



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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www.ct.gov/csc

VIA ELECTRONIC MAIL

November 29, 2018

Mark Roberts
QC Development
P.O. Box 916
Storrs, CT 06268

RE: **EM-CING-059T-181029** – AT&T notice of intent to modify an existing telecommunications facility located at 1294 Pleasant Valley Road North, Groton, Connecticut.

Dear Mr. Roberts:

The Connecticut Siting Council (Council) is in receipt of your correspondence of November 27, 2018 submitted in response to the Council's October 30, 2018 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

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

Thank you for your attention and cooperation.

Sincerely,

A handwritten signature in blue ink that reads "Melanie A. Bachman".

Melanie A. Bachman
Executive Director

MAB/CMW/emr



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 149 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13075-A

Customer Site Name: New London

Carrier Name: AT&T (App#: 91814, V3)

Carrier Site ID / Name: CT2820 / Groton Pleasant Valley Road North

Site Location: 1294 Pleasant Valley Road North

Groton, Connecticut

New London County

Latitude: 41.399972

Longitude: -72.079222

Analysis Result:

Max Structural Usage: 71.4% [Pass]

Max Foundation Usage: 80.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification : N/A



Report Prepared By : Linfeng Chen



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Introduction

The purpose of this report is to summarize the analysis results on the 149 ft SABRE 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	Tower Design prepared by Sabre, job # 08-07173, dated 08/09/2007
Foundation Drawing	Foundation Design prepared by Sabre, job # 08-07173-E, dated 08/09/2007
Geotechnical Report	Geotechnical Report prepared by Gemini Geotechnical Associates, job # 07079CT, dated 07/20/2007
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 $V_{ult} = 135.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.163$, $S_1 = 0.059$

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	150.5	3	Commscope - SBNHH-1D65B - Panel	Low Profile Platform	(12) 1 5/8" (2) 1 5/8" Hybriflex Fiber	Verizon
2	149.0	3	Commscope - LNX-6514DS-VTM - Panel			
3		3	Antel - BXA-80063/4CF - Panel			
4		3	Commscope - SBNHH-1D65B - Panel			
5		3	Alcatel-Lucent- RRH 2x60 700 - RRH			
6		3	Alcatel-Lucent - RRH 4X45 AWS - RRH			
7		3	Alcatel-Lucent - RRH 2x60W-1900MHz - RRH			
8		1	RFS - DB-TI-6Z-8AB-OZ - Distribution Box			
9		1	RFS - DB-T1-6Z-8AB-OZ - Distribution Box			
10	140.0	3	Ericsson - AIR 21 B2A/B4P - Panel	Low Profile Platform	(12) 1 5/8" (2) 1 5/8" Fiber	T-Mobile
11	3	Ericsson - AIR 32 - Panel				
12	138.0	3	Ericsson - KRY 112 144/1 - TMA			
-	127.0	12	CCI - HPA-65R-BUU-8H - Panel	MTC3607 Platform + HR & Kicker	(2) 1/2" Fiber (8) 3/4" DC (3) 3/8" RET	New Cingular
-		9	Ericsson - RRUS 11 - RRU			
-		6	Ericsson - RRUS 12 - RRU			
-		3	Ericsson - RRUS 32 - RRU			
-		3	Ericsson - RRUS E2 - RRU			
-		6	Ericsson - RRUS A2 - RRU			
-		4	Raycap - DC6-48-60-18-8F			

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
13	127.0	6	Cci HPA65R-BU8A - Panel	MTC3607 Platform + HR & Kicker	(4) 1/2" Fiber (8) 3/4" DC Power (3) 3/8" RET Line	AT&T
14		3	Kaelus DBCT108F1V92-1 Diplexer			
15		3	Ericsson RRUS 4426 B66 RRU			
16		3	Ericsson RRUS 4415 B25 RRU			
17		3	Ericsson RRUS 4478 B5 RRU			
18		3	Ericsson RRUS 4478 B14 RRU			
19		6	Cci HPA-65R-BUU-H8 - Panel			
20		6	Ericsson RRUS-11 RRU			
21		3	Ericsson RRUS 32 RRU			
22		4	Raycap DC6-48-60-18-8F -SP			

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	Flange Plate
Max. Usage:	71.4%	66.4%	61.2%	54.4%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	5442.5	49.9
Analysis Reactions	4462.0	40.2
Factored Reactions*	7347.4	67.4
% of Design Reactions	60.7%	59.6%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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 1.0853 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 structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. 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.
4. 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.
5. 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.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 71.37% at 100.8ft

Structure: CT13075-A-SBA
Site Name: New London
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

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

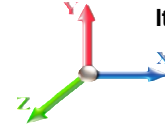
11/19/2018



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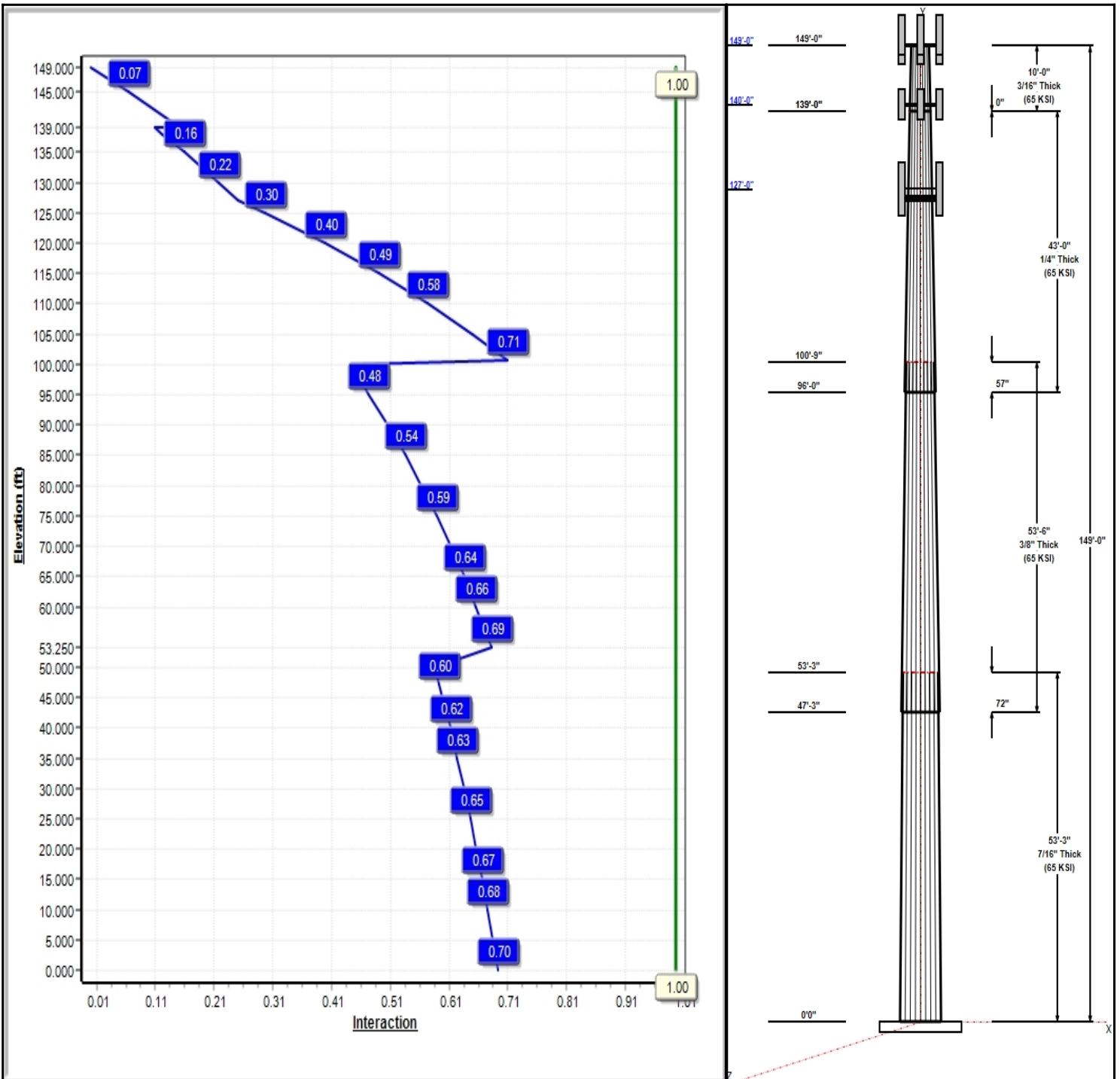
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 105 mph Wind



Iterations: 22

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Structure: CT13075-A-SBA

Type: Tapered
Site Name: New London
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23597

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	45.69	58.26	0.438		0.23597	65
2	53.50	35.24	47.86	0.375	Slip	0.23597	65
3	43.00	26.71	36.86	0.250	Slip	0.23597	65
4	10.00	24.35	26.71	0.188	Butt	0.23597	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
149.00	149.00	3	Alcatel RRH2x60 700	Verizon
149.00	149.00	3	Alcatel RRH 4X45 AWS	Verizon
149.00	149.00	3	Alcatel RRH	Verizon
149.00	149.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
149.00	149.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
149.00	149.00	1	Low Profile	Verizon
149.00	149.00	3	Commscope	Verizon
149.00	149.00	3	Antel BXA-80063/4CF	Verizon
149.00	149.00	3	Commscope	Verizon
149.00	150.50	3	Commscope	Verizon
140.00	140.00	3	Ericsson AIR 32	T-Mobile
140.00	140.00	1	Low Profile Platform	T-Mobile
140.00	140.00	3	Ericsson AIR 21 B2A/B4P	T-Mobile
138.00	138.00	3	Ericsson KRY 112 144/1 -	T-Mobile
127.00	127.00	1	MTC3607 Platform + HR &	AT&T
127.00	127.00	6	Cci HPA65R-BU8A	AT&T
127.00	127.00	3	Kaelus DBCT108F1V92-1	AT&T
127.00	127.00	3	Ericsson RRUS 4426 B66	AT&T
127.00	127.00	3	Ericsson RRUS 4415 B25	AT&T
127.00	127.00	3	Ericsson RRUS 4478 B5	AT&T
127.00	127.00	3	Ericsson RRUS 4478 B14	AT&T
127.00	127.00	6	Cci HPA-65R-BUU-H8	AT&T
127.00	127.00	6	Ericsson RRUS-11 RRU	AT&T
127.00	127.00	3	Ericsson RRUS 32 RRU	AT&T
127.00	127.00	4	Raycap DC6-48-60-18-8F	AT&T

Linear Appurtenances

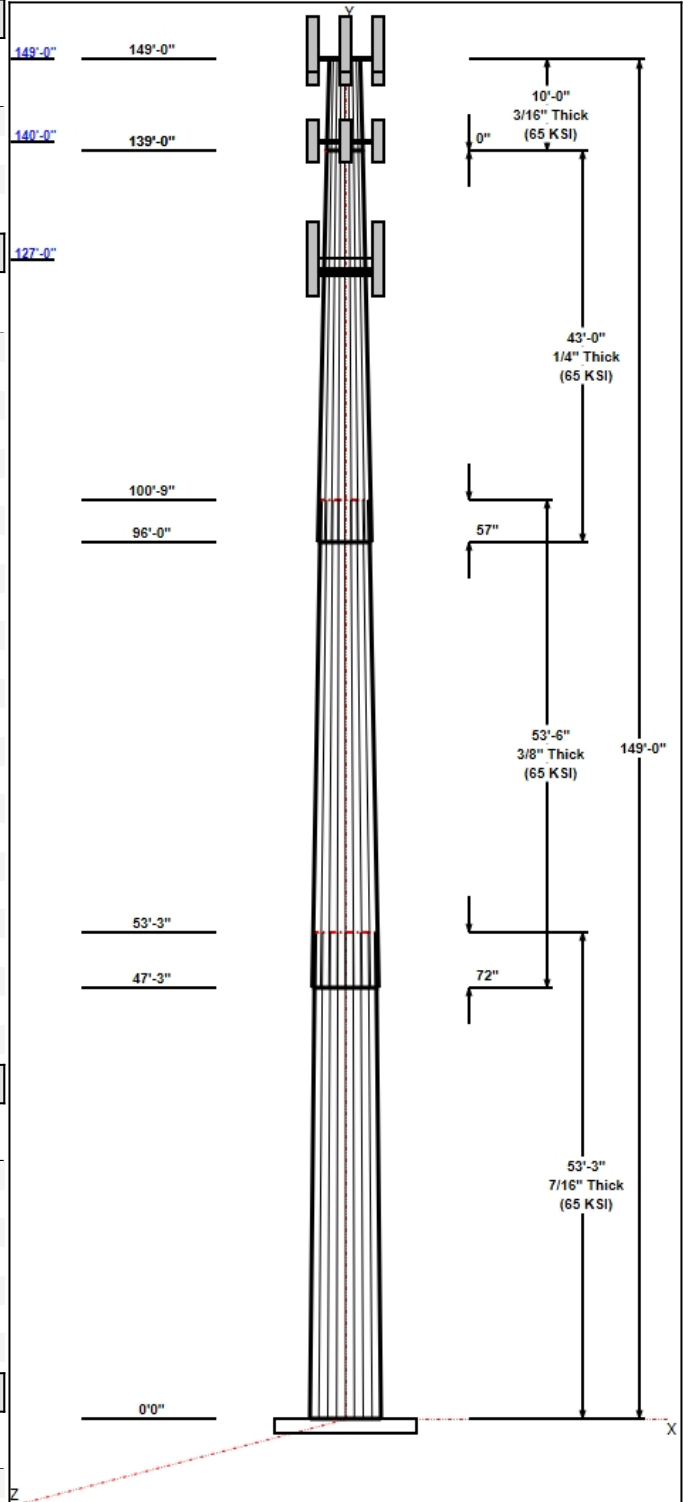
Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	149.00	Inside	1 5/8" Coax	Verizon
0.00	149.00	Inside	1 5/8" Hybriflex Fiber	Verizon
0.00	140.00	Inside	1 5/8" Coax	T-Mobile
0.00	140.00	Inside	1 5/8" Fiber	T-Mobile
0.00	127.00	Inside	1/2" Fiber	AT&T
0.00	127.00	Inside	3/4" DC Power	AT&T
0.00	127.00	Inside	3/8" RET Line	AT&T

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry



Structure: CT13075-A-SBA

Type: Tapered
Site Name: New London
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23597

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2.7500 65.4 60.0 Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	4462.0	40.2	47.2
0.9D + 1.6W 105 mph Wind	4426.5	40.2	35.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1007.5	9.3	72.4
1.2D + 1.0E	204.6	1.7	47.3
0.9D + 1.0E	202.9	1.7	35.5
1.0D + 1.0W 60 mph Wind	906.9	8.2	39.4

