

March 11, 2015

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification
880 Andrew Mountain Road, Naugatuck, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) antennas at the 106-foot level on the existing 120-foot tower at 880 Andrew Mountain Road in Naugatuck, Connecticut (the “Property”). The tower is owned by American Tower Corporation. The Council approved Cellco’s use of the existing tower in 2013. Cellco now intends to modify its facility by replacing three (3) of its existing antennas with three (3) model LNX-6514DS-VTM, 700 MHz antennas at the 106-foot level on the tower. Included in Attachment 1 are specifications for Cellco’s replacement antennas.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Robert A. Mezzo, Mayor of Naugatuck and Andrew Franklin Brooks Est., the owner of the Property.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco’s replacement antennas will be installed on its existing antenna platform at the 106-foot level on the tower.

Robinson+Cole

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2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is included in Attachment 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation can support Cellco's proposed modifications. (See Structural Analysis Report included in Attachment 3).

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Robert A. Mezzo, Naugatuck Mayor
Andrew Franklin Brooks Est.
Timothy Parks

ATTACHMENT 1

Product Specifications

COMMScope®

LNX-6514DS-VTM

Andrew® Antenna, 698–896 MHz, 65° horizontal beamwidth, RET compatible

POWERED BY



Electrical Specifications

Frequency Band, MHz	698–806	806–896
Gain, dBi	15.7	16.3
Beamwidth, Horizontal, degrees	65	65
Beamwidth, Horizontal Tolerance, degrees	±3	±3
Beamwidth, Vertical, degrees	12.5	11.2
Beam Tilt, degrees	0–10	0–10
USLS, typical, dB	17	18
Front-to-Back Ratio at 180°, dB	32	30
CPR at Boresight, dB	20	20
CPR at Sector, dB	10	10
Isolation, dB	30	30
VSWR Return Loss, dB	1.4 15.6	1.4 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153
Input Power per Port, maximum, watts	400	400
Polarization	±45°	±45°

Mechanical Specifications

Color Radome Material	Light gray Fiberglass, UV resistant
Connector Interface Location Quantity	7-16 DIN Female Bottom 2
Wind Loading, maximum	617.7 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Speed, maximum	241.0 km/h 149.8 mph
Antenna Dimensions, L x W x D	1847.0 mm x 301.0 mm x 181.0 mm 72.7 in x 11.9 in x 7.1 in
Net Weight	17.6 kg 38.8 lb
Model with factory installed AISG 2.0 RET	LNX-6514DS-A1M



ATTACHMENT 2

		General		Power		Density							
Site Name: Naugatuck W Tower Height: 120Ft.													
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total					
*AT&T UMTS	2	500	116	0.0267	850	0.5667	4.72%						
*AT&T UMTS	2	500	116	0.0267	1900	1.0000	2.67%						
*AT&T LTE	2	500	116	0.0267	700	0.4667	5.73%						
*AT&T LTE	2	500	116	0.0267	2100	1.0000	2.67%						
Verizon PCS	7	453	106	0.1015	1970	1.0000	10.15%						
Verizon Cellular	9	412	106	0.1187	869	0.5793	20.48%						
Verizon AWS	1	1225	106	0.0392	2145	1.0000	3.92%						
Verizon 700	1	859	106	0.0275	698	0.4973	5.53%	55.86%					
* Source: Siting Council													

ATTACHMENT 3



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 120 ft Monopole
ATC Site Name : Naugatuck CT, CT
ATC Site Number : 283423
Engineering Number : 61102921
Proposed Carrier : Verizon Wireless
Carrier Site Name : Naugatuck West
Carrier Site Number : 179924
Site Location : 880 Andrew Mountain Road
Naugatuck, CT 06770-3656
41.484453,-73.089844
County : New Haven
Date : January 27, 2015
Max Usage : 74%
Result : Pass

Prepared By:
Penlyn C. Crawford

Penlyn C. Crawford



Jan 28 2015 8:11 AM



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 120 ft monopole to reflect the change in loading by Verizon Wireless.

Supporting Documents

Tower Drawings	TransAmerican DaVinci Job #11235-1298, dated June 14, 2011
Foundation Drawing	TransAmerican DaVinci Job #11235-1298, dated June 14, 2011
Geotechnical Report	Terracon Project #J2115128, dated May 10, 2011

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/EIA-222.

Basic Wind Speed:	85 mph (Fastest Mile)
Basic Wind Speed w/ Ice:	74 mph (Fastest Mile)w/ 1/2" radial ice concurrent
Code:	ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (5) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment

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

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
116.0	116.0	4	Raycap DC6-48-60-18-8F	Platform w/ Handrails	(3) 1/2" Coax (8) 0.63" Cable (2) 0.40" Fiber	AT&T Mobility
		6	Ericsson RRUS A2 B2			
		3	Ericsson RRUS 32			
		9	Ericsson RRUS 12			
		9	Ericsson RRUS-11			
		12	CCI HPA-65R-BUU-H8			
106.0	106.0	3	Alcatel-Lucent RRH2x40 (700)	Low Profile Platform	(18) 1 5/8" Coax (2) 0.40" Fiber	Verizon
		3	Alcatel-Lucent RRH2x40-AWS			
		6	Antel BXA-171063/12CF			
		1	RFS DB-T1-6Z-8AB-0Z			
		3	Antel BXA-70063-6CF-EDIN-X			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
106.0	106.0	3	Antel BXA-70063-6CF-EDIN-X	-	-	Verizon

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
106.0	106.0	3	Commscope LNX-6514DS-A1M	Low Profile Platform	-	Verizon

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	73%	Pass
Shaft	74%	Pass
Base Plate	51%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,249.8	56
Shear (Kips)	24.4	55

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.

The foundation and anchorages for this tower have factors of safety exceeding 2.0 with respect to wind.

Deflection and Sway*

Antenna Elevation (ft)	Deflection (ft)	Sway (Rotation) (°)
106.0	0.947	0.981

*Deflection and Sway was evaluated considering a design wind speed of 50 mph (Fastest Mile) per ANSI/TIA/EIA-222-F.



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

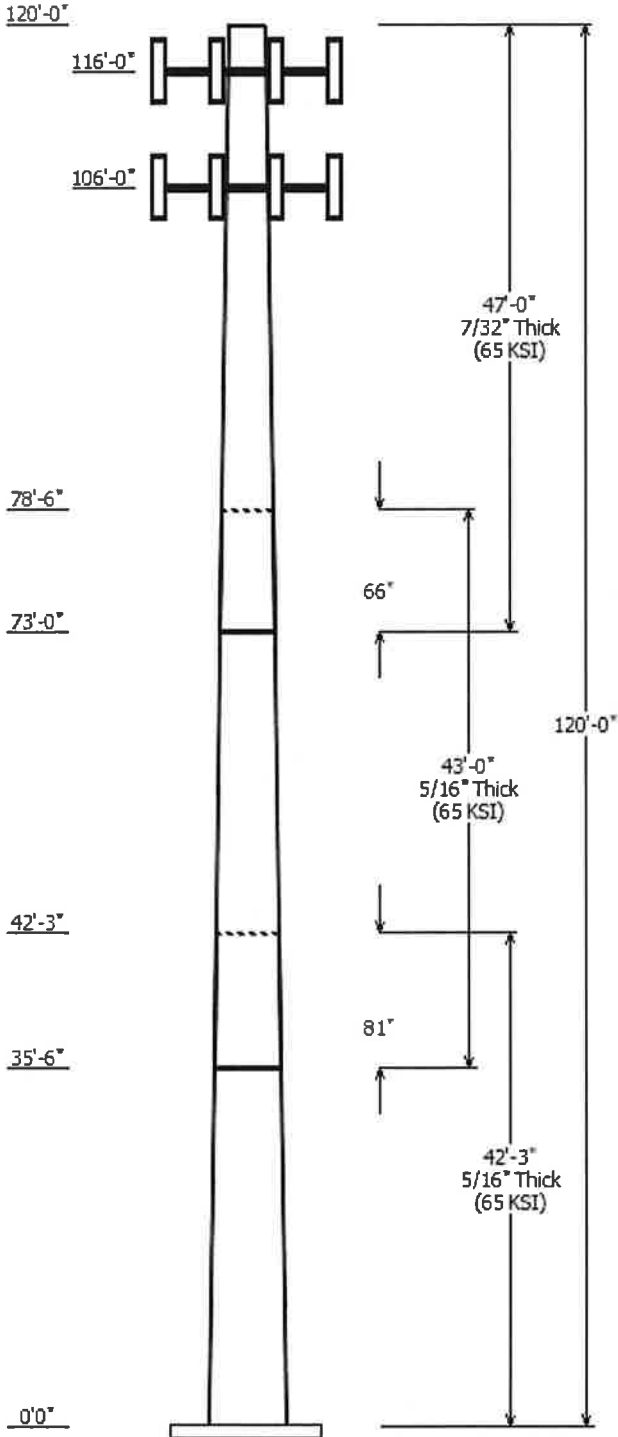
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

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. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

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 we supply.

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Job Information	
Pole : 283423	Code : TIA/EIA-222 Rev F
Description :	
Client : VERIZON WIRELESS	
Location : NAUGATUCK CT	
Shape : 18 Sides	
Height : 120.00 (ft)	
Base Elev (ft): 0.00	
Taper: 0.25503(in/ft)	

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap		Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom			Length (in)	Taper (in/ft)	
1	42.250	46.22	57.00	0.313		0.000	0.255038	65
2	43.000	37.60	48.57	0.313	Slip Joint	81.000	0.255038	65
3	47.000	27.45	39.44	0.219	Slip Joint	66.000	0.255038	65

