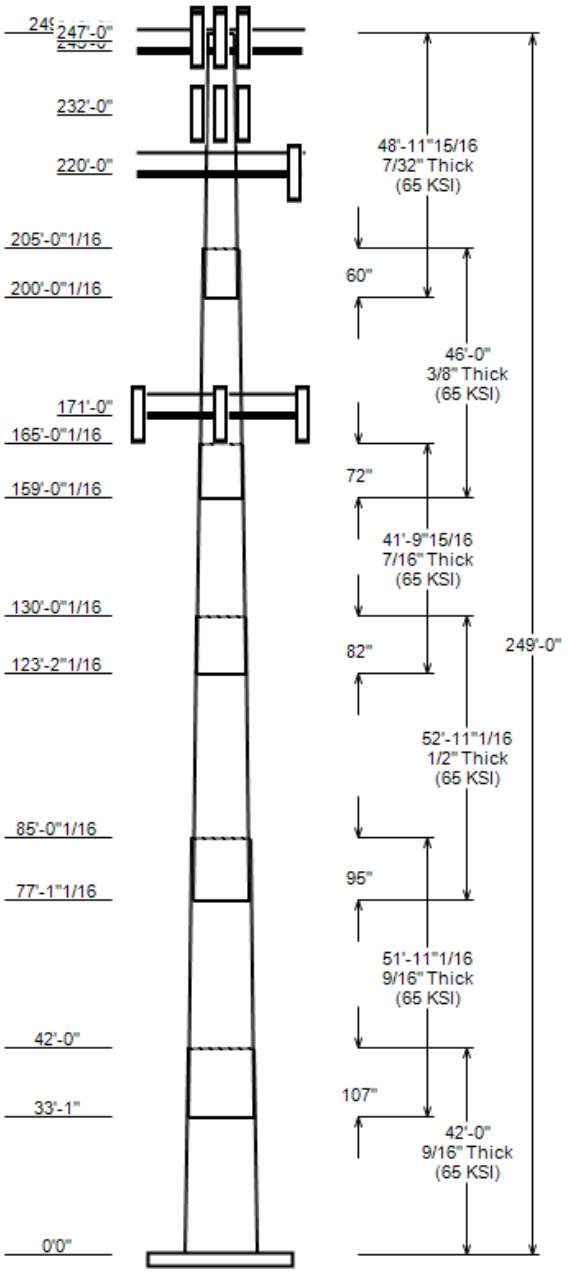
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

Unless explicitly agreed by both the client and A.T. Engineering Services, 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 Services, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

ANALYSIS PARAMETERS

Design Wind:	118 mph	**Ice Wind:**	37 mph w/ 0.6" ice	**Service Wind:**	60 mph
Risk Category:	II	**Exposure:**	C	**S_{D1}:** 0.110	**S_{DS}:** 0.180
Topo Factor:	Method 1	**Topo Feature:**	Flat		
Structure Height:	249.0 ft	**Base Elevation:**	0.00 ft	**Structure Type:**	Taper
Base Diameter:	72.50 in	**Base Rotation:**	0.00°	**Taper:**	0.2200 (in/ft)



POLE SECTION PROPERTIES

Section	Length (ft)	Flat Diameter (in) Top	Flat Diameter (in) Bottom	Thick (in)	Joint Type	Joint Length (in)	Pole Shape	Yield Strength (ksi)
1	42.000	63.26	72.50	0.563		0.00	18 Sides	65
2	51.920	54.93	66.35	0.563	Slip Joint	107.00	18 Sides	65
3	52.920	46.03	57.67	0.500	Slip Joint	95.00	18 Sides	65
4	41.830	39.20	48.40	0.438	Slip Joint	82.00	18 Sides	65
5	46.000	31.15	41.27	0.375	Slip Joint	72.00	18 Sides	65
6	48.997	21.91	32.69	0.219	Slip Joint	60.00	18 Sides	65

DISCRETE APPURTENANCE

Elev (ft)	Description
249.0	(2) Raycap DC6-48-60-18-8C-EV (Enclo
248.0	(3) Ericsson Radio 4890HP B2/B25 B66
248.0	(4) Kathrein Scala 800372991
248.0	(2) Ericsson AIR 6472 B77G B77M (67.2l
248.0	(3) Ericsson Radio 4494 44B14 20B29 M
248.0	(3) Ericsson Radio 4490HP 44B5 44B12
247.0	(2) Kathrein Scala 800372991
247.0	(1) Ericsson AIR 6472 B77G B77M (67.2l
245.0	(1) Generic Mount Reinforcement
245.0	(3) Generic Flat Light Sector Frame
232.0	(1) Raycap RCMDC-6627-PF-48
232.0	(6) Commscope NHH-65C-R2B
232.0	(3) Ericsson Radio 4449 - B13&B5
232.0	(3) Ericsson Air 6449 B77D
232.0	(3) T-Arm with Platform
232.0	(3) Ericsson 8843 Rev 2
232.0	(1) Raycap RC3DC-3315-PF-48
232.0	(3) Generic Mount Reinforcement
220.0	(1) Generic Platform with Handrails
220.0	(3) Ericsson Radio 4460 B25+B66
220.0	(3) Ericsson AIR 6419 B41
220.0	(3) Amphenol Antel APXVAALL24M-U-J2
220.0	(3) Ericsson Radio 4480 B71+B85
171.0	(3) Fujitsu TA08025-B604
171.0	(3) Fujitsu TA08025-B605
171.0	(1) JMA Wireless MX08FRO665-21
171.0	(2) CellMax CMA-UBTULBULBHH/6516/
171.0	(1) Generic Round Platform with Handrail
171.0	(1) Raycap RDIDC-9181-PF-48

LINEAR APPURTENANCE

Elev To (ft)	Description
251.0	(2) 2" conduit
249.0	(1) 0.92" (23.4mm) Cable
249.0	(3) 0.78" (19.7mm) 8 AWG 6
249.0	(3) 2" conduit
249.0	(2) 0.39" (10mm) Fiber Trunk
232.0	(2) 1 5/8" (1.63"-41.3mm) Fiber
220.0	(3) 2.00" (50.8mm) Hybrid
171.0	(1) 1.75" (44.5mm) Hybrid

GLOBAL BASE REACTIONS

Load Case	Moment (kip-ft)	Axial (kip)	Shear (kip)
1.2D + 1.0W	8375.71	107.58	51.04
0.9D + 1.0W	8235.69	80.67	51.00
1.2D + 1.0Di + 1.0Wi	1214.07	123.10	7.64
1.2D + 1.0Ev + 1.0Eh	521.66	107.97	2.70
0.9D - 1.0Ev + 1.0Eh	510.78	75.47	2.69
1.0D + 1.0W	1920.17	89.70	11.80

ANALYSIS PARAMETERS

Location:	Harnett County,NC	**Height:**	249 ft
Type and Shape:	Taper, 18 Sides	**Base Diameter:**	72.50 in
Manufacturer:	Valmont	**Top Diameter:**	21.91 in
K_d (non-service):	0.95	**Taper:**	0.2200 in/ft
K_e:	0.99	**Rotation:**	0.000º

ICE & WIND PARAMETERS

Risk Category:	II	**Design Wind Speed:**	118 mph
Exposure Category:	C	**Design Wind Speed w/ Ice:**	37 mph
Design Ice Thickness:	0.62 in		
Topo Factor Procedure:	Method 1		
Crest Height(H):	0 ft	**Service Wind Speed:**	60 mph
Crest Length(L):	0 ft	**HMSL:**	281.00 ft
Feature:	Flat	**Distance from Apex (x):**	0 ft
		Upwind/Downwind:	

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	Default		**Period Based on Rayleigh Method (sec):**		3.44
T_L (sec):	8	**P:**	1	**C_s:**	0.030
S_{ds}:	0.180	**S_{d1}:**	0.110	**C_s Max:**	0.030
				C_s Min:	0.030

LOAD CASES

1.2D + 1.0W	118 mph Wind with No Ice
0.9D + 1.0W	118 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	37 mph Wind with 0.62" Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice
1.2D + 1.0Ev + 1.5Eh	Seismic Overstrength
0.9D - 1.0Ev + 1.5Eh	Seismic Overstrength (Reduced DL)

SHAFT SECTION PROPERTIES

							Bottom						Top						
Section	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	42.00	0.5630	65		0.00	17,191	72.50	0.000	128.54	84,044.6	20.94	128.77	63.26	42.00	112.03	55,640.	18.05	112.36	0.2200
2-18	51.92	0.5630	65	Slip	107.00	18,965	66.35	33.080	117.55	64,272.7	19.02	117.85	54.92	85.00	97.14	36,269.	15.44	97.56	0.2200
3-18	52.92	0.5000	65	Slip	95.00	14,673	57.67	77.090	90.72	37,458.4	18.57	115.33	46.02	130.01	72.24	18,916.	14.47	92.05	0.2200
4-18	41.83	0.4380	65	Slip	82.00	8,581	48.40	123.170	66.68	19,382.7	17.72	110.51	39.20	165.00	53.89	10,230.	14.02	89.50	0.2200
5-18	46.00	0.3750	65	Slip	72.00	6,676	41.27	159.000	48.68	10,285.5	17.64	110.06	31.15	205.00	36.63	4,383.5	12.88	83.07	0.2200
6-18	49.00	0.2190	65	Slip	60.00	3,138	32.69	200.003	22.57	3,006.4	24.56	149.26	21.91	249.00	15.08	896.2	15.88	100.05	0.2200
			Total Shaft Weight			**69,224**													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
249.00	Raycap DC6-48-60-18-8C-EV (Enc	2	0.80	0.000	16.00	2.687	0.67	52.53	3.184	0.67
248.00	Ericsson Radio 4494 44B14 20B2	3	0.80	0.000	57.30	2.202	0.67	81.24	2.627	0.67
248.00	Kathrein Scala 800372991	4	0.80	0.000	74.90	10.650	0.65	166.54	11.955	0.65
248.00	Ericsson Radio 4490HP 44B5 44B	3	0.80	0.000	65.00	2.678	0.67	95.43	3.148	0.67
248.00	Ericsson Radio 4890HP B2/B25 B	3	0.80	0.000	68.00	2.217	0.67	94.16	2.643	0.67
248.00	Ericsson AIR 6472 B77G B77M (6	2	0.80	0.000	67.20	4.779	0.74	117.39	5.449	0.74
247.00	Kathrein Scala 800372991	2	0.90	0.000	74.90	10.650	0.74	166.48	11.954	0.74
247.00	Ericsson AIR 6472 B77G B77M (6	1	0.90	0.000	67.20	4.779	1.00	117.36	5.448	1.00
245.00	Generic Mount Reinforcement	1	0.75	0.000	200.00	7.500	0.75	284.10	10.754	0.75
245.00	Generic Flat Light Sector Fram	3	0.75	0.000	400.00	17.900	0.75	530.78	24.457	0.75
232.00	Generic Mount Reinforcement	3	1.00	0.000	200.00	7.500	1.00	283.69	10.738	1.00
232.00	Commscope NHH-65C-R2B	6	0.80	0.000	51.60	11.389	0.70	150.42	12.786	0.70
232.00	T-Arm with Platform	3	0.75	0.000	300.00	14.400	0.67	390.38	18.738	0.67
232.00	Raycap RCMDC-6627-PF-48	1	0.80	0.000	32.00	4.056	1.00	86.96	4.646	1.00
232.00	Ericsson Air 6449 B77D	3	0.80	0.000	81.60	4.028	0.65	126.07	4.623	0.65
232.00	Raycap RC3DC-3315-PF-48	1	0.80	0.000	32.00	3.781	1.00	79.31	4.354	1.00
232.00	Ericsson 8843 Rev 2	3	0.80	0.000	75.00	1.650	0.50	101.84	2.017	0.50
232.00	Ericsson Radio 4449 - B13&B5	3	0.80	0.000	70.00	1.650	0.50	94.36	2.016	0.50
220.00	Generic Platform with Handrail	1	1.00	0.000	2500.00	50.000	1.00	3398.40	64.973	1.00
220.00	Amphenol Antel APXVAALL24M-U-J	3	0.75	0.000	86.00	17.083	0.65	231.15	18.664	0.65
220.00	Ericsson AIR 6419 B41	3	0.75	0.000	68.50	5.600	0.60	120.44	6.281	0.60
220.00	Ericsson Radio 4480 B71+B85	3	0.75	0.000	93.00	2.798	0.67	125.06	3.275	0.67
220.00	Ericsson Radio 4460 B25+B66	3	0.75	0.000	109.00	2.564	0.67	146.99	3.017	0.67
171.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	88.36	2.348	0.50
171.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	101.28	2.348	0.50
171.00	JMA Wireless MX08FRO665-21	1	0.75	0.000	64.50	12.489	1.00	172.33	13.668	1.00
171.00	CellMax CMA-UBTULBULBHH/6516/1	2	0.75	0.000	105.00	16.235	0.70	237.78	17.464	0.70
171.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	45.72	2.245	1.00
171.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3179.51	37.455	1.00
Totals	**Row Count: 29**	**71**			**11,989.90**			**17,914.42**		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg): 0.00

Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/ Row	Distance Between Rows(in)	Distance Between Cols(in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind	Carrier
0.00	251.00	2	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	249.00	3	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	249.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	249.00	2	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	249.00	1	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	232.00	2	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0	0	0	0	N	VERIZON WIRELESS
0.00	220.00	3	2.00" (50.8mm) Hybrid	2	3.09	N	3	1.5	1.5	90	1.5	Y	T-MOBILE
0.00	171.00	1	1.75" (44.5mm) Hybrid	1.75	2.72	N	1	0	0	0	0	N	DISH WIRELESS L.L.C.

