



Tower Engineering Solutions

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

Structural Analysis Report

Existing 162 ft SUMMIT Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01698-S

Customer Site Name: Durham

Carrier Name: Verizon (App#: 146434-1)

Carrier Site ID / Name: 467923 / Wallingford 2 CT

Site Location: 1605 Durham Road, CT Route 68

Wallingford, Connecticut

New Haven County

Latitude: 41.469574

Longitude: -72.742250

Analysis Result:

Max Structural Usage: 78.3% [Pass]

Max Foundation Usage: 80.0% [Pass]

Additional Usage Caused by Mount Modification: +0.27%

Report Prepared By: Changzhi Zang





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Introduction

The purpose of this report is to summarize the analysis results on the 162 ft SUMMIT 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	Paul J. Ford and Company Job #29299-949 dated December 22, 1999
Foundation Drawing	Paul J. Ford and Company Job #29299-949 dated December 22, 1999
Geotechnical Report	Jaworski Geotech, Inc., Project #99407G dated September 2, 1999
Modification Drawings	N/A
Mount Analysis	TES, Job #82795, dated August 2, 2019 MASER Consulting, PROJECT #: 21777084A, dated June 24, 2021

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. 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 $V_{ult} = 125.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 97.0$ 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:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_5 = 0.181$, $S_1 = 0.062$

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	162.5	3	RFS APXVTM14-C-120 - Panel	Low Profile Platform	(3) 1 1/4" (1) 1 5/8" Fiber	Sprint*
2		3	RFS APXVSP18-C-A20 - Panel			
3		4	RFS ACU-A20-N RET			
4	162.0	3	Alcatel Lucent 800 MHz Filter	Collar Mount	(3) 1 1/4" (1) 1 5/8" Fiber	Sprint*
5		3	Alcatel Lucent 800 MHz RRU			
6		3	TD-RRH8x20-25 - RRH			
7		3	Alcatel Lucent 1900MHz RRH			
8	152.0	3	RFS - APXV18-206516S-A20 - Panel	Modified Platform w/ Hand Rail (Commscope MT-195-14 and VSR-MS-B) (1) METROSITE SUPPORT RAIL CENTER PIPE KIT: MS-HRCP-35 (1) METROSITE LIGHT COLLAR MOUNT ASSEMBLY: MS-1436 (6) 2" PST (2.375" O.D. X 0.154" THK) X 6'-0" A53 GR-B: PST2375-6 (6) L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36: L252525-8	(11) 1 5/8" (1) 1 5/8" Fiber	T-Mobile**
9		3	RFS - APXVAARR24_43-U-NA20 - Panel			
10		6	EMS - RR90-17-02DP - Panel			
11		3	Allen Telecom FE15501P77/75 – TMA			
12		3	Ericsson KRY 112 144/1 – TMA			
13		3	Ericsson Radio 4449 B71+B12			
14		3	Kathrein 782 11056 – Bias T			
-	132.0	4	Andrew DB846F65ZAXY - Panel	Low Profile Platform	(11) 1 5/8" (2) 1 5/8" Hybrid	Verizon
-		9	Commscope SBNHH-1D65B - Panel			
-		2	Antel LPA-80080-4CF-EDIN-0 - Panel			
-		3	Alcatel Lucent RRH2x60-1900 – RRU			
-		3	Alcatel Lucent RRH2X60-700 – RRU			
-		3	Alcatel Lucent RRH2X60-AWS - RRU			
-		6	RFS FD9R6004/2C-3L - Diplexer			
-		2	RFS DB-T1-6Z-8AB-OZ – Distribution Box			
28	124.5	1	Raycap DC6-48-60-18-8F - Surge Arrestors	Low Profile Platform	(12) 1 5/8" (1) 10 mm (1) 3" Conduit (2) DC	AT&T**
29		6	Ericsson RRUS-11 RRU			
30	122.0	6	Powerwave 7770.00 - Panel			
31		3	KMW AM-X-CD-16-65-00T			
32		6	Powerwave LGP21401 TMA			
33		6	Powerwave LGP21903 - Diplexer			
-	105.0	-	-	Low Profile Platform	-	-
34	80.0	1	Kathrein 738-449 - Whip	Flush Mount	(1) 1/2"	AT&T
35	75.0	1	GPS	Flush Mount	(1) 1/2"	Verizon**

*Sprint is terminated but remains installed at top rad.

**Lines installed outside of pole shaft. The T-Mobile existing transmission lines can be installed inside or outside of the pole shafts. If installed outside, the lines shall be strapped tightly to the face of the pole shafts. Stacking lines is not allowed.

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
15	132.0	6	JMA Wireless MX06FRO660-02 - Panel	Low Profile Platform (1) VZWSMART-PLK1 [Support Rail Kit] (3) VZWSMART-MSK2 [CROSSOVER PLATE] (1) SITE PRO1 SQCX4-K [CROSSOVER PLATE KIT] Mount pipes	(10) 1 5/8" (1) 2" Hybrid	Verizon
16		4	Andrew DB846F65ZAXY - Panel			
17		2	Antel LPA-80080-4CF-EDIN-0 - Panel			
18		3	Samsung MT6407-77A - Panel			
19		6	RFS FD9R6004 - Diplexer			
20		3	Samsung RFV01U-D1A - RRU			
21		3	Samsung RFV01U-D2A - RRU			
22		1	Raycap RCMD-6627-PF-48 - COVP			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	78.3%	71.0%	71.4%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4755.2	40.1	55.5

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 TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4923 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 TIA-222 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 ANSI/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 78.26% at 45.0ft

Structure: CT01698-S-SBA
Site Name: Durham
Height: 162.00 (ft)
Base Elev: 0.000 (ft)

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

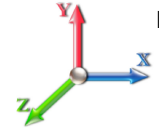
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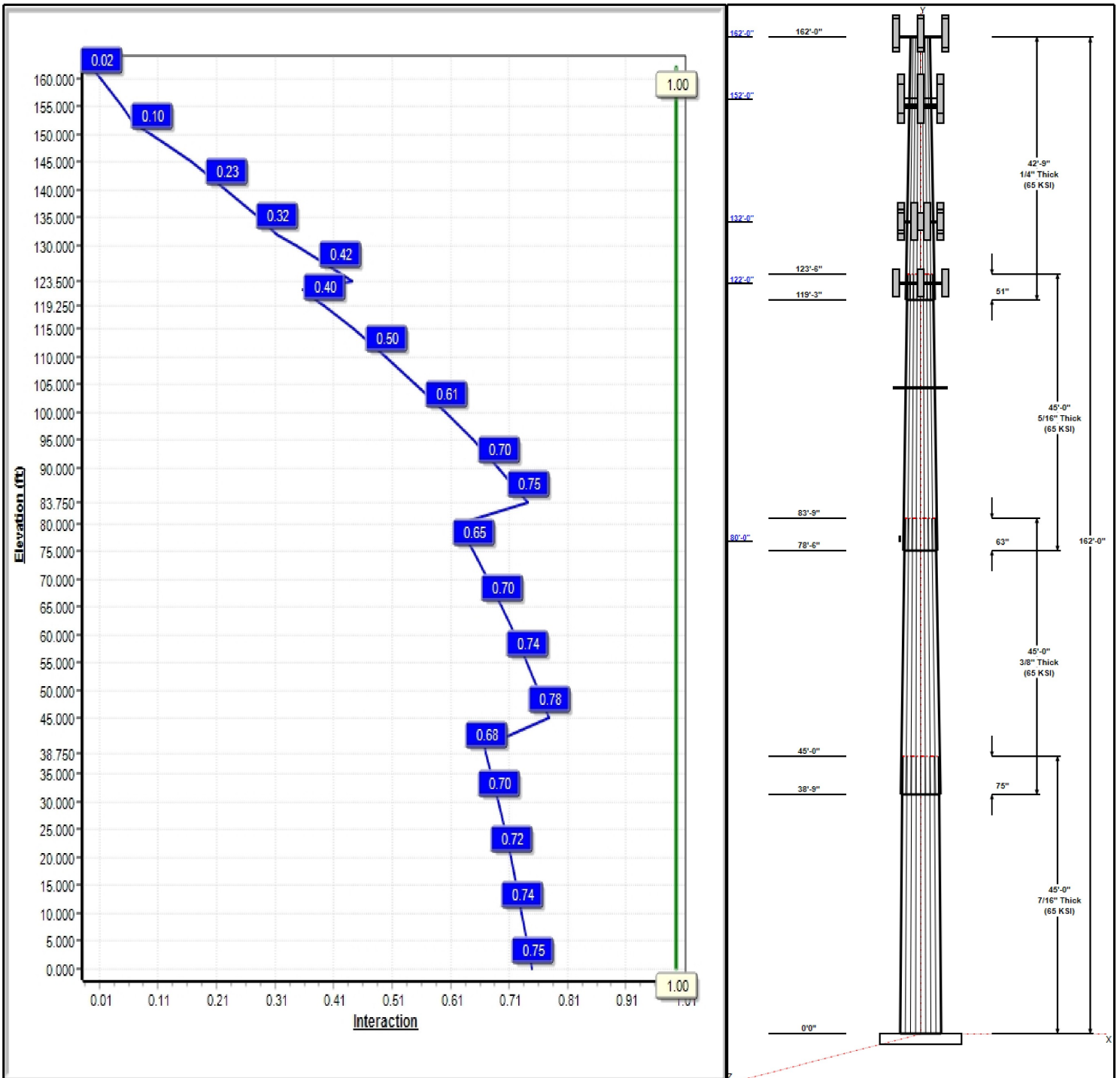
Dead Load Factor: 1.20
 Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 97 mph Wind



Iterations: 24

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Structure: CT01698-S-SBA

Type: Tapered
Site Name: Durham
Height: 162.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.22003

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Shaft Properties

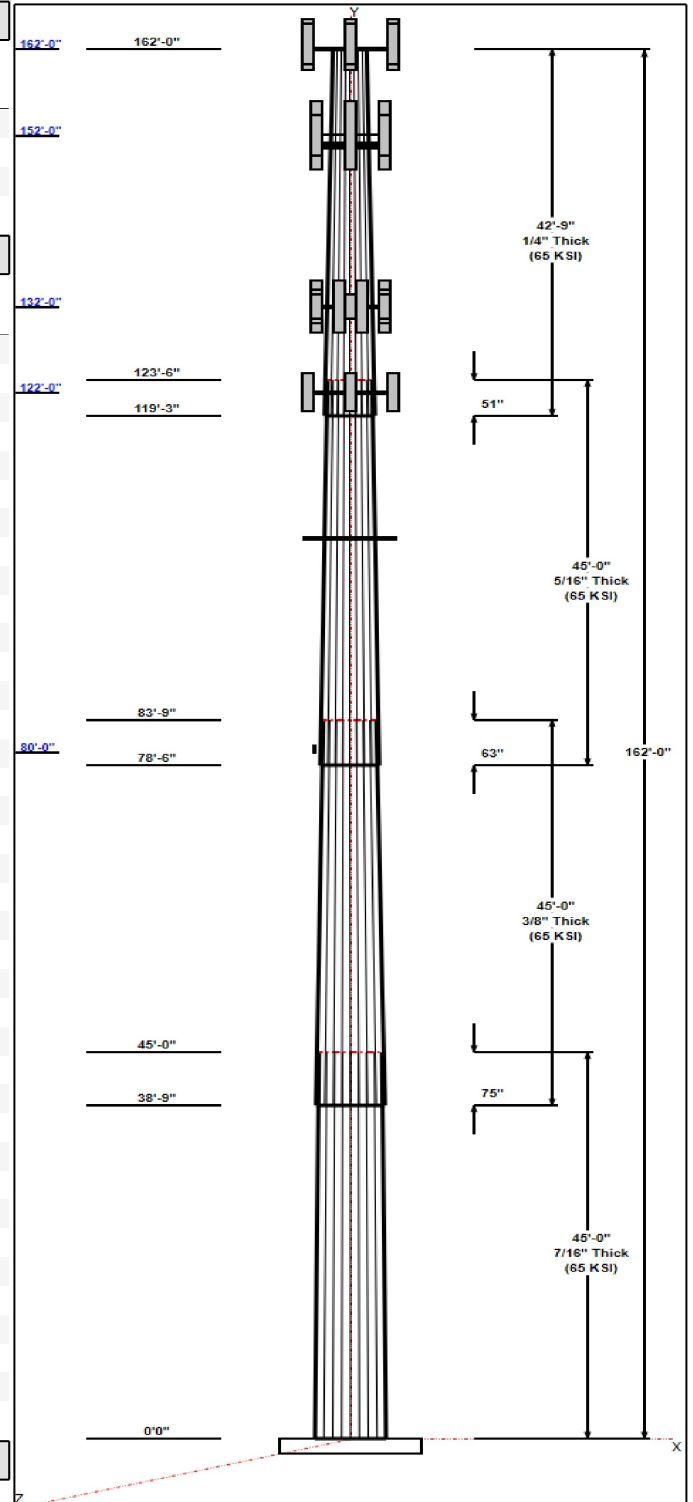
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	45.00	47.87	57.77	0.438		0.22003	65
2	45.00	40.09	49.99	0.375	Slip	0.22003	65
3	45.00	31.97	41.87	0.313	Slip	0.22003	65
4	42.75	24.00	33.41	0.250	Slip	0.22003	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
162.00	162.50	3	APXVTM14-C-120	Sprint
162.00	162.00	3	TD-RRH8x20-25	Sprint
162.00	162.50	3	APXVSP18-C-A20	Sprint
162.00	162.00	3	1900MHz RRH	Sprint
162.00	162.00	3	800 MHz RRU	Sprint
162.00	162.00	3	800 MHz Ext. Filter	Sprint
162.00	162.50	4	ACU-A20-N	Sprint
162.00	162.00	1	Low Profile Platform-flat	Sprint
162.00	160.00	1	Flush Mount	Sprint
152.00	152.00	3	APXV18-206516S-A20	T-Mobile
152.00	152.00	3	KRY 112 144/1	T-Mobile
152.00	152.00	3	782 11056	T-Mobile
152.00	152.00	3	FE15501P77/75	T-Mobile
152.00	152.00	3	APXVAARR24_43-U-NA20	T-Mobile
152.00	152.00	3	Radio 4449 B71+B12	T-Mobile
152.00	152.00	1	Platform w/ Hand Rail	T-Mobile
152.00	152.00	6	RR90-17-02DP	T-Mobile
132.00	132.00	1	Low Profile	Verizon
132.00	132.00	6	JMA Wireless	Verizon
132.00	132.00	3	Samsung MT6407-77A	Verizon
132.00	132.00	3	Samsung RFV01U-D1A	Verizon
132.00	132.00	3	Samsung RFV01U-D2A	Verizon
132.00	132.00	1	Raycap	Verizon
132.00	132.00	1	HRK12 (Handrail Kit)	Verizon
132.00	132.00	2	LPA-80080-4CF-EDIN-0	Verizon
132.00	132.00	4	DB846F65ZAXY	Verizon
132.00	132.00	6	FD9R6004/2C-3L	Verizon
124.50	124.50	1	Flush Mount	Verizon
124.50	124.50	6	RRUS-11	AT&T
124.50	124.50	1	DC6-48-60-18-8F	AT&T
122.00	122.00	6	7770.00	AT&T
122.00	122.00	6	LGP21401	AT&T
122.00	122.00	6	LGP21903	AT&T
122.00	122.00	3	AM-X-CD-16-65-00T-RET	AT&T
122.00	122.00	1	Low Profile Platform-flat	
105.00	105.00	1	Low Profile Platform-flat	
80.00	80.35	1	738-449	AT&T
75.00	75.00	1	GPS	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	162.00	Inside	1 1/4" Coax	Sprint
0.00	162.00	Inside	1 5/8" Fiber	Sprint
0.00	162.00	Outside	Safety Cable	
0.00	152.00	Outside	1 5/8" Coax	T-Mobile



Structure: CT01698-S-SBA

Type: Tapered
Site Name: Durham
Height: 162.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.22003

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0.00	152.00	Outside	1 5/8" Fiber	T-Mobile
0.00	132.00	Inside	1 5/8" Coax	Verizon
0.00	132.00	Inside	2" Hybrid	Verizon
0.00	122.00	Outside	1 5/8" Coax	AT&T
0.00	122.00	Outside	10 mm	AT&T
0.00	122.00	Outside	3" Coax	AT&T
0.00	122.00	Outside	DC	AT&T
0.00	80.00	Inside	1/2" Coax	AT&T
0.00	75.00	Outside	1/2" Coax	Verizon

Anchor Bolts

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

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	64.0	50.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	4755.2	40.1	55.5
0.9D + 1.6W 97 mph Wind	4701.2	40.1	41.6
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1367.5	11.4	99.2
1.2D + 1.0E	259.2	2.0	55.5
0.9D + 1.0E	256.0	2.0	41.6
1.0D + 1.0W 60 mph Wind	1130.4	9.6	46.3

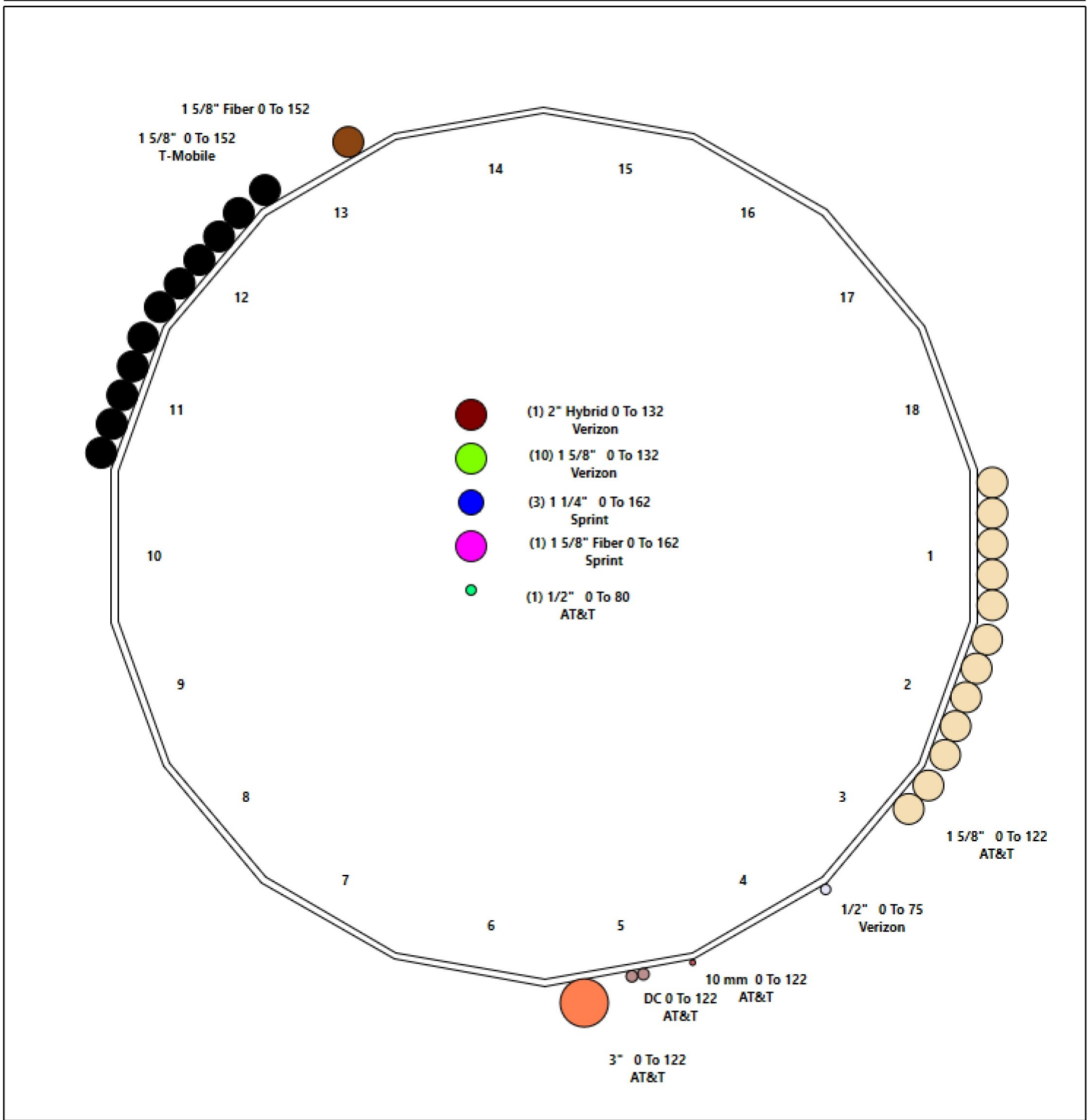
Structure: CT01698-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Durham
Height: 162.00 (ft)

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Shaft Properties

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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	45.000	0.4375	65		0.00	11,138
2	18	45.000	0.3750	65	Slip	75.00	8,141
3	18	45.000	0.3125	65	Slip	63.00	5,560
4	18	42.750	0.2500	65	Slip	51.00	3,284
Total Shaft Weight:							28,123

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	57.77	0.00	79.61	33061.69	21.87	132.05	47.87	45.00	65.86	18720.2	17.88	109.4	0.220031
2	49.99	38.75	59.06	18370.23	22.10	133.32	40.09	83.75	47.27	9421.47	17.44	106.9	0.220031
3	41.87	78.50	41.22	8995.46	22.22	133.99	31.97	123.50	31.40	3976.25	16.63	102.3	0.220031
4	33.41	119.2	26.31	3654.12	22.15	133.63	24.00	162.00	18.84	1343.00	15.52	96.00	0.220031