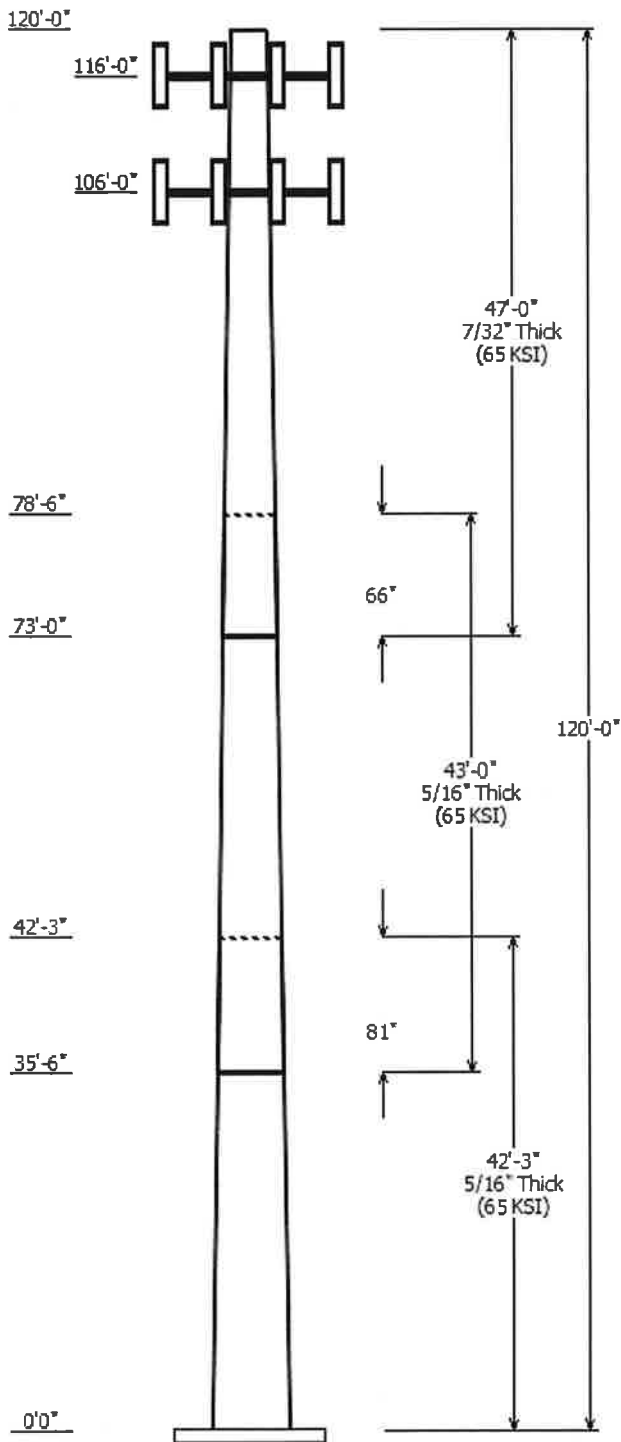
Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
116.000	116.000	1	Round Platform w/ Handrails	
116.000	116.000	12	CCI HPA-65R-BUU-H8	
116.000	116.000	9	Ericsson RRUS-11	
116.000	116.000	9	Ericsson RRUS 12	
116.000	116.000	3	Ericsson RRUS 32	
116.000	116.000	6	Ericsson RRUS A2 B2	
116.000	116.000	4	Raycap DC6-48-60-18-8F	
106.000	106.000	1	Round Low Profile Platform	
106.000	106.000	3	Commscope LNX-6514DS-A1M	
106.000	106.000	3	Antel BXA-70063-6CF-EDIN-X	
106.000	106.000	1	RFS DB-T1-6Z-8AB-0Z	
106.000	106.000	6	Antel BXA-171063/12CF	
106.000	106.000	3	Alcatel-Lucent RRH2x40-AWS	
106.000	106.000	3	Alcatel-Lucent RRH2x40 (700)	

Linear Appurtenance			
Elev (ft) From	To	Description	Exposed To Wind
0.000	106.0	0.40" Fiber Cable	No
0.000	106.0	1 5/8" Coax	No
0.000	116.0	0.40" Fiber Cable	No
0.000	116.0	0.63" (15.9mm)	No
0.000	116.0	1/2" Coax	No

Load Cases	
No Ice	85.00 mph Wind with No Ice
Ice	73.61 mph Wind with Ice
Twist/Sway	50.00 mph Wind with No Ice

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
No Ice	2249.76	24.35	23.54
Ice	1861.83	19.78	29.66
Twist/Sway	778.77	8.43	23.57

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000



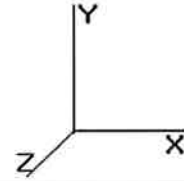
Pole : 283423
 Location : NAUGATUCK CT
 Height : 120.0 (ft)
 Base Dia : 57.00 (in)
 Top Dia : 27.45 (in)
 Shape : 18 Sides
 Taper : 0.255038 (in/ft)

Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)



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Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top							
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper (in/ft)	
1-18	42.250	0.3125	65		0.00	7,315	57.00	0.00	56.22	22827.4	30.75	182.40	46.22	42.25	45.54	12127.7	24.67	147.92	0.255038	
2-18	43.000	0.3125	65	Slip	81.00	6,208	48.57	35.50	47.86	14083.8	26.00	155.43	37.60	78.50	36.99	6498.9	19.81	120.33	0.255038	
3-18	47.000	0.2188	65	Slip	66.00	3,691	39.44	73.00	27.24	5295.6	30.38	180.28	27.45	120.00	18.92	1773.3	20.72	125.49	0.255038	
Shaft Weight						17,214														

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor		
116.00	CCI HPA-65R-BUU-H8	12	68.00	13.290	0.79	141.77	14.350	0.79	0.000	0.000
116.00	Ericsson RRUS 12	9	50.00	3.670	0.67	80.99	4.060	0.67	0.000	0.000
116.00	Ericsson RRUS 32	3	50.80	3.140	0.67	81.20	3.510	0.67	0.000	0.000
116.00	Ericsson RRUS A2 B2	6	22.00	2.410	0.67	60.80	2.880	0.67	0.000	0.000
116.00	Ericsson RRUS-11	9	55.00	4.420	0.67	80.70	4.850	0.67	0.000	0.000
116.00	Raycap DC6-48-60-18-8F	4	20.00	1.260	1.00	35.10	1.460	1.00	0.000	0.000
116.00	Round Platform w/ Handrails	1	2000.00	27.200	1.00	2,400.00	34.200	1.00	0.000	0.000
106.00	Alcatel-Lucent RRH2x40 (700)	3	50.00	2.480	0.67	71.08	2.810	0.67	0.000	0.000
106.00	Alcatel-Lucent RRH2x40-AWS	3	44.00	2.520	0.67	61.40	2.870	0.67	0.000	0.000
106.00	Antel BXA-171063/12CF	6	12.80	4.790	0.88	42.40	5.460	0.88	0.000	0.000
106.00	Antel BXA-70063-6CF-EDIN-X	3	17.00	7.730	0.77	58.00	8.540	0.77	0.000	0.000
106.00	Commscope LNX-6514DS-	3	38.80	8.410	0.83	97.61	9.240	0.83	0.000	0.000
106.00	RFS DB-T1-6Z-8AB-OZ	1	44.00	5.600	0.67	52.60	5.730	0.67	0.000	0.000
106.00	Round Low Profile Platform	1	1500.00	21.700	1.00	1,700.00	27.200	1.00	0.000	0.000
Totals		64	6195.60			9,176.52			Number of Loadings : 14	

Linear Appurtenance Properties

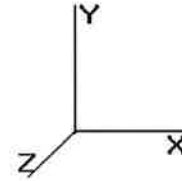
Elev From (ft)	Elev To (ft)	Description	No Ice		Ice		Exposed To Wind
			Weight (lb/ft)	CaAa (sf/ft)	Weight (lb/ft)	CaAa (sf/ft)	
0.00	116.00	(2) 0.40" Fiber Cable	0.09	0.00	0.00	0.00	N
0.00	116.00	0.63" (15.9mm) Cable	0.31	0.00	0.00	0.00	N
0.00	116.00	(3) 1/2" Coax	0.15	0.00	0.00	0.00	N
0.00	106.00	(2) 0.40" Fiber Cable	0.09	0.00	0.00	0.00	N
0.00	106.00	(18) 1 5/8" Coax	0.82	0.00	0.00	0.00	N
Total Weight			160.26 (lb)		0.00 (lb)		

Pole : 283423
 Location : NAUGATUCK CT
 Height : 120.0 (ft)
 Base Dia : 57.00 (in)
 Top Dia : 27.45 (in)
 Shape : 18 Sides
 Taper : 0.255038 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Segment Properties (Max Len : 5 ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.3125	57.000	56.225	22,827.4	30.75	182.40	65	47	0.0
5.00		0.3125	55.725	54.960	21,321.3	30.03	178.32	65	48	945.8
10.00		0.3125	54.450	53.695	19,882.9	29.31	174.24	65	48	924.3
15.00		0.3125	53.174	52.431	18,510.7	28.59	170.16	65	49	902.8
20.00		0.3125	51.899	51.166	17,203.2	27.87	166.08	65	49	881.3
25.00		0.3125	50.624	49.901	15,958.7	27.15	162.00	65	50	859.8
30.00		0.3125	49.349	48.636	14,775.7	26.43	157.92	65	51	838.2
35.00		0.3125	48.074	47.371	13,652.7	25.71	153.84	65	51	816.7
35.50	Bot - Section 2	0.3125	47.946	47.245	13,543.6	25.64	153.43	65	51	80.5
40.00		0.3125	46.798	46.107	12,588.1	25.00	149.76	65	52	1,438.9
42.25	Top - Section 1	0.3125	46.850	46.157	12,629.7	25.02	149.92	65	52	706.4
45.00		0.3125	46.148	45.462	12,067.2	24.63	147.67	65	52	428.7
50.00		0.3125	44.873	44.197	11,087.8	23.91	143.59	65	52	762.7
55.00		0.3125	43.598	42.932	10,162.9	23.19	139.51	65	52	741.2
60.00		0.3125	42.323	41.667	9,290.9	22.47	135.43	65	52	719.7
65.00		0.3125	41.048	40.403	8,470.3	21.75	131.35	65	52	698.2
70.00		0.3125	39.772	39.138	7,699.4	21.03	127.27	65	52	676.6
73.00	Bot - Section 3	0.3125	39.007	38.379	7,260.2	20.60	124.82	65	52	395.7
75.00		0.3125	38.497	37.873	6,976.9	20.31	123.19	65	52	443.6
78.50	Top - Section 2	0.2188	38.042	26.266	4,747.5	29.25	173.87	65	48	762.3
80.00		0.2188	37.660	26.001	4,604.9	28.94	172.12	65	48	133.4
85.00		0.2188	36.384	25.115	4,150.3	27.91	166.29	65	49	434.8
90.00		0.2188	35.109	24.229	3,726.6	26.88	160.46	65	50	419.8
95.00		0.2188	33.834	23.344	3,332.7	25.86	154.63	65	51	404.7
100.0		0.2188	32.559	22.458	2,967.6	24.83	148.81	65	52	389.6
105.0		0.2188	31.284	21.573	2,630.2	23.80	142.98	65	52	374.6
106.0		0.2188	31.029	21.396	2,566.0	23.59	141.81	65	52	73.1
110.0		0.2188	30.008	20.687	2,319.4	22.77	137.15	65	52	286.4
115.0		0.2188	28.733	19.802	2,034.2	21.74	131.32	65	52	344.4
116.0		0.2188	28.478	19.625	1,980.1	21.54	130.16	65	52	67.1
120.0		0.2188	27.458	18.916	1,773.3	20.72	125.49	65	52	262.3
										17,213.8

