



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freepoint Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 150 ft. Rohn Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT10022-A

Customer Site Name: Simsbury 2, CT

Carrier Name: Sprint Nextel

Carrier Site ID / Name: CT70XC140 / Simsbury 2, CT

Site Location: 225 Grist Mill Road

Simsbury, Connecticut

Hartford County

Latitude: 41.866708

Longitude: -72.815772

Analysis Result:

Max Structural Usage: 86.2% [Pass]

Max Foundation Usage: 65.0% [Pass]

Additional Usage Caused by Mount Modification: +1.5%



Report Prepared By : Delu Zhou

Introduction

The purpose of this report is to summarize the analysis results on the 150 ft Rohn Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Rohn Industries, Inc., File No. 50754AE, Drawing No. A020293, dated Feb. 13, 2002
Foundation Drawing	Rohn Industries, Inc., File No. 50754AE, Drawing No. A020294 1-3, dated Feb. 13, 2002
Geotechnical Report	FDH Engineering, Inc., Project No. 15BGSH1600, dated March 19, 2015
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft.
Seismic Parameters:	$S_S = 0.179$, $S_1 = 0.064$

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	150.0	2	Powerwave P65-17-XLH-RR - Panel	Low Profile Platform	(12) 1 5/8" (2) 1/2" DC (4) 3/8" Fiber (1) 3" Conduit	AT&T
2		1	KMW AM-X-CD-16-65-00T-RET - Panel			
3		3	Kathrein 800 10121 - Panel			
4		2	CCI TPA-65R-LCUUUU-H8 - Panel			
5		1	Quintel QS66512-3 - Panel			
6		6	CCI DTMABP7819VG12A-TMAs			
7		3	Ericsson RRUS-11-RRUs			
8		3	Ericsson RRUS-32-RRHs			
9		3	Ericsson RRUS 32 B2-RRHs			
10		6	CCI TPX-070821-Diplexers			
11		3	CSS DBC-750-Combiners			
12		1	Commscope ABT-DRDM-ADBH-Bias T			
13		1	LMU			
14		2	Raycap DC6-48-60-18-8F-DC			
15	141.0	3	Alcatel Lucent RRH2X60-700 - RRU	Low Profile Platform	(12) 1 5/8" (2) 1 5/8" Hybrid	Verizon
16		3	Alcatel Lucent RRH2X60-AWS - RRU			
17		3	Alcatel Lucent RRH2X60-PCS - RRU			
18		3	Antel BXA-70063-6CF-EDIN-0 - Panel			
19		3	Antel BXA-70080-4CF-EDIN-0 - Panel			
20		6	Commscope SBNHH-1D65B - Panel			
21	2	RFS DB-T1-6Z-8AB-OZ – Distribution Box				
22	131.0	3	Commscope LNX-6515DS - Panel	(3) T-Arms (Site Pro P/N UDS-NPL)	(18) 7/8"	T-Mobile
23		3	Ericsson KRY 144/1			
24		3	Kathrein 782 11056			
25		3	RFS APX16DWV-16DWVS-C - Panel			
26		3	RFS ATM1412D-1A20			
-	123.0	2	RFS - APXVSP18-C-A20 - Panel	Low Profile Platform	(4) 1-1/4" Fiber	Sprint Nextel
-		1	RFS - APXVSP18-C-A20 (50 lb) - Panel			
-		3	RFS - APXVTM14-C-I20 - Panel			
-		4	RFS - ACU-A20-N - RET			
-		3	ALU - TD-RRH8x20-25 - RRU			
-		3	ALU - 1900 MHz RRH			
-		3	ALU - 800 MHz RRH			
-		3	ALU - 800 MHz Filter			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
27	123.0	2	RFS - APXVSP18-C-A20 - Panel	Platform w/ Handrail Kit [SitePro1 HRK14]	(4) 1-1/4" Fiber	Sprint Nextel
28		1	RFS - APXVSP18-C-A20 (50 lb) - Panel			
29		3	RFS - APXVTM14-C-I20 - Panel			
30		4	RFS - ACU-A20-N - RET			
31		3	ALU - TD-RRH8x20-25 - RRU			
32		3	ALU - 1900 MHz RRH - RRU			
33		3	ALU - 800 MHz RRH - RRU			
34		3	ALU - 800 MHz Filter			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	86.2%	75.0%	80.5%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	3640.6	32.7	80.7

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.1221 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 86.20% at 0.0ft

Structure: CT10022-A-SBA
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: C
Gh: 1.1

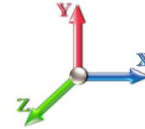
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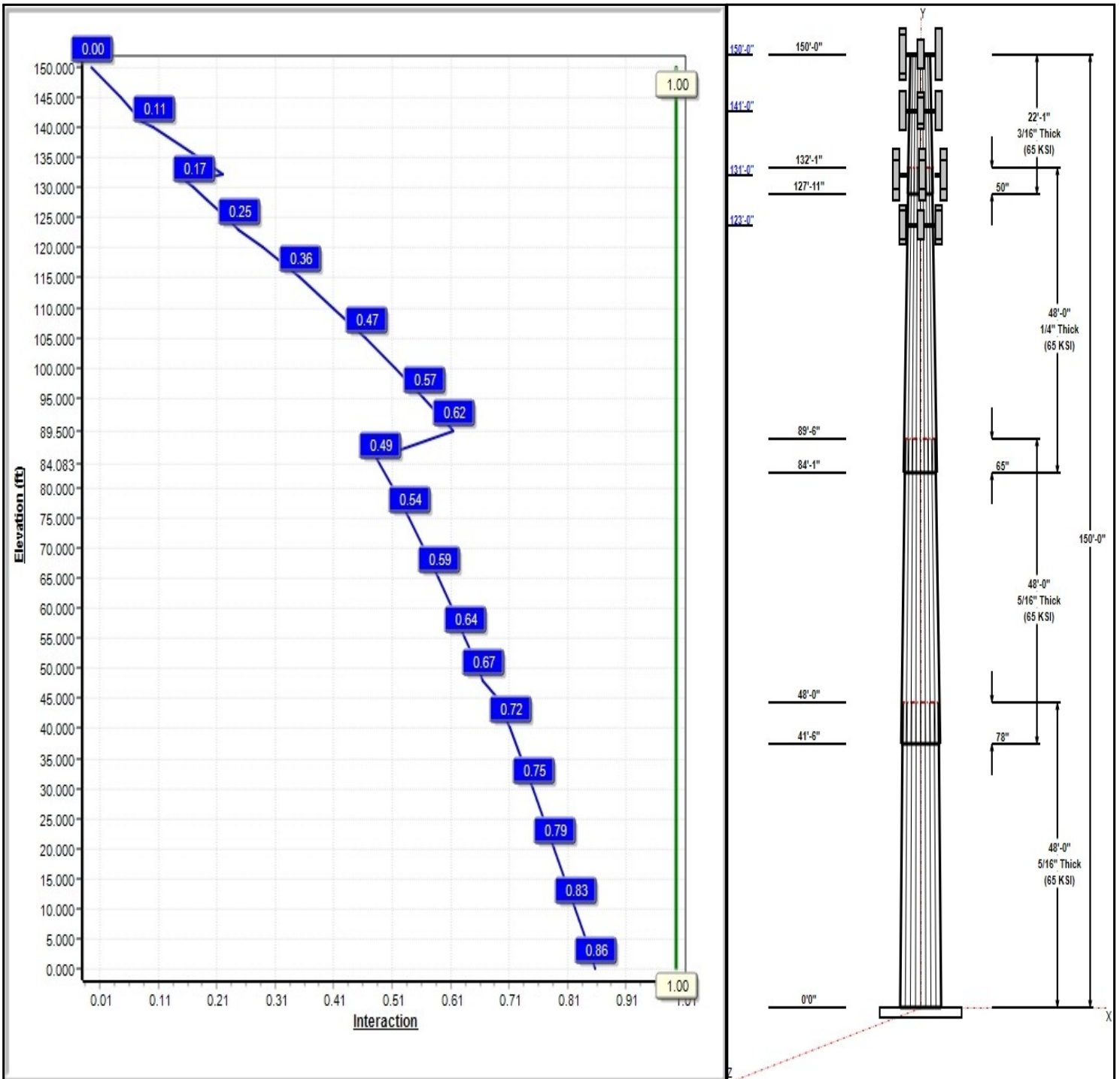
Dead Load Factor: 1.20
 Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 23

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Structure: CT10022-A-SBA

Type: Tapered
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23136

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Shaft Properties

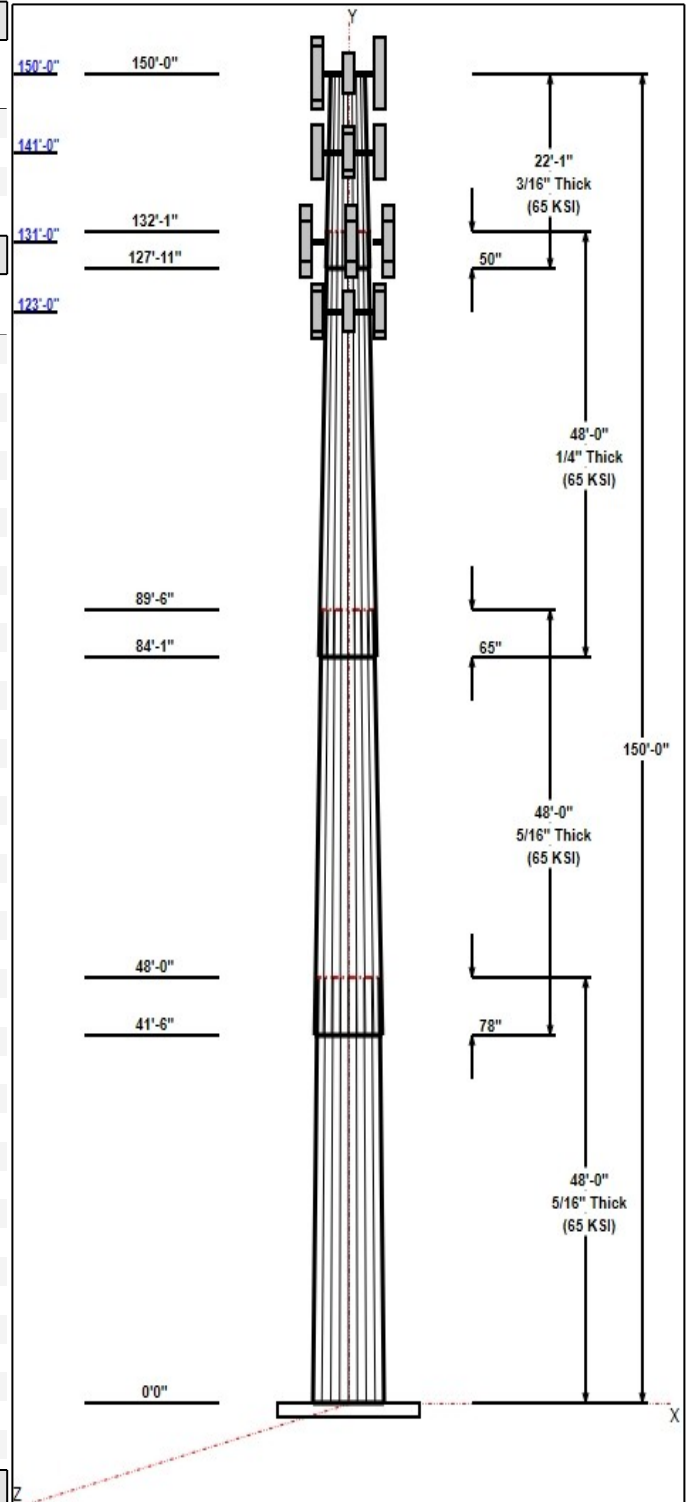
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	50.39	61.50	0.313		0.23136	65
2	48.00	41.42	52.52	0.313	Slip	0.23136	65
3	48.00	32.07	43.17	0.250	Slip	0.23136	65
4	22.08	28.30	33.41	0.188	Slip	0.23136	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	150.00	1	KMW	AT&T
150.00	150.00	2	Powerwave	AT&T
150.00	150.00	3	Kathrein 800 10121	AT&T
150.00	150.00	6	CCI	AT&T
150.00	150.00	3	Ericsson RRUS-11-RRUs	AT&T
150.00	150.00	1	Commscope	AT&T
150.00	150.00	3	CSS DBC-750-Combiners	AT&T
150.00	149.00	1	Low Profile Platform	AT&T
150.00	151.00	2	Raycap	AT&T
150.00	150.00	2	CCI	AT&T
150.00	150.00	1	Quintel QS66512-3	AT&T
150.00	150.00	6	CCI TPX-070821-Diplexers	AT&T
150.00	150.00	3	Ericsson RRUS-32-RRHs	AT&T
150.00	150.00	3	Ericsson RRUS 32	AT&T
150.00	150.00	1	LMU	AT&T
141.00	141.00	3	Antel	Verizon
141.00	141.00	6	Commscope	Verizon
141.00	141.00	3	Antel	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
141.00	141.00	1	Low Profile Platform	Verizon
141.00	141.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
131.00	131.00	3	RFS	T-Mobile
131.00	131.00	3	Commscope LNX-6515DS	T-Mobile
131.00	131.00	3	RFS ATM1412D-1A20	T-Mobile
131.00	131.00	3	Ericsson KRY 144/1	T-Mobile
131.00	131.00	3	Kathrein 782 11056	T-Mobile
131.00	131.00	3	T-Arms (Site Pro P/N	T-Mobile
123.00	123.00	3	APXVTM14-C-I20	Sprint Nextel
123.00	123.00	2	APXVSP18-C-A20	Sprint Nextel
123.00	123.00	3	ALU - TD-RRH8x20-25 -	Sprint Nextel
123.00	123.00	3	ALU - 1900 MHz RRH -	Sprint Nextel
123.00	123.00	3	ALU - 800 MHz RRH -	Sprint Nextel
123.00	123.00	4	RFS - ACU-A20-N - RET	Sprint Nextel
123.00	123.00	1	Platform w/ HRK Handrail	Sprint Nextel
123.00	123.00	1	APXVSP18-C-A20 (50 lb)	Sprint Nextel
123.00	123.00	3	ALU - 800 MHz Filter	Sprint Nextel

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	150.00	Inside	1 5/8" Coax	AT&T
0.00	150.00	Inside	1/2" DC	AT&T
0.00	150.00	Inside	3" Conduit	AT&T



Structure: CT10022-A-SBA

Type: Tapered
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23136

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0.00	150.00	Inside	3/8" Fiber	AT&T
0.00	141.00	Inside	1 5/8" Coax	Verizon
0.00	141.00	Inside	1 5/8" Hybrid	Verizon
0.00	131.00	Inside	7/8" Coax	T-Mobile
0.00	123.00	Inside	1-1/4" Fiber	Sprint Nextel

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
14	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	73.5	50.0	Round

Reactions

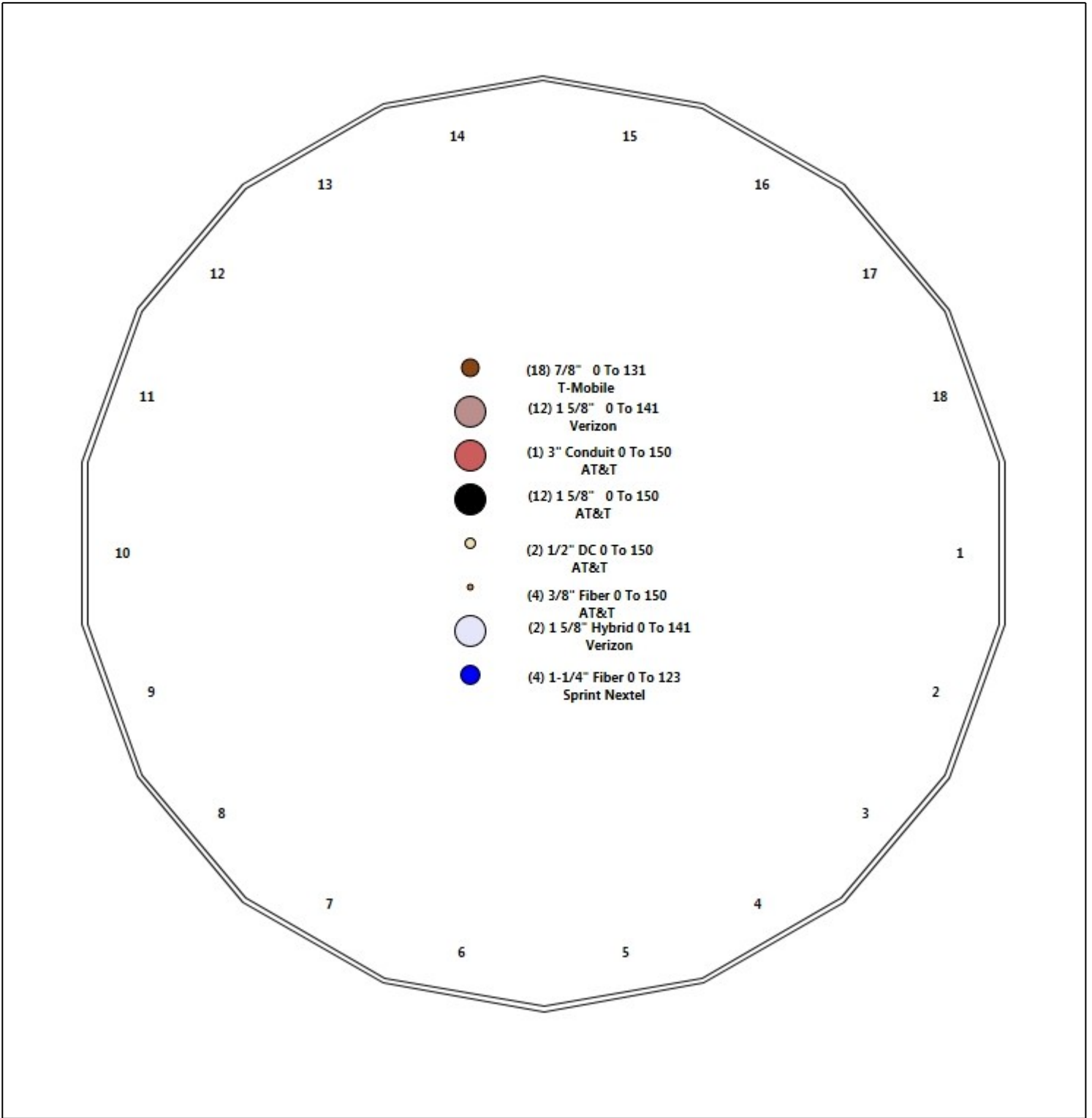
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	3640.6	32.7	45.4
0.9D + 1.6W 93 mph Wind	3607.1	32.6	34.0
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1239.5	10.9	80.7
1.2D + 1.0E	248.8	2.0	45.5
0.9D + 1.0E	246.3	2.0	34.1
1.0D + 1.0W 60 mph Wind	942.1	8.5	37.9