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description *(Max Length: 5 ft)*	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5630	72.500	128.544	84,044.60	20.94	128.77	76.8	2283.2	0.0	0.0
5.00		0.5630	71.400	126.578	80,247.80	20.60	126.82	77.2	2213.7	0.0	2,170.3
10.00		0.5630	70.300	124.613	76,567.20	20.25	124.87	77.6	2145.2	0.0	2,136.9
15.00		0.5630	69.200	122.647	73,000.80	19.91	122.91	78	2077.8	0.0	2,103.4
20.00		0.5630	68.100	120.682	69,546.90	19.57	120.96	78.4	2011.5	0.0	2,070.0
25.00		0.5630	67.000	118.716	66,203.80	19.22	119.01	78.8	1946.2	0.0	2,036.5
30.00		0.5630	65.900	116.751	62,969.50	18.88	117.05	79.2	1882.0	0.0	2,003.1
33.08	Bot - Section 2	0.5630	65.222	115.538	61,028.50	18.66	115.85	79.4	1843.0	0.0	1,218.6
35.00		0.5630	64.800	114.785	59,842.30	18.53	115.10	79.6	1818.9	0.0	1,515.3
40.00		0.5630	63.700	112.819	56,820.40	18.19	113.14	80	1756.9	0.0	3,906.7
42.00	Top - Section 1	0.5630	64.386	114.045	58,692.70	18.40	114.36	79.8	1795.5	0.0	1,543.9
45.00		0.5630	63.726	112.866	56,890.70	18.20	113.19	80	1758.4	0.0	1,158.2
50.00		0.5630	62.626	110.900	53,969.80	17.85	111.24	80.4	1697.4	0.0	1,903.6
55.00		0.5630	61.526	108.935	51,150.70	17.51	109.28	80.8	1637.5	0.0	1,870.1
60.00		0.5630	60.426	106.969	48,431.50	17.16	107.33	81.2	1578.6	0.0	1,836.7
65.00		0.5630	59.326	105.003	45,810.50	16.82	105.37	81.6	1520.9	0.0	1,803.2
70.00		0.5630	58.226	103.038	43,285.70	16.47	103.42	82	1464.2	0.0	1,769.8
75.00		0.5630	57.126	101.072	40,855.50	16.13	101.47	82.4	1408.6	0.0	1,736.4
77.09	Bot - Section 3	0.5630	56.667	100.252	39,868.80	15.98	100.65	82.6	1385.7	0.0	714.7
80.00		0.5630	56.026	99.107	38,517.90	15.78	99.51	82.6	1354.1	0.0	1,882.5
85.00		0.5630	54.926	97.141	36,271.30	15.44	97.56	82.6	1300.7	0.0	3,180.8
85.00	Top - Section 2	0.5000	55.925	87.957	34,138.00	17.96	111.85	80.3	1202.3	0.0	2.1
90.00		0.5000	54.826	86.212	32,146.80	17.57	109.65	80.7	1154.9	0.0	1,480.7
95.00		0.5000	53.726	84.467	30,233.30	17.18	107.45	81.2	1108.4	0.0	1,452.0
100.00		0.5000	52.626	82.721	28,397.30	16.80	105.25	81.6	1062.8	0.0	1,422.3
105.00		0.5000	51.526	80.975	26,637.20	16.41	103.05	82.1	1018.2	0.0	1,392.6
110.00		0.5000	50.426	79.230	24,951.40	16.02	100.85	82.6	974.6	0.0	1,362.9
115.00		0.5000	49.326	77.484	23,338.20	15.63	98.65	82.6	931.9	0.0	1,333.2
120.00		0.5000	48.226	75.738	21,796.10	15.24	96.45	82.6	890.2	0.0	1,303.5
123.17	Bot - Section 4	0.5000	47.528	74.631	20,853.60	15.00	95.06	82.6	864.2	0.0	811.9
125.00		0.5000	47.126	73.993	20,323.50	14.86	94.25	82.6	849.4	0.0	874.6
130.00		0.5000	46.026	72.247	18,918.80	14.47	92.05	82.6	809.6	0.0	2,356.0
130.01	Top - Section 3	0.4380	46.901	64.590	17,616.80	17.12	107.08	81.3	739.8	0.0	3.1
135.00		0.4380	45.802	63.063	16,396.60	16.68	104.57	81.8	705.1	0.0	1,084.5
140.00		0.4380	44.702	61.534	15,232.50	16.23	102.06	82.3	671.2	0.0	1,059.9
145.00		0.4380	43.602	60.005	14,124.80	15.79	99.55	82.6	638.1	0.0	1,033.9
150.00		0.4380	42.502	58.476	13,072.20	15.35	97.04	82.6	605.8	0.0	1,007.9
155.00		0.4380	41.402	56.947	12,073.30	14.90	94.53	82.6	574.4	0.0	981.9
159.00	Bot - Section 5	0.4380	40.521	55.722	11,311.20	14.55	92.51	82.6	549.8	0.0	767.4
160.00		0.4380	40.302	55.417	11,126.60	14.46	92.01	82.6	543.8	0.0	353.1
165.00		0.4380	39.202	53.888	10,230.70	14.02	89.50	82.6	514.0	0.0	1,742.4
165.00	Top - Section 4	0.3750	39.951	47.104	9,321.40	17.02	106.54	81.4	459.5	0.0	1.1
170.00		0.3750	38.852	45.796	8,566.00	16.51	103.61	82	434.3	0.0	789.8
171.00		0.3750	38.632	45.534	8,419.90	16.40	103.02	82.1	429.3	0.0	155.4
175.00		0.3750	37.752	44.486	7,852.20	15.99	100.67	82.6	409.7	0.0	612.6
180.00		0.3750	36.652	43.177	7,179.10	15.47	97.74	82.6	385.8	0.0	745.7
185.00		0.3750	35.552	41.868	6,545.60	14.95	94.81	82.6	362.6	0.0	723.5
190.00		0.3750	34.452	40.559	5,950.60	14.44	91.87	82.6	340.2	0.0	701.2
195.00		0.3750	33.352	39.249	5,392.70	13.92	88.94	82.6	318.5	0.0	678.9
200.00		0.3750	32.252	37.940	4,870.90	13.40	86.01	82.6	297.5	0.0	656.6
200.00	Bot - Section 6	0.3750	32.251	37.939	4,870.50	13.40	86.00	82.6	297.4	0.0	0.4
205.00		0.3750	31.152	36.631	4,383.80	12.88	83.07	82.6	277.2	0.0	1,011.2
205.00	Top - Section 5	0.2190	31.589	21.805	2,711.10	23.67	144.24	73.6	169.0	0.0	0.7
210.00		0.2190	30.490	21.041	2,436.00	22.79	139.22	74.6	157.4	0.0	364.2
215.00		0.2190	29.390	20.276	2,179.90	21.90	134.20	75.6	146.1	0.0	351.5
220.00		0.2190	28.290	19.512	1,942.50	21.01	129.18	76.7	135.2	0.0	338.5
225.00		0.2190	27.190	18.747	1,723.00	20.13	124.16	77.7	124.8	0.0	325.5
230.00		0.2190	26.090	17.982	1,520.60	19.24	119.13	78.8	114.8	0.0	312.5
232.00		0.2190	25.650	17.677	1,444.40	18.89	117.12	79.2	110.9	0.0	121.3

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description	(Max Length: 5 ft)	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
235.00			0.2190	24.990	17.218	1,334.80	18.36	114.11	79.8	105.2	0.0	178.1
240.00			0.2190	23.890	16.453	1,164.80	17.47	109.09	80.9	96.0	0.0	286.4
245.00			0.2190	22.790	15.689	1,009.80	16.59	104.06	81.9	87.3	0.0	273.4
247.00			0.2190	22.350	15.383	951.90	16.23	102.05	82.3	83.9	0.0	105.7
248.00			0.2190	22.130	15.230	923.80	16.05	101.05	82.5	82.2	0.0	52.1
249.00			0.2190	21.910	15.077	896.20	15.88	100.05	82.6	80.6	0.0	51.6
											Total:	**69,224.5**

CALCULATED FORCES

Load Case: 1.2D + 1.0W — 118 mph Wind with No Ice — 30 Iterations

Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-107.58	-51.04	0.00	-8,375.7	0.00	8,375.71	8,881.24	2,255.95	14,658.09	13,146.00	0	0	0.650
5.00	-104.63	-50.60	0.00	-8,120.5	0.00	8,120.52	8,791.59	2,221.45	14,213.29	12,812.77	0.08	-0.14	0.646
10.00	-101.73	-50.16	0.00	-7,867.5	0.00	7,867.53	8,700.52	2,186.96	13,775.35	12,481.58	0.3	-0.28	0.643
15.00	-98.87	-49.72	0.00	-7,616.7	0.00	7,616.72	8,608.00	2,152.46	13,344.26	12,152.52	0.67	-0.43	0.639
20.00	-96.05	-49.24	0.00	-7,368.1	0.00	7,368.14	8,514.06	2,117.96	12,920.02	11,825.69	1.19	-0.57	0.635
25.00	-93.27	-48.73	0.00	-7,122.0	0.00	7,121.95	8,418.68	2,083.47	12,502.63	11,501.18	1.87	-0.72	0.631
30.00	-90.55	-48.30	0.00	-6,878.3	0.00	6,878.29	8,321.87	2,048.97	12,092.10	11,179.11	2.71	-0.87	0.627
33.08	-88.90	-48.02	0.00	-6,729.4	0.00	6,729.38	8,261.45	2,027.70	11,842.35	10,981.74	3.3	-0.96	0.624
35.00	-86.91	-47.62	0.00	-6,637.3	0.00	6,637.34	8,223.62	2,014.48	11,688.42	10,859.55	3.7	-1.02	0.622
40.00	-81.93	-47.15	0.00	-6,399.2	0.00	6,399.24	8,123.94	1,979.98	11,291.59	10,542.62	4.85	-1.18	0.618
42.00	-79.93	-46.83	0.00	-6,305.0	0.00	6,304.95	8,186.28	2,001.49	11,538.26	10,739.96	5.36	-1.24	0.597
45.00	-78.33	-46.35	0.00	-6,164.4	0.00	6,164.45	8,126.32	1,980.80	11,300.89	10,550.08	6.17	-1.34	0.594
50.00	-75.73	-45.71	0.00	-5,932.7	0.00	5,932.71	8,025.24	1,946.30	10,910.75	10,235.81	7.66	-1.49	0.590
55.00	-73.17	-45.07	0.00	-5,704.2	0.00	5,704.15	7,922.72	1,911.80	10,527.47	9,924.34	9.3	-1.64	0.585
60.00	-70.65	-44.41	0.00	-5,478.8	0.00	5,478.83	7,818.78	1,877.31	10,151.04	9,615.80	11.1	-1.8	0.579
65.00	-68.17	-43.75	0.00	-5,256.8	0.00	5,256.79	7,713.40	1,842.81	9,781.46	9,310.26	13.07	-1.96	0.574
70.00	-65.74	-43.07	0.00	-5,038.1	0.00	5,038.06	7,606.58	1,808.31	9,418.74	9,007.84	15.21	-2.12	0.569
75.00	-63.37	-42.57	0.00	-4,822.7	0.00	4,822.69	7,498.34	1,773.82	9,062.87	8,708.62	17.51	-2.28	0.563
77.09	-62.38	-42.23	0.00	-4,733.9	0.00	4,733.87	7,448.22	1,759.42	8,916.38	8,579.52	18.52	-2.35	0.561
80.00	-59.93	-41.66	0.00	-4,610.8	0.00	4,610.83	7,363.13	1,739.32	8,713.85	8,383.65	19.98	-2.44	0.559
85.00	-55.85	-41.17	0.00	-4,402.5	0.00	4,402.54	7,217.10	1,704.83	8,371.69	8,052.76	22.63	-2.61	0.555
85.00	-55.81	-40.87	0.00	-4,402.4	0.00	4,402.40	6,354.86	1,543.64	7,727.98	7,238.80	22.63	-2.61	0.618
90.00	-53.73	-40.18	0.00	-4,198.2	0.00	4,198.18	6,264.20	1,513.03	7,424.51	6,992.74	25.45	-2.78	0.610
95.00	-51.69	-39.49	0.00	-3,997.3	0.00	3,997.30	6,172.04	1,482.39	7,126.93	6,749.09	28.46	-2.96	0.601
100.00	-49.68	-38.79	0.00	-3,799.9	0.00	3,799.87	6,078.46	1,451.75	6,835.44	6,508.11	31.66	-3.14	0.593
105.00	-47.71	-38.10	0.00	-3,605.9	0.00	3,605.90	5,983.43	1,421.12	6,550.03	6,269.90	35.05	-3.33	0.584
110.00	-45.78	-37.41	0.00	-3,415.4	0.00	3,415.40	5,886.37	1,390.48	6,270.71	6,033.93	38.64	-3.52	0.575
115.00	-43.89	-36.72	0.00	-3,228.4	0.00	3,228.36	5,756.68	1,359.85	5,997.48	5,769.68	42.42	-3.71	0.568
120.00	-42.06	-36.13	0.00	-3,044.8	0.00	3,044.78	5,626.99	1,329.21	5,730.33	5,511.35	46.4	-3.9	0.561
123.17	-40.91	-35.77	0.00	-2,930.1	0.00	2,930.14	5,544.68	1,309.77	5,563.93	5,350.47	49.03	-4.02	0.556
125.00	-39.74	-35.29	0.00	-2,864.8	0.00	2,864.80	5,497.29	1,298.57	5,469.26	5,258.94	50.58	-4.09	0.553
130.00	-36.67	-34.78	0.00	-2,688.3	0.00	2,688.34	5,367.60	1,267.94	5,214.29	5,012.44	54.97	-4.29	0.544
130.01	-36.63	-34.49	0.00	-2,688.1	0.00	2,688.11	4,724.17	1,133.56	4,757.35	4,509.28	54.98	-4.29	0.605
135.00	-35.05	-33.81	0.00	-2,515.9	0.00	2,515.89	4,642.00	1,106.76	4,535.08	4,325.10	59.56	-4.48	0.590
140.00	-33.50	-33.13	0.00	-2,346.9	0.00	2,346.86	4,558.28	1,079.92	4,317.85	4,143.13	64.37	-4.69	0.575
145.00	-31.98	-32.46	0.00	-2,181.2	0.00	2,181.21	4,458.07	1,053.09	4,105.94	3,950.36	69.39	-4.91	0.560
150.00	-30.50	-31.79	0.00	-2,018.9	0.00	2,018.93	4,344.46	1,026.25	3,899.36	3,750.60	74.64	-5.12	0.546
155.00	-29.06	-31.18	0.00	-1,860.0	0.00	1,859.99	4,230.85	999.41	3,698.12	3,556.02	80.1	-5.33	0.531
159.00	-27.94	-30.81	0.00	-1,735.2	0.00	1,735.18	4,139.88	977.93	3,540.83	3,403.96	84.64	-5.5	0.517
160.00	-27.45	-30.44	0.00	-1,704.5	0.00	1,704.48	4,117.24	972.58	3,502.21	3,366.62	85.79	-5.54	0.514
165.00	-25.13	-29.94	0.00	-1,552.3	0.00	1,552.29	4,003.63	945.74	3,311.63	3,182.41	91.7	-5.75	0.495
165.00	-25.11	-29.67	0.00	-1,552.2	0.00	1,552.19	3,449.97	826.67	2,955.20	2,804.84	91.7	-5.75	0.562
170.00	-23.92	-29.24	0.00	-1,403.9	0.00	1,403.92	3,379.20	803.71	2,793.34	2,670.28	97.82	-5.96	0.534
171.00	-20.16	-25.50	0.00	-1,374.7	0.00	1,374.68	3,364.87	799.12	2,761.49	2,643.60	99.07	-6	0.527
175.00	-19.24	-24.93	0.00	-1,272.7	0.00	1,272.69	3,305.11	780.74	2,635.93	2,536.35	104.17	-6.18	0.509
180.00	-18.12	-24.29	0.00	-1,148.0	0.00	1,148.04	3,207.85	757.76	2,483.08	2,388.54	110.74	-6.4	0.487