Pole : 283423
 Location : NAUGATUCK CT
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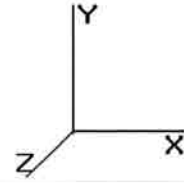
Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)

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Load Case: No Ice	85.00 mph Wind with No Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Shaft Segment Forces

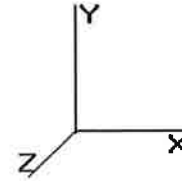
Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00 18.496	31.25 403.75	0.650		0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00 18.496	31.25 394.71	0.650		0.000	5.00	23.484	15.26	477.2	0.0	945.8
10.00		0.00	1.00 18.496	31.25 385.68	0.650		0.000	5.00	22.953	14.92	466.4	0.0	924.3
15.00		0.00	1.00 18.496	31.25 376.65	0.650		0.000	5.00	22.422	14.57	455.6	0.0	902.8
20.00		0.00	1.00 18.496	31.25 367.62	0.650		0.000	5.00	21.890	14.23	444.8	0.0	881.3
25.00		0.00	1.00 18.496	31.25 358.58	0.650		0.000	5.00	21.359	13.88	434.0	0.0	859.8
30.00		0.00	1.00 18.496	31.25 349.55	0.650		0.000	5.00	20.828	13.54	423.2	0.0	838.2
35.00		0.00	1.01 18.810	31.78 343.39	0.650		0.000	5.00	20.296	13.19	419.4	0.0	816.7
35.50	Bot - Section 2	0.00	1.02 18.886	31.91 343.18	0.650		0.000	0.50	2.000	1.30	41.5	0.0	80.5
40.00		0.00	1.05 19.541	33.02 340.72	0.650		0.000	4.50	17.999	11.70	386.4	0.0	1,438.9
42.25	Top - Section 1	0.00	1.07 19.849	33.54 339.18	0.650		0.000	2.25	8.838	5.74	192.7	0.0	706.4
45.00		0.00	1.09 20.210	34.15 341.69	0.650		0.000	2.75	10.656	6.93	236.6	0.0	428.7
50.00		0.00	1.12 20.827	35.19 337.29	0.650		0.000	5.00	18.963	12.33	433.8	0.0	762.7
55.00		0.00	1.15 21.402	36.17 332.19	0.650		0.000	5.00	18.431	11.98	433.3	0.0	741.2
60.00		0.00	1.18 21.941	37.08 326.51	0.650		0.000	5.00	17.900	11.64	431.4	0.0	719.7
65.00		0.00	1.21 22.449	37.93 320.31	0.650		0.000	5.00	17.369	11.29	428.3	0.0	698.2
70.00		0.00	1.24 22.929	38.75 313.67	0.650		0.000	5.00	16.837	10.94	424.1	0.0	676.6
73.00	Bot - Section 3	0.00	1.25 23.206	39.21 309.48	0.650		0.000	3.00	9.847	6.40	251.0	0.0	395.7
75.00		0.00	1.26 23.386	39.52 306.62	0.650		0.000	2.00	6.532	4.25	167.8	0.0	443.6
78.50	Top - Section 2	0.00	1.28 23.692	40.04 301.46	0.650		0.000	3.50	11.226	7.30	292.2	0.0	762.3
80.00		0.00	1.28 23.821	40.25 302.72	0.650		0.000	1.50	4.731	3.08	123.8	0.0	133.4
85.00		0.00	1.31 24.237	40.96 295.02	0.650		0.000	5.00	15.426	10.03	410.7	0.0	434.8
90.00		0.00	1.33 24.636	41.63 287.01	0.650		0.000	5.00	14.894	9.68	403.1	0.0	419.8
95.00		0.00	1.35 25.020	42.28 278.73	0.650		0.000	5.00	14.363	9.34	394.8	0.0	404.7
100.0		0.00	1.37 25.389	42.90 270.20	0.650		0.000	5.00	13.832	8.99	385.8	0.0	389.6
105.0		0.00	1.39 25.745	43.51 261.43	0.650		0.000	5.00	13.300	8.65	376.2	0.0	374.6
106.0	Appertunance(s)	0.00	1.39 25.815	43.62 259.65	0.650		0.000	1.00	2.596	1.69	73.6	0.0	73.1
110.0		0.00	1.41 26.090	44.09 252.45	0.650		0.000	4.00	10.173	6.61	291.6	0.0	286.4
115.0		0.00	1.42 26.423	44.65 243.26	0.650		0.000	5.00	12.238	7.95	355.2	0.0	344.4
116.0	Appertunance(s)	0.00	1.43 26.489	44.76 241.40	0.650		0.000	1.00	2.384	1.55	69.4	0.0	67.1
120.0		0.00	1.44 26.747	45.20 233.88	0.650		0.000	4.00	9.323	6.06	273.9	0.0	262.3
Totals:								120.00			9,997.4	0.0	17,213.8

Pole : 283423
 Location : NAUGATUCK CT
 Height : 120.0 (ft)
 Base Dia : 57.00 (in)
 Top Dia : 27.45 (in)
 Shape : 18 Sides
 Taper : 0.255038 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: No Ice	85.00 mph Wind with No Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
106.0	Alcatel-Lucent RRH2x	3	25.815	43.628	0.67	4.98	0.000	0.000	217.48	0.00	0.00	150.00
106.0	Alcatel-Lucent RRH2x	3	25.815	43.628	0.67	5.07	0.000	0.000	220.98	0.00	0.00	132.00
106.0	Antel BXA-171063/12C	6	25.815	43.628	0.88	25.29	0.000	0.000	1,103.40	0.00	0.00	76.80
106.0	RFS DB-T1-6Z-8AB-0Z	1	25.815	43.628	0.67	3.75	0.000	0.000	163.69	0.00	0.00	44.00
106.0	Antel BXA-70063-6CF-	3	25.815	43.628	0.77	17.86	0.000	0.000	779.03	0.00	0.00	51.00
106.0	Commscope LNX-	3	25.815	43.628	0.83	20.94	0.000	0.000	913.60	0.00	0.00	116.40
106.0	Round Low Profile PI	1	25.815	43.628	1.00	21.70	0.000	0.000	946.72	0.00	0.00	1,500.00
116.0	Raycap DC6-48-60-18-	4	26.489	44.766	1.00	5.04	0.000	0.000	225.62	0.00	0.00	80.00
116.0	Ericsson RRUS A2 B2	6	26.489	44.766	0.67	9.69	0.000	0.000	433.70	0.00	0.00	132.00
116.0	Ericsson RRUS 32	3	26.489	44.766	0.67	6.31	0.000	0.000	282.54	0.00	0.00	152.40
116.0	Ericsson RRUS 12	9	26.489	44.766	0.67	22.13	0.000	0.000	990.68	0.00	0.00	450.00
116.0	Ericsson RRUS-11	9	26.489	44.766	0.67	26.65	0.000	0.000	1,193.13	0.00	0.00	495.00
116.0	CCI HPA-65R-BUU-H8	12	26.489	44.766	0.79	125.99	0.000	0.000	5,640.04	0.00	0.00	816.00
116.0	Round Platform w/ Ha	1	26.489	44.766	1.00	27.20	0.000	0.000	1,217.63	0.00	0.00	2,000.00
									14,328.23			6,195.60

Pole : 283423
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 Height : 120.0 (ft)
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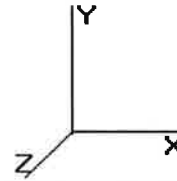
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Base Elev : 0.000 (ft)

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Load Case: No Ice	85.00 mph Wind with No Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	477.15	953.14	0.00	0.00
10.00	466.36	931.63	0.00	0.00
15.00	455.56	910.11	0.00	0.00
20.00	444.76	888.59	0.00	0.00
25.00	433.97	867.07	0.00	0.00
30.00	423.17	845.55	0.00	0.00
35.00	419.37	824.03	0.00	0.00
35.50	41.50	81.22	0.00	0.00
40.00	386.36	1,445.51	0.00	0.00
42.25	192.71	709.68	0.00	0.00
45.00	236.57	432.68	0.00	0.00
50.00	433.85	770.02	0.00	0.00
55.00	433.33	748.50	0.00	0.00
60.00	431.44	726.98	0.00	0.00
65.00	428.31	705.46	0.00	0.00
70.00	424.10	683.95	0.00	0.00
73.00	251.03	400.04	0.00	0.00
75.00	167.79	446.57	0.00	0.00
78.50	292.16	767.41	0.00	0.00
80.00	123.81	135.58	0.00	0.00
85.00	410.70	442.14	0.00	0.00
90.00	403.09	427.07	0.00	0.00
95.00	394.76	412.00	0.00	0.00
100.0	385.77	396.94	0.00	0.00
105.0	376.16	381.87	0.00	0.00
106.0	4,418.52	2,144.77	0.00	0.00
110.0	291.55	288.60	0.00	0.00
115.0	355.22	347.19	0.00	0.00
116.0	10,052.70	4,193.03	0.00	0.00
120.0	273.91	262.29	0.00	0.00
Totals:	24,325.66	23,569.61	0.00	0.00

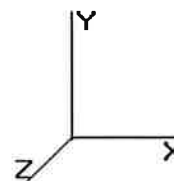
Pole : 283423
 Location : NAUGATUCK CT
 Height : 120.0 (ft)
 Base Dia : 57.00 (in)
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Base Elev : 0.000 (ft)



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Load Case: No Ice 85.00 mph Wind with No Ice 19 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