Load Summary

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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	162.00	APXVTM14-C-120	3	56.00	6.34	0.79	217.90	7.463	0.79	0.00	0.50
2	162.00	TD-RRH8x20-25	3	70.00	4.05	0.69	181.50	4.870	0.69	0.00	0.00
3	162.00	APXVSP18-C-A20	3	57.00	8.02	0.83	231.19	10.835	0.83	0.00	0.50
4	162.00	1900MHz RRH	3	44.00	3.80	0.88	154.01	5.201	0.88	0.00	0.00
5	162.00	800 MHz RRU	3	53.00	2.49	0.75	127.53	3.643	0.75	0.00	0.00
6	162.00	800 MHz Ext. Filter	3	6.60	1.19	0.63	31.03	1.983	0.63	0.00	0.00
7	162.00	ACU-A20-N	4	1.00	0.14	0.75	5.33	0.439	0.75	0.00	0.50
8	162.00	Low Profile Platform-flat	1	1200.00	25.00	1.00	2255.22	46.104	1.00	0.00	0.00
9	162.00	Flush Mount	1	175.00	5.00	1.00	322.73	8.517	1.00	0.00	-2.00
10	152.00	APXV18-206516S-A20	3	18.50	4.36	0.76	87.92	6.606	0.78	0.00	0.00
11	152.00	KRY 112 144/1	3	11.00	0.35	0.73	21.80	0.756	0.78	0.00	0.00
12	152.00	782 11056	3	1.80	0.15	0.67	6.33	0.365	0.67	0.00	0.00
13	152.00	FE15501P77/75	3	17.50	0.54	0.65	23.40	0.874	0.65	0.00	0.00
14	152.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	546.56	22.143	0.70	0.00	0.00
15	152.00	Radio 4449 B71+B12	3	71.00	1.97	0.86	124.45	2.518	0.86	0.00	0.00
16	152.00	Platform w/ Hand Rail (Modified)	1	2796.50	49.30	1.00	6471.50	92.377	1.00	0.00	0.00
17	152.00	RR90-17-02DP	6	13.50	4.36	0.73	112.37	5.347	0.73	0.00	0.00
18	132.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2792.29	39.437	1.00	0.00	0.00
19	132.00	JMA Wireless MX06FRO660-02	6	46.00	9.87	0.87	311.04	11.227	0.87	0.00	0.00
20	132.00	Samsung MT6407-77A	3	79.40	4.69	0.70	197.11	5.625	0.75	0.00	0.00
21	132.00	Samsung RFV01U-D1A	3	84.40	1.88	0.67	135.01	2.424	0.67	0.00	0.00
22	132.00	Samsung RFV01U-D2A	3	70.30	1.88	0.67	118.32	2.424	0.67	0.00	0.00
23	132.00	Raycap RCMDC-6627-PF-48	1	32.00	4.06	0.67	144.48	4.872	0.67	0.00	0.00
24	132.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	568.37	13.263	1.00	0.00	0.00
25	132.00	LPA-80080-4CF-EDIN-0	2	12.00	2.61	1.70	126.15	3.497	1.70	0.00	0.00
26	132.00	DB846F65ZAXY	4	21.00	7.05	0.93	215.40	8.264	0.93	0.00	0.00
27	132.00	FD9R6004/2C-3L	6	3.10	0.36	0.75	11.02	0.798	0.75	0.00	0.00
28	124.50	Flush Mount	1	175.00	5.00	1.00	318.89	8.426	1.00	0.00	0.00
29	124.50	RRUS-11	6	55.00	4.42	0.68	143.30	5.892	0.68	0.00	0.00
30	124.50	DC6-48-60-18-8F	1	31.80	1.47	1.00	92.48	2.157	1.00	0.00	0.00
31	122.00	7770.00	6	35.00	5.50	0.73	166.79	6.542	0.73	0.00	0.00
32	122.00	LGP21401	6	14.10	1.29	0.75	38.59	2.109	0.75	0.00	0.00
33	122.00	LGP21903	6	5.50	0.27	0.75	13.76	0.660	0.75	0.00	0.00
34	122.00	AM-X-CD-16-65-00T-RET	3	33.00	6.05	0.81	174.83	8.106	0.81	0.00	0.00
35	122.00	Low Profile Platform-flat	1	1200.00	25.00	1.00	2225.72	45.514	1.00	0.00	0.00
36	105.00	Low Profile Platform-flat	1	1200.00	25.00	1.00	2210.44	45.209	1.00	0.00	0.00
37	80.00	738-449	1	0.50	0.01	1.00	2.38	0.068	1.00	0.00	0.35
38	75.00	GPS	1	10.00	1.00	1.00	37.36	1.664	1.00	0.00	0.00
Totals:			112	12,132.22			30,494.87				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	162.00	(3) 1 1/4" Coax	0.00	Inside
0.00	162.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	162.00	(1) Safety Cable	0.00	Outside

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)		
0.00	152.00	(11) 1 5/8" Coax		1.98						
0.00	152.00	(1) 1 5/8" Fiber		0.00						
0.00	132.00	(10) 1 5/8" Coax		0.00						
0.00	132.00	(1) 2" Hybrid		0.00						
0.00	122.00	(12) 1 5/8" Coax		0.00						
0.00	122.00	(1) 10 mm		0.00						
0.00	122.00	(1) 3" Coax		3.00						
0.00	122.00	(2) DC		0.00						
0.00	80.00	(1) 1/2" Coax		0.00						
0.00	75.00	(1) 1/2" Coax		0.00						

Shaft Section Properties

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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	57.770	79.610	33061.7	21.87	132.05	75.7	1127.	0.0
5.00		0.4375	56.670	78.083	31194.7	21.43	129.53	76.2	1084.	1341.5
10.00		0.4375	55.570	76.555	29399.4	20.99	127.02	76.7	1042.	1315.5
15.00		0.4375	54.470	75.028	27674.3	20.54	124.50	77.2	1000.	1289.5
20.00		0.4375	53.369	73.500	26018.0	20.10	121.99	77.8	960.2	1263.5
25.00		0.4375	52.269	71.972	24429.2	19.66	119.47	78.3	920.5	1237.5
30.00		0.4375	51.169	70.445	22906.4	19.21	116.96	78.8	881.7	1211.5
35.00		0.4375	50.069	68.917	21448.3	18.77	114.44	79.3	843.7	1185.5
38.75	Bot - Section 2	0.4375	49.244	67.771	20396.2	18.44	112.56	79.7	815.8	872.1
40.00		0.4375	48.969	67.389	20053.4	18.33	111.93	79.8	806.6	538.0
45.00	Top - Section 1	0.3750	48.619	57.420	16884.8	21.45	129.65	0.0	0.0	2121.6
50.00		0.3750	47.518	56.110	15755.8	20.93	126.72	76.8	653.1	965.8
55.00		0.3750	46.418	54.801	14678.3	20.42	123.78	77.4	622.8	943.5
60.00		0.3750	45.318	53.492	13651.1	19.90	120.85	78.0	593.3	921.2
65.00		0.3750	44.218	52.182	12672.9	19.38	117.91	78.6	564.5	899.0
70.00		0.3750	43.118	50.873	11742.6	18.86	114.98	79.2	536.4	876.7
75.00		0.3750	42.018	49.563	10859.0	18.35	112.05	79.8	509.0	854.4
78.50	Bot - Section 3	0.3750	41.248	48.647	10267.7	17.98	109.99	80.2	490.3	584.8
80.00		0.3750	40.918	48.254	10020.9	17.83	109.11	80.4	482.4	456.9
83.75	Top - Section 2	0.3125	40.717	40.075	8266.0	21.56	130.30	0.0	0.0	1126.1
85.00		0.3125	40.442	39.802	8098.4	21.41	129.42	76.2	394.4	169.9
90.00		0.3125	39.342	38.711	7450.4	20.79	125.90	77.0	373.0	667.9
95.00		0.3125	38.242	37.620	6838.0	20.17	122.37	77.7	352.2	649.3
100.00		0.3125	37.142	36.529	6260.1	19.55	118.85	78.4	332.0	630.8
105.00		0.3125	36.042	35.438	5715.7	18.93	115.33	79.1	312.4	612.2
110.00		0.3125	34.942	34.347	5203.8	18.31	111.81	79.9	293.3	593.7
115.00		0.3125	33.841	33.255	4723.4	17.68	108.29	80.6	274.9	575.1
119.25	Bot - Section 4	0.3125	32.906	32.328	4339.1	17.16	105.30	81.2	259.7	474.2
120.00		0.3125	32.741	32.164	4273.5	17.06	104.77	81.3	257.1	149.3
122.00		0.3125	32.301	31.728	4101.9	16.82	103.36	81.6	250.1	394.4
123.50	Top - Section 3	0.2500	32.471	25.567	3353.6	21.49	129.88	0.0	0.0	292.3
124.50		0.2500	32.251	25.392	3285.3	21.34	129.00	76.3	200.6	86.7
125.00		0.2500	32.141	25.305	3251.6	21.26	128.56	76.4	199.3	43.1
130.00		0.2500	31.041	24.432	2926.5	20.48	124.16	77.3	185.7	423.1
132.00		0.2500	30.601	24.083	2802.9	20.17	122.40	77.7	180.4	165.1
135.00		0.2500	29.941	23.559	2623.9	19.71	119.76	78.2	172.6	243.2
140.00		0.2500	28.841	22.686	2342.9	18.93	115.36	79.1	160.0	393.4
145.00		0.2500	27.741	21.813	2082.7	18.15	110.96	80.0	147.9	378.5
150.00		0.2500	26.640	20.940	1842.6	17.38	106.56	81.0	136.2	363.7
152.00		0.2500	26.200	20.591	1751.9	17.07	104.80	81.3	131.7	141.3
155.00		0.2500	25.540	20.067	1621.6	16.60	102.16	81.9	125.1	207.5
160.00		0.2500	24.440	19.194	1419.0	15.83	97.76	82.5	114.4	334.0
162.00		0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	129.4

28122.8

Wind Loading - Shaft

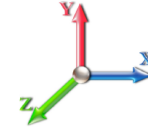
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

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	19.450	21.40	437.17	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	428.85	0.650	0.000	5.00	24.209	15.74	538.7	0.0	1609.8
10.00		1.00	0.85	19.450	21.40	420.52	0.650	0.000	5.00	23.744	15.43	528.3	0.0	1578.6
15.00		1.00	0.85	19.450	21.40	412.19	0.650	0.000	5.00	23.278	15.13	518.0	0.0	1547.4
20.00		1.00	0.90	20.638	22.70	416.01	0.650	0.000	5.00	22.813	14.83	538.6	0.0	1516.2
25.00		1.00	0.95	21.630	23.79	417.12	0.650	0.000	5.00	22.348	14.53	553.0	0.0	1485.0
30.00		1.00	0.98	22.477	24.72	416.25	0.650	0.000	5.00	21.882	14.22	562.7	0.0	1453.8
35.00		1.00	1.01	23.218	25.54	413.97	0.650	0.000	5.00	21.417	13.92	568.9	0.0	1422.6
38.75 Bot - Section 2		1.00	1.04	23.721	26.09	411.53	0.650	0.000	3.75	15.757	10.24	427.6	0.0	1046.5
40.00		1.00	1.04	23.880	26.27	410.60	0.650	0.000	1.25	5.273	3.43	144.1	0.0	645.5
45.00 Top - Section 1		1.00	1.07	24.479	26.93	406.38	0.653 *	0.000	5.00	20.803	13.57	584.8	0.0	2546.0
50.00		1.00	1.09	25.029	27.53	407.91	0.654 *	0.000	5.00	20.338	13.30	585.9	0.0	1159.0
55.00		1.00	1.12	25.536	28.09	402.48	0.659 *	0.000	5.00	19.872	13.09	588.2	0.0	1132.2
60.00		1.00	1.14	26.008	28.61	396.56	0.663 *	0.000	5.00	19.407	12.88	589.4	0.0	1105.5
65.00		1.00	1.16	26.450	29.09	390.21	0.669 *	0.000	5.00	18.941	12.66	589.6	0.0	1078.8
70.00		1.00	1.17	26.866	29.55	383.48	0.674 *	0.000	5.00	18.476	12.45	588.8	0.0	1052.0
75.00 Appurtenance(s)		1.00	1.19	27.259	29.98	376.42	0.680 *	0.000	5.00	18.010	12.24	587.3	0.0	1025.3
78.50 Bot - Section 3		1.00	1.20	27.522	30.27	371.30	0.685 *	0.000	3.50	12.330	8.44	408.9	0.0	701.8
80.00 Appurtenance(s)		1.00	1.21	27.632	30.39	369.06	0.688 *	0.000	1.50	5.294	3.64	177.1	0.0	548.2
83.75 Top - Section 2		1.00	1.22	27.899	30.69	363.37	0.691 *	0.000	3.75	13.051	9.02	442.9	0.0	1351.3
85.00		1.00	1.22	27.987	30.79	367.11	0.691 *	0.000	1.25	4.292	2.96	146.0	0.0	203.9
90.00		1.00	1.24	28.325	31.16	359.28	0.695 *	0.000	5.00	16.878	11.73	584.6	0.0	801.5
95.00		1.00	1.25	28.650	31.51	351.23	0.702 *	0.000	5.00	16.413	11.51	580.6	0.0	779.2
100.00		1.00	1.27	28.961	31.86	342.97	0.709 *	0.000	5.00	15.947	11.30	576.1	0.0	756.9
105.00 Appurtenance(s)		1.00	1.28	29.260	32.19	334.52	0.716 *	0.000	5.00	15.482	11.09	571.1	0.0	734.7
110.00		1.00	1.29	29.548	32.50	325.90	0.724 *	0.000	5.00	15.016	10.88	565.7	0.0	712.4
115.00		1.00	1.30	29.826	32.81	317.12	0.733 *	0.000	5.00	14.551	10.67	559.9	0.0	690.1
119.25 Bot - Section 4		1.00	1.31	30.054	33.06	309.54	0.742 *	0.000	4.25	12.002	8.90	470.8	0.0	569.1
120.00		1.00	1.32	30.094	33.10	308.19	0.746 *	0.000	0.75	2.115	1.58	83.6	0.0	179.1
122.00 Appurtenance(s)		1.00	1.32	30.199	33.22	304.58	0.749 *	0.000	2.00	5.588	4.19	222.5	0.0	473.3
123.50 Top - Section 3		1.00	1.32	30.277	33.30	301.86	0.650	0.000	1.50	4.142	2.69	143.5	0.0	350.7
124.50 Appurtenance(s)		1.00	1.33	30.328	33.36	304.76	0.650	0.000	1.00	2.738	1.78	95.0	0.0	104.0
125.00		1.00	1.33	30.354	33.39	303.85	0.650	0.000	0.50	1.362	0.89	47.3	0.0	51.8
130.00		1.00	1.34	30.605	33.67	294.66	0.650	0.000	5.00	13.366	8.69	468.0	0.0	507.7
132.00 Appurtenance(s)		1.00	1.34	30.704	33.77	290.95	0.650	0.000	2.00	5.216	3.39	183.2	0.0	198.1
135.00		1.00	1.35	30.850	33.93	285.35	0.650	0.000	3.00	7.684	4.99	271.2	0.0	291.8
140.00		1.00	1.36	31.087	34.20	275.92	0.650	0.000	5.00	12.435	8.08	442.2	0.0	472.1
145.00		1.00	1.37	31.317	34.45	266.37	0.650	0.000	5.00	11.970	7.78	428.8	0.0	454.3
150.00		1.00	1.38	31.541	34.70	256.72	0.650	0.000	5.00	11.504	7.48	415.1	0.0	436.4
152.00 Appurtenance(s)		1.00	1.38	31.630	34.79	252.84	0.650	0.000	2.00	4.471	2.91	161.8	0.0	169.6
155.00		1.00	1.39	31.760	34.94	246.97	0.650	0.000	3.00	6.567	4.27	238.6	0.0	249.0
160.00		1.00	1.40	31.973	35.17	237.13	0.650	0.000	5.00	10.573	6.87	386.7	0.0	400.8
162.00 Appurtenance(s)		1.00	1.40	32.057	35.26	233.16	0.650	0.000	2.00	4.099	2.66	150.3	0.0	155.3
Totals:									162.00			17,315.4		33,747.3

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

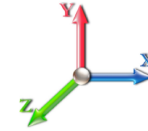
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	162.00	Low Profile Platform-flat	1	32.057	35.262	1.00	1.00	25.00	1440.00	0.000	0.000	1410.49	0.00	0.00	
2	162.00	ACU-A20-N	4	32.077	35.285	0.75	1.00	0.42	4.80	0.000	0.500	23.71	0.00	11.86	
3	162.00	800 MHz Ext. Filter	3	32.057	35.262	0.63	1.00	2.25	23.76	0.000	0.000	126.89	0.00	0.00	
4	162.00	800 MHz RRU	3	32.057	35.262	0.75	1.00	5.60	190.80	0.000	0.000	316.09	0.00	0.00	
5	162.00	1900MHz RRH	3	32.077	35.262	0.88	1.00	10.03	158.40	0.000	0.000	566.00	0.00	0.00	
6	162.00	APXVSPP18-C-A20	3	32.077	35.285	0.66	0.80	15.98	205.20	0.000	0.500	901.94	0.00	450.97	
7	162.00	TD-RRH8x20-25	3	32.057	35.262	0.69	1.00	8.38	252.00	0.000	0.000	472.99	0.00	0.00	
8	162.00	APXVTM14-C-120	3	32.077	35.285	0.63	0.80	12.02	201.60	0.000	0.500	678.64	0.00	339.32	
9	162.00	Flush Mount	1	31.973	35.170	1.00	1.00	5.00	210.00	0.000	-2.000	281.36	0.00	-562.72	
10	152.00	782 11056	3	31.630	34.792	0.50	0.75	0.23	6.48	0.000	0.000	12.59	0.00	0.00	
11	152.00	KRY 112 144/1	3	31.630	34.792	0.55	0.75	0.57	39.60	0.000	0.000	32.00	0.00	0.00	
12	152.00	FE15501P77/75	3	31.630	34.792	0.49	0.75	0.79	63.00	0.000	0.000	43.96	0.00	0.00	
13	152.00	APXV18-206516S-A20	3	31.630	34.792	0.57	0.75	7.46	66.60	0.000	0.000	415.04	0.00	0.00	
14	152.00	RR90-17-02DP	6	31.630	34.792	0.55	0.75	14.32	97.20	0.000	0.000	797.31	0.00	0.00	
15	152.00	APXVAARR24_43-U-NA2	3	31.630	34.792	0.52	0.75	31.88	460.80	0.000	0.000	1774.58	0.00	0.00	
16	152.00	Radio 4449 B71+B12	3	31.630	34.792	0.65	0.75	3.81	255.60	0.000	0.000	212.20	0.00	0.00	
17	152.00	Platform w/ Hand Rail	1	31.630	34.792	1.00	1.00	49.30	3355.80	0.000	0.000	2744.43	0.00	0.00	
18	132.00	FD9R6004/2C-3L	6	30.704	33.774	0.56	0.75	1.22	22.32	0.000	0.000	65.66	0.00	0.00	
19	132.00	DB846F65ZAXY	4	30.704	33.774	0.70	0.75	19.67	100.80	0.000	0.000	1062.92	0.00	0.00	
20	132.00	LPA-80080-4CF-EDIN-0	2	30.704	33.774	1.27	0.75	6.66	28.80	0.000	0.000	359.66	0.00	0.00	
21	132.00	HRK12 (Handrail Kit)	1	30.704	33.774	1.00	1.00	6.75	314.06	0.000	0.000	364.76	0.00	0.00	
22	132.00	Raycap	1	30.704	33.774	0.50	0.75	2.04	38.40	0.000	0.000	110.25	0.00	0.00	
23	132.00	Samsung RFV01U-D2A	3	30.704	33.774	0.50	0.75	2.83	253.08	0.000	0.000	153.15	0.00	0.00	
24	132.00	Samsung RFV01U-D1A	3	30.704	33.774	0.50	0.75	2.83	303.84	0.000	0.000	153.15	0.00	0.00	
25	132.00	Samsung MT6407-77A	3	30.704	33.774	0.52	0.75	7.39	285.84	0.000	0.000	399.17	0.00	0.00	
26	132.00	JMA Wireless	6	30.704	33.774	0.65	0.75	38.64	331.20	0.000	0.000	2088.12	0.00	0.00	
27	132.00	Low Profile	1	30.704	33.774	1.00	1.00	22.00	1800.00	0.000	0.000	1188.86	0.00	0.00	
28	124.50	Flush Mount	1	30.328	33.361	1.00	1.00	5.00	210.00	0.000	0.000	266.89	0.00	0.00	
29	124.50	RRUS-11	6	30.328	33.361	0.68	1.00	18.03	396.00	0.000	0.000	962.59	0.00	0.00	
30	124.50	DC6-48-60-18-8F	1	30.328	33.361	1.00	1.00	1.47	38.16	0.000	0.000	78.46	0.00	0.00	
31	122.00	Low Profile Platform-flat	1	30.199	33.219	1.00	1.00	25.00	1440.00	0.000	0.000	1328.75	0.00	0.00	
32	122.00	AM-X-CD-16-65-00T-RET	3	30.199	33.219	0.65	0.80	11.76	118.80	0.000	0.000	625.11	0.00	0.00	
33	122.00	LGP21903	6	30.199	33.219	0.60	0.80	0.97	39.60	0.000	0.000	51.66	0.00	0.00	
34	122.00	LGP21401	6	30.199	33.219	0.60	0.80	4.64	101.52	0.000	0.000	246.83	0.00	0.00	
35	122.00	7770.00	6	30.199	33.219	0.58	0.80	19.27	252.00	0.000	0.000	1024.31	0.00	0.00	
36	105.00	Low Profile Platform-flat	1	29.260	32.186	1.00	1.00	25.00	1440.00	0.000	0.000	1287.43	0.00	0.00	
37	80.00	738-449	1	27.657	30.423	1.00	1.00	0.01	0.60	0.000	0.350	0.49	0.00	0.17	
38	75.00	GPS	1	27.259	29.985	1.00	1.00	1.00	12.00	0.000	0.000	47.98	0.00	0.00	
Totals:									14,558.66						22,676.43

Total Applied Force Summary

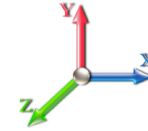
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

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		538.69	1875.06	0.00	0.00
10.00		528.33	1843.87	0.00	0.00
15.00		517.97	1812.68	0.00	0.00
20.00		538.60	1781.50	0.00	0.00
25.00		552.99	1750.31	0.00	0.00
30.00		562.66	1719.12	0.00	0.00
35.00		568.85	1687.93	0.00	0.00
38.75		427.59	1245.48	0.00	0.00
40.00		144.06	711.86	0.00	0.00
45.00		584.83	2811.24	0.00	0.00
50.00		585.86	1424.23	0.00	0.00
55.00		588.22	1397.50	0.00	0.00
60.00		589.40	1370.77	0.00	0.00
65.00		589.55	1344.03	0.00	0.00
70.00		588.81	1317.30	0.00	0.00
75.00	(1) attachments	635.24	1302.56	0.00	0.00
78.50		408.95	886.82	0.00	0.00
80.00	(1) attachments	177.56	628.13	0.00	0.17
83.75		442.90	1548.81	0.00	0.00
85.00		146.02	269.69	0.00	0.00
90.00		584.57	1064.85	0.00	0.00
95.00		580.58	1042.57	0.00	0.00
100.00		576.09	1020.29	0.00	0.00
105.00	(1) attachments	1858.56	2438.02	0.00	0.00
110.00		565.74	975.74	0.00	0.00
115.00		559.94	953.46	0.00	0.00
119.25		470.79	792.92	0.00	0.00
120.00		83.60	218.63	0.00	0.00
122.00	(22) attachments	3499.15	2530.51	0.00	0.00
123.50		143.48	402.52	0.00	0.00
124.50	(8) attachments	1402.95	782.73	0.00	0.00
125.00		47.30	69.02	0.00	0.00
130.00		467.98	680.36	0.00	0.00
132.00	(30) attachments	6128.91	3745.50	0.00	0.00
135.00		271.20	349.02	0.00	0.00
140.00		442.23	567.44	0.00	0.00
145.00		428.83	549.62	0.00	0.00
150.00		415.11	531.79	0.00	0.00
152.00	(25) attachments	6193.91	4552.81	0.00	0.00
155.00		238.61	261.10	0.00	0.00
160.00		386.74	420.91	0.00	0.00
162.00	(24) attachments	4928.45	2849.93	0.00	239.42
Totals:		39,991.79	55,528.63	0.00	239.59

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

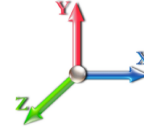


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Load Case: 1.2D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	1.64
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.086	0.000	19.450	0.00	68.64
5.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	6.60
5.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	74.88
5.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	0.36
5.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.086	0.000	19.450	0.00	10.68
5.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	4.80
5.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	0.96
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	1.64
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.087	0.000	19.450	0.00	68.64
10.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	6.60
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	74.88
10.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	0.36
10.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.087	0.000	19.450	0.00	10.68
10.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	4.80
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	0.96
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	1.64
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.089	0.000	19.450	0.00	68.64
15.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	6.60
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	74.88
15.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	0.36
15.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.089	0.000	19.450	0.00	10.68
15.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	4.80
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	0.96
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	1.64
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.091	0.000	20.638	0.00	68.64
20.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	6.60
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	74.88
20.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	0.36
20.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.091	0.000	20.638	0.00	10.68
20.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	4.80
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	0.96
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	1.64
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.093	0.000	21.630	0.00	68.64
25.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	6.60
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	74.88
25.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	0.36
25.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.093	0.000	21.630	0.00	10.68
25.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	4.80
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	0.96
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	1.64
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.095	0.000	22.477	0.00	68.64
30.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	6.60
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	74.88
30.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	0.36
30.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.095	0.000	22.477	0.00	10.68
30.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	4.80

Linear Appurtenance Segment Forces (Factored)