CALCULATED FORCES

185.00	-17.04	-23.66	0.00	-1,026.6	0.00	1,026.58	3,110.58	734.78	2,334.81	2,245.16	117.55	-6.62	0.464
190.00	-15.98	-23.04	0.00	-908.3	0.00	908.26	3,013.31	711.80	2,191.09	2,106.23	124.57	-6.83	0.438
195.00	-14.96	-22.43	0.00	-793.0	0.00	793.05	2,916.04	688.83	2,051.94	1,971.73	131.81	-7.03	0.408
200.00	-13.98	-21.82	0.00	-680.8	0.00	680.83	2,818.70	665.84	1,917.27	1,841.58	139.27	-7.22	0.376
200.00	-13.98	-22.06	0.00	-680.9	0.00	680.90	2,818.77	665.85	1,917.35	1,841.67	139.26	-7.22	0.376
205.00	-12.57	-21.40	0.00	-571.8	0.00	571.79	2,721.50	642.87	1,787.33	1,716.04	146.91	-7.41	0.339
205.00	-12.57	-21.16	0.00	-571.7	0.00	571.71	1,443.57	382.68	1,084.26	932.58	146.91	-7.41	0.625
210.00	-11.93	-20.62	0.00	-466.0	0.00	465.96	1,412.69	369.27	1,009.61	880.43	154.73	-7.57	0.541
215.00	-11.30	-20.10	0.00	-362.8	0.00	362.85	1,380.37	355.85	937.58	828.80	162.78	-7.82	0.449
220.00	-7.16	-14.10	0.00	-262.4	0.00	262.37	1,346.61	342.43	868.21	777.82	171.05	-8.02	0.344
225.00	-6.66	-13.59	0.00	-191.8	0.00	191.85	1,311.41	329.01	801.51	727.58	179.52	-8.19	0.270
230.00	-6.17	-13.22	0.00	-123.9	0.00	123.90	1,274.79	315.59	737.47	678.18	188.14	-8.32	0.189
232.00	-3.75	-7.16	0.00	-97.5	0.00	97.47	1,259.73	310.22	712.60	658.68	191.62	-8.36	0.151
235.00	-3.50	-6.78	0.00	-76.0	0.00	76.00	1,236.73	302.17	676.10	629.72	196.87	-8.41	0.124
240.00	-3.09	-6.31	0.00	-42.1	0.00	42.09	1,197.23	288.75	617.39	582.30	205.68	-8.47	0.075
245.00	-1.30	-3.83	0.00	-10.5	0.00	10.52	1,156.30	275.34	561.35	536.02	214.54	-8.5	0.021
247.00	-1.04	-2.64	0.00	-2.8	0.00	2.85	1,139.53	269.97	539.68	517.85	218.09	-8.51	0.007
248.00	-0.09	-0.21	0.00	-0.2	0.00	0.21	1,131.06	267.29	529.01	508.84	219.87	-8.51	0.001
249.00	0.00	-0.20	0.00	0.0	0.00	0.00	1,120.15	264.60	518.44	498.82	221.64	-8.51	0.000

CALCULATED FORCES

Load Case: 0.9D + 1.0W — 118 mph Wind with No Ice (Reduced DL) — 29 Iterations

Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-80.67	-51.00	0.00	-8,235.7	0.00	8,235.69	8,881.24	2,255.95	14,658.09	13,146.00	0	0	0.636
5.00	-78.43	-50.50	0.00	-7,980.7	0.00	7,980.69	8,791.59	2,221.45	14,213.29	12,812.77	0.07	-0.14	0.632
10.00	-76.23	-50.00	0.00	-7,728.2	0.00	7,728.20	8,700.52	2,186.96	13,775.35	12,481.58	0.29	-0.28	0.628
15.00	-74.05	-49.49	0.00	-7,478.2	0.00	7,478.23	8,608.00	2,152.46	13,344.26	12,152.52	0.66	-0.42	0.624
20.00	-71.91	-48.95	0.00	-7,230.8	0.00	7,230.80	8,514.06	2,117.96	12,920.02	11,825.69	1.17	-0.56	0.620
25.00	-69.80	-48.39	0.00	-6,986.0	0.00	6,986.05	8,418.68	2,083.47	12,502.63	11,501.18	1.84	-0.71	0.616
30.00	-67.74	-47.91	0.00	-6,744.1	0.00	6,744.11	8,321.87	2,048.97	12,092.10	11,179.11	2.66	-0.85	0.612
33.08	-66.49	-47.61	0.00	-6,596.4	0.00	6,596.39	8,261.45	2,027.70	11,842.35	10,981.74	3.24	-0.95	0.609
35.00	-64.98	-47.17	0.00	-6,505.1	0.00	6,505.14	8,223.62	2,014.48	11,688.42	10,859.55	3.63	-1.01	0.607
40.00	-61.23	-46.68	0.00	-6,269.3	0.00	6,269.27	8,123.94	1,979.98	11,291.59	10,542.62	4.77	-1.16	0.603
42.00	-59.72	-46.35	0.00	-6,175.9	0.00	6,175.91	8,186.28	2,001.49	11,538.26	10,739.96	5.27	-1.22	0.583
45.00	-58.49	-45.83	0.00	-6,036.9	0.00	6,036.86	8,126.32	1,980.80	11,300.89	10,550.08	6.06	-1.31	0.580
50.00	-56.52	-45.16	0.00	-5,807.7	0.00	5,807.72	8,025.24	1,946.30	10,910.75	10,235.81	7.52	-1.46	0.575
55.00	-54.58	-44.47	0.00	-5,582.0	0.00	5,581.95	7,922.72	1,911.80	10,527.47	9,924.34	9.13	-1.61	0.570
60.00	-52.67	-43.78	0.00	-5,359.6	0.00	5,359.58	7,818.78	1,877.31	10,151.04	9,615.80	10.9	-1.76	0.565
65.00	-50.79	-43.09	0.00	-5,140.7	0.00	5,140.67	7,713.40	1,842.81	9,781.46	9,310.26	12.83	-1.92	0.559
70.00	-48.95	-42.39	0.00	-4,925.2	0.00	4,925.23	7,606.58	1,808.31	9,418.74	9,007.84	14.92	-2.07	0.554
75.00	-47.16	-41.87	0.00	-4,713.3	0.00	4,713.28	7,498.34	1,773.82	9,062.87	8,708.62	17.17	-2.23	0.548
77.09	-46.41	-41.52	0.00	-4,625.9	0.00	4,625.91	7,448.22	1,759.42	8,916.38	8,579.52	18.17	-2.3	0.546
80.00	-44.55	-40.94	0.00	-4,504.9	0.00	4,504.94	7,363.13	1,739.32	8,713.85	8,383.65	19.6	-2.4	0.544
85.00	-41.49	-40.48	0.00	-4,300.3	0.00	4,300.26	7,217.10	1,704.83	8,371.69	8,052.76	22.19	-2.56	0.540
85.00	-41.45	-40.15	0.00	-4,300.1	0.00	4,300.12	6,354.86	1,543.64	7,727.98	7,238.80	22.2	-2.56	0.601
90.00	-39.87	-39.44	0.00	-4,099.5	0.00	4,099.50	6,264.20	1,513.03	7,424.51	6,992.74	24.96	-2.72	0.593
95.00	-38.32	-38.73	0.00	-3,902.3	0.00	3,902.31	6,172.04	1,482.39	7,126.93	6,749.09	27.9	-2.9	0.585
100.00	-36.80	-38.02	0.00	-3,708.7	0.00	3,708.68	6,078.46	1,451.75	6,835.44	6,508.11	31.04	-3.08	0.577
105.00	-35.31	-37.31	0.00	-3,518.6	0.00	3,518.59	5,983.43	1,421.12	6,550.03	6,269.90	34.36	-3.26	0.568
110.00	-33.84	-36.60	0.00	-3,332.0	0.00	3,332.05	5,886.37	1,390.48	6,270.71	6,033.93	37.87	-3.44	0.559
115.00	-32.41	-35.90	0.00	-3,149.0	0.00	3,149.03	5,756.68	1,359.85	5,997.48	5,769.68	41.57	-3.63	0.552
120.00	-31.02	-35.31	0.00	-2,969.5	0.00	2,969.52	5,626.99	1,329.21	5,730.33	5,511.35	45.46	-3.81	0.545
123.17	-30.16	-34.95	0.00	-2,857.5	0.00	2,857.46	5,544.68	1,309.77	5,563.93	5,350.47	48.04	-3.93	0.540
125.00	-29.27	-34.47	0.00	-2,793.6	0.00	2,793.61	5,497.29	1,298.57	5,469.26	5,258.94	49.56	-4	0.537
130.00	-26.96	-34.00	0.00	-2,621.2	0.00	2,621.25	5,367.60	1,267.94	5,214.29	5,012.44	53.85	-4.19	0.529
130.01	-26.93	-33.70	0.00	-2,621.0	0.00	2,621.02	4,724.17	1,133.56	4,757.35	4,509.28	53.85	-4.19	0.588
135.00	-25.73	-33.01	0.00	-2,452.8	0.00	2,452.77	4,642.00	1,106.76	4,535.08	4,325.10	58.34	-4.39	0.574
140.00	-24.55	-32.33	0.00	-2,287.7	0.00	2,287.74	4,558.28	1,079.92	4,317.85	4,143.13	63.04	-4.59	0.558
145.00	-23.40	-31.65	0.00	-2,126.1	0.00	2,126.11	4,458.07	1,053.09	4,105.94	3,950.36	67.95	-4.8	0.544
150.00	-22.28	-30.98	0.00	-1,967.9	0.00	1,967.86	4,344.46	1,026.25	3,899.36	3,750.60	73.08	-5	0.531
155.00	-21.19	-30.38	0.00	-1,812.9	0.00	1,812.94	4,230.85	999.41	3,698.12	3,556.02	78.42	-5.21	0.516
159.00	-20.35	-30.02	0.00	-1,691.3	0.00	1,691.33	4,139.88	977.93	3,540.83	3,403.96	82.86	-5.37	0.503
160.00	-19.97	-29.65	0.00	-1,661.4	0.00	1,661.41	4,117.24	972.58	3,502.21	3,366.62	83.98	-5.42	0.499
165.00	-18.23	-29.20	0.00	-1,513.2	0.00	1,513.17	4,003.63	945.74	3,311.63	3,182.41	89.75	-5.62	0.481
165.00	-18.21	-28.92	0.00	-1,513.1	0.00	1,513.07	3,449.97	826.67	2,955.20	2,804.84	89.76	-5.62	0.546
170.00	-17.32	-28.49	0.00	-1,368.6	0.00	1,368.58	3,379.20	803.71	2,793.34	2,670.28	95.74	-5.82	0.519
171.00	-14.56	-24.86	0.00	-1,340.1	0.00	1,340.09	3,364.87	799.12	2,761.49	2,643.60	96.96	-5.86	0.512
175.00	-13.87	-24.30	0.00	-1,240.7	0.00	1,240.66	3,305.11	780.74	2,635.93	2,536.35	101.94	-6.04	0.494
180.00	-13.03	-23.67	0.00	-1,119.2	0.00	1,119.18	3,207.85	757.76	2,483.08	2,388.54	108.37	-6.25	0.474
185.00	-12.21	-23.05	0.00	-1,000.8	0.00	1,000.84	3,110.58	734.78	2,334.81	2,245.16	115.01	-6.46	0.451
190.00	-11.42	-22.45	0.00	-885.6	0.00	885.57	3,013.31	711.80	2,191.09	2,106.23	121.88	-6.67	0.425
195.00	-10.65	-21.85	0.00	-773.3	0.00	773.34	2,916.04	688.83	2,051.94	1,971.73	128.95	-6.87	0.397
200.00	-9.91	-21.51	0.00	-664.1	0.00	664.08	2,818.77	665.85	1,917.35	1,841.67	136.23	-7.06	0.365
200.00	-9.91	-21.26	0.00	-664.0	0.00	664.01	2,818.70	665.84	1,917.27	1,841.58	136.23	-7.06	0.365
205.00	-8.86	-20.88	0.00	-557.8	0.00	557.76	2,721.50	642.87	1,787.33	1,716.04	143.69	-7.23	0.329
205.00	-8.86	-20.64	0.00	-557.7	0.00	557.69	1,443.57	382.68	1,084.26	932.58	143.7	-7.23	0.607
210.00	-8.38	-20.11	0.00	-454.6	0.00	454.56	1,412.69	369.27	1,009.61	880.43	151.34	-7.4	0.525
215.00	-7.91	-19.59	0.00	-354.0	0.00	354.02	1,380.37	355.85	937.58	828.80	159.2	-7.63	0.436

CALCULATED FORCES

220.00	-4.96	-13.77	0.00	-256.1	0.00	256.07	1,346.61	342.43	868.21	777.82	167.28	-7.83	0.335
225.00	-4.59	-13.27	0.00	-187.2	0.00	187.25	1,311.41	329.01	801.51	727.58	175.55	-8	0.262
230.00	-4.23	-12.91	0.00	-120.9	0.00	120.90	1,274.79	315.59	737.47	678.18	183.97	-8.12	0.183
232.00	-2.60	-6.97	0.00	-95.1	0.00	95.08	1,259.73	310.22	712.60	658.68	187.37	-8.16	0.147
235.00	-2.42	-6.61	0.00	-74.2	0.00	74.16	1,236.73	302.17	676.10	629.72	192.5	-8.21	0.120
240.00	-2.13	-6.16	0.00	-41.1	0.00	41.11	1,197.23	288.75	617.39	582.30	201.11	-8.27	0.073
245.00	-0.86	-3.76	0.00	-10.3	0.00	10.32	1,156.30	275.34	561.35	536.02	209.76	-8.31	0.020
247.00	-0.70	-2.58	0.00	-2.8	0.00	2.79	1,139.53	269.97	539.68	517.85	213.23	-8.31	0.006
248.00	-0.06	-0.21	0.00	-0.2	0.00	0.21	1,131.06	267.29	529.01	508.84	214.96	-8.31	0.000
249.00	0.00	-0.20	0.00	0.0	0.00	0.00	1,120.15	264.60	518.44	498.82	216.7	-8.31	0.000

CALCULATED FORCES

Load Case: 1.2D + 1.0Di + 1.0Wi — 37 mph Wind with 0.62" Radial Ice — 28 Iterations