Structure: CT10022-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Simsbury 2, CT
Height: 150.00 (ft)

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Shaft Properties

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.3125	65		0.00	9,013
2	18	48.000	0.3125	65	Slip	78.00	7,559
3	18	48.000	0.2500	65	Slip	65.00	4,843
4	18	22.083	0.1875	65	Slip	50.00	1,371
Total Shaft Weight:							22,786

Bottom

Top

Sec. No.	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
1	61.50	0.00	60.69	28706.65	33.29	196.80	50.39	48.00	49.67	15741.4	27.02	161.2	0.231360
2	52.52	41.50	51.78	17835.36	28.23	168.08	41.42	89.50	40.77	8703.68	21.96	132.5	0.231360
3	43.17	84.08	34.06	7926.99	29.04	172.69	32.07	132.08	25.25	3228.71	21.21	128.2	0.231360
4	33.41	127.9	19.77	2755.84	30.00	178.16	28.30	150.00	16.73	1669.78	25.20	150.9	0.231360

Load Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	150.00	KMW AM-X-CD-16-65-00T-RET	1	70.50	8.02	0.87	385.02	11.745	0.90	0.00	0.00
2	150.00	Powerwave P65-17-XLH-RR	2	88.30	11.44	0.88	520.53	15.752	0.92	0.00	0.00
3	150.00	Kathrein 800 10121	3	62.40	5.15	0.90	279.10	7.959	0.92	0.00	0.00
4	150.00	CCI DTMABP7819VG12A-TMAs	6	19.20	1.14	0.67	53.23	2.166	0.70	0.00	0.00
5	150.00	Ericsson RRUS-11-RRUs	3	55.00	2.52	0.67	158.92	3.364	1.00	0.00	0.00
6	150.00	Commscope ABT-DRDM-ADBH-Bias	1	1.10	0.05	0.67	4.07	0.307	1.00	0.00	0.00
7	150.00	CSS DBC-750-Combiners	3	4.80	0.51	0.67	17.69	1.216	1.00	0.00	0.00
8	150.00	Low Profile Platform	1	1500.00	22.00	1.00	3245.22	45.549	1.00	0.00	-1.00
9	150.00	Raycap DC6-48-60-18-8F-DC	2	32.80	1.47	0.67	117.83	2.403	1.00	0.00	1.00
10	150.00	CCI TPA-65R-LCUUUU-H8	2	75.00	13.43	0.79	641.29	18.405	0.84	0.00	0.00
11	150.00	Quintel QS66512-3	1	105.00	8.13	0.90	425.90	9.900	0.96	0.00	0.00
12	150.00	CCI TPX-070821-Diplexers	6	3.30	0.43	0.67	15.18	1.122	0.75	0.00	0.00
13	150.00	Ericsson RRUS-32-RRHs	3	77.00	3.87	0.67	239.13	4.396	1.00	0.00	0.00
14	150.00	Ericsson RRUS 32 B2-RRHs	3	53.00	2.74	0.67	179.89	3.737	1.00	0.00	0.00
15	150.00	LMU	1	28.00	0.88	0.67	100.43	1.765	1.00	0.00	0.00
16	141.00	Antel BXA-70080-4CF-EDIN-0	3	30.30	3.56	1.02	325.95	6.007	1.04	0.00	0.00
17	141.00	Commscope SBNHH-1D65B	6	72.70	8.08	0.91	356.08	9.802	0.93	0.00	0.00
18	141.00	Antel BXA-70063-6CF-EDIN-0	3	39.00	7.57	0.86	286.06	9.279	0.89	0.00	0.00
19	141.00	Alcatel Lucent RRH2X60-AWS	3	60.00	3.50	0.50	175.67	4.546	0.79	0.00	0.00
20	141.00	Alcatel Lucent RRH2X60-PCS	3	55.00	1.51	0.90	175.77	3.068	0.90	0.00	0.00
21	141.00	Alcatel Lucent RRH2X60-700	3	60.00	3.50	0.50	175.67	4.546	0.79	0.00	0.00
22	141.00	RFS DB-T1-6Z-8AB-OZ	1	21.40	4.10	0.96	178.58	5.162	0.99	0.00	0.00
23	141.00	Low Profile Platform	1	1500.00	22.00	1.00	3234.45	45.404	1.00	0.00	0.00
24	141.00	RFS DB-T1-6Z-8AB-OZ	1	21.40	4.10	0.96	178.58	5.162	0.99	0.00	0.00
25	131.00	RFS APX16DWV-16DWVS-C	3	62.70	6.46	0.74	295.76	9.313	0.78	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	79.10	11.47	0.92	558.70	15.767	0.95	0.00	0.00
27	131.00	RFS ATM1412D-1A20	3	13.00	1.17	0.73	47.96	2.199	0.76	0.00	0.00
28	131.00	Ericsson KRY 144/1	3	11.00	0.41	0.70	25.18	1.035	0.73	0.00	0.00
29	131.00	Kathrein 782 11056	3	11.00	0.66	0.76	31.75	1.462	0.79	0.00	0.00
30	131.00	T-Arms (Site Pro P/N UDS-NPL)	3	132.00	8.00	0.75	253.21	17.183	1.00	0.00	0.00
31	123.00	APXVTM14-C-I20	3	55.00	6.34	0.85	277.88	7.824	0.88	0.00	0.00
32	123.00	APXVSP18-C-A20	2	57.00	8.02	0.91	282.94	11.672	0.83	0.00	0.00
33	123.00	ALU - TD-RRH8x20-25 - RRU	3	70.00	4.05	0.69	223.81	5.138	0.75	0.00	0.00
34	123.00	ALU - 1900 MHz RRH - RRU	3	60.00	2.71	0.98	165.56	4.362	1.00	0.00	0.00
35	123.00	ALU - 800 MHz RRH - RRU	3	53.00	2.49	0.92	149.68	3.985	0.95	0.00	0.00
36	123.00	RFS - ACU-A20-N - RET	4	1.00	0.14	0.79	6.62	0.528	0.82	0.00	0.00
37	123.00	Platform w/ HRK Handrail Kit	1	1600.00	32.00	1.00	3424.98	65.580	1.00	0.00	0.00
38	123.00	APXVSP18-C-A20 (50 lb)	1	50.00	8.02	0.91	248.19	11.672	0.83	0.00	0.00
39	123.00	ALU - 800 MHz Filter	3	8.80	0.78	0.67	31.86	1.626	0.67	0.00	0.00
Totals:			103	9,135.10			29,349.58				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	150.00	(12) 1 5/8" Coax	0.00	Inside
0.00	150.00	(2) 1/2" DC	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	150.00	(1) 3" Conduit		0.00		Inside					
0.00	150.00	(4) 3/8" Fiber		0.00		Inside					
0.00	141.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	141.00	(2) 1 5/8" Hybrid		0.00		Inside					
0.00	131.00	(18) 7/8" Coax		0.00		Inside					
0.00	123.00	(4) 1-1/4" Fiber		0.00		Inside					

Shaft Section Properties

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 8

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3125	61.500	60.688	28706.7	33.29	196.80	62.2	919.4	0.0
5.00		0.3125	60.343	59.541	27109.1	32.64	193.10	63.0	884.8	1022.8
10.00		0.3125	59.186	58.393	25571.9	31.99	189.40	63.8	851.0	1003.3
15.00		0.3125	58.030	57.246	24093.9	31.33	185.69	64.5	817.8	983.7
20.00		0.3125	56.873	56.099	22674.1	30.68	181.99	65.3	785.2	964.2
25.00		0.3125	55.716	54.951	21311.1	30.03	178.29	66.1	753.4	944.7
30.00		0.3125	54.559	53.804	20003.9	29.37	174.59	66.9	722.2	925.2
35.00		0.3125	53.402	52.657	18751.2	28.72	170.89	67.6	691.6	905.7
40.00		0.3125	52.246	51.509	17552.0	28.07	167.19	68.4	661.7	886.1
41.50	Bot - Section 2	0.3125	51.899	51.165	17202.5	27.87	166.08	68.6	652.9	262.0
45.00		0.3125	51.089	50.362	16405.0	27.42	163.48	69.2	632.5	1216.5
48.00	Top - Section 1	0.3125	51.020	50.293	16338.2	27.38	163.26	0.0	0.0	1027.5
50.00		0.3125	50.557	49.834	15895.0	27.12	161.78	69.5	619.2	340.7
55.00		0.3125	49.400	48.687	14822.2	26.46	158.08	70.3	591.0	838.1
60.00		0.3125	48.243	47.540	13798.8	25.81	154.38	71.0	563.4	818.6
65.00		0.3125	47.087	46.392	12823.6	25.16	150.68	71.8	536.4	799.1
70.00		0.3125	45.930	45.245	11895.5	24.51	146.98	72.6	510.1	779.6
75.00		0.3125	44.773	44.098	11013.3	23.85	143.27	73.3	484.5	760.0
80.00		0.3125	43.616	42.950	10175.8	23.20	139.57	74.1	459.5	740.5
84.08	Bot - Section 3	0.3125	42.671	42.013	9524.3	22.67	136.55	74.7	439.6	590.3
85.00		0.3125	42.459	41.803	9381.9	22.55	135.87	74.9	435.2	236.7
89.50	Top - Section 2	0.2500	41.918	33.063	7252.7	28.15	167.67	0.0	0.0	1144.8
90.00		0.2500	41.803	32.971	7192.5	28.07	167.21	68.4	338.9	56.2
95.00		0.2500	40.646	32.053	6608.3	27.26	162.58	69.3	320.2	553.2
100.00		0.2500	39.489	31.135	6056.7	26.44	157.96	70.3	302.1	537.5
105.00		0.2500	38.332	30.217	5536.7	25.63	153.33	71.3	284.5	521.9
110.00		0.2500	37.175	29.299	5047.3	24.81	148.70	72.2	267.4	506.3
115.00		0.2500	36.019	28.381	4587.6	23.99	144.07	73.2	250.9	490.7
120.00		0.2500	34.862	27.463	4156.8	23.18	139.45	74.1	234.8	475.1
123.00		0.2500	34.168	26.913	3911.7	22.69	136.67	74.7	225.5	277.5
125.00		0.2500	33.705	26.546	3753.8	22.36	134.82	75.1	219.4	181.9
127.92	Bot - Section 4	0.2500	33.030	26.010	3531.2	21.89	132.12	75.7	210.6	260.8
130.00		0.2500	32.548	25.628	3377.7	21.55	130.19	76.1	204.4	322.2
131.00		0.2500	32.317	25.444	3305.6	21.38	129.27	76.3	201.5	152.9
132.08	Top - Section 3	0.1875	32.441	19.194	2522.8	29.10	173.02	0.0	0.0	164.5
135.00		0.1875	31.766	18.793	2367.8	28.46	169.42	67.9	146.8	188.5
140.00		0.1875	30.610	18.104	2117.0	27.37	163.25	69.2	136.2	313.9
141.00		0.1875	30.378	17.967	2069.0	27.16	162.02	69.5	134.1	61.4
145.00		0.1875	29.453	17.416	1884.5	26.29	157.08	70.5	126.0	240.8
150.00		0.1875	28.296	16.727	1669.8	25.20	150.91	71.8	116.2	290.5
										22785.8

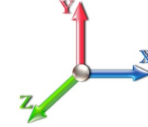
Wind Loading - Shaft

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 9
	Struct Class: II	



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	17.879	19.67	446.21	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	437.81	0.650	0.000	5.00	25.776	16.75	527.2	0.0	1227.3
10.00		1.00	0.85	17.879	19.67	429.42	0.650	0.000	5.00	25.286	16.44	517.2	0.0	1203.9
15.00		1.00	0.85	17.879	19.67	421.03	0.650	0.000	5.00	24.797	16.12	507.2	0.0	1180.5
20.00		1.00	0.90	18.971	20.87	425.04	0.650	0.000	5.00	24.307	15.80	527.5	0.0	1157.1
25.00		1.00	0.95	19.883	21.87	426.29	0.650	0.000	5.00	23.818	15.48	541.8	0.0	1133.6
30.00		1.00	0.98	20.661	22.73	425.53	0.650	0.000	5.00	23.328	15.16	551.4	0.0	1110.2
35.00		1.00	1.01	21.343	23.48	423.32	0.650	0.000	5.00	22.839	14.85	557.6	0.0	1086.8
40.00		1.00	1.04	21.951	24.15	420.01	0.650	0.000	5.00	22.350	14.53	561.2	0.0	1063.4
41.50	Bot - Section 2	1.00	1.05	22.122	24.33	418.84	0.650	0.000	1.50	6.609	4.30	167.3	0.0	314.4
45.00		1.00	1.07	22.502	24.75	415.84	0.650	0.000	3.50	15.436	10.03	397.4	0.0	1459.8
48.00	Top - Section 1	1.00	1.08	22.810	25.09	412.98	0.650	0.000	3.00	13.040	8.48	340.3	0.0	1233.0
50.00		1.00	1.09	23.007	25.31	416.10	0.650	0.000	2.00	8.595	5.59	226.2	0.0	408.9
55.00		1.00	1.12	23.473	25.82	410.68	0.650	0.000	5.00	21.146	13.74	567.8	0.0	1005.7
60.00		1.00	1.14	23.907	26.30	404.75	0.650	0.000	5.00	20.656	13.43	564.9	0.0	982.3
65.00		1.00	1.16	24.313	26.74	398.39	0.650	0.000	5.00	20.167	13.11	560.9	0.0	958.9
70.00		1.00	1.17	24.696	27.17	391.64	0.650	0.000	5.00	19.677	12.79	555.9	0.0	935.5
75.00		1.00	1.19	25.057	27.56	384.56	0.650	0.000	5.00	19.188	12.47	550.0	0.0	912.0
80.00		1.00	1.21	25.400	27.94	377.18	0.650	0.000	5.00	18.698	12.15	543.3	0.0	888.6
84.08	Bot - Section 3	1.00	1.22	25.667	28.23	370.95	0.650	0.000	4.08	14.907	9.69	437.7	0.0	708.3
85.00		1.00	1.22	25.726	28.30	369.53	0.650	0.000	0.92	3.340	2.17	98.3	0.0	284.0
89.50	Top - Section 2	1.00	1.24	26.007	28.61	362.43	0.650	0.000	4.50	16.160	10.50	480.8	0.0	1373.8
90.00		1.00	1.24	26.037	28.64	366.01	0.650	0.000	0.50	1.771	1.15	52.8	0.0	67.4
95.00		1.00	1.25	26.336	28.97	357.91	0.650	0.000	5.00	17.442	11.34	525.5	0.0	663.8
100.00		1.00	1.27	26.621	29.28	349.61	0.650	0.000	5.00	16.952	11.02	516.3	0.0	645.0
105.00		1.00	1.28	26.896	29.59	341.11	0.650	0.000	5.00	16.463	10.70	506.6	0.0	626.3
110.00		1.00	1.29	27.161	29.88	332.44	0.650	0.000	5.00	15.973	10.38	496.3	0.0	607.6
115.00		1.00	1.30	27.416	30.16	323.61	0.650	0.000	5.00	15.484	10.06	485.6	0.0	588.8
120.00		1.00	1.32	27.663	30.43	314.62	0.650	0.000	5.00	14.995	9.75	474.5	0.0	570.1
123.08	Appurtenance(s)	1.00	1.32	27.807	30.59	309.16	0.650	0.000	3.00	8.762	5.70	278.7	0.0	333.1
125.00		1.00	1.33	27.902	30.69	305.49	0.650	0.000	2.00	5.743	3.73	183.3	0.0	218.3
127.92	Bot - Section 4	1.00	1.33	28.038	30.84	300.10	0.650	0.000	2.92	8.235	5.35	264.1	0.0	313.0
130.00		1.00	1.34	28.133	30.95	296.23	0.650	0.000	2.08	5.846	3.80	188.2	0.0	386.6
131.00	Appurtenance(s)	1.00	1.34	28.179	31.00	294.36	0.650	0.000	1.00	2.776	1.80	89.5	0.0	183.5
132.08	Top - Section 3	1.00	1.34	28.228	31.05	292.33	0.650	0.000	1.08	2.985	1.94	96.4	0.0	197.4
135.00		1.00	1.35	28.358	31.19	290.26	0.650	0.000	2.92	7.923	5.15	257.0	0.0	226.2
140.00		1.00	1.36	28.576	31.43	280.76	0.650	0.000	5.00	13.195	8.58	431.4	0.0	376.7
141.00	Appurtenance(s)	1.00	1.36	28.619	31.48	278.85	0.650	0.000	1.00	2.580	1.68	84.5	0.0	73.6
145.00		1.00	1.37	28.788	31.67	271.15	0.650	0.000	4.00	10.126	6.58	333.5	0.0	289.0
150.00	Appurtenance(s)	1.00	1.38	28.994	31.89	261.43	0.650	0.000	5.00	12.217	7.94	405.2	0.0	348.5
Totals:								150.00			15,451.5	27,342.9		