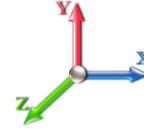
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	0.96
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	1.64
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.097	0.000	23.218	0.00	68.64
35.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	6.60
35.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	74.88
35.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	0.36
35.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.097	0.000	23.218	0.00	10.68
35.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	4.80
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	0.96
38.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	1.23
38.75	1 5/8" Coax	Yes	3.75	0.000	1.98	0.62	0.00	0.099	0.000	23.721	0.00	51.48
38.75	1 5/8" Fiber	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	4.95
38.75	1 5/8" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	56.16
38.75	10 mm	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	0.27
38.75	3" Coax	Yes	3.75	0.000	3.00	0.94	0.00	0.099	0.000	23.721	0.00	8.01
38.75	DC	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	3.60
38.75	1/2" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	0.72
40.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	0.41
40.00	1 5/8" Coax	Yes	1.25	0.000	1.98	0.21	0.00	0.100	0.000	23.880	0.00	17.16
40.00	1 5/8" Fiber	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	1.65
40.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	18.72
40.00	10 mm	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	0.09
40.00	3" Coax	Yes	1.25	0.000	3.00	0.31	0.00	0.100	0.000	23.880	0.00	2.67
40.00	DC	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	1.20
40.00	1/2" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	0.24
45.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	1.64
45.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.101	1.004	24.479	0.00	68.64
45.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	6.60
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	74.88
45.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	0.36
45.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.101	1.004	24.479	0.00	10.68
45.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	4.80
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	0.96
50.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	1.64
50.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.102	1.006	25.029	0.00	68.64
50.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	6.60
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	74.88
50.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	0.36
50.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.102	1.006	25.029	0.00	10.68
50.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	4.80
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	0.96
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	1.64
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.104	1.013	25.536	0.00	68.64
55.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	6.60
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	74.88
55.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	0.36
55.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.104	1.013	25.536	0.00	10.68

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
55.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	4.80
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	0.96
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	1.64
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.107	1.021	26.008	0.00	68.64
60.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	6.60
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	74.88
60.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	0.36
60.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.107	1.021	26.008	0.00	10.68
60.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	4.80
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	0.96
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	1.64
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.110	1.029	26.450	0.00	68.64
65.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	6.60
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	74.88
65.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	0.36
65.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.110	1.029	26.450	0.00	10.68
65.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	4.80
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	0.96
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	1.64
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.112	1.037	26.866	0.00	68.64
70.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	6.60
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	74.88
70.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	0.36
70.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.112	1.037	26.866	0.00	10.68
70.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	4.80
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	0.96
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	1.64
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.115	1.046	27.259	0.00	68.64
75.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	6.60
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	74.88
75.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	0.36
75.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.115	1.046	27.259	0.00	10.68
75.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	4.80
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	0.96
78.50	Safety Cable	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	1.15
78.50	1 5/8" Coax	Yes	3.50	0.000	1.98	0.58	0.00	0.118	1.053	27.522	0.00	48.05
78.50	1 5/8" Fiber	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	4.62
78.50	1 5/8" Coax	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	52.42
78.50	10 mm	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	0.25
78.50	3" Coax	Yes	3.50	0.000	3.00	0.88	0.00	0.118	1.053	27.522	0.00	7.48
78.50	DC	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	3.36
80.00	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	0.49
80.00	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.119	1.058	27.632	0.00	20.59
80.00	1 5/8" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	1.98
80.00	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	22.46
80.00	10 mm	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	0.11
80.00	3" Coax	Yes	1.50	0.000	3.00	0.38	0.00	0.119	1.058	27.632	0.00	3.20

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

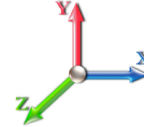


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Load Case: 1.2D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
80.00	DC	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	1.44
83.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	1.23
83.75	1 5/8" Coax	Yes	3.75	0.000	1.98	0.62	0.00	0.121	1.063	27.899	0.00	51.48
83.75	1 5/8" Fiber	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	4.95
83.75	1 5/8" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	56.16
83.75	10 mm	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	0.27
83.75	3" Coax	Yes	3.75	0.000	3.00	0.94	0.00	0.121	1.063	27.899	0.00	8.01
83.75	DC	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	3.60
85.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	0.41
85.00	1 5/8" Coax	Yes	1.25	0.000	1.98	0.21	0.00	0.121	1.063	27.987	0.00	17.16
85.00	1 5/8" Fiber	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	1.65
85.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	18.72
85.00	10 mm	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	0.09
85.00	3" Coax	Yes	1.25	0.000	3.00	0.31	0.00	0.121	1.063	27.987	0.00	2.67
85.00	DC	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	1.20
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	1.64
90.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.123	1.069	28.325	0.00	68.64
90.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	6.60
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	74.88
90.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	0.36
90.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.123	1.069	28.325	0.00	10.68
90.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	4.80
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	1.64
95.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.126	1.079	28.650	0.00	68.64
95.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	6.60
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	74.88
95.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	0.36
95.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.126	1.079	28.650	0.00	10.68
95.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	4.80
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	1.64
100.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.130	1.090	28.961	0.00	68.64
100.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	6.60
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	74.88
100.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	0.36
100.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.130	1.090	28.961	0.00	10.68
100.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	4.80
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	1.64
105.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.134	1.102	29.260	0.00	68.64
105.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	6.60
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	74.88
105.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	0.36
105.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.134	1.102	29.260	0.00	10.68
105.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	4.80
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	1.64
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.138	1.115	29.548	0.00	68.64
110.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	6.60
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	74.88

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
110.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	0.36
110.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.138	1.115	29.548	0.00	10.68
110.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	4.80
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	1.64
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.143	1.128	29.826	0.00	68.64
115.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	6.60
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	74.88
115.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	0.36
115.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.143	1.128	29.826	0.00	10.68
115.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	4.80
119.25	Safety Cable	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	1.39
119.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.147	1.141	30.054	0.00	58.34
119.25	1 5/8" Fiber	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	5.61
119.25	1 5/8" Coax	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	63.65
119.25	10 mm	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	0.31
119.25	3" Coax	Yes	4.25	0.000	3.00	1.06	0.00	0.147	1.141	30.054	0.00	9.08
119.25	DC	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	4.08
120.00	Safety Cable	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	0.25
120.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.149	1.148	30.094	0.00	10.30
120.00	1 5/8" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	0.99
120.00	1 5/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	11.23
120.00	10 mm	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	0.05
120.00	3" Coax	Yes	0.75	0.000	3.00	0.19	0.00	0.149	1.148	30.094	0.00	1.60
120.00	DC	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	0.72
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	0.66
122.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.151	1.152	30.199	0.00	27.46
122.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	2.64
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	29.95
122.00	10 mm	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	0.14
122.00	3" Coax	Yes	2.00	0.000	3.00	0.50	0.00	0.151	1.152	30.199	0.00	4.27
122.00	DC	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	1.92
123.50	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.061	0.000	30.277	0.00	0.49
123.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.061	0.000	30.277	0.00	20.59
123.50	1 5/8" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.061	0.000	30.277	0.00	1.98
124.50	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.060	0.000	30.328	0.00	0.33
124.50	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.060	0.000	30.328	0.00	13.73
124.50	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.060	0.000	30.328	0.00	1.32
125.00	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.061	0.000	30.354	0.00	0.16
125.00	1 5/8" Coax	Yes	0.50	0.000	1.98	0.08	0.00	0.061	0.000	30.354	0.00	6.86
125.00	1 5/8" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.061	0.000	30.354	0.00	0.66
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	30.605	0.00	1.64
130.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.062	0.000	30.605	0.00	68.64
130.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	30.605	0.00	6.60
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	30.704	0.00	0.66
132.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.063	0.000	30.704	0.00	27.46
132.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	30.704	0.00	2.64
135.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	30.850	0.00	0.98

Linear Appurtenance Segment Forces (Factored)

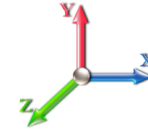
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
135.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.064	0.000	30.850	0.00	41.18
135.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	30.850	0.00	3.96
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	31.087	0.00	1.64
140.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.066	0.000	31.087	0.00	68.64
140.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	31.087	0.00	6.60
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	31.317	0.00	1.64
145.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.069	0.000	31.317	0.00	68.64
145.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	31.317	0.00	6.60
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	31.541	0.00	1.64
150.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.072	0.000	31.541	0.00	68.64
150.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	31.541	0.00	6.60
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	31.630	0.00	0.66
152.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.074	0.000	31.630	0.00	27.46
152.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	31.630	0.00	2.64
155.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	31.760	0.00	0.98
160.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.973	0.00	1.64
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.057	0.00	0.66
Totals:											0.0	4,568.3

Calculated Forces

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 97 mph Wind

Iterations 24

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	-55.46	-40.09	0.00	-4755.1	0.00	4755.18	5422.04	2711.02	12776.1	6397.58	0.00	0.000	0.000	0.754
5.00	-53.44	-39.74	0.00	-4554.7	0.00	4554.73	5354.65	2677.32	12373.4	6195.90	0.11	-0.200	0.000	0.745
10.00	-51.46	-39.38	0.00	-4356.0	0.00	4356.06	5285.82	2642.91	11973.5	5995.67	0.43	-0.403	0.000	0.736
15.00	-49.51	-39.03	0.00	-4159.1	0.00	4159.15	5215.55	2607.78	11576.7	5796.99	0.96	-0.609	0.000	0.727
20.00	-47.60	-38.64	0.00	-3964.0	0.00	3964.02	5143.86	2571.93	11183.2	5599.96	1.71	-0.818	0.000	0.717
25.00	-45.71	-38.23	0.00	-3770.8	0.00	3770.81	5070.72	2535.36	10793.2	5404.66	2.68	-1.030	0.000	0.707
30.00	-43.86	-37.80	0.00	-3579.6	0.00	3579.66	4996.16	2498.08	10406.9	5211.21	3.87	-1.244	0.000	0.696
35.00	-42.07	-37.33	0.00	-3390.6	0.00	3390.67	4920.16	2460.08	10024.5	5019.70	5.29	-1.460	0.000	0.684
38.75	-40.76	-36.95	0.00	-3250.6	0.00	3250.69	4862.22	2431.11	9740.32	4877.40	6.51	-1.625	0.000	0.675
40.00	-39.97	-36.88	0.00	-3204.5	0.00	3204.50	4842.73	2421.36	9646.11	4830.22	6.94	-1.682	0.000	0.672
45.00	-37.03	-36.35	0.00	-3020.1	0.00	3020.10	3936.38	1968.19	7803.92	3907.76	8.82	-1.902	0.000	0.783
50.00	-35.48	-35.86	0.00	-2838.3	0.00	2838.35	3877.34	1938.67	7510.22	3760.69	10.93	-2.125	0.000	0.764
55.00	-33.96	-35.37	0.00	-2659.0	0.00	2659.04	3816.87	1908.43	7219.20	3614.96	13.29	-2.373	0.000	0.745
60.00	-32.46	-34.86	0.00	-2482.2	0.00	2482.21	3754.96	1877.48	6931.04	3470.67	15.91	-2.622	0.000	0.724
65.00	-31.00	-34.34	0.00	-2307.9	0.00	2307.91	3691.62	1845.81	6645.93	3327.91	18.79	-2.872	0.000	0.702
70.00	-29.57	-33.81	0.00	-2136.2	0.00	2136.20	3626.84	1813.42	6364.09	3186.77	21.93	-3.121	0.000	0.679
75.00	-28.18	-33.21	0.00	-1967.1	0.00	1967.13	3560.63	1780.31	6085.69	3047.37	25.33	-3.370	0.000	0.654
78.50	-27.25	-32.81	0.00	-1850.9	0.00	1850.90	3513.43	1756.71	5892.98	2950.87	27.87	-3.545	0.000	0.635
80.00	-26.56	-32.65	0.00	-1801.6	0.00	1801.68	3492.98	1746.49	5810.95	2909.79	28.99	-3.621	0.000	0.627
83.75	-24.97	-32.16	0.00	-1679.2	0.00	1679.24	2742.50	1371.25	4553.78	2280.28	31.91	-3.806	0.000	0.746
85.00	-24.62	-32.07	0.00	-1639.0	0.00	1639.03	2730.37	1365.18	4502.54	2254.62	32.91	-3.869	0.000	0.737
90.00	-23.45	-31.53	0.00	-1478.6	0.00	1478.67	2680.95	1340.47	4298.92	2152.65	37.11	-4.142	0.000	0.696
95.00	-22.31	-30.97	0.00	-1321.0	0.00	1321.04	2630.10	1315.05	4097.56	2051.82	41.59	-4.410	0.000	0.653
100.00	-21.20	-30.41	0.00	-1166.1	0.00	1166.17	2577.82	1288.91	3898.66	1952.23	46.35	-4.668	0.000	0.606
105.00	-18.81	-28.44	0.00	-1014.1	0.00	1014.11	2524.10	1262.05	3702.43	1853.97	51.36	-4.916	0.000	0.555
110.00	-17.78	-27.86	0.00	-871.94	0.00	871.94	2468.95	1234.47	3509.05	1757.13	56.63	-5.151	0.000	0.504
115.00	-16.79	-27.27	0.00	-732.65	0.00	732.65	2412.36	1206.18	3318.73	1661.83	62.14	-5.370	0.000	0.448
119.25	-15.99	-26.75	0.00	-616.76	0.00	616.76	2363.14	1181.57	3159.50	1582.10	67.00	-5.543	0.000	0.397
120.00	-15.76	-26.66	0.00	-596.69	0.00	596.69	2354.34	1177.17	3131.65	1568.15	67.87	-5.573	0.000	0.388
122.00	-13.56	-22.95	0.00	-543.36	0.00	543.36	2330.73	1165.37	3057.78	1531.16	70.22	-5.649	0.000	0.361
123.50	-13.15	-22.78	0.00	-508.94	0.00	508.94	1751.58	875.79	2319.28	1161.36	72.00	-5.703	0.000	0.446
124.50	-12.50	-21.31	0.00	-486.17	0.00	486.17	1743.79	871.89	2293.08	1148.24	73.20	-5.739	0.000	0.431
125.00	-12.40	-21.28	0.00	-475.51	0.00	475.51	1739.87	869.94	2280.00	1141.69	73.80	-5.760	0.000	0.424
130.00	-11.73	-20.77	0.00	-369.12	0.00	369.12	1699.92	849.96	2150.20	1076.70	79.92	-5.945	0.000	0.350
132.00	-8.62	-14.29	0.00	-327.58	0.00	327.58	1683.54	841.77	2098.80	1050.96	82.42	-6.012	0.000	0.317
135.00	-8.27	-14.01	0.00	-284.70	0.00	284.70	1658.53	829.27	2022.29	1012.65	86.23	-6.106	0.000	0.286
140.00	-7.73	-13.52	0.00	-214.68	0.00	214.68	1615.71	807.86	1896.47	949.64	92.68	-6.241	0.000	0.231
145.00	-7.21	-13.05	0.00	-147.07	0.00	147.07	1571.46	785.73	1772.93	887.78	99.27	-6.351	0.000	0.171
150.00	-6.72	-12.58	0.00	-81.84	0.00	81.84	1525.77	762.88	1651.87	827.16	105.95	-6.429	0.000	0.104
152.00	-2.88	-5.92	0.00	-56.68	0.00	56.68	1507.09	753.54	1604.19	803.29	108.65	-6.450	0.000	0.073
155.00	-2.65	-5.65	0.00	-38.93	0.00	38.93	1478.64	739.32	1533.49	767.89	112.70	-6.474	0.000	0.053
160.00	-2.27	-5.22	0.00	-10.68	0.00	10.68	1426.03	713.01	1413.96	708.03	119.48	-6.495	0.000	0.017
162.00	0.00	-4.93	0.00	-0.24	0.00	0.24	1400.09	700.04	1362.73	682.38	122.19	-6.498	0.000	0.000

Wind Loading - Shaft

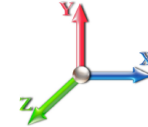
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 24

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	19.450	21.40	437.17	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	428.85	0.650	0.000	5.00	24.209	15.74	538.7	0.0	1207.3
10.00		1.00	0.85	19.450	21.40	420.52	0.650	0.000	5.00	23.744	15.43	528.3	0.0	1183.9
15.00		1.00	0.85	19.450	21.40	412.19	0.650	0.000	5.00	23.278	15.13	518.0	0.0	1160.6
20.00		1.00	0.90	20.638	22.70	416.01	0.650	0.000	5.00	22.813	14.83	538.6	0.0	1137.2
25.00		1.00	0.95	21.630	23.79	417.12	0.650	0.000	5.00	22.348	14.53	553.0	0.0	1113.8
30.00		1.00	0.98	22.477	24.72	416.25	0.650	0.000	5.00	21.882	14.22	562.7	0.0	1090.4
35.00		1.00	1.01	23.218	25.54	413.97	0.650	0.000	5.00	21.417	13.92	568.9	0.0	1067.0
38.75 Bot - Section 2		1.00	1.04	23.721	26.09	411.53	0.650	0.000	3.75	15.757	10.24	427.6	0.0	784.9
40.00		1.00	1.04	23.880	26.27	410.60	0.650	0.000	1.25	5.273	3.43	144.1	0.0	484.2
45.00 Top - Section 1		1.00	1.07	24.479	26.93	406.38	0.653 *	0.000	5.00	20.803	13.57	584.8	0.0	1909.5
50.00		1.00	1.09	25.029	27.53	407.91	0.654 *	0.000	5.00	20.338	13.30	585.9	0.0	869.2
55.00		1.00	1.12	25.536	28.09	402.48	0.659 *	0.000	5.00	19.872	13.09	588.2	0.0	849.2
60.00		1.00	1.14	26.008	28.61	396.56	0.663 *	0.000	5.00	19.407	12.88	589.4	0.0	829.1
65.00		1.00	1.16	26.450	29.09	390.21	0.669 *	0.000	5.00	18.941	12.66	589.6	0.0	809.1
70.00		1.00	1.17	26.866	29.55	383.48	0.674 *	0.000	5.00	18.476	12.45	588.8	0.0	789.0
75.00 Appurtenance(s)		1.00	1.19	27.259	29.98	376.42	0.680 *	0.000	5.00	18.010	12.24	587.3	0.0	769.0
78.50 Bot - Section 3		1.00	1.20	27.522	30.27	371.30	0.685 *	0.000	3.50	12.330	8.44	408.9	0.0	526.3
80.00 Appurtenance(s)		1.00	1.21	27.632	30.39	369.06	0.688 *	0.000	1.50	5.294	3.64	177.1	0.0	411.2
83.75 Top - Section 2		1.00	1.22	27.899	30.69	363.37	0.691 *	0.000	3.75	13.051	9.02	442.9	0.0	1013.5
85.00		1.00	1.22	27.987	30.79	367.11	0.691 *	0.000	1.25	4.292	2.96	146.0	0.0	152.9
90.00		1.00	1.24	28.325	31.16	359.28	0.695 *	0.000	5.00	16.878	11.73	584.6	0.0	601.1
95.00		1.00	1.25	28.650	31.51	351.23	0.702 *	0.000	5.00	16.413	11.51	580.6	0.0	584.4
100.00		1.00	1.27	28.961	31.86	342.97	0.709 *	0.000	5.00	15.947	11.30	576.1	0.0	567.7
105.00 Appurtenance(s)		1.00	1.28	29.260	32.19	334.52	0.716 *	0.000	5.00	15.482	11.09	571.1	0.0	551.0
110.00		1.00	1.29	29.548	32.50	325.90	0.724 *	0.000	5.00	15.016	10.88	565.7	0.0	534.3
115.00		1.00	1.30	29.826	32.81	317.12	0.733 *	0.000	5.00	14.551	10.67	559.9	0.0	517.6
119.25 Bot - Section 4		1.00	1.31	30.054	33.06	309.54	0.742 *	0.000	4.25	12.002	8.90	470.8	0.0	426.8
120.00		1.00	1.32	30.094	33.10	308.19	0.746 *	0.000	0.75	2.115	1.58	83.6	0.0	134.3
122.00 Appurtenance(s)		1.00	1.32	30.199	33.22	304.58	0.749 *	0.000	2.00	5.588	4.19	222.5	0.0	354.9
123.50 Top - Section 3		1.00	1.32	30.277	33.30	301.86	0.650	0.000	1.50	4.142	2.69	143.5	0.0	263.0
124.50 Appurtenance(s)		1.00	1.33	30.328	33.36	304.76	0.650	0.000	1.00	2.738	1.78	95.0	0.0	78.0
125.00		1.00	1.33	30.354	33.39	303.85	0.650	0.000	0.50	1.362	0.89	47.3	0.0	38.8
130.00		1.00	1.34	30.605	33.67	294.66	0.650	0.000	5.00	13.366	8.69	468.0	0.0	380.8
132.00 Appurtenance(s)		1.00	1.34	30.704	33.77	290.95	0.650	0.000	2.00	5.216	3.39	183.2	0.0	148.6
135.00		1.00	1.35	30.850	33.93	285.35	0.650	0.000	3.00	7.684	4.99	271.2	0.0	218.9
140.00		1.00	1.36	31.087	34.20	275.92	0.650	0.000	5.00	12.435	8.08	442.2	0.0	354.1
145.00		1.00	1.37	31.317	34.45	266.37	0.650	0.000	5.00	11.970	7.78	428.8	0.0	340.7
150.00		1.00	1.38	31.541	34.70	256.72	0.650	0.000	5.00	11.504	7.48	415.1	0.0	327.3
152.00 Appurtenance(s)		1.00	1.38	31.630	34.79	252.84	0.650	0.000	2.00	4.471	2.91	161.8	0.0	127.2
155.00		1.00	1.39	31.760	34.94	246.97	0.650	0.000	3.00	6.567	4.27	238.6	0.0	186.8
160.00		1.00	1.40	31.973	35.17	237.13	0.650	0.000	5.00	10.573	6.87	386.7	0.0	300.6
162.00 Appurtenance(s)		1.00	1.40	32.057	35.26	233.16	0.650	0.000	2.00	4.099	2.66	150.3	0.0	116.5
Totals:									162.00			17,315.4		25,310.5