Gust Response Factor: 1.10 — Ice Dead Load Factor 1.00
Dead load Factor: 1.20 — Ice Importance Factor 1.00
Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-123.10	-7.64	0.00	-1,214.1	0.00	1,214.07	8,881.24	2,255.95	14,658.09	13,146.00	0	0	0.106
5.00	-120.03	-7.57	0.00	-1,175.9	0.00	1,175.86	8,791.59	2,221.45	14,213.29	12,812.77	0.01	-0.02	0.105
10.00	-116.99	-7.50	0.00	-1,138.0	0.00	1,138.01	8,700.52	2,186.96	13,775.35	12,481.58	0.04	-0.04	0.105
15.00	-113.97	-7.43	0.00	-1,100.5	0.00	1,100.51	8,608.00	2,152.46	13,344.26	12,152.52	0.1	-0.06	0.104
20.00	-110.99	-7.35	0.00	-1,063.4	0.00	1,063.38	8,514.06	2,117.96	12,920.02	11,825.69	0.17	-0.08	0.103
25.00	-108.04	-7.27	0.00	-1,026.6	0.00	1,026.63	8,418.68	2,083.47	12,502.63	11,501.18	0.27	-0.1	0.102
30.00	-105.14	-7.20	0.00	-990.3	0.00	990.30	8,321.87	2,048.97	12,092.10	11,179.11	0.39	-0.13	0.101
33.08	-103.37	-7.15	0.00	-968.1	0.00	968.11	8,261.45	2,027.70	11,842.35	10,981.74	0.48	-0.14	0.101
35.00	-101.35	-7.09	0.00	-954.4	0.00	954.41	8,223.62	2,014.48	11,688.42	10,859.55	0.53	-0.15	0.100
40.00	-96.16	-7.01	0.00	-919.0	0.00	918.98	8,123.94	1,979.98	11,291.59	10,542.62	0.7	-0.17	0.099
42.00	-94.10	-6.96	0.00	-905.0	0.00	904.97	8,186.28	2,001.49	11,538.26	10,739.96	0.77	-0.18	0.096
45.00	-92.40	-6.88	0.00	-884.1	0.00	884.09	8,126.32	1,980.80	11,300.89	10,550.08	0.89	-0.19	0.095
50.00	-89.62	-6.78	0.00	-849.7	0.00	849.70	8,025.24	1,946.30	10,910.75	10,235.81	1.11	-0.21	0.094
55.00	-86.87	-6.67	0.00	-815.8	0.00	815.82	7,922.72	1,911.80	10,527.47	9,924.34	1.34	-0.24	0.093
60.00	-84.16	-6.56	0.00	-782.5	0.00	782.47	7,818.78	1,877.31	10,151.04	9,615.80	1.6	-0.26	0.092
65.00	-81.50	-6.45	0.00	-749.7	0.00	749.66	7,713.40	1,842.81	9,781.46	9,310.26	1.89	-0.28	0.091
70.00	-78.88	-6.34	0.00	-717.4	0.00	717.39	7,606.58	1,808.31	9,418.74	9,007.84	2.19	-0.3	0.090
75.00	-76.30	-6.26	0.00	-685.7	0.00	685.67	7,498.34	1,773.82	9,062.87	8,708.62	2.52	-0.33	0.089
77.09	-75.23	-6.21	0.00	-672.6	0.00	672.60	7,448.22	1,759.42	8,916.38	8,579.52	2.67	-0.34	0.089
80.00	-72.68	-6.11	0.00	-654.5	0.00	654.52	7,363.13	1,739.32	8,713.85	8,383.65	2.88	-0.35	0.088
85.00	-68.38	-6.04	0.00	-624.0	0.00	623.95	7,217.10	1,704.83	8,371.69	8,052.76	3.26	-0.37	0.087
85.00	-68.37	-5.99	0.00	-623.9	0.00	623.93	6,354.86	1,543.64	7,727.98	7,238.80	3.26	-0.37	0.097
90.00	-66.10	-5.87	0.00	-594.0	0.00	594.01	6,264.20	1,513.03	7,424.51	6,992.74	3.66	-0.4	0.096
95.00	-63.87	-5.76	0.00	-564.6	0.00	564.64	6,172.04	1,482.39	7,126.93	6,749.09	4.09	-0.42	0.094
100.00	-61.68	-5.65	0.00	-535.8	0.00	535.84	6,078.46	1,451.75	6,835.44	6,508.11	4.55	-0.45	0.092
105.00	-59.53	-5.53	0.00	-507.6	0.00	507.60	5,983.43	1,421.12	6,550.03	6,269.90	5.04	-0.48	0.091
110.00	-57.42	-5.42	0.00	-479.9	0.00	479.93	5,886.37	1,390.48	6,270.71	6,033.93	5.55	-0.5	0.089
115.00	-55.35	-5.31	0.00	-452.8	0.00	452.82	5,756.68	1,359.85	5,997.48	5,769.68	6.09	-0.53	0.088
120.00	-53.31	-5.21	0.00	-426.3	0.00	426.29	5,626.99	1,329.21	5,730.33	5,511.35	6.66	-0.56	0.087
123.17	-52.04	-5.15	0.00	-409.8	0.00	409.75	5,544.68	1,309.77	5,563.93	5,350.47	7.03	-0.57	0.086
125.00	-50.82	-5.08	0.00	-400.3	0.00	400.34	5,497.29	1,298.57	5,469.26	5,258.94	7.26	-0.58	0.085
130.00	-47.53	-4.99	0.00	-375.0	0.00	374.96	5,367.60	1,267.94	5,214.29	5,012.44	7.88	-0.61	0.084
130.01	-47.53	-4.95	0.00	-374.9	0.00	374.93	4,724.17	1,133.56	4,757.35	4,509.28	7.88	-0.61	0.093
135.00	-45.76	-4.83	0.00	-350.2	0.00	350.23	4,642.00	1,106.76	4,535.08	4,325.10	8.53	-0.64	0.091
140.00	-44.03	-4.72	0.00	-326.1	0.00	326.06	4,558.28	1,079.92	4,317.85	4,143.13	9.22	-0.67	0.088
145.00	-42.34	-4.61	0.00	-302.4	0.00	302.45	4,458.07	1,053.09	4,105.94	3,950.36	9.93	-0.7	0.086
150.00	-40.68	-4.50	0.00	-279.4	0.00	279.39	4,344.46	1,026.25	3,899.36	3,750.60	10.68	-0.73	0.084
155.00	-39.06	-4.40	0.00	-256.9	0.00	256.88	4,230.85	999.41	3,698.12	3,556.02	11.45	-0.75	0.081
159.00	-37.78	-4.34	0.00	-239.3	0.00	239.26	4,139.88	977.93	3,540.83	3,403.96	12.1	-0.78	0.079
160.00	-37.27	-4.28	0.00	-234.9	0.00	234.93	4,117.24	972.58	3,502.21	3,366.62	12.26	-0.78	0.079
165.00	-34.74	-4.20	0.00	-213.5	0.00	213.53	4,003.63	945.74	3,311.63	3,182.41	13.1	-0.81	0.076
165.00	-34.74	-4.16	0.00	-213.5	0.00	213.52	3,449.97	826.67	2,955.20	2,804.84	13.1	-0.81	0.086
170.00	-33.36	-4.08	0.00	-192.7	0.00	192.74	3,379.20	803.71	2,793.34	2,670.28	13.96	-0.84	0.082
171.00	-28.43	-3.60	0.00	-188.7	0.00	188.66	3,364.87	799.12	2,761.49	2,643.60	14.14	-0.85	0.080
175.00	-27.36	-3.50	0.00	-174.3	0.00	174.27	3,305.11	780.74	2,635.93	2,536.35	14.86	-0.87	0.077
180.00	-26.05	-3.40	0.00	-156.8	0.00	156.75	3,207.85	757.76	2,483.08	2,388.54	15.79	-0.9	0.074
185.00	-24.78	-3.29	0.00	-139.8	0.00	139.76	3,110.58	734.78	2,334.81	2,245.16	16.75	-0.93	0.070
190.00	-23.54	-3.19	0.00	-123.3	0.00	123.29	3,013.31	711.80	2,191.09	2,106.23	17.74	-0.96	0.066
195.00	-22.33	-3.09	0.00	-107.3	0.00	107.34	2,916.04	688.83	2,051.94	1,971.73	18.76	-0.99	0.062
200.00	-21.15	-2.99	0.00	-91.9	0.00	91.89	2,818.70	665.84	1,917.27	1,841.58	19.81	-1.01	0.057
200.00	-21.15	-3.03	0.00	-91.9	0.00	91.90	2,818.77	665.85	1,917.35	1,841.67	19.81	-1.01	0.057
205.00	-19.55	-2.92	0.00	-77.0	0.00	76.96	2,721.50	642.87	1,787.33	1,716.04	20.88	-1.04	0.052
205.00	-19.55	-2.88	0.00	-77.0	0.00	76.95	1,443.57	382.68	1,084.26	932.58	20.88	-1.04	0.096
210.00	-18.72	-2.79	0.00	-62.6	0.00	62.57	1,412.69	369.27	1,009.61	880.43	21.98	-1.06	0.084
215.00	-17.92	-2.70	0.00	-48.6	0.00	48.64	1,380.37	355.85	937.58	828.80	23.11	-1.09	0.072

CALCULATED FORCES

220.00	-11.74	-1.91	0.00	-35.2	0.00	35.16	1,346.61	342.43	868.21	777.82	24.27	-1.12	0.054
225.00	-11.07	-1.83	0.00	-25.6	0.00	25.59	1,311.41	329.01	801.51	727.58	25.46	-1.14	0.044
230.00	-10.43	-1.76	0.00	-16.5	0.00	16.46	1,274.79	315.59	737.47	678.18	26.67	-1.16	0.032
232.00	-6.12	-0.98	0.00	-12.9	0.00	12.93	1,259.73	310.22	712.60	658.68	27.15	-1.17	0.025
235.00	-5.76	-0.91	0.00	-10.0	0.00	10.01	1,236.73	302.17	676.10	629.72	27.89	-1.17	0.021
240.00	-5.17	-0.83	0.00	-5.4	0.00	5.45	1,197.23	288.75	617.39	582.30	29.12	-1.18	0.014
245.00	-2.62	-0.47	0.00	-1.3	0.00	1.30	1,156.30	275.34	561.35	536.02	30.36	-1.18	0.005
247.00	-1.98	-0.32	0.00	-0.4	0.00	0.35	1,139.53	269.97	539.68	517.85	30.86	-1.19	0.002
248.00	-0.20	-0.03	0.00	-0.0	0.00	0.03	1,131.06	267.29	529.01	508.84	31.1	-1.19	0.000
249.00	0.00	-0.03	0.00	0.0	0.00	0.00	1,120.15	264.60	518.44	498.82	31.35	-1.19	0.000