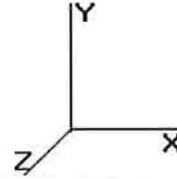
Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-24.354	-23.540	0.000	0.000	0.000	-2,249.762	0.000	0.000	0.000	0.000
5.00	-23.929	-22.530	0.000	0.000	0.000	-2,127.995	-0.074	0.000	0.074	-0.136
10.00	-23.512	-21.543	0.000	0.000	0.000	-2,008.349	-0.291	0.000	0.291	-0.274
15.00	-23.101	-20.579	0.000	0.000	0.000	-1,890.791	-0.654	0.000	0.654	-0.414
20.00	-22.698	-19.638	0.000	0.000	0.000	-1,775.286	-1.164	0.000	1.164	-0.555
25.00	-22.301	-18.721	0.000	0.000	0.000	-1,661.800	-1.822	0.000	1.822	-0.697
30.00	-21.911	-17.826	0.000	0.000	0.000	-1,550.297	-2.629	0.000	2.629	-0.840
35.00	-21.502	-16.979	0.000	0.000	0.000	-1,440.743	-3.587	0.000	3.587	-0.984
35.50	-21.481	-16.871	0.000	0.000	0.000	-1,429.992	-3.691	0.000	3.691	-0.999
40.00	-21.094	-15.397	0.000	0.000	0.000	-1,333.330	-4.697	0.000	4.697	-1.130
42.25	-20.906	-14.665	0.000	0.000	0.000	-1,285.869	-5.245	0.000	5.245	-1.196
45.00	-20.687	-14.197	0.000	0.000	0.000	-1,228.379	-5.959	0.000	5.959	-1.277
50.00	-20.268	-13.389	0.000	0.000	0.000	-1,124.943	-7.372	0.000	7.372	-1.416
55.00	-19.846	-12.604	0.000	0.000	0.000	-1,023.604	-8.930	0.000	8.930	-1.554
60.00	-19.422	-11.844	0.000	0.000	0.000	-924.378	-10.631	0.000	10.631	-1.690
65.00	-18.998	-11.108	0.000	0.000	0.000	-827.270	-12.474	0.000	12.474	-1.824
70.00	-18.570	-10.405	0.000	0.000	0.000	-732.282	-14.456	0.000	14.456	-1.955
73.00	-18.317	-9.993	0.000	0.000	0.000	-676.572	-15.710	0.000	15.710	-2.033
75.00	-18.145	-9.531	0.000	0.000	0.000	-639.939	-16.573	0.000	16.573	-2.085
78.50	-17.833	-8.756	0.000	0.000	0.000	-576.434	-18.135	0.000	18.135	-2.172
80.00	-17.720	-8.594	0.000	0.000	0.000	-549.684	-18.823	0.000	18.823	-2.209
85.00	-17.313	-8.124	0.000	0.000	0.000	-461.087	-21.222	0.000	21.222	-2.365
90.00	-16.910	-7.674	0.000	0.000	0.000	-374.524	-23.778	0.000	23.778	-2.508
95.00	-16.512	-7.247	0.000	0.000	0.000	-289.974	-26.476	0.000	26.476	-2.635
100.0	-16.119	-6.842	0.000	0.000	0.000	-207.414	-29.296	0.000	29.296	-2.741
105.0	-15.730	-6.467	0.000	0.000	0.000	-126.818	-32.213	0.000	32.213	-2.821
106.0	-11.213	-4.538	0.000	0.000	0.000	-111.088	-32.805	0.000	32.805	-2.834
110.0	-10.910	-4.258	0.000	0.000	0.000	-66.236	-35.198	0.000	35.198	-2.873
115.0	-10.539	-3.927	0.000	0.000	0.000	-11.685	-38.223	0.000	38.223	-2.897
116.0	-0.287	-0.248	0.000	0.000	0.000	-1.147	-38.830	0.000	38.830	-2.898
120.0	-0.274	0.000	0.000	0.000	0.000	0.000	-41.257	0.000	41.257	-2.898

Pole : 283423
 Location : NAUGATUCK CT
 Height : 120.0 (ft)
 Base Dia : 57.00 (in)
 Top Dia : 27.45 (in)
 Shape : 18 Sides
 Taper : 0.255038 (in/ft)

Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)



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Load Case: No Ice 85.00 mph Wind with No Ice 19 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Stresses

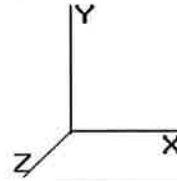
Seg Elev (ft)	Applied Stresses							Combined (ksi)	Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)				
0.00	0.42	0.87	0.00	0.00	0.00	34.23	34.68	46.9	0.0	0.739
5.00	0.41	0.88	0.00	0.00	0.00	33.88	34.33	47.6	0.0	0.722
10.00	0.40	0.88	0.00	0.00	0.00	33.51	33.94	48.2	0.0	0.705
15.00	0.39	0.89	0.00	0.00	0.00	33.09	33.52	48.8	0.0	0.687
20.00	0.38	0.89	0.00	0.00	0.00	32.63	33.05	49.4	0.0	0.669
25.00	0.38	0.90	0.00	0.00	0.00	32.12	32.53	50.0	0.0	0.651
30.00	0.37	0.91	0.00	0.00	0.00	31.55	31.95	50.6	0.0	0.631
35.00	0.36	0.91	0.00	0.00	0.00	30.91	31.31	51.2	0.0	0.611
35.50	0.36	0.92	0.00	0.00	0.00	30.84	31.24	51.3	0.0	0.609
40.00	0.33	0.92	0.00	0.00	0.00	30.20	30.58	51.8	0.0	0.590
42.25	0.32	0.91	0.00	0.00	0.00	29.06	29.42	51.8	0.0	0.568
45.00	0.31	0.92	0.00	0.00	0.00	28.62	28.98	52.0	0.0	0.557
50.00	0.30	0.92	0.00	0.00	0.00	27.74	28.09	52.0	0.0	0.540
55.00	0.29	0.93	0.00	0.00	0.00	26.75	27.10	52.0	0.0	0.521
60.00	0.28	0.94	0.00	0.00	0.00	25.65	25.99	52.0	0.0	0.500
65.00	0.27	0.95	0.00	0.00	0.00	24.43	24.75	52.0	0.0	0.476
70.00	0.27	0.96	0.00	0.00	0.00	23.05	23.37	52.0	0.0	0.450
73.00	0.26	0.96	0.00	0.00	0.00	22.15	22.47	52.0	0.0	0.432
75.00	0.25	0.97	0.00	0.00	0.00	21.51	21.83	52.0	0.0	0.420
78.50	0.33	1.37	0.00	0.00	0.00	28.14	28.57	48.2	0.0	0.593
80.00	0.33	1.37	0.00	0.00	0.00	27.39	27.82	48.5	0.0	0.574
85.00	0.32	1.39	0.00	0.00	0.00	24.63	25.07	49.3	0.0	0.508
90.00	0.32	1.41	0.00	0.00	0.00	21.50	21.95	50.2	0.0	0.437
95.00	0.31	1.43	0.00	0.00	0.00	17.94	18.41	51.1	0.0	0.360
100.00	0.30	1.45	0.00	0.00	0.00	13.86	14.39	52.0	0.0	0.277
105.00	0.30	1.47	0.00	0.00	0.00	9.19	9.82	52.0	0.0	0.189
106.00	0.21	1.06	0.00	0.00	0.00	8.18	8.59	52.0	0.0	0.165
110.00	0.21	1.06	0.00	0.00	0.00	5.22	5.73	52.0	0.0	0.110
115.00	0.20	1.07	0.00	0.00	0.00	1.01	2.21	52.0	0.0	0.043
116.00	0.01	0.03	0.00	0.00	0.00	0.10	0.12	52.0	0.0	0.002
120.00	0.00	0.03	0.00	0.00	0.00	0.00	0.05	52.0	0.0	0.001

Pole : 283423
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Load Case: Ice	73.61 mph Wind with Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Shaft Segment Forces

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		0.00	1.00	13.871	23.44	349.64	0.650	0.500	0.00	0.000	0.00	0.0	0.0	
5.00		0.00	1.00	13.871	23.44	341.82	0.650	0.500	5.00	23.901	15.54	364.2	173.5	1,119.3
10.00		0.00	1.00	13.871	23.44	334.00	0.650	0.500	5.00	23.370	15.19	356.1	169.6	1,093.9
15.00		0.00	1.00	13.871	23.44	326.18	0.650	0.500	5.00	22.838	14.84	348.0	165.6	1,068.4
20.00		0.00	1.00	13.871	23.44	318.35	0.650	0.500	5.00	22.307	14.50	339.9	161.7	1,043.0
25.00		0.00	1.00	13.871	23.44	310.53	0.650	0.500	5.00	21.776	14.15	331.8	157.8	1,017.5
30.00		0.00	1.00	13.871	23.44	302.71	0.650	0.500	5.00	21.244	13.81	323.7	153.8	992.1
35.00		0.00	1.01	14.106	23.84	297.38	0.650	0.500	5.00	20.713	13.46	321.0	149.9	966.6
35.50	Bot - Section 2	0.00	1.02	14.164	23.93	297.19	0.650	0.500	0.50	2.042	1.33	31.8	14.9	95.4
40.00		0.00	1.05	14.655	24.76	295.06	0.650	0.500	4.50	18.374	11.94	295.8	133.1	1,572.0
42.25	Top - Section 1	0.00	1.07	14.886	25.15	293.73	0.650	0.500	2.25	9.026	5.87	147.6	65.7	772.1
45.00		0.00	1.09	15.156	25.61	295.90	0.650	0.500	2.75	10.885	7.08	181.2	79.2	507.8
50.00		0.00	1.12	15.620	26.39	292.09	0.650	0.500	5.00	19.379	12.60	332.5	140.0	902.7
55.00		0.00	1.15	16.051	27.12	287.68	0.650	0.500	5.00	18.848	12.25	332.3	136.1	877.3
60.00		0.00	1.18	16.455	27.80	282.76	0.650	0.500	5.00	18.317	11.91	331.1	132.1	851.8
65.00		0.00	1.21	16.836	28.45	277.39	0.650	0.500	5.00	17.785	11.56	328.9	128.2	826.4
70.00		0.00	1.24	17.196	29.06	271.63	0.650	0.500	5.00	17.254	11.22	325.9	124.3	800.9
73.00	Bot - Section 3	0.00	1.25	17.403	29.41	268.01	0.650	0.500	3.00	10.097	6.56	193.0	73.1	468.8
75.00		0.00	1.26	17.538	29.64	265.53	0.650	0.500	2.00	6.698	4.35	129.0	48.7	492.3
78.50	Top - Section 2	0.00	1.28	17.768	30.02	261.07	0.650	0.500	3.50	11.517	7.49	224.8	83.3	845.6
80.00		0.00	1.28	17.865	30.19	262.16	0.650	0.500	1.50	4.856	3.16	95.3	35.3	168.7
85.00		0.00	1.31	18.177	30.71	255.48	0.650	0.500	5.00	15.842	10.30	316.3	113.8	548.7
90.00		0.00	1.33	18.476	31.22	248.55	0.650	0.500	5.00	15.311	9.95	310.8	109.9	529.7
95.00		0.00	1.35	18.764	31.71	241.38	0.650	0.500	5.00	14.780	9.61	304.6	105.9	510.6
100.0		0.00	1.37	19.041	32.17	233.99	0.650	0.500	5.00	14.248	9.26	298.0	102.0	491.6
105.0		0.00	1.39	19.308	32.63	226.40	0.650	0.500	5.00	13.717	8.92	290.9	98.1	472.6
106.0	Appertunance(s)	0.00	1.39	19.360	32.71	224.86	0.650	0.500	1.00	2.680	1.74	57.0	19.5	92.6
110.0		0.00	1.41	19.566	33.06	218.62	0.650	0.500	4.00	10.506	6.83	225.8	75.3	361.7
115.0		0.00	1.42	19.816	33.49	210.66	0.650	0.500	5.00	12.654	8.23	275.5	90.2	434.6
116.0	Appertunance(s)	0.00	1.43	19.865	33.57	209.05	0.650	0.500	1.00	2.467	1.60	53.8	17.9	85.0
120.0		0.00	1.44	20.059	33.89	202.54	0.650	0.500	4.00	9.656	6.28	212.8	69.0	331.3
Totals:								120.00				7,679.6	3,127.5	20,341.2