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

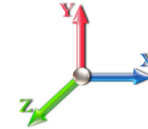
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	162.00	Low Profile Platform-flat	1	32.057	35.262	1.00	1.00	25.00	1080.00	0.000	0.000	1410.49	0.00	0.00	
2	162.00	ACU-A20-N	4	32.077	35.285	0.75	1.00	0.42	3.60	0.000	0.500	23.71	0.00	11.86	
3	162.00	800 MHz Ext. Filter	3	32.057	35.262	0.63	1.00	2.25	17.82	0.000	0.000	126.89	0.00	0.00	
4	162.00	800 MHz RRU	3	32.057	35.262	0.75	1.00	5.60	143.10	0.000	0.000	316.09	0.00	0.00	
5	162.00	1900MHz RRH	3	32.057	35.262	0.88	1.00	10.03	118.80	0.000	0.000	566.00	0.00	0.00	
6	162.00	APXVSP18-C-A20	3	32.077	35.285	0.66	0.80	15.98	153.90	0.000	0.500	901.94	0.00	450.97	
7	162.00	TD-RRH8x20-25	3	32.057	35.262	0.69	1.00	8.38	189.00	0.000	0.000	472.99	0.00	0.00	
8	162.00	APXVTM14-C-120	3	32.077	35.285	0.63	0.80	12.02	151.20	0.000	0.500	678.64	0.00	339.32	
9	162.00	Flush Mount	1	31.973	35.170	1.00	1.00	5.00	157.50	0.000	-2.000	281.36	0.00	-562.72	
10	152.00	782 11056	3	31.630	34.792	0.50	0.75	0.23	4.86	0.000	0.000	12.59	0.00	0.00	
11	152.00	KRY 112 144/1	3	31.630	34.792	0.55	0.75	0.57	29.70	0.000	0.000	32.00	0.00	0.00	
12	152.00	FE15501P77/75	3	31.630	34.792	0.49	0.75	0.79	47.25	0.000	0.000	43.96	0.00	0.00	
13	152.00	APXV18-206516S-A20	3	31.630	34.792	0.57	0.75	7.46	49.95	0.000	0.000	415.04	0.00	0.00	
14	152.00	RR90-17-02DP	6	31.630	34.792	0.55	0.75	14.32	72.90	0.000	0.000	797.31	0.00	0.00	
15	152.00	APXVAARR24_43-U-NA2	3	31.630	34.792	0.52	0.75	31.88	345.60	0.000	0.000	1774.58	0.00	0.00	
16	152.00	Radio 4449 B71+B12	3	31.630	34.792	0.65	0.75	3.81	191.70	0.000	0.000	212.20	0.00	0.00	
17	152.00	Platform w/ Hand Rail	1	31.630	34.792	1.00	1.00	49.30	2516.85	0.000	0.000	2744.43	0.00	0.00	
18	132.00	FD9R6004/2C-3L	6	30.704	33.774	0.56	0.75	1.22	16.74	0.000	0.000	65.66	0.00	0.00	
19	132.00	DB846F65ZAXY	4	30.704	33.774	0.70	0.75	19.67	75.60	0.000	0.000	1062.92	0.00	0.00	
20	132.00	LPA-80080-4CF-EDIN-0	2	30.704	33.774	1.27	0.75	6.66	21.60	0.000	0.000	359.66	0.00	0.00	
21	132.00	HRK12 (Handrail Kit)	1	30.704	33.774	1.00	1.00	6.75	235.55	0.000	0.000	364.76	0.00	0.00	
22	132.00	Raycap	1	30.704	33.774	0.50	0.75	2.04	28.80	0.000	0.000	110.25	0.00	0.00	
23	132.00	Samsung RFV01U-D2A	3	30.704	33.774	0.50	0.75	2.83	189.81	0.000	0.000	153.15	0.00	0.00	
24	132.00	Samsung RFV01U-D1A	3	30.704	33.774	0.50	0.75	2.83	227.88	0.000	0.000	153.15	0.00	0.00	
25	132.00	Samsung MT6407-77A	3	30.704	33.774	0.52	0.75	7.39	214.38	0.000	0.000	399.17	0.00	0.00	
26	132.00	JMA Wireless	6	30.704	33.774	0.65	0.75	38.64	248.40	0.000	0.000	2088.12	0.00	0.00	
27	132.00	Low Profile	1	30.704	33.774	1.00	1.00	22.00	1350.00	0.000	0.000	1188.86	0.00	0.00	
28	124.50	Flush Mount	1	30.328	33.361	1.00	1.00	5.00	157.50	0.000	0.000	266.89	0.00	0.00	
29	124.50	RRUS-11	6	30.328	33.361	0.68	1.00	18.03	297.00	0.000	0.000	962.59	0.00	0.00	
30	124.50	DC6-48-60-18-8F	1	30.328	33.361	1.00	1.00	1.47	28.62	0.000	0.000	78.46	0.00	0.00	
31	122.00	Low Profile Platform-flat	1	30.199	33.219	1.00	1.00	25.00	1080.00	0.000	0.000	1328.75	0.00	0.00	
32	122.00	AM-X-CD-16-65-00T-RET	3	30.199	33.219	0.65	0.80	11.76	89.10	0.000	0.000	625.11	0.00	0.00	
33	122.00	LGP21903	6	30.199	33.219	0.60	0.80	0.97	29.70	0.000	0.000	51.66	0.00	0.00	
34	122.00	LGP21401	6	30.199	33.219	0.60	0.80	4.64	76.14	0.000	0.000	246.83	0.00	0.00	
35	122.00	7770.00	6	30.199	33.219	0.58	0.80	19.27	189.00	0.000	0.000	1024.31	0.00	0.00	
36	105.00	Low Profile Platform-flat	1	29.260	32.186	1.00	1.00	25.00	1080.00	0.000	0.000	1287.43	0.00	0.00	
37	80.00	738-449	1	27.657	30.423	1.00	1.00	0.01	0.45	0.000	0.350	0.49	0.00	0.17	
38	75.00	GPS	1	27.259	29.985	1.00	1.00	1.00	9.00	0.000	0.000	47.98	0.00	0.00	
Totals:									10,919.00						22,676.43

Total Applied Force Summary

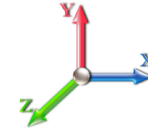
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 24

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		538.69	1406.30	0.00	0.00
10.00		528.33	1382.91	0.00	0.00
15.00		517.97	1359.51	0.00	0.00
20.00		538.60	1336.12	0.00	0.00
25.00		552.99	1312.73	0.00	0.00
30.00		562.66	1289.34	0.00	0.00
35.00		568.85	1265.95	0.00	0.00
38.75		427.59	934.11	0.00	0.00
40.00		144.06	533.89	0.00	0.00
45.00		584.83	2108.43	0.00	0.00
50.00		585.86	1068.18	0.00	0.00
55.00		588.22	1048.13	0.00	0.00
60.00		589.40	1028.07	0.00	0.00
65.00		589.55	1008.02	0.00	0.00
70.00		588.81	987.97	0.00	0.00
75.00	(1) attachments	635.24	976.92	0.00	0.00
78.50		408.95	665.11	0.00	0.00
80.00	(1) attachments	177.56	471.10	0.00	0.17
83.75		442.90	1161.60	0.00	0.00
85.00		146.02	202.27	0.00	0.00
90.00		584.57	798.64	0.00	0.00
95.00		580.58	781.93	0.00	0.00
100.00		576.09	765.22	0.00	0.00
105.00	(1) attachments	1858.56	1828.51	0.00	0.00
110.00		565.74	731.80	0.00	0.00
115.00		559.94	715.10	0.00	0.00
119.25		470.79	594.69	0.00	0.00
120.00		83.60	163.97	0.00	0.00
122.00	(22) attachments	3499.15	1897.88	0.00	0.00
123.50		143.48	301.89	0.00	0.00
124.50	(8) attachments	1402.95	587.05	0.00	0.00
125.00		47.30	51.76	0.00	0.00
130.00		467.98	510.27	0.00	0.00
132.00	(30) attachments	6128.91	2809.12	0.00	0.00
135.00		271.20	261.76	0.00	0.00
140.00		442.23	425.58	0.00	0.00
145.00		428.83	412.21	0.00	0.00
150.00		415.11	398.85	0.00	0.00
152.00	(25) attachments	6193.91	3414.61	0.00	0.00
155.00		238.61	195.83	0.00	0.00
160.00		386.74	315.68	0.00	0.00
162.00	(24) attachments	4928.45	2137.45	0.00	239.42
Totals:		39,991.79	41,646.47	0.00	239.59

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



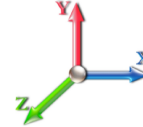
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Load Case: 0.9D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 0.90

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	1.23
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.086	0.000	19.450	0.00	51.48
5.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	4.95
5.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	56.16
5.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	0.27
5.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.086	0.000	19.450	0.00	8.01
5.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	3.60
5.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	19.450	0.00	0.72
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	1.23
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.087	0.000	19.450	0.00	51.48
10.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	4.95
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	56.16
10.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	0.27
10.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.087	0.000	19.450	0.00	8.01
10.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	3.60
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	19.450	0.00	0.72
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	1.23
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.089	0.000	19.450	0.00	51.48
15.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	4.95
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	56.16
15.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	0.27
15.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.089	0.000	19.450	0.00	8.01
15.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	3.60
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	19.450	0.00	0.72
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	1.23
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.091	0.000	20.638	0.00	51.48
20.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	4.95
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	56.16
20.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	0.27
20.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.091	0.000	20.638	0.00	8.01
20.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	3.60
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	20.638	0.00	0.72
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	1.23
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.093	0.000	21.630	0.00	51.48
25.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	4.95
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	56.16
25.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	0.27
25.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.093	0.000	21.630	0.00	8.01
25.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	3.60
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	21.630	0.00	0.72
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	1.23
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.095	0.000	22.477	0.00	51.48
30.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	4.95
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	56.16
30.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	0.27
30.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.095	0.000	22.477	0.00	8.01
30.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	3.60

Linear Appurtenance Segment Forces (Factored)

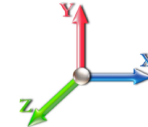
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	22.477	0.00	0.72
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	1.23
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.097	0.000	23.218	0.00	51.48
35.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	4.95
35.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	56.16
35.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	0.27
35.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.097	0.000	23.218	0.00	8.01
35.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	3.60
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	23.218	0.00	0.72
38.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	0.92
38.75	1 5/8" Coax	Yes	3.75	0.000	1.98	0.62	0.00	0.099	0.000	23.721	0.00	38.61
38.75	1 5/8" Fiber	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	3.71
38.75	1 5/8" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	42.12
38.75	10 mm	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	0.20
38.75	3" Coax	Yes	3.75	0.000	3.00	0.94	0.00	0.099	0.000	23.721	0.00	6.01
38.75	DC	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	2.70
38.75	1/2" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	23.721	0.00	0.54
40.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	0.31
40.00	1 5/8" Coax	Yes	1.25	0.000	1.98	0.21	0.00	0.100	0.000	23.880	0.00	12.87
40.00	1 5/8" Fiber	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	1.24
40.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	14.04
40.00	10 mm	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	0.07
40.00	3" Coax	Yes	1.25	0.000	3.00	0.31	0.00	0.100	0.000	23.880	0.00	2.00
40.00	DC	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	0.90
40.00	1/2" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	23.880	0.00	0.18
45.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	1.23
45.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.101	1.004	24.479	0.00	51.48
45.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	4.95
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	56.16
45.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	0.27
45.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.101	1.004	24.479	0.00	8.01
45.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	3.60
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	24.479	0.00	0.72
50.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	1.23
50.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.102	1.006	25.029	0.00	51.48
50.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	4.95
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	56.16
50.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	0.27
50.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.102	1.006	25.029	0.00	8.01
50.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	3.60
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.029	0.00	0.72
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	1.23
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.104	1.013	25.536	0.00	51.48
55.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	4.95
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	56.16
55.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	0.27
55.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.104	1.013	25.536	0.00	8.01

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



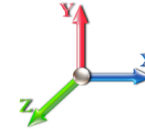
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Load Case: 0.9D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 0.90

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
55.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	3.60
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	25.536	0.00	0.72
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	1.23
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.107	1.021	26.008	0.00	51.48
60.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	4.95
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	56.16
60.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	0.27
60.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.107	1.021	26.008	0.00	8.01
60.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	3.60
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	26.008	0.00	0.72
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	1.23
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.110	1.029	26.450	0.00	51.48
65.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	4.95
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	56.16
65.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	0.27
65.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.110	1.029	26.450	0.00	8.01
65.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	3.60
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	26.450	0.00	0.72
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	1.23
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.112	1.037	26.866	0.00	51.48
70.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	4.95
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	56.16
70.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	0.27
70.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.112	1.037	26.866	0.00	8.01
70.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	3.60
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	26.866	0.00	0.72
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	1.23
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.115	1.046	27.259	0.00	51.48
75.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	4.95
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	56.16
75.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	0.27
75.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.115	1.046	27.259	0.00	8.01
75.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	3.60
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	27.259	0.00	0.72
78.50	Safety Cable	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	0.86
78.50	1 5/8" Coax	Yes	3.50	0.000	1.98	0.58	0.00	0.118	1.053	27.522	0.00	36.04
78.50	1 5/8" Fiber	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	3.47
78.50	1 5/8" Coax	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	39.31
78.50	10 mm	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	0.19
78.50	3" Coax	Yes	3.50	0.000	3.00	0.88	0.00	0.118	1.053	27.522	0.00	5.61
78.50	DC	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	27.522	0.00	2.52
80.00	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	0.37
80.00	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.119	1.058	27.632	0.00	15.44
80.00	1 5/8" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	1.49
80.00	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	16.85
80.00	10 mm	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	0.08
80.00	3" Coax	Yes	1.50	0.000	3.00	0.38	0.00	0.119	1.058	27.632	0.00	2.40

Linear Appurtenance Segment Forces (Factored)

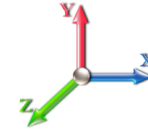
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
80.00	DC	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	27.632	0.00	1.08
83.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	0.92
83.75	1 5/8" Coax	Yes	3.75	0.000	1.98	0.62	0.00	0.121	1.063	27.899	0.00	38.61
83.75	1 5/8" Fiber	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	3.71
83.75	1 5/8" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	42.12
83.75	10 mm	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	0.20
83.75	3" Coax	Yes	3.75	0.000	3.00	0.94	0.00	0.121	1.063	27.899	0.00	6.01
83.75	DC	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	27.899	0.00	2.70
85.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	0.31
85.00	1 5/8" Coax	Yes	1.25	0.000	1.98	0.21	0.00	0.121	1.063	27.987	0.00	12.87
85.00	1 5/8" Fiber	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	1.24
85.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	14.04
85.00	10 mm	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	0.07
85.00	3" Coax	Yes	1.25	0.000	3.00	0.31	0.00	0.121	1.063	27.987	0.00	2.00
85.00	DC	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	27.987	0.00	0.90
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	1.23
90.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.123	1.069	28.325	0.00	51.48
90.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	4.95
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	56.16
90.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	0.27
90.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.123	1.069	28.325	0.00	8.01
90.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	28.325	0.00	3.60
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	1.23
95.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.126	1.079	28.650	0.00	51.48
95.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	4.95
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	56.16
95.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	0.27
95.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.126	1.079	28.650	0.00	8.01
95.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	28.650	0.00	3.60
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	1.23
100.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.130	1.090	28.961	0.00	51.48
100.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	4.95
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	56.16
100.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	0.27
100.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.130	1.090	28.961	0.00	8.01
100.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	28.961	0.00	3.60
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	1.23
105.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.134	1.102	29.260	0.00	51.48
105.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	4.95
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	56.16
105.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	0.27
105.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.134	1.102	29.260	0.00	8.01
105.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	29.260	0.00	3.60
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	1.23
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.138	1.115	29.548	0.00	51.48
110.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	4.95
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	56.16

Linear Appurtenance Segment Forces (Factored)

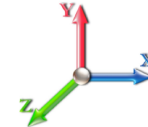
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
110.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	0.27
110.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.138	1.115	29.548	0.00	8.01
110.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	29.548	0.00	3.60
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	1.23
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.143	1.128	29.826	0.00	51.48
115.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	4.95
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	56.16
115.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	0.27
115.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.143	1.128	29.826	0.00	8.01
115.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	29.826	0.00	3.60
119.25	Safety Cable	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	1.04
119.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.147	1.141	30.054	0.00	43.76
119.25	1 5/8" Fiber	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	4.21
119.25	1 5/8" Coax	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	47.74
119.25	10 mm	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	0.23
119.25	3" Coax	Yes	4.25	0.000	3.00	1.06	0.00	0.147	1.141	30.054	0.00	6.81
119.25	DC	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	30.054	0.00	3.06
120.00	Safety Cable	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	0.18
120.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.149	1.148	30.094	0.00	7.72
120.00	1 5/8" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	0.74
120.00	1 5/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	8.42
120.00	10 mm	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	0.04
120.00	3" Coax	Yes	0.75	0.000	3.00	0.19	0.00	0.149	1.148	30.094	0.00	1.20
120.00	DC	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	30.094	0.00	0.54
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	0.49
122.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.151	1.152	30.199	0.00	20.59
122.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	1.98
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	22.46
122.00	10 mm	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	0.11
122.00	3" Coax	Yes	2.00	0.000	3.00	0.50	0.00	0.151	1.152	30.199	0.00	3.20
122.00	DC	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	30.199	0.00	1.44
123.50	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.061	0.000	30.277	0.00	0.37
123.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.061	0.000	30.277	0.00	15.44
123.50	1 5/8" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.061	0.000	30.277	0.00	1.49
124.50	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.060	0.000	30.328	0.00	0.25
124.50	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.060	0.000	30.328	0.00	10.30
124.50	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.060	0.000	30.328	0.00	0.99
125.00	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.061	0.000	30.354	0.00	0.12
125.00	1 5/8" Coax	Yes	0.50	0.000	1.98	0.08	0.00	0.061	0.000	30.354	0.00	5.15
125.00	1 5/8" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.061	0.000	30.354	0.00	0.50
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	30.605	0.00	1.23
130.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.062	0.000	30.605	0.00	51.48
130.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	30.605	0.00	4.95
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	30.704	0.00	0.49
132.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.063	0.000	30.704	0.00	20.59
132.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	30.704	0.00	1.98
135.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	30.850	0.00	0.74

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
135.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.064	0.000	30.850	0.00	30.89
135.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	30.850	0.00	2.97
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	31.087	0.00	1.23
140.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.066	0.000	31.087	0.00	51.48
140.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	31.087	0.00	4.95
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	31.317	0.00	1.23
145.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.069	0.000	31.317	0.00	51.48
145.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	31.317	0.00	4.95
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	31.541	0.00	1.23
150.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.072	0.000	31.541	0.00	51.48
150.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	31.541	0.00	4.95
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	31.630	0.00	0.49
152.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.074	0.000	31.630	0.00	20.59
152.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	31.630	0.00	1.98
155.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	31.760	0.00	0.74
160.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.973	0.00	1.23
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.057	0.00	0.49
Totals:											0.0	3,426.3

Calculated Forces

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 97 mph Wind

Iterations 24

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	-41.58	-40.06	0.00	-4701.2	0.00	4701.24	5422.04	2711.02	12776.1	6397.58	0.00	0.000	0.000	0.743
5.00	-40.03	-39.66	0.00	-4500.9	0.00	4500.92	5354.65	2677.32	12373.4	6195.90	0.11	-0.198	0.000	0.734
10.00	-38.51	-39.26	0.00	-4302.6	0.00	4302.61	5285.82	2642.91	11973.5	5995.67	0.42	-0.399	0.000	0.725
15.00	-37.02	-38.87	0.00	-4106.3	0.00	4106.30	5215.55	2607.78	11576.7	5796.99	0.95	-0.602	0.000	0.716
20.00	-35.55	-38.44	0.00	-3911.9	0.00	3911.97	5143.86	2571.93	11183.2	5599.96	1.69	-0.808	0.000	0.706
25.00	-34.11	-37.99	0.00	-3719.7	0.00	3719.78	5070.72	2535.36	10793.2	5404.66	2.65	-1.017	0.000	0.695
30.00	-32.69	-37.52	0.00	-3529.8	0.00	3529.82	4996.16	2498.08	10406.9	5211.21	3.83	-1.228	0.000	0.684
35.00	-31.32	-37.03	0.00	-3342.2	0.00	3342.20	4920.16	2460.08	10024.5	5019.70	5.23	-1.441	0.000	0.672
38.75	-30.33	-36.63	0.00	-3203.3	0.00	3203.35	4862.22	2431.11	9740.32	4877.40	6.43	-1.604	0.000	0.663
40.00	-29.71	-36.55	0.00	-3157.5	0.00	3157.55	4842.73	2421.36	9646.11	4830.22	6.85	-1.660	0.000	0.660
45.00	-27.48	-36.00	0.00	-2974.8	0.00	2974.82	3936.38	1968.19	7803.92	3907.76	8.71	-1.877	0.000	0.769
50.00	-26.29	-35.49	0.00	-2794.8	0.00	2794.82	3877.34	1938.67	7510.22	3760.69	10.79	-2.096	0.000	0.750
55.00	-25.12	-34.97	0.00	-2617.3	0.00	2617.39	3816.87	1908.43	7219.20	3614.96	13.12	-2.341	0.000	0.731
60.00	-23.97	-34.44	0.00	-2442.5	0.00	2442.56	3754.96	1877.48	6931.04	3470.67	15.70	-2.586	0.000	0.710
65.00	-22.85	-33.90	0.00	-2270.3	0.00	2270.39	3691.62	1845.81	6645.93	3327.91	18.54	-2.831	0.000	0.689
70.00	-21.75	-33.35	0.00	-2100.9	0.00	2100.91	3626.84	1813.42	6364.09	3186.77	21.64	-3.077	0.000	0.666
75.00	-20.69	-32.74	0.00	-1934.1	0.00	1934.15	3560.63	1780.31	6085.69	3047.37	24.99	-3.321	0.000	0.641
78.50	-19.98	-32.33	0.00	-1819.5	0.00	1819.57	3513.43	1756.71	5892.98	2950.87	27.49	-3.493	0.000	0.623
80.00	-19.45	-32.17	0.00	-1771.0	0.00	1771.07	3492.98	1746.49	5810.95	2909.79	28.60	-3.568	0.000	0.615
83.75	-18.25	-31.69	0.00	-1650.4	0.00	1650.44	2742.50	1371.25	4553.78	2280.28	31.47	-3.750	0.000	0.731
85.00	-17.97	-31.59	0.00	-1610.8	0.00	1610.82	2730.37	1365.18	4502.54	2254.62	32.46	-3.811	0.000	0.722
90.00	-17.07	-31.03	0.00	-1452.8	0.00	1452.89	2680.95	1340.47	4298.92	2152.65	36.60	-4.081	0.000	0.682
95.00	-16.19	-30.46	0.00	-1297.7	0.00	1297.75	2630.10	1315.05	4097.56	2051.82	41.01	-4.343	0.000	0.639
100.00	-15.34	-29.90	0.00	-1145.4	0.00	1145.43	2577.82	1288.91	3898.66	1952.23	45.69	-4.597	0.000	0.593
105.00	-13.56	-27.95	0.00	-995.94	0.00	995.94	2524.10	1262.05	3702.43	1853.97	50.63	-4.841	0.000	0.543
110.00	-12.77	-27.37	0.00	-856.19	0.00	856.19	2468.95	1234.47	3509.05	1757.13	55.82	-5.071	0.000	0.493
115.00	-12.02	-26.79	0.00	-719.32	0.00	719.32	2412.36	1206.18	3318.73	1661.83	61.25	-5.286	0.000	0.438
119.25	-11.43	-26.29	0.00	-605.45	0.00	605.45	2363.14	1181.57	3159.50	1582.10	66.02	-5.456	0.000	0.388
120.00	-11.25	-26.20	0.00	-585.73	0.00	585.73	2354.34	1177.17	3131.65	1568.15	66.88	-5.485	0.000	0.379
122.00	-9.67	-22.54	0.00	-533.34	0.00	533.34	2330.73	1165.37	3057.78	1531.16	69.19	-5.560	0.000	0.353
123.50	-9.37	-22.38	0.00	-499.52	0.00	499.52	1751.58	875.79	2319.28	1161.36	70.95	-5.613	0.000	0.436
124.50	-8.91	-20.93	0.00	-477.14	0.00	477.14	1743.79	871.89	2293.08	1148.24	72.13	-5.648	0.000	0.421
125.00	-8.83	-20.89	0.00	-466.68	0.00	466.68	1739.87	869.94	2280.00	1141.69	72.72	-5.669	0.000	0.414
130.00	-8.32	-20.39	0.00	-362.21	0.00	362.21	1699.92	849.96	2150.20	1076.70	78.75	-5.850	0.000	0.342
132.00	-6.14	-14.02	0.00	-321.42	0.00	321.42	1683.54	841.77	2098.80	1050.96	81.21	-5.917	0.000	0.310
135.00	-5.88	-13.73	0.00	-279.37	0.00	279.37	1658.53	829.27	2022.29	1012.65	84.95	-6.008	0.000	0.280
140.00	-5.47	-13.26	0.00	-210.70	0.00	210.70	1615.71	807.86	1896.47	949.64	91.30	-6.141	0.000	0.226
145.00	-5.09	-12.80	0.00	-144.40	0.00	144.40	1571.46	785.73	1772.93	887.78	97.78	-6.249	0.000	0.166
150.00	-4.73	-12.35	0.00	-80.41	0.00	80.41	1525.77	762.88	1651.87	827.16	104.36	-6.326	0.000	0.101
152.00	-2.02	-5.81	0.00	-55.72	0.00	55.72	1507.09	753.54	1604.19	803.29	107.01	-6.347	0.000	0.071
155.00	-1.85	-5.55	0.00	-38.28	0.00	38.28	1478.64	739.32	1533.49	767.89	111.00	-6.369	0.000	0.051
160.00	-1.58	-5.14	0.00	-10.51	0.00	10.51	1426.03	713.01	1413.96	708.03	117.67	-6.391	0.000	0.016
162.00	0.00	-4.93	0.00	-0.24	0.00	0.24	1400.09	700.04	1362.73	682.38	120.34	-6.393	0.000	0.000