CALCULATED FORCES

Load Case: 1.0D + 1.0W 60 mph Wind with No Ice 28 Iterations

Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-89.70	-11.80	0.00	-1,920.2	0.00	1,920.17	8,881.24	2,255.95	14,658.09	13,146.00	0	0	0.156
5.00	-87.34	-11.69	0.00	-1,861.2	0.00	1,861.17	8,791.59	2,221.45	14,213.29	12,812.77	0.02	-0.03	0.155
10.00	-85.02	-11.58	0.00	-1,802.7	0.00	1,802.72	8,700.52	2,186.96	13,775.35	12,481.58	0.07	-0.06	0.154
15.00	-82.73	-11.47	0.00	-1,744.8	0.00	1,744.83	8,608.00	2,152.46	13,344.26	12,152.52	0.15	-0.1	0.153
20.00	-80.47	-11.35	0.00	-1,687.5	0.00	1,687.51	8,514.06	2,117.96	12,920.02	11,825.69	0.27	-0.13	0.152
25.00	-78.24	-11.22	0.00	-1,630.8	0.00	1,630.78	8,418.68	2,083.47	12,502.63	11,501.18	0.43	-0.16	0.151
30.00	-76.05	-11.11	0.00	-1,574.7	0.00	1,574.68	8,321.87	2,048.97	12,092.10	11,179.11	0.62	-0.2	0.150
33.08	-74.72	-11.05	0.00	-1,540.4	0.00	1,540.41	8,261.45	2,027.70	11,842.35	10,981.74	0.76	-0.22	0.149
35.00	-73.13	-10.95	0.00	-1,519.2	0.00	1,519.24	8,223.62	2,014.48	11,688.42	10,859.55	0.85	-0.23	0.149
40.00	-69.04	-10.84	0.00	-1,464.5	0.00	1,464.50	8,123.94	1,979.98	11,291.59	10,542.62	1.11	-0.27	0.147
42.00	-67.42	-10.76	0.00	-1,442.8	0.00	1,442.82	8,186.28	2,001.49	11,538.26	10,739.96	1.23	-0.28	0.143
45.00	-66.15	-10.64	0.00	-1,410.5	0.00	1,410.54	8,126.32	1,980.80	11,300.89	10,550.08	1.41	-0.31	0.142
50.00	-64.06	-10.49	0.00	-1,357.3	0.00	1,357.32	8,025.24	1,946.30	10,910.75	10,235.81	1.75	-0.34	0.141
55.00	-62.00	-10.34	0.00	-1,304.9	0.00	1,304.86	7,922.72	1,911.80	10,527.47	9,924.34	2.13	-0.38	0.139
60.00	-59.98	-10.18	0.00	-1,253.2	0.00	1,253.17	7,818.78	1,877.31	10,151.04	9,615.80	2.54	-0.41	0.138
65.00	-57.99	-10.02	0.00	-1,202.3	0.00	1,202.26	7,713.40	1,842.81	9,781.46	9,310.26	2.99	-0.45	0.137
70.00	-56.03	-9.87	0.00	-1,152.1	0.00	1,152.14	7,606.58	1,808.31	9,418.74	9,007.84	3.48	-0.48	0.135
75.00	-54.11	-9.75	0.00	-1,102.8	0.00	1,102.82	7,498.34	1,773.82	9,062.87	8,708.62	4.01	-0.52	0.134
77.09	-53.32	-9.67	0.00	-1,082.5	0.00	1,082.48	7,448.22	1,759.42	8,916.38	8,579.52	4.24	-0.54	0.133
80.00	-51.33	-9.53	0.00	-1,054.3	0.00	1,054.31	7,363.13	1,739.32	8,713.85	8,383.65	4.58	-0.56	0.133
85.00	-47.97	-9.43	0.00	-1,006.6	0.00	1,006.65	7,217.10	1,704.83	8,371.69	8,052.76	5.18	-0.6	0.132
85.00	-47.96	-9.35	0.00	-1,006.6	0.00	1,006.61	6,354.86	1,543.64	7,727.98	7,238.80	5.18	-0.6	0.147
90.00	-46.29	-9.19	0.00	-959.9	0.00	959.88	6,264.20	1,513.03	7,424.51	6,992.74	5.83	-0.64	0.145
95.00	-44.66	-9.03	0.00	-913.9	0.00	913.93	6,172.04	1,482.39	7,126.93	6,749.09	6.52	-0.68	0.143
100.00	-43.05	-8.87	0.00	-868.8	0.00	868.79	6,078.46	1,451.75	6,835.44	6,508.11	7.25	-0.72	0.141
105.00	-41.47	-8.71	0.00	-824.4	0.00	824.45	5,983.43	1,421.12	6,550.03	6,269.90	8.03	-0.76	0.138
110.00	-39.92	-8.55	0.00	-780.9	0.00	780.92	5,886.37	1,390.48	6,270.71	6,033.93	8.85	-0.8	0.136
115.00	-38.41	-8.38	0.00	-738.2	0.00	738.20	5,756.68	1,359.85	5,997.48	5,769.68	9.71	-0.85	0.135
120.00	-36.92	-8.25	0.00	-696.3	0.00	696.27	5,626.99	1,329.21	5,730.33	5,511.35	10.62	-0.89	0.133
123.17	-35.99	-8.17	0.00	-670.1	0.00	670.10	5,544.68	1,309.77	5,563.93	5,350.47	11.23	-0.92	0.132
125.00	-35.05	-8.06	0.00	-655.2	0.00	655.18	5,497.29	1,298.57	5,469.26	5,258.94	11.58	-0.94	0.131
130.00	-32.51	-7.95	0.00	-614.9	0.00	614.89	5,367.60	1,267.94	5,214.29	5,012.44	12.59	-0.98	0.129
130.01	-32.50	-7.88	0.00	-614.8	0.00	614.84	4,724.17	1,133.56	4,757.35	4,509.28	12.59	-0.98	0.143
135.00	-31.23	-7.72	0.00	-575.5	0.00	575.51	4,642.00	1,106.76	4,535.08	4,325.10	13.64	-1.03	0.140
140.00	-29.99	-7.56	0.00	-536.9	0.00	536.91	4,558.28	1,079.92	4,317.85	4,143.13	14.74	-1.07	0.136
145.00	-28.77	-7.41	0.00	-499.1	0.00	499.09	4,458.07	1,053.09	4,105.94	3,950.36	15.89	-1.12	0.133
150.00	-27.58	-7.26	0.00	-462.0	0.00	462.05	4,344.46	1,026.25	3,899.36	3,750.60	17.09	-1.17	0.130
155.00	-26.41	-7.12	0.00	-425.8	0.00	425.76	4,230.85	999.41	3,698.12	3,556.02	18.34	-1.22	0.126
159.00	-25.50	-7.03	0.00	-397.3	0.00	397.27	4,139.88	977.93	3,540.83	3,403.96	19.38	-1.26	0.123
160.00	-25.11	-6.95	0.00	-390.3	0.00	390.26	4,117.24	972.58	3,502.21	3,366.62	19.65	-1.27	0.122
165.00	-23.19	-6.84	0.00	-355.5	0.00	355.51	4,003.63	945.74	3,311.63	3,182.41	21	-1.32	0.118
165.00	-23.18	-6.78	0.00	-355.5	0.00	355.49	3,449.97	826.67	2,955.20	2,804.84	21	-1.32	0.134
170.00	-22.21	-6.68	0.00	-321.6	0.00	321.61	3,379.20	803.71	2,793.34	2,670.28	22.4	-1.36	0.127
171.00	-18.82	-5.83	0.00	-314.9	0.00	314.93	3,364.87	799.12	2,761.49	2,643.60	22.69	-1.37	0.125
175.00	-18.08	-5.70	0.00	-291.6	0.00	291.62	3,305.11	780.74	2,635.93	2,536.35	23.86	-1.41	0.120
180.00	-17.16	-5.56	0.00	-263.1	0.00	263.12	3,207.85	757.76	2,483.08	2,388.54	25.37	-1.46	0.116
185.00	-16.27	-5.41	0.00	-235.3	0.00	235.34	3,110.58	734.78	2,334.81	2,245.16	26.93	-1.51	0.110
190.00	-15.40	-5.27	0.00	-208.3	0.00	208.27	3,013.31	711.80	2,191.09	2,106.23	28.54	-1.56	0.104
195.00	-14.55	-5.14	0.00	-181.9	0.00	181.91	2,916.04	688.83	2,051.94	1,971.73	30.2	-1.61	0.097
200.00	-13.73	-5.05	0.00	-156.2	0.00	156.23	2,818.77	665.85	1,917.35	1,841.67	31.91	-1.65	0.090
200.00	-13.73	-5.00	0.00	-156.2	0.00	156.22	2,818.70	665.84	1,917.27	1,841.58	31.91	-1.65	0.090
205.00	-12.55	-4.91	0.00	-131.2	0.00	131.24	2,721.50	642.87	1,787.33	1,716.04	33.66	-1.7	0.081
205.00	-12.55	-4.85	0.00	-131.2	0.00	131.23	1,443.57	382.68	1,084.26	932.58	33.66	-1.7	0.150
210.00	-12.02	-4.73	0.00	-107.0	0.00	106.98	1,412.69	369.27	1,009.61	880.43	35.46	-1.73	0.130
215.00	-11.50	-4.61	0.00	-83.3	0.00	83.34	1,380.37	355.85	937.58	828.80	37.3	-1.79	0.109

CALCULATED FORCES

220.00	-7.46	-3.24	0.00	-60.3	0.00	60.29	1,346.61	342.43	868.21	777.82	39.2	-1.84	0.083
225.00	-7.02	-3.12	0.00	-44.1	0.00	44.09	1,311.41	329.01	801.51	727.58	41.15	-1.87	0.066
230.00	-6.58	-3.04	0.00	-28.5	0.00	28.47	1,274.79	315.59	737.47	678.18	43.13	-1.9	0.047
232.00	-3.91	-1.64	0.00	-22.4	0.00	22.40	1,259.73	310.22	712.60	658.68	43.93	-1.91	0.037
235.00	-3.67	-1.56	0.00	-17.5	0.00	17.47	1,236.73	302.17	676.10	629.72	45.14	-1.93	0.031
240.00	-3.28	-1.45	0.00	-9.7	0.00	9.68	1,197.23	288.75	617.39	582.30	47.16	-1.94	0.019
245.00	-1.52	-0.88	0.00	-2.4	0.00	2.43	1,156.30	275.34	561.35	536.02	49.2	-1.95	0.006
247.00	-1.16	-0.61	0.00	-0.7	0.00	0.66	1,139.53	269.97	539.68	517.85	50.01	-1.95	0.002
248.00	-0.10	-0.05	0.00	-0.0	0.00	0.05	1,131.06	267.29	529.01	508.84	50.42	-1.95	0.000
249.00	0.00	-0.05	0.00	0.0	0.00	0.00	1,120.15	264.60	518.44	498.82	50.83	-1.95	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

Design Spectral Response Acceleration at Short Period (S_{ds}):	0.180
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.110
Long-Period Transition Period (T_L – Seconds):	8
Importance Factor (I_e):	1.000
Response Modification Coefficient (R):	1.500
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_S:	0.030
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	3.440
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	89.700 k
Seismic Base Shear (E):	2.690 k

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
64	248.5	73	4,483	0.003	8	90
63	247.5	73	4,479	0.003	8	90
62	246	148	8,944	0.006	16	183
61	242.5	379	22,263	0.015	40	468
60	237.5	392	22,088	0.015	39	484
59	233.5	241	13,151	0.009	23	298
58	231	170	9,063	0.006	16	210
57	227.5	434	22,447	0.015	40	536
56	222.5	447	22,115	0.015	39	552
55	217.5	506	23,940	0.016	43	626
54	212.5	519	23,440	0.016	42	642
53	207.5017	532	22,895	0.015	41	657
52	205.0017	1	33	0.000	0	1
51	202.5017	1,179	48,334	0.032	86	1,457
50	200.0017	1	22	0.000	0	1
49	197.5	824	32,151	0.021	57	1,019
48	192.5	847	31,369	0.021	56	1,046
47	187.5	869	30,544	0.020	54	1,074
46	182.5	891	29,678	0.020	53	1,101
45	177.5	913	28,776	0.019	51	1,129
44	173	747	22,348	0.015	40	923
43	170.5	192	5,571	0.004	10	237
42	167.5017	971	27,239	0.018	48	1,200
41	165.0017	1	34	0.000	0	2
40	162.5	1,924	50,796	0.034	90	2,378
39	159.5017	389	9,902	0.006	18	481
38	157.0017	912	22,493	0.015	40	1,128
37	152.5	1,163	27,049	0.018	48	1,438
36	147.5	1,189	25,871	0.017	46	1,470
35	142.5	1,215	24,675	0.016	44	1,502
34	137.5	1,241	23,465	0.016	42	1,534
33	132.5033	1,265	22,218	0.015	39	1,564
32	130.0033	3	57	0.000	0	4
31	127.5	2,537	41,246	0.027	73	3,136
30	124.0867	941	14,486	0.010	26	1,163
29	121.5867	927	13,702	0.009	24	1,146
28	117.5	1,485	20,498	0.014	36	1,835
27	112.5	1,514	19,166	0.013	34	1,872
26	107.5	1,544	17,843	0.012	32	1,908
25	102.5	1,574	16,534	0.011	29	1,945
24	97.5	1,603	15,243	0.010	27	1,982
23	92.5	1,633	13,974	0.009	25	2,019

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
22	87.5017	1,662	12,723	0.008	23	2,054
21	85.0017	2	16	0.000	0	3
20	82.5	3,362	22,883	0.015	41	4,155
19	78.5433	1,988	12,264	0.008	22	2,457
18	76.0433	790	4,570	0.003	8	977
17	72.5	1,918	10,079	0.007	18	2,370
16	67.5	1,951	8,889	0.006	16	2,411
15	62.5	1,984	7,752	0.005	14	2,453
14	57.5	2,018	6,672	0.004	12	2,494
13	52.5	2,051	5,654	0.004	10	2,535
12	47.5	2,085	4,704	0.003	8	2,577
11	43.5	1,267	2,397	0.002	4	1,566
10	41	1,616	2,717	0.002	5	1,998
9	37.5	4,088	5,749	0.004	10	5,053
8	34.0417	1,585	1,836	0.001	3	1,959
7	31.5417	1,330	1,324	0.001	2	1,644
6	27.5	2,184	1,652	0.001	3	2,700
5	22.5	2,218	1,123	0.001	2	2,741
4	17.5	2,251	689	0.000	1	2,782
3	12.5	2,285	357	0.000	1	2,824
2	7.5	2,318	130	0.000	0	2,865
1	2.5	2,352	15	0.000	0	2,906
Raycap DC6-48-60-18-8C-EV (Enclosure)	249	32	1,984	0.001	4	40
Ericsson Radio 4494 44B14 20B29 M01	248	172	10,573	0.007	19	212
Ericsson Radio 4890HP B2/B25 B66	248	204	12,547	0.008	22	252
Ericsson Radio 4490HP 44B5 44B12A C (20.6" Height)	248	195	11,993	0.008	21	241
Ericsson AIR 6472 B77G B77M (67.2lbs)	248	134	8,266	0.006	15	166
Ericsson AIR 6472 B77G B77M (67.2lbs)	247	67	4,100	0.003	7	83
Kathrein Scala 800372991	248	300	18,427	0.012	33	370
Kathrein Scala 800372991	247	150	9,139	0.006	16	185
Generic Mount Reinforcement	245	200	12,005	0.008	21	247
Generic Mount Reinforcement	232	600	32,294	0.021	57	742
Generic Flat Light Sector Frame	245	1,200	72,030	0.048	128	1,483
Ericsson Radio 4449 - B13&B5	232	210	11,303	0.008	20	260
Ericsson 8843 Rev 2	232	225	12,110	0.008	22	278
Raycap RC3DC-3315-PF-48	232	32	1,722	0.001	3	40
Ericsson Air 6449 B77D	232	245	13,176	0.009	23	303
Raycap RCMDC-6627-PF-48	232	32	1,722	0.001	3	40
Commscope NHH-65C-R2B	232	310	16,664	0.011	30	383
T-Arm with Platform	232	900	48,442	0.032	86	1,112
Ericsson Radio 4460 B25+B66	220	327	15,827	0.010	28	404
Ericsson Radio 4480 B71+B85	220	279	13,504	0.009	24	345
Ericsson AIR 6419 B41	220	206	9,946	0.007	18	254
Amphenol Antel APXVAALL24M-U-J20	220	258	12,487	0.008	22	319
Generic Platform with Handrails	220	2,500	121,000	0.080	215	3,090
Raycap RDIDC-9181-PF-48	171	22	640	0.000	1	27
Fujitsu TA08025-B604	171	192	5,605	0.004	10	237
Fujitsu TA08025-B605	171	225	6,579	0.004	12	278
JMA Wireless MX08FRO665-21	171	64	1,886	0.001	3	80
CellMax CMA-UBTULBULBHH/6516/16/21/21	171	210	6,141	0.004	11	260
Generic Round Platform with Handrails	171	2,500	73,102	0.048	130	3,090
	Totals:	**89,702**	**1,514,032**	**1.000**	**2,691**	**110,872**

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
64	248.5	73	4,483	0.003	8	63
63	247.5	73	4,479	0.003	8	63
62	246	148	8,944	0.006	16	128

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
61	242.5	379	22,263	0.015	40	327
60	237.5	392	22,088	0.015	39	338
59	233.5	241	13,151	0.009	23	208
58	231	170	9,063	0.006	16	147
57	227.5	434	22,447	0.015	40	375
56	222.5	447	22,115	0.015	39	386
55	217.5	506	23,940	0.016	43	437
54	212.5	519	23,440	0.016	42	448
53	207.5017	532	22,895	0.015	41	459
52	205.0017	1	33	0.000	0	1
51	202.5017	1,179	48,334	0.032	86	1,018
50	200.0017	1	22	0.000	0	0
49	197.5	824	32,151	0.021	57	712
48	192.5	847	31,369	0.021	56	731
47	187.5	869	30,544	0.020	54	751
46	182.5	891	29,678	0.020	53	770
45	177.5	913	28,776	0.019	51	789
44	173	747	22,348	0.015	40	645
43	170.5	192	5,571	0.004	10	166
42	167.5017	971	27,239	0.018	48	839
41	165.0017	1	34	0.000	0	1
40	162.5	1,924	50,796	0.034	90	1,662
39	159.5017	389	9,902	0.006	18	336
38	157.0017	912	22,493	0.015	40	788
37	152.5	1,163	27,049	0.018	48	1,005
36	147.5	1,189	25,871	0.017	46	1,027
35	142.5	1,215	24,675	0.016	44	1,050
34	137.5	1,241	23,465	0.016	42	1,072
33	132.5033	1,265	22,218	0.015	39	1,093
32	130.0033	3	57	0.000	0	3
31	127.5	2,537	41,246	0.027	73	2,192
30	124.0867	941	14,486	0.010	26	813
29	121.5867	927	13,702	0.009	24	801
28	117.5	1,485	20,498	0.014	36	1,283
27	112.5	1,514	19,166	0.013	34	1,308
26	107.5	1,544	17,843	0.012	32	1,334
25	102.5	1,574	16,534	0.011	29	1,360
24	97.5	1,603	15,243	0.010	27	1,385
23	92.5	1,633	13,974	0.009	25	1,411
22	87.5017	1,662	12,723	0.008	23	1,436
21	85.0017	2	16	0.000	0	2
20	82.5	3,362	22,883	0.015	41	2,905
19	78.5433	1,988	12,264	0.008	22	1,718
18	76.0433	790	4,570	0.003	8	683
17	72.5	1,918	10,079	0.007	18	1,657
16	67.5	1,951	8,889	0.006	16	1,686
15	62.5	1,984	7,752	0.005	14	1,715
14	57.5	2,018	6,672	0.004	12	1,743
13	52.5	2,051	5,654	0.004	10	1,772
12	47.5	2,085	4,704	0.003	8	1,801
11	43.5	1,267	2,397	0.002	4	1,095
10	41	1,616	2,717	0.002	5	1,397
9	37.5	4,088	5,749	0.004	10	3,532
8	34.0417	1,585	1,836	0.001	3	1,369
7	31.5417	1,330	1,324	0.001	2	1,149
6	27.5	2,184	1,652	0.001	3	1,887
5	22.5	2,218	1,123	0.001	2	1,916
4	17.5	2,251	689	0.000	1	1,945
3	12.5	2,285	357	0.000	1	1,974
2	7.5	2,318	130	0.000	0	2,003
1	2.5	2,352	15	0.000	0	2,032