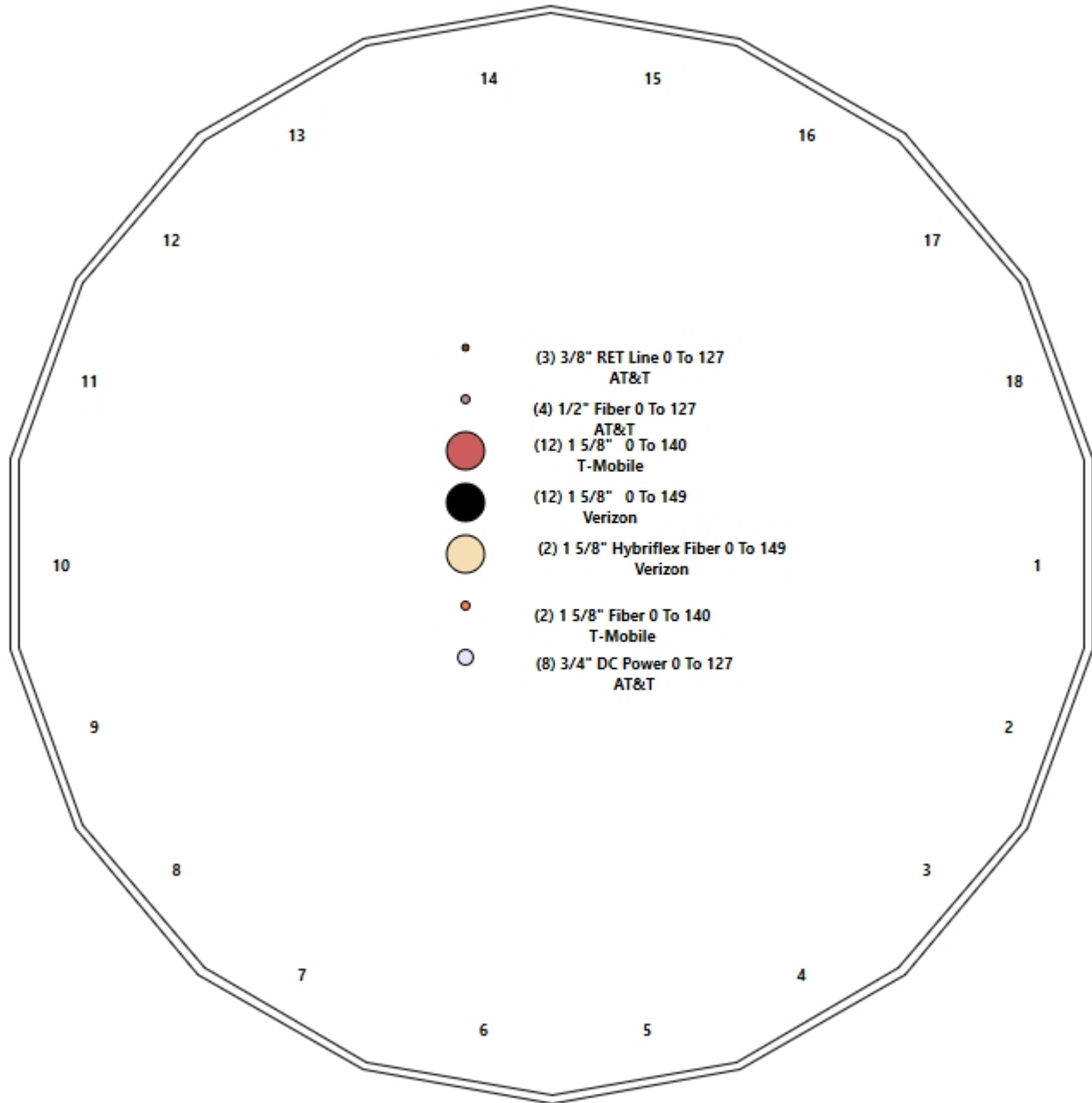
Structure: CT13075-A-SBA - Coax Line Placement

Type: Monopole
Site Name: New London
Height: 149.00 (ft)

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Shaft Properties

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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	53.250	0.4375	65		0.00	12,968
2	18	53.500	0.3750	65	Slip	72.00	8,921
3	18	43.000	0.2500	65	Slip	57.00	3,661
4	18	10.000	0.1875	65	Flange	0.00	513
Total Shaft Weight:							26,063

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	58.26	0.00	80.29	33916.66	22.07	133.17	45.69	53.25	62.84	16262.1	17.01	104.4	0.235973
2	47.86	47.25	56.52	16100.98	21.09	127.63	35.24	100.75	41.49	6370.66	15.16	93.96	0.235973
3	36.86	96.00	29.05	4917.70	24.58	147.43	26.71	139.00	21.00	1857.12	17.43	106.8	0.235973
4	26.71	139.0	15.78	1402.74	23.71	142.45	24.35	149.00	14.38	1060.65	21.49	129.8	0.235973

Load Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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	149.00	Alcatel RRH2x60 700	3	51.00	1.51	1.50	151.17	1.934	1.47	0.00	0.00
2	149.00	Alcatel RRH 4X45 AWS	3	64.00	2.60	0.80	147.52	3.304	0.80	0.00	0.00
3	149.00	Alcatel RRH 2X60W-1900MHz	3	46.00	1.88	0.84	115.05	2.466	0.84	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	18.90	4.80	0.67	162.51	5.673	0.67	0.00	0.00
5	149.00	RFS DB-T1-6Z-8AB-OZ	1	18.90	4.80	0.67	162.51	5.673	0.67	0.00	0.00
6	149.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2808.04	39.650	1.00	0.00	0.00
7	149.00	Commscope LNX-6514DS-VTM	3	38.80	8.17	0.83	214.98	10.991	0.83	0.00	0.00
8	149.00	Antel BXA-80063/4CF	3	9.90	4.72	0.72	110.33	6.567	0.72	0.00	0.00
9	149.00	Commscope SBNHH-1D65B	3	40.60	8.08	0.83	242.97	9.459	0.83	0.00	0.00
10	149.00	Commscope SBNHH-1D65B	3	40.00	8.16	0.83	242.97	9.459	0.83	0.00	1.50
11	140.00	Ericsson AIR 32	3	108.50	6.51	0.87	275.46	6.859	0.87	0.00	0.00
12	140.00	Low Profile Platform	1	1500.00	22.00	1.00	2799.91	39.540	1.00	0.00	0.00
13	140.00	Ericsson AIR 21 B2A/B4P	3	83.00	6.09	0.86	250.55	7.135	0.86	0.00	0.00
14	138.00	Ericsson KRY 112 144/1 - TMA	3	11.02	0.41	0.70	21.73	0.881	0.70	0.00	0.00
15	127.00	MTC3607 Platform + HR & Kicker	1	2246.00	51.70	1.00	5330.04	89.325	1.00	0.00	0.00
16	127.00	Cci HPA65R-BU8A	6	69.00	11.22	0.89	339.99	12.850	0.89	0.00	0.00
17	127.00	Kaelus DBCT108F1V92-1 Diplexer	3	19.80	0.70	1.00	44.04	0.953	1.00	0.00	0.00
18	127.00	Ericsson RRUS 4426 B66 RRU	3	48.50	1.15	0.67	86.77	1.616	0.67	0.00	0.00
19	127.00	Ericsson RRUS 4415 B25 RRU	3	44.10	1.86	0.67	90.76	2.423	0.67	0.00	0.00
20	127.00	Ericsson RRUS 4478 B5 RRU	3	59.90	1.84	0.67	107.98	2.379	0.67	0.00	0.00
21	127.00	Ericsson RRUS 4478 B14 RRU	3	59.40	1.65	0.67	100.18	2.160	0.67	0.00	0.00
22	127.00	Cci HPA-65R-BUU-H8	6	68.00	12.98	0.79	353.46	14.567	0.79	0.00	0.00
23	127.00	Ericsson RRUS-11 RRU	6	50.70	2.52	0.67	138.10	3.160	0.67	0.00	0.00
24	127.00	Ericsson RRUS 32 RRU	3	77.00	3.31	0.67	124.43	2.219	0.67	0.00	0.00
25	127.00	Raycap DC6-48-60-18-8F -SP	4	31.80	2.20	1.00	92.60	3.230	1.00	0.00	0.00
Totals:			75	8,941.76			23,603.34				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	149.00	(12) 1 5/8" Coax	0.00	Inside
0.00	149.00	(2) 1 5/8" Hybriflex Fiber	0.00	Inside
0.00	140.00	(12) 1 5/8" Coax	0.00	Inside
0.00	140.00	(2) 1 5/8" Fiber	0.00	Inside
0.00	127.00	(4) 1/2" Fiber	0.00	Inside
0.00	127.00	(8) 3/4" DC Power	0.00	Inside
0.00	127.00	(3) 3/8" RET Line	0.00	Inside

Shaft Section Properties

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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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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		0.4375	58.260	80.291	33916.7	22.07	133.17	75.4	1146.	0.0
5.00		0.4375	57.080	78.653	31882.5	21.59	130.47	76.0	1100.	1352.1
10.00		0.4375	55.900	77.014	29931.4	21.12	127.77	76.6	1054.	1324.2
15.00		0.4375	54.720	75.376	28061.5	20.64	125.08	77.1	1010.	1296.4
20.00		0.4375	53.541	73.738	26271.2	20.17	122.38	77.7	966.4	1268.5
25.00		0.4375	52.361	72.099	24558.7	19.69	119.68	78.2	923.8	1240.6
30.00		0.4375	51.181	70.461	22922.3	19.22	116.98	78.8	882.1	1212.8
35.00		0.4375	50.001	68.823	21360.3	18.74	114.29	79.4	841.4	1184.9
40.00		0.4375	48.821	67.184	19870.8	18.27	111.59	79.9	801.7	1157.0
45.00		0.4375	47.641	65.546	18452.3	17.79	108.89	80.5	762.9	1129.1
47.25	Bot - Section 2	0.4375	47.110	64.809	17836.6	17.58	107.68	80.7	745.7	499.0
50.00		0.4375	46.461	63.908	17103.0	17.31	106.20	81.0	725.0	1127.5
53.25	Top - Section 1	0.3750	46.444	54.832	14703.3	20.43	123.85	0.0	0.0	1312.3
55.00		0.3750	46.031	54.341	14311.4	20.23	122.75	77.6	612.4	325.1
60.00		0.3750	44.852	52.936	13230.3	19.68	119.60	78.3	581.0	912.6
65.00		0.3750	43.672	51.532	12205.1	19.12	116.46	78.9	550.5	888.7
70.00		0.3750	42.492	50.128	11234.3	18.57	113.31	79.6	520.7	864.8
75.00		0.3750	41.312	48.724	10316.3	18.01	110.17	80.2	491.8	840.9
80.00		0.3750	40.132	47.319	9449.8	17.46	107.02	80.9	463.8	817.0
85.00		0.3750	38.952	45.915	8633.2	16.90	103.87	81.5	436.5	793.1
90.00		0.3750	37.772	44.511	7865.0	16.35	100.73	82.2	410.1	769.2
95.00		0.3750	36.593	43.106	7143.9	15.80	97.58	82.5	384.5	745.4
96.00	Bot - Section 3	0.3750	36.357	42.826	7005.1	15.68	96.95	82.5	379.5	146.2
100.00		0.3750	35.413	41.702	6468.2	15.24	94.43	82.5	359.8	965.5
100.75	Top - Section 2	0.2500	35.736	28.157	4479.7	23.79	142.94	0.0	0.0	178.2
105.00		0.2500	34.733	27.361	4110.5	23.09	138.93	74.2	233.1	401.4
110.00		0.2500	33.553	26.425	3702.8	22.25	134.21	75.2	217.4	457.6
115.00		0.2500	32.373	25.489	3323.0	21.42	129.49	76.2	202.2	441.6
120.00		0.2500	31.193	24.553	2970.2	20.59	124.77	77.2	187.5	425.7
125.00		0.2500	30.013	23.616	2643.2	19.76	120.05	78.2	173.5	409.8
127.00		0.2500	29.541	23.242	2519.4	19.43	118.17	78.6	168.0	159.4
130.00		0.2500	28.833	22.680	2341.2	18.93	115.33	79.1	159.9	234.4
135.00		0.2500	27.654	21.744	2063.0	18.09	110.61	80.1	146.9	377.9
138.00		0.2500	26.946	21.182	1907.3	17.59	107.78	80.7	139.4	219.1
139.00	Top - Section 3	0.2500	26.710	20.995	1857.1	17.43	106.84	80.9	136.9	71.8
139.00	Bot - Section 4	0.1875	26.710	15.783	1402.7	23.24	142.45	73.5	103.4	
140.00		0.1875	26.474	15.643	1365.6	23.49	141.19	73.8	101.6	53.5
145.00		0.1875	25.294	14.941	1189.9	22.38	134.90	75.1	92.7	260.2
149.00		0.1875	24.350	14.379	1060.6	21.49	129.87	76.1	85.8	199.5

26063.1

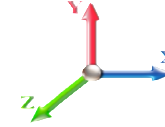
Wind Loading - Shaft

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 8
	Struct Class: II	



Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



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	22.791	25.07	477.24	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	467.57	0.650	0.000	5.00	24.400	15.86	636.2	0.0	1622.5
10.00		1.00	0.85	22.791	25.07	457.91	0.650	0.000	5.00	23.901	15.54	623.2	0.0	1589.1
15.00		1.00	0.85	22.791	25.07	448.24	0.650	0.000	5.00	23.401	15.21	610.1	0.0	1555.6
20.00		1.00	0.90	24.182	26.60	451.77	0.650	0.000	5.00	22.902	14.89	633.6	0.0	1522.2
25.00		1.00	0.95	25.345	27.88	452.31	0.650	0.000	5.00	22.403	14.56	649.6	0.0	1488.8
30.00		1.00	0.98	26.337	28.97	450.69	0.650	0.000	5.00	21.904	14.24	660.0	0.0	1455.3
35.00		1.00	1.01	27.206	29.93	447.50	0.650	0.000	5.00	21.405	13.91	666.2	0.0	1421.9
40.00		1.00	1.04	27.981	30.78	443.13	0.650	0.000	5.00	20.906	13.59	669.2	0.0	1388.4
45.00		1.00	1.07	28.684	31.55	437.81	0.650	0.000	5.00	20.406	13.26	669.6	0.0	1355.0
47.25	Bot - Section 2	1.00	1.08	28.980	31.88	435.16	0.650	0.000	2.25	9.020	5.86	299.0	0.0	598.8
50.00		1.00	1.09	29.327	32.26	431.73	0.650	0.000	2.75	11.062	7.19	371.1	0.0	1353.0
53.25	Top - Section 1	1.00	1.11	29.719	32.69	427.43	0.650	0.000	3.25	12.878	8.37	437.8	0.0	1574.8
55.00		1.00	1.12	29.922	32.91	432.05	0.650	0.000	1.75	6.847	4.45	234.4	0.0	390.1
60.00		1.00	1.14	30.475	33.52	424.85	0.650	0.000	5.00	19.226	12.50	670.3	0.0	1095.1
65.00		1.00	1.16	30.993	34.09	417.17	0.650	0.000	5.00	18.727	12.17	664.0	0.0	1066.4
70.00		1.00	1.17	31.480	34.63	409.08	0.650	0.000	5.00	18.228	11.85	656.4	0.0	1037.8
75.00		1.00	1.19	31.941	35.13	400.62	0.650	0.000	5.00	17.728	11.52	647.8	0.0	1009.1
80.00		1.00	1.21	32.377	35.62	391.83	0.650	0.000	5.00	17.229	11.20	638.2	0.0	980.4
85.00		1.00	1.22	32.793	36.07	382.75	0.650	0.000	5.00	16.730	10.87	627.6	0.0	951.8
90.00		1.00	1.24	33.190	36.51	373.39	0.650	0.000	5.00	16.231	10.55	616.3	0.0	923.1
95.00		1.00	1.25	33.570	36.93	363.79	0.650	0.000	5.00	15.732	10.23	604.2	0.0	894.4
96.00	Bot - Section 3	1.00	1.25	33.644	37.01	361.85	0.650	0.000	1.00	3.086	2.01	118.8	0.0	175.4
100.00		1.00	1.27	33.935	37.33	353.97	0.650	0.000	4.00	12.315	8.00	478.1	0.0	1158.6
100.75	Top - Section 2	1.00	1.27	33.988	37.39	352.48	0.650	0.000	0.75	2.274	1.48	88.4	0.0	213.8
105.00		1.00	1.28	34.285	37.71	348.96	0.650	0.000	4.25	12.671	8.24	497.0	0.0	481.7
110.00		1.00	1.29	34.623	38.08	338.76	0.650	0.000	5.00	14.446	9.39	572.2	0.0	549.1
115.00		1.00	1.30	34.948	38.44	328.38	0.650	0.000	5.00	13.946	9.07	557.6	0.0	530.0
120.00		1.00	1.32	35.263	38.79	317.84	0.650	0.000	5.00	13.447	8.74	542.5	0.0	510.8
125.00		1.00	1.33	35.567	39.12	307.13	0.650	0.000	5.00	12.948	8.42	526.8	0.0	491.7
127.00	Appurtenance(s)	1.00	1.33	35.686	39.25	302.81	0.650	0.000	2.00	5.039	3.28	205.7	0.0	191.3
130.00		1.00	1.34	35.862	39.45	296.28	0.650	0.000	3.00	7.409	4.82	304.0	0.0	281.3
135.00		1.00	1.35	36.148	39.76	285.29	0.650	0.000	5.00	11.950	7.77	494.2	0.0	453.5
138.00	Appurtenance(s)	1.00	1.35	36.316	39.95	278.63	0.650	0.000	3.00	6.930	4.50	287.9	0.0	262.9
139.00	Top - Section 3	1.00	1.36	36.371	40.01	276.40	0.650	0.000	1.00	2.270	1.48	94.5	0.0	86.1
140.00	Appurtenance(s)	1.00	1.36	36.426	40.07	274.16	0.650	0.000	1.00	2.250	1.46	93.8	0.0	64.2
145.00		1.00	1.37	36.696	40.37	262.91	0.650	0.000	5.00	10.951	7.12	459.7	0.0	312.2
149.00	Appurtenance(s)	1.00	1.38	36.907	40.60	253.83	0.650	0.000	4.00	8.402	5.46	354.7	0.0	239.4
Totals:									149.00			17,960.5		31,275.7