Discrete Appurtenance Forces

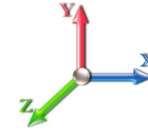
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	CSS DBC-750-Combiners	3	28.994	31.893	0.60	0.90	0.92	17.28	0.000	0.000	47.08	0.00	0.00
2	150.00	KMW	1	28.994	31.893	0.78	0.90	6.26	84.60	0.000	0.000	319.34	0.00	0.00
3	150.00	Powerwave	2	28.994	31.893	0.79	0.90	18.10	211.92	0.000	0.000	923.64	0.00	0.00
4	150.00	Kathrein 800 10121	3	28.994	31.893	0.81	0.90	12.57	224.64	0.000	0.000	641.44	0.00	0.00
5	150.00	CCI	6	28.994	31.893	0.60	0.90	4.12	138.24	0.000	0.000	210.47	0.00	0.00
6	150.00	Ericsson RRUS-11-RRUs	3	28.994	31.893	0.60	0.90	4.56	198.00	0.000	0.000	232.62	0.00	0.00
7	150.00	Commscope	1	28.994	31.893	0.60	0.90	0.03	1.32	0.000	0.000	1.54	0.00	0.00
8	150.00	CCI	6	28.994	31.893	0.60	0.90	1.56	23.76	0.000	0.000	79.39	0.00	0.00
9	150.00	Raycap	2	29.034	31.938	0.60	0.90	1.77	78.72	0.000	1.000	90.59	0.00	90.59
10	150.00	Quintel QS66512-3	1	28.994	31.893	0.81	0.90	6.59	126.00	0.000	0.000	336.04	0.00	0.00
11	150.00	CCI	2	28.994	31.893	0.71	0.90	19.10	180.00	0.000	0.000	974.52	0.00	0.00
12	150.00	Low Profile Platform	1	28.953	31.848	1.00	1.00	22.00	1800.00	0.000	-1.000	1121.06	0.00	-1121.06
13	150.00	LMU	1	28.994	31.893	0.60	0.90	0.53	33.60	0.000	0.000	27.08	0.00	0.00
14	150.00	Ericsson RRUS 32	3	28.994	31.893	0.60	0.90	4.96	190.80	0.000	0.000	252.93	0.00	0.00
15	150.00	Ericsson RRUS-32-RRHs	3	28.994	31.893	0.60	0.90	7.00	277.20	0.000	0.000	357.25	0.00	0.00
16	141.00	RFS DB-T1-6Z-8AB-OZ	1	28.619	31.480	0.77	0.80	3.15	25.68	0.000	0.000	158.60	0.00	0.00
17	141.00	Low Profile Platform	1	28.619	31.480	0.80	0.80	17.60	1800.00	0.000	0.000	886.49	0.00	0.00
18	141.00	RFS DB-T1-6Z-8AB-OZ	1	28.619	31.480	0.77	0.80	3.15	25.68	0.000	0.000	158.60	0.00	0.00
19	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	216.00	0.000	0.000	211.55	0.00	0.00
20	141.00	Alcatel Lucent	3	28.619	31.480	0.72	0.80	3.26	198.00	0.000	0.000	164.28	0.00	0.00
21	141.00	Antel	3	28.619	31.480	0.69	0.80	15.62	140.40	0.000	0.000	786.98	0.00	0.00
22	141.00	Commscope	6	28.619	31.480	0.73	0.80	35.22	523.44	0.000	0.000	1773.77	0.00	0.00
23	141.00	Antel	3	28.619	31.480	0.82	0.80	8.71	109.08	0.000	0.000	438.96	0.00	0.00
24	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	216.00	0.000	0.000	211.55	0.00	0.00
25	131.00	RFS ATM1412D-1A20	3	28.179	30.997	0.58	0.80	2.05	46.80	0.000	0.000	101.66	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	28.179	30.997	0.74	0.80	25.30	284.76	0.000	0.000	1254.65	0.00	0.00
27	131.00	RFS	3	28.179	30.997	0.60	0.80	11.55	225.72	0.000	0.000	572.84	0.00	0.00
28	131.00	Kathrein 782 11056	3	28.179	30.997	0.61	0.80	1.20	39.60	0.000	0.000	59.70	0.00	0.00
29	131.00	T-Arms (Site Pro P/N	3	28.179	30.997	0.56	0.75	13.50	475.20	0.000	0.000	669.53	0.00	0.00
30	131.00	Ericsson KRY 144/1	3	28.179	30.997	0.56	0.80	0.69	39.60	0.000	0.000	34.16	0.00	0.00
31	123.00	ALU - 1900 MHz RRH -	3	27.807	30.588	0.78	0.80	6.37	216.00	0.000	0.000	311.95	0.00	0.00
32	123.00	APXVTM14-C-I20	3	27.807	30.588	0.68	0.80	12.96	198.00	0.000	0.000	634.47	0.00	0.00
33	123.00	APXVSP18-C-A20	2	27.807	30.588	0.72	0.80	11.63	136.80	0.000	0.000	568.98	0.00	0.00
34	123.00	ALU - TD-RRH8x20-25 -	3	27.807	30.588	0.55	0.80	6.71	252.00	0.000	0.000	328.24	0.00	0.00
35	123.00	Platform w/ HRK Handrail	1	27.807	30.588	1.00	1.00	32.00	1920.00	0.000	0.000	1566.11	0.00	0.00
36	123.00	ALU - 800 MHz RRH -	3	27.807	30.588	0.74	0.80	5.50	190.80	0.000	0.000	269.07	0.00	0.00
37	123.00	RFS - ACU-A20-N - RET	4	27.807	30.588	0.63	0.80	0.35	4.80	0.000	0.000	17.32	0.00	0.00
38	123.00	APXVSP18-C-A20 (50	1	27.807	30.588	0.72	0.80	5.81	60.00	0.000	0.000	284.49	0.00	0.00
39	123.00	ALU - 800 MHz Filter	3	27.807	30.588	0.54	0.80	1.25	31.68	0.000	0.000	61.38	0.00	0.00

Totals: 10,962.12

17,140.33

Total Applied Force Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

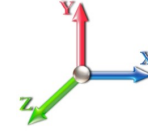


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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	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		527.21	1482.37	0.00	0.00
10.00		517.20	1458.95	0.00	0.00
15.00		507.19	1435.52	0.00	0.00
20.00		527.53	1412.10	0.00	0.00
25.00		541.77	1388.67	0.00	0.00
30.00		551.40	1365.25	0.00	0.00
35.00		557.63	1341.82	0.00	0.00
40.00		561.24	1318.40	0.00	0.00
41.50		167.27	390.95	0.00	0.00
45.00		397.36	1638.37	0.00	0.00
48.00		340.27	1386.05	0.00	0.00
50.00		226.23	510.87	0.00	0.00
55.00		567.83	1260.78	0.00	0.00
60.00		564.94	1237.35	0.00	0.00
65.00		560.93	1213.93	0.00	0.00
70.00		555.92	1190.50	0.00	0.00
75.00		550.03	1167.08	0.00	0.00
80.00		543.33	1143.65	0.00	0.00
84.08		437.73	916.60	0.00	0.00
85.00		98.31	330.78	0.00	0.00
89.50		480.79	1603.29	0.00	0.00
90.00		52.76	92.91	0.00	0.00
95.00		525.48	918.82	0.00	0.00
100.00		516.28	900.08	0.00	0.00
105.00		506.55	881.34	0.00	0.00
110.00		496.33	862.60	0.00	0.00
115.00		485.65	843.86	0.00	0.00
120.00		474.53	825.12	0.00	0.00
123.00	(23) attachments	4320.74	3496.16	0.00	0.00
125.00		183.33	311.14	0.00	0.00
127.92		264.15	448.38	0.00	0.00
130.00		188.17	483.31	0.00	0.00
131.00	(18) attachments	2782.04	1341.65	0.00	0.00
132.08		96.41	235.48	0.00	0.00
135.00		257.04	328.86	0.00	0.00
140.00		431.37	552.64	0.00	0.00
141.00	(24) attachments	4875.26	3363.12	0.00	0.00
145.00		333.47	359.28	0.00	0.00
150.00	(38) attachments	6020.20	4022.53	0.00	-1030.47
	Totals:	32,591.84	45,460.55	0.00	-1,030.47

Calculated Forces

Structure: CT10022-A-SBA
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

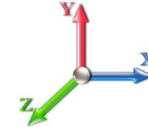
Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

3/1/2018
 Page: 12



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.41	-32.66	0.00	-3640.6	0.00	3640.60	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.862
5.00	-43.83	-32.27	0.00	-3477.2	0.00	3477.29	3376.67	1688.33	8351.12	4181.77	0.10	-0.176	0.000	0.845
10.00	-42.27	-31.88	0.00	-3315.9	0.00	3315.94	3351.94	1675.97	8129.40	4070.74	0.38	-0.355	0.000	0.828
15.00	-40.74	-31.49	0.00	-3156.5	0.00	3156.56	3325.63	1662.82	7906.28	3959.02	0.84	-0.535	0.000	0.810
20.00	-39.24	-31.07	0.00	-2999.1	0.00	2999.12	3297.74	1648.87	7681.99	3846.70	1.50	-0.716	0.000	0.792
25.00	-37.76	-30.63	0.00	-2843.7	0.00	2843.77	3268.26	1634.13	7456.75	3733.92	2.35	-0.900	0.000	0.774
30.00	-36.30	-30.17	0.00	-2690.6	0.00	2690.62	3237.20	1618.60	7230.79	3620.77	3.39	-1.084	0.000	0.755
35.00	-34.88	-29.70	0.00	-2539.7	0.00	2539.76	3204.54	1602.27	7004.35	3507.38	4.63	-1.270	0.000	0.735
40.00	-33.51	-29.18	0.00	-2391.2	0.00	2391.26	3170.31	1585.15	6777.64	3393.86	6.06	-1.457	0.000	0.715
41.50	-33.08	-29.06	0.00	-2347.4	0.00	2347.49	3159.73	1579.86	6709.61	3359.79	6.53	-1.515	0.000	0.710
45.00	-31.39	-28.68	0.00	-2245.7	0.00	2245.79	3134.49	1567.24	6550.90	3280.32	7.69	-1.648	0.000	0.695
48.00	-29.96	-28.35	0.00	-2159.7	0.00	2159.74	3132.30	1566.15	6537.37	3273.54	8.76	-1.762	0.000	0.670
50.00	-29.40	-28.18	0.00	-2103.0	0.00	2103.03	3117.49	1558.74	6446.72	3228.15	9.52	-1.840	0.000	0.661
55.00	-28.07	-27.66	0.00	-1962.1	0.00	1962.15	3079.35	1539.68	6220.34	3114.79	11.54	-2.021	0.000	0.639
60.00	-26.77	-27.13	0.00	-1823.8	0.00	1823.87	3039.63	1519.81	5994.49	3001.70	13.76	-2.203	0.000	0.617
65.00	-25.49	-26.60	0.00	-1688.2	0.00	1688.22	2998.32	1499.16	5769.39	2888.98	16.16	-2.384	0.000	0.593
70.00	-24.25	-26.07	0.00	-1555.2	0.00	1555.22	2955.43	1477.72	5545.28	2776.76	18.76	-2.564	0.000	0.569
75.00	-23.03	-25.54	0.00	-1424.8	0.00	1424.86	2910.95	1455.48	5322.38	2665.15	21.54	-2.742	0.000	0.543
80.00	-21.84	-25.00	0.00	-1297.1	0.00	1297.17	2864.89	1432.44	5100.92	2554.25	24.50	-2.918	0.000	0.516
84.08	-20.91	-24.55	0.00	-1195.0	0.00	1195.09	2826.09	1413.05	4921.28	2464.30	27.06	-3.060	0.000	0.493
85.00	-20.55	-24.46	0.00	-1172.5	0.00	1172.59	2817.24	1408.62	4881.12	2444.19	27.65	-3.093	0.000	0.487
89.50	-18.94	-23.92	0.00	-1062.5	0.00	1062.50	2031.94	1015.97	3485.43	1745.31	30.64	-3.245	0.000	0.619
90.00	-18.80	-23.90	0.00	-1050.5	0.00	1050.54	2029.15	1014.57	3470.92	1738.04	30.98	-3.262	0.000	0.614
95.00	-17.84	-23.38	0.00	-931.03	0.00	931.03	2000.34	1000.17	3325.82	1665.38	34.50	-3.458	0.000	0.569
100.00	-16.90	-22.87	0.00	-814.12	0.00	814.12	1969.95	984.97	3180.92	1592.82	38.23	-3.646	0.000	0.520
105.00	-15.99	-22.35	0.00	-699.79	0.00	699.79	1937.97	968.98	3036.44	1520.48	42.14	-3.824	0.000	0.469
110.00	-15.10	-21.84	0.00	-588.04	0.00	588.04	1904.40	952.20	2892.62	1448.46	46.23	-3.989	0.000	0.414
115.00	-14.24	-21.33	0.00	-478.85	0.00	478.85	1869.25	934.63	2749.69	1376.89	50.49	-4.140	0.000	0.356
120.00	-13.42	-20.82	0.00	-372.20	0.00	372.20	1832.52	916.26	2607.87	1305.87	54.90	-4.272	0.000	0.293
123.00	-10.24	-16.26	0.00	-309.74	0.00	309.74	1809.72	904.86	2523.40	1263.58	57.60	-4.342	0.000	0.251
125.00	-9.93	-16.06	0.00	-277.23	0.00	277.23	1794.20	897.10	2467.38	1235.52	59.43	-4.384	0.000	0.230
127.92	-9.49	-15.77	0.00	-230.39	0.00	230.39	1771.11	885.56	2386.14	1194.84	62.13	-4.441	0.000	0.198
130.00	-9.01	-15.55	0.00	-197.54	0.00	197.54	1754.29	877.15	2328.47	1165.96	64.07	-4.476	0.000	0.175
131.00	-7.89	-12.67	0.00	-181.99	0.00	181.99	1746.12	873.06	2300.89	1152.16	65.01	-4.492	0.000	0.163
132.08	-7.66	-12.56	0.00	-168.26	0.00	168.26	1160.48	580.24	1541.12	771.71	66.03	-4.509	0.000	0.225
135.00	-7.34	-12.29	0.00	-131.62	0.00	131.62	1148.82	574.41	1493.54	747.88	68.80	-4.547	0.000	0.183
140.00	-6.82	-11.82	0.00	-70.19	0.00	70.19	1127.58	563.79	1411.91	707.01	73.59	-4.608	0.000	0.106
141.00	-3.85	-6.69	0.00	-58.38	0.00	58.38	1123.15	561.57	1395.60	698.84	74.56	-4.617	0.000	0.087
145.00	-3.52	-6.33	0.00	-31.63	0.00	31.63	1104.76	552.38	1330.41	666.20	78.43	-4.641	0.000	0.051
150.00	0.00	-6.02	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	83.30	-4.653	0.000	0.000