Wind Loading - Shaft

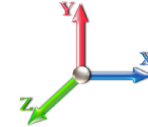
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 24

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	25.244	30.29	172.2	450.6	2060.4
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	24.853	29.82	169.5	474.5	2053.1
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	24.434	29.32	166.7	485.1	2032.5
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	24.002	28.80	173.7	489.7	2005.9
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	23.563	28.28	178.8	491.0	1976.0
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	23.120	27.74	182.3	490.0	1943.9
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	22.674	27.21	184.6	487.5	1910.1
38.75 Bot - Section 2		1.00	1.04	6.303	6.93	0.00	1.200	1.524	3.75	16.710	20.05	139.0	363.5	1410.1
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	1.25	5.592	6.71	46.8	122.7	768.3
45.00 Top - Section 1		1.00	1.07	6.504	7.15	0.00	1.205 *	1.547	5.00	22.092	26.61	190.4	486.2	3032.1
50.00		1.00	1.09	6.650	7.32	0.00	1.207 *	1.564	5.00	21.641	26.13	191.1	480.7	1639.7
55.00		1.00	1.12	6.785	7.46	0.00	1.216 *	1.579	5.00	21.188	25.76	192.3	474.6	1606.8
60.00		1.00	1.14	6.910	7.60	0.00	1.225 *	1.592	5.00	20.734	25.40	193.1	467.9	1573.4
65.00		1.00	1.16	7.028	7.73	0.00	1.234 *	1.605	5.00	20.279	25.03	193.5	460.7	1539.5
70.00		1.00	1.17	7.138	7.85	0.00	1.244 *	1.617	5.00	19.823	24.67	193.7	453.1	1505.1
75.00 Appurtenance(s)		1.00	1.19	7.243	7.97	0.00	1.255 *	1.628	5.00	19.367	24.30	193.6	445.1	1470.4
78.50 Bot - Section 3		1.00	1.20	7.313	8.04	0.00	1.264 *	1.636	3.50	13.284	16.79	135.1	307.5	1009.3
80.00 Appurtenance(s)		1.00	1.21	7.342	8.08	0.00	1.270 *	1.639	1.50	5.704	7.24	58.5	133.0	681.2
83.75 Top - Section 2		1.00	1.22	7.413	8.15	0.00	1.276 *	1.646	3.75	14.080	17.97	146.5	327.6	1678.9
85.00		1.00	1.22	7.436	8.18	0.00	1.275 *	1.649	1.25	4.636	5.91	48.4	108.7	312.5
90.00		1.00	1.24	7.526	8.28	0.00	1.283 *	1.658	5.00	18.260	23.42	193.9	425.8	1227.3
95.00		1.00	1.25	7.612	8.37	0.00	1.295 *	1.667	5.00	17.802	23.06	193.1	416.7	1195.9
100.00		1.00	1.27	7.695	8.46	0.00	1.308 *	1.676	5.00	17.344	22.69	192.1	407.4	1164.3
105.00 Appurtenance(s)		1.00	1.28	7.774	8.55	0.00	1.323 *	1.684	5.00	16.885	22.33	191.0	397.9	1132.5
110.00		1.00	1.29	7.851	8.64	0.00	1.337 *	1.692	5.00	16.426	21.97	189.7	388.1	1100.5
115.00		1.00	1.30	7.925	8.72	0.00	1.353 *	1.699	5.00	15.967	21.61	188.4	378.2	1068.3
119.25 Bot - Section 4		1.00	1.31	7.986	8.78	0.00	1.369 *	1.706	4.25	13.210	18.09	158.9	314.2	883.3
120.00		1.00	1.32	7.996	8.80	0.00	1.378 *	1.707	0.75	2.328	3.21	28.2	56.0	235.1
122.00 Appurtenance(s)		1.00	1.32	8.024	8.83	0.00	1.383 *	1.710	2.00	6.158	8.52	75.2	147.8	621.0
123.50 Top - Section 3		1.00	1.32	8.045	8.85	0.00	1.200	1.712	1.50	4.570	5.48	48.5	109.9	460.6
124.50 Appurtenance(s)		1.00	1.33	8.058	8.86	0.00	1.200	1.713	1.00	3.024	3.63	32.2	72.9	176.9
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	0.50	1.505	1.81	16.0	36.3	88.1
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	5.00	14.800	17.76	158.9	352.9	860.7
132.00 Appurtenance(s)		1.00	1.34	8.158	8.97	0.00	1.200	1.723	2.00	5.790	6.95	62.4	139.5	337.6
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	3.00	8.548	10.26	92.5	205.5	497.3
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	5.00	13.879	16.66	151.3	331.8	803.9
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	13.419	16.10	147.4	321.0	775.3
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	5.00	12.958	15.55	143.4	310.2	746.6
152.00 Appurtenance(s)		1.00	1.38	8.404	9.24	0.00	1.200	1.748	2.00	5.054	6.06	56.1	122.3	291.9
155.00		1.00	1.39	8.439	9.28	0.00	1.200	1.751	3.00	7.443	8.93	82.9	179.5	428.5
160.00		1.00	1.40	8.495	9.34	0.00	1.200	1.757	5.00	12.037	14.44	135.0	288.1	688.9
162.00 Appurtenance(s)		1.00	1.40	8.518	9.37	0.00	1.200	1.759	2.00	4.685	5.62	52.7	113.4	268.8
Totals:									162.00			5,739.2	47,262.6	

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	162.00	Low Profile Platform-flat	1	8.518	9.369	1.00	1.00	46.10	2195.22	0.000	0.000	431.97	0.00	0.00	
2	162.00	ACU-A20-N	4	8.523	9.375	0.75	1.00	1.32	16.92	0.000	0.500	12.35	0.00	6.17	
3	162.00	800 MHz Ext. Filter	3	8.518	9.369	0.63	1.00	3.75	76.34	0.000	0.000	35.11	0.00	0.00	
4	162.00	800 MHz RRU	3	8.518	9.369	0.75	1.00	8.20	351.09	0.000	0.000	76.79	0.00	0.00	
5	162.00	1900MHz RRH	3	8.518	9.369	0.88	1.00	13.73	394.82	0.000	0.000	128.64	0.00	0.00	
6	162.00	APXVSP18-C-A20	3	8.523	9.375	0.66	0.80	21.58	579.26	0.000	0.500	202.36	0.00	101.18	
7	162.00	TD-RRH8x20-25	3	8.518	9.369	0.69	1.00	10.08	586.49	0.000	0.000	94.45	0.00	0.00	
8	162.00	APXVTM14-C-120	3	8.523	9.375	0.63	0.80	14.15	687.31	0.000	0.500	132.65	0.00	66.33	
9	162.00	Flush Mount	1	8.495	9.345	1.00	1.00	8.52	307.73	0.000	-2.000	79.59	0.00	-159.19	
10	152.00	782 11056	3	8.404	9.244	0.50	0.75	0.55	11.97	0.000	0.000	5.09	0.00	0.00	
11	152.00	KRY 112 144/1	3	8.404	9.244	0.58	0.75	1.33	62.69	0.000	0.000	12.27	0.00	0.00	
12	152.00	FE15501P77/75	3	8.404	9.244	0.49	0.75	1.28	119.69	0.000	0.000	11.81	0.00	0.00	
13	152.00	APXV18-206516S-A20	3	8.404	9.244	0.58	0.75	11.59	214.25	0.000	0.000	107.18	0.00	0.00	
14	152.00	RR90-17-02DP	6	8.404	9.244	0.55	0.75	17.57	690.41	0.000	0.000	162.39	0.00	0.00	
15	152.00	APXVAARR24_43-U-NA2	3	8.404	9.244	0.52	0.75	34.87	1716.47	0.000	0.000	322.40	0.00	0.00	
16	152.00	Radio 4449 B71+B12	3	8.404	9.244	0.65	0.75	4.87	375.15	0.000	0.000	45.04	0.00	0.00	
17	152.00	Platform w/ Hand Rail	1	8.404	9.244	1.00	1.00	92.38	7627.30	0.000	0.000	853.97	0.00	0.00	
18	132.00	FD9R6004/2C-3L	6	8.158	8.974	0.56	0.75	2.69	56.07	0.000	0.000	24.16	0.00	0.00	
19	132.00	DB846F65ZAXY	4	8.158	8.974	0.70	0.75	23.06	878.42	0.000	0.000	206.91	0.00	0.00	
20	132.00	LPA-80080-4CF-EDIN-0	2	8.158	8.974	1.27	0.75	8.92	190.90	0.000	0.000	80.02	0.00	0.00	
21	132.00	HRK12 (Handrail Kit)	1	8.158	8.974	1.00	1.00	13.26	882.43	0.000	0.000	119.02	0.00	0.00	
22	132.00	Raycap	1	8.158	8.974	0.50	0.75	2.45	125.68	0.000	0.000	21.97	0.00	0.00	
23	132.00	Samsung RFV01U-D2A	3	8.158	8.974	0.50	0.75	3.65	362.33	0.000	0.000	32.80	0.00	0.00	
24	132.00	Samsung RFV01U-D1A	3	8.158	8.974	0.50	0.75	3.65	350.06	0.000	0.000	32.80	0.00	0.00	
25	132.00	Samsung MT6407-77A	3	8.158	8.974	0.56	0.75	9.49	638.96	0.000	0.000	85.18	0.00	0.00	
26	132.00	JMA Wireless	6	8.158	8.974	0.65	0.75	43.96	1921.44	0.000	0.000	394.45	0.00	0.00	
27	132.00	Low Profile	1	8.158	8.974	1.00	1.00	39.44	2792.29	0.000	0.000	353.91	0.00	0.00	
28	124.50	Flush Mount	1	8.058	8.864	1.00	1.00	8.43	303.89	0.000	0.000	74.69	0.00	0.00	
29	124.50	RRUS-11	6	8.058	8.864	0.68	1.00	24.04	771.59	0.000	0.000	213.08	0.00	0.00	
30	124.50	DC6-48-60-18-8F	1	8.058	8.864	1.00	1.00	2.16	81.14	0.000	0.000	19.12	0.00	0.00	
31	122.00	Low Profile Platform-flat	1	8.024	8.826	1.00	1.00	45.51	2165.72	0.000	0.000	401.72	0.00	0.00	
32	122.00	AM-X-CD-16-65-00T-RET	3	8.024	8.826	0.65	0.80	15.76	419.78	0.000	0.000	139.09	0.00	0.00	
33	122.00	LGP21903	6	8.024	8.826	0.60	0.80	2.37	74.73	0.000	0.000	20.96	0.00	0.00	
34	122.00	LGP21401	6	8.024	8.826	0.60	0.80	7.59	205.86	0.000	0.000	67.00	0.00	0.00	
35	122.00	7770.00	6	8.024	8.826	0.58	0.80	22.92	1042.76	0.000	0.000	202.33	0.00	0.00	
36	105.00	Low Profile Platform-flat	1	7.774	8.552	1.00	1.00	45.21	2150.44	0.000	0.000	386.62	0.00	0.00	
37	80.00	738-449	1	7.349	8.083	1.00	1.00	0.07	1.84	0.000	0.350	0.55	0.00	0.19	
38	75.00	GPS	1	7.243	7.967	1.00	1.00	1.66	31.36	0.000	0.000	13.26	0.00	0.00	
Totals:									31,460.79						5,603.69

Total Applied Force Summary

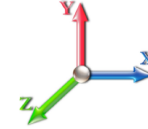
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 24

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		172.21	2703.17	0.00	0.00
10.00		169.54	2725.62	0.00	0.00
15.00		166.68	2723.75	0.00	0.00
20.00		173.73	2711.21	0.00	0.00
25.00		178.76	2692.54	0.00	0.00
30.00		182.26	2669.83	0.00	0.00
35.00		184.64	2644.24	0.00	0.00
38.75		139.02	1964.78	0.00	0.00
40.00		46.84	953.59	0.00	0.00
45.00		190.41	3779.98	0.00	0.00
50.00		191.12	2393.41	0.00	0.00
55.00		192.27	2365.95	0.00	0.00
60.00		193.05	2337.53	0.00	0.00
65.00		193.51	2308.28	0.00	0.00
70.00		193.68	2278.30	0.00	0.00
75.00	(1) attachments	206.87	2279.05	0.00	0.00
78.50		135.08	1540.21	0.00	0.00
80.00	(1) attachments	59.04	910.89	0.00	0.19
83.75		146.49	2249.75	0.00	0.00
85.00		48.35	503.01	0.00	0.00
90.00		193.89	1992.55	0.00	0.00
95.00		193.06	1964.30	0.00	0.00
100.00		192.08	1935.69	0.00	0.00
105.00	(1) attachments	577.59	4057.18	0.00	0.00
110.00		189.73	1877.48	0.00	0.00
115.00		188.37	1847.93	0.00	0.00
119.25		158.86	1547.80	0.00	0.00
120.00		28.22	352.47	0.00	0.00
122.00	(22) attachments	906.26	4843.12	0.00	0.00
123.50		48.53	582.69	0.00	0.00
124.50	(8) attachments	339.06	1414.94	0.00	0.00
125.00		16.02	128.80	0.00	0.00
130.00		158.86	1268.87	0.00	0.00
132.00	(30) attachments	1413.56	8699.63	0.00	0.00
135.00		92.49	696.43	0.00	0.00
140.00		151.33	1136.82	0.00	0.00
145.00		147.39	1109.19	0.00	0.00
150.00		143.35	1081.43	0.00	0.00
152.00	(25) attachments	1576.22	11243.89	0.00	0.00
155.00		82.91	453.40	0.00	0.00
160.00		134.98	730.44	0.00	0.00
162.00	(24) attachments	1246.59	5480.60	0.00	14.49
Totals:		11,342.91	99,180.74	0.00	14.68

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

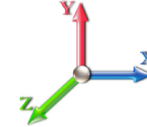


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	5.168	0.00	12.93
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.86	0.00	0.086	0.000	5.168	0.00	201.26
5.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	5.168	0.00	27.35
5.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	5.168	0.00	218.70
5.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	5.168	0.00	11.68
5.00	3" Coax	Yes	5.00	0.000	3.00	2.29	0.00	0.086	0.000	5.168	0.00	38.50
5.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	5.168	0.00	21.94
5.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	5.168	0.00	13.70
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	5.168	0.00	14.46
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.93	0.00	0.087	0.000	5.168	0.00	210.21
10.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	5.168	0.00	29.45
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	5.168	0.00	228.34
10.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	5.168	0.00	13.21
10.00	3" Coax	Yes	5.00	0.000	3.00	2.36	0.00	0.087	0.000	5.168	0.00	40.94
10.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	5.168	0.00	23.86
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	5.168	0.00	15.33
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	5.168	0.00	15.46
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.98	0.00	0.089	0.000	5.168	0.00	215.79
15.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	5.168	0.00	30.79
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	5.168	0.00	234.34
15.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	5.168	0.00	14.21
15.00	3" Coax	Yes	5.00	0.000	3.00	2.41	0.00	0.089	0.000	5.168	0.00	42.51
15.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	5.168	0.00	25.10
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	5.168	0.00	16.38
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	5.483	0.00	16.21
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.01	0.00	0.091	0.000	5.483	0.00	219.91
20.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	5.483	0.00	31.80
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	5.483	0.00	238.78
20.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	5.483	0.00	14.96
20.00	3" Coax	Yes	5.00	0.000	3.00	2.44	0.00	0.091	0.000	5.483	0.00	43.68
20.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	5.483	0.00	26.03
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	5.483	0.00	17.18
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	5.747	0.00	16.83
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.04	0.00	0.093	0.000	5.747	0.00	223.21
25.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	5.747	0.00	32.62
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	5.747	0.00	242.32
25.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	5.747	0.00	15.58
25.00	3" Coax	Yes	5.00	0.000	3.00	2.47	0.00	0.093	0.000	5.747	0.00	44.62
25.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	5.747	0.00	26.78
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	5.747	0.00	17.83
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	5.972	0.00	17.35
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.06	0.00	0.095	0.000	5.972	0.00	225.96
30.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	5.972	0.00	33.31
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	5.972	0.00	245.28
30.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	5.972	0.00	16.10
30.00	3" Coax	Yes	5.00	0.000	3.00	2.49	0.00	0.095	0.000	5.972	0.00	45.42
30.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	5.972	0.00	27.42

Linear Appurtenance Segment Forces (Factored)

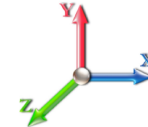
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	5.972	0.00	18.38
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	6.169	0.00	17.80
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.08	0.00	0.097	0.000	6.169	0.00	228.34
35.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	6.169	0.00	33.91
35.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	6.169	0.00	247.84
35.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	6.169	0.00	16.56
35.00	3" Coax	Yes	5.00	0.000	3.00	2.51	0.00	0.097	0.000	6.169	0.00	46.11
35.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	6.169	0.00	27.98
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	6.169	0.00	18.86
38.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	6.303	0.00	13.58
38.75	1 5/8" Coax	Yes	3.75	0.000	1.98	1.57	0.00	0.099	0.000	6.303	0.00	172.45
38.75	1 5/8" Fiber	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	6.303	0.00	25.74
38.75	1 5/8" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	6.303	0.00	187.16
38.75	10 mm	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	6.303	0.00	12.65
38.75	3" Coax	Yes	3.75	0.000	3.00	1.89	0.00	0.099	0.000	6.303	0.00	34.94
38.75	DC	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	6.303	0.00	21.27
38.75	1/2" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	6.303	0.00	14.39
40.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	6.345	0.00	4.55
40.00	1 5/8" Coax	Yes	1.25	0.000	1.98	0.52	0.00	0.100	0.000	6.345	0.00	57.61
40.00	1 5/8" Fiber	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	6.345	0.00	8.61
40.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	6.345	0.00	62.52
40.00	10 mm	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	6.345	0.00	4.24
40.00	3" Coax	Yes	1.25	0.000	3.00	0.63	0.00	0.100	0.000	6.345	0.00	11.68
40.00	DC	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	6.345	0.00	7.12
40.00	1/2" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	6.345	0.00	4.82
45.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	6.504	0.00	18.58
45.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.11	0.00	0.101	1.004	6.504	0.00	232.31
45.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	6.504	0.00	34.93
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	6.504	0.00	252.10
45.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	6.504	0.00	17.33
45.00	3" Coax	Yes	5.00	0.000	3.00	2.54	0.00	0.101	1.004	6.504	0.00	47.28
45.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	6.504	0.00	28.92
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	6.504	0.00	19.67
50.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	6.650	0.00	18.91
50.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.13	0.00	0.102	1.006	6.650	0.00	234.01
50.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	6.650	0.00	35.37
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	6.650	0.00	253.93
50.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	6.650	0.00	17.67
50.00	3" Coax	Yes	5.00	0.000	3.00	2.55	0.00	0.102	1.006	6.650	0.00	47.79
50.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	6.650	0.00	29.33
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	6.650	0.00	20.02
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	6.785	0.00	19.22
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.14	0.00	0.104	1.013	6.785	0.00	235.57
55.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	6.785	0.00	35.77
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	6.785	0.00	255.60
55.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	6.785	0.00	17.98
55.00	3" Coax	Yes	5.00	0.000	3.00	2.57	0.00	0.104	1.013	6.785	0.00	48.25

Linear Appurtenance Segment Forces (Factored)

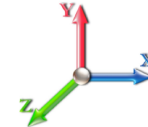
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
55.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	6.785	0.00	29.70
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	6.785	0.00	20.35
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	6.910	0.00	19.51
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.15	0.00	0.107	1.021	6.910	0.00	237.00
60.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	6.910	0.00	36.14
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	6.910	0.00	257.14
60.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	6.910	0.00	18.26
60.00	3" Coax	Yes	5.00	0.000	3.00	2.58	0.00	0.107	1.021	6.910	0.00	48.68
60.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	6.910	0.00	30.05
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	6.910	0.00	20.65
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	7.028	0.00	19.78
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.16	0.00	0.110	1.029	7.028	0.00	238.34
65.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	7.028	0.00	36.49
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	7.028	0.00	258.57
65.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	7.028	0.00	18.53
65.00	3" Coax	Yes	5.00	0.000	3.00	2.59	0.00	0.110	1.029	7.028	0.00	49.08
65.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	7.028	0.00	30.37
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	7.028	0.00	20.93
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	7.138	0.00	20.03
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.17	0.00	0.112	1.037	7.138	0.00	239.58
70.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	7.138	0.00	36.82
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	7.138	0.00	259.91
70.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	7.138	0.00	18.79
70.00	3" Coax	Yes	5.00	0.000	3.00	2.60	0.00	0.112	1.037	7.138	0.00	49.45
70.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	7.138	0.00	30.68
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	7.138	0.00	21.20
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	7.243	0.00	20.27
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.18	0.00	0.115	1.046	7.243	0.00	240.75
75.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	7.243	0.00	37.13
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	7.243	0.00	261.17
75.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	7.243	0.00	19.02
75.00	3" Coax	Yes	5.00	0.000	3.00	2.61	0.00	0.115	1.046	7.243	0.00	49.81
75.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	7.243	0.00	30.97
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	7.243	0.00	21.45
78.50	Safety Cable	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	7.313	0.00	14.30
78.50	1 5/8" Coax	Yes	3.50	0.000	1.98	1.53	0.00	0.118	1.053	7.313	0.00	169.07
78.50	1 5/8" Fiber	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	7.313	0.00	26.14
78.50	1 5/8" Coax	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	7.313	0.00	183.40
78.50	10 mm	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	7.313	0.00	13.43
78.50	3" Coax	Yes	3.50	0.000	3.00	1.83	0.00	0.118	1.053	7.313	0.00	35.03
78.50	DC	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	7.313	0.00	21.81
80.00	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	7.342	0.00	6.15
80.00	1 5/8" Coax	Yes	1.50	0.000	1.98	0.66	0.00	0.119	1.058	7.342	0.00	72.56
80.00	1 5/8" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	7.342	0.00	11.23
80.00	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	7.342	0.00	78.71
80.00	10 mm	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	7.342	0.00	5.77
80.00	3" Coax	Yes	1.50	0.000	3.00	0.78	0.00	0.119	1.058	7.342	0.00	15.04

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
80.00	DC	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	7.342	0.00	9.37
83.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	7.413	0.00	15.49
83.75	1 5/8" Coax	Yes	3.75	0.000	1.98	1.65	0.00	0.121	1.063	7.413	0.00	181.98
83.75	1 5/8" Fiber	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	7.413	0.00	28.22
83.75	1 5/8" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	7.413	0.00	197.40
83.75	10 mm	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	7.413	0.00	14.56
83.75	3" Coax	Yes	3.75	0.000	3.00	1.97	0.00	0.121	1.063	7.413	0.00	37.79
83.75	DC	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	7.413	0.00	23.57
85.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	7.436	0.00	5.18
85.00	1 5/8" Coax	Yes	1.25	0.000	1.98	0.55	0.00	0.121	1.063	7.436	0.00	60.73
85.00	1 5/8" Fiber	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	7.436	0.00	9.43
85.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	7.436	0.00	65.87
85.00	10 mm	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	7.436	0.00	4.87
85.00	3" Coax	Yes	1.25	0.000	3.00	0.66	0.00	0.121	1.063	7.436	0.00	12.61
85.00	DC	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	7.436	0.00	7.87
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	7.526	0.00	20.91
90.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.21	0.00	0.123	1.069	7.526	0.00	243.89
90.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	7.526	0.00	37.97
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	7.526	0.00	264.54
90.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	7.526	0.00	19.67
90.00	3" Coax	Yes	5.00	0.000	3.00	2.63	0.00	0.123	1.069	7.526	0.00	50.76
90.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	7.526	0.00	31.74
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	7.612	0.00	21.11
95.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.21	0.00	0.126	1.079	7.612	0.00	244.84
95.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	7.612	0.00	38.22
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	7.612	0.00	265.55
95.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	7.612	0.00	19.87
95.00	3" Coax	Yes	5.00	0.000	3.00	2.64	0.00	0.126	1.079	7.612	0.00	51.05
95.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	7.612	0.00	31.98
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	7.695	0.00	21.30
100.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.22	0.00	0.130	1.090	7.695	0.00	245.74
100.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	7.695	0.00	38.46
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	7.695	0.00	266.52
100.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	7.695	0.00	20.05
100.00	3" Coax	Yes	5.00	0.000	3.00	2.65	0.00	0.130	1.090	7.695	0.00	51.32
100.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	7.695	0.00	32.20
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	7.774	0.00	21.48
105.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.23	0.00	0.134	1.102	7.774	0.00	246.60
105.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	7.774	0.00	38.69
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	7.774	0.00	267.44
105.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	7.774	0.00	20.23
105.00	3" Coax	Yes	5.00	0.000	3.00	2.65	0.00	0.134	1.102	7.774	0.00	51.59
105.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	7.774	0.00	32.42
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	7.851	0.00	21.65
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.23	0.00	0.138	1.115	7.851	0.00	247.43
110.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	7.851	0.00	38.92
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	7.851	0.00	268.33