Pole : 283423
 Location : NAUGATUCK CT
 Height : 120.0 (ft)
 Base Dia : 57.00 (in)
 Top Dia : 27.45 (in)
 Shape : 18 Sides
 Taper : 0.255038 (in/ft)

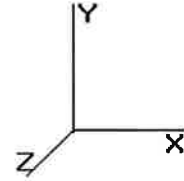
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Base Elev : 0.000 (ft)

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Load Case: Ice	73.61 mph Wind with Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Discrete Appurtenance Segment Forces

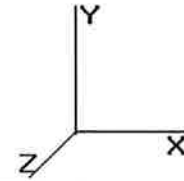
Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
106.0	Alcatel-Lucent RRH2x	3	19.360	32.719	0.67	5.65	0.000	0.000	184.80	0.00	0.00	213.24
106.0	Alcatel-Lucent RRH2x	3	19.360	32.719	0.67	5.77	0.000	0.000	188.75	0.00	0.00	184.20
106.0	Antel BXA-171063/12C	6	19.360	32.719	0.88	28.83	0.000	0.000	943.25	0.00	0.00	254.40
106.0	RFS DB-T1-6Z-8AB-0Z	1	19.360	32.719	0.67	3.84	0.000	0.000	125.61	0.00	0.00	52.60
106.0	Antel BXA-70063-6CF-	3	19.360	32.719	0.77	19.73	0.000	0.000	645.45	0.00	0.00	174.00
106.0	Commscope LNX-	3	19.360	32.719	0.83	23.01	0.000	0.000	752.78	0.00	0.00	292.83
106.0	Round Low Profile PI	1	19.360	32.719	1.00	27.20	0.000	0.000	889.95	0.00	0.00	1,700.00
116.0	Raycap DC6-48-60-18-	4	19.865	33.573	1.00	5.84	0.000	0.000	196.06	0.00	0.00	140.40
116.0	Ericsson RRUS A2 B2	6	19.865	33.573	0.67	11.58	0.000	0.000	388.69	0.00	0.00	364.80
116.0	Ericsson RRUS 32	3	19.865	33.573	0.67	7.06	0.000	0.000	236.86	0.00	0.00	243.60
116.0	Ericsson RRUS 12	9	19.865	33.573	0.67	24.48	0.000	0.000	821.92	0.00	0.00	728.91
116.0	Ericsson RRUS-11	9	19.865	33.573	0.67	29.25	0.000	0.000	981.85	0.00	0.00	726.30
116.0	CCI HPA-65R-BUU-H8	12	19.865	33.573	0.79	136.04	0.000	0.000	4,567.14	0.00	0.00	1,701.24
116.0	Round Platform w/ Ha	1	19.865	33.573	1.00	34.20	0.000	0.000	1,148.18	0.00	0.00	2,400.00
									12,071.28			9,176.52

Pole : 283423
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Load Case: Ice

73.61 mph Wind with Ice

19 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-19.780	-29.658	0.000	0.000	0.000	-1,861.831	0.000	0.000	0.000	0.000
5.00	-19.472	-28.493	0.000	0.000	0.000	-1,762.931	-0.061	0.000	0.061	-0.113
10.00	-19.167	-27.354	0.000	0.000	0.000	-1,665.576	-0.241	0.000	0.241	-0.227
15.00	-18.867	-26.242	0.000	0.000	0.000	-1,569.742	-0.542	0.000	0.542	-0.343
20.00	-18.571	-25.156	0.000	0.000	0.000	-1,475.408	-0.965	0.000	0.965	-0.460
25.00	-18.280	-24.097	0.000	0.000	0.000	-1,382.553	-1.510	0.000	1.510	-0.578
30.00	-17.994	-23.063	0.000	0.000	0.000	-1,291.152	-2.181	0.000	2.181	-0.697
35.00	-17.685	-22.074	0.000	0.000	0.000	-1,201.186	-2.976	0.000	2.976	-0.817
35.50	-17.675	-21.959	0.000	0.000	0.000	-1,192.343	-3.062	0.000	3.062	-0.830
40.00	-17.384	-20.360	0.000	0.000	0.000	-1,112.805	-3.898	0.000	3.898	-0.939
42.25	-17.245	-19.569	0.000	0.000	0.000	-1,073.691	-4.354	0.000	4.354	-0.994
45.00	-17.085	-19.033	0.000	0.000	0.000	-1,026.268	-4.947	0.000	4.947	-1.062
50.00	-16.771	-18.096	0.000	0.000	0.000	-940.844	-6.122	0.000	6.122	-1.178
55.00	-16.455	-17.186	0.000	0.000	0.000	-856.988	-7.419	0.000	7.419	-1.293
60.00	-16.136	-16.303	0.000	0.000	0.000	-774.716	-8.835	0.000	8.835	-1.408
65.00	-15.816	-15.447	0.000	0.000	0.000	-694.039	-10.371	0.000	10.371	-1.520
70.00	-15.490	-14.625	0.000	0.000	0.000	-614.962	-12.023	0.000	12.023	-1.630
73.00	-15.296	-14.143	0.000	0.000	0.000	-568.494	-13.068	0.000	13.068	-1.696
75.00	-15.167	-13.636	0.000	0.000	0.000	-537.901	-13.788	0.000	13.788	-1.739
78.50	-14.927	-12.779	0.000	0.000	0.000	-484.819	-15.091	0.000	15.091	-1.812
80.00	-14.845	-12.590	0.000	0.000	0.000	-462.429	-15.666	0.000	15.666	-1.843
85.00	-14.537	-12.013	0.000	0.000	0.000	-388.206	-17.668	0.000	17.668	-1.974
90.00	-14.230	-11.459	0.000	0.000	0.000	-315.524	-19.803	0.000	19.803	-2.095
95.00	-13.925	-10.929	0.000	0.000	0.000	-244.376	-22.057	0.000	22.057	-2.202
100.0	-13.622	-10.423	0.000	0.000	0.000	-174.753	-24.414	0.000	24.414	-2.291
105.0	-13.318	-9.947	0.000	0.000	0.000	-106.646	-26.854	0.000	26.854	-2.359
106.0	-9.414	-7.137	0.000	0.000	0.000	-93.328	-27.349	0.000	27.349	-2.370
110.0	-9.177	-6.779	0.000	0.000	0.000	-55.672	-29.350	0.000	29.350	-2.403
115.0	-8.884	-6.352	0.000	0.000	0.000	-9.790	-31.880	0.000	31.880	-2.423
116.0	-0.227	-0.322	0.000	0.000	0.000	-0.906	-32.388	0.000	32.388	-2.423
120.0	-0.213	0.000	0.000	0.000	0.000	0.000	-34.418	0.000	34.418	-2.424

Pole : 283423
 Location : NAUGATUCK CT
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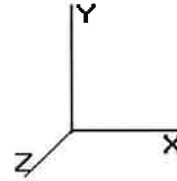
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Base Elev : 0.000 (ft)

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Load Case: Ice	73.61 mph Wind with Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Stresses

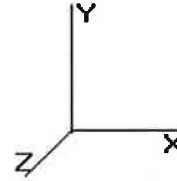
Seg Elev (ft)	Applied Stresses							Combined (ksi)	Allowable Stress (Fb) (ksi)		Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)					
0.00	0.53	0.71	0.00	0.00	0.00	28.32	28.88	46.9	0.0	0.615	
5.00	0.52	0.71	0.00	0.00	0.00	28.07	28.62	47.6	0.0	0.602	
10.00	0.51	0.72	0.00	0.00	0.00	27.79	28.33	48.2	0.0	0.588	
15.00	0.50	0.73	0.00	0.00	0.00	27.47	28.00	48.8	0.0	0.574	
20.00	0.49	0.73	0.00	0.00	0.00	27.12	27.64	49.4	0.0	0.560	
25.00	0.48	0.74	0.00	0.00	0.00	26.72	27.23	50.0	0.0	0.545	
30.00	0.47	0.75	0.00	0.00	0.00	26.27	26.78	50.6	0.0	0.529	
35.00	0.47	0.75	0.00	0.00	0.00	25.77	26.27	51.2	0.0	0.513	
35.50	0.46	0.75	0.00	0.00	0.00	25.72	26.21	51.3	0.0	0.511	
40.00	0.44	0.76	0.00	0.00	0.00	25.21	25.68	51.8	0.0	0.496	
42.25	0.42	0.75	0.00	0.00	0.00	24.27	24.72	51.8	0.0	0.477	
45.00	0.42	0.76	0.00	0.00	0.00	23.91	24.37	52.0	0.0	0.469	
50.00	0.41	0.76	0.00	0.00	0.00	23.20	23.64	52.0	0.0	0.455	
55.00	0.40	0.77	0.00	0.00	0.00	22.40	22.84	52.0	0.0	0.439	
60.00	0.39	0.78	0.00	0.00	0.00	21.50	21.93	52.0	0.0	0.422	
65.00	0.38	0.79	0.00	0.00	0.00	20.49	20.92	52.0	0.0	0.402	
70.00	0.37	0.80	0.00	0.00	0.00	19.35	19.78	52.0	0.0	0.380	
73.00	0.37	0.80	0.00	0.00	0.00	18.61	19.03	52.0	0.0	0.366	
75.00	0.36	0.81	0.00	0.00	0.00	18.08	18.50	52.0	0.0	0.356	
78.50	0.49	1.15	0.00	0.00	0.00	23.67	24.24	48.2	0.0	0.503	
80.00	0.48	1.15	0.00	0.00	0.00	23.04	23.61	48.5	0.0	0.487	
85.00	0.48	1.17	0.00	0.00	0.00	20.73	21.31	49.3	0.0	0.432	
90.00	0.47	1.18	0.00	0.00	0.00	18.11	18.70	50.2	0.0	0.372	
95.00	0.47	1.20	0.00	0.00	0.00	15.12	15.72	51.1	0.0	0.308	
100.00	0.46	1.22	0.00	0.00	0.00	11.68	12.33	52.0	0.0	0.237	
105.00	0.46	1.24	0.00	0.00	0.00	7.73	8.47	52.0	0.0	0.163	
106.00	0.33	0.89	0.00	0.00	0.00	6.88	7.37	52.0	0.0	0.142	
110.00	0.33	0.89	0.00	0.00	0.00	4.39	4.96	52.0	0.0	0.095	
115.00	0.32	0.90	0.00	0.00	0.00	0.84	1.95	52.0	0.0	0.038	
116.00	0.02	0.02	0.00	0.00	0.00	0.08	0.10	52.0	0.0	0.002	
120.00	0.00	0.02	0.00	0.00	0.00	0.00	0.04	52.0	0.0	0.001	