Wind Loading - Shaft

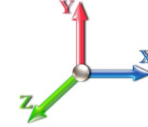
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	17.879	19.67	446.21	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	437.81	0.650	0.000	5.00	25.776	16.75	527.2	0.0	920.5
10.00		1.00	0.85	17.879	19.67	429.42	0.650	0.000	5.00	25.286	16.44	517.2	0.0	902.9
15.00		1.00	0.85	17.879	19.67	421.03	0.650	0.000	5.00	24.797	16.12	507.2	0.0	885.4
20.00		1.00	0.90	18.971	20.87	425.04	0.650	0.000	5.00	24.307	15.80	527.5	0.0	867.8
25.00		1.00	0.95	19.883	21.87	426.29	0.650	0.000	5.00	23.818	15.48	541.8	0.0	850.2
30.00		1.00	0.98	20.661	22.73	425.53	0.650	0.000	5.00	23.328	15.16	551.4	0.0	832.7
35.00		1.00	1.01	21.343	23.48	423.32	0.650	0.000	5.00	22.839	14.85	557.6	0.0	815.1
40.00		1.00	1.04	21.951	24.15	420.01	0.650	0.000	5.00	22.350	14.53	561.2	0.0	797.5
41.50	Bot - Section 2	1.00	1.05	22.122	24.33	418.84	0.650	0.000	1.50	6.609	4.30	167.3	0.0	235.8
45.00		1.00	1.07	22.502	24.75	415.84	0.650	0.000	3.50	15.436	10.03	397.4	0.0	1094.9
48.00	Top - Section 1	1.00	1.08	22.810	25.09	412.98	0.650	0.000	3.00	13.040	8.48	340.3	0.0	924.8
50.00		1.00	1.09	23.007	25.31	416.10	0.650	0.000	2.00	8.595	5.59	226.2	0.0	306.6
55.00		1.00	1.12	23.473	25.82	410.68	0.650	0.000	5.00	21.146	13.74	567.8	0.0	754.3
60.00		1.00	1.14	23.907	26.30	404.75	0.650	0.000	5.00	20.656	13.43	564.9	0.0	736.7
65.00		1.00	1.16	24.313	26.74	398.39	0.650	0.000	5.00	20.167	13.11	560.9	0.0	719.2
70.00		1.00	1.17	24.696	27.17	391.64	0.650	0.000	5.00	19.677	12.79	555.9	0.0	701.6
75.00		1.00	1.19	25.057	27.56	384.56	0.650	0.000	5.00	19.188	12.47	550.0	0.0	684.0
80.00		1.00	1.21	25.400	27.94	377.18	0.650	0.000	5.00	18.698	12.15	543.3	0.0	666.5
84.08	Bot - Section 3	1.00	1.22	25.667	28.23	370.95	0.650	0.000	4.08	14.907	9.69	437.7	0.0	531.2
85.00		1.00	1.22	25.726	28.30	369.53	0.650	0.000	0.92	3.340	2.17	98.3	0.0	213.0
89.50	Top - Section 2	1.00	1.24	26.007	28.61	362.43	0.650	0.000	4.50	16.160	10.50	480.8	0.0	1030.3
90.00		1.00	1.24	26.037	28.64	366.01	0.650	0.000	0.50	1.771	1.15	52.8	0.0	50.6
95.00		1.00	1.25	26.336	28.97	357.91	0.650	0.000	5.00	17.442	11.34	525.5	0.0	497.8
100.00		1.00	1.27	26.621	29.28	349.61	0.650	0.000	5.00	16.952	11.02	516.3	0.0	483.8
105.00		1.00	1.28	26.896	29.59	341.11	0.650	0.000	5.00	16.463	10.70	506.6	0.0	469.7
110.00		1.00	1.29	27.161	29.88	332.44	0.650	0.000	5.00	15.973	10.38	496.3	0.0	455.7
115.00		1.00	1.30	27.416	30.16	323.61	0.650	0.000	5.00	15.484	10.06	485.6	0.0	441.6
120.00		1.00	1.32	27.663	30.43	314.62	0.650	0.000	5.00	14.995	9.75	474.5	0.0	427.6
123.00	Appurtenance(s)	1.00	1.32	27.807	30.59	309.16	0.650	0.000	3.00	8.762	5.70	278.7	0.0	249.8
125.00		1.00	1.33	27.902	30.69	305.49	0.650	0.000	2.00	5.743	3.73	183.3	0.0	163.7
127.92	Bot - Section 4	1.00	1.33	28.038	30.84	300.10	0.650	0.000	2.92	8.235	5.35	264.1	0.0	234.7
130.00		1.00	1.34	28.133	30.95	296.23	0.650	0.000	2.08	5.846	3.80	188.2	0.0	289.9
131.00	Appurtenance(s)	1.00	1.34	28.179	31.00	294.36	0.650	0.000	1.00	2.776	1.80	89.5	0.0	137.7
132.08	Top - Section 3	1.00	1.34	28.228	31.05	292.33	0.650	0.000	1.08	2.985	1.94	96.4	0.0	148.0
135.00		1.00	1.35	28.358	31.19	290.26	0.650	0.000	2.92	7.923	5.15	257.0	0.0	169.7
140.00		1.00	1.36	28.576	31.43	280.76	0.650	0.000	5.00	13.195	8.58	431.4	0.0	282.5
141.00	Appurtenance(s)	1.00	1.36	28.619	31.48	278.85	0.650	0.000	1.00	2.580	1.68	84.5	0.0	55.2
145.00		1.00	1.37	28.788	31.67	271.15	0.650	0.000	4.00	10.126	6.58	333.5	0.0	216.7
150.00	Appurtenance(s)	1.00	1.38	28.994	31.89	261.43	0.650	0.000	5.00	12.217	7.94	405.2	0.0	261.4
Totals:								150.00			15,451.5	20,507.2		

Discrete Appurtenance Forces

Structure: CT10022-A-SBA
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

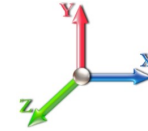
Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

3/1/2018
 Page: 14



Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	CSS DBC-750-Combiners	3	28.994	31.893	0.60	0.90	0.92	12.96	0.000	0.000	47.08	0.00	0.00
2	150.00	KMW	1	28.994	31.893	0.78	0.90	6.26	63.45	0.000	0.000	319.34	0.00	0.00
3	150.00	Powerwave	2	28.994	31.893	0.79	0.90	18.10	158.94	0.000	0.000	923.64	0.00	0.00
4	150.00	Kathrein 800 10121	3	28.994	31.893	0.81	0.90	12.57	168.48	0.000	0.000	641.44	0.00	0.00
5	150.00	CCI	6	28.994	31.893	0.60	0.90	4.12	103.68	0.000	0.000	210.47	0.00	0.00
6	150.00	Ericsson RRUS-11-RRUs	3	28.994	31.893	0.60	0.90	4.56	148.50	0.000	0.000	232.62	0.00	0.00
7	150.00	Commscope	1	28.994	31.893	0.60	0.90	0.03	0.99	0.000	0.000	1.54	0.00	0.00
8	150.00	CCI	6	28.994	31.893	0.60	0.90	1.56	17.82	0.000	0.000	79.39	0.00	0.00
9	150.00	Raycap	2	29.034	31.938	0.60	0.90	1.77	59.04	0.000	1.000	90.59	0.00	90.59
10	150.00	Quintel QS66512-3	1	28.994	31.893	0.81	0.90	6.59	94.50	0.000	0.000	336.04	0.00	0.00
11	150.00	CCI	2	28.994	31.893	0.71	0.90	19.10	135.00	0.000	0.000	974.52	0.00	0.00
12	150.00	Low Profile Platform	1	28.953	31.848	1.00	1.00	22.00	1350.00	0.000	-1.000	1121.06	0.00	-1121.06
13	150.00	LMU	1	28.994	31.893	0.60	0.90	0.53	25.20	0.000	0.000	27.08	0.00	0.00
14	150.00	Ericsson RRUS 32	3	28.994	31.893	0.60	0.90	4.96	143.10	0.000	0.000	252.93	0.00	0.00
15	150.00	Ericsson RRUS-32-RRHs	3	28.994	31.893	0.60	0.90	7.00	207.90	0.000	0.000	357.25	0.00	0.00
16	141.00	RFS DB-T1-6Z-8AB-OZ	1	28.619	31.480	0.77	0.80	3.15	19.26	0.000	0.000	158.60	0.00	0.00
17	141.00	Low Profile Platform	1	28.619	31.480	0.80	0.80	17.60	1350.00	0.000	0.000	886.49	0.00	0.00
18	141.00	RFS DB-T1-6Z-8AB-OZ	1	28.619	31.480	0.77	0.80	3.15	19.26	0.000	0.000	158.60	0.00	0.00
19	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	162.00	0.000	0.000	211.55	0.00	0.00
20	141.00	Alcatel Lucent	3	28.619	31.480	0.72	0.80	3.26	148.50	0.000	0.000	164.28	0.00	0.00
21	141.00	Antel	3	28.619	31.480	0.69	0.80	15.62	105.30	0.000	0.000	786.98	0.00	0.00
22	141.00	Commscope	6	28.619	31.480	0.73	0.80	35.22	392.58	0.000	0.000	1773.77	0.00	0.00
23	141.00	Antel	3	28.619	31.480	0.82	0.80	8.71	81.81	0.000	0.000	438.96	0.00	0.00
24	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	162.00	0.000	0.000	211.55	0.00	0.00
25	131.00	RFS ATM1412D-1A20	3	28.179	30.997	0.58	0.80	2.05	35.10	0.000	0.000	101.66	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	28.179	30.997	0.74	0.80	25.30	213.57	0.000	0.000	1254.65	0.00	0.00
27	131.00	RFS	3	28.179	30.997	0.60	0.80	11.55	169.29	0.000	0.000	572.84	0.00	0.00
28	131.00	Kathrein 782 11056	3	28.179	30.997	0.61	0.80	1.20	29.70	0.000	0.000	59.70	0.00	0.00
29	131.00	T-Arms (Site Pro P/N	3	28.179	30.997	0.56	0.75	13.50	356.40	0.000	0.000	669.53	0.00	0.00
30	131.00	Ericsson KRY 144/1	3	28.179	30.997	0.56	0.80	0.69	29.70	0.000	0.000	34.16	0.00	0.00
31	123.00	ALU - 1900 MHz RRH -	3	27.807	30.588	0.78	0.80	6.37	162.00	0.000	0.000	311.95	0.00	0.00
32	123.00	APXVTM14-C-I20	3	27.807	30.588	0.68	0.80	12.96	148.50	0.000	0.000	634.47	0.00	0.00
33	123.00	APXVSP18-C-A20	2	27.807	30.588	0.72	0.80	11.63	102.60	0.000	0.000	568.98	0.00	0.00
34	123.00	ALU - TD-RRH8x20-25 -	3	27.807	30.588	0.55	0.80	6.71	189.00	0.000	0.000	328.24	0.00	0.00
35	123.00	Platform w/ HRK Handrail	1	27.807	30.588	1.00	1.00	32.00	1440.00	0.000	0.000	1566.11	0.00	0.00
36	123.00	ALU - 800 MHz RRH -	3	27.807	30.588	0.74	0.80	5.50	143.10	0.000	0.000	269.07	0.00	0.00
37	123.00	RFS - ACU-A20-N - RET	4	27.807	30.588	0.63	0.80	0.35	3.60	0.000	0.000	17.32	0.00	0.00
38	123.00	APXVSP18-C-A20 (50	1	27.807	30.588	0.72	0.80	5.81	45.00	0.000	0.000	284.49	0.00	0.00
39	123.00	ALU - 800 MHz Filter	3	27.807	30.588	0.54	0.80	1.25	23.76	0.000	0.000	61.38	0.00	0.00

Totals: 8,221.59

17,140.33

Total Applied Force Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

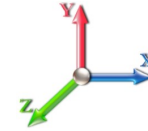


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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	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		527.21	1111.78	0.00	0.00
10.00		517.20	1094.21	0.00	0.00
15.00		507.19	1076.64	0.00	0.00
20.00		527.53	1059.07	0.00	0.00
25.00		541.77	1041.50	0.00	0.00
30.00		551.40	1023.94	0.00	0.00
35.00		557.63	1006.37	0.00	0.00
40.00		561.24	988.80	0.00	0.00
41.50		167.27	293.21	0.00	0.00
45.00		397.36	1228.78	0.00	0.00
48.00		340.27	1039.54	0.00	0.00
50.00		226.23	383.15	0.00	0.00
55.00		567.83	945.58	0.00	0.00
60.00		564.94	928.01	0.00	0.00
65.00		560.93	910.44	0.00	0.00
70.00		555.92	892.88	0.00	0.00
75.00		550.03	875.31	0.00	0.00
80.00		543.33	857.74	0.00	0.00
84.08		437.73	687.45	0.00	0.00
85.00		98.31	248.09	0.00	0.00
89.50		480.79	1202.47	0.00	0.00
90.00		52.76	69.68	0.00	0.00
95.00		525.48	689.11	0.00	0.00
100.00		516.28	675.06	0.00	0.00
105.00		506.55	661.00	0.00	0.00
110.00		496.33	646.95	0.00	0.00
115.00		485.65	632.89	0.00	0.00
120.00		474.53	618.84	0.00	0.00
123.00	(23) attachments	4320.74	2622.12	0.00	0.00
125.00		183.33	233.36	0.00	0.00
127.92		264.15	336.28	0.00	0.00
130.00		188.17	362.48	0.00	0.00
131.00	(18) attachments	2782.04	1006.23	0.00	0.00
132.08		96.41	176.61	0.00	0.00
135.00		257.04	246.65	0.00	0.00
140.00		431.37	414.48	0.00	0.00
141.00	(24) attachments	4875.26	2522.34	0.00	0.00
145.00		333.47	269.46	0.00	0.00
150.00	(38) attachments	6020.20	3016.90	0.00	-1030.47
	Totals:	32,591.84	34,095.42	0.00	-1,030.47

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



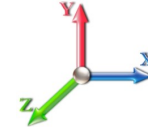
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 23

Dead Load Factor 0.90

Wind Load Factor 1.60



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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-34.04	-32.64	0.00	-3607.0	0.00	3607.07	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.851
5.00	-32.83	-32.22	0.00	-3443.8	0.00	3443.85	3376.67	1688.33	8351.12	4181.77	0.09	-0.175	0.000	0.834
10.00	-31.64	-31.79	0.00	-3282.7	0.00	3282.77	3351.94	1675.97	8129.40	4070.74	0.37	-0.351	0.000	0.816
15.00	-30.47	-31.37	0.00	-3123.8	0.00	3123.81	3325.63	1662.82	7906.28	3959.02	0.84	-0.529	0.000	0.799
20.00	-29.32	-30.93	0.00	-2966.9	0.00	2966.95	3297.74	1648.87	7681.99	3846.70	1.49	-0.709	0.000	0.781
25.00	-28.19	-30.46	0.00	-2812.3	0.00	2812.33	3268.26	1634.13	7456.75	3733.92	2.33	-0.890	0.000	0.762
30.00	-27.08	-29.98	0.00	-2660.0	0.00	2660.03	3237.20	1618.60	7230.79	3620.77	3.36	-1.073	0.000	0.743
35.00	-25.99	-29.48	0.00	-2510.1	0.00	2510.15	3204.54	1602.27	7004.35	3507.38	4.58	-1.257	0.000	0.724
40.00	-24.96	-28.95	0.00	-2362.7	0.00	2362.74	3170.31	1585.15	6777.64	3393.86	6.00	-1.442	0.000	0.704
41.50	-24.62	-28.82	0.00	-2319.3	0.00	2319.31	3159.73	1579.86	6709.61	3359.79	6.46	-1.499	0.000	0.698
45.00	-23.34	-28.44	0.00	-2218.4	0.00	2218.45	3134.49	1567.24	6550.90	3280.32	7.61	-1.630	0.000	0.684
48.00	-22.27	-28.10	0.00	-2133.1	0.00	2133.15	3132.30	1566.15	6537.37	3273.54	8.67	-1.743	0.000	0.659
50.00	-21.83	-27.91	0.00	-2076.9	0.00	2076.94	3117.49	1558.74	6446.72	3228.15	9.42	-1.819	0.000	0.651
55.00	-20.82	-27.38	0.00	-1937.3	0.00	1937.38	3079.35	1539.68	6220.34	3114.79	11.42	-1.999	0.000	0.629
60.00	-19.83	-26.84	0.00	-1800.4	0.00	1800.49	3039.63	1519.81	5994.49	3001.70	13.61	-2.178	0.000	0.607
65.00	-18.86	-26.31	0.00	-1666.2	0.00	1666.27	2998.32	1499.16	5769.39	2888.98	15.99	-2.357	0.000	0.583
70.00	-17.91	-25.77	0.00	-1534.7	0.00	1534.75	2955.43	1477.72	5545.28	2776.76	18.55	-2.535	0.000	0.559
75.00	-16.98	-25.23	0.00	-1405.9	0.00	1405.92	2910.95	1455.48	5322.38	2665.15	21.30	-2.710	0.000	0.534
80.00	-16.09	-24.69	0.00	-1279.7	0.00	1279.77	2864.89	1432.44	5100.92	2554.25	24.23	-2.884	0.000	0.507
84.08	-15.39	-24.24	0.00	-1178.9	0.00	1178.96	2826.09	1413.05	4921.28	2464.30	26.76	-3.024	0.000	0.484
85.00	-15.10	-24.15	0.00	-1156.7	0.00	1156.74	2817.24	1408.62	4881.12	2444.19	27.35	-3.056	0.000	0.479
89.50	-13.90	-23.63	0.00	-1048.0	0.00	1048.06	2031.94	1015.97	3485.43	1745.31	30.30	-3.207	0.000	0.608
90.00	-13.79	-23.60	0.00	-1036.2	0.00	1036.25	2029.15	1014.57	3470.92	1738.04	30.64	-3.224	0.000	0.604
95.00	-13.05	-23.07	0.00	-918.27	0.00	918.27	2000.34	1000.17	3325.82	1665.38	34.12	-3.417	0.000	0.558
100.00	-12.34	-22.56	0.00	-802.90	0.00	802.90	1969.95	984.97	3180.92	1592.82	37.79	-3.602	0.000	0.511
105.00	-11.65	-22.04	0.00	-690.12	0.00	690.12	1937.97	968.98	3036.44	1520.48	41.66	-3.777	0.000	0.460
110.00	-10.98	-21.53	0.00	-579.90	0.00	579.90	1904.40	952.20	2892.62	1448.46	45.70	-3.941	0.000	0.407
115.00	-10.33	-21.03	0.00	-472.23	0.00	472.23	1869.25	934.63	2749.69	1376.89	49.91	-4.089	0.000	0.349
120.00	-9.71	-20.53	0.00	-367.08	0.00	367.08	1832.52	916.26	2607.87	1305.87	54.26	-4.219	0.000	0.287
123.00	-7.40	-16.03	0.00	-305.49	0.00	305.49	1809.72	904.86	2523.40	1263.58	56.93	-4.288	0.000	0.246
125.00	-7.17	-15.84	0.00	-273.42	0.00	273.42	1794.20	897.10	2467.38	1235.52	58.74	-4.330	0.000	0.226
127.92	-6.84	-15.56	0.00	-227.23	0.00	227.23	1771.11	885.56	2386.14	1194.84	61.40	-4.386	0.000	0.194
130.00	-6.49	-15.34	0.00	-194.82	0.00	194.82	1754.29	877.15	2328.47	1165.96	63.32	-4.421	0.000	0.171
131.00	-5.70	-12.49	0.00	-179.48	0.00	179.48	1746.12	873.06	2300.89	1152.16	64.25	-4.437	0.000	0.159
132.08	-5.52	-12.39	0.00	-165.95	0.00	165.95	1160.48	580.24	1541.12	771.71	65.26	-4.453	0.000	0.220
135.00	-5.28	-12.11	0.00	-129.82	0.00	129.82	1148.82	574.41	1493.54	747.88	67.99	-4.491	0.000	0.179
140.00	-4.90	-11.65	0.00	-69.25	0.00	69.25	1127.58	563.79	1411.91	707.01	72.72	-4.551	0.000	0.103
141.00	-2.77	-6.60	0.00	-57.59	0.00	57.59	1123.15	561.57	1395.60	698.84	73.67	-4.559	0.000	0.085
145.00	-2.53	-6.24	0.00	-31.21	0.00	31.21	1104.76	552.38	1330.41	666.20	77.50	-4.584	0.000	0.049
150.00	0.00	-6.02	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	82.31	-4.595	0.000	0.000