Linear Appurtenance Segment Forces (Factored)

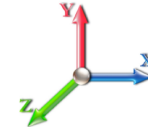
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
110.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	7.851	0.00	20.41
110.00	3" Coax	Yes	5.00	0.000	3.00	2.66	0.00	0.138	1.115	7.851	0.00	51.84
110.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	7.851	0.00	32.63
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	7.925	0.00	21.82
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.24	0.00	0.143	1.128	7.925	0.00	248.22
115.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	7.925	0.00	39.13
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	7.925	0.00	269.18
115.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	7.925	0.00	20.57
115.00	3" Coax	Yes	5.00	0.000	3.00	2.67	0.00	0.143	1.128	7.925	0.00	52.09
115.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	7.925	0.00	32.83
119.25	Safety Cable	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	7.986	0.00	18.66
119.25	1 5/8" Coax	Yes	4.25	0.000	1.98	1.91	0.00	0.147	1.141	7.986	0.00	211.54
119.25	1 5/8" Fiber	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	7.986	0.00	33.41
119.25	1 5/8" Coax	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	7.986	0.00	229.40
119.25	10 mm	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	7.986	0.00	17.61
119.25	3" Coax	Yes	4.25	0.000	3.00	2.27	0.00	0.147	1.141	7.986	0.00	44.45
119.25	DC	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	7.986	0.00	28.04
120.00	Safety Cable	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	7.996	0.00	3.30
120.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.34	0.00	0.149	1.148	7.996	0.00	37.35
120.00	1 5/8" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	7.996	0.00	5.90
120.00	1 5/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	7.996	0.00	40.50
120.00	10 mm	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	7.996	0.00	3.11
120.00	3" Coax	Yes	0.75	0.000	3.00	0.40	0.00	0.149	1.148	7.996	0.00	7.85
120.00	DC	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	7.996	0.00	4.95
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	8.024	0.00	8.82
122.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.90	0.00	0.151	1.152	8.024	0.00	99.71
122.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	8.024	0.00	15.77
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	8.024	0.00	108.13
122.00	10 mm	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	8.024	0.00	8.32
122.00	3" Coax	Yes	2.00	0.000	3.00	1.07	0.00	0.151	1.152	8.024	0.00	20.97
122.00	DC	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	8.024	0.00	13.24
123.50	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.061	0.000	8.045	0.00	6.63
123.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.68	0.00	0.061	0.000	8.045	0.00	74.85
123.50	1 5/8" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.061	0.000	8.045	0.00	11.84
124.50	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.060	0.000	8.058	0.00	4.42
124.50	1 5/8" Coax	Yes	1.00	0.000	1.98	0.45	0.00	0.060	0.000	8.058	0.00	49.93
124.50	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.060	0.000	8.058	0.00	7.90
125.00	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.061	0.000	8.065	0.00	2.21
125.00	1 5/8" Coax	Yes	0.50	0.000	1.98	0.23	0.00	0.061	0.000	8.065	0.00	24.97
125.00	1 5/8" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.061	0.000	8.065	0.00	3.95
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	8.132	0.00	22.29
130.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.26	0.00	0.062	0.000	8.132	0.00	250.44
130.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	8.132	0.00	39.73
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	8.158	0.00	8.94
132.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.90	0.00	0.063	0.000	8.158	0.00	100.29
132.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	8.158	0.00	15.92
135.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	8.197	0.00	13.46

Linear Appurtenance Segment Forces (Factored)

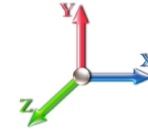
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
135.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.36	0.00	0.064	0.000	8.197	0.00	150.67
135.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	8.197	0.00	23.95
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	8.260	0.00	22.57
140.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.27	0.00	0.066	0.000	8.260	0.00	251.79
140.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	8.260	0.00	40.10
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	8.321	0.00	22.71
145.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.27	0.00	0.069	0.000	8.321	0.00	252.43
145.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	8.321	0.00	40.28
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	8.381	0.00	22.85
150.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.28	0.00	0.072	0.000	8.381	0.00	253.06
150.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	8.381	0.00	40.45
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	8.404	0.00	9.16
152.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.91	0.00	0.074	0.000	8.404	0.00	101.32
152.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	8.404	0.00	16.21
155.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.439	0.00	13.79
160.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.495	0.00	23.11
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.518	0.00	9.26
Totals:											0.0	17,803.1

Calculated Forces

Structure: CT01698-S-SBA
Site Name: Durham
Height: 162.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Topography: 1
Struct Class: II

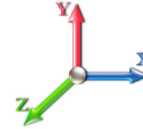
9/17/2021
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

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	-99.17	-11.39	0.00	-1367.4	0.00	1367.46	5422.04	2711.02	12776.1	6397.58	0.00	0.000	0.000	0.232
5.00	-96.46	-11.32	0.00	-1310.4	0.00	1310.49	5354.65	2677.32	12373.4	6195.90	0.03	-0.058	0.000	0.230
10.00	-93.72	-11.24	0.00	-1253.9	0.00	1253.91	5285.82	2642.91	11973.5	5995.67	0.12	-0.116	0.000	0.227
15.00	-90.99	-11.16	0.00	-1197.7	0.00	1197.71	5215.55	2607.78	11576.7	5796.99	0.28	-0.175	0.000	0.224
20.00	-88.27	-11.07	0.00	-1141.9	0.00	1141.90	5143.86	2571.93	11183.2	5599.96	0.49	-0.236	0.000	0.221
25.00	-85.56	-10.97	0.00	-1086.5	0.00	1086.55	5070.72	2535.36	10793.2	5404.66	0.77	-0.296	0.000	0.218
30.00	-82.88	-10.86	0.00	-1031.6	0.00	1031.69	4996.16	2498.08	10406.9	5211.21	1.12	-0.358	0.000	0.215
35.00	-80.23	-10.74	0.00	-977.37	0.00	977.37	4920.16	2460.08	10024.5	5019.70	1.52	-0.420	0.000	0.211
38.75	-78.26	-10.63	0.00	-937.11	0.00	937.11	4862.22	2431.11	9740.32	4877.40	1.87	-0.468	0.000	0.208
40.00	-77.30	-10.63	0.00	-923.82	0.00	923.82	4842.73	2421.36	9646.11	4830.22	2.00	-0.484	0.000	0.207
45.00	-73.51	-10.48	0.00	-870.69	0.00	870.69	3936.38	1968.19	7803.92	3907.76	2.54	-0.548	0.000	0.242
50.00	-71.11	-10.35	0.00	-818.27	0.00	818.27	3877.34	1938.67	7510.22	3760.69	3.15	-0.612	0.000	0.236
55.00	-68.73	-10.22	0.00	-766.51	0.00	766.51	3816.87	1908.43	7219.20	3614.96	3.83	-0.684	0.000	0.230
60.00	-66.38	-10.08	0.00	-715.41	0.00	715.41	3754.96	1877.48	6931.04	3470.67	4.58	-0.756	0.000	0.224
65.00	-64.06	-9.94	0.00	-665.01	0.00	665.01	3691.62	1845.81	6645.93	3327.91	5.41	-0.827	0.000	0.217
70.00	-61.78	-9.79	0.00	-615.33	0.00	615.33	3626.84	1813.42	6364.09	3186.77	6.32	-0.899	0.000	0.210
75.00	-59.49	-9.60	0.00	-566.40	0.00	566.40	3560.63	1780.31	6085.69	3047.37	7.30	-0.971	0.000	0.203
78.50	-57.95	-9.48	0.00	-532.79	0.00	532.79	3513.43	1756.71	5892.98	2950.87	8.03	-1.021	0.000	0.197
80.00	-57.03	-9.44	0.00	-518.57	0.00	518.57	3492.98	1746.49	5810.95	2909.79	8.35	-1.043	0.000	0.195
83.75	-54.78	-9.29	0.00	-483.17	0.00	483.17	2742.50	1371.25	4553.78	2280.28	9.19	-1.096	0.000	0.232
85.00	-54.27	-9.28	0.00	-471.56	0.00	471.56	2730.37	1365.18	4502.54	2254.62	9.48	-1.114	0.000	0.229
90.00	-52.27	-9.11	0.00	-425.19	0.00	425.19	2680.95	1340.47	4298.92	2152.65	10.69	-1.193	0.000	0.217
95.00	-50.30	-8.94	0.00	-379.63	0.00	379.63	2630.10	1315.05	4097.56	2051.82	11.99	-1.270	0.000	0.204
100.00	-48.36	-8.77	0.00	-334.92	0.00	334.92	2577.82	1288.91	3898.66	1952.23	13.36	-1.344	0.000	0.190
105.00	-44.30	-8.15	0.00	-291.08	0.00	291.08	2524.10	1262.05	3702.43	1853.97	14.80	-1.415	0.000	0.175
110.00	-42.42	-7.96	0.00	-250.34	0.00	250.34	2468.95	1234.47	3509.05	1757.13	16.32	-1.483	0.000	0.160
115.00	-40.57	-7.76	0.00	-210.56	0.00	210.56	2412.36	1206.18	3318.73	1661.83	17.91	-1.546	0.000	0.144
119.25	-39.03	-7.58	0.00	-177.58	0.00	177.58	2363.14	1181.57	3159.50	1582.10	19.31	-1.596	0.000	0.129
120.00	-38.67	-7.55	0.00	-171.89	0.00	171.89	2354.34	1177.17	3131.65	1568.15	19.56	-1.604	0.000	0.126
122.00	-33.85	-6.52	0.00	-156.79	0.00	156.79	2330.73	1165.37	3057.78	1531.16	20.24	-1.626	0.000	0.117
123.50	-33.27	-6.46	0.00	-147.01	0.00	147.01	1751.58	875.79	2319.28	1161.36	20.75	-1.642	0.000	0.146
124.50	-31.87	-6.09	0.00	-140.55	0.00	140.55	1743.79	871.89	2293.08	1148.24	21.10	-1.652	0.000	0.141
125.00	-31.74	-6.08	0.00	-137.51	0.00	137.51	1739.87	869.94	2280.00	1141.69	21.27	-1.658	0.000	0.139
130.00	-30.47	-5.91	0.00	-107.09	0.00	107.09	1699.92	849.96	2150.20	1076.70	23.03	-1.712	0.000	0.117
132.00	-21.81	-4.24	0.00	-95.28	0.00	95.28	1683.54	841.77	2098.80	1050.96	23.76	-1.731	0.000	0.104
135.00	-21.12	-4.14	0.00	-82.55	0.00	82.55	1658.53	829.27	2022.29	1012.65	24.85	-1.758	0.000	0.094
140.00	-19.98	-3.97	0.00	-61.85	0.00	61.85	1615.71	807.86	1896.47	949.64	26.72	-1.798	0.000	0.078
145.00	-18.88	-3.79	0.00	-42.02	0.00	42.02	1571.46	785.73	1772.93	887.78	28.62	-1.829	0.000	0.059
150.00	-17.80	-3.62	0.00	-23.06	0.00	23.06	1525.77	762.88	1651.87	827.16	30.55	-1.851	0.000	0.040
152.00	-6.61	-1.68	0.00	-15.82	0.00	15.82	1507.09	753.54	1604.19	803.29	31.32	-1.857	0.000	0.024
155.00	-6.16	-1.58	0.00	-10.78	0.00	10.78	1478.64	739.32	1533.49	767.89	32.49	-1.864	0.000	0.018
160.00	-5.44	-1.42	0.00	-2.86	0.00	2.86	1426.03	713.01	1413.96	708.03	34.45	-1.870	0.000	0.008
162.00	0.00	-1.25	0.00	-0.01	0.00	0.01	1400.09	700.04	1362.73	682.38	35.23	-1.870	0.000	0.000

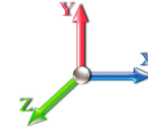
Seismic Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 22
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.33	SA	0.03	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		1341.4	0.00	0.03	0.02	24.67	
10.00		1315.5	0.01	0.05	0.03	35.34	
15.00		1289.5	0.02	0.06	0.04	40.21	
20.00		1263.5	0.03	0.07	0.04	42.29	
25.00		1237.5	0.05	0.07	0.04	43.05	
30.00		1211.5	0.06	0.07	0.04	43.25	
35.00		1185.5	0.09	0.07	0.04	43.29	
38.75	Bot - Section 2	872.10	0.11	0.07	0.04	32.38	
40.00		537.95	0.12	0.07	0.04	20.08	
45.00	Top - Section 1	2121.6	0.15	0.07	0.03	80.80	
50.00		965.80	0.18	0.07	0.03	37.23	
55.00		943.52	0.22	0.06	0.02	36.19	
60.00		921.24	0.26	0.05	0.02	34.06	
65.00		898.96	0.30	0.04	0.01	30.35	
70.00		876.68	0.35	0.03	0.01	24.57	
75.00	Appurtenance(s)	864.41	0.41	0.02	0.01	16.70	
78.50	Bot - Section 3	584.83	0.44	0.00	0.01	6.72	
80.00	Appurtenance(s)	457.36	0.46	0.00	0.01	3.55	
83.75	Top - Section 2	1126.0	0.51	-0.02	0.01	-2.42	
85.00		169.88	0.52	-0.02	0.01	-0.94	
90.00		667.91	0.58	-0.05	0.01	-12.47	
95.00		649.35	0.65	-0.07	0.02	-19.18	
100.00		630.78	0.72	-0.09	0.03	-23.15	
105.00	Appurtenance(s)	1812.2	0.79	-0.11	0.05	-71.53	
110.00		593.65	0.87	-0.12	0.08	-22.37	
115.00		575.09	0.95	-0.12	0.11	-18.06	
119.25	Bot - Section 4	474.23	1.02	-0.10	0.14	-10.72	
120.00		149.27	1.04	-0.10	0.15	-3.10	
122.00	Appurtenance(s)	2020.9	1.07	-0.08	0.17	-30.86	
123.50	Top - Section 3	292.27	1.10	-0.07	0.19	-3.13	
124.50	Appurtenance(s)	623.50	1.12	-0.06	0.20	-4.65	
125.00		43.13	1.13	-0.05	0.20	-0.25	
130.00		423.11	1.22	0.02	0.27	5.70	
132.00	Appurtenance(s)	3063.7	1.25	0.06	0.30	68.60	
135.00		243.17	1.31	0.14	0.35	9.01	
140.00		393.40	1.41	0.31	0.44	25.57	
145.00		378.55	1.51	0.54	0.56	36.88	
150.00		363.70	1.62	0.84	0.70	48.87	
152.00	Appurtenance(s)	3762.2	1.66	0.99	0.76	566.08	
155.00		207.52	1.73	1.24	0.86	36.52	
160.00		333.99	1.84	1.74	1.05	74.27	
162.00	Appurtenance(s)	2368.2	1.89	1.98	1.14	573.76	
Totals:		40,255.0				1,817.2	Total Wind: 39,991.8

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

Calculated Forces

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 22

Gust Response Factor 1.10

Sds 0.19

Ss 0.18

Dead Load Factor 1.20 **Seismic Load Factor** 1.00 **Sd1** 0.10

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.33 **SA** 0.03 **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	-55.53	-2.04	0.00	-259.22	0.00	259.22	5422.04	2711.02	12776.1	6397.58	0.00	0.00	0.00	0.051
5.00	-53.65	-2.03	0.00	-249.00	0.00	249.00	5354.65	2677.32	12373.4	6195.90	0.01	-0.01	0.050	
10.00	-51.81	-2.00	0.00	-238.85	0.00	238.85	5285.82	2642.91	11973.5	5995.67	0.02	-0.02	0.050	
15.00	-50.00	-1.97	0.00	-228.83	0.00	228.83	5215.55	2607.78	11576.7	5796.99	0.05	-0.03	0.049	
20.00	-48.21	-1.94	0.00	-218.96	0.00	218.96	5143.86	2571.93	11183.2	5599.96	0.09	-0.04	0.048	
25.00	-46.46	-1.90	0.00	-209.27	0.00	209.27	5070.72	2535.36	10793.2	5404.66	0.15	-0.06	0.048	
30.00	-44.74	-1.87	0.00	-199.75	0.00	199.75	4996.16	2498.08	10406.9	5211.21	0.21	-0.07	0.047	
35.00	-43.06	-1.83	0.00	-190.40	0.00	190.40	4920.16	2460.08	10024.5	5019.70	0.29	-0.08	0.047	
38.75	-41.81	-1.80	0.00	-183.54	0.00	183.54	4862.22	2431.11	9740.32	4877.40	0.36	-0.09	0.046	
40.00	-41.10	-1.79	0.00	-181.29	0.00	181.29	4842.73	2421.36	9646.11	4830.22	0.38	-0.09	0.046	
45.00	-38.29	-1.71	0.00	-172.36	0.00	172.36	3936.38	1968.19	7803.92	3907.76	0.49	-0.11	0.054	
50.00	-36.86	-1.68	0.00	-163.81	0.00	163.81	3877.34	1938.67	7510.22	3760.69	0.60	-0.12	0.053	
55.00	-35.46	-1.65	0.00	-155.43	0.00	155.43	3816.87	1908.43	7219.20	3614.96	0.74	-0.13	0.052	
60.00	-34.09	-1.62	0.00	-147.19	0.00	147.19	3754.96	1877.48	6931.04	3470.67	0.88	-0.15	0.051	
65.00	-32.75	-1.59	0.00	-139.10	0.00	139.10	3691.62	1845.81	6645.93	3327.91	1.04	-0.16	0.051	
70.00	-31.43	-1.57	0.00	-131.13	0.00	131.13	3626.84	1813.42	6364.09	3186.77	1.22	-0.18	0.050	
75.00	-30.13	-1.56	0.00	-123.27	0.00	123.27	3560.63	1780.31	6085.69	3047.37	1.42	-0.19	0.049	
78.50	-29.24	-1.55	0.00	-117.81	0.00	117.81	3513.43	1756.71	5892.98	2950.87	1.56	-0.20	0.048	
80.00	-28.61	-1.55	0.00	-115.48	0.00	115.48	3492.98	1746.49	5810.95	2909.79	1.63	-0.21	0.048	
83.75	-27.06	-1.55	0.00	-109.66	0.00	109.66	2742.50	1371.25	4553.78	2280.28	1.80	-0.22	0.058	
85.00	-26.79	-1.55	0.00	-107.73	0.00	107.73	2730.37	1365.18	4502.54	2254.62	1.85	-0.22	0.058	
90.00	-25.73	-1.56	0.00	-99.96	0.00	99.96	2680.95	1340.47	4298.92	2152.65	2.10	-0.24	0.056	
95.00	-24.69	-1.56	0.00	-92.17	0.00	92.17	2630.10	1315.05	4097.56	2051.82	2.36	-0.26	0.054	
100.00	-23.66	-1.56	0.00	-84.36	0.00	84.36	2577.82	1288.91	3898.66	1952.23	2.65	-0.28	0.052	
105.00	-21.23	-1.56	0.00	-76.54	0.00	76.54	2524.10	1262.05	3702.43	1853.97	2.95	-0.30	0.050	
110.00	-20.25	-1.56	0.00	-68.75	0.00	68.75	2468.95	1234.47	3509.05	1757.13	3.27	-0.32	0.047	
115.00	-19.30	-1.56	0.00	-60.95	0.00	60.95	2412.36	1206.18	3318.73	1661.83	3.61	-0.33	0.045	
119.25	-18.50	-1.56	0.00	-54.32	0.00	54.32	2363.14	1181.57	3159.50	1582.10	3.92	-0.35	0.042	
120.00	-18.28	-1.56	0.00	-53.15	0.00	53.15	2354.34	1177.17	3131.65	1568.15	3.97	-0.35	0.042	
122.00	-15.75	-1.54	0.00	-50.04	0.00	50.04	2330.73	1165.37	3057.78	1531.16	4.12	-0.36	0.039	
123.50	-15.35	-1.54	0.00	-47.72	0.00	47.72	1751.58	875.79	2319.28	1161.36	4.24	-0.36	0.050	
124.50	-14.57	-1.54	0.00	-46.18	0.00	46.18	1743.79	871.89	2293.08	1148.24	4.31	-0.37	0.049	
125.00	-14.50	-1.54	0.00	-45.41	0.00	45.41	1739.87	869.94	2280.00	1141.69	4.35	-0.37	0.048	
130.00	-13.82	-1.53	0.00	-37.71	0.00	37.71	1699.92	849.96	2150.20	1076.70	4.75	-0.39	0.043	
132.00	-10.07	-1.44	0.00	-34.64	0.00	34.64	1683.54	841.77	2098.80	1050.96	4.91	-0.39	0.039	
135.00	-9.72	-1.43	0.00	-30.32	0.00	30.32	1658.53	829.27	2022.29	1012.65	5.16	-0.40	0.036	
140.00	-9.16	-1.40	0.00	-23.16	0.00	23.16	1615.71	807.86	1896.47	949.64	5.59	-0.42	0.030	
145.00	-8.61	-1.36	0.00	-16.14	0.00	16.14	1571.46	785.73	1772.93	887.78	6.04	-0.43	0.024	
150.00	-8.07	-1.31	0.00	-9.32	0.00	9.32	1525.77	762.88	1651.87	827.16	6.49	-0.44	0.017	
152.00	-3.53	-0.71	0.00	-6.69	0.00	6.69	1507.09	753.54	1604.19	803.29	6.68	-0.44	0.011	
155.00	-3.27	-0.67	0.00	-4.56	0.00	4.56	1478.64	739.32	1533.49	767.89	6.96	-0.44	0.008	
160.00	-2.85	-0.60	0.00	-1.19	0.00	1.19	1426.03	713.01	1413.96	708.03	7.42	-0.45	0.004	
162.00	0.00	-0.57	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	7.61	-0.45	0.000	