Discrete Appurtenance Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



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	149.00	RFS DB-T1-6Z-8AB-0Z	1	36.907	40.597	0.67	1.00	3.22	22.68	0.000	0.000	208.90	0.00	0.00	
2	149.00	Alcatel RRH2x60 700	3	36.907	40.597	1.50	1.00	6.79	183.60	0.000	0.000	441.37	0.00	0.00	
3	149.00	Alcatel RRH 4X45 AWS	3	36.907	40.597	0.80	1.00	6.24	230.40	0.000	0.000	405.32	0.00	0.00	
4	149.00	Alcatel RRH	3	36.907	40.597	0.84	1.00	4.74	165.60	0.000	0.000	307.73	0.00	0.00	
5	149.00	RFS DB-T1-6Z-8AB-0Z	1	36.907	40.597	0.67	1.00	3.22	22.68	0.000	0.000	208.90	0.00	0.00	
6	149.00	Commscope	3	36.985	40.683	0.83	1.00	20.32	144.00	0.000	1.500	1322.58	0.00	1983.88	
7	149.00	Low Profile	1	36.907	40.597	1.00	1.00	22.00	1800.00	0.000	0.000	1429.03	0.00	0.00	
8	149.00	Commscope	3	36.907	40.597	0.83	1.00	20.34	139.68	0.000	0.000	1321.42	0.00	0.00	
9	149.00	Antel BXA-80063/4CF	3	36.907	40.597	0.72	1.00	10.20	35.64	0.000	0.000	662.24	0.00	0.00	
10	149.00	Commscope	3	36.907	40.597	0.83	1.00	20.12	146.16	0.000	0.000	1306.86	0.00	0.00	
11	140.00	Ericsson AIR 32	3	36.426	40.068	0.70	0.80	13.59	390.60	0.000	0.000	871.43	0.00	0.00	
12	140.00	Ericsson AIR 21 B2A/B4P	3	36.426	40.068	0.69	0.80	12.57	298.80	0.000	0.000	805.84	0.00	0.00	
13	140.00	Low Profile Platform	1	36.426	40.068	1.00	1.00	22.00	1800.00	0.000	0.000	1410.41	0.00	0.00	
14	138.00	Ericsson KRY 112 144/1 -	3	36.316	39.947	0.56	0.80	0.69	39.67	0.000	0.000	44.02	0.00	0.00	
15	127.00	Ericsson RRUS 4478 B5	3	35.686	39.255	0.54	0.80	2.96	215.64	0.000	0.000	185.83	0.00	0.00	
16	127.00	Cci HPA65R-BU8A	6	35.686	39.255	0.71	0.80	47.93	496.80	0.000	0.000	3010.48	0.00	0.00	
17	127.00	Kaelus DBCT108F1V92-1	3	35.686	39.255	0.80	0.80	1.68	71.28	0.000	0.000	105.52	0.00	0.00	
18	127.00	Ericsson RRUS 4426 B66	3	35.686	39.255	0.54	0.80	1.85	174.60	0.000	0.000	116.14	0.00	0.00	
19	127.00	Ericsson RRUS 4415 B25	3	35.686	39.255	0.54	0.80	2.99	158.76	0.000	0.000	187.85	0.00	0.00	
20	127.00	MTC3607 Platform + HR &	1	35.686	39.255	1.00	1.00	51.70	2695.20	0.000	0.000	3247.15	0.00	0.00	
21	127.00	Ericsson RRUS 4478 B14	3	35.686	39.255	0.54	0.80	2.65	213.84	0.000	0.000	166.64	0.00	0.00	
22	127.00	Cci HPA-65R-BUU-H8	6	35.686	39.255	0.63	0.80	49.22	489.60	0.000	0.000	3091.39	0.00	0.00	
23	127.00	Ericsson RRUS-11 RRU	6	35.686	39.255	0.54	0.80	8.10	365.04	0.000	0.000	509.01	0.00	0.00	
24	127.00	Ericsson RRUS 32 RRU	3	35.686	39.255	0.54	0.80	5.32	277.20	0.000	0.000	334.29	0.00	0.00	
25	127.00	Raycap DC6-48-60-18-8F	4	35.686	39.255	0.80	0.80	7.04	152.64	0.000	0.000	442.16	0.00	0.00	
Totals:									10,730.11						22,142.52

Total Applied Force Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



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		636.17	1807.41	0.00	0.00
10.00		623.16	1773.96	0.00	0.00
15.00		610.14	1740.51	0.00	0.00
20.00		633.58	1707.06	0.00	0.00
25.00		649.58	1673.61	0.00	0.00
30.00		659.95	1640.16	0.00	0.00
35.00		666.19	1606.71	0.00	0.00
40.00		669.20	1573.26	0.00	0.00
45.00		669.62	1539.81	0.00	0.00
47.25		299.04	682.00	0.00	0.00
50.00		371.12	1454.67	0.00	0.00
53.25		437.83	1694.92	0.00	0.00
55.00		234.38	454.77	0.00	0.00
60.00		670.28	1279.98	0.00	0.00
65.00		663.97	1251.31	0.00	0.00
70.00		656.43	1222.64	0.00	0.00
75.00		647.80	1193.97	0.00	0.00
80.00		638.17	1165.30	0.00	0.00
85.00		627.64	1136.63	0.00	0.00
90.00		616.28	1107.95	0.00	0.00
95.00		604.17	1079.28	0.00	0.00
96.00		118.79	212.42	0.00	0.00
100.00		478.10	1306.50	0.00	0.00
100.75		88.40	241.56	0.00	0.00
105.00		497.00	638.87	0.00	0.00
110.00		572.17	733.93	0.00	0.00
115.00		557.59	714.81	0.00	0.00
120.00		542.47	695.70	0.00	0.00
125.00		526.84	676.58	0.00	0.00
127.00	(41) attachments	11602.20	5575.88	0.00	0.00
130.00		303.98	379.48	0.00	0.00
135.00		494.16	617.18	0.00	0.00
138.00	(3) attachments	331.94	400.80	0.00	0.00
139.00		94.46	118.85	0.00	0.00
140.00	(7) attachments	3181.44	2586.30	0.00	0.00
145.00		459.74	400.29	0.00	0.00
149.00	(24) attachments	7969.08	3200.35	0.00	1983.88
	Totals:	40,103.04	47,285.41	0.00	1,983.88

Calculated Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

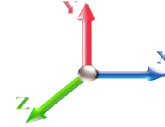


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Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 22

Dead Load Factor 1.20
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	-47.22	-40.18	0.00	-4461.9	0.00	4461.97	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.697
5.00	-45.29	-39.69	0.00	-4261.0	0.00	4261.08	5379.95	2689.97	12523.2	6270.95	0.10	-0.183	0.000	0.688
10.00	-43.39	-39.20	0.00	-4062.6	0.00	4062.65	5306.65	2653.32	12093.3	6055.68	0.39	-0.369	0.000	0.679
15.00	-41.52	-38.71	0.00	-3866.6	0.00	3866.67	5231.70	2615.85	11666.9	5842.16	0.88	-0.557	0.000	0.670
20.00	-39.70	-38.19	0.00	-3673.1	0.00	3673.13	5155.10	2577.55	11244.2	5630.50	1.56	-0.748	0.000	0.660
25.00	-37.90	-37.65	0.00	-3482.1	0.00	3482.18	5076.86	2538.43	10825.5	5420.83	2.45	-0.942	0.000	0.650
30.00	-36.15	-37.08	0.00	-3293.9	0.00	3293.95	4996.96	2498.48	10411.0	5213.26	3.54	-1.138	0.000	0.639
35.00	-34.43	-36.50	0.00	-3108.5	0.00	3108.55	4915.42	2457.71	10001.0	5007.93	4.84	-1.337	0.000	0.628
40.00	-32.75	-35.91	0.00	-2926.0	0.00	2926.06	4832.22	2416.11	9595.63	4804.95	6.35	-1.538	0.000	0.616
45.00	-31.14	-35.27	0.00	-2746.5	0.00	2746.52	4747.38	2373.69	9195.21	4604.44	8.07	-1.741	0.000	0.603
47.25	-30.40	-35.01	0.00	-2667.1	0.00	2667.16	4708.66	2354.33	9016.69	4515.05	8.91	-1.835	0.000	0.597
50.00	-28.88	-34.65	0.00	-2570.8	0.00	2570.88	4660.89	2330.44	8799.96	4406.52	10.01	-1.950	0.000	0.590
53.25	-27.14	-34.21	0.00	-2458.2	0.00	2458.26	3818.32	1909.16	7226.08	3618.41	11.38	-2.085	0.000	0.687
55.00	-26.60	-34.03	0.00	-2398.4	0.00	2398.40	3795.26	1897.63	7117.54	3564.06	12.16	-2.160	0.000	0.680
60.00	-25.22	-33.41	0.00	-2228.2	0.00	2228.27	3728.27	1864.14	6809.75	3409.94	14.54	-2.390	0.000	0.661
65.00	-23.87	-32.79	0.00	-2061.2	0.00	2061.23	3659.63	1829.82	6505.57	3257.62	17.17	-2.620	0.000	0.640
70.00	-22.55	-32.16	0.00	-1897.3	0.00	1897.30	3589.34	1794.67	6205.25	3107.24	20.04	-2.851	0.000	0.617
75.00	-21.26	-31.54	0.00	-1736.4	0.00	1736.49	3517.40	1758.70	5909.03	2958.91	23.15	-3.081	0.000	0.593
80.00	-20.01	-30.92	0.00	-1578.8	0.00	1578.80	3443.81	1721.91	5617.15	2812.75	26.50	-3.310	0.000	0.567
85.00	-18.80	-30.30	0.00	-1424.2	0.00	1424.21	3368.58	1684.29	5329.85	2668.89	30.08	-3.536	0.000	0.540
90.00	-17.62	-29.68	0.00	-1272.7	0.00	1272.73	3291.69	1645.84	5047.37	2527.44	33.91	-3.758	0.000	0.509
95.00	-16.51	-29.04	0.00	-1124.3	0.00	1124.34	3202.59	1601.29	4754.28	2380.67	37.96	-3.975	0.000	0.478
96.00	-16.26	-28.94	0.00	-1095.3	0.00	1095.30	3181.72	1590.86	4692.22	2349.60	38.79	-4.019	0.000	0.472
100.00	-14.94	-28.39	0.00	-979.55	0.00	979.55	3098.26	1549.13	4448.03	2227.32	42.23	-4.187	0.000	0.445
100.75	-14.65	-28.31	0.00	-958.26	0.00	958.26	1860.42	930.21	2714.89	1359.46	42.89	-4.219	0.000	0.714
105.00	-13.95	-27.82	0.00	-837.93	0.00	837.93	1828.32	914.16	2592.13	1297.99	46.72	-4.390	0.000	0.654
110.00	-13.14	-27.25	0.00	-698.81	0.00	698.81	1789.04	894.52	2449.03	1226.33	51.46	-4.656	0.000	0.578
115.00	-12.37	-26.69	0.00	-562.54	0.00	562.54	1748.11	874.06	2307.59	1155.51	56.47	-4.898	0.000	0.495
120.00	-11.63	-26.13	0.00	-429.10	0.00	429.10	1705.53	852.77	2168.05	1085.64	61.71	-5.110	0.000	0.403
125.00	-10.96	-25.56	0.00	-298.47	0.00	298.47	1661.30	830.65	2030.66	1016.84	67.16	-5.285	0.000	0.301
127.00	-6.46	-13.50	0.00	-247.35	0.00	247.35	1643.15	821.58	1976.36	989.65	69.38	-5.343	0.000	0.254
130.00	-6.09	-13.17	0.00	-206.85	0.00	206.85	1615.43	807.71	1895.65	949.24	72.76	-5.420	0.000	0.222
135.00	-5.51	-12.63	0.00	-140.99	0.00	140.99	1567.90	783.95	1763.28	882.95	78.49	-5.526	0.000	0.163
138.00	-5.14	-12.26	0.00	-103.10	0.00	103.10	1538.59	769.30	1685.21	843.86	81.97	-5.576	0.000	0.126
139.00	-5.02	-12.16	0.00	-90.84	0.00	90.84	1528.69	764.34	1659.43	830.95	83.14	-5.591	0.000	0.113
139.00	-5.02	-12.16	0.00	-90.84	0.00	90.84	1044.31	522.16	1138.99	570.34	83.14	-5.591	0.000	0.165
140.00	-2.75	-8.74	0.00	-78.68	0.00	78.68	1038.69	519.35	1122.71	562.19	84.31	-5.604	0.000	0.143
145.00	-2.40	-8.25	0.00	-34.97	0.00	34.97	1009.62	504.81	1041.96	521.75	90.21	-5.663	0.000	0.070
149.00	0.00	-7.97	0.00	-1.98	0.00	1.98	985.17	492.59	978.22	489.84	94.96	-5.681	0.000	0.004