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
Raycap DC6-48-60-18-8C-EV (Enclosure)	249	32	1,984	0.001	4	28
Ericsson Radio 4494 44B14 20B29 M01	248	172	10,573	0.007	19	149
Ericsson Radio 4890HP B2/B25 B66	248	204	12,547	0.008	22	176
Ericsson Radio 4490HP 44B5 44B12A C (20.6" Height)	248	195	11,993	0.008	21	168
Ericsson AIR 6472 B77G B77M (67.2lbs)	248	134	8,266	0.006	15	116
Ericsson AIR 6472 B77G B77M (67.2lbs)	247	67	4,100	0.003	7	58
Kathrein Scala 800372991	248	300	18,427	0.012	33	259
Kathrein Scala 800372991	247	150	9,139	0.006	16	129
Generic Mount Reinforcement	245	200	12,005	0.008	21	173
Generic Mount Reinforcement	232	600	32,294	0.021	57	518
Generic Flat Light Sector Frame	245	1,200	72,030	0.048	128	1,037
Ericsson Radio 4449 - B13&B5	232	210	11,303	0.008	20	181
Ericsson 8843 Rev 2	232	225	12,110	0.008	22	194
Raycap RC3DC-3315-PF-48	232	32	1,722	0.001	3	28
Ericsson Air 6449 B77D	232	245	13,176	0.009	23	212
Raycap RCMDC-6627-PF-48	232	32	1,722	0.001	3	28
Commscope NHH-65C-R2B	232	310	16,664	0.011	30	267
T-Arm with Platform	232	900	48,442	0.032	86	778
Ericsson Radio 4460 B25+B66	220	327	15,827	0.010	28	283
Ericsson Radio 4480 B71+B85	220	279	13,504	0.009	24	241
Ericsson AIR 6419 B41	220	206	9,946	0.007	18	178
Amphenol Antel APXVAALL24M-U-J20	220	258	12,487	0.008	22	223
Generic Platform with Handrails	220	2,500	121,000	0.080	215	2,160
Raycap RDIDC-9181-PF-48	171	22	640	0.000	1	19
Fujitsu TA08025-B604	171	192	5,605	0.004	10	166
Fujitsu TA08025-B605	171	225	6,579	0.004	12	194
JMA Wireless MX08FRO665-21	171	64	1,886	0.001	3	56
CellMax CMA-UBTULBULBHH/6516/16/21/21	171	210	6,141	0.004	11	181
Generic Round Platform with Handrails	171	2,500	73,102	0.048	130	2,160
	Totals:	**89,702**	**1,514,032**	**1.000**	**2,691**	**77,503**

SEISMIC FORCES

1.2D + 1.0Ev + 1.5Eh **Seismic Overstrength**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
64	248.5	73	4,483	0.003	12	90
63	247.5	73	4,479	0.003	12	90
62	246	148	8,944	0.006	24	183
61	242.5	379	22,263	0.015	59	468
60	237.5	392	22,088	0.015	59	484
59	233.5	241	13,151	0.009	35	298
58	231	170	9,063	0.006	24	210
57	227.5	434	22,447	0.015	60	536
56	222.5	447	22,115	0.015	59	552
55	217.5	506	23,940	0.016	64	626
54	212.5	519	23,440	0.016	62	642
53	207.5017	532	22,895	0.015	61	657
52	205.0017	1	33	0.000	0	1
51	202.5017	1,179	48,334	0.032	129	1,457
50	200.0017	1	22	0.000	0	1
49	197.5	824	32,151	0.021	86	1,019
48	192.5	847	31,369	0.021	84	1,046
47	187.5	869	30,544	0.020	81	1,074
46	182.5	891	29,678	0.020	79	1,101
45	177.5	913	28,776	0.019	77	1,129
44	173	747	22,348	0.015	60	923
43	170.5	192	5,571	0.004	15	237
42	167.5017	971	27,239	0.018	73	1,200
41	165.0017	1	34	0.000	0	2
40	162.5	1,924	50,796	0.034	135	2,378

SEISMIC FORCES

1.2D + 1.0Ev + 1.5Eh **Seismic Overstrength**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	159.5017	389	9,902	0.006	26	481
38	157.0017	912	22,493	0.015	60	1,128
37	152.5	1,163	27,049	0.018	72	1,438
36	147.5	1,189	25,871	0.017	69	1,470
35	142.5	1,215	24,675	0.016	66	1,502
34	137.5	1,241	23,465	0.016	63	1,534
33	132.5033	1,265	22,218	0.015	59	1,564
32	130.0033	3	57	0.000	0	4
31	127.5	2,537	41,246	0.027	110	3,136
30	124.0867	941	14,486	0.010	39	1,163
29	121.5867	927	13,702	0.009	37	1,146
28	117.5	1,485	20,498	0.014	55	1,835
27	112.5	1,514	19,166	0.013	51	1,872
26	107.5	1,544	17,843	0.012	48	1,908
25	102.5	1,574	16,534	0.011	44	1,945
24	97.5	1,603	15,243	0.010	41	1,982
23	92.5	1,633	13,974	0.009	37	2,019
22	87.5017	1,662	12,723	0.008	34	2,054
21	85.0017	2	16	0.000	0	3
20	82.5	3,362	22,883	0.015	61	4,155
19	78.5433	1,988	12,264	0.008	33	2,457
18	76.0433	790	4,570	0.003	12	977
17	72.5	1,918	10,079	0.007	27	2,370
16	67.5	1,951	8,889	0.006	24	2,411
15	62.5	1,984	7,752	0.005	21	2,453
14	57.5	2,018	6,672	0.004	18	2,494
13	52.5	2,051	5,654	0.004	15	2,535
12	47.5	2,085	4,704	0.003	13	2,577
11	43.5	1,267	2,397	0.002	6	1,566
10	41	1,616	2,717	0.002	7	1,998
9	37.5	4,088	5,749	0.004	15	5,053
8	34.0417	1,585	1,836	0.001	5	1,959
7	31.5417	1,330	1,324	0.001	4	1,644
6	27.5	2,184	1,652	0.001	4	2,700
5	22.5	2,218	1,123	0.001	3	2,741
4	17.5	2,251	689	0.000	2	2,782
3	12.5	2,285	357	0.000	1	2,824
2	7.5	2,318	130	0.000	0	2,865
1	2.5	2,352	15	0.000	0	2,906
Raycap DC6-48-60-18-8C-EV (Enclosure)	249	32	1,984	0.001	5	40
Ericsson Radio 4494 44B14 20B29 M01	248	172	10,573	0.007	28	212
Ericsson Radio 4890HP B2/B25 B66	248	204	12,547	0.008	33	252
Ericsson Radio 4490HP 44B5 44B12A C (20.6" Height)	248	195	11,993	0.008	32	241
Ericsson AIR 6472 B77G B77M (67.2lbs)	248	134	8,266	0.006	22	166
Ericsson AIR 6472 B77G B77M (67.2lbs)	247	67	4,100	0.003	11	83
Kathrein Scala 800372991	248	300	18,427	0.012	49	370
Kathrein Scala 800372991	247	150	9,139	0.006	24	185
Generic Mount Reinforcement	245	200	12,005	0.008	32	247
Generic Mount Reinforcement	232	600	32,294	0.021	86	742
Generic Flat Light Sector Frame	245	1,200	72,030	0.048	192	1,483
Ericsson Radio 4449 - B13&B5	232	210	11,303	0.008	30	260
Ericsson 8843 Rev 2	232	225	12,110	0.008	32	278
Raycap RC3DC-3315-PF-48	232	32	1,722	0.001	5	40
Ericsson Air 6449 B77D	232	245	13,176	0.009	35	303
Raycap RCMDC-6627-PF-48	232	32	1,722	0.001	5	40
Commscope NHH-65C-R2B	232	310	16,664	0.011	44	383
T-Arm with Platform	232	900	48,442	0.032	129	1,112
Ericsson Radio 4460 B25+B66	220	327	15,827	0.010	42	404
Ericsson Radio 4480 B71+B85	220	279	13,504	0.009	36	345
Ericsson AIR 6419 B41	220	206	9,946	0.007	27	254

SEISMIC FORCES

1.2D + 1.0Ev + 1.5Eh **Seismic Overstrength**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
Amphenol Antel APXVAALL24M-U-J20	220	258	12,487	0.008	33	319
Generic Platform with Handrails	220	2,500	121,000	0.080	323	3,090
Raycap RDIDC-9181-PF-48	171	22	640	0.000	2	27
Fujitsu TA08025-B604	171	192	5,605	0.004	15	237
Fujitsu TA08025-B605	171	225	6,579	0.004	18	278
JMA Wireless MX08FRO665-21	171	64	1,886	0.001	5	80
CellMax CMA-UBTULBULBHH/6516/16/21/21	171	210	6,141	0.004	16	260
Generic Round Platform with Handrails	171	2,500	73,102	0.048	195	3,090
	Totals:	**89,702**	**1,514,032**	**1.000**	**4,037**	**110,872**

SEISMIC FORCES

0.9D - 1.0Ev + 1.5Eh **Seismic Overstrength (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
64	248.5	73	4,483	0.003	12	63
63	247.5	73	4,479	0.003	12	63
62	246	148	8,944	0.006	24	128
61	242.5	379	22,263	0.015	59	327
60	237.5	392	22,088	0.015	59	338
59	233.5	241	13,151	0.009	35	208
58	231	170	9,063	0.006	24	147
57	227.5	434	22,447	0.015	60	375
56	222.5	447	22,115	0.015	59	386
55	217.5	506	23,940	0.016	64	437
54	212.5	519	23,440	0.016	62	448
53	207.5017	532	22,895	0.015	61	459
52	205.0017	1	33	0.000	0	1
51	202.5017	1,179	48,334	0.032	129	1,018
50	200.0017	1	22	0.000	0	0
49	197.5	824	32,151	0.021	86	712
48	192.5	847	31,369	0.021	84	731
47	187.5	869	30,544	0.020	81	751
46	182.5	891	29,678	0.020	79	770
45	177.5	913	28,776	0.019	77	789
44	173	747	22,348	0.015	60	645
43	170.5	192	5,571	0.004	15	166
42	167.5017	971	27,239	0.018	73	839
41	165.0017	1	34	0.000	0	1
40	162.5	1,924	50,796	0.034	135	1,662
39	159.5017	389	9,902	0.006	26	336
38	157.0017	912	22,493	0.015	60	788
37	152.5	1,163	27,049	0.018	72	1,005
36	147.5	1,189	25,871	0.017	69	1,027
35	142.5	1,215	24,675	0.016	66	1,050
34	137.5	1,241	23,465	0.016	63	1,072
33	132.5033	1,265	22,218	0.015	59	1,093
32	130.0033	3	57	0.000	0	3
31	127.5	2,537	41,246	0.027	110	2,192
30	124.0867	941	14,486	0.010	39	813
29	121.5867	927	13,702	0.009	37	801
28	117.5	1,485	20,498	0.014	55	1,283
27	112.5	1,514	19,166	0.013	51	1,308
26	107.5	1,544	17,843	0.012	48	1,334
25	102.5	1,574	16,534	0.011	44	1,360
24	97.5	1,603	15,243	0.010	41	1,385
23	92.5	1,633	13,974	0.009	37	1,411
22	87.5017	1,662	12,723	0.008	34	1,436
21	85.0017	2	16	0.000	0	2
20	82.5	3,362	22,883	0.015	61	2,905
19	78.5433	1,988	12,264	0.008	33	1,718
18	76.0433	790	4,570	0.003	12	683

SEISMIC FORCES

0.9D - 1.0Ev + 1.5Eh **Seismic Overstrength (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
17	72.5	1,918	10,079	0.007	27	1,657
16	67.5	1,951	8,889	0.006	24	1,686
15	62.5	1,984	7,752	0.005	21	1,715
14	57.5	2,018	6,672	0.004	18	1,743
13	52.5	2,051	5,654	0.004	15	1,772
12	47.5	2,085	4,704	0.003	13	1,801
11	43.5	1,267	2,397	0.002	6	1,095
10	41	1,616	2,717	0.002	7	1,397
9	37.5	4,088	5,749	0.004	15	3,532
8	34.0417	1,585	1,836	0.001	5	1,369
7	31.5417	1,330	1,324	0.001	4	1,149
6	27.5	2,184	1,652	0.001	4	1,887
5	22.5	2,218	1,123	0.001	3	1,916
4	17.5	2,251	689	0.000	2	1,945
3	12.5	2,285	357	0.000	1	1,974
2	7.5	2,318	130	0.000	0	2,003
1	2.5	2,352	15	0.000	0	2,032
Raycap DC6-48-60-18-8C-EV (Enclosure)	249	32	1,984	0.001	5	28
Ericsson Radio 4494 44B14 20B29 M01	248	172	10,573	0.007	28	149
Ericsson Radio 4890HP B2/B25 B66	248	204	12,547	0.008	33	176
Ericsson Radio 4490HP 44B5 44B12A C (20.6" Height)	248	195	11,993	0.008	32	168
Ericsson AIR 6472 B77G B77M (67.2lbs)	248	134	8,266	0.006	22	116
Ericsson AIR 6472 B77G B77M (67.2lbs)	247	67	4,100	0.003	11	58
Kathrein Scala 800372991	248	300	18,427	0.012	49	259
Kathrein Scala 800372991	247	150	9,139	0.006	24	129
Generic Mount Reinforcement	245	200	12,005	0.008	32	173
Generic Mount Reinforcement	232	600	32,294	0.021	86	518
Generic Flat Light Sector Frame	245	1,200	72,030	0.048	192	1,037
Ericsson Radio 4449 - B13&B5	232	210	11,303	0.008	30	181
Ericsson 8843 Rev 2	232	225	12,110	0.008	32	194
Raycap RC3DC-3315-PF-48	232	32	1,722	0.001	5	28
Ericsson Air 6449 B77D	232	245	13,176	0.009	35	212
Raycap RCMDC-6627-PF-48	232	32	1,722	0.001	5	28
Commscope NHH-65C-R2B	232	310	16,664	0.011	44	267
T-Arm with Platform	232	900	48,442	0.032	129	778
Ericsson Radio 4460 B25+B66	220	327	15,827	0.010	42	283
Ericsson Radio 4480 B71+B85	220	279	13,504	0.009	36	241
Ericsson AIR 6419 B41	220	206	9,946	0.007	27	178
Amphenol Antel APXVAALL24M-U-J20	220	258	12,487	0.008	33	223
Generic Platform with Handrails	220	2,500	121,000	0.080	323	2,160
Raycap RDIDC-9181-PF-48	171	22	640	0.000	2	19
Fujitsu TA08025-B604	171	192	5,605	0.004	15	166
Fujitsu TA08025-B605	171	225	6,579	0.004	18	194
JMA Wireless MX08FRO665-21	171	64	1,886	0.001	5	56
CellMax CMA-UBTULBULBHH/6516/16/21/21	171	210	6,141	0.004	16	181
Generic Round Platform with Handrails	171	2,500	73,102	0.048	195	2,160
	Totals:	**89,702**	**1,514,032**	**1.000**	**4,037**	**77,503**