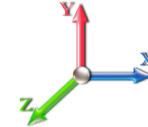
Seismic Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 22
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.33	SA	0.03	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		1341.4	0.00	0.03	0.02	24.67	
10.00		1315.5	0.01	0.05	0.03	35.34	
15.00		1289.5	0.02	0.06	0.04	40.21	
20.00		1263.5	0.03	0.07	0.04	42.29	
25.00		1237.5	0.05	0.07	0.04	43.05	
30.00		1211.5	0.06	0.07	0.04	43.25	
35.00		1185.5	0.09	0.07	0.04	43.29	
38.75	Bot - Section 2	872.10	0.11	0.07	0.04	32.38	
40.00		537.95	0.12	0.07	0.04	20.08	
45.00	Top - Section 1	2121.6	0.15	0.07	0.03	80.80	
50.00		965.80	0.18	0.07	0.03	37.23	
55.00		943.52	0.22	0.06	0.02	36.19	
60.00		921.24	0.26	0.05	0.02	34.06	
65.00		898.96	0.30	0.04	0.01	30.35	
70.00		876.68	0.35	0.03	0.01	24.57	
75.00	Appurtenance(s)	864.41	0.41	0.02	0.01	16.70	
78.50	Bot - Section 3	584.83	0.44	0.00	0.01	6.72	
80.00	Appurtenance(s)	457.36	0.46	0.00	0.01	3.55	
83.75	Top - Section 2	1126.0	0.51	-0.02	0.01	-2.42	
85.00		169.88	0.52	-0.02	0.01	-0.94	
90.00		667.91	0.58	-0.05	0.01	-12.47	
95.00		649.35	0.65	-0.07	0.02	-19.18	
100.00		630.78	0.72	-0.09	0.03	-23.15	
105.00	Appurtenance(s)	1812.2	0.79	-0.11	0.05	-71.53	
110.00		593.65	0.87	-0.12	0.08	-22.37	
115.00		575.09	0.95	-0.12	0.11	-18.06	
119.25	Bot - Section 4	474.23	1.02	-0.10	0.14	-10.72	
120.00		149.27	1.04	-0.10	0.15	-3.10	
122.00	Appurtenance(s)	2020.9	1.07	-0.08	0.17	-30.86	
123.50	Top - Section 3	292.27	1.10	-0.07	0.19	-3.13	
124.50	Appurtenance(s)	623.50	1.12	-0.06	0.20	-4.65	
125.00		43.13	1.13	-0.05	0.20	-0.25	
130.00		423.11	1.22	0.02	0.27	5.70	
132.00	Appurtenance(s)	3063.7	1.25	0.06	0.30	68.60	
135.00		243.17	1.31	0.14	0.35	9.01	
140.00		393.40	1.41	0.31	0.44	25.57	
145.00		378.55	1.51	0.54	0.56	36.88	
150.00		363.70	1.62	0.84	0.70	48.87	
152.00	Appurtenance(s)	3762.2	1.66	0.99	0.76	566.08	
155.00		207.52	1.73	1.24	0.86	36.52	
160.00		333.99	1.84	1.74	1.05	74.27	
162.00	Appurtenance(s)	2368.2	1.89	1.98	1.14	573.76	
Totals:		40,255.0				1,817.2	Total Wind: 39,991.8

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

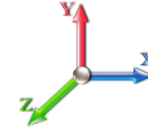
Calculated Forces

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 22
Gust Response Factor 1.10	Sds 0.19	Ss 0.18
Dead Load Factor 0.90	Seismic Load Factor 1.00	S1 0.06
Wind Load Factor 0.00	Structure Frequency (f1) 0.33	SA 0.03
	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	-41.65	-2.04	0.00	-256.00	0.00	256.00	5422.04	2711.02	12776.1	6397.58	0.00	0.00	0.00	0.048
5.00	-40.24	-2.03	0.00	-245.78	0.00	245.78	5354.65	2677.32	12373.4	6195.90	0.01	-0.01	0.047	
10.00	-38.86	-2.00	0.00	-235.65	0.00	235.65	5285.82	2642.91	11973.5	5995.67	0.02	-0.02	0.047	
15.00	-37.50	-1.96	0.00	-225.66	0.00	225.66	5215.55	2607.78	11576.7	5796.99	0.05	-0.03	0.046	
20.00	-36.16	-1.93	0.00	-215.84	0.00	215.84	5143.86	2571.93	11183.2	5599.96	0.09	-0.04	0.046	
25.00	-34.85	-1.89	0.00	-206.20	0.00	206.20	5070.72	2535.36	10793.2	5404.66	0.14	-0.06	0.045	
30.00	-33.56	-1.85	0.00	-196.75	0.00	196.75	4996.16	2498.08	10406.9	5211.21	0.21	-0.07	0.044	
35.00	-32.29	-1.81	0.00	-187.48	0.00	187.48	4920.16	2460.08	10024.5	5019.70	0.29	-0.08	0.044	
38.75	-31.36	-1.78	0.00	-180.68	0.00	180.68	4862.22	2431.11	9740.32	4877.40	0.35	-0.09	0.043	
40.00	-30.82	-1.77	0.00	-178.45	0.00	178.45	4842.73	2421.36	9646.11	4830.22	0.38	-0.09	0.043	
45.00	-28.71	-1.69	0.00	-169.61	0.00	169.61	3936.38	1968.19	7803.92	3907.76	0.48	-0.10	0.051	
50.00	-27.65	-1.66	0.00	-161.16	0.00	161.16	3877.34	1938.67	7510.22	3760.69	0.60	-0.12	0.050	
55.00	-26.60	-1.62	0.00	-152.88	0.00	152.88	3816.87	1908.43	7219.20	3614.96	0.72	-0.13	0.049	
60.00	-25.57	-1.59	0.00	-144.76	0.00	144.76	3754.96	1877.48	6931.04	3470.67	0.87	-0.15	0.049	
65.00	-24.56	-1.57	0.00	-136.79	0.00	136.79	3691.62	1845.81	6645.93	3327.91	1.03	-0.16	0.048	
70.00	-23.57	-1.55	0.00	-128.95	0.00	128.95	3626.84	1813.42	6364.09	3186.77	1.21	-0.17	0.047	
75.00	-22.59	-1.53	0.00	-121.22	0.00	121.22	3560.63	1780.31	6085.69	3047.37	1.40	-0.19	0.046	
78.50	-21.93	-1.53	0.00	-115.85	0.00	115.85	3513.43	1756.71	5892.98	2950.87	1.54	-0.20	0.046	
80.00	-21.46	-1.52	0.00	-113.56	0.00	113.56	3492.98	1746.49	5810.95	2909.79	1.60	-0.21	0.045	
83.75	-20.30	-1.52	0.00	-107.85	0.00	107.85	2742.50	1371.25	4553.78	2280.28	1.77	-0.22	0.055	
85.00	-20.09	-1.53	0.00	-105.95	0.00	105.95	2730.37	1365.18	4502.54	2254.62	1.83	-0.22	0.054	
90.00	-19.29	-1.53	0.00	-98.32	0.00	98.32	2680.95	1340.47	4298.92	2152.65	2.07	-0.24	0.053	
95.00	-18.51	-1.53	0.00	-90.68	0.00	90.68	2630.10	1315.05	4097.56	2051.82	2.33	-0.26	0.051	
100.00	-17.75	-1.53	0.00	-83.03	0.00	83.03	2577.82	1288.91	3898.66	1952.23	2.61	-0.28	0.049	
105.00	-15.92	-1.53	0.00	-75.36	0.00	75.36	2524.10	1262.05	3702.43	1853.97	2.91	-0.29	0.047	
110.00	-15.19	-1.53	0.00	-67.72	0.00	67.72	2468.95	1234.47	3509.05	1757.13	3.22	-0.31	0.045	
115.00	-14.47	-1.53	0.00	-60.07	0.00	60.07	2412.36	1206.18	3318.73	1661.83	3.56	-0.33	0.042	
119.25	-13.87	-1.53	0.00	-53.57	0.00	53.57	2363.14	1181.57	3159.50	1582.10	3.86	-0.34	0.040	
120.00	-13.71	-1.53	0.00	-52.42	0.00	52.42	2354.34	1177.17	3131.65	1568.15	3.91	-0.35	0.039	
122.00	-11.81	-1.52	0.00	-49.37	0.00	49.37	2330.73	1165.37	3057.78	1531.16	4.06	-0.35	0.037	
123.50	-11.51	-1.52	0.00	-47.09	0.00	47.09	1751.58	875.79	2319.28	1161.36	4.17	-0.36	0.047	
124.50	-10.92	-1.51	0.00	-45.57	0.00	45.57	1743.79	871.89	2293.08	1148.24	4.25	-0.36	0.046	
125.00	-10.87	-1.52	0.00	-44.82	0.00	44.82	1739.87	869.94	2280.00	1141.69	4.28	-0.36	0.046	
130.00	-10.36	-1.51	0.00	-37.24	0.00	37.24	1699.92	849.96	2150.20	1076.70	4.67	-0.38	0.041	
132.00	-7.55	-1.42	0.00	-34.22	0.00	34.22	1683.54	841.77	2098.80	1050.96	4.84	-0.39	0.037	
135.00	-7.29	-1.41	0.00	-29.96	0.00	29.96	1658.53	829.27	2022.29	1012.65	5.08	-0.40	0.034	
140.00	-6.86	-1.39	0.00	-22.89	0.00	22.89	1615.71	807.86	1896.47	949.64	5.51	-0.41	0.028	
145.00	-6.45	-1.35	0.00	-15.96	0.00	15.96	1571.46	785.73	1772.93	887.78	5.95	-0.42	0.022	
150.00	-6.05	-1.30	0.00	-9.22	0.00	9.22	1525.77	762.88	1651.87	827.16	6.39	-0.43	0.015	
152.00	-2.64	-0.70	0.00	-6.63	0.00	6.63	1507.09	753.54	1604.19	803.29	6.58	-0.43	0.010	
155.00	-2.45	-0.67	0.00	-4.51	0.00	4.51	1478.64	739.32	1533.49	767.89	6.85	-0.44	0.008	
160.00	-2.13	-0.59	0.00	-1.18	0.00	1.18	1426.03	713.01	1413.96	708.03	7.31	-0.44	0.003	
162.00	0.00	-0.57	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	7.49	-0.44	0.000	

Wind Loading - Shaft

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 23

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	270.41	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	265.27	0.650	0.000	5.00	24.209	15.74	128.8	0.0	1341.5
10.00		1.00	0.85	7.442	8.19	260.12	0.650	0.000	5.00	23.744	15.43	126.3	0.0	1315.5
15.00		1.00	0.85	7.442	8.19	254.97	0.650	0.000	5.00	23.278	15.13	123.9	0.0	1289.5
20.00		1.00	0.90	7.896	8.69	257.33	0.650	0.000	5.00	22.813	14.83	128.8	0.0	1263.5
25.00		1.00	0.95	8.276	9.10	258.01	0.650	0.000	5.00	22.348	14.53	132.2	0.0	1237.5
30.00		1.00	0.98	8.600	9.46	257.48	0.650	0.000	5.00	21.882	14.22	134.6	0.0	1211.5
35.00		1.00	1.01	8.883	9.77	256.06	0.650	0.000	5.00	21.417	13.92	136.0	0.0	1185.5
38.75 Bot - Section 2		1.00	1.04	9.076	9.98	254.56	0.650	0.000	3.75	15.757	10.24	102.3	0.0	872.1
40.00		1.00	1.04	9.137	10.05	253.98	0.650	0.000	1.25	5.273	3.43	34.5	0.0	538.0
45.00 Top - Section 1		1.00	1.07	9.366	10.30	251.37	0.653 *	0.000	5.00	20.803	13.57	139.9	0.0	2121.6
50.00		1.00	1.09	9.576	10.53	252.32	0.654 *	0.000	5.00	20.338	13.30	140.1	0.0	965.8
55.00		1.00	1.12	9.770	10.75	248.96	0.659 *	0.000	5.00	19.872	13.09	140.7	0.0	943.5
60.00		1.00	1.14	9.951	10.95	245.30	0.663 *	0.000	5.00	19.407	12.88	140.9	0.0	921.2
65.00		1.00	1.16	10.120	11.13	241.37	0.669 *	0.000	5.00	18.941	12.66	141.0	0.0	899.0
70.00		1.00	1.17	10.279	11.31	237.20	0.674 *	0.000	5.00	18.476	12.45	140.8	0.0	876.7
75.00 Appurtenance(s)		1.00	1.19	10.430	11.47	232.84	0.680 *	0.000	5.00	18.010	12.24	140.4	0.0	854.4
78.50 Bot - Section 3		1.00	1.20	10.530	11.58	229.67	0.685 *	0.000	3.50	12.330	8.44	97.8	0.0	584.8
80.00 Appurtenance(s)		1.00	1.21	10.572	11.63	228.29	0.688 *	0.000	1.50	5.294	3.64	42.3	0.0	456.9
83.75 Top - Section 2		1.00	1.22	10.675	11.74	224.76	0.691 *	0.000	3.75	13.051	9.02	105.9	0.0	1126.1
85.00		1.00	1.22	10.708	11.78	227.08	0.691 *	0.000	1.25	4.292	2.96	34.9	0.0	169.9
90.00		1.00	1.24	10.838	11.92	222.23	0.695 *	0.000	5.00	16.878	11.73	139.8	0.0	667.9
95.00		1.00	1.25	10.962	12.06	217.25	0.702 *	0.000	5.00	16.413	11.51	138.8	0.0	649.3
100.00		1.00	1.27	11.081	12.19	212.15	0.709 *	0.000	5.00	15.947	11.30	137.8	0.0	630.8
105.00 Appurtenance(s)		1.00	1.28	11.195	12.31	206.92	0.716 *	0.000	5.00	15.482	11.09	136.6	0.0	612.2
110.00		1.00	1.29	11.305	12.44	201.59	0.724 *	0.000	5.00	15.016	10.88	135.3	0.0	593.7
115.00		1.00	1.30	11.412	12.55	196.16	0.733 *	0.000	5.00	14.551	10.67	133.9	0.0	575.1
119.25 Bot - Section 4		1.00	1.31	11.499	12.65	191.47	0.742 *	0.000	4.25	12.002	8.90	112.6	0.0	474.2
120.00		1.00	1.32	11.514	12.67	190.63	0.746 *	0.000	0.75	2.115	1.58	20.0	0.0	149.3
122.00 Appurtenance(s)		1.00	1.32	11.554	12.71	188.40	0.749 *	0.000	2.00	5.588	4.19	53.2	0.0	394.4
123.50 Top - Section 3		1.00	1.32	11.584	12.74	186.71	0.650	0.000	1.50	4.142	2.69	34.3	0.0	292.3
124.50 Appurtenance(s)		1.00	1.33	11.604	12.76	188.51	0.650	0.000	1.00	2.738	1.78	22.7	0.0	86.7
125.00		1.00	1.33	11.614	12.78	187.95	0.650	0.000	0.50	1.362	0.89	11.3	0.0	43.1
130.00		1.00	1.34	11.710	12.88	182.26	0.650	0.000	5.00	13.366	8.69	111.9	0.0	423.1
132.00 Appurtenance(s)		1.00	1.34	11.748	12.92	179.97	0.650	0.000	2.00	5.216	3.39	43.8	0.0	165.1
135.00		1.00	1.35	11.803	12.98	176.50	0.650	0.000	3.00	7.684	4.99	64.9	0.0	243.2
140.00		1.00	1.36	11.894	13.08	170.67	0.650	0.000	5.00	12.435	8.08	105.8	0.0	393.4
145.00		1.00	1.37	11.982	13.18	164.77	0.650	0.000	5.00	11.970	7.78	102.5	0.0	378.5
150.00		1.00	1.38	12.068	13.27	158.80	0.650	0.000	5.00	11.504	7.48	99.3	0.0	363.7
152.00 Appurtenance(s)		1.00	1.38	12.102	13.31	156.39	0.650	0.000	2.00	4.471	2.91	38.7	0.0	141.3
155.00		1.00	1.39	12.152	13.37	152.77	0.650	0.000	3.00	6.567	4.27	57.1	0.0	207.5
160.00		1.00	1.40	12.233	13.46	146.68	0.650	0.000	5.00	10.573	6.87	92.5	0.0	334.0
162.00 Appurtenance(s)		1.00	1.40	12.265	13.49	144.22	0.650	0.000	2.00	4.099	2.66	35.9	0.0	129.4
Totals:									162.00			4,140.7		28,122.8

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

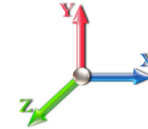
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor 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	162.00	Low Profile Platform-flat	1	12.265	13.492	1.00	1.00	25.00	1200.00	0.000	0.000	337.30	0.00	0.00	
2	162.00	ACU-A20-N	4	12.273	13.501	0.75	1.00	0.42	4.00	0.000	0.500	5.67	0.00	2.84	
3	162.00	800 MHz Ext. Filter	3	12.265	13.492	0.63	1.00	2.25	19.80	0.000	0.000	30.34	0.00	0.00	
4	162.00	800 MHz RRU	3	12.265	13.492	0.75	1.00	5.60	159.00	0.000	0.000	75.59	0.00	0.00	
5	162.00	1900MHz RRH	3	12.265	13.492	0.88	1.00	10.03	132.00	0.000	0.000	135.35	0.00	0.00	
6	162.00	APXVSP18-C-A20	3	12.273	13.501	0.66	0.80	15.98	171.00	0.000	0.500	215.68	0.00	107.84	
7	162.00	TD-RRH8x20-25	3	12.265	13.492	0.69	1.00	8.38	210.00	0.000	0.000	113.11	0.00	0.00	
8	162.00	APXVTM14-C-120	3	12.273	13.501	0.63	0.80	12.02	168.00	0.000	0.500	162.29	0.00	81.14	
9	162.00	Flush Mount	1	12.233	13.457	1.00	1.00	5.00	175.00	0.000	-2.000	67.28	0.00	-134.57	
10	152.00	782 11056	3	12.102	13.312	0.50	0.75	0.23	5.40	0.000	0.000	3.01	0.00	0.00	
11	152.00	KRY 112 144/1	3	12.102	13.312	0.55	0.75	0.57	33.00	0.000	0.000	7.65	0.00	0.00	
12	152.00	FE15501P77/75	3	12.102	13.312	0.49	0.75	0.79	52.50	0.000	0.000	10.51	0.00	0.00	
13	152.00	APXV18-206516S-A20	3	12.102	13.312	0.57	0.75	7.46	55.50	0.000	0.000	99.25	0.00	0.00	
14	152.00	RR90-17-02DP	6	12.102	13.312	0.55	0.75	14.32	81.00	0.000	0.000	190.66	0.00	0.00	
15	152.00	APXVAARR24_43-U-NA2	3	12.102	13.312	0.52	0.75	31.88	384.00	0.000	0.000	424.36	0.00	0.00	
16	152.00	Radio 4449 B71+B12	3	12.102	13.312	0.65	0.75	3.81	213.00	0.000	0.000	50.74	0.00	0.00	
17	152.00	Platform w/ Hand Rail	1	12.102	13.312	1.00	1.00	49.30	2796.50	0.000	0.000	656.28	0.00	0.00	
18	132.00	FD9R6004/2C-3L	6	11.748	12.922	0.56	0.75	1.22	18.60	0.000	0.000	15.70	0.00	0.00	
19	132.00	DB846F65ZAXY	4	11.748	12.922	0.70	0.75	19.67	84.00	0.000	0.000	254.18	0.00	0.00	
20	132.00	LPA-80080-4CF-EDIN-0	2	11.748	12.922	1.27	0.75	6.66	24.00	0.000	0.000	86.01	0.00	0.00	
21	132.00	HRK12 (Handrail Kit)	1	11.748	12.922	1.00	1.00	6.75	261.72	0.000	0.000	87.23	0.00	0.00	
22	132.00	Raycap	1	11.748	12.922	0.50	0.75	2.04	32.00	0.000	0.000	26.36	0.00	0.00	
23	132.00	Samsung RFV01U-D2A	3	11.748	12.922	0.50	0.75	2.83	210.90	0.000	0.000	36.62	0.00	0.00	
24	132.00	Samsung RFV01U-D1A	3	11.748	12.922	0.50	0.75	2.83	253.20	0.000	0.000	36.62	0.00	0.00	
25	132.00	Samsung MT6407-77A	3	11.748	12.922	0.52	0.75	7.39	238.20	0.000	0.000	95.46	0.00	0.00	
26	132.00	JMA Wireless	6	11.748	12.922	0.65	0.75	38.64	276.00	0.000	0.000	499.34	0.00	0.00	
27	132.00	Low Profile	1	11.748	12.922	1.00	1.00	22.00	1500.00	0.000	0.000	284.29	0.00	0.00	
28	124.50	Flush Mount	1	11.604	12.764	1.00	1.00	5.00	175.00	0.000	0.000	63.82	0.00	0.00	
29	124.50	RRUS-11	6	11.604	12.764	0.68	1.00	18.03	330.00	0.000	0.000	230.19	0.00	0.00	
30	124.50	DC6-48-60-18-8F	1	11.604	12.764	1.00	1.00	1.47	31.80	0.000	0.000	18.76	0.00	0.00	
31	122.00	Low Profile Platform-flat	1	11.554	12.710	1.00	1.00	25.00	1200.00	0.000	0.000	317.75	0.00	0.00	
32	122.00	AM-X-CD-16-65-00T-RET	3	11.554	12.710	0.65	0.80	11.76	99.00	0.000	0.000	149.48	0.00	0.00	
33	122.00	LGP21903	6	11.554	12.710	0.60	0.80	0.97	33.00	0.000	0.000	12.35	0.00	0.00	
34	122.00	LGP21401	6	11.554	12.710	0.60	0.80	4.64	84.60	0.000	0.000	59.02	0.00	0.00	
35	122.00	7770.00	6	11.554	12.710	0.58	0.80	19.27	210.00	0.000	0.000	244.95	0.00	0.00	
36	105.00	Low Profile Platform-flat	1	11.195	12.315	1.00	1.00	25.00	1200.00	0.000	0.000	307.87	0.00	0.00	
37	80.00	738-449	1	10.582	11.640	1.00	1.00	0.01	0.50	0.000	0.350	0.12	0.00	0.04	
38	75.00	GPS	1	10.430	11.473	1.00	1.00	1.00	10.00	0.000	0.000	11.47	0.00	0.00	
Totals:									12,132.22						5,422.68

Total Applied Force Summary

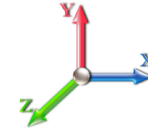
Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		128.82	1562.55	0.00	0.00
10.00		126.34	1536.56	0.00	0.00
15.00		123.86	1510.57	0.00	0.00
20.00		128.80	1484.58	0.00	0.00
25.00		132.24	1458.59	0.00	0.00
30.00		134.55	1432.60	0.00	0.00
35.00		136.03	1406.61	0.00	0.00
38.75		102.25	1037.90	0.00	0.00
40.00		34.45	593.22	0.00	0.00
45.00		139.85	2342.70	0.00	0.00
50.00		140.10	1186.86	0.00	0.00
55.00		140.66	1164.58	0.00	0.00
60.00		140.94	1142.31	0.00	0.00
65.00		140.98	1120.03	0.00	0.00
70.00		140.80	1097.75	0.00	0.00
75.00	(1) attachments	151.91	1085.47	0.00	0.00
78.50		97.79	739.01	0.00	0.00
80.00	(1) attachments	42.46	523.44	0.00	0.04
83.75		105.91	1290.67	0.00	0.00
85.00		34.92	224.74	0.00	0.00
90.00		139.79	887.38	0.00	0.00
95.00		138.84	868.81	0.00	0.00
100.00		137.76	850.25	0.00	0.00
105.00	(1) attachments	444.44	2031.68	0.00	0.00
110.00		135.29	813.12	0.00	0.00
115.00		133.90	794.55	0.00	0.00
119.25		112.58	660.77	0.00	0.00
120.00		19.99	182.19	0.00	0.00
122.00	(22) attachments	836.76	2108.76	0.00	0.00
123.50		34.31	335.43	0.00	0.00
124.50	(8) attachments	335.49	652.27	0.00	0.00
125.00		11.31	57.51	0.00	0.00
130.00		111.91	566.97	0.00	0.00
132.00	(30) attachments	1465.62	3121.25	0.00	0.00
135.00		64.85	290.85	0.00	0.00
140.00		105.75	472.87	0.00	0.00
145.00		102.55	458.01	0.00	0.00
150.00		99.27	443.16	0.00	0.00
152.00	(25) attachments	1481.17	3794.01	0.00	0.00
155.00		57.06	217.58	0.00	0.00
160.00		92.48	350.76	0.00	0.00
162.00	(24) attachments	1178.55	2374.94	0.00	57.25
Totals:		9,563.35	46,273.86	0.00	57.29