Wind Loading - Shaft

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

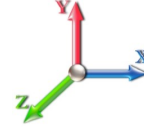


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 23

Dead Load Factor 1.20
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0	
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	27.156	32.59	185.2	643.2	1870.5	
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	26.765	32.12	182.6	677.8	1881.7	
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	26.337	31.60	179.7	693.2	1873.7	
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	25.893	31.07	187.4	700.3	1857.4	
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	25.439	30.53	193.0	702.5	1836.2	
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	24.979	29.98	196.9	701.5	1811.8	
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	24.515	29.42	199.6	698.2	1785.0	
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	24.049	28.86	201.4	693.2	1756.5	
41.50	Bot - Section 2	1.00	1.05	6.394	7.03	0.00	1.200	2.046	1.50	7.121	8.55	60.1	207.4	521.9	
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	3.50	16.639	19.97	142.9	486.4	1946.2	
48.00	Top - Section 1	1.00	1.08	6.593	7.25	0.00	1.200	2.076	3.00	14.078	16.89	122.5	414.3	1647.3	
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	2.00	9.290	11.15	81.6	274.9	683.8	
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	5.00	22.900	27.48	205.1	678.9	1684.7	
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	22.426	26.91	204.6	669.7	1652.0	
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	21.950	26.34	203.6	659.8	1618.7	
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	21.474	25.77	202.3	649.3	1584.8	
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	20.997	25.20	200.7	638.3	1550.3	
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	20.519	24.62	198.9	626.7	1515.4	
84.08	Bot - Section 3	1.00	1.22	7.419	8.16	0.00	1.200	2.196	4.08	16.402	19.68	160.6	503.9	1212.2	
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	0.92	3.676	4.41	36.1	114.0	398.0	
89.50	Top - Section 2	1.00	1.24	7.517	8.27	0.00	1.200	2.210	4.50	17.817	21.38	176.8	549.6	1923.3	
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	0.50	1.955	2.35	19.4	60.9	128.3	
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	19.294	23.15	193.9	596.7	1260.5	
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	5.00	18.814	22.58	191.1	583.8	1228.8	
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	5.00	18.334	22.00	188.1	570.5	1196.8	
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	5.00	17.853	21.42	185.0	557.0	1164.5	
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	17.372	20.85	181.7	543.1	1132.0	
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	5.00	16.891	20.27	178.3	529.1	1099.2	
123.00	Appurtenance(s)	1.00	1.32	8.038	8.84	0.00	1.200	2.281	3.00	9.902	11.88	105.1	312.3	645.4	
125.00		1.00	1.33	8.065	8.87	0.00	1.200	2.285	2.00	6.505	7.81	69.3	205.9	424.2	
127.92	Bot - Section 4	1.00	1.33	8.104	8.91	0.00	1.200	2.290	2.92	9.349	11.22	100.0	295.4	608.4	
130.00		1.00	1.34	8.132	8.95	0.00	1.200	2.294	2.08	6.643	7.97	71.3	210.7	597.3	
131.00	Appurtenance(s)	1.00	1.34	8.145	8.96	0.00	1.200	2.296	1.00	3.159	3.79	34.0	100.6	284.1	
132.08	Top - Section 3	1.00	1.34	8.159	8.98	0.00	1.200	2.298	1.08	3.400	4.08	36.6	108.3	305.6	
135.00		1.00	1.35	8.197	9.02	0.00	1.200	2.303	2.92	9.043	10.85	97.8	286.5	512.7	
140.00		1.00	1.36	8.260	9.09	0.00	1.200	2.311	5.00	15.121	18.15	164.9	476.2	852.9	
141.00	Appurtenance(s)	1.00	1.36	8.272	9.10	0.00	1.200	2.313	1.00	2.966	3.56	32.4	94.7	168.3	
145.00		1.00	1.37	8.321	9.15	0.00	1.200	2.319	4.00	11.672	14.01	128.2	369.0	657.9	
150.00	Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	2.327	5.00	14.156	16.99	156.6	446.0	794.6	
Totals:								150.00				5,655.3	45,672.9		

Discrete Appurtenance Forces

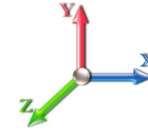
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	CSS DBC-750-Combiners	3	8.381	9.219	0.90	0.90	3.28	47.25	0.000	0.000	30.26	0.00	0.00
2	150.00	KMW	1	8.381	9.219	0.81	0.90	9.46	345.42	0.000	0.000	87.21	0.00	0.00
3	150.00	Powerwave	2	8.381	9.219	0.82	0.90	25.97	931.37	0.000	0.000	239.44	0.00	0.00
4	150.00	Kathrein 800 10121	3	8.381	9.219	0.83	0.90	19.86	758.34	0.000	0.000	183.05	0.00	0.00
5	150.00	CCI	6	8.381	9.219	0.63	0.90	8.19	298.60	0.000	0.000	75.48	0.00	0.00
6	150.00	Ericsson RRUS-11-RRUs	3	8.381	9.219	0.90	0.90	9.08	499.57	0.000	0.000	83.74	0.00	0.00
7	150.00	Commscope	1	8.381	9.219	0.90	0.90	0.28	3.59	0.000	0.000	2.54	0.00	0.00
8	150.00	CCI	6	8.381	9.219	0.68	0.90	4.54	80.05	0.000	0.000	41.89	0.00	0.00
9	150.00	Raycap	2	8.392	9.232	0.90	0.90	4.33	215.37	0.000	1.000	39.93	0.00	39.93
10	150.00	Quintel QS66512-3	1	8.381	9.219	0.86	0.90	8.55	446.90	0.000	0.000	78.86	0.00	0.00
11	150.00	CCI	2	8.381	9.219	0.76	0.90	27.83	1203.57	0.000	0.000	256.54	0.00	0.00
12	150.00	Low Profile Platform	1	8.369	9.206	1.00	1.00	45.55	3245.22	0.000	-1.000	419.31	0.00	-419.31
13	150.00	LMU	1	8.381	9.219	0.90	0.90	1.59	113.83	0.000	0.000	14.65	0.00	0.00
14	150.00	Ericsson RRUS 32	3	8.381	9.219	0.90	0.90	10.09	571.48	0.000	0.000	93.02	0.00	0.00
15	150.00	Ericsson RRUS-32-RRHs	3	8.381	9.219	0.90	0.90	11.87	763.59	0.000	0.000	109.43	0.00	0.00
16	141.00	RFS DB-T1-6Z-8AB-OZ	1	8.272	9.099	0.79	0.80	4.09	153.16	0.000	0.000	37.20	0.00	0.00
17	141.00	Low Profile Platform	1	8.272	9.099	0.80	0.80	36.32	3234.45	0.000	0.000	330.52	0.00	0.00
18	141.00	RFS DB-T1-6Z-8AB-OZ	1	8.272	9.099	0.79	0.80	4.09	153.16	0.000	0.000	37.20	0.00	0.00
19	141.00	Alcatel Lucent	3	8.272	9.099	0.63	0.80	8.62	502.70	0.000	0.000	78.43	0.00	0.00
20	141.00	Alcatel Lucent	3	8.272	9.099	0.72	0.80	6.61	560.31	0.000	0.000	60.18	0.00	0.00
21	141.00	Antel	3	8.272	9.099	0.71	0.80	19.80	881.58	0.000	0.000	180.15	0.00	0.00
22	141.00	Commscope	6	8.272	9.099	0.75	0.80	43.94	2223.73	0.000	0.000	399.85	0.00	0.00
23	141.00	Antel	3	8.272	9.099	0.83	0.80	14.95	900.92	0.000	0.000	136.03	0.00	0.00
24	141.00	Alcatel Lucent	3	8.272	9.099	0.63	0.80	8.62	502.70	0.000	0.000	78.43	0.00	0.00
25	131.00	RFS ATM1412D-1A20	3	8.145	8.960	0.61	0.80	4.01	128.89	0.000	0.000	35.94	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	8.145	8.960	0.76	0.80	36.14	1495.87	0.000	0.000	323.79	0.00	0.00
27	131.00	RFS	3	8.145	8.960	0.62	0.80	17.35	801.01	0.000	0.000	155.40	0.00	0.00
28	131.00	Kathrein 782 11056	3	8.145	8.960	0.63	0.80	2.77	88.04	0.000	0.000	24.84	0.00	0.00
29	131.00	T-Arms (Site Pro P/N	3	8.145	8.960	0.75	0.75	38.66	-25.17	0.000	0.000	346.39	0.00	0.00
30	131.00	Ericsson KRY 144/1	3	8.145	8.960	0.58	0.80	1.81	72.84	0.000	0.000	16.25	0.00	0.00
31	123.00	ALU - 1900 MHz RRH -	3	8.038	8.842	0.80	0.80	10.47	463.37	0.000	0.000	92.56	0.00	0.00
32	123.00	APXVTM14-C-I20	3	8.038	8.842	0.70	0.80	16.51	866.62	0.000	0.000	145.93	0.00	0.00
33	123.00	APXVSP18-C-A20	2	8.038	8.842	0.67	0.80	15.54	432.28	0.000	0.000	137.37	0.00	0.00
34	123.00	ALU - TD-RRH8x20-25 -	3	8.038	8.842	0.60	0.80	9.25	713.44	0.000	0.000	81.77	0.00	0.00
35	123.00	Platform w/ HRK Handrail	1	8.038	8.842	1.00	1.00	65.58	3544.98	0.000	0.000	579.82	0.00	0.00
36	123.00	ALU - 800 MHz RRH -	3	8.038	8.842	0.76	0.80	9.09	417.53	0.000	0.000	80.33	0.00	0.00
37	123.00	RFS - ACU-A20-N - RET	4	8.038	8.842	0.66	0.80	1.39	22.06	0.000	0.000	12.25	0.00	0.00
38	123.00	APXVSP18-C-A20 (50	1	8.038	8.842	0.67	0.80	7.77	172.99	0.000	0.000	68.69	0.00	0.00
39	123.00	ALU - 800 MHz Filter	3	8.038	8.842	0.54	0.80	2.61	85.87	0.000	0.000	23.11	0.00	0.00

Totals: 27,917.50

5,217.78

Total Applied Force Summary

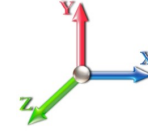
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	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		185.25	2125.54	0.00	0.00
10.00		182.59	2136.71	0.00	0.00
15.00		179.66	2128.77	0.00	0.00
20.00		187.41	2112.42	0.00	0.00
25.00		192.99	2091.21	0.00	0.00
30.00		196.92	2066.79	0.00	0.00
35.00		199.63	2040.06	0.00	0.00
40.00		201.42	2011.58	0.00	0.00
41.50		60.11	598.37	0.00	0.00
45.00		142.86	2124.75	0.00	0.00
48.00		122.52	1800.33	0.00	0.00
50.00		81.55	785.81	0.00	0.00
55.00		205.09	1939.72	0.00	0.00
60.00		204.56	1907.07	0.00	0.00
65.00		203.63	1873.74	0.00	0.00
70.00		202.34	1839.80	0.00	0.00
75.00		200.74	1805.33	0.00	0.00
80.00		198.86	1770.39	0.00	0.00
84.08		160.63	1420.50	0.00	0.00
85.00		36.09	444.76	0.00	0.00
89.50		176.80	2152.86	0.00	0.00
90.00		19.43	153.85	0.00	0.00
95.00		193.87	1515.56	0.00	0.00
100.00		191.10	1483.85	0.00	0.00
105.00		188.15	1451.84	0.00	0.00
110.00		185.02	1419.55	0.00	0.00
115.00		181.73	1387.00	0.00	0.00
120.00		178.28	1354.22	0.00	0.00
123.00	(23) attachments	1326.90	7517.56	0.00	0.00
125.00		69.25	517.08	0.00	0.00
127.92		100.01	743.78	0.00	0.00
130.00		71.31	694.04	0.00	0.00
131.00	(18) attachments	936.57	2892.03	0.00	0.00
132.08		36.62	343.74	0.00	0.00
135.00		97.84	615.33	0.00	0.00
140.00		164.87	1028.88	0.00	0.00
141.00	(24) attachments	1370.36	9316.21	0.00	0.00
145.00		128.20	728.26	0.00	0.00
150.00	(38) attachments	1911.96	10406.62	0.00	-379.38
	Totals:	10,873.10	80,745.90	0.00	-379.38

Calculated Forces

Structure: CT10022-A-SBA
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

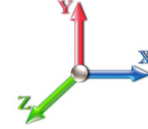
3/1/2018
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 23