1.2D + 1.0Ev + 1.0Eh **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-107.97	-2.70	0.00	-521.66	0.00	521.66	8,881.24	2,255.95	14,658	13,146.00	0.00	0.00	0.05
5.00	-105.10	-2.71	0.00	-508.17	0.00	508.17	8,791.59	2,221.45	14,213	12,812.77	0.00	-0.01	0.05
10.00	-102.28	-2.73	0.00	-494.60	0.00	494.60	8,700.52	2,186.96	13,775	12,481.58	0.02	-0.02	0.05
15.00	-99.49	-2.74	0.00	-480.96	0.00	480.96	8,608.00	2,152.46	13,344	12,152.52	0.04	-0.03	0.05
20.00	-96.75	-2.75	0.00	-467.24	0.00	467.24	8,514.06	2,117.96	12,920	11,825.69	0.07	-0.04	0.05
25.00	-94.05	-2.77	0.00	-453.47	0.00	453.47	8,418.68	2,083.47	12,503	11,501.18	0.12	-0.05	0.05
30.00	-92.41	-2.77	0.00	-439.64	0.00	439.64	8,321.87	2,048.97	12,092	11,179.11	0.17	-0.05	0.05

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
33.08	-90.45	-2.78	0.00	-431.09	0.00	431.09	8,261.45	2,027.70	11,842	10,981.74	0.21	-0.06	0.05
35.00	-85.39	-2.77	0.00	-425.77	0.00	425.77	8,223.62	2,014.48	11,688	10,859.55	0.23	-0.06	0.05
40.00	-83.40	-2.77	0.00	-411.91	0.00	411.91	8,123.94	1,979.98	11,292	10,542.62	0.31	-0.07	0.05
42.00	-81.83	-2.78	0.00	-406.36	0.00	406.36	8,186.28	2,001.49	11,538	10,739.96	0.34	-0.08	0.05
45.00	-79.25	-2.77	0.00	-398.04	0.00	398.04	8,126.32	1,980.80	11,301	10,550.08	0.39	-0.09	0.05
50.00	-76.72	-2.77	0.00	-384.16	0.00	384.16	8,025.24	1,946.30	10,911	10,235.81	0.48	-0.09	0.05
55.00	-74.22	-2.77	0.00	-370.30	0.00	370.30	7,922.72	1,911.80	10,527	9,924.34	0.59	-0.10	0.05
60.00	-71.77	-2.76	0.00	-356.45	0.00	356.45	7,818.78	1,877.31	10,151	9,615.80	0.70	-0.11	0.05
65.00	-69.36	-2.76	0.00	-342.62	0.00	342.62	7,713.40	1,842.81	9,781	9,310.26	0.83	-0.13	0.05
70.00	-66.99	-2.75	0.00	-328.84	0.00	328.84	7,606.58	1,808.31	9,419	9,007.84	0.97	-0.14	0.05
75.00	-66.01	-2.74	0.00	-315.12	0.00	315.12	7,498.34	1,773.82	9,063	8,708.62	1.11	-0.15	0.05
77.09	-63.55	-2.72	0.00	-309.39	0.00	309.39	7,448.22	1,759.42	8,916	8,579.52	1.18	-0.15	0.05
80.00	-59.40	-2.68	0.00	-301.46	0.00	301.46	7,363.13	1,739.32	8,714	8,383.65	1.27	-0.16	0.04
85.00	-59.39	-2.68	0.00	-288.07	0.00	288.07	7,217.10	1,704.83	8,372	8,052.76	1.44	-0.17	0.04
85.00	-57.34	-2.66	0.00	-288.06	0.00	288.06	6,354.86	1,543.64	7,728	7,238.80	1.44	-0.17	0.05
90.00	-55.32	-2.64	0.00	-274.77	0.00	274.77	6,264.20	1,513.03	7,425	6,992.74	1.62	-0.18	0.05
95.00	-53.34	-2.62	0.00	-261.56	0.00	261.56	6,172.04	1,482.39	7,127	6,749.09	1.82	-0.19	0.05
100.00	-51.39	-2.59	0.00	-248.47	0.00	248.47	6,078.46	1,451.75	6,835	6,508.11	2.02	-0.20	0.05
105.00	-49.48	-2.57	0.00	-235.50	0.00	235.50	5,983.43	1,421.12	6,550	6,269.90	2.24	-0.21	0.05
110.00	-47.61	-2.53	0.00	-222.68	0.00	222.68	5,886.37	1,390.48	6,271	6,033.93	2.48	-0.23	0.05
115.00	-45.78	-2.50	0.00	-210.01	0.00	210.01	5,756.68	1,359.85	5,997	5,769.68	2.72	-0.24	0.04
120.00	-44.63	-2.48	0.00	-197.50	0.00	197.50	5,626.99	1,329.21	5,730	5,511.35	2.98	-0.25	0.04
123.17	-43.47	-2.45	0.00	-189.64	0.00	189.64	5,544.68	1,309.77	5,564	5,350.47	3.15	-0.26	0.04
125.00	-40.33	-2.37	0.00	-185.16	0.00	185.16	5,497.29	1,298.57	5,469	5,258.94	3.25	-0.26	0.04
130.00	-40.33	-2.38	0.00	-173.30	0.00	173.30	5,367.60	1,267.94	5,214	5,012.44	3.53	-0.28	0.04
130.01	-38.76	-2.33	0.00	-173.29	0.00	173.29	4,724.17	1,133.56	4,757	4,509.28	3.53	-0.28	0.05
135.00	-37.23	-2.29	0.00	-161.64	0.00	161.64	4,642.00	1,106.76	4,535	4,325.10	3.83	-0.29	0.05
140.00	-35.73	-2.25	0.00	-150.18	0.00	150.18	4,558.28	1,079.92	4,318	4,143.13	4.14	-0.30	0.04
145.00	-34.26	-2.20	0.00	-138.94	0.00	138.94	4,458.07	1,053.09	4,106	3,950.36	4.46	-0.32	0.04
150.00	-32.82	-2.15	0.00	-127.92	0.00	127.92	4,344.46	1,026.25	3,899	3,750.60	4.80	-0.33	0.04
155.00	-31.69	-2.11	0.00	-117.15	0.00	117.15	4,230.85	999.41	3,698	3,556.02	5.16	-0.34	0.04
159.00	-31.21	-2.10	0.00	-108.69	0.00	108.69	4,139.88	977.93	3,541	3,403.96	5.45	-0.35	0.04
160.00	-28.83	-2.00	0.00	-106.60	0.00	106.60	4,117.24	972.58	3,502	3,366.62	5.52	-0.36	0.04
165.00	-28.83	-2.00	0.00	-96.62	0.00	96.62	4,003.63	945.74	3,312	3,182.41	5.90	-0.37	0.04
165.00	-27.63	-1.95	0.00	-96.61	0.00	96.61	3,449.97	826.67	2,955	2,804.84	5.90	-0.37	0.04
170.00	-27.39	-1.94	0.00	-86.88	0.00	86.88	3,379.20	803.71	2,793	2,670.28	6.30	-0.38	0.04
171.00	-22.50	-1.70	0.00	-84.94	0.00	84.94	3,364.87	799.12	2,761	2,643.60	6.38	-0.39	0.04
175.00	-21.37	-1.65	0.00	-78.14	0.00	78.14	3,305.11	780.74	2,636	2,536.35	6.71	-0.40	0.04
180.00	-20.27	-1.59	0.00	-69.90	0.00	69.90	3,207.85	757.76	2,483	2,388.54	7.13	-0.41	0.04
185.00	-19.20	-1.53	0.00	-61.94	0.00	61.94	3,110.58	734.78	2,335	2,245.16	7.57	-0.42	0.03
190.00	-18.15	-1.47	0.00	-54.27	0.00	54.27	3,013.31	711.80	2,191	2,106.23	8.02	-0.44	0.03
195.00	-17.13	-1.41	0.00	-46.90	0.00	46.90	2,916.04	688.83	2,052	1,971.73	8.48	-0.45	0.03
200.00	-17.13	-1.41	0.00	-39.83	0.00	39.83	2,818.77	665.85	1,917	1,841.67	8.95	-0.46	0.03
200.00	-15.67	-1.32	0.00	-39.83	0.00	39.83	2,818.70	665.84	1,917	1,841.58	8.95	-0.46	0.03
205.00	-15.67	-1.32	0.00	-33.24	0.00	33.24	2,721.50	642.87	1,787	1,716.04	9.44	-0.47	0.03
205.00	-15.02	-1.28	0.00	-33.23	0.00	33.23	1,443.57	382.68	1,084	932.58	9.44	-0.47	0.05
210.00	-14.37	-1.23	0.00	-26.86	0.00	26.86	1,412.69	369.27	1,010	880.43	9.94	-0.48	0.04
215.00	-13.75	-1.19	0.00	-20.70	0.00	20.70	1,380.37	355.85	938	828.80	10.45	-0.49	0.04
220.00	-8.79	-0.80	0.00	-14.77	0.00	14.77	1,346.61	342.43	868	777.82	10.97	-0.51	0.03
225.00	-8.25	-0.76	0.00	-10.78	0.00	10.78	1,311.41	329.01	802	727.58	11.50	-0.51	0.02
230.00	-8.04	-0.74	0.00	-7.00	0.00	7.00	1,274.79	315.59	737	678.18	12.05	-0.52	0.02
232.00	-4.59	-0.44	0.00	-5.53	0.00	5.53	1,259.73	310.22	713	658.68	12.27	-0.52	0.01
235.00	-4.11	-0.40	0.00	-4.21	0.00	4.21	1,236.73	302.17	676	629.72	12.60	-0.53	0.01
240.00	-3.64	-0.35	0.00	-2.23	0.00	2.23	1,197.23	288.75	617	582.30	13.15	-0.53	0.01
245.00	-1.73	-0.17	0.00	-0.48	0.00	0.48	1,156.30	275.34	561	536.02	13.71	-0.53	0.00
247.00	-1.37	-0.13	0.00	-0.14	0.00	0.14	1,139.53	269.97	540	517.85	13.93	-0.53	0.00
248.00	-0.04	0.00	0.00	0.00	0.00	0.00	1,131.06	267.29	529	508.84	14.04	-0.53	0.00
249.00	0.00	0.00	0.00	0.00	0.00	0.00	1,120.15	264.60	518	498.82	14.15	-0.53	0.00