Wind Loading - Shaft

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

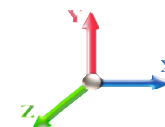


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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	22.791	25.07	477.24	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	467.57	0.650	0.000	5.00	24.400	15.86	636.2	0.0	1216.9
10.00		1.00	0.85	22.791	25.07	457.91	0.650	0.000	5.00	23.901	15.54	623.2	0.0	1191.8
15.00		1.00	0.85	22.791	25.07	448.24	0.650	0.000	5.00	23.401	15.21	610.1	0.0	1166.7
20.00		1.00	0.90	24.182	26.60	451.77	0.650	0.000	5.00	22.902	14.89	633.6	0.0	1141.6
25.00		1.00	0.95	25.345	27.88	452.31	0.650	0.000	5.00	22.403	14.56	649.6	0.0	1116.6
30.00		1.00	0.98	26.337	28.97	450.69	0.650	0.000	5.00	21.904	14.24	660.0	0.0	1091.5
35.00		1.00	1.01	27.206	29.93	447.50	0.650	0.000	5.00	21.405	13.91	666.2	0.0	1066.4
40.00		1.00	1.04	27.981	30.78	443.13	0.650	0.000	5.00	20.906	13.59	669.2	0.0	1041.3
45.00		1.00	1.07	28.684	31.55	437.81	0.650	0.000	5.00	20.406	13.26	669.6	0.0	1016.2
47.25	Bot - Section 2	1.00	1.08	28.980	31.88	435.16	0.650	0.000	2.25	9.020	5.86	299.0	0.0	449.1
50.00		1.00	1.09	29.327	32.26	431.73	0.650	0.000	2.75	11.062	7.19	371.1	0.0	1014.7
53.25	Top - Section 1	1.00	1.11	29.719	32.69	427.43	0.650	0.000	3.25	12.878	8.37	437.8	0.0	1181.1
55.00		1.00	1.12	29.922	32.91	432.05	0.650	0.000	1.75	6.847	4.45	234.4	0.0	292.5
60.00		1.00	1.14	30.475	33.52	424.85	0.650	0.000	5.00	19.226	12.50	670.3	0.0	821.3
65.00		1.00	1.16	30.993	34.09	417.17	0.650	0.000	5.00	18.727	12.17	664.0	0.0	799.8
70.00		1.00	1.17	31.480	34.63	409.08	0.650	0.000	5.00	18.228	11.85	656.4	0.0	778.3
75.00		1.00	1.19	31.941	35.13	400.62	0.650	0.000	5.00	17.728	11.52	647.8	0.0	756.8
80.00		1.00	1.21	32.377	35.62	391.83	0.650	0.000	5.00	17.229	11.20	638.2	0.0	735.3
85.00		1.00	1.22	32.793	36.07	382.75	0.650	0.000	5.00	16.730	10.87	627.6	0.0	713.8
90.00		1.00	1.24	33.190	36.51	373.39	0.650	0.000	5.00	16.231	10.55	616.3	0.0	692.3
95.00		1.00	1.25	33.570	36.93	363.79	0.650	0.000	5.00	15.732	10.23	604.2	0.0	670.8
96.00	Bot - Section 3	1.00	1.25	33.644	37.01	361.85	0.650	0.000	1.00	3.086	2.01	118.8	0.0	131.6
100.00		1.00	1.27	33.935	37.33	353.97	0.650	0.000	4.00	12.315	8.00	478.1	0.0	869.0
100.75	Top - Section 2	1.00	1.27	33.988	37.39	352.48	0.650	0.000	0.75	2.274	1.48	88.4	0.0	160.4
105.00		1.00	1.28	34.285	37.71	348.96	0.650	0.000	4.25	12.671	8.24	497.0	0.0	361.3
110.00		1.00	1.29	34.623	38.08	338.76	0.650	0.000	5.00	14.446	9.39	572.2	0.0	411.8
115.00		1.00	1.30	34.948	38.44	328.38	0.650	0.000	5.00	13.946	9.07	557.6	0.0	397.5
120.00		1.00	1.32	35.263	38.79	317.84	0.650	0.000	5.00	13.447	8.74	542.5	0.0	383.1
125.00		1.00	1.33	35.567	39.12	307.13	0.650	0.000	5.00	12.948	8.42	526.8	0.0	368.8
127.00	Appurtenance(s)	1.00	1.33	35.686	39.25	302.81	0.650	0.000	2.00	5.039	3.28	205.7	0.0	143.5
130.00		1.00	1.34	35.862	39.45	296.28	0.650	0.000	3.00	7.409	4.82	304.0	0.0	211.0
135.00		1.00	1.35	36.148	39.76	285.29	0.650	0.000	5.00	11.950	7.77	494.2	0.0	340.1
138.00	Appurtenance(s)	1.00	1.35	36.316	39.95	278.63	0.650	0.000	3.00	6.930	4.50	287.9	0.0	197.2
139.00	Top - Section 3	1.00	1.36	36.371	40.01	276.40	0.650	0.000	1.00	2.270	1.48	94.5	0.0	64.6
140.00	Appurtenance(s)	1.00	1.36	36.426	40.07	274.16	0.650	0.000	1.00	2.250	1.46	93.8	0.0	48.1
145.00		1.00	1.37	36.696	40.37	262.91	0.650	0.000	5.00	10.951	7.12	459.7	0.0	234.2
149.00	Appurtenance(s)	1.00	1.38	36.907	40.60	253.83	0.650	0.000	4.00	8.402	5.46	354.7	0.0	179.6
Totals:									149.00			17,960.5		23,456.8

Discrete Appurtenance Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

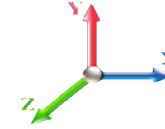


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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	149.00	RFS DB-T1-6Z-8AB-0Z	1	36.907	40.597	0.67	1.00	3.22	17.01	0.000	0.000	208.90	0.00	0.00
2	149.00	Alcatel RRH2x60 700	3	36.907	40.597	1.50	1.00	6.79	137.70	0.000	0.000	441.37	0.00	0.00
3	149.00	Alcatel RRH 4X45 AWS	3	36.907	40.597	0.80	1.00	6.24	172.80	0.000	0.000	405.32	0.00	0.00
4	149.00	Alcatel RRH	3	36.907	40.597	0.84	1.00	4.74	124.20	0.000	0.000	307.73	0.00	0.00
5	149.00	RFS DB-T1-6Z-8AB-0Z	1	36.907	40.597	0.67	1.00	3.22	17.01	0.000	0.000	208.90	0.00	0.00
6	149.00	Commscope	3	36.985	40.683	0.83	1.00	20.32	108.00	0.000	1.500	1322.58	0.00	1983.88
7	149.00	Low Profile	1	36.907	40.597	1.00	1.00	22.00	1350.00	0.000	0.000	1429.03	0.00	0.00
8	149.00	Commscope	3	36.907	40.597	0.83	1.00	20.34	104.76	0.000	0.000	1321.42	0.00	0.00
9	149.00	Antel BXA-80063/4CF	3	36.907	40.597	0.72	1.00	10.20	26.73	0.000	0.000	662.24	0.00	0.00
10	149.00	Commscope	3	36.907	40.597	0.83	1.00	20.12	109.62	0.000	0.000	1306.86	0.00	0.00
11	140.00	Ericsson AIR 32	3	36.426	40.068	0.70	0.80	13.59	292.95	0.000	0.000	871.43	0.00	0.00
12	140.00	Ericsson AIR 21 B2A/B4P	3	36.426	40.068	0.69	0.80	12.57	224.10	0.000	0.000	805.84	0.00	0.00
13	140.00	Low Profile Platform	1	36.426	40.068	1.00	1.00	22.00	1350.00	0.000	0.000	1410.41	0.00	0.00
14	138.00	Ericsson KRY 112 144/1 -	3	36.316	39.947	0.56	0.80	0.69	29.75	0.000	0.000	44.02	0.00	0.00
15	127.00	Ericsson RRUS 4478 B5	3	35.686	39.255	0.54	0.80	2.96	161.73	0.000	0.000	185.83	0.00	0.00
16	127.00	Cci HPA65R-BU8A	6	35.686	39.255	0.71	0.80	47.93	372.60	0.000	0.000	3010.48	0.00	0.00
17	127.00	Kaelus DBCT108F1V92-1	3	35.686	39.255	0.80	0.80	1.68	53.46	0.000	0.000	105.52	0.00	0.00
18	127.00	Ericsson RRUS 4426 B66	3	35.686	39.255	0.54	0.80	1.85	130.95	0.000	0.000	116.14	0.00	0.00
19	127.00	Ericsson RRUS 4415 B25	3	35.686	39.255	0.54	0.80	2.99	119.07	0.000	0.000	187.85	0.00	0.00
20	127.00	MTC3607 Platform + HR &	1	35.686	39.255	1.00	1.00	51.70	2021.40	0.000	0.000	3247.15	0.00	0.00
21	127.00	Ericsson RRUS 4478 B14	3	35.686	39.255	0.54	0.80	2.65	160.38	0.000	0.000	166.64	0.00	0.00
22	127.00	Cci HPA-65R-BUU-H8	6	35.686	39.255	0.63	0.80	49.22	367.20	0.000	0.000	3091.39	0.00	0.00
23	127.00	Ericsson RRUS-11 RRU	6	35.686	39.255	0.54	0.80	8.10	273.78	0.000	0.000	509.01	0.00	0.00
24	127.00	Ericsson RRUS 32 RRU	3	35.686	39.255	0.54	0.80	5.32	207.90	0.000	0.000	334.29	0.00	0.00
25	127.00	Ravcap DC6-48-60-18-8F	4	35.686	39.255	0.80	0.80	7.04	114.48	0.000	0.000	442.16	0.00	0.00

Totals: 8,047.58

22,142.52

Total Applied Force Summary

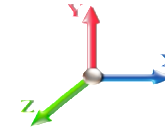
Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



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		636.17	1355.56	0.00	0.00
10.00		623.16	1330.47	0.00	0.00
15.00		610.14	1305.38	0.00	0.00
20.00		633.58	1280.29	0.00	0.00
25.00		649.58	1255.21	0.00	0.00
30.00		659.95	1230.12	0.00	0.00
35.00		666.19	1205.03	0.00	0.00
40.00		669.20	1179.95	0.00	0.00
45.00		669.62	1154.86	0.00	0.00
47.25		299.04	511.50	0.00	0.00
50.00		371.12	1091.00	0.00	0.00
53.25		437.83	1271.19	0.00	0.00
55.00		234.38	341.07	0.00	0.00
60.00		670.28	959.98	0.00	0.00
65.00		663.97	938.48	0.00	0.00
70.00		656.43	916.98	0.00	0.00
75.00		647.80	895.48	0.00	0.00
80.00		638.17	873.97	0.00	0.00
85.00		627.64	852.47	0.00	0.00
90.00		616.28	830.97	0.00	0.00
95.00		604.17	809.46	0.00	0.00
96.00		118.79	159.31	0.00	0.00
100.00		478.10	979.88	0.00	0.00
100.75		88.40	181.17	0.00	0.00
105.00		497.00	479.15	0.00	0.00
110.00		572.17	550.44	0.00	0.00
115.00		557.59	536.11	0.00	0.00
120.00		542.47	521.77	0.00	0.00
125.00		526.84	507.44	0.00	0.00
127.00	(41) attachments	11602.20	4181.91	0.00	0.00
130.00		303.98	284.61	0.00	0.00
135.00		494.16	462.88	0.00	0.00
138.00	(3) attachments	331.94	300.60	0.00	0.00
139.00		94.46	89.14	0.00	0.00
140.00	(7) attachments	3181.44	1939.72	0.00	0.00
145.00		459.74	300.22	0.00	0.00
149.00	(24) attachments	7969.08	2400.26	0.00	1983.88
Totals:		40,103.04	35,464.06	0.00	1,983.88

Calculated Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

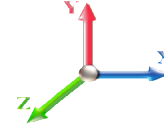


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Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 22

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	-35.40	-40.16	0.00	-4426.4	0.00	4426.49	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.689
5.00	-33.92	-39.63	0.00	-4225.7	0.00	4225.70	5379.95	2689.97	12523.2	6270.95	0.10	-0.181	0.000	0.680
10.00	-32.46	-39.11	0.00	-4027.5	0.00	4027.55	5306.65	2653.32	12093.3	6055.68	0.39	-0.366	0.000	0.671
15.00	-31.04	-38.59	0.00	-3832.0	0.00	3832.02	5231.70	2615.85	11666.9	5842.16	0.87	-0.552	0.000	0.662
20.00	-29.64	-38.04	0.00	-3639.0	0.00	3639.09	5155.10	2577.55	11244.2	5630.50	1.55	-0.742	0.000	0.652
25.00	-28.27	-37.47	0.00	-3448.9	0.00	3448.91	5076.86	2538.43	10825.5	5420.83	2.43	-0.934	0.000	0.642
30.00	-26.92	-36.88	0.00	-3261.5	0.00	3261.58	4996.96	2498.48	10411.0	5213.26	3.51	-1.128	0.000	0.631
35.00	-25.61	-36.27	0.00	-3077.2	0.00	3077.21	4915.42	2457.71	10001.0	5007.93	4.80	-1.325	0.000	0.620
40.00	-24.32	-35.66	0.00	-2895.8	0.00	2895.85	4832.22	2416.11	9595.63	4804.95	6.30	-1.524	0.000	0.608
45.00	-23.09	-35.02	0.00	-2717.5	0.00	2717.55	4747.38	2373.69	9195.21	4604.44	8.00	-1.724	0.000	0.595
47.25	-22.53	-34.74	0.00	-2638.7	0.00	2638.77	4708.66	2354.33	9016.69	4515.05	8.83	-1.817	0.000	0.589
50.00	-21.38	-34.38	0.00	-2543.2	0.00	2543.23	4660.89	2330.44	8799.96	4406.52	9.92	-1.931	0.000	0.582
53.25	-20.06	-33.94	0.00	-2431.4	0.00	2431.49	3818.32	1909.16	7226.08	3618.41	11.28	-2.065	0.000	0.678
55.00	-19.64	-33.74	0.00	-2372.1	0.00	2372.10	3795.26	1897.63	7117.54	3564.06	12.05	-2.139	0.000	0.671
60.00	-18.57	-33.11	0.00	-2203.4	0.00	2203.40	3728.27	1864.14	6809.75	3409.94	14.41	-2.366	0.000	0.651
65.00	-17.54	-32.47	0.00	-2037.8	0.00	2037.86	3659.63	1829.82	6505.57	3257.62	17.01	-2.594	0.000	0.631
70.00	-16.53	-31.84	0.00	-1875.4	0.00	1875.49	3589.34	1794.67	6205.25	3107.24	19.85	-2.822	0.000	0.609
75.00	-15.54	-31.21	0.00	-1716.2	0.00	1716.29	3517.40	1758.70	5909.03	2958.91	22.93	-3.050	0.000	0.585
80.00	-14.58	-30.58	0.00	-1560.2	0.00	1560.24	3443.81	1721.91	5617.15	2812.75	26.24	-3.276	0.000	0.559
85.00	-13.65	-29.96	0.00	-1407.3	0.00	1407.33	3368.58	1684.29	5329.85	2668.89	29.79	-3.499	0.000	0.532
90.00	-12.75	-29.34	0.00	-1257.5	0.00	1257.54	3291.69	1645.84	5047.37	2527.44	33.57	-3.719	0.000	0.502
95.00	-11.92	-28.71	0.00	-1110.8	0.00	1110.85	3202.59	1601.29	4754.28	2380.67	37.58	-3.933	0.000	0.471
96.00	-11.72	-28.60	0.00	-1082.1	0.00	1082.14	3181.72	1590.86	4692.22	2349.60	38.41	-3.977	0.000	0.465
100.00	-10.73	-28.07	0.00	-967.73	0.00	967.73	3098.26	1549.13	4448.03	2227.32	41.81	-4.143	0.000	0.438
100.75	-10.50	-27.99	0.00	-946.68	0.00	946.68	1860.42	930.21	2714.89	1359.46	42.47	-4.175	0.000	0.703
105.00	-9.96	-27.50	0.00	-827.72	0.00	827.72	1828.32	914.16	2592.13	1297.99	46.26	-4.343	0.000	0.644
110.00	-9.33	-26.93	0.00	-690.23	0.00	690.23	1789.04	894.52	2449.03	1226.33	50.95	-4.606	0.000	0.569
115.00	-8.74	-26.36	0.00	-555.61	0.00	555.61	1748.11	874.06	2307.59	1155.51	55.90	-4.845	0.000	0.487
120.00	-8.18	-25.80	0.00	-423.81	0.00	423.81	1705.53	852.77	2168.05	1085.64	61.08	-5.055	0.000	0.396
125.00	-7.68	-25.25	0.00	-294.80	0.00	294.80	1661.30	830.65	2030.66	1016.84	66.47	-5.227	0.000	0.295
127.00	-4.56	-13.32	0.00	-244.31	0.00	244.31	1643.15	821.58	1976.36	989.65	68.67	-5.285	0.000	0.250
130.00	-4.29	-12.99	0.00	-204.36	0.00	204.36	1615.43	807.71	1895.65	949.24	72.01	-5.361	0.000	0.218
135.00	-3.85	-12.46	0.00	-139.40	0.00	139.40	1567.90	783.95	1763.28	882.95	77.68	-5.465	0.000	0.161
138.00	-3.58	-12.11	0.00	-102.01	0.00	102.01	1538.59	769.30	1685.21	843.86	81.12	-5.515	0.000	0.123
139.00	-3.50	-12.00	0.00	-89.91	0.00	89.91	1528.69	764.34	1659.43	830.95	82.28	-5.529	0.000	0.111
139.00	-3.50	-12.00	0.00	-89.91	0.00	89.91	1044.31	522.16	1138.99	570.34	82.28	-5.529	0.000	0.162
140.00	-1.87	-8.65	0.00	-77.90	0.00	77.90	1038.69	519.35	1122.71	562.19	83.44	-5.542	0.000	0.141
145.00	-1.61	-8.17	0.00	-34.65	0.00	34.65	1009.62	504.81	1041.96	521.75	89.27	-5.601	0.000	0.068
149.00	0.00	-7.97	0.00	-1.98	0.00	1.98	985.17	492.59	978.22	489.84	93.96	-5.618	0.000	0.004