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-80.74	-10.92	0.00	-1239.5	0.00	1239.55	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.313
5.00	-78.60	-10.81	0.00	-1184.9	0.00	1184.97	3376.67	1688.33	8351.12	4181.77	0.03	-0.060	0.000	0.307
10.00	-76.46	-10.71	0.00	-1130.9	0.00	1130.91	3351.94	1675.97	8129.40	4070.74	0.13	-0.121	0.000	0.301
15.00	-74.32	-10.60	0.00	-1077.3	0.00	1077.37	3325.63	1662.82	7906.28	3959.02	0.29	-0.182	0.000	0.295
20.00	-72.19	-10.49	0.00	-1024.3	0.00	1024.35	3297.74	1648.87	7681.99	3846.70	0.51	-0.244	0.000	0.288
25.00	-70.09	-10.36	0.00	-971.92	0.00	971.92	3268.26	1634.13	7456.75	3733.92	0.80	-0.307	0.000	0.282
30.00	-68.01	-10.23	0.00	-920.12	0.00	920.12	3237.20	1618.60	7230.79	3620.77	1.16	-0.370	0.000	0.275
35.00	-65.96	-10.09	0.00	-868.99	0.00	868.99	3204.54	1602.27	7004.35	3507.38	1.58	-0.434	0.000	0.268
40.00	-63.95	-9.91	0.00	-818.56	0.00	818.56	3170.31	1585.15	6777.64	3393.86	2.07	-0.498	0.000	0.261
41.50	-63.34	-9.89	0.00	-803.69	0.00	803.69	3159.73	1579.86	6709.61	3359.79	2.23	-0.517	0.000	0.259
45.00	-61.21	-9.77	0.00	-769.09	0.00	769.09	3134.49	1567.24	6550.90	3280.32	2.62	-0.563	0.000	0.254
48.00	-59.41	-9.66	0.00	-739.79	0.00	739.79	3132.30	1566.15	6537.37	3273.54	2.99	-0.602	0.000	0.245
50.00	-58.62	-9.62	0.00	-720.47	0.00	720.47	3117.49	1558.74	6446.72	3228.15	3.25	-0.629	0.000	0.242
55.00	-56.67	-9.45	0.00	-672.39	0.00	672.39	3079.35	1539.68	6220.34	3114.79	3.94	-0.691	0.000	0.234
60.00	-54.75	-9.28	0.00	-625.14	0.00	625.14	3039.63	1519.81	5994.49	3001.70	4.70	-0.753	0.000	0.226
65.00	-52.87	-9.11	0.00	-578.73	0.00	578.73	2998.32	1499.16	5769.39	2888.98	5.52	-0.815	0.000	0.218
70.00	-51.03	-8.93	0.00	-533.19	0.00	533.19	2955.43	1477.72	5545.28	2776.76	6.41	-0.877	0.000	0.209
75.00	-49.22	-8.76	0.00	-488.51	0.00	488.51	2910.95	1455.48	5322.38	2665.15	7.36	-0.938	0.000	0.200
80.00	-47.44	-8.57	0.00	-444.73	0.00	444.73	2864.89	1432.44	5100.92	2554.25	8.37	-0.998	0.000	0.191
84.08	-46.02	-8.41	0.00	-409.72	0.00	409.72	2826.09	1413.05	4921.28	2464.30	9.25	-1.047	0.000	0.183
85.00	-45.57	-8.39	0.00	-402.01	0.00	402.01	2817.24	1408.62	4881.12	2444.19	9.45	-1.058	0.000	0.181
89.50	-43.42	-8.20	0.00	-364.24	0.00	364.24	2031.94	1015.97	3485.43	1745.31	10.48	-1.110	0.000	0.230
90.00	-43.26	-8.20	0.00	-360.15	0.00	360.15	2029.15	1014.57	3470.92	1738.04	10.59	-1.116	0.000	0.229
95.00	-41.74	-8.03	0.00	-319.13	0.00	319.13	2000.34	1000.17	3325.82	1665.38	11.80	-1.184	0.000	0.213
100.00	-40.25	-7.85	0.00	-279.00	0.00	279.00	1969.95	984.97	3180.92	1592.82	13.07	-1.248	0.000	0.196
105.00	-38.80	-7.67	0.00	-239.76	0.00	239.76	1937.97	968.98	3036.44	1520.48	14.41	-1.309	0.000	0.178
110.00	-37.37	-7.48	0.00	-201.43	0.00	201.43	1904.40	952.20	2892.62	1448.46	15.81	-1.365	0.000	0.159
115.00	-35.99	-7.30	0.00	-164.01	0.00	164.01	1869.25	934.63	2749.69	1376.89	17.27	-1.417	0.000	0.138
120.00	-34.63	-7.11	0.00	-127.51	0.00	127.51	1832.52	916.26	2607.87	1305.87	18.78	-1.462	0.000	0.117
123.00	-27.15	-5.60	0.00	-106.19	0.00	106.19	1809.72	904.86	2523.40	1263.58	19.71	-1.486	0.000	0.099
125.00	-26.63	-5.52	0.00	-95.00	0.00	95.00	1794.20	897.10	2467.38	1235.52	20.34	-1.501	0.000	0.092
127.92	-25.89	-5.41	0.00	-78.89	0.00	78.89	1771.11	885.56	2386.14	1194.84	21.26	-1.520	0.000	0.081
130.00	-25.20	-5.32	0.00	-67.62	0.00	67.62	1754.29	877.15	2328.47	1165.96	21.92	-1.532	0.000	0.072
131.00	-22.33	-4.31	0.00	-62.30	0.00	62.30	1746.12	873.06	2300.89	1152.16	22.25	-1.538	0.000	0.067
132.08	-21.99	-4.27	0.00	-57.63	0.00	57.63	1160.48	580.24	1541.12	771.71	22.60	-1.543	0.000	0.094
135.00	-21.37	-4.16	0.00	-45.17	0.00	45.17	1148.82	574.41	1493.54	747.88	23.54	-1.557	0.000	0.079
140.00	-20.35	-3.97	0.00	-24.36	0.00	24.36	1127.58	563.79	1411.91	707.01	25.19	-1.577	0.000	0.053
141.00	-11.07	-2.35	0.00	-20.39	0.00	20.39	1123.15	561.57	1395.60	698.84	25.52	-1.580	0.000	0.039
145.00	-10.35	-2.20	0.00	-11.00	0.00	11.00	1104.76	552.38	1330.41	666.20	26.85	-1.589	0.000	0.026
150.00	0.00	-1.91	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	28.51	-1.593	0.000	0.000

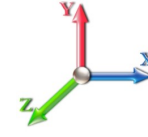
Seismic Segment Forces (Factored)

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E				Iterations 21
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA 0.04
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1022.7	0.00	0.03	0.02	17.12	
10.00		1003.2	0.01	0.05	0.03	24.77	
15.00		983.74	0.02	0.06	0.04	28.24	
20.00		964.22	0.03	0.07	0.04	29.72	
25.00		944.70	0.05	0.07	0.04	30.28	
30.00		925.18	0.08	0.07	0.04	30.50	
35.00		905.65	0.10	0.07	0.04	30.62	
40.00		886.13	0.13	0.07	0.03	30.65	
41.50	Bot - Section 2	262.03	0.14	0.07	0.03	9.12	
45.00		1216.5	0.17	0.07	0.03	42.75	
48.00	Top - Section 1	1027.5	0.19	0.06	0.02	36.20	
50.00		340.71	0.21	0.06	0.02	11.97	
55.00		838.12	0.25	0.05	0.02	28.52	
60.00		818.60	0.30	0.04	0.01	25.58	
65.00		799.08	0.35	0.03	0.01	20.93	
70.00		779.55	0.41	0.01	0.01	14.38	
75.00		760.03	0.47	-0.01	0.01	6.23	
80.00		740.51	0.54	-0.03	0.01	-2.66	
84.08	Bot - Section 3	590.27	0.59	-0.05	0.01	-7.76	
85.00		236.69	0.61	-0.06	0.02	-3.59	
89.50	Top - Section 2	1144.8	0.67	-0.08	0.02	-27.22	
90.00		56.17	0.68	-0.08	0.03	-1.38	
95.00		553.15	0.76	-0.10	0.04	-16.73	
100.00		537.54	0.84	-0.12	0.07	-16.80	
105.00		521.92	0.93	-0.12	0.10	-14.23	
110.00		506.30	1.02	-0.11	0.14	-9.19	
115.00		490.69	1.11	-0.06	0.19	-1.93	
120.00		475.07	1.21	0.01	0.26	7.30	
123.00	Appurtenance(s)	2785.9	1.27	0.08	0.31	81.95	
125.00		181.91	1.31	0.14	0.35	7.24	
127.92	Bot - Section 4	260.80	1.37	0.24	0.41	14.72	
130.00		322.15	1.42	0.32	0.45	22.36	
131.00	Appurtenance(s)	1079.3	1.44	0.37	0.48	81.98	
132.08	Top - Section 3	164.46	1.47	0.42	0.50	13.70	
135.00		188.51	1.53	0.58	0.58	19.65	
140.00		313.88	1.65	0.93	0.73	45.34	
141.00	Appurtenance(s)	2773.2	1.67	1.01	0.77	424.68	
145.00		240.80	1.77	1.39	0.92	45.77	
150.00	Appurtenance(s)	3278.8	1.89	1.98	1.14	791.23	
Totals:		31,920.9				1,872.0	Total Wind: 32,591.8

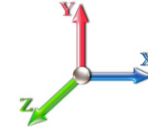
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0E										Iterations 21
Gust Response Factor	1.10							Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10					S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA	0.04	Seismic Importance 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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.46	-1.98	0.00	-248.78	0.00	248.78	3399.80	1699.90	8571.22	4291.98	0.00	0.00	0.00	0.071
5.00	-43.98	-1.97	0.00	-238.89	0.00	238.89	3376.67	1688.33	8351.12	4181.77	0.01	-0.01	0.070	
10.00	-42.52	-1.95	0.00	-229.04	0.00	229.04	3351.94	1675.97	8129.40	4070.74	0.03	-0.02	0.069	
15.00	-41.08	-1.93	0.00	-219.27	0.00	219.27	3325.63	1662.82	7906.28	3959.02	0.06	-0.04	0.068	
20.00	-39.67	-1.91	0.00	-209.60	0.00	209.60	3297.74	1648.87	7681.99	3846.70	0.10	-0.05	0.067	
25.00	-38.28	-1.89	0.00	-200.04	0.00	200.04	3268.26	1634.13	7456.75	3733.92	0.16	-0.06	0.065	
30.00	-36.92	-1.87	0.00	-190.60	0.00	190.60	3237.20	1618.60	7230.79	3620.77	0.23	-0.08	0.064	
35.00	-35.57	-1.84	0.00	-181.27	0.00	181.27	3204.54	1602.27	7004.35	3507.38	0.32	-0.09	0.063	
40.00	-34.25	-1.81	0.00	-172.07	0.00	172.07	3170.31	1585.15	6777.64	3393.86	0.42	-0.10	0.062	
41.50	-33.86	-1.81	0.00	-169.35	0.00	169.35	3159.73	1579.86	6709.61	3359.79	0.45	-0.11	0.061	
45.00	-32.22	-1.77	0.00	-163.02	0.00	163.02	3134.49	1567.24	6550.90	3280.32	0.53	-0.12	0.060	
48.00	-30.84	-1.73	0.00	-157.72	0.00	157.72	3132.30	1566.15	6537.37	3273.54	0.61	-0.12	0.058	
50.00	-30.33	-1.72	0.00	-154.26	0.00	154.26	3117.49	1558.74	6446.72	3228.15	0.66	-0.13	0.058	
55.00	-29.07	-1.70	0.00	-145.65	0.00	145.65	3079.35	1539.68	6220.34	3114.79	0.81	-0.14	0.056	
60.00	-27.83	-1.68	0.00	-137.15	0.00	137.15	3039.63	1519.81	5994.49	3001.70	0.96	-0.16	0.055	
65.00	-26.61	-1.66	0.00	-128.77	0.00	128.77	2998.32	1499.16	5769.39	2888.98	1.14	-0.17	0.053	
70.00	-25.42	-1.65	0.00	-120.48	0.00	120.48	2955.43	1477.72	5545.28	2776.76	1.32	-0.18	0.052	
75.00	-24.26	-1.64	0.00	-112.25	0.00	112.25	2910.95	1455.48	5322.38	2665.15	1.52	-0.20	0.050	
80.00	-23.11	-1.64	0.00	-104.04	0.00	104.04	2864.89	1432.44	5100.92	2554.25	1.74	-0.21	0.049	
84.08	-22.20	-1.64	0.00	-97.33	0.00	97.33	2826.09	1413.05	4921.28	2464.30	1.92	-0.22	0.047	
85.00	-21.86	-1.64	0.00	-95.82	0.00	95.82	2817.24	1408.62	4881.12	2444.19	1.97	-0.23	0.047	
89.50	-20.26	-1.64	0.00	-88.42	0.00	88.42	2031.94	1015.97	3485.43	1745.31	2.19	-0.24	0.061	
90.00	-20.17	-1.64	0.00	-87.60	0.00	87.60	2029.15	1014.57	3470.92	1738.04	2.21	-0.24	0.060	
95.00	-19.25	-1.64	0.00	-79.39	0.00	79.39	2000.34	1000.17	3325.82	1665.38	2.47	-0.26	0.057	
100.00	-18.35	-1.65	0.00	-71.17	0.00	71.17	1969.95	984.97	3180.92	1592.82	2.75	-0.27	0.054	
105.00	-17.47	-1.65	0.00	-62.94	0.00	62.94	1937.97	968.98	3036.44	1520.48	3.04	-0.29	0.050	
110.00	-16.60	-1.65	0.00	-54.71	0.00	54.71	1904.40	952.20	2892.62	1448.46	3.35	-0.30	0.046	
115.00	-15.76	-1.64	0.00	-46.48	0.00	46.48	1869.25	934.63	2749.69	1376.89	3.68	-0.32	0.042	
120.00	-14.93	-1.64	0.00	-38.26	0.00	38.26	1832.52	916.26	2607.87	1305.87	4.02	-0.33	0.037	
123.00	-11.44	-1.53	0.00	-33.35	0.00	33.35	1809.72	904.86	2523.40	1263.58	4.23	-0.34	0.033	
125.00	-11.13	-1.53	0.00	-30.28	0.00	30.28	1794.20	897.10	2467.38	1235.52	4.38	-0.34	0.031	
127.92	-10.68	-1.51	0.00	-25.83	0.00	25.83	1771.11	885.56	2386.14	1194.84	4.59	-0.35	0.028	
130.00	-10.19	-1.49	0.00	-22.68	0.00	22.68	1754.29	877.15	2328.47	1165.96	4.74	-0.35	0.025	
131.00	-8.85	-1.40	0.00	-21.20	0.00	21.20	1746.12	873.06	2300.89	1152.16	4.81	-0.36	0.023	
132.08	-8.62	-1.38	0.00	-19.69	0.00	19.69	1160.48	580.24	1541.12	771.71	4.90	-0.36	0.033	
135.00	-8.29	-1.36	0.00	-15.66	0.00	15.66	1148.82	574.41	1493.54	747.88	5.12	-0.36	0.028	
140.00	-7.74	-1.31	0.00	-8.86	0.00	8.86	1127.58	563.79	1411.91	707.01	5.50	-0.37	0.019	
141.00	-4.38	-0.87	0.00	-7.55	0.00	7.55	1123.15	561.57	1395.60	698.84	5.58	-0.37	0.015	
145.00	-4.02	-0.82	0.00	-4.09	0.00	4.09	1104.76	552.38	1330.41	666.20	5.89	-0.37	0.010	
150.00	0.00	-0.79	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	6.28	-0.38	0.000	

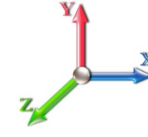
Seismic Segment Forces (Factored)

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E					Iterations 21
Gust Response Factor	1.10			Sds 0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1 0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA 0.04	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1022.7	0.00	0.03	0.02	17.12	
10.00		1003.2	0.01	0.05	0.03	24.77	
15.00		983.74	0.02	0.06	0.04	28.24	
20.00		964.22	0.03	0.07	0.04	29.72	
25.00		944.70	0.05	0.07	0.04	30.28	
30.00		925.18	0.08	0.07	0.04	30.50	
35.00		905.65	0.10	0.07	0.04	30.62	
40.00		886.13	0.13	0.07	0.03	30.65	
41.50	Bot - Section 2	262.03	0.14	0.07	0.03	9.12	
45.00		1216.5	0.17	0.07	0.03	42.75	
48.00	Top - Section 1	1027.5	0.19	0.06	0.02	36.20	
50.00		340.71	0.21	0.06	0.02	11.97	
55.00		838.12	0.25	0.05	0.02	28.52	
60.00		818.60	0.30	0.04	0.01	25.58	
65.00		799.08	0.35	0.03	0.01	20.93	
70.00		779.55	0.41	0.01	0.01	14.38	
75.00		760.03	0.47	-0.01	0.01	6.23	
80.00		740.51	0.54	-0.03	0.01	-2.66	
84.08	Bot - Section 3	590.27	0.59	-0.05	0.01	-7.76	
85.00		236.69	0.61	-0.06	0.02	-3.59	
89.50	Top - Section 2	1144.8	0.67	-0.08	0.02	-27.22	
90.00		56.17	0.68	-0.08	0.03	-1.38	
95.00		553.15	0.76	-0.10	0.04	-16.73	
100.00		537.54	0.84	-0.12	0.07	-16.80	
105.00		521.92	0.93	-0.12	0.10	-14.23	
110.00		506.30	1.02	-0.11	0.14	-9.19	
115.00		490.69	1.11	-0.06	0.19	-1.93	
120.00		475.07	1.21	0.01	0.26	7.30	
123.00	Appurtenance(s)	2785.9	1.27	0.08	0.31	81.95	
125.00		181.91	1.31	0.14	0.35	7.24	
127.92	Bot - Section 4	260.80	1.37	0.24	0.41	14.72	
130.00		322.15	1.42	0.32	0.45	22.36	
131.00	Appurtenance(s)	1079.3	1.44	0.37	0.48	81.98	
132.08	Top - Section 3	164.46	1.47	0.42	0.50	13.70	
135.00		188.51	1.53	0.58	0.58	19.65	
140.00		313.88	1.65	0.93	0.73	45.34	
141.00	Appurtenance(s)	2773.2	1.67	1.01	0.77	424.68	
145.00		240.80	1.77	1.39	0.92	45.77	
150.00	Appurtenance(s)	3278.8	1.89	1.98	1.14	791.23	
Totals:		31,920.9				1,872.0	Total Wind: 32,591.8