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Load Case: Twist/Sway	50.00 mph Wind with No Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Shaft Segment Forces

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		0.00	1.00	6.400	10.81	237.50	0.650	0.000	0.00	0.000	0.00	0.0	0.0	
5.00		0.00	1.00	6.400	10.81	232.18	0.650	0.000	5.00	23.484	15.26	165.1	0.0	945.8
10.00		0.00	1.00	6.400	10.81	226.87	0.650	0.000	5.00	22.953	14.92	161.4	0.0	924.3
15.00		0.00	1.00	6.400	10.81	221.56	0.650	0.000	5.00	22.422	14.57	157.6	0.0	902.8
20.00		0.00	1.00	6.400	10.81	216.24	0.650	0.000	5.00	21.890	14.23	153.9	0.0	881.3
25.00		0.00	1.00	6.400	10.81	210.93	0.650	0.000	5.00	21.359	13.88	150.2	0.0	859.8
30.00		0.00	1.00	6.400	10.81	205.62	0.650	0.000	5.00	20.828	13.54	146.4	0.0	838.2
35.00		0.00	1.01	6.509	10.99	201.99	0.650	0.000	5.00	20.296	13.19	145.1	0.0	816.7
35.50	Bot - Section 2	0.00	1.02	6.535	11.04	201.87	0.650	0.000	0.50	2.000	1.30	14.4	0.0	80.5
40.00		0.00	1.05	6.762	11.42	200.42	0.650	0.000	4.50	17.999	11.70	133.7	0.0	1,438.9
42.25	Top - Section 1	0.00	1.07	6.868	11.60	199.52	0.650	0.000	2.25	8.838	5.74	66.7	0.0	706.4
45.00		0.00	1.09	6.993	11.81	200.99	0.650	0.000	2.75	10.656	6.93	81.9	0.0	428.7
50.00		0.00	1.12	7.207	12.17	198.40	0.650	0.000	5.00	18.963	12.33	150.1	0.0	762.7
55.00		0.00	1.15	7.406	12.51	195.41	0.650	0.000	5.00	18.431	11.98	149.9	0.0	741.2
60.00		0.00	1.18	7.592	12.83	192.06	0.650	0.000	5.00	17.900	11.64	149.3	0.0	719.7
65.00		0.00	1.21	7.768	13.12	188.42	0.650	0.000	5.00	17.369	11.29	148.2	0.0	698.2
70.00		0.00	1.24	7.934	13.40	184.51	0.650	0.000	5.00	16.837	10.94	146.7	0.0	676.6
73.00	Bot - Section 3	0.00	1.25	8.030	13.57	182.05	0.650	0.000	3.00	9.847	6.40	86.9	0.0	395.7
75.00		0.00	1.26	8.092	13.67	180.36	0.650	0.000	2.00	6.532	4.25	58.1	0.0	443.6
78.50	Top - Section 2	0.00	1.28	8.198	13.85	177.33	0.650	0.000	3.50	11.226	7.30	101.1	0.0	762.3
80.00		0.00	1.28	8.242	13.93	178.07	0.650	0.000	1.50	4.731	3.08	42.8	0.0	133.4
85.00		0.00	1.31	8.387	14.17	173.54	0.650	0.000	5.00	15.426	10.03	142.1	0.0	434.8
90.00		0.00	1.33	8.525	14.40	168.83	0.650	0.000	5.00	14.894	9.68	139.5	0.0	419.8
95.00		0.00	1.35	8.657	14.63	163.96	0.650	0.000	5.00	14.363	9.34	136.6	0.0	404.7
100.0		0.00	1.37	8.785	14.84	158.94	0.650	0.000	5.00	13.832	8.99	133.5	0.0	389.6
105.0		0.00	1.39	8.908	15.05	153.78	0.650	0.000	5.00	13.300	8.65	130.2	0.0	374.6
106.0	Appertunance(s)	0.00	1.39	8.933	15.09	152.73	0.650	0.000	1.00	2.596	1.69	25.5	0.0	73.1
110.0		0.00	1.41	9.028	15.25	148.50	0.650	0.000	4.00	10.173	6.61	100.9	0.0	286.4
115.0		0.00	1.42	9.143	15.45	143.09	0.650	0.000	5.00	12.238	7.95	122.9	0.0	344.4
116.0	Appertunance(s)	0.00	1.43	9.166	15.49	142.00	0.650	0.000	1.00	2.384	1.55	24.0	0.0	67.1
120.0		0.00	1.44	9.255	15.64	137.57	0.650	0.000	4.00	9.323	6.06	94.8	0.0	262.3
Totals:								120.00				3,459.3	0.0	17,213.8

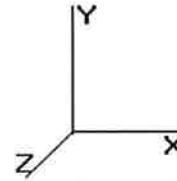
Pole : 283423
 Location : NAUGATUCK CT
 Height : 120.0 (ft)
 Base Dia : 57.00 (in)
 Top Dia : 27.45 (in)
 Shape : 18 Sides
 Taper : 0.255038 (in/ft)

Code : TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)



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Load Case: Twist/Sway	50.00 mph Wind with No Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Discrete Appurtenance Segment Forces

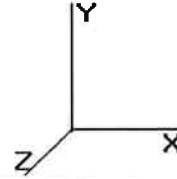
Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
106.0	Alcatel-Lucent RRH2x	3	8.933	15.096	0.67	4.98	0.000	0.000	75.25	0.00	0.00	150.00
106.0	Alcatel-Lucent RRH2x	3	8.933	15.096	0.67	5.07	0.000	0.000	76.46	0.00	0.00	132.00
106.0	Antel BXA-171063/12C	6	8.933	15.096	0.88	25.29	0.000	0.000	381.80	0.00	0.00	76.80
106.0	RFS DB-T1-6Z-8AB-0Z	1	8.933	15.096	0.67	3.75	0.000	0.000	56.64	0.00	0.00	44.00
106.0	Antel BXA-70063-6CF-	3	8.933	15.096	0.77	17.86	0.000	0.000	269.56	0.00	0.00	51.00
106.0	Commscope LNX-	3	8.933	15.096	0.83	20.94	0.000	0.000	316.13	0.00	0.00	116.40
106.0	Round Low Profile PI	1	8.933	15.096	1.00	21.70	0.000	0.000	327.58	0.00	0.00	1,500.00
116.0	Raycap DC6-48-60-18-	4	9.166	15.490	1.00	5.04	0.000	0.000	78.07	0.00	0.00	80.00
116.0	Ericsson RRUS A2 B2	6	9.166	15.490	0.67	9.69	0.000	0.000	150.07	0.00	0.00	132.00
116.0	Ericsson RRUS 32	3	9.166	15.490	0.67	6.31	0.000	0.000	97.76	0.00	0.00	152.40
116.0	Ericsson RRUS 12	9	9.166	15.490	0.67	22.13	0.000	0.000	342.79	0.00	0.00	450.00
116.0	Ericsson RRUS-11	9	9.166	15.490	0.67	26.65	0.000	0.000	412.85	0.00	0.00	495.00
116.0	CCI HPA-65R-BUU-H8	12	9.166	15.490	0.79	125.99	0.000	0.000	1,951.57	0.00	0.00	816.00
116.0	Round Platform w/ Ha	1	9.166	15.490	1.00	27.20	0.000	0.000	421.33	0.00	0.00	2,000.00
									4,957.86			6,195.60

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Base Elev : 0.000 (ft)

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Load Case: Twist/Sway	50.00 mph Wind with No Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	165.10	953.14	0.00	0.00
10.00	161.37	931.63	0.00	0.00
15.00	157.63	910.11	0.00	0.00
20.00	153.90	888.59	0.00	0.00
25.00	150.16	867.07	0.00	0.00
30.00	146.43	845.55	0.00	0.00
35.00	142.70	824.03	0.00	0.00
35.50	14.36	81.22	0.00	0.00
40.00	133.69	1,445.51	0.00	0.00
42.25	66.68	709.68	0.00	0.00
45.00	81.86	432.68	0.00	0.00
50.00	150.12	770.02	0.00	0.00
55.00	149.94	748.50	0.00	0.00
60.00	149.29	726.98	0.00	0.00
65.00	148.21	705.46	0.00	0.00
70.00	146.75	683.95	0.00	0.00
73.00	86.86	400.04	0.00	0.00
75.00	58.06	446.57	0.00	0.00
78.50	101.09	767.41	0.00	0.00
80.00	42.84	135.58	0.00	0.00
85.00	142.11	442.14	0.00	0.00
90.00	139.48	427.07	0.00	0.00
95.00	136.59	412.00	0.00	0.00
100.0	133.48	396.94	0.00	0.00
105.0	130.16	381.87	0.00	0.00
106.0	1,528.90	2,144.77	0.00	0.00
110.0	100.88	288.60	0.00	0.00
115.0	122.91	347.19	0.00	0.00
116.0	3,478.44	4,193.03	0.00	0.00
120.0	94.78	262.29	0.00	0.00
Totals:	8,417.18	23,569.61	0.00	0.00

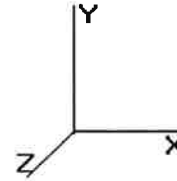
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Base Elev: 0.000 (ft)