Wind Loading - Shaft

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

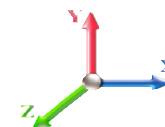


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 21

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	1.242	5.00	25.435	30.52	173.5	453.8	2076.3
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	25.010	30.01	170.6	477.3	2066.4
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	24.557	29.47	167.5	487.2	2042.9
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	24.091	28.91	174.4	491.3	2013.5
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	23.619	28.34	179.2	491.8	1980.6
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	23.142	27.77	182.4	490.2	1945.5
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	22.662	27.19	184.5	486.8	1908.7
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	22.180	26.62	185.8	482.3	1870.7
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	21.696	26.03	186.3	476.7	1831.7
47.25	Bot - Section 2	1.00	1.08	6.571	7.23	0.00	1.200	1.555	2.25	9.603	11.52	83.3	213.3	812.1
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.75	11.778	14.13	103.4	262.7	1615.7
53.25	Top - Section 1	1.00	1.11	6.739	7.41	0.00	1.200	1.574	3.25	13.731	16.48	122.1	307.6	1882.4
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	1.75	7.307	8.77	65.4	164.8	554.8
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	20.553	24.66	187.5	463.2	1558.3
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	20.065	24.08	186.1	455.2	1521.7
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	19.575	23.49	184.4	446.8	1484.5
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	19.085	22.90	182.5	437.9	1447.0
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	18.595	22.31	180.2	428.7	1409.2
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	18.104	21.72	177.7	419.3	1371.0
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	17.613	21.14	175.0	409.5	1332.6
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	17.121	20.55	172.0	399.5	1293.9
96.00	Bot - Section 3	1.00	1.25	7.629	8.39	0.00	1.200	1.669	1.00	3.365	4.04	33.9	79.5	254.9
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	4.00	13.433	16.12	136.4	315.6	1474.2
100.75	Top - Section 2	1.00	1.27	7.707	8.48	0.00	1.200	1.677	0.75	2.483	2.98	25.3	58.9	272.8
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	4.25	13.864	16.64	142.3	326.4	808.2
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	15.856	19.03	164.3	373.4	922.5
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	15.363	18.44	160.7	362.6	892.5
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	14.870	17.84	156.9	351.6	862.4
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	14.376	17.25	153.0	340.4	832.2
127.00	Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	1.716	2.00	5.612	6.73	59.9	134.4	325.7
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	3.00	8.270	9.92	88.8	197.5	478.7
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	13.389	16.07	144.9	317.7	771.2
138.00	Appurtenance(s)	1.00	1.35	8.235	9.06	0.00	1.200	1.731	3.00	7.796	9.35	84.7	186.4	449.4
139.00	Top - Section 3	1.00	1.36	8.247	9.07	0.00	1.200	1.732	1.00	2.559	3.07	27.9	61.7	147.8
140.00	Appurtenance(s)	1.00	1.36	8.260	9.09	0.00	1.200	1.733	1.00	2.539	3.05	27.7	61.2	125.4
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	12.401	14.88	136.2	294.4	606.6
149.00	Appurtenance(s)	1.00	1.38	8.369	9.21	0.00	1.200	1.744	4.00	9.564	11.48	105.7	227.9	467.4
Totals:									149.00			5,072.5	43,711.3	

Discrete Appurtenance Forces

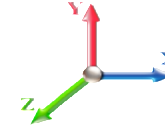
Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 21

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	149.00	RFS DB-T1-6Z-8AB-0Z	1	8.369	9.206	0.67	1.00	3.80	166.29	0.000	0.000	34.99	0.00	0.00	
2	149.00	Alcatel RRH2x60 700	3	8.369	9.206	1.47	1.00	8.54	484.10	0.000	0.000	78.61	0.00	0.00	
3	149.00	Alcatel RRH 4X45 AWS	3	8.369	9.206	0.80	1.00	7.93	480.95	0.000	0.000	72.99	0.00	0.00	
4	149.00	Alcatel RRH	3	8.369	9.206	0.84	1.00	6.21	372.75	0.000	0.000	57.20	0.00	0.00	
5	149.00	RFS DB-T1-6Z-8AB-0Z	1	8.369	9.206	0.67	1.00	3.80	166.29	0.000	0.000	34.99	0.00	0.00	
6	149.00	Commscope	3	8.387	9.225	0.83	1.00	23.55	752.91	0.000	1.500	217.28	0.00	325.92	
7	149.00	Low Profile	1	8.369	9.206	1.00	1.00	39.65	2808.04	0.000	0.000	365.01	0.00	0.00	
8	149.00	Commscope	3	8.369	9.206	0.83	1.00	27.37	516.73	0.000	0.000	251.95	0.00	0.00	
9	149.00	Antel BXA-80063/4CF	3	8.369	9.206	0.72	1.00	14.19	250.84	0.000	0.000	130.59	0.00	0.00	
10	149.00	Commscope	3	8.369	9.206	0.83	1.00	23.33	750.50	0.000	0.000	214.81	0.00	0.00	
11	140.00	Ericsson AIR 32	3	8.260	9.086	0.70	0.80	14.32	891.47	0.000	0.000	130.12	0.00	0.00	
12	140.00	Ericsson AIR 21 B2A/B4P	3	8.260	9.086	0.69	0.80	14.73	801.44	0.000	0.000	133.80	0.00	0.00	
13	140.00	Low Profile Platform	1	8.260	9.086	1.00	1.00	39.54	2799.91	0.000	0.000	359.25	0.00	0.00	
14	138.00	Ericsson KRY 112 144/1 -	3	8.235	9.058	0.56	0.80	1.48	62.57	0.000	0.000	13.41	0.00	0.00	
15	127.00	Ericsson RRUS 4478 B5	3	8.092	8.901	0.54	0.80	3.83	324.77	0.000	0.000	34.06	0.00	0.00	
16	127.00	Cci HPA65R-BU8A	6	8.092	8.901	0.71	0.80	54.89	2122.72	0.000	0.000	488.62	0.00	0.00	
17	127.00	Kaelus DBCT108F1V92-1	3	8.092	8.901	0.80	0.80	2.29	144.01	0.000	0.000	20.36	0.00	0.00	
18	127.00	Ericsson RRUS 4426 B66	3	8.092	8.901	0.54	0.80	2.60	289.40	0.000	0.000	23.13	0.00	0.00	
19	127.00	Ericsson RRUS 4415 B25	3	8.092	8.901	0.54	0.80	3.90	268.13	0.000	0.000	34.68	0.00	0.00	
20	127.00	MTC3607 Platform + HR &	1	8.092	8.901	1.00	1.00	89.33	4775.24	0.000	0.000	795.11	0.00	0.00	
21	127.00	Ericsson RRUS 4478 B14	3	8.092	8.901	0.54	0.80	3.47	307.99	0.000	0.000	30.91	0.00	0.00	
22	127.00	Cci HPA-65R-BUU-H8	6	8.092	8.901	0.63	0.80	55.24	2202.37	0.000	0.000	491.69	0.00	0.00	
23	127.00	Ericsson RRUS-11 RRU	6	8.092	8.901	0.54	0.80	10.16	889.41	0.000	0.000	90.45	0.00	0.00	
24	127.00	Ericsson RRUS 32 RRU	3	8.092	8.901	0.54	0.80	3.57	419.49	0.000	0.000	31.76	0.00	0.00	
25	127.00	Ravcap DC6-48-60-18-8F	4	8.092	8.901	0.80	0.80	10.34	325.06	0.000	0.000	92.01	0.00	0.00	
Totals:									23,373.38						4,227.77

Total Applied Force Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 21

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		173.51	2261.21	0.00	0.00
10.00		170.61	2251.22	0.00	0.00
15.00		167.52	2227.74	0.00	0.00
20.00		174.38	2198.32	0.00	0.00
25.00		179.18	2165.46	0.00	0.00
30.00		182.43	2130.32	0.00	0.00
35.00		184.54	2093.54	0.00	0.00
40.00		185.76	2055.52	0.00	0.00
45.00		186.27	2016.52	0.00	0.00
47.25		83.30	895.28	0.00	0.00
50.00		103.39	1717.40	0.00	0.00
53.25		122.14	2002.54	0.00	0.00
55.00		65.45	619.53	0.00	0.00
60.00		187.48	1743.21	0.00	0.00
65.00		186.13	1706.52	0.00	0.00
70.00		184.45	1669.39	0.00	0.00
75.00		182.46	1631.89	0.00	0.00
80.00		180.21	1594.04	0.00	0.00
85.00		177.70	1555.89	0.00	0.00
90.00		174.98	1517.46	0.00	0.00
95.00		172.04	1478.77	0.00	0.00
96.00		33.88	291.91	0.00	0.00
100.00		136.44	1622.10	0.00	0.00
100.75		25.26	300.51	0.00	0.00
105.00		142.28	965.31	0.00	0.00
110.00		164.32	1107.34	0.00	0.00
115.00		160.70	1077.41	0.00	0.00
120.00		156.94	1047.30	0.00	0.00
125.00		153.05	1017.02	0.00	0.00
127.00	(41) attachments	2192.72	12468.23	0.00	0.00
130.00		88.77	576.96	0.00	0.00
135.00		144.86	934.85	0.00	0.00
138.00	(3) attachments	98.15	610.14	0.00	0.00
139.00		27.86	180.53	0.00	0.00
140.00	(7) attachments	650.85	4650.95	0.00	0.00
145.00		136.21	694.66	0.00	0.00
149.00	(24) attachments	1564.06	7287.24	0.00	325.92
	Totals:	9,300.29	72,364.20	0.00	325.92

Calculated Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

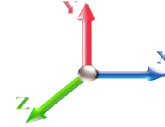


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 21

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	-72.36	-9.33	0.00	-1007.4	0.00	1007.47	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.169
5.00	-70.09	-9.20	0.00	-960.85	0.00	960.85	5379.95	2689.97	12523.2	6270.95	0.02	-0.041	0.000	0.166
10.00	-67.84	-9.08	0.00	-914.83	0.00	914.83	5306.65	2653.32	12093.3	6055.68	0.09	-0.083	0.000	0.164
15.00	-65.60	-8.96	0.00	-869.44	0.00	869.44	5231.70	2615.85	11666.9	5842.16	0.20	-0.126	0.000	0.161
20.00	-63.40	-8.82	0.00	-824.66	0.00	824.66	5155.10	2577.55	11244.2	5630.50	0.35	-0.168	0.000	0.159
25.00	-61.23	-8.68	0.00	-780.54	0.00	780.54	5076.86	2538.43	10825.5	5420.83	0.55	-0.212	0.000	0.156
30.00	-59.09	-8.54	0.00	-737.12	0.00	737.12	4996.96	2498.48	10411.0	5213.26	0.80	-0.256	0.000	0.153
35.00	-56.99	-8.39	0.00	-694.42	0.00	694.42	4915.42	2457.71	10001.0	5007.93	1.09	-0.300	0.000	0.150
40.00	-54.93	-8.23	0.00	-652.48	0.00	652.48	4832.22	2416.11	9595.63	4804.95	1.43	-0.345	0.000	0.147
45.00	-52.91	-8.07	0.00	-611.31	0.00	611.31	4747.38	2373.69	9195.21	4604.44	1.81	-0.390	0.000	0.144
47.25	-52.01	-8.00	0.00	-593.16	0.00	593.16	4708.66	2354.33	9016.69	4515.05	2.00	-0.411	0.000	0.142
50.00	-50.29	-7.91	0.00	-571.17	0.00	571.17	4660.89	2330.44	8799.96	4406.52	2.25	-0.437	0.000	0.140
53.25	-48.29	-7.79	0.00	-545.47	0.00	545.47	4613.32	2309.16	8583.28	4300.41	2.56	-0.467	0.000	0.138
55.00	-47.66	-7.75	0.00	-531.85	0.00	531.85	4575.26	2290.63	8376.54	4200.06	2.73	-0.483	0.000	0.136
60.00	-45.91	-7.58	0.00	-493.12	0.00	493.12	4478.27	2264.14	8089.75	4009.94	3.26	-0.534	0.000	0.132
65.00	-44.20	-7.42	0.00	-455.21	0.00	455.21	4385.63	2239.82	7825.57	3827.62	3.85	-0.585	0.000	0.128
70.00	-42.53	-7.26	0.00	-418.11	0.00	418.11	4297.34	2217.67	7582.25	3652.24	4.49	-0.636	0.000	0.124
75.00	-40.89	-7.09	0.00	-381.84	0.00	381.84	4213.40	2197.70	7350.03	3492.91	5.19	-0.687	0.000	0.120
80.00	-39.30	-6.92	0.00	-346.39	0.00	346.39	4133.81	2179.91	7130.15	3342.75	5.93	-0.737	0.000	0.116
85.00	-37.74	-6.76	0.00	-311.77	0.00	311.77	4058.58	2163.29	6922.85	3202.89	6.73	-0.787	0.000	0.112
90.00	-36.22	-6.59	0.00	-277.98	0.00	277.98	3987.69	2148.34	6727.37	3072.44	7.58	-0.835	0.000	0.108
95.00	-34.74	-6.41	0.00	-245.02	0.00	245.02	3920.95	2134.29	6543.28	2950.67	8.48	-0.883	0.000	0.104
96.00	-34.44	-6.39	0.00	-238.61	0.00	238.61	3907.72	2131.72	6522.22	2949.60	8.67	-0.892	0.000	0.112
100.00	-32.82	-6.24	0.00	-213.05	0.00	213.05	3858.26	2119.13	6384.03	2827.32	9.43	-0.929	0.000	0.106
100.75	-32.52	-6.22	0.00	-208.37	0.00	208.37	3860.42	2114.89	6374.89	2827.32	9.58	-0.936	0.000	0.171
105.00	-31.55	-6.09	0.00	-181.92	0.00	181.92	3828.32	2103.16	6259.13	2727.99	10.43	-0.973	0.000	0.157
110.00	-30.44	-5.94	0.00	-151.47	0.00	151.47	3800.04	2092.52	6154.03	2632.33	11.48	-1.031	0.000	0.141
115.00	-29.36	-5.78	0.00	-121.78	0.00	121.78	3776.11	2083.06	6059.59	2551.51	12.59	-1.083	0.000	0.122
120.00	-28.31	-5.63	0.00	-92.88	0.00	92.88	3756.53	2074.77	5976.05	2485.64	13.75	-1.129	0.000	0.102
125.00	-27.30	-5.46	0.00	-64.75	0.00	64.75	3741.30	2067.65	5903.66	2434.84	14.95	-1.167	0.000	0.080
127.00	-14.88	-3.02	0.00	-53.82	0.00	53.82	3731.15	2062.58	5859.36	2419.65	15.44	-1.180	0.000	0.063
130.00	-14.30	-2.92	0.00	-44.77	0.00	44.77	3724.43	2058.71	5825.65	2414.24	16.19	-1.196	0.000	0.056
135.00	-13.37	-2.76	0.00	-30.15	0.00	30.15	3720.90	2055.95	5793.28	2409.95	17.46	-1.219	0.000	0.043
138.00	-12.76	-2.65	0.00	-21.86	0.00	21.86	3718.59	2053.30	5762.21	2406.86	18.23	-1.230	0.000	0.034
139.00	-12.58	-2.62	0.00	-19.20	0.00	19.20	3717.69	2053.34	5759.43	2406.95	18.48	-1.233	0.000	0.031
139.00	-12.58	-2.62	0.00	-19.20	0.00	19.20	1044.31	522.16	1138.99	570.34	18.48	-1.233	0.000	0.046
140.00	-7.94	-1.87	0.00	-16.58	0.00	16.58	1038.69	519.35	1122.71	562.19	18.74	-1.236	0.000	0.037
145.00	-7.25	-1.72	0.00	-7.22	0.00	7.22	1009.62	504.81	1041.96	521.75	20.04	-1.248	0.000	0.021
149.00	0.00	-1.56	0.00	-0.33	0.00	0.33	985.17	492.59	978.22	489.84	21.09	-1.252	0.000	0.001