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-75.47	-2.69	0.00	-510.78	0.00	510.78	8,881.24	2,255.95	14,658	13,146.00	0.00	0.00	0.05
5.00	-73.47	-2.71	0.00	-497.31	0.00	497.31	8,791.59	2,221.45	14,213	12,812.77	0.00	-0.01	0.05
10.00	-71.49	-2.72	0.00	-483.78	0.00	483.78	8,700.52	2,186.96	13,775	12,481.58	0.02	-0.02	0.05
15.00	-69.55	-2.72	0.00	-470.21	0.00	470.21	8,608.00	2,152.46	13,344	12,152.52	0.04	-0.03	0.05
20.00	-67.63	-2.73	0.00	-456.59	0.00	456.59	8,514.06	2,117.96	12,920	11,825.69	0.07	-0.04	0.05
25.00	-65.74	-2.74	0.00	-442.93	0.00	442.93	8,418.68	2,083.47	12,503	11,501.18	0.11	-0.04	0.05
30.00	-64.59	-2.74	0.00	-429.24	0.00	429.24	8,321.87	2,048.97	12,092	11,179.11	0.17	-0.05	0.05
33.08	-63.22	-2.74	0.00	-420.78	0.00	420.78	8,261.45	2,027.70	11,842	10,981.74	0.20	-0.06	0.05
35.00	-59.69	-2.74	0.00	-415.52	0.00	415.52	8,223.62	2,014.48	11,688	10,859.55	0.23	-0.06	0.05
40.00	-58.30	-2.74	0.00	-401.83	0.00	401.83	8,123.94	1,979.98	11,292	10,542.62	0.30	-0.07	0.05
42.00	-57.20	-2.74	0.00	-396.36	0.00	396.36	8,186.28	2,001.49	11,538	10,739.96	0.33	-0.08	0.04
45.00	-55.40	-2.73	0.00	-388.14	0.00	388.14	8,126.32	1,980.80	11,301	10,550.08	0.38	-0.08	0.04
50.00	-53.63	-2.73	0.00	-374.48	0.00	374.48	8,025.24	1,946.30	10,911	10,235.81	0.47	-0.09	0.04
55.00	-51.88	-2.72	0.00	-360.83	0.00	360.83	7,922.72	1,911.80	10,527	9,924.34	0.58	-0.10	0.04
60.00	-50.17	-2.72	0.00	-347.21	0.00	347.21	7,818.78	1,877.31	10,151	9,615.80	0.69	-0.11	0.04
65.00	-48.48	-2.71	0.00	-333.63	0.00	333.63	7,713.40	1,842.81	9,781	9,310.26	0.81	-0.12	0.04
70.00	-46.82	-2.69	0.00	-320.10	0.00	320.10	7,606.58	1,808.31	9,419	9,007.84	0.94	-0.13	0.04
75.00	-46.14	-2.69	0.00	-306.64	0.00	306.64	7,498.34	1,773.82	9,063	8,708.62	1.09	-0.14	0.04
77.09	-44.42	-2.67	0.00	-301.04	0.00	301.04	7,448.22	1,759.42	8,916	8,579.52	1.15	-0.15	0.04
80.00	-41.52	-2.62	0.00	-293.27	0.00	293.27	7,363.13	1,739.32	8,714	8,383.65	1.24	-0.15	0.04
85.00	-41.52	-2.63	0.00	-280.15	0.00	280.15	7,217.10	1,704.83	8,372	8,052.76	1.41	-0.16	0.04
85.00	-40.08	-2.60	0.00	-280.14	0.00	280.14	6,354.86	1,543.64	7,728	7,238.80	1.41	-0.16	0.05
90.00	-38.67	-2.58	0.00	-267.13	0.00	267.13	6,264.20	1,513.03	7,425	6,992.74	1.59	-0.17	0.04
95.00	-37.28	-2.56	0.00	-254.21	0.00	254.21	6,172.04	1,482.39	7,127	6,749.09	1.78	-0.19	0.04
100.00	-35.92	-2.53	0.00	-241.42	0.00	241.42	6,078.46	1,451.75	6,835	6,508.11	1.98	-0.20	0.04
105.00	-34.59	-2.50	0.00	-228.75	0.00	228.75	5,983.43	1,421.12	6,550	6,269.90	2.19	-0.21	0.04
110.00	-33.28	-2.47	0.00	-216.24	0.00	216.24	5,886.37	1,390.48	6,271	6,033.93	2.42	-0.22	0.04
115.00	-32.00	-2.44	0.00	-203.88	0.00	203.88	5,756.68	1,359.85	5,997	5,769.68	2.65	-0.23	0.04
120.00	-31.19	-2.41	0.00	-191.70	0.00	191.70	5,626.99	1,329.21	5,730	5,511.35	2.90	-0.25	0.04
123.17	-30.38	-2.39	0.00	-184.04	0.00	184.04	5,544.68	1,309.77	5,564	5,350.47	3.07	-0.25	0.04
125.00	-28.19	-2.31	0.00	-179.68	0.00	179.68	5,497.29	1,298.57	5,469	5,258.94	3.17	-0.26	0.04
130.00	-28.19	-2.31	0.00	-168.13	0.00	168.13	5,367.60	1,267.94	5,214	5,012.44	3.44	-0.27	0.04
130.01	-27.09	-2.27	0.00	-168.12	0.00	168.12	4,724.17	1,133.56	4,757	4,509.28	3.45	-0.27	0.04
135.00	-26.02	-2.23	0.00	-156.78	0.00	156.78	4,642.00	1,106.76	4,535	4,325.10	3.73	-0.28	0.04
140.00	-24.97	-2.19	0.00	-145.63	0.00	145.63	4,558.28	1,079.92	4,318	4,143.13	4.04	-0.30	0.04
145.00	-23.94	-2.14	0.00	-134.70	0.00	134.70	4,458.07	1,053.09	4,106	3,950.36	4.35	-0.31	0.04
150.00	-22.94	-2.09	0.00	-124.00	0.00	124.00	4,344.46	1,026.25	3,899	3,750.60	4.68	-0.32	0.04
155.00	-22.15	-2.05	0.00	-113.55	0.00	113.55	4,230.85	999.41	3,698	3,556.02	5.03	-0.33	0.04
159.00	-21.81	-2.03	0.00	-105.33	0.00	105.33	4,139.88	977.93	3,541	3,403.96	5.31	-0.34	0.04
160.00	-20.15	-1.94	0.00	-103.30	0.00	103.30	4,117.24	972.58	3,502	3,366.62	5.38	-0.35	0.04
165.00	-20.15	-1.94	0.00	-93.62	0.00	93.62	4,003.63	945.74	3,312	3,182.41	5.75	-0.36	0.03
165.00	-19.31	-1.89	0.00	-93.61	0.00	93.61	3,449.97	826.67	2,955	2,804.84	5.75	-0.36	0.04
170.00	-19.15	-1.88	0.00	-84.18	0.00	84.18	3,379.20	803.71	2,793	2,670.28	6.14	-0.37	0.04
171.00	-15.73	-1.65	0.00	-82.30	0.00	82.30	3,364.87	799.12	2,761	2,643.60	6.22	-0.37	0.04
175.00	-14.94	-1.60	0.00	-75.70	0.00	75.70	3,305.11	780.74	2,636	2,536.35	6.53	-0.39	0.03
180.00	-14.17	-1.54	0.00	-67.70	0.00	67.70	3,207.85	757.76	2,483	2,388.54	6.94	-0.40	0.03
185.00	-13.42	-1.49	0.00	-59.98	0.00	59.98	3,110.58	734.78	2,335	2,245.16	7.37	-0.41	0.03
190.00	-12.68	-1.43	0.00	-52.55	0.00	52.55	3,013.31	711.80	2,191	2,106.23	7.81	-0.42	0.03
195.00	-11.97	-1.37	0.00	-45.40	0.00	45.40	2,916.04	688.83	2,052	1,971.73	8.26	-0.44	0.03
200.00	-11.97	-1.37	0.00	-38.56	0.00	38.56	2,818.77	665.85	1,917	1,841.67	8.72	-0.45	0.03
200.00	-10.95	-1.28	0.00	-38.55	0.00	38.55	2,818.70	665.84	1,917	1,841.58	8.72	-0.45	0.03
205.00	-10.95	-1.28	0.00	-32.17	0.00	32.17	2,721.50	642.87	1,787	1,716.04	9.19	-0.46	0.02
205.00	-10.49	-1.23	0.00	-32.17	0.00	32.17	1,443.57	382.68	1,084	932.58	9.19	-0.46	0.04
210.00	-10.05	-1.19	0.00	-26.00	0.00	26.00	1,412.69	369.27	1,010	880.43	9.67	-0.47	0.04
215.00	-9.61	-1.15	0.00	-20.04	0.00	20.04	1,380.37	355.85	938	828.80	10.17	-0.48	0.03
220.00	-6.14	-0.77	0.00	-14.30	0.00	14.30	1,346.61	342.43	868	777.82	10.68	-0.49	0.02
225.00	-5.77	-0.73	0.00	-10.43	0.00	10.43	1,311.41	329.01	802	727.58	11.20	-0.50	0.02
230.00	-5.62	-0.71	0.00	-6.78	0.00	6.78	1,274.79	315.59	737	678.18	11.72	-0.51	0.01
232.00	-3.21	-0.43	0.00	-5.35	0.00	5.35	1,259.73	310.22	713	658.68	11.94	-0.51	0.01
235.00	-2.87	-0.38	0.00	-4.08	0.00	4.08	1,236.73	302.17	676	629.72	12.26	-0.51	0.01
240.00	-2.54	-0.34	0.00	-2.16	0.00	2.16	1,197.23	288.75	617	582.30	12.80	-0.52	0.01

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
245.00	-1.21	-0.16	0.00	-0.46	0.00	0.46	1,156.30	275.34	561	536.02	13.34	-0.52	0.00
247.00	-0.96	-0.13	0.00	-0.13	0.00	0.13	1,139.53	269.97	540	517.85	13.55	-0.52	0.00
248.00	-0.03	0.00	0.00	0.00	0.00	0.00	1,131.06	267.29	529	508.84	13.66	-0.52	0.00
249.00	0.00	0.00	0.00	0.00	0.00	0.00	1,120.15	264.60	518	498.82	13.77	-0.52	0.00

ANALYSIS SUMMARY

Load Case	Base Reactions: Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage: Elev (ft)	Interaction Ratio
1.2D + 1.0W	51.04	0.00	107.58	0.00	0.00	8375.71	0.00	0.65
0.9D + 1.0W	51.00	0.00	80.67	0.00	0.00	8235.69	0.00	0.64
1.2D + 1.0Di + 1.0Wi	7.64	0.00	123.10	0.00	0.00	1214.07	0.00	0.11
1.2D + 1.0Ev + 1.0Eh	2.70	0.00	107.97	0.00	0.00	521.66	0.00	0.05
0.9D - 1.0Ev + 1.0Eh	2.69	0.00	75.47	0.00	0.00	510.78	0.00	0.05
1.0D + 1.0W	11.80	0.00	89.70	0.00	0.00	1920.17	0.00	0.16

ANALYSIS SUMMARY – OVERSTRENGTH LOAD CASES

Load Case	Base Reactions: Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0Ev + 1.5Eh	4.05	0.00	107.97	0.00	0.00	782.48
0.9D - 1.0Ev + 1.5Eh	4.04	0.00	75.47	0.00	0.00	766.55

ASSET:	280360, PALMETTO DR NC	CODE:	ANSI/TIA-222-I
CUSTOMER:	AT&T MOBILITY	PROJECT:	14884015

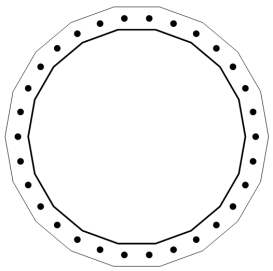
BASE PLATE ANALYSIS @ 0 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
8375.71	107.58	51.04

PLATE PARAMETERS (ID# 22537)

Width:	87.45	in
Shape:	18	
Thickness:	3.75	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Rod Detail Type:	d	
Clear Distance	3.375	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	0	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F_y (ksi)	F_u (ksi)	Spacing (in)	Offset (°)
Original [ID#23131]	Radial	30	2.25	80.12	A615-75	75	100	-	-

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	72.5"ø x 0.563" (18 Sides)	126.5912	-	-	81901.02	-
Bolt Group	Original (30) 2.25"ø	3.9761	3.2477	0.8393	73164.87	4.5

REACTION DISTRIBUTION

Component	ID	Moment M_u (k-ft)	Axial Load P_u (k)	Shear V_u (k)	Moment Factor
Pole	72.5"ø x 0.563" (18 Sides)	8375.7	107.58	51.04	1.000
Bolt Group	Original (30) 2.25"ø	8375.7	-	51.04	1.000

BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	72.62	in	Flat Width:	12.806	in	Neutral Axis:	0	°
Point-to-Point Diameter:	73.74	in	Flat Radians:	0.349	rad	Bend Line Limits:	1.153 to 1.989	rad
Orientation Offset:	-	°						

PLATE PROPERTIES

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment M_u (k-in)	Moment Capacity ΦM_n (k-in)	Flexure Result $M_u/\Phi M_n$	
Flats	41.225	0.00	144.933	961.2	6522.0	14.7%	✓
Corners	39.186	0.00	137.763	583.6	6199.3	9.4%	✓
Circumferential	46.248	0.00	162.590	1288.0	7316.5	17.6%	✓

PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load P_u (k)	Applied Shear Load V_u (k)	Compressive Capacity ΦP_n (k)	Interaction Result	
Original	30	2.25	130.3	2.7	243.6	53.5%	✓

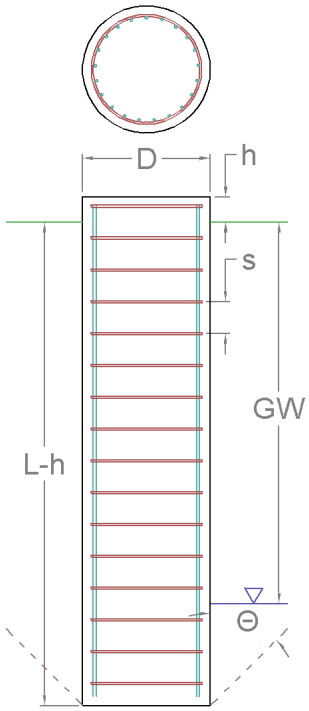
PIER FOUNDATION ANALYSIS

GLOBAL REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
8,375.71	107.58	51.04

FOUNDATION PARAMETERS

Pier Diameter:	D	9.50	ft
Pier Embedment Depth:	L-h	39.0	ft
Pier Height above Grade:	h	0.50	ft
Concrete Compressive Strength:		3,000	psi
Vertical Rebar:		(53) #14 bars [60 ksi]	
Tie Rebar:	s	#5 bars @ 12.0" c/c [60 ksi]	
Rebar Clear Cover:		6.00	in



SOIL PARAMETERS

Water Table Depth [BGL]: GW 35 ft

Layer Depth (ft) Top	Layer Depth (ft) Bottom	Unit Weight pcf	Cohesion psf	Friction Angle °	Ultimate Skin Friction psf	Ultimate Net Bearing psf
0	0.5	100	0	0	0	0
0.5	3.5	113	0	34	140	0
3.5	6	113	0	34	340	0
6	8.5	115	0	39	640	0
8.5	13.5	113	1,900	0	700	0
13.5	18.5	105	0	29	980	0
18.5	23.5	113	0	33	1,480	0
23.5	28.5	115	0	34	1,920	0
28.5	33.5	115	0	35	2,380	0
33.5	35	115	0	33	2,460	0
35	38.5	105	0	33	2,580	0
38.5	43.5	108	4,500	0	1,680	25,900

SOIL STRENGTH ANALYSIS

Volume of Concrete (ft^3)	Buoyant Weight of Concrete (k)	Skin Friction Resistance (k)	Inflection Point [BGL] (ft)
2,799.85	402.28	1,603.58	27.38

SOIL MOMENT ANALYSIS

Total Lateral Resistance (k)	Moment at Inflection Point, M_u (k-ft)	Additional Resistance (k-ft)	Nominal Moment Capacity, ΦM_n (k-ft)	Soil Moment Usage, $M_u / \Phi M_n$
7,331.23	9,798.50	0.00	43,084.05	**22.7%**

SOIL COMPRESSION ANALYSIS

Compressive Bearing Resistance (k)	Compressive Force, P_u (k)	Additional Resistance (k)	Nominal Compressive Capacity, ΦP_n (k)	Soil Compressive Usage, $P_u / \Phi P_n$
1,835.85	234.49	0.00	2,579.57	**9.1%**

REINFORCING STEEL STRENGTH ANALYSIS

Rebar Cage Diameter (in)	Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
99.057	29,000	0.9	0.75	0.65

PIER REINFORCING MOMENT ANALYSIS

Design Moment, M_u (k-ft)	Nominal Moment Capacity, $\Phi_b M_n$ (k-ft)	Bending Reinforcement Ratio	Pier Rebar Flexure Usage, $M_u/\Phi_b M_n$
8,404.87	25,000.23	0.01	**33.6%**

PIER REINFORCING COMPRESSION ANALYSIS

Buoyant Weight of Concrete (k)	Design Compression, P_u (k)	Nominal Compressive Capacity, $\Phi_p P_n$ (k)	Pier Rebar Compressive Usage, $P_u / \Phi_p P_n$
402.28	234.49	17,097.00	**1.4%**

PIER REINFORCING SHEAR ANALYSIS

Design Shear, V_u (k)	Nominal Shear Capacity, $\Phi_v V_n$ (k)	Pier Rebar Shear Usage, $V_u / \Phi_v V_n$
520.87	1,055.05	**49.4%**