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

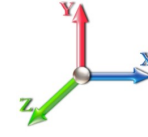
Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E						Iterations 21
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA	0.04	Seismic Importance 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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-34.10	-1.98	0.00	-246.31	0.00	246.31	3399.80	1699.90	8571.22	4291.98	0.00	0.00	0.00	0.067
5.00	-32.98	-1.97	0.00	-236.42	0.00	236.42	3376.67	1688.33	8351.12	4181.77	0.01	-0.01	0.066	
10.00	-31.89	-1.95	0.00	-226.59	0.00	226.59	3351.94	1675.97	8129.40	4070.74	0.03	-0.02	0.065	
15.00	-30.81	-1.93	0.00	-216.85	0.00	216.85	3325.63	1662.82	7906.28	3959.02	0.06	-0.04	0.064	
20.00	-29.75	-1.90	0.00	-207.23	0.00	207.23	3297.74	1648.87	7681.99	3846.70	0.10	-0.05	0.063	
25.00	-28.71	-1.88	0.00	-197.72	0.00	197.72	3268.26	1634.13	7456.75	3733.92	0.16	-0.06	0.062	
30.00	-27.69	-1.85	0.00	-188.33	0.00	188.33	3237.20	1618.60	7230.79	3620.77	0.23	-0.07	0.061	
35.00	-26.68	-1.83	0.00	-179.07	0.00	179.07	3204.54	1602.27	7004.35	3507.38	0.32	-0.09	0.059	
40.00	-25.69	-1.80	0.00	-169.95	0.00	169.95	3170.31	1585.15	6777.64	3393.86	0.42	-0.10	0.058	
41.50	-25.40	-1.79	0.00	-167.25	0.00	167.25	3159.73	1579.86	6709.61	3359.79	0.45	-0.10	0.058	
45.00	-24.17	-1.75	0.00	-160.98	0.00	160.98	3134.49	1567.24	6550.90	3280.32	0.53	-0.11	0.057	
48.00	-23.13	-1.71	0.00	-155.74	0.00	155.74	3132.30	1566.15	6537.37	3273.54	0.60	-0.12	0.055	
50.00	-22.74	-1.70	0.00	-152.31	0.00	152.31	3117.49	1558.74	6446.72	3228.15	0.66	-0.13	0.054	
55.00	-21.80	-1.68	0.00	-143.79	0.00	143.79	3079.35	1539.68	6220.34	3114.79	0.80	-0.14	0.053	
60.00	-20.87	-1.66	0.00	-135.39	0.00	135.39	3039.63	1519.81	5994.49	3001.70	0.95	-0.15	0.052	
65.00	-19.96	-1.64	0.00	-127.11	0.00	127.11	2998.32	1499.16	5769.39	2888.98	1.12	-0.17	0.051	
70.00	-19.07	-1.62	0.00	-118.93	0.00	118.93	2955.43	1477.72	5545.28	2776.76	1.31	-0.18	0.049	
75.00	-18.19	-1.62	0.00	-110.81	0.00	110.81	2910.95	1455.48	5322.38	2665.15	1.50	-0.20	0.048	
80.00	-17.33	-1.62	0.00	-102.71	0.00	102.71	2864.89	1432.44	5100.92	2554.25	1.72	-0.21	0.046	
84.08	-16.64	-1.62	0.00	-96.09	0.00	96.09	2826.09	1413.05	4921.28	2464.30	1.90	-0.22	0.045	
85.00	-16.40	-1.62	0.00	-94.61	0.00	94.61	2817.24	1408.62	4881.12	2444.19	1.94	-0.22	0.045	
89.50	-15.19	-1.62	0.00	-87.31	0.00	87.31	2031.94	1015.97	3485.43	1745.31	2.16	-0.24	0.058	
90.00	-15.12	-1.62	0.00	-86.50	0.00	86.50	2029.15	1014.57	3470.92	1738.04	2.19	-0.24	0.057	
95.00	-14.43	-1.62	0.00	-78.40	0.00	78.40	2000.34	1000.17	3325.82	1665.38	2.44	-0.25	0.054	
100.00	-13.76	-1.62	0.00	-70.29	0.00	70.29	1969.95	984.97	3180.92	1592.82	2.72	-0.27	0.051	
105.00	-13.10	-1.62	0.00	-62.18	0.00	62.18	1937.97	968.98	3036.44	1520.48	3.01	-0.29	0.048	
110.00	-12.45	-1.62	0.00	-54.07	0.00	54.07	1904.40	952.20	2892.62	1448.46	3.32	-0.30	0.044	
115.00	-11.82	-1.62	0.00	-45.96	0.00	45.96	1869.25	934.63	2749.69	1376.89	3.64	-0.31	0.040	
120.00	-11.20	-1.61	0.00	-37.85	0.00	37.85	1832.52	916.26	2607.87	1305.87	3.97	-0.33	0.035	
123.00	-8.58	-1.52	0.00	-33.01	0.00	33.01	1809.72	904.86	2523.40	1263.58	4.18	-0.33	0.031	
125.00	-8.34	-1.51	0.00	-29.98	0.00	29.98	1794.20	897.10	2467.38	1235.52	4.32	-0.34	0.029	
127.92	-8.01	-1.49	0.00	-25.58	0.00	25.58	1771.11	885.56	2386.14	1194.84	4.53	-0.35	0.026	
130.00	-7.64	-1.47	0.00	-22.47	0.00	22.47	1754.29	877.15	2328.47	1165.96	4.68	-0.35	0.024	
131.00	-6.64	-1.38	0.00	-21.00	0.00	21.00	1746.12	873.06	2300.89	1152.16	4.76	-0.35	0.022	
132.08	-6.46	-1.37	0.00	-19.50	0.00	19.50	1160.48	580.24	1541.12	771.71	4.84	-0.35	0.031	
135.00	-6.21	-1.35	0.00	-15.51	0.00	15.51	1148.82	574.41	1493.54	747.88	5.05	-0.36	0.026	
140.00	-5.80	-1.30	0.00	-8.78	0.00	8.78	1127.58	563.79	1411.91	707.01	5.43	-0.36	0.018	
141.00	-3.28	-0.86	0.00	-7.49	0.00	7.49	1123.15	561.57	1395.60	698.84	5.51	-0.37	0.014	
145.00	-3.01	-0.81	0.00	-4.05	0.00	4.05	1104.76	552.38	1330.41	666.20	5.82	-0.37	0.009	
150.00	0.00	-0.79	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	6.21	-0.37	0.000	

Wind Loading - Shaft

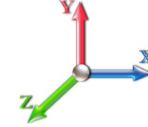
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	287.87	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	282.46	0.650	0.000	5.00	25.776	16.75	137.2	0.0	1022.8
10.00		1.00	0.85	7.442	8.19	277.04	0.650	0.000	5.00	25.286	16.44	134.5	0.0	1003.3
15.00		1.00	0.85	7.442	8.19	271.63	0.650	0.000	5.00	24.797	16.12	131.9	0.0	983.7
20.00		1.00	0.90	7.896	8.69	274.22	0.650	0.000	5.00	24.307	15.80	137.2	0.0	964.2
25.00		1.00	0.95	8.276	9.10	275.03	0.650	0.000	5.00	23.818	15.48	140.9	0.0	944.7
30.00		1.00	0.98	8.600	9.46	274.54	0.650	0.000	5.00	23.328	15.16	143.4	0.0	925.2
35.00		1.00	1.01	8.883	9.77	273.11	0.650	0.000	5.00	22.839	14.85	145.1	0.0	905.7
40.00		1.00	1.04	9.137	10.05	270.98	0.650	0.000	5.00	22.350	14.53	146.0	0.0	886.1
41.50	Bot - Section 2	1.00	1.05	9.208	10.13	270.22	0.650	0.000	1.50	6.609	4.30	43.5	0.0	262.0
45.00		1.00	1.07	9.366	10.30	268.28	0.650	0.000	3.50	15.436	10.03	103.4	0.0	1216.5
48.00	Top - Section 1	1.00	1.08	9.494	10.44	266.44	0.650	0.000	3.00	13.040	8.48	88.5	0.0	1027.5
50.00		1.00	1.09	9.576	10.53	268.45	0.650	0.000	2.00	8.595	5.59	58.9	0.0	340.7
55.00		1.00	1.12	9.770	10.75	264.95	0.650	0.000	5.00	21.146	13.74	147.7	0.0	838.1
60.00		1.00	1.14	9.951	10.95	261.13	0.650	0.000	5.00	20.656	13.43	147.0	0.0	818.6
65.00		1.00	1.16	10.120	11.13	257.02	0.650	0.000	5.00	20.167	13.11	145.9	0.0	799.1
70.00		1.00	1.17	10.279	11.31	252.67	0.650	0.000	5.00	19.677	12.79	144.6	0.0	779.6
75.00		1.00	1.19	10.430	11.47	248.10	0.650	0.000	5.00	19.188	12.47	143.1	0.0	760.0
80.00		1.00	1.21	10.572	11.63	243.34	0.650	0.000	5.00	18.698	12.15	141.3	0.0	740.5
84.08	Bot - Section 3	1.00	1.22	10.684	11.75	239.32	0.650	0.000	4.08	14.907	9.69	113.9	0.0	590.3
85.00		1.00	1.22	10.708	11.78	238.40	0.650	0.000	0.92	3.340	2.17	25.6	0.0	236.7
89.50	Top - Section 2	1.00	1.24	10.825	11.91	233.82	0.650	0.000	4.50	16.160	10.50	125.1	0.0	1144.8
90.00		1.00	1.24	10.838	11.92	236.13	0.650	0.000	0.50	1.771	1.15	13.7	0.0	56.2
95.00		1.00	1.25	10.962	12.06	230.91	0.650	0.000	5.00	17.442	11.34	136.7	0.0	553.2
100.00		1.00	1.27	11.081	12.19	225.55	0.650	0.000	5.00	16.952	11.02	134.3	0.0	537.5
105.00		1.00	1.28	11.195	12.31	220.07	0.650	0.000	5.00	16.463	10.70	131.8	0.0	521.9
110.00		1.00	1.29	11.305	12.44	214.48	0.650	0.000	5.00	15.973	10.38	129.1	0.0	506.3
115.00		1.00	1.30	11.412	12.55	208.78	0.650	0.000	5.00	15.484	10.06	126.3	0.0	490.7
120.00		1.00	1.32	11.514	12.67	202.98	0.650	0.000	5.00	14.995	9.75	123.4	0.0	475.1
123.00	Appurtenance(s)	1.00	1.32	11.574	12.73	199.46	0.650	0.000	3.00	8.762	5.70	72.5	0.0	277.5
125.00		1.00	1.33	11.614	12.78	197.09	0.650	0.000	2.00	5.743	3.73	47.7	0.0	181.9
127.92	Bot - Section 4	1.00	1.33	11.670	12.84	193.61	0.650	0.000	2.92	8.235	5.35	68.7	0.0	260.8
130.00		1.00	1.34	11.710	12.88	191.11	0.650	0.000	2.08	5.846	3.80	49.0	0.0	322.2
131.00	Appurtenance(s)	1.00	1.34	11.729	12.90	189.91	0.650	0.000	1.00	2.776	1.80	23.3	0.0	152.9
132.08	Top - Section 3	1.00	1.34	11.749	12.92	188.60	0.650	0.000	1.08	2.985	1.94	25.1	0.0	164.5
135.00		1.00	1.35	11.803	12.98	187.27	0.650	0.000	2.92	7.923	5.15	66.9	0.0	188.5
140.00		1.00	1.36	11.894	13.08	181.14	0.650	0.000	5.00	13.195	8.58	112.2	0.0	313.9
141.00	Appurtenance(s)	1.00	1.36	11.912	13.10	179.90	0.650	0.000	1.00	2.580	1.68	22.0	0.0	61.4
145.00		1.00	1.37	11.982	13.18	174.94	0.650	0.000	4.00	10.126	6.58	86.8	0.0	240.8
150.00	Appurtenance(s)	1.00	1.38	12.068	13.27	168.67	0.650	0.000	5.00	12.217	7.94	105.4	0.0	290.5
Totals:								150.00			4,019.6	22,785.8		

Discrete Appurtenance Forces

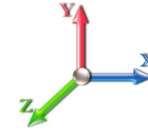
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	CSS DBC-750-Combiners	3	12.068	13.275	0.60	0.90	0.92	14.40	0.000	0.000	12.25	0.00	0.00
2	150.00	KMW	1	12.068	13.275	0.78	0.90	6.26	70.50	0.000	0.000	83.07	0.00	0.00
3	150.00	Powerwave	2	12.068	13.275	0.79	0.90	18.10	176.60	0.000	0.000	240.28	0.00	0.00
4	150.00	Kathrein 800 10121	3	12.068	13.275	0.81	0.90	12.57	187.20	0.000	0.000	166.87	0.00	0.00
5	150.00	CCI	6	12.068	13.275	0.60	0.90	4.12	115.20	0.000	0.000	54.75	0.00	0.00
6	150.00	Ericsson RRUS-11-RRUs	3	12.068	13.275	0.60	0.90	4.56	165.00	0.000	0.000	60.52	0.00	0.00
7	150.00	Commscope	1	12.068	13.275	0.60	0.90	0.03	1.10	0.000	0.000	0.40	0.00	0.00
8	150.00	CCI	6	12.068	13.275	0.60	0.90	1.56	19.80	0.000	0.000	20.65	0.00	0.00
9	150.00	Raycap	2	12.085	13.294	0.60	0.90	1.77	65.60	0.000	1.000	23.57	0.00	23.57
10	150.00	Quintel QS66512-3	1	12.068	13.275	0.81	0.90	6.59	105.00	0.000	0.000	87.42	0.00	0.00
11	150.00	CCI	2	12.068	13.275	0.71	0.90	19.10	150.00	0.000	0.000	253.52	0.00	0.00
12	150.00	Low Profile Platform	1	12.051	13.256	1.00	1.00	22.00	1500.00	0.000	-1.000	291.64	0.00	-291.64
13	150.00	LMU	1	12.068	13.275	0.60	0.90	0.53	28.00	0.000	0.000	7.04	0.00	0.00
14	150.00	Ericsson RRUS 32	3	12.068	13.275	0.60	0.90	4.96	159.00	0.000	0.000	65.80	0.00	0.00
15	150.00	Ericsson RRUS-32-RRHs	3	12.068	13.275	0.60	0.90	7.00	231.00	0.000	0.000	92.94	0.00	0.00
16	141.00	RFS DB-T1-6Z-8AB-OZ	1	11.912	13.103	0.77	0.80	3.15	21.40	0.000	0.000	41.26	0.00	0.00
17	141.00	Low Profile Platform	1	11.912	13.103	0.80	0.80	17.60	1500.00	0.000	0.000	230.62	0.00	0.00
18	141.00	RFS DB-T1-6Z-8AB-OZ	1	11.912	13.103	0.77	0.80	3.15	21.40	0.000	0.000	41.26	0.00	0.00
19	141.00	Alcatel Lucent	3	11.912	13.103	0.40	0.80	4.20	180.00	0.000	0.000	55.03	0.00	0.00
20	141.00	Alcatel Lucent	3	11.912	13.103	0.72	0.80	3.26	165.00	0.000	0.000	42.74	0.00	0.00
21	141.00	Antel	3	11.912	13.103	0.69	0.80	15.62	117.00	0.000	0.000	204.73	0.00	0.00
22	141.00	Commscope	6	11.912	13.103	0.73	0.80	35.22	436.20	0.000	0.000	461.44	0.00	0.00
23	141.00	Antel	3	11.912	13.103	0.82	0.80	8.71	90.90	0.000	0.000	114.19	0.00	0.00
24	141.00	Alcatel Lucent	3	11.912	13.103	0.40	0.80	4.20	180.00	0.000	0.000	55.03	0.00	0.00
25	131.00	RFS ATM1412D-1A20	3	11.729	12.902	0.58	0.80	2.05	39.00	0.000	0.000	26.45	0.00	0.00
26	131.00	Commscope LNX-6515DS	3	11.729	12.902	0.74	0.80	25.30	237.30	0.000	0.000	326.39	0.00	0.00
27	131.00	RFS	3	11.729	12.902	0.60	0.80	11.55	188.10	0.000	0.000	149.02	0.00	0.00
28	131.00	Kathrein 782 11056	3	11.729	12.902	0.61	0.80	1.20	33.00	0.000	0.000	15.53	0.00	0.00
29	131.00	T-Arms (Site Pro P/N	3	11.729	12.902	0.56	0.75	13.50	396.00	0.000	0.000	174.17	0.00	0.00
30	131.00	Ericsson KRY 144/1	3	11.729	12.902	0.56	0.80	0.69	33.00	0.000	0.000	8.89	0.00	0.00
31	123.00	ALU - 1900 MHz RRH -	3	11.574	12.732	0.78	0.80	6.37	180.00	0.000	0.000	81.15	0.00	0.00
32	123.00	APXVTM14-C-I20	3	11.574	12.732	0.68	0.80	12.96	165.00	0.000	0.000	165.06	0.00	0.00
33	123.00	APXVSP18-C-A20	2	11.574	12.732	0.72	0.80	11.63	114.00	0.000	0.000	148.02	0.00	0.00
34	123.00	ALU - TD-RRH8x20-25 -	3	11.574	12.732	0.55	0.80	6.71	210.00	0.000	0.000	85.39	0.00	0.00
35	123.00	Platform w/ HRK Handrail	1	11.574	12.732	1.00	1.00	32.00	1600.00	0.000	0.000	407.42	0.00	0.00
36	123.00	ALU - 800 MHz RRH -	3	11.574	12.732	0.74	0.80	5.50	159.00	0.000	0.000	70.00	0.00	0.00
37	123.00	RFS - ACU-A20-N - RET	4	11.574	12.732	0.63	0.80	0.35	4.00	0.000	0.000	4.51	0.00	0.00
38	123.00	APXVSP18-C-A20 (50	1	11.574	12.732	0.72	0.80	5.81	50.00	0.000	0.000	74.01	0.00	0.00
39	123.00	ALU - 800 MHz Filter	3	11.574	12.732	0.54	0.80	1.25	26.40	0.000	0.000	15.97	0.00	0.00

Totals: 9,135.10

4,458.98

Total Applied Force Summary

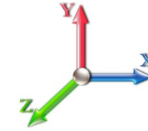
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	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		137.15	1235.31	0.00	0.00
10.00		134.55	1215.79	0.00	0.00
15.00		131.94	1196.27	0.00	0.00
20.00		137.23	1176.75	0.00	0.00
25.00		140.94	1157.23	0.00	0.00
30.00		143.44	1137.71	0.00	0.00
35.00		145.07	1118.18	0.00	0.00
40.00		146.00	1098.66	0.00	0.00
41.50		43.51	325.79	0.00	0.00
45.00		103.37	1365.31	0.00	0.00
48.00		88.52	1155.04	0.00	0.00
50.00		58.85	425.72	0.00	0.00
55.00		147.72	1050.65	0.00	0.00
60.00		146.97	1031.13	0.00	0.00
65.00		145.92	1011.61	0.00	0.00
70.00		144.62	992.08	0.00	0.00
75.00		143.09	972.56	0.00	0.00
80.00		141.34	953.04	0.00	0.00
84.08		113.87	763.84	0.00	0.00
85.00		25.58	275.65	0.00	0.00
89.50		125.08	1336.07	0.00	0.00
90.00		13.72	77.43	0.00	0.00
95.00		136.70	765.68	0.00	0.00
100.00		134.31	750.07	0.00	0.00
105.00		131.78	734.45	0.00	0.00
110.00		129.12	718.83	0.00	0.00
115.00		126.34	703.22	0.00	0.00
120.00		123.45	687.60	0.00	0.00
123.00	(23) attachments	1124.02	2913.46	0.00	0.00
125.00		47.69	259.29	0.00	0.00
127.92		68.72	373.65	0.00	0.00
130.00		48.95	402.76	0.00	0.00
131.00	(18) attachments	723.74	1118.04	0.00	0.00
132.08		25.08	196.24	0.00	0.00
135.00		66.87	274.05	0.00	0.00
140.00		112.22	460.53	0.00	0.00
141.00	(24) attachments	1268.28	2802.60	0.00	0.00
145.00		86.75	299.40	0.00	0.00
150.00	(38) attachments	1566.13	3352.11	0.00	-268.07
	Totals:	8,478.63	37,883.79	0.00	-268.07

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



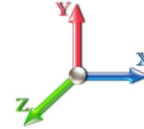
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 22

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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-37.88	-8.49	0.00	-942.14	0.00	942.14	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.231
5.00	-36.64	-8.39	0.00	-899.68	0.00	899.68	3376.67	1688.33	8351.12	4181.77	0.02	-0.046	0.000	0.226
10.00	-35.42	-8.28	0.00	-857.75	0.00	857.75	3351.94	1675.97	8129.40	4070.74	0.10	-0.092	0.000	0.221
15.00	-34.21	-8.17	0.00	-816.36	0.00	816.36	3325.63	1662.82	7906.28	3959.02	0.22	-0.138	0.000	0.217
20.00	-33.03	-8.06	0.00	-775.51	0.00	775.51	3297.74	1648.87	7681.99	3846.70	0.39	-0.185	0.000	0.212
25.00	-31.87	-7.94	0.00	-735.22	0.00	735.22	3268.26	1634.13	7456.75	3733.92	0.61	-0.233	0.000	0.207
30.00	-30.72	-7.82	0.00	-695.52	0.00	695.52	3237.20	1618.60	7230.79	3620.77	0.88	-0.280	0.000	0.202
35.00	-29.60	-7.69	0.00	-656.44	0.00	656.44	3204.54	1602.27	7004.35	3507.38	1.20	-0.329	0.000	0.196
40.00	-28.50	-7.55	0.00	-617.99	0.00	617.99	3170.31	1585.15	6777.64	3393.86	1.57	-0.377	0.000	0.191
41.50	-28.17	-7.52	0.00	-606.66	0.00	606.66	3159.73	1579.86	6709.61	3359.79	1.69	-0.392	0.000	0.190
45.00	-26.80	-7.42	0.00	-580.34	0.00	580.34	3134.49	1567.24	6550.90	3280.32	1.99	-0.426	0.000	0.185
48.00	-25.64	-7.34	0.00	-558.08	0.00	558.08	3132.30	1566.15	6537.37	3273.54	2.27	-0.456	0.000	0.179
50.00	-25.21	-7.29	0.00	-543.41	0.00	543.41	3117.49	1558.74	6446.72	3228.15	2.46	-0.476	0.000	0.176
55.00	-24.16	-7.15	0.00	-506.97	0.00	506.97	3079.35	1539.68	6220.34	3114.79	2.99	-0.523	0.000	0.171
60.00	-23.12	-7.01	0.00	-471.22	0.00	471.22	3039.63	1519.81	5994.49	3001.70	3.56	-0.570	0.000	0.165
65.00	-22.11	-6.87	0.00	-436.15	0.00	436.15	2998.32	1499.16	5769.39	2888.98	4.18	-0.616	0.000	0.158
70.00	-21.11	-6.74	0.00	-401.78	0.00	401.78	2955.43	1477.72	5545.28	2776.76	4.85	-0.663	0.000	0.152
75.00	-20.14	-6.60	0.00	-368.10	0.00	368.10	2910.95	1455.48	5322.38	2665.15	5.57	-0.709	0.000	0.145
80.00	-19.18	-6.46	0.00	-335.12	0.00	335.12	2864.89	1432.44	5100.92	2554.25	6.34	-0.754	0.000	0.138
84.08	-18.41	-6.34	0.00	-308.75	0.00	308.75	2826.09	1413.05	4921.28	2464.30	7.00	-0.791	0.000	0.132
85.00	-18.14	-6.32	0.00	-302.94	0.00	302.94	2817.24	1408.62	4881.12	2444.19	7.15	-0.799	0.000	0.130
89.50	-16.80	-6.18	0.00	-274.51	0.00	274.51	2031.94	1015.97	3485.43	1745.31	7.92	-0.839	0.000	0.166
90.00	-16.72	-6.17	0.00	-271.42	0.00	271.42	2029.15	1014.57	3470.92	1738.04	8.01	-0.843	0.000	0.164
95.00	-15.95	-6.04	0.00	-240.55	0.00	240.55	2000.34	1000.17	3325.82	1665.38	8.92	-0.894	0.000	0.152
100.00	-15.20	-5.91	0.00	-210.35	0.00	210.35	1969.95	984.97	3180.92	1592.82	9.89	-0.942	0.000	0.140
105.00	-14.46	-5.77	0.00	-180.82	0.00	180.82	1937.97	968.98	3036.44	1520.48	10.90	-0.988	0.000	0.126
110.00	-13.74	-5.64	0.00	-151.95	0.00	151.95	1904.40	952.20	2892.62	1448.46	11.96	-1.031	0.000	0.112
115.00	-13.04	-5.51	0.00	-123.75	0.00	123.75	1869.25	934.63	2749.69	1376.89	13.06	-1.070	0.000	0.097
120.00	-12.35	-5.38	0.00	-96.20	0.00	96.20	1832.52	916.26	2607.87	1305.87	14.20	-1.104	0.000	0.080
123.00	-9.46	-4.20	0.00	-80.06	0.00	80.06	1809.72	904.86	2523.40	1263.58	14.90	-1.122	0.000	0.069
125.00	-9.20	-4.15	0.00	-71.66	0.00	71.66	1794.20	897.10	2467.38	1235.52	15.37	-1.133	0.000	0.063
127.92	-8.83	-4.08	0.00	-59.55	0.00	59.55	1771.11	885.56	2386.14	1194.84	16.07	-1.148	0.000	0.055
130.00	-8.42	-4.02	0.00	-51.06	0.00	51.06	1754.29	877.15	2328.47	1165.96	16.57	-1.157	0.000	0.049
131.00	-7.32	-3.27	0.00	-47.04	0.00	47.04	1746.12	873.06	2300.89	1152.16	16.81	-1.161	0.000	0.045
132.08	-7.12	-3.25	0.00	-43.50	0.00	43.50	1160.48	580.24	1541.12	771.71	17.08	-1.165	0.000	0.063
135.00	-6.85	-3.18	0.00	-34.03	0.00	34.03	1148.82	574.41	1493.54	747.88	17.79	-1.175	0.000	0.051
140.00	-6.39	-3.05	0.00	-18.15	0.00	18.15	1127.58	563.79	1411.91	707.01	19.03	-1.191	0.000	0.031
141.00	-3.62	-1.73	0.00	-15.10	0.00	15.10	1123.15	561.57	1395.60	698.84	19.28	-1.193	0.000	0.025
145.00	-3.32	-1.64	0.00	-8.18	0.00	8.18	1104.76	552.38	1330.41	666.20	20.29	-1.200	0.000	0.015
150.00	0.00	-1.57	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	21.54	-1.203	0.000	0.000

Final Analysis Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 93 mph Wind	32.7	0.00	45.41	0.00	0.00	3640.60
0.9D + 1.6W 93 mph Wind	32.6	0.00	34.04	0.00	0.00	3607.07
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.9	0.00	80.74	0.00	0.00	1239.55
1.2D + 1.0E	2.0	0.00	45.46	0.00	0.00	248.78
0.9D + 1.0E	2.0	0.00	34.10	0.00	0.00	246.31
1.0D + 1.0W 60 mph Wind	8.5	0.00	37.88	0.00	0.00	942.14

Max Stresses

Load Case	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)	Elev (ft)	Stress Ratio
1.2D + 1.6W 93 mph Wind	-45.41	-32.66	0.00	-3640.6	0.00	-3640.6	3399.80	1699.9	8571.22	4291.98	0.00	0.862
0.9D + 1.6W 93 mph Wind	-34.04	-32.64	0.00	-3607.0	0.00	-3607.0	3399.80	1699.9	8571.22	4291.98	0.00	0.851
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-80.74	-10.92	0.00	-1239.5	0.00	-1239.5	3399.80	1699.9	8571.22	4291.98	0.00	0.313
1.2D + 1.0E	-45.46	-1.98	0.00	-248.78	0.00	-248.78	3399.80	1699.9	8571.22	4291.98	0.00	0.071
0.9D + 1.0E	-34.10	-1.98	0.00	-246.31	0.00	-246.31	3399.80	1699.9	8571.22	4291.98	0.00	0.067
1.0D + 1.0W 60 mph Wind	-37.88	-8.49	0.00	-942.14	0.00	-942.14	3399.80	1699.9	8571.22	4291.98	0.00	0.231

Base Plate Summary

Structure: CT10022-A-SB	Code: EIA/TIA-222-G	3/1/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 67.63
Moment (kip-ft): 3324.00	Width (in): 73.50	Number Bolts: 14.00
Axial (kip): 65.60	Style: Round	Bolt Type: 2.25" 18J
Shear (kip): 26.40	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis	Clip Length (in): 0.00	Yield (ksi): 75.00
Moment (kip-ft): 3640.60	Effective Len (in): 16.10	Ultimate (ksi): 100.00
Axial (kip): 80.74	Moment (kip-in): 583.36	Arrangement: Radial
Shear (kip): 32.66	Allow Stress (ksi): 67.50	Cluster Dist (in): 0.00
	Applied Stress (ksi): 0.00	Start Angle (deg): 0.00
Moment Design %: 109.52	Stress Ratio: 0.81	Compression
		Force (kip): 190.33
		Allowable (kip): 260.00
		Ratio: 0.75
		Tension
		Force (kip): 178.80
		Allowable (kip): 260.00
		Ratio: 0.71



Monopole Mat Foundation Design

Date
3/1/2018

Customer Name:	Sprint Nextel	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	150
Site Number:	CT10022-A-SBA	Engineer Name:	D. Zhou
Engr. Number:	48597	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	80.7	Shear Force (Kips):	32.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3640.6

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.5	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft.):	3.50
Length of Pad (ft.):	23.5	Width of Pad (ft.):	23.5

Final Length of pad (ft)	23.5	Final width of pad (ft):	23.5
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	34	Tie Spacing (in):	3.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	24	Qty. of Rebar in Pad (W):	24
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	24	Qty. of Rebar in Pad (W):	24
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

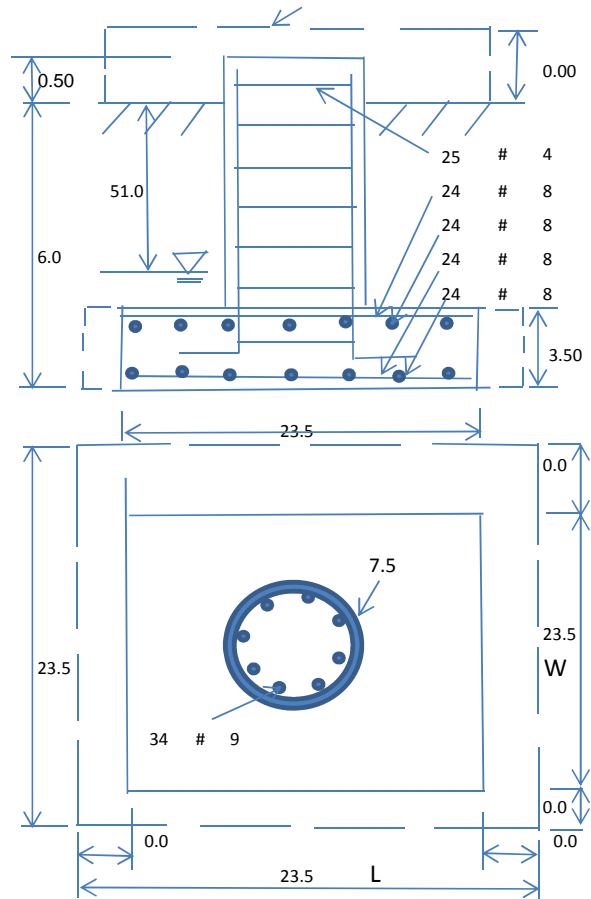
Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	60.0	Pcf		
Water Table B.G.S. (ft):	51.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	14000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hori. force for O.T.M.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1270.18	Total Dry Soil Weight (Kips):	158.77
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	158.77	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2065.41	Total Dry Concrete Weight (Kips):	309.81
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	309.81	Total Vertical Load on Base (Kips):	549.28

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3366	<	Allowable Factored Soil Bearing (psf):	10500	0.32	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5903.5	>	Design Factored Momont (kips-ft):	3853	0.65	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.53					OK!



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75	
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00	

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6200.6	> Design Factored Moment (Mu, Kips-Ft):	3738.7	0.60	OK!
Calculated Shear Capacity (Kips):	1098.7	> Design Factored Shear (Kips):	32.7	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	1836.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	8390.6	> Design Factored Axial Load (Pu Kips):	80.7	0.01	OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.61	OK! Check Tie Spacing (Design/Required):		0.25	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	881.9	> One-Way Factored Shear (L-D. Kips):	218.0	0.25	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	881.9	> One-Way Factored Shear (W-D., Kips)	218.0	0.25	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	965.7	> One-Way Factored Shear (C-C, Kips):	427.8	0.44	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3180.0	> Moment at Bottom (L-Direct. K-Ft):	526.3	0.17	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3180.0	> Moment at Bottom (W-Direct. K-Ft):	526.3	0.17	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4469.4	> Moment at Bottom (C-C Dir. K-Ft):	744.3	0.17	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Upper Steel Reinf. Ratio (W-Direct.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	3180.0	> Moment at the top (L-Dir Kips-Ft):	201.9	0.06	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3180.0	> Moment at the top (W-Dir Kips-Ft):	201.9	0.06	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4469.4	> Moment at the top (C-C Direc. K-Ft):	388.2	0.09	OK!