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Load Case: Twist/Sway	50.00 mph Wind with No Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-8.427	-23.566	0.000	0.000	0.000	-778.765	0.000	0.000	0.000	0.000
5.00	-8.280	-22.606	0.000	0.000	0.000	-736.632	-0.026	0.000	0.026	-0.047
10.00	-8.136	-21.668	0.000	0.000	0.000	-695.231	-0.101	0.000	0.101	-0.095
15.00	-7.994	-20.751	0.000	0.000	0.000	-654.553	-0.227	0.000	0.227	-0.143
20.00	-7.854	-19.856	0.000	0.000	0.000	-614.585	-0.403	0.000	0.403	-0.192
25.00	-7.717	-18.983	0.000	0.000	0.000	-575.314	-0.631	0.000	0.631	-0.241
30.00	-7.583	-18.132	0.000	0.000	0.000	-536.728	-0.910	0.000	0.910	-0.291
35.00	-7.441	-17.305	0.000	0.000	0.000	-498.816	-1.242	0.000	1.242	-0.341
35.50	-7.434	-17.221	0.000	0.000	0.000	-495.095	-1.278	0.000	1.278	-0.346
40.00	-7.300	-15.772	0.000	0.000	0.000	-461.643	-1.626	0.000	1.626	-0.391
42.25	-7.235	-15.059	0.000	0.000	0.000	-445.217	-1.816	0.000	1.816	-0.414
45.00	-7.160	-14.623	0.000	0.000	0.000	-425.320	-2.063	0.000	2.063	-0.442
50.00	-7.015	-13.848	0.000	0.000	0.000	-389.520	-2.552	0.000	2.552	-0.490
55.00	-6.869	-13.095	0.000	0.000	0.000	-354.445	-3.091	0.000	3.091	-0.538
60.00	-6.723	-12.364	0.000	0.000	0.000	-320.098	-3.681	0.000	3.681	-0.585
65.00	-6.577	-11.655	0.000	0.000	0.000	-286.482	-4.319	0.000	4.319	-0.632
70.00	-6.429	-10.969	0.000	0.000	0.000	-253.599	-5.005	0.000	5.005	-0.677
73.00	-6.342	-10.567	0.000	0.000	0.000	-234.312	-5.439	0.000	5.439	-0.704
75.00	-6.282	-10.119	0.000	0.000	0.000	-221.629	-5.738	0.000	5.738	-0.722
78.50	-6.175	-9.351	0.000	0.000	0.000	-199.641	-6.279	0.000	6.279	-0.752
80.00	-6.136	-9.212	0.000	0.000	0.000	-190.379	-6.517	0.000	6.517	-0.765
85.00	-5.995	-8.766	0.000	0.000	0.000	-159.701	-7.348	0.000	7.348	-0.819
90.00	-5.856	-8.337	0.000	0.000	0.000	-129.724	-8.234	0.000	8.234	-0.868
95.00	-5.719	-7.923	0.000	0.000	0.000	-100.442	-9.168	0.000	9.168	-0.912
100.00	-5.583	-7.525	0.000	0.000	0.000	-71.847	-10.145	0.000	10.145	-0.949
105.00	-5.449	-7.144	0.000	0.000	0.000	-43.930	-11.155	0.000	11.155	-0.977
106.00	-3.884	-5.025	0.000	0.000	0.000	-38.482	-11.360	0.000	11.360	-0.981
110.00	-3.779	-4.737	0.000	0.000	0.000	-22.945	-12.189	0.000	12.189	-0.995
115.00	-3.651	-4.392	0.000	0.000	0.000	-4.048	-13.237	0.000	13.237	-1.003
116.00	-0.099	-0.261	0.000	0.000	0.000	-0.397	-13.447	0.000	13.447	-1.003
120.00	-0.095	0.000	0.000	0.000	0.000	0.000	-14.288	0.000	14.288	-1.004

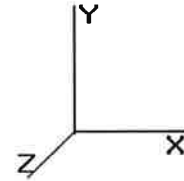
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Base Elev: 0.000 (ft)



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Load Case: Twist/Sway	50.00 mph Wind with No Ice	19 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Stresses

Seg Elev (ft)	Applied Stresses							Combined (ksi)	Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)				
0.00	0.42	0.30	0.00	0.00	0.00	11.85	12.28	46.9	0.0	0.262
5.00	0.41	0.30	0.00	0.00	0.00	11.73	12.15	47.6	0.0	0.256
10.00	0.40	0.31	0.00	0.00	0.00	11.60	12.01	48.2	0.0	0.249
15.00	0.40	0.31	0.00	0.00	0.00	11.46	11.86	48.8	0.0	0.243
20.00	0.39	0.31	0.00	0.00	0.00	11.30	11.70	49.4	0.0	0.237
25.00	0.38	0.31	0.00	0.00	0.00	11.12	11.51	50.0	0.0	0.230
30.00	0.37	0.31	0.00	0.00	0.00	10.92	11.31	50.6	0.0	0.223
35.00	0.37	0.32	0.00	0.00	0.00	10.70	11.08	51.2	0.0	0.216
35.50	0.36	0.32	0.00	0.00	0.00	10.68	11.06	51.3	0.0	0.216
40.00	0.34	0.32	0.00	0.00	0.00	10.46	10.81	51.8	0.0	0.209
42.25	0.33	0.32	0.00	0.00	0.00	10.06	10.40	51.8	0.0	0.201
45.00	0.32	0.32	0.00	0.00	0.00	9.91	10.25	52.0	0.0	0.197
50.00	0.31	0.32	0.00	0.00	0.00	9.60	9.93	52.0	0.0	0.191
55.00	0.31	0.32	0.00	0.00	0.00	9.26	9.59	52.0	0.0	0.184
60.00	0.30	0.33	0.00	0.00	0.00	8.88	9.20	52.0	0.0	0.177
65.00	0.29	0.33	0.00	0.00	0.00	8.46	8.77	52.0	0.0	0.169
70.00	0.28	0.33	0.00	0.00	0.00	7.98	8.28	52.0	0.0	0.159
73.00	0.28	0.33	0.00	0.00	0.00	7.67	7.97	52.0	0.0	0.153
75.00	0.27	0.33	0.00	0.00	0.00	7.45	7.74	52.0	0.0	0.149
78.50	0.36	0.47	0.00	0.00	0.00	9.75	10.14	48.2	0.0	0.210
80.00	0.35	0.48	0.00	0.00	0.00	9.49	9.87	48.5	0.0	0.204
85.00	0.35	0.48	0.00	0.00	0.00	8.53	8.92	49.3	0.0	0.181
90.00	0.34	0.49	0.00	0.00	0.00	7.45	7.84	50.2	0.0	0.156
95.00	0.34	0.49	0.00	0.00	0.00	6.21	6.61	51.1	0.0	0.129
100.00	0.34	0.50	0.00	0.00	0.00	4.80	5.21	52.0	0.0	0.100
105.00	0.33	0.51	0.00	0.00	0.00	3.18	3.62	52.0	0.0	0.070
106.00	0.23	0.37	0.00	0.00	0.00	2.84	3.13	52.0	0.0	0.060
110.00	0.23	0.37	0.00	0.00	0.00	1.81	2.14	52.0	0.0	0.041
115.00	0.22	0.37	0.00	0.00	0.00	0.35	0.86	52.0	0.0	0.017
116.00	0.01	0.01	0.00	0.00	0.00	0.03	0.05	52.0	0.0	0.001
120.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	52.0	0.0	0.000

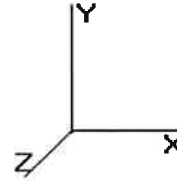
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Base Elev : 0.000 (ft)



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Analysis Summary

Load Case	Reactions						Max Stresses			
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	24.4	0.00	23.54	0.00	0.00	2249.76	34.68	46.9	0.00	0.739
Ice	19.8	0.00	29.66	0.00	0.00	1861.83	28.88	46.9	0.00	0.615
Twist/Sway	8.4	0.00	23.57	0.00	0.00	778.77	12.28	46.9	0.00	0.262

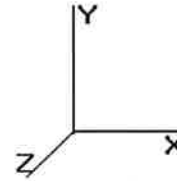
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Base Summary

Reactions

Original Design			Analysis			Moment Design %
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	
3,850.00	42.00	42.00	2,249.76	29.66	24.35	58.44

Base Plate

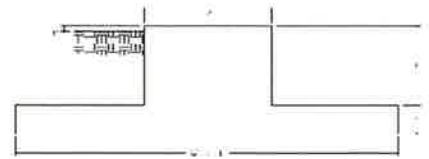
Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Moment (kip-in)	Allow Stress (ksi)	Applied Stress (ksi)	Stress Ratio
60.0	2.000	70.000	Round	0	0.00	15.076	305.48	60.00	30.39	0.51

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Cluster Arrange	Cluster Dist (in)	Start Angle (deg)	Compression			Tension		
									Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
64.00	12	2.25" 18J	2.25	75.00	100.00	Clustered	0.00	0.0	143.08	195.00	0.73	138.14	195.00	0.71

Site Name: Naugatuck West
 Site Number: 283423
 Engineering Number: 61102921
 Engineer: Penlyn Crawford
 Date: 01/27/15
 Tower Type: MP

Program Last Updated: 5/13/2014



Design Loads (Unfactored)

Design / Analysis / Mapping:	Analysis
Compression/Leg:	23.5 k
Uplift/Leg:	0.0 k
Total Shear:	24.4 k
Moment:	2249.8 k-ft
Tower + Appurtenance Weight:	23.4 k
Depth to Base of Foundation:	6.00 ft
Diameter of Pier (d):	7.00 ft
Height of Pier above Ground (h):	0.50
Width of Pad (W):	24.00 ft
Length of Pad (L):	24.00 ft
Thickness of Pad (t):	3.00 ft
Tower Leg Center to Center:	0.00 ft
Number of Tower Legs:	1.0 (1 if MP or GT)
Tower Center from Mat Center:	0.00 ft
Depth Below Ground Surface to Water Table:	19.00 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil Above Water Table:	120.0 pcf
Unit Weight of Water:	62.4 pcf
Unit Weight of Soil Below Water Table:	65.0 pcf
Friction Angle of Uplift:	0.00 Degrees
Ultimate Coefficient of Shear Friction:	0.45
Allowable Compressive Bearing Pressure:	4000.0 psf
Ultimate Passive Pressure on Pad Face:	0.0 psf
Allowable Capacity Increase:	1.00

Concrete Strength (f'_c):	4000 psi
Pad Tension Steel Depth:	32.00 in
Wind Load Factor:	1.3
ϕ_{Shear} :	0.75
$\phi_{\text{Flexure / Tension}}$:	0.90
$\phi_{\text{Compression}}$:	0.65
β :	0.85
Bottom Pad Rebar Size #:	10
# of Bottom Pad Rebar:	24
Pad Bottom Steel Area:	30.48 in ²
Pad Steel F_y :	60000 psi
Top Pad Rebar Size #:	10
# of Top Pad Rebar:	24
Pad Top Steel Area:	30.48 in ²
Pier Rebar Size #:	10
Pier Steel Area (Single Bar):	1.27 in ²
# of Pier Rebar:	38
Pier Steel F_y :	60000 psi
Pier Cage Diameter:	76.0 in
Rebar Strain Limit:	0.008
Steel Elastic Modulus:	29000 ksi
Tie Rebar Size #:	5
Tie Steel Area (Single Bar):	0.31 in ²
Tie Spacing:	6 in
Tie Steel F_y :	40000 psi

Overturing Factor of Safety

Design OTM:	2408.1 k-ft
OTM Resistance:	5955.7 k-ft
OTM Resistance / Design OTM Factor of Safety:	2.47 Result: OK

Soil Bearing Pressure Usage:

Net Bearing Pressure:	1693 psf
Allowable Bearing Pressure:	4000 psf
Net Bearing Pressure/Allowable Bearing Pressure:	0.42 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

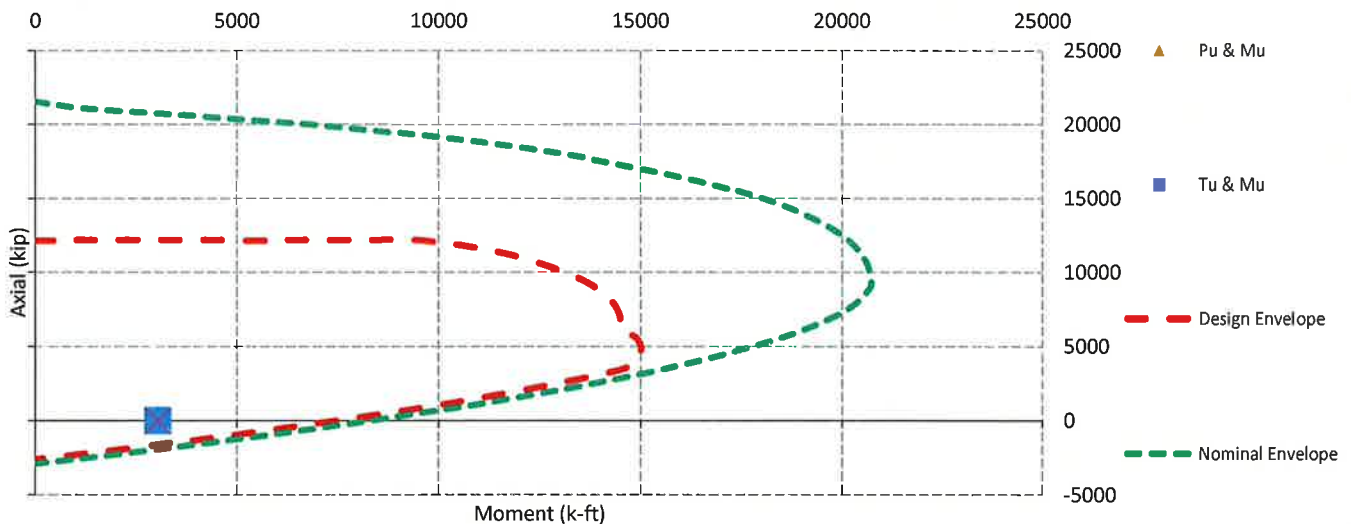
Sliding Factor of Safety

Total Ultimate Sliding Resistance:	223.3 k
Sliding Resistance/Sliding Design Factor of Safety:	9.17 Result: OK

One Way Shear, Flexural Capacity, and Punching Shear

Factored One Way Shear (V_u):	155.4 k
One Way Shear Capacity (ϕV_c):	787.2 k - ACI11.3.1.1
$V_u / \phi V_c$:	0.20 Result: OK
Load Direction Controlling Shear Capacity:	Diagonal to Pad Edge
Lower Pad Steel Factored Moment (M_u):	1063.4 k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	4280.2 k-ft - ACI10.3
$M_u / \phi M_n$:	0.25 Result: OK
Load Direction Controlling Flexural Capacity:	Parallel to Pad Edge
Upper Steel Pad Factored Moment (M_u):	740.6 k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	4280.2 k-ft
$M_u / \phi M_n$:	0.17 Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0033 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0033 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	12 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	12 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0 k
Nominal Punching Shear Capacity ($\phi_c V_n$):	2212.6 k - ACI11.12.2.1
$V_u / \phi V_c$:	0.00 Result: OK
Factored Moment in Pier (M_u):	3035.5 k-ft
Pier Moment Capacity (ϕM_n):	8074.4 k-ft
$M_u / \phi M_n$:	0.38 Result: OK
Factored Shear in Pier (V_u):	31.7 k
Pier Shear Capacity (ϕV_n):	526.9 k
$V_u / \phi V_c$:	0.06 Result: OK
Pier Shear Reinforcement Ratio:	0.0007 No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0 k
Pier Tension Capacity (ϕT_n):	2606.0 k
$T_u / \phi T_n$:	0.00 Result: OK
Factored Compression in Pier (P_u):	30.6 k
Pier Compression Capacity (ϕP_n):	9712.5 k - ACI10.3.6.2
$P_u / \phi P_n$:	0.00 Result: OK
Pier Compression Reinforcement Ratio:	0.009 OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.38 Result: OK

Nominal and Design Moment Capacity and Factored Design Loads

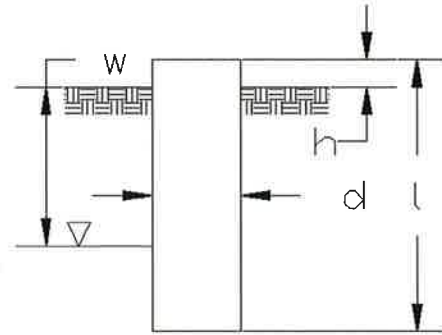


Site Name: Naugatuck West
 Site Number: 283423
 Engineer: Penlyn Crawford
 Engineering Number: 61102921
 Date: 01/27/15

Program Last Updated: 5/13/2014
 American Tower Corporation

Design Base Loads (Unfactored) - Analysis per TIA-222-F Standards

Analyze or Design a Foundation? Analyze
 Foundation Mapped: N
 Moment (M): 2249.8 k-ft
 Shear/Leg (V): 24.4 k
 Axial Load (P): 23.5 k
 Uplift/Leg (U): 0.0 k
 Tower Type (GT / SST / MP): MP



Diameter of Caisson (d): 7.0 ft
 Caisson Embedment (L-h): 25.0 ft
 Caisson Height Above Ground (h): 0.5 ft
 Depth Below Ground Surface to Water Table (w): 19.0 ft
 Unit Weight of Concrete: 150.0 pcf
 Unit Weight of Water: 62.4 pcf
 Tension Skin Friction/Compression Skin Friction: 1.00
 Pullout Angle: 30.0 degrees

Engineer Notes

Soil Mechanical Properties

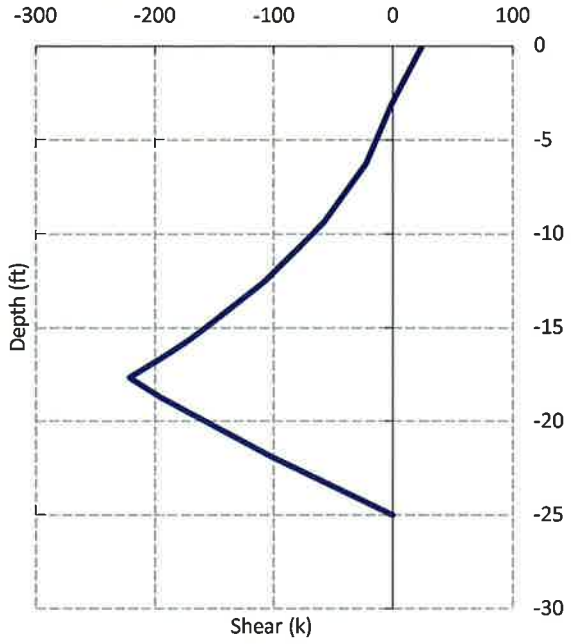
Depth (ft)		γ_{Soil}	Cohesion	ϕ	Allowable Skin	Allowable Bearing
Top	Bottom	(pcf)	(psf)	(degree)	Friction (psf)	Pressure (psf)
0.0	2.0	120	0	0	0	0
2.0	25.0	120	0	45	1003	4000

Required Embedment: 16.7 ft - OK, Caisson Embedment Satisfactory
 Volume of Concrete: 981.4 ft³ = 36.3 yd³
 Weight of Concrete (Buoyancy Effect Considered): 132.8 k
 Average Soil Unit Weight: 105.0 pcf
 Skin Friction Resistance: 507.3 k
 Compressive Bearing Resistance: 153.9 k
 Pullout Weight (Minus Concrete Weight): 989.5 k
 Allowable Uplift Capacity (U_{Allow}): 601.0 k
 Allowable Compressive Capacity (P_{Allow}): 661.3 k
 Compressive Design Load (P): 52.4 k
 U / U_{Allow} : 0.00 Result: OK
 P / P_{Allow} : 0.08 Result: OK
 Total Lateral Resistance: 3594.5 k
 Inflection Point (Below Ground Surface): 17.7 ft
 Design Overturning Moment At Inflection Point (M_D): 2692.8 k-ft
 Nominal Moment Capacity (M_{Allow}): 17090.0 k-ft
 M_{Allow} / M_D Factor of Safety: 6.35 Result: OK

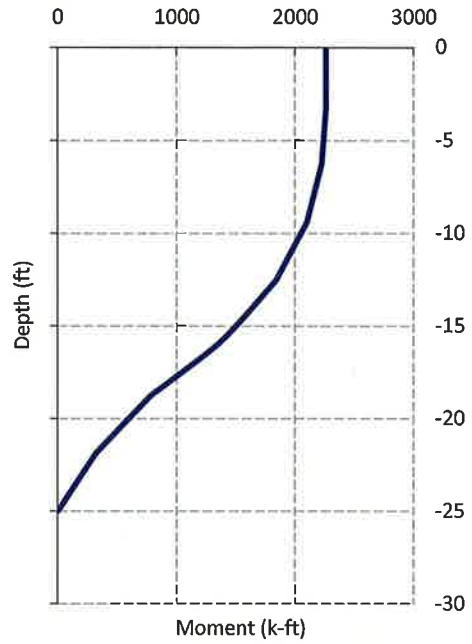
Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	4000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
Design # of Vertical Steel Rebars:	20
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in ²
Design Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	40 ksi
Rebar Cage Diameter:	76.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_P):	0.65 ACI318-05 - 9.3.2.2
Wind Design Factor:	1.30 ACI318-05 - 9.2.1
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	2944.2 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	5221.4 k-ft - ACI318-005 - 10.2
$M_u/\phi_B M_n$:	0.56 Result: OK
Design Shear (V_u):	288.0 k
Nominal Shear Capacity ($\phi_V V_n$):	526.9 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u/\phi_V V_n$:	0.55 Result: OK
Design Tension (T_u):	0.0 k
Nominal Tension Capacity ($\phi_T T_n$):	1684.8 k - ACI318-05 - 10.2
$T_u/\phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	68.1 k
Nominal Compression Capacity ($\phi_P P_n$):	9742.7 k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$:	0.01 Result: OK
Bending Reinforcement Ratio:	0.006 ACI318-05 - 10.8.4 & 10.9.1
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.56 Result: OK

Design Unfactored Shear / Depth



Design Unfactored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads