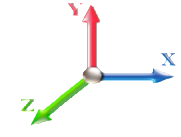
Seismic Segment Forces (Factored)

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 20
Gust Response Factor	1.10	Sds	0.17	Ss 0.16
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.41	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		1352.1	0.00	0.03	0.02	19.65	
10.00		1324.2	0.01	0.05	0.03	28.59	
15.00		1296.3	0.02	0.06	0.04	32.67	
20.00		1268.5	0.03	0.07	0.04	34.40	
25.00		1240.6	0.05	0.07	0.04	35.05	
30.00		1212.7	0.08	0.07	0.04	35.28	
35.00		1184.8	0.10	0.07	0.04	35.38	
40.00		1157.0	0.14	0.07	0.03	35.37	
45.00		1129.1	0.17	0.07	0.03	35.07	
47.25	Bot - Section 2	499.01	0.19	0.06	0.02	15.53	
50.00		1127.4	0.21	0.06	0.02	34.97	
53.25	Top - Section 1	1312.3	0.24	0.06	0.02	40.04	
55.00		325.05	0.26	0.05	0.02	9.76	
60.00		912.60	0.31	0.04	0.01	25.14	
65.00		888.71	0.36	0.03	0.01	20.53	
70.00		864.82	0.42	0.01	0.01	14.19	
75.00		840.92	0.48	-0.01	0.01	6.41	
80.00		817.03	0.54	-0.03	0.01	-1.96	
85.00		793.14	0.62	-0.06	0.02	-9.70	
90.00		769.25	0.69	-0.08	0.03	-15.53	
95.00		745.35	0.77	-0.11	0.05	-18.55	
96.00	Bot - Section 3	146.20	0.78	-0.11	0.05	-3.71	
100.00		965.51	0.85	-0.12	0.07	-24.59	
100.75	Top - Section 2	178.20	0.86	-0.12	0.07	-4.48	
105.00		401.45	0.94	-0.12	0.10	-8.62	
110.00		457.56	1.03	-0.10	0.15	-5.86	
115.00		441.63	1.13	-0.05	0.20	0.28	
120.00		425.70	1.23	0.03	0.27	8.00	
125.00		409.77	1.33	0.16	0.36	17.11	
127.00	Appurtenance(s)	4584.9	1.37	0.23	0.40	239.70	
130.00		234.39	1.44	0.36	0.47	16.30	
135.00		377.91	1.55	0.64	0.61	38.62	
138.00	Appurtenance(s)	252.16	1.62	0.85	0.70	31.31	
139.00	Top - Section 3	71.76	1.64	0.92	0.73	9.47	
140.00	Appurtenance(s)	2127.9	1.67	1.01	0.77	297.59	
145.00		260.18	1.79	1.49	0.96	47.50	
149.00	Appurtenance(s)	2608.2	1.89	1.98	1.14	575.09	
Totals:		35,004.9				1,646.0	Total Wind: 40,103.0

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

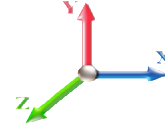
Calculated Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 20
Gust Response Factor	1.10			Sds	0.17	Ss 0.16
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.09	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.41	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	-47.29	-1.74	0.00	-204.61	0.00	204.61	5451.60	2725.80	12956.4	6487.84	0.00	0.00	0.00	0.040
5.00	-45.48	-1.73	0.00	-195.90	0.00	195.90	5379.95	2689.97	12523.2	6270.95	0.00	-0.01	0.040	
10.00	-43.70	-1.71	0.00	-187.25	0.00	187.25	5306.65	2653.32	12093.3	6055.68	0.02	-0.02	0.039	
15.00	-41.96	-1.68	0.00	-178.72	0.00	178.72	5231.70	2615.85	11666.9	5842.16	0.04	-0.03	0.039	
20.00	-40.26	-1.65	0.00	-170.32	0.00	170.32	5155.10	2577.55	11244.2	5630.50	0.07	-0.03	0.038	
25.00	-38.58	-1.62	0.00	-162.07	0.00	162.07	5076.86	2538.43	10825.5	5420.83	0.11	-0.04	0.037	
30.00	-36.94	-1.59	0.00	-153.97	0.00	153.97	4996.96	2498.48	10411.0	5213.26	0.16	-0.05	0.037	
35.00	-35.33	-1.56	0.00	-146.02	0.00	146.02	4915.42	2457.71	10001.0	5007.93	0.22	-0.06	0.036	
40.00	-33.76	-1.53	0.00	-138.23	0.00	138.23	4832.22	2416.11	9595.63	4804.95	0.29	-0.07	0.036	
45.00	-32.22	-1.49	0.00	-130.60	0.00	130.60	4747.38	2373.69	9195.21	4604.44	0.37	-0.08	0.035	
47.25	-31.54	-1.48	0.00	-127.24	0.00	127.24	4708.66	2354.33	9016.69	4515.05	0.41	-0.09	0.035	
50.00	-30.08	-1.45	0.00	-123.17	0.00	123.17	4660.89	2330.44	8799.96	4406.52	0.46	-0.09	0.034	
53.25	-28.39	-1.41	0.00	-118.47	0.00	118.47	4618.32	2309.16	8582.08	4300.41	0.53	-0.10	0.040	
55.00	-27.93	-1.40	0.00	-116.01	0.00	116.01	4595.26	2297.63	8371.54	4200.06	0.56	-0.10	0.040	
60.00	-26.65	-1.38	0.00	-109.01	0.00	109.01	4528.27	2264.14	8009.75	4009.94	0.68	-0.11	0.039	
65.00	-25.40	-1.36	0.00	-102.13	0.00	102.13	4465.63	2229.82	7650.57	3827.62	0.80	-0.12	0.038	
70.00	-24.18	-1.35	0.00	-95.34	0.00	95.34	4407.34	2194.67	7295.25	3652.24	0.94	-0.14	0.037	
75.00	-22.99	-1.34	0.00	-88.61	0.00	88.61	4353.40	2158.70	6944.03	3492.91	1.08	-0.15	0.036	
80.00	-21.82	-1.34	0.00	-81.90	0.00	81.90	4303.81	2121.91	6605.15	3347.75	1.24	-0.16	0.035	
85.00	-20.68	-1.34	0.00	-75.19	0.00	75.19	4257.58	2084.29	6278.85	3224.89	1.42	-0.17	0.034	
90.00	-19.57	-1.34	0.00	-68.47	0.00	68.47	4214.69	2045.84	5964.37	3122.44	1.60	-0.18	0.033	
95.00	-18.50	-1.34	0.00	-61.74	0.00	61.74	4175.09	2006.59	5661.28	3030.67	1.80	-0.19	0.032	
96.00	-18.28	-1.34	0.00	-60.40	0.00	60.40	4161.72	2000.86	5622.22	3000.60	1.84	-0.20	0.031	
100.00	-16.98	-1.34	0.00	-55.02	0.00	55.02	4098.26	1959.13	5248.03	2827.32	2.01	-0.21	0.030	
100.75	-16.73	-1.34	0.00	-54.01	0.00	54.01	4086.42	1950.21	5214.89	2800.46	2.04	-0.21	0.049	
105.00	-16.09	-1.34	0.00	-48.31	0.00	48.31	4028.32	1914.16	4892.13	2657.99	2.23	-0.22	0.046	
110.00	-15.36	-1.35	0.00	-41.59	0.00	41.59	3974.04	1884.52	4590.03	2532.33	2.47	-0.23	0.043	
115.00	-14.65	-1.35	0.00	-34.86	0.00	34.86	3923.11	1860.06	4300.59	2422.51	2.72	-0.25	0.039	
120.00	-13.95	-1.34	0.00	-28.14	0.00	28.14	3875.53	1841.77	4022.05	2324.64	2.98	-0.26	0.034	
125.00	-13.27	-1.32	0.00	-21.45	0.00	21.45	3831.30	1828.65	3764.66	2237.84	3.26	-0.27	0.029	
127.00	-7.70	-1.05	0.00	-18.81	0.00	18.81	3813.15	1821.58	3716.36	2200.65	3.38	-0.28	0.024	
130.00	-7.32	-1.04	0.00	-15.65	0.00	15.65	3801.43	1817.71	3675.65	2170.24	3.56	-0.28	0.021	
135.00	-6.70	-1.00	0.00	-10.47	0.00	10.47	3790.90	1815.95	3642.28	2146.95	3.86	-0.29	0.016	
138.00	-6.30	-0.96	0.00	-7.49	0.00	7.49	3780.59	1815.30	3615.21	2129.86	4.04	-0.29	0.013	
139.00	-6.18	-0.95	0.00	-6.53	0.00	6.53	3778.69	1815.34	3609.43	2125.95	4.10	-0.30	0.012	
139.00	-6.18	-0.95	0.00	-6.53	0.00	6.53	1044.31	522.16	1138.99	570.34	4.10	-0.30	0.017	
140.00	-3.60	-0.64	0.00	-5.57	0.00	5.57	1038.69	519.35	1122.71	562.19	4.17	-0.30	0.013	
145.00	-3.20	-0.59	0.00	-2.37	0.00	2.37	1009.62	504.81	1041.96	521.75	4.48	-0.30	0.008	
149.00	0.00	-0.58	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	4.73	-0.30	0.000	

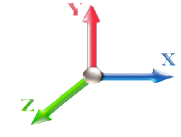
Seismic Segment Forces (Factored)

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 20
Gust Response Factor	1.10	Sds	0.17	Ss 0.16
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.41	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		1352.1	0.00	0.03	0.02	19.65	
10.00		1324.2	0.01	0.05	0.03	28.59	
15.00		1296.3	0.02	0.06	0.04	32.67	
20.00		1268.5	0.03	0.07	0.04	34.40	
25.00		1240.6	0.05	0.07	0.04	35.05	
30.00		1212.7	0.08	0.07	0.04	35.28	
35.00		1184.8	0.10	0.07	0.04	35.38	
40.00		1157.0	0.14	0.07	0.03	35.37	
45.00		1129.1	0.17	0.07	0.03	35.07	
47.25	Bot - Section 2	499.01	0.19	0.06	0.02	15.53	
50.00		1127.4	0.21	0.06	0.02	34.97	
53.25	Top - Section 1	1312.3	0.24	0.06	0.02	40.04	
55.00		325.05	0.26	0.05	0.02	9.76	
60.00		912.60	0.31	0.04	0.01	25.14	
65.00		888.71	0.36	0.03	0.01	20.53	
70.00		864.82	0.42	0.01	0.01	14.19	
75.00		840.92	0.48	-0.01	0.01	6.41	
80.00		817.03	0.54	-0.03	0.01	-1.96	
85.00		793.14	0.62	-0.06	0.02	-9.70	
90.00		769.25	0.69	-0.08	0.03	-15.53	
95.00		745.35	0.77	-0.11	0.05	-18.55	
96.00	Bot - Section 3	146.20	0.78	-0.11	0.05	-3.71	
100.00		965.51	0.85	-0.12	0.07	-24.59	
100.75	Top - Section 2	178.20	0.86	-0.12	0.07	-4.48	
105.00		401.45	0.94	-0.12	0.10	-8.62	
110.00		457.56	1.03	-0.10	0.15	-5.86	
115.00		441.63	1.13	-0.05	0.20	0.28	
120.00		425.70	1.23	0.03	0.27	8.00	
125.00		409.77	1.33	0.16	0.36	17.11	
127.00	Appurtenance(s)	4584.9	1.37	0.23	0.40	239.70	
130.00		234.39	1.44	0.36	0.47	16.30	
135.00		377.91	1.55	0.64	0.61	38.62	
138.00	Appurtenance(s)	252.16	1.62	0.85	0.70	31.31	
139.00	Top - Section 3	71.76	1.64	0.92	0.73	9.47	
140.00	Appurtenance(s)	2127.9	1.67	1.01	0.77	297.59	
145.00		260.18	1.79	1.49	0.96	47.50	
149.00	Appurtenance(s)	2608.2	1.89	1.98	1.14	575.09	
Totals:		35,004.9				1,646.0	Total Wind: 40,103.0

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

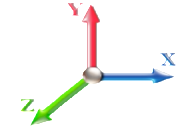
Calculated Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 20
Gust Response Factor	1.10			Sds	0.17	Ss 0.16
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.09	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.41	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	-35.46	-1.74	0.00	-202.88	0.00	202.88	5451.60	2725.80	12956.4	6487.84	0.00	0.00	0.00	0.038
5.00	-34.11	-1.73	0.00	-194.18	0.00	194.18	5379.95	2689.97	12523.2	6270.95	0.00	-0.01	0.037	
10.00	-32.78	-1.70	0.00	-185.54	0.00	185.54	5306.65	2653.32	12093.3	6055.68	0.02	-0.02	0.037	
15.00	-31.47	-1.67	0.00	-177.03	0.00	177.03	5231.70	2615.85	11666.9	5842.16	0.04	-0.03	0.036	
20.00	-30.19	-1.64	0.00	-168.66	0.00	168.66	5155.10	2577.55	11244.2	5630.50	0.07	-0.03	0.036	
25.00	-28.94	-1.61	0.00	-160.45	0.00	160.45	5076.86	2538.43	10825.5	5420.83	0.11	-0.04	0.035	
30.00	-27.71	-1.58	0.00	-152.39	0.00	152.39	4996.96	2498.48	10411.0	5213.26	0.16	-0.05	0.035	
35.00	-26.50	-1.55	0.00	-144.49	0.00	144.49	4915.42	2457.71	10001.0	5007.93	0.22	-0.06	0.034	
40.00	-25.32	-1.52	0.00	-136.75	0.00	136.75	4832.22	2416.11	9595.63	4804.95	0.29	-0.07	0.034	
45.00	-24.17	-1.48	0.00	-129.17	0.00	129.17	4747.38	2373.69	9195.21	4604.44	0.37	-0.08	0.033	
47.25	-23.65	-1.47	0.00	-125.84	0.00	125.84	4708.66	2354.33	9016.69	4515.05	0.41	-0.08	0.033	
50.00	-22.56	-1.43	0.00	-121.80	0.00	121.80	4660.89	2330.44	8799.96	4406.52	0.46	-0.09	0.032	
53.25	-21.29	-1.39	0.00	-117.14	0.00	117.14	4618.32	2309.16	8584.08	4300.00	0.52	-0.10	0.032	
55.00	-20.95	-1.39	0.00	-114.71	0.00	114.71	4595.26	2297.63	8378.17	4200.00	0.56	-0.10	0.032	
60.00	-19.99	-1.36	0.00	-107.78	0.00	107.78	4528.27	2264.14	8099.75	4099.94	0.67	-0.11	0.032	
65.00	-19.05	-1.34	0.00	-100.97	0.00	100.97	4465.63	2229.82	7850.57	3999.94	0.79	-0.12	0.032	
70.00	-18.13	-1.33	0.00	-94.25	0.00	94.25	4407.34	2194.67	7625.25	3907.24	0.93	-0.13	0.032	
75.00	-17.24	-1.33	0.00	-87.60	0.00	87.60	4353.40	2158.70	7420.03	3825.91	1.07	-0.15	0.032	
80.00	-16.36	-1.33	0.00	-80.97	0.00	80.97	4303.81	2121.91	7231.15	3752.75	1.23	-0.16	0.032	
85.00	-15.51	-1.33	0.00	-74.33	0.00	74.33	4257.58	2084.29	7057.85	3688.89	1.40	-0.17	0.032	
90.00	-14.68	-1.33	0.00	-67.69	0.00	67.69	4214.69	2045.84	6907.37	3634.44	1.58	-0.18	0.031	
95.00	-13.87	-1.33	0.00	-61.05	0.00	61.05	4175.09	2006.59	6770.28	3589.67	1.78	-0.19	0.030	
96.00	-13.71	-1.33	0.00	-59.73	0.00	59.73	4171.72	2000.86	6752.22	3589.60	1.82	-0.19	0.030	
100.00	-12.73	-1.33	0.00	-54.41	0.00	54.41	4139.26	1959.13	6588.03	3527.32	1.99	-0.20	0.029	
100.75	-12.55	-1.33	0.00	-53.42	0.00	53.42	4130.42	1950.21	6571.89	3527.32	2.02	-0.21	0.046	
105.00	-12.07	-1.33	0.00	-47.78	0.00	47.78	4100.32	1914.16	6429.13	3479.99	2.21	-0.21	0.043	
110.00	-11.52	-1.33	0.00	-41.14	0.00	41.14	4072.04	1884.52	6300.03	3442.33	2.44	-0.23	0.040	
115.00	-10.98	-1.33	0.00	-34.50	0.00	34.50	4045.11	1860.06	6185.59	3411.51	2.69	-0.24	0.036	
120.00	-10.46	-1.32	0.00	-27.86	0.00	27.86	4019.53	1841.77	6085.05	3388.64	2.95	-0.26	0.032	
125.00	-9.95	-1.30	0.00	-21.26	0.00	21.26	4000.30	1829.65	6000.66	3372.84	3.23	-0.27	0.027	
127.00	-5.77	-1.04	0.00	-18.65	0.00	18.65	4003.15	1831.58	6000.36	3372.84	3.34	-0.27	0.022	
130.00	-5.49	-1.03	0.00	-15.52	0.00	15.52	4015.43	1840.71	6000.65	3372.84	3.52	-0.28	0.020	
135.00	-5.03	-0.99	0.00	-10.39	0.00	10.39	4037.90	1863.95	6000.28	3372.84	3.82	-0.29	0.015	
138.00	-4.72	-0.95	0.00	-7.43	0.00	7.43	4061.59	1893.30	6000.21	3372.84	4.00	-0.29	0.012	
139.00	-4.64	-0.94	0.00	-6.48	0.00	6.48	4068.69	1899.34	6000.43	3372.84	4.06	-0.29	0.011	
139.00	-4.64	-0.94	0.00	-6.48	0.00	6.48	1044.31	522.16	1138.99	570.34	4.06	-0.29	0.016	
140.00	-2.70	-0.64	0.00	-5.53	0.00	5.53	1038.69	519.35	1122.71	562.19	4.12	-0.29	0.012	
145.00	-2.40	-0.59	0.00	-2.35	0.00	2.35	1009.62	504.81	1041.96	521.75	4.43	-0.30	0.007	
149.00	0.00	-0.58	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	4.68	-0.30	0.000	

Wind Loading - Shaft

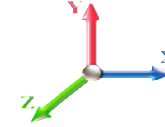
Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 21

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	272.71	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	267.19	0.650	0.000	5.00	24.400	15.86	129.8	0.0	1352.1
10.00		1.00	0.85	7.442	8.19	261.66	0.650	0.000	5.00	23.901	15.54	127.2	0.0	1324.2
15.00		1.00	0.85	7.442	8.19	256.14	0.650	0.000	5.00	23.401	15.21	124.5	0.0	1296.4
20.00		1.00	0.90	7.896	8.69	258.15	0.650	0.000	5.00	22.902	14.89	129.3	0.0	1268.5
25.00		1.00	0.95	8.276	9.10	258.46	0.650	0.000	5.00	22.403	14.56	132.6	0.0	1240.6
30.00		1.00	0.98	8.600	9.46	257.54	0.650	0.000	5.00	21.904	14.24	134.7	0.0	1212.8
35.00		1.00	1.01	8.883	9.77	255.71	0.650	0.000	5.00	21.405	13.91	136.0	0.0	1184.9
40.00		1.00	1.04	9.137	10.05	253.21	0.650	0.000	5.00	20.906	13.59	136.6	0.0	1157.0
45.00		1.00	1.07	9.366	10.30	250.18	0.650	0.000	5.00	20.406	13.26	136.7	0.0	1129.1
47.25	Bot - Section 2	1.00	1.08	9.463	10.41	248.66	0.650	0.000	2.25	9.020	5.86	61.0	0.0	499.0
50.00		1.00	1.09	9.576	10.53	246.70	0.650	0.000	2.75	11.062	7.19	75.7	0.0	1127.5
53.25	Top - Section 1	1.00	1.11	9.704	10.67	244.24	0.650	0.000	3.25	12.878	8.37	89.4	0.0	1312.3
55.00		1.00	1.12	9.770	10.75	246.88	0.650	0.000	1.75	6.847	4.45	47.8	0.0	325.1
60.00		1.00	1.14	9.951	10.95	242.77	0.650	0.000	5.00	19.226	12.50	136.8	0.0	912.6
65.00		1.00	1.16	10.120	11.13	238.38	0.650	0.000	5.00	18.727	12.17	135.5	0.0	888.7
70.00		1.00	1.17	10.279	11.31	233.76	0.650	0.000	5.00	18.228	11.85	134.0	0.0	864.8
75.00		1.00	1.19	10.430	11.47	228.93	0.650	0.000	5.00	17.728	11.52	132.2	0.0	840.9
80.00		1.00	1.21	10.572	11.63	223.90	0.650	0.000	5.00	17.229	11.20	130.2	0.0	817.0
85.00		1.00	1.22	10.708	11.78	218.71	0.650	0.000	5.00	16.730	10.87	128.1	0.0	793.1
90.00		1.00	1.24	10.838	11.92	213.37	0.650	0.000	5.00	16.231	10.55	125.8	0.0	769.2
95.00		1.00	1.25	10.962	12.06	207.88	0.650	0.000	5.00	15.732	10.23	123.3	0.0	745.4
96.00	Bot - Section 3	1.00	1.25	10.986	12.08	206.77	0.650	0.000	1.00	3.086	2.01	24.2	0.0	146.2
100.00		1.00	1.27	11.081	12.19	202.27	0.650	0.000	4.00	12.315	8.00	97.6	0.0	965.5
100.75	Top - Section 2	1.00	1.27	11.098	12.21	201.42	0.650	0.000	0.75	2.274	1.48	18.0	0.0	178.2
105.00		1.00	1.28	11.195	12.31	199.41	0.650	0.000	4.25	12.671	8.24	101.4	0.0	401.4
110.00		1.00	1.29	11.305	12.44	193.58	0.650	0.000	5.00	14.446	9.39	116.8	0.0	457.6
115.00		1.00	1.30	11.412	12.55	187.65	0.650	0.000	5.00	13.946	9.07	113.8	0.0	441.6
120.00		1.00	1.32	11.514	12.67	181.62	0.650	0.000	5.00	13.447	8.74	110.7	0.0	425.7
125.00		1.00	1.33	11.614	12.78	175.50	0.650	0.000	5.00	12.948	8.42	107.5	0.0	409.8
127.00	Appurtenance(s)	1.00	1.33	11.653	12.82	173.03	0.650	0.000	2.00	5.039	3.28	42.0	0.0	159.4
130.00		1.00	1.34	11.710	12.88	169.30	0.650	0.000	3.00	7.409	4.82	62.0	0.0	234.4
135.00		1.00	1.35	11.803	12.98	163.02	0.650	0.000	5.00	11.950	7.77	100.8	0.0	377.9
138.00	Appurtenance(s)	1.00	1.35	11.858	13.04	159.21	0.650	0.000	3.00	6.930	4.50	58.8	0.0	219.1
139.00	Top - Section 3	1.00	1.36	11.876	13.06	157.94	0.650	0.000	1.00	2.270	1.48	19.3	0.0	71.8
140.00	Appurtenance(s)	1.00	1.36	11.894	13.08	156.66	0.650	0.000	1.00	2.250	1.46	19.1	0.0	53.5
145.00		1.00	1.37	11.982	13.18	150.24	0.650	0.000	5.00	10.951	7.12	93.8	0.0	260.2
149.00	Appurtenance(s)	1.00	1.38	12.051	13.26	145.04	0.650	0.000	4.00	8.402	5.46	72.4	0.0	199.5
Totals:									149.00			3,665.4		26,063.1

Discrete Appurtenance Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 21

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	149.00	RFS DB-T1-6Z-8AB-0Z	1	12.051	13.256	0.67	1.00	3.22	18.90	0.000	0.000	42.63	0.00	0.00	
2	149.00	Alcatel RRH2x60 700	3	12.051	13.256	1.50	1.00	6.79	153.00	0.000	0.000	90.08	0.00	0.00	
3	149.00	Alcatel RRH 4X45 AWS	3	12.051	13.256	0.80	1.00	6.24	192.00	0.000	0.000	82.72	0.00	0.00	
4	149.00	Alcatel RRH	3	12.051	13.256	0.84	1.00	4.74	138.00	0.000	0.000	62.80	0.00	0.00	
5	149.00	RFS DB-T1-6Z-8AB-0Z	1	12.051	13.256	0.67	1.00	3.22	18.90	0.000	0.000	42.63	0.00	0.00	
6	149.00	Commscope	3	12.077	13.284	0.83	1.00	20.32	120.00	0.000	1.500	269.92	0.00	404.87	
7	149.00	Low Profile	1	12.051	13.256	1.00	1.00	22.00	1500.00	0.000	0.000	291.64	0.00	0.00	
8	149.00	Commscope	3	12.051	13.256	0.83	1.00	20.34	116.40	0.000	0.000	269.68	0.00	0.00	
9	149.00	Antel BXA-80063/4CF	3	12.051	13.256	0.72	1.00	10.20	29.70	0.000	0.000	135.15	0.00	0.00	
10	149.00	Commscope	3	12.051	13.256	0.83	1.00	20.12	121.80	0.000	0.000	266.71	0.00	0.00	
11	140.00	Ericsson AIR 32	3	11.894	13.084	0.70	0.80	13.59	325.50	0.000	0.000	177.84	0.00	0.00	
12	140.00	Ericsson AIR 21 B2A/B4P	3	11.894	13.084	0.69	0.80	12.57	249.00	0.000	0.000	164.46	0.00	0.00	
13	140.00	Low Profile Platform	1	11.894	13.084	1.00	1.00	22.00	1500.00	0.000	0.000	287.84	0.00	0.00	
14	138.00	Ericsson KRY 112 144/1 -	3	11.858	13.044	0.56	0.80	0.69	33.06	0.000	0.000	8.98	0.00	0.00	
15	127.00	Ericsson RRUS 4478 B5	3	11.653	12.818	0.54	0.80	2.96	179.70	0.000	0.000	37.92	0.00	0.00	
16	127.00	Cci HPA65R-BU8A	6	11.653	12.818	0.71	0.80	47.93	414.00	0.000	0.000	614.38	0.00	0.00	
17	127.00	Kaelus DBCT108F1V92-1	3	11.653	12.818	0.80	0.80	1.68	59.40	0.000	0.000	21.53	0.00	0.00	
18	127.00	Ericsson RRUS 4426 B66	3	11.653	12.818	0.54	0.80	1.85	145.50	0.000	0.000	23.70	0.00	0.00	
19	127.00	Ericsson RRUS 4415 B25	3	11.653	12.818	0.54	0.80	2.99	132.30	0.000	0.000	38.34	0.00	0.00	
20	127.00	MTC3607 Platform + HR &	1	11.653	12.818	1.00	1.00	51.70	2246.00	0.000	0.000	662.68	0.00	0.00	
21	127.00	Ericsson RRUS 4478 B14	3	11.653	12.818	0.54	0.80	2.65	178.20	0.000	0.000	34.01	0.00	0.00	
22	127.00	Cci HPA-65R-BUU-H8	6	11.653	12.818	0.63	0.80	49.22	408.00	0.000	0.000	630.90	0.00	0.00	
23	127.00	Ericsson RRUS-11 RRU	6	11.653	12.818	0.54	0.80	8.10	304.20	0.000	0.000	103.88	0.00	0.00	
24	127.00	Ericsson RRUS 32 RRU	3	11.653	12.818	0.54	0.80	5.32	231.00	0.000	0.000	68.22	0.00	0.00	
25	127.00	Ravcap DC6-48-60-18-8F	4	11.653	12.818	0.80	0.80	7.04	127.20	0.000	0.000	90.24	0.00	0.00	
Totals:									8,941.76						4,518.88

Total Applied Force Summary

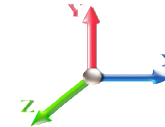
Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 21

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		129.83	1506.17	0.00	0.00
10.00		127.17	1478.30	0.00	0.00
15.00		124.52	1450.42	0.00	0.00
20.00		129.30	1422.55	0.00	0.00
25.00		132.57	1394.68	0.00	0.00
30.00		134.68	1366.80	0.00	0.00
35.00		135.96	1338.93	0.00	0.00
40.00		136.57	1311.05	0.00	0.00
45.00		136.66	1283.18	0.00	0.00
47.25		61.03	568.34	0.00	0.00
50.00		75.74	1212.22	0.00	0.00
53.25		89.35	1412.44	0.00	0.00
55.00		47.83	378.97	0.00	0.00
60.00		136.79	1066.65	0.00	0.00
65.00		135.50	1042.76	0.00	0.00
70.00		133.97	1018.87	0.00	0.00
75.00		132.20	994.97	0.00	0.00
80.00		130.24	971.08	0.00	0.00
85.00		128.09	947.19	0.00	0.00
90.00		125.77	923.30	0.00	0.00
95.00		123.30	899.40	0.00	0.00
96.00		24.24	177.01	0.00	0.00
100.00		97.57	1088.75	0.00	0.00
100.75		18.04	201.30	0.00	0.00
105.00		101.43	532.39	0.00	0.00
110.00		116.77	611.61	0.00	0.00
115.00		113.79	595.68	0.00	0.00
120.00		110.71	579.75	0.00	0.00
125.00		107.52	563.82	0.00	0.00
127.00	(41) attachments	2367.80	4646.57	0.00	0.00
130.00		62.04	316.23	0.00	0.00
135.00		100.85	514.31	0.00	0.00
138.00	(3) attachments	67.74	334.00	0.00	0.00
139.00		19.28	99.04	0.00	0.00
140.00	(7) attachments	649.27	2155.25	0.00	0.00
145.00		93.82	333.58	0.00	0.00
149.00	(24) attachments	1626.34	2666.96	0.00	404.87
	Totals:	8,184.29	39,404.51	0.00	404.87

Calculated Forces

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

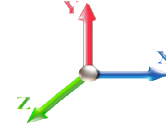


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 21

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	-39.40	-8.20	0.00	-906.94	0.00	906.94	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.147
5.00	-37.89	-8.09	0.00	-865.96	0.00	865.96	5379.95	2689.97	12523.2	6270.95	0.02	-0.037	0.000	0.145
10.00	-36.41	-7.99	0.00	-825.50	0.00	825.50	5306.65	2653.32	12093.3	6055.68	0.08	-0.075	0.000	0.143
15.00	-34.95	-7.88	0.00	-785.57	0.00	785.57	5231.70	2615.85	11666.9	5842.16	0.18	-0.113	0.000	0.141
20.00	-33.52	-7.77	0.00	-746.16	0.00	746.16	5155.10	2577.55	11244.2	5630.50	0.32	-0.152	0.000	0.139
25.00	-32.12	-7.66	0.00	-707.29	0.00	707.29	5076.86	2538.43	10825.5	5420.83	0.50	-0.191	0.000	0.137
30.00	-30.75	-7.54	0.00	-668.99	0.00	668.99	4996.96	2498.48	10411.0	5213.26	0.72	-0.231	0.000	0.134
35.00	-29.41	-7.42	0.00	-631.29	0.00	631.29	4915.42	2457.71	10001.0	5007.93	0.98	-0.272	0.000	0.132
40.00	-28.09	-7.30	0.00	-594.19	0.00	594.19	4832.22	2416.11	9595.63	4804.95	1.29	-0.312	0.000	0.129
45.00	-26.81	-7.17	0.00	-557.71	0.00	557.71	4747.38	2373.69	9195.21	4604.44	1.64	-0.354	0.000	0.127
47.25	-26.24	-7.11	0.00	-541.59	0.00	541.59	4708.66	2354.33	9016.69	4515.05	1.81	-0.373	0.000	0.126
50.00	-25.02	-7.04	0.00	-522.03	0.00	522.03	4660.89	2330.44	8799.96	4406.52	2.03	-0.396	0.000	0.124
53.25	-23.61	-6.95	0.00	-499.15	0.00	499.15	3818.32	1909.16	7226.08	3618.41	2.31	-0.424	0.000	0.144
55.00	-23.23	-6.91	0.00	-486.99	0.00	486.99	3795.26	1897.63	7117.54	3564.06	2.47	-0.439	0.000	0.143
60.00	-22.15	-6.78	0.00	-452.44	0.00	452.44	3728.27	1864.14	6809.75	3409.94	2.96	-0.485	0.000	0.139
65.00	-21.11	-6.66	0.00	-418.53	0.00	418.53	3659.63	1829.82	6505.57	3257.62	3.49	-0.532	0.000	0.134
70.00	-20.08	-6.53	0.00	-385.25	0.00	385.25	3589.34	1794.67	6205.25	3107.24	4.07	-0.579	0.000	0.130
75.00	-19.09	-6.40	0.00	-352.62	0.00	352.62	3517.40	1758.70	5909.03	2958.91	4.70	-0.626	0.000	0.125
80.00	-18.11	-6.27	0.00	-320.61	0.00	320.61	3443.81	1721.91	5617.15	2812.75	5.38	-0.672	0.000	0.119
85.00	-17.16	-6.15	0.00	-289.24	0.00	289.24	3368.58	1684.29	5329.85	2668.89	6.11	-0.718	0.000	0.113
90.00	-16.23	-6.02	0.00	-258.50	0.00	258.50	3291.69	1645.84	5047.37	2527.44	6.89	-0.763	0.000	0.107
95.00	-15.33	-5.89	0.00	-228.39	0.00	228.39	3202.59	1601.29	4754.28	2380.67	7.71	-0.807	0.000	0.101
96.00	-15.16	-5.87	0.00	-222.49	0.00	222.49	3181.72	1590.86	4692.22	2349.60	7.88	-0.816	0.000	0.099
100.00	-14.07	-5.77	0.00	-199.00	0.00	199.00	3098.26	1549.13	4448.03	2227.32	8.58	-0.850	0.000	0.094
100.75	-13.86	-5.75	0.00	-194.67	0.00	194.67	1860.42	930.21	2714.89	1359.46	8.72	-0.857	0.000	0.151
105.00	-13.33	-5.65	0.00	-170.24	0.00	170.24	1828.32	914.16	2592.13	1297.99	9.49	-0.892	0.000	0.138
110.00	-12.71	-5.54	0.00	-141.99	0.00	141.99	1789.04	894.52	2449.03	1226.33	10.46	-0.946	0.000	0.123
115.00	-12.12	-5.42	0.00	-114.31	0.00	114.31	1748.11	874.06	2307.59	1155.51	11.48	-0.995	0.000	0.106
120.00	-11.53	-5.31	0.00	-87.21	0.00	87.21	1705.53	852.77	2168.05	1085.64	12.54	-1.038	0.000	0.087
125.00	-10.97	-5.19	0.00	-60.67	0.00	60.67	1661.30	830.65	2030.66	1016.84	13.65	-1.073	0.000	0.066
127.00	-6.37	-2.74	0.00	-50.28	0.00	50.28	1643.15	821.58	1976.36	989.65	14.10	-1.085	0.000	0.055
130.00	-6.05	-2.68	0.00	-42.06	0.00	42.06	1615.43	807.71	1895.65	949.24	14.79	-1.101	0.000	0.048
135.00	-5.54	-2.57	0.00	-28.68	0.00	28.68	1567.90	783.95	1763.28	882.95	15.95	-1.122	0.000	0.036
138.00	-5.21	-2.49	0.00	-20.98	0.00	20.98	1538.59	769.30	1685.21	843.86	16.66	-1.133	0.000	0.028
139.00	-5.11	-2.47	0.00	-18.49	0.00	18.49	1528.69	764.34	1659.43	830.95	16.90	-1.136	0.000	0.026
139.00	-5.11	-2.47	0.00	-18.49	0.00	18.49	1044.31	522.16	1138.99	570.34	16.90	-1.136	0.000	0.037
140.00	-2.97	-1.78	0.00	-16.02	0.00	16.02	1038.69	519.35	1122.71	562.19	17.14	-1.138	0.000	0.031
145.00	-2.63	-1.68	0.00	-7.12	0.00	7.12	1009.62	504.81	1041.96	521.75	18.34	-1.150	0.000	0.016
149.00	0.00	-1.63	0.00	-0.40	0.00	0.40	985.17	492.59	978.22	489.84	19.31	-1.154	0.000	0.001

Final Analysis Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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 105 mph Wind	40.2	0.00	47.22	0.00	0.00	4461.97
0.9D + 1.6W 105 mph Wind	40.2	0.00	35.40	0.00	0.00	4426.49
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.3	0.00	72.36	0.00	0.00	1007.47
1.2D + 1.0E	1.7	0.00	47.29	0.00	0.00	204.61
0.9D + 1.0E	1.7	0.00	35.46	0.00	0.00	202.88
1.0D + 1.0W 60 mph Wind	8.2	0.00	39.40	0.00	0.00	906.94

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 105 mph Wind	-14.65	-28.31	0.00	-958.26	0.00	-958.26	1860.42	930.21	2714.89	1359.46	100.75	0.714
0.9D + 1.6W 105 mph Wind	-10.50	-27.99	0.00	-946.68	0.00	-946.68	1860.42	930.21	2714.89	1359.46	100.75	0.703
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-32.52	-6.22	0.00	-208.37	0.00	-208.37	1860.42	930.21	2714.89	1359.46	100.75	0.171
1.2D + 1.0E	-16.73	-1.34	0.00	-54.01	0.00	-54.01	1860.42	930.21	2714.89	1359.46	100.75	0.049
0.9D + 1.0E	-12.55	-1.33	0.00	-53.42	0.00	-53.42	1860.42	930.21	2714.89	1359.46	100.75	0.046
1.0D + 1.0W 60 mph Wind	-13.86	-5.75	0.00	-194.67	0.00	-194.67	1860.42	930.21	2714.89	1359.46	100.75	0.151

Base Plate Summary

Structure: CT13075-A-SB	Code: EIA/TIA-222-G	11/19/2018
Site Name: New London	Exposure: C	
Height: 149.00 (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): 60.00	Bolt Circle: 64.88
Moment (kip-ft): 5442.50	Width (in): 65.37	Number Bolts: 20.00
Axial (kip): 53.57	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 49.90	Polygon Sides: 8.00	Bolt Diameter (in): 2.25
Analysis	Clip Length (in): 14.00	Yield (ksi): 75.00
Moment (kip-ft): 4461.97	Effective Len (in): 8.93	Ultimate (ksi): 100.00
Axial (kip): 72.36	Moment (kip-in): 558.31	Arrangement: Clustered
Shear (kip): 40.18	Allow Stress (ksi): 81.00	Cluster Dist (in): 6.00
	Applied Stress (ksi): 0.00	Start Angle (deg): 45.00
Moment Design %: 81.98	Stress Ratio: 0.61	Compression
		Force (kip): 168.67
		Allowable (kip): 260.00
		Ratio: 0.66
		Tension
		Force (kip): 161.44
		Allowable (kip): 260.00
		Ratio: 0.64



Monopole Mat Foundation Design

Date

11/19/2018

Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	149
Site Number:	CT13075-A-SBA	Engineer Name:	H. You
Engr. Number:	64947	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	47.2	Shear Force (Kips):	40.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4462.0

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	8.0
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
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):	4000	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:	36	Tie Spacing (in):	12.0	
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):	28	Qty. of Rebar in Pad (W):	28	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

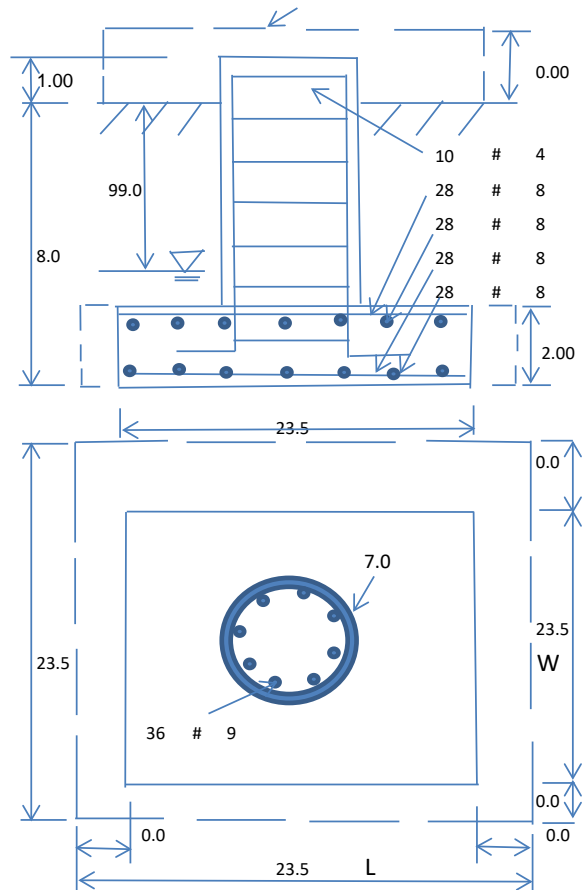
Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	8000	Ultimate Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	3082.59	Total Dry Soil Weight (Kips):	308.26
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	308.26	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1373.89	Total Dry Concrete Weight (Kips):	206.08
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	206.08	Total Vertical Load on Base (Kips):	561.56

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	4485	<	Allowable Factored Soil Bearing (psf):	6000	0.75	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5994.0	>	Design Factored Momont (kips-ft):	4824	0.80	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.24					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):	6026.1	>	Design Factored Moment (Mu, Kips-Ft)	4743.4	0.79 OK!
Calculated Shear Capacity (Kips):	660.1	>	Design Factored Shear (Kips):	40.2	0.06 OK!
Calculated Tension Capacity (Tn, Kips):	1944.0	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	9734.2	>	Design Factored Axial Load (Pu Kips):	47.2	0.00 OK!
Moment & Axial Strength Combination:	0.79	OK!	Check Tie Spacing (Design/Required):	1	OK!
Pier Reinforcement Ratio:	0.006		Reinforcement Ratio is satisfied per ACI		

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	548.4	>	One-Way Factored Shear (L-D. Kips):	322.6	0.59 OK!
One-Way Design Shear Capacity (W-Direction, Kips):	548.4	>	One-Way Factored Shear (W-D., Kips)	322.6	0.59 OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	532.5	>	One-Way Factored Shear (C-C, Kips):	333.1	0.63 OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0038	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0038	
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	1971.7	>	Moment at Bottom (L-Dir. K-Ft):	1451.0	0.74 OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	1971.7	>	Moment at Bottom (W-Dir. K-Ft):	1451.0	0.74 OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	2762.4	>	Moment at Bottom (C-C Dir. K-Ft):	2052.1	0.74 OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0038	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0038	
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	1971.7	>	Moment at the top (L-Dir K-Ft):	695.1	0.35 OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	1971.7	>	Moment at the top (W-Dir K-Ft):	695.1	0.35 OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	2762.4	>	Moment at the top (C-C Dir. K-Ft):	653.9	0.24 OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:	1784.8	k-ft.	Max. factored shear stress $v_{u,CD}$:	6.3	Psi
Max. factored shear stress $v_{u,AB}$:	18.1	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	18.1	Psi	Check Usage of Punching Shear Capacity:	0.10	OK!

Robidoux, Evan

From: Mark Roberts <mark.roberts@qcdevelopment.net>
Sent: Tuesday, November 27, 2018 4:01 PM
To: Robidoux, Evan
Cc: CSC-DL Siting Council; Mark Roberts
Subject: RE: Council Incomplete Letter for EM-CING-059T-181029-PleasantValleyRoadNorth-Groton
Attachments: CT2820_Structural (Passing)_11.19.18.pdf; CT2820_Z&P LABEL.pdf
Importance: High

Hello – In response to your incomplete letter, please find attached a revised Structural Analysis with corrected T-Mobile loading and a mailing label to the Town of Groton planner who was Cc'd on this filing.

Please let me know if you have any further questions.


Thanks

Mark Roberts
QC Development
860-670-9068

From: Robidoux, Evan
Sent: Thursday, November 1, 2018 9:39 AM
To: Mark Roberts
Cc: CSC-DL Siting Council
Subject: Council Incomplete Letter for EM-CING-059T-181029-PleasantValleyRoadNorth-Groton

Please see the attached correspondence.

Evan Robidoux
Clerk Typist
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051




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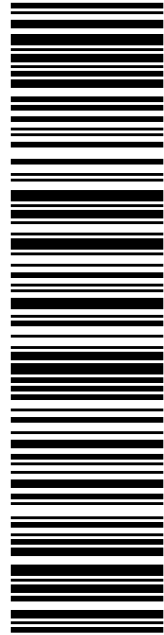
MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

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 TO: MR. JONATHAN REINER, AICP
 TOWN OF GROTON
 30 N PROSPECT ST
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Ship Date:	11/27/2018	Total	\$6.70
Expected Delivery Date:	11/28/2018		
Insured Value:	\$50.00		

From: MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

To: MR. JONATHAN REINER, AICP
 TOWN OF GROTON
 30 N PROSPECT ST
 GROTON CT 06340-5810

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STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

October 30, 2018

Mark Roberts
QC Development
P.O. BOX 916
Storrs, CT 06268

RE: **EM-CING-059T- 181029** – AT&T notice of intent to modify an existing telecommunications facility located at 1294 Pleasant Valley Road North, Groton, Connecticut.

Dear Mr. Roberts:

The Connecticut Siting Council (Council) received a notice of intent to modify the above-referenced facility on October 29, 2018.

According to Section 16-50j-71 of the Regulations of Connecticut State Agencies, "...any modification, as defined in Section 16-50j-2a of the Regulations of Connecticut State Agencies, to an existing tower site, except as specified in Sections 16-50j-72 and 16-50j-88 of the Regulations of Connecticut State Agencies, may have a substantial adverse environmental effect."

Staff has reviewed this exempt modification request for completeness and has identified a deficiency in the Structural Analysis Report provided with the filing. The Structural Analysis Report provided is dated October 15, 2018. The Council had received a request for exempt modification from T-Mobile for the same facility in May of 2017. The above-referenced request for exempt modification does not include T-Mobile's approved equipment. Please see T-Mobile's exempt modification filing for this facility, which may be found on the Council's website under the Decisions page in Groton under the filing number EM-T-Mobile-059t-170531 or by following the link:

https://www.ct.gov/csc/lib/csc/ems/groton/pleasantvalleyrd/t-mobile/em-t-mobile-059t-170531_filing_pleasantvalleyrd.pdf

Also the proof of notice provided with the request does not include the Town's planning and zoning department.

Therefore, the exempt modification request is incomplete at this time. The Council recommends that QC Development provide an updated Structural Analysis Report for the facility that includes proposed and approved equipment by T-Mobile and other entities that are located at this facility and also provide evidence that notice was provided to the municipal planning and zoning department, on or before December 3, 2018. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to December 3, 2018.

This notice of incompleteness shall have the effect of tolling the Federal Communications Commission (FCC) 60-day timeframe in accordance with Paragraph 217 of the FCC Wireless Infrastructure Report and Order issued on October 21, 2014 (FCC 14-153).

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Sincerely,

Melanie Bachman
Executive Director

MAB/FOC/IN

c: The Honorable Patrice Granatosky, Mayor, Town of Groton
John Burt, Town Manager, Town of Groton
Jonathan J. Reiner, AICP, Director of Planning, Town of Groton

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