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	7.442	0.00	1.37
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.086	0.000	7.442	0.00	57.20
5.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	7.442	0.00	5.50
5.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	7.442	0.00	62.40
5.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	7.442	0.00	0.30
5.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.086	0.000	7.442	0.00	8.90
5.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	7.442	0.00	4.00
5.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	7.442	0.00	0.80
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	7.442	0.00	1.37
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.087	0.000	7.442	0.00	57.20
10.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	7.442	0.00	5.50
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	7.442	0.00	62.40
10.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	7.442	0.00	0.30
10.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.087	0.000	7.442	0.00	8.90
10.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	7.442	0.00	4.00
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.087	0.000	7.442	0.00	0.80
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	7.442	0.00	1.37
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.089	0.000	7.442	0.00	57.20
15.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	7.442	0.00	5.50
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	7.442	0.00	62.40
15.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	7.442	0.00	0.30
15.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.089	0.000	7.442	0.00	8.90
15.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	7.442	0.00	4.00
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.089	0.000	7.442	0.00	0.80
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	7.896	0.00	1.37
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.091	0.000	7.896	0.00	57.20
20.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	7.896	0.00	5.50
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	7.896	0.00	62.40
20.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	7.896	0.00	0.30
20.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.091	0.000	7.896	0.00	8.90
20.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	7.896	0.00	4.00
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	7.896	0.00	0.80
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	8.276	0.00	1.37
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.093	0.000	8.276	0.00	57.20
25.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	8.276	0.00	5.50
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	8.276	0.00	62.40
25.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	8.276	0.00	0.30
25.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.093	0.000	8.276	0.00	8.90
25.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	8.276	0.00	4.00
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	8.276	0.00	0.80
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	8.600	0.00	1.37
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.095	0.000	8.600	0.00	57.20
30.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	8.600	0.00	5.50
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	8.600	0.00	62.40
30.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	8.600	0.00	0.30
30.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.095	0.000	8.600	0.00	8.90
30.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	8.600	0.00	4.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 23

Dead Load Factor 1.00
Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.095	0.000	8.600	0.00	0.80
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	8.883	0.00	1.37
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.097	0.000	8.883	0.00	57.20
35.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	8.883	0.00	5.50
35.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	8.883	0.00	62.40
35.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	8.883	0.00	0.30
35.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.097	0.000	8.883	0.00	8.90
35.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	8.883	0.00	4.00
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	8.883	0.00	0.80
38.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	9.076	0.00	1.02
38.75	1 5/8" Coax	Yes	3.75	0.000	1.98	0.62	0.00	0.099	0.000	9.076	0.00	42.90
38.75	1 5/8" Fiber	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	9.076	0.00	4.13
38.75	1 5/8" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	9.076	0.00	46.80
38.75	10 mm	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	9.076	0.00	0.22
38.75	3" Coax	Yes	3.75	0.000	3.00	0.94	0.00	0.099	0.000	9.076	0.00	6.67
38.75	DC	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	9.076	0.00	3.00
38.75	1/2" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.099	0.000	9.076	0.00	0.60
40.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	9.137	0.00	0.34
40.00	1 5/8" Coax	Yes	1.25	0.000	1.98	0.21	0.00	0.100	0.000	9.137	0.00	14.30
40.00	1 5/8" Fiber	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	9.137	0.00	1.38
40.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	9.137	0.00	15.60
40.00	10 mm	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	9.137	0.00	0.07
40.00	3" Coax	Yes	1.25	0.000	3.00	0.31	0.00	0.100	0.000	9.137	0.00	2.23
40.00	DC	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	9.137	0.00	1.00
40.00	1/2" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.100	0.000	9.137	0.00	0.20
45.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	9.366	0.00	1.37
45.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.101	1.004	9.366	0.00	57.20
45.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	9.366	0.00	5.50
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	9.366	0.00	62.40
45.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	9.366	0.00	0.30
45.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.101	1.004	9.366	0.00	8.90
45.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	9.366	0.00	4.00
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.004	9.366	0.00	0.80
50.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	9.576	0.00	1.37
50.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.102	1.006	9.576	0.00	57.20
50.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	9.576	0.00	5.50
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	9.576	0.00	62.40
50.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	9.576	0.00	0.30
50.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.102	1.006	9.576	0.00	8.90
50.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	9.576	0.00	4.00
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	9.576	0.00	0.80
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	9.770	0.00	1.37
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.104	1.013	9.770	0.00	57.20
55.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	9.770	0.00	5.50
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	9.770	0.00	62.40
55.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	9.770	0.00	0.30
55.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.104	1.013	9.770	0.00	8.90

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



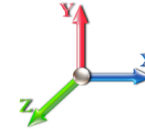
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
55.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	9.770	0.00	4.00
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.104	1.013	9.770	0.00	0.80
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	9.951	0.00	1.37
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.107	1.021	9.951	0.00	57.20
60.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	9.951	0.00	5.50
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	9.951	0.00	62.40
60.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	9.951	0.00	0.30
60.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.107	1.021	9.951	0.00	8.90
60.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	9.951	0.00	4.00
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.107	1.021	9.951	0.00	0.80
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	10.120	0.00	1.37
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.110	1.029	10.120	0.00	57.20
65.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	10.120	0.00	5.50
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	10.120	0.00	62.40
65.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	10.120	0.00	0.30
65.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.110	1.029	10.120	0.00	8.90
65.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	10.120	0.00	4.00
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.110	1.029	10.120	0.00	0.80
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	10.279	0.00	1.37
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.112	1.037	10.279	0.00	57.20
70.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	10.279	0.00	5.50
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	10.279	0.00	62.40
70.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	10.279	0.00	0.30
70.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.112	1.037	10.279	0.00	8.90
70.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	10.279	0.00	4.00
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.112	1.037	10.279	0.00	0.80
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	10.430	0.00	1.37
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.115	1.046	10.430	0.00	57.20
75.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	10.430	0.00	5.50
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	10.430	0.00	62.40
75.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	10.430	0.00	0.30
75.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.115	1.046	10.430	0.00	8.90
75.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	10.430	0.00	4.00
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.115	1.046	10.430	0.00	0.80
78.50	Safety Cable	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	10.530	0.00	0.96
78.50	1 5/8" Coax	Yes	3.50	0.000	1.98	0.58	0.00	0.118	1.053	10.530	0.00	40.04
78.50	1 5/8" Fiber	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	10.530	0.00	3.85
78.50	1 5/8" Coax	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	10.530	0.00	43.68
78.50	10 mm	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	10.530	0.00	0.21
78.50	3" Coax	Yes	3.50	0.000	3.00	0.88	0.00	0.118	1.053	10.530	0.00	6.23
78.50	DC	Yes	3.50	0.000	0.00	0.00	0.00	0.118	1.053	10.530	0.00	2.80
80.00	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	10.572	0.00	0.41
80.00	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.119	1.058	10.572	0.00	17.16
80.00	1 5/8" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	10.572	0.00	1.65
80.00	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	10.572	0.00	18.72
80.00	10 mm	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	10.572	0.00	0.09
80.00	3" Coax	Yes	1.50	0.000	3.00	0.38	0.00	0.119	1.058	10.572	0.00	2.67

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



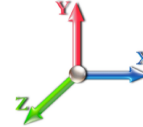
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
80.00	DC	Yes	1.50	0.000	0.00	0.00	0.00	0.119	1.058	10.572	0.00	1.20
83.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	10.675	0.00	1.02
83.75	1 5/8" Coax	Yes	3.75	0.000	1.98	0.62	0.00	0.121	1.063	10.675	0.00	42.90
83.75	1 5/8" Fiber	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	10.675	0.00	4.13
83.75	1 5/8" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	10.675	0.00	46.80
83.75	10 mm	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	10.675	0.00	0.22
83.75	3" Coax	Yes	3.75	0.000	3.00	0.94	0.00	0.121	1.063	10.675	0.00	6.67
83.75	DC	Yes	3.75	0.000	0.00	0.00	0.00	0.121	1.063	10.675	0.00	3.00
85.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	10.708	0.00	0.34
85.00	1 5/8" Coax	Yes	1.25	0.000	1.98	0.21	0.00	0.121	1.063	10.708	0.00	14.30
85.00	1 5/8" Fiber	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	10.708	0.00	1.38
85.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	10.708	0.00	15.60
85.00	10 mm	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	10.708	0.00	0.07
85.00	3" Coax	Yes	1.25	0.000	3.00	0.31	0.00	0.121	1.063	10.708	0.00	2.23
85.00	DC	Yes	1.25	0.000	0.00	0.00	0.00	0.121	1.063	10.708	0.00	1.00
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	10.838	0.00	1.37
90.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.123	1.069	10.838	0.00	57.20
90.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	10.838	0.00	5.50
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	10.838	0.00	62.40
90.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	10.838	0.00	0.30
90.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.123	1.069	10.838	0.00	8.90
90.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.123	1.069	10.838	0.00	4.00
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	10.962	0.00	1.37
95.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.126	1.079	10.962	0.00	57.20
95.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	10.962	0.00	5.50
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	10.962	0.00	62.40
95.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	10.962	0.00	0.30
95.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.126	1.079	10.962	0.00	8.90
95.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.126	1.079	10.962	0.00	4.00
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	11.081	0.00	1.37
100.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.130	1.090	11.081	0.00	57.20
100.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	11.081	0.00	5.50
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	11.081	0.00	62.40
100.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	11.081	0.00	0.30
100.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.130	1.090	11.081	0.00	8.90
100.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.090	11.081	0.00	4.00
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	11.195	0.00	1.37
105.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.134	1.102	11.195	0.00	57.20
105.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	11.195	0.00	5.50
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	11.195	0.00	62.40
105.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	11.195	0.00	0.30
105.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.134	1.102	11.195	0.00	8.90
105.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	11.195	0.00	4.00
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	11.305	0.00	1.37
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.138	1.115	11.305	0.00	57.20
110.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	11.305	0.00	5.50
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	11.305	0.00	62.40

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
110.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	11.305	0.00	0.30
110.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.138	1.115	11.305	0.00	8.90
110.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	11.305	0.00	4.00
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	11.412	0.00	1.37
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.143	1.128	11.412	0.00	57.20
115.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	11.412	0.00	5.50
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	11.412	0.00	62.40
115.00	10 mm	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	11.412	0.00	0.30
115.00	3" Coax	Yes	5.00	0.000	3.00	1.25	0.00	0.143	1.128	11.412	0.00	8.90
115.00	DC	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.128	11.412	0.00	4.00
119.25	Safety Cable	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	11.499	0.00	1.16
119.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.147	1.141	11.499	0.00	48.62
119.25	1 5/8" Fiber	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	11.499	0.00	4.68
119.25	1 5/8" Coax	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	11.499	0.00	53.04
119.25	10 mm	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	11.499	0.00	0.26
119.25	3" Coax	Yes	4.25	0.000	3.00	1.06	0.00	0.147	1.141	11.499	0.00	7.57
119.25	DC	Yes	4.25	0.000	0.00	0.00	0.00	0.147	1.141	11.499	0.00	3.40
120.00	Safety Cable	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	11.514	0.00	0.20
120.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.149	1.148	11.514	0.00	8.58
120.00	1 5/8" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	11.514	0.00	0.83
120.00	1 5/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	11.514	0.00	9.36
120.00	10 mm	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	11.514	0.00	0.04
120.00	3" Coax	Yes	0.75	0.000	3.00	0.19	0.00	0.149	1.148	11.514	0.00	1.33
120.00	DC	Yes	0.75	0.000	0.00	0.00	0.00	0.149	1.148	11.514	0.00	0.60
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	11.554	0.00	0.55
122.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.151	1.152	11.554	0.00	22.88
122.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	11.554	0.00	2.20
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	11.554	0.00	24.96
122.00	10 mm	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	11.554	0.00	0.12
122.00	3" Coax	Yes	2.00	0.000	3.00	0.50	0.00	0.151	1.152	11.554	0.00	3.56
122.00	DC	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.152	11.554	0.00	1.60
123.50	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.061	0.000	11.584	0.00	0.41
123.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.061	0.000	11.584	0.00	17.16
123.50	1 5/8" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.061	0.000	11.584	0.00	1.65
124.50	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.060	0.000	11.604	0.00	0.27
124.50	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.060	0.000	11.604	0.00	11.44
124.50	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.060	0.000	11.604	0.00	1.10
125.00	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.061	0.000	11.614	0.00	0.14
125.00	1 5/8" Coax	Yes	0.50	0.000	1.98	0.08	0.00	0.061	0.000	11.614	0.00	5.72
125.00	1 5/8" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.061	0.000	11.614	0.00	0.55
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	11.710	0.00	1.37
130.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.062	0.000	11.710	0.00	57.20
130.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	11.710	0.00	5.50
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	11.748	0.00	0.55
132.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.063	0.000	11.748	0.00	22.88
132.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	11.748	0.00	2.20
135.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	11.803	0.00	0.82

Linear Appurtenance Segment Forces (Factored)

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
135.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.064	0.000	11.803	0.00	34.32
135.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	11.803	0.00	3.30
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	11.894	0.00	1.37
140.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.066	0.000	11.894	0.00	57.20
140.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	11.894	0.00	5.50
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	11.982	0.00	1.37
145.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.069	0.000	11.982	0.00	57.20
145.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.069	0.000	11.982	0.00	5.50
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	12.068	0.00	1.37
150.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.072	0.000	12.068	0.00	57.20
150.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	12.068	0.00	5.50
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	12.102	0.00	0.55
152.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.074	0.000	12.102	0.00	22.88
152.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	12.102	0.00	2.20
155.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	12.152	0.00	0.82
160.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.233	0.00	1.37
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	12.265	0.00	0.55
Totals:											0.0	3,806.9

Calculated Forces

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

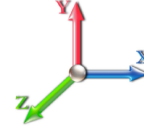


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

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	-46.27	-9.58	0.00	-1130.4	0.00	1130.40	5422.04	2711.02	12776.1	6397.58	0.00	0.000	0.000	0.185
5.00	-44.70	-9.49	0.00	-1082.5	0.00	1082.50	5354.65	2677.32	12373.4	6195.90	0.03	-0.048	0.000	0.183
10.00	-43.15	-9.40	0.00	-1035.0	0.00	1035.05	5285.82	2642.91	11973.5	5995.67	0.10	-0.096	0.000	0.181
15.00	-41.64	-9.31	0.00	-988.06	0.00	988.06	5215.55	2607.78	11576.7	5796.99	0.23	-0.145	0.000	0.178
20.00	-40.14	-9.21	0.00	-941.52	0.00	941.52	5143.86	2571.93	11183.2	5599.96	0.41	-0.194	0.000	0.176
25.00	-38.68	-9.11	0.00	-895.48	0.00	895.48	5070.72	2535.36	10793.2	5404.66	0.64	-0.245	0.000	0.173
30.00	-37.24	-9.00	0.00	-849.95	0.00	849.95	4996.16	2498.08	10406.9	5211.21	0.92	-0.295	0.000	0.171
35.00	-35.83	-8.88	0.00	-804.97	0.00	804.97	4920.16	2460.08	10024.5	5019.70	1.26	-0.347	0.000	0.168
38.75	-34.78	-8.79	0.00	-771.67	0.00	771.67	4862.22	2431.11	9740.32	4877.40	1.55	-0.386	0.000	0.165
40.00	-34.19	-8.77	0.00	-760.68	0.00	760.68	4842.73	2421.36	9646.11	4830.22	1.65	-0.399	0.000	0.165
45.00	-31.84	-8.64	0.00	-716.83	0.00	716.83	3936.38	1968.19	7803.92	3907.76	2.10	-0.452	0.000	0.192
50.00	-30.64	-8.52	0.00	-673.63	0.00	673.63	3877.34	1938.67	7510.22	3760.69	2.60	-0.505	0.000	0.187
55.00	-29.47	-8.40	0.00	-631.02	0.00	631.02	3816.87	1908.43	7219.20	3614.96	3.16	-0.564	0.000	0.182
60.00	-28.32	-8.28	0.00	-589.02	0.00	589.02	3754.96	1877.48	6931.04	3470.67	3.78	-0.623	0.000	0.177
65.00	-27.19	-8.15	0.00	-547.64	0.00	547.64	3691.62	1845.81	6645.93	3327.91	4.46	-0.682	0.000	0.172
70.00	-26.09	-8.02	0.00	-506.88	0.00	506.88	3626.84	1813.42	6364.09	3186.77	5.21	-0.741	0.000	0.166
75.00	-25.00	-7.88	0.00	-466.76	0.00	466.76	3560.63	1780.31	6085.69	3047.37	6.02	-0.800	0.000	0.160
78.50	-24.26	-7.78	0.00	-439.19	0.00	439.19	3513.43	1756.71	5892.98	2950.87	6.62	-0.842	0.000	0.156
80.00	-23.73	-7.75	0.00	-427.51	0.00	427.51	3492.98	1746.49	5810.95	2909.79	6.89	-0.860	0.000	0.154
83.75	-22.44	-7.63	0.00	-398.47	0.00	398.47	2742.50	1371.25	4553.78	2280.28	7.58	-0.904	0.000	0.183
85.00	-22.21	-7.61	0.00	-388.93	0.00	388.93	2730.37	1365.18	4502.54	2254.62	7.82	-0.918	0.000	0.181
90.00	-21.32	-7.48	0.00	-350.88	0.00	350.88	2680.95	1340.47	4298.92	2152.65	8.82	-0.983	0.000	0.171
95.00	-20.44	-7.35	0.00	-313.49	0.00	313.49	2630.10	1315.05	4097.56	2051.82	9.88	-1.047	0.000	0.161
100.00	-19.59	-7.21	0.00	-276.76	0.00	276.76	2577.82	1288.91	3898.66	1952.23	11.01	-1.108	0.000	0.149
105.00	-17.56	-6.75	0.00	-240.70	0.00	240.70	2524.10	1262.05	3702.43	1853.97	12.20	-1.167	0.000	0.137
110.00	-16.74	-6.61	0.00	-206.97	0.00	206.97	2468.95	1234.47	3509.05	1757.13	13.46	-1.223	0.000	0.125
115.00	-15.94	-6.47	0.00	-173.92	0.00	173.92	2412.36	1206.18	3318.73	1661.83	14.76	-1.275	0.000	0.111
119.25	-15.28	-6.35	0.00	-146.42	0.00	146.42	2363.14	1181.57	3159.50	1582.10	15.92	-1.316	0.000	0.099
120.00	-15.10	-6.33	0.00	-141.66	0.00	141.66	2354.34	1177.17	3131.65	1568.15	16.13	-1.323	0.000	0.097
122.00	-13.01	-5.45	0.00	-129.00	0.00	129.00	2330.73	1165.37	3057.78	1531.16	16.68	-1.341	0.000	0.090
123.50	-12.68	-5.41	0.00	-120.83	0.00	120.83	1751.58	875.79	2319.28	1161.36	17.11	-1.354	0.000	0.111
124.50	-12.03	-5.06	0.00	-115.42	0.00	115.42	1743.79	871.89	2293.08	1148.24	17.39	-1.362	0.000	0.107
125.00	-11.97	-5.05	0.00	-112.89	0.00	112.89	1739.87	869.94	2280.00	1141.69	17.54	-1.367	0.000	0.106
130.00	-11.40	-4.93	0.00	-87.64	0.00	87.64	1699.92	849.96	2150.20	1076.70	18.99	-1.411	0.000	0.088
132.00	-8.32	-3.39	0.00	-77.77	0.00	77.77	1683.54	841.77	2098.80	1050.96	19.59	-1.427	0.000	0.079
135.00	-8.03	-3.32	0.00	-67.60	0.00	67.60	1658.53	829.27	2022.29	1012.65	20.49	-1.449	0.000	0.072
140.00	-7.56	-3.21	0.00	-50.99	0.00	50.99	1615.71	807.86	1896.47	949.64	22.03	-1.482	0.000	0.058
145.00	-7.10	-3.10	0.00	-34.94	0.00	34.94	1571.46	785.73	1772.93	887.78	23.59	-1.508	0.000	0.044
150.00	-6.66	-2.99	0.00	-19.45	0.00	19.45	1525.77	762.88	1651.87	827.16	25.18	-1.526	0.000	0.028
152.00	-2.91	-1.41	0.00	-13.48	0.00	13.48	1507.09	753.54	1604.19	803.29	25.82	-1.531	0.000	0.019
155.00	-2.69	-1.34	0.00	-9.26	0.00	9.26	1478.64	739.32	1533.49	767.89	26.79	-1.537	0.000	0.014
160.00	-2.34	-1.24	0.00	-2.54	0.00	2.54	1426.03	713.01	1413.96	708.03	28.40	-1.542	0.000	0.005
162.00	0.00	-1.18	0.00	-0.06	0.00	0.06	1400.09	700.04	1362.73	682.38	29.05	-1.542	0.000	0.000

Final Analysis Summary

Structure: CT01698-S-SBA	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (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 97 mph Wind	40.1	0.00	55.46	0.00	0.00	4755.18
0.9D + 1.6W 97 mph Wind	40.1	0.00	41.58	0.00	0.00	4701.24
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.4	0.00	99.17	0.00	0.00	1367.46
1.2D + 1.0E	2.0	0.00	55.53	0.00	0.00	259.22
0.9D + 1.0E	2.0	0.00	41.65	0.00	0.00	256.00
1.0D + 1.0W 60 mph Wind	9.6	0.00	46.27	0.00	0.00	1130.40

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 97 mph Wind	-37.03	-36.35	0.00	-3020.1	0.00	-3020.1	3936.38	1968.1	7803.92	3907.76	45.00	0.783
0.9D + 1.6W 97 mph Wind	-27.48	-36.00	0.00	-2974.8	0.00	-2974.8	3936.38	1968.1	7803.92	3907.76	45.00	0.769
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-73.51	-10.48	0.00	-870.69	0.00	-870.69	3936.38	1968.1	7803.92	3907.76	45.00	0.242
1.2D + 1.0E	-27.06	-1.55	0.00	-109.66	0.00	-109.66	2742.50	1371.2	4553.78	2280.28	83.75	0.058
0.9D + 1.0E	-20.30	-1.52	0.00	-107.85	0.00	-107.85	2742.50	1371.2	4553.78	2280.28	83.75	0.055
1.0D + 1.0W 60 mph Wind	-31.84	-8.64	0.00	-716.83	0.00	-716.83	3936.38	1968.1	7803.92	3907.76	45.00	0.192

Base Plate Summary

Structure: CT01698-S-SB	Code: EIA/TIA-222-G	9/17/2021
Site Name: Durham	Exposure: C	
Height: 162.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 65.00
Moment (kip-ft): 4550.00	Width (in): 64.00	Number Bolts: 20.00
Axial (kip): 36.00	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 37.00	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 14.00	Yield (ksi): 75.00
Moment (kip-ft): 4755.18	Effective Len (in): 9.03	Ultimate (ksi): 100.00
Axial (kip): 55.46	Moment (kip-in): 652.63	Arrangement: Clustered
Shear (kip): 40.09	Allow Stress (ksi): 67.50	Cluster Dist (in): 6.00
	Applied Stress (ksi): 47.92	Start Angle (deg): 45.00
	Stress Ratio: 0.71	Compression
		Force (kip): 180.53
		Allowable (kip): 260.00
		Ratio: 0.71
		Tension
		Force (kip): 170.62
		Allowable (kip): 260.00
		Ratio: 0.67



Monopole Mat Foundation Design

Date

7/30/2021

Customer Name:	Verizon	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	162
Site Number:	CT01698-S-SBA	Engineer Name:	S. Hesselbeir
Engr. Number:	111976	Engineer Login ID:	

Foundation Info Obtained from:

Mapping Operation

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	55.5	Shear Force (Kips):	40.1
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4755.2

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	10.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft.):	4.00
Length of Pad (ft.):	29	Width of Pad (ft.):	29
Final Length of pad (ft)	29.0	Final width of pad (ft):	29.0

Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	40	
Vertical Rebar Size #:	10	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	44	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	10	
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):	33	Qty. of Rebar in Pad (W):	33
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	33	Qty. of Rebar in Pad (W):	33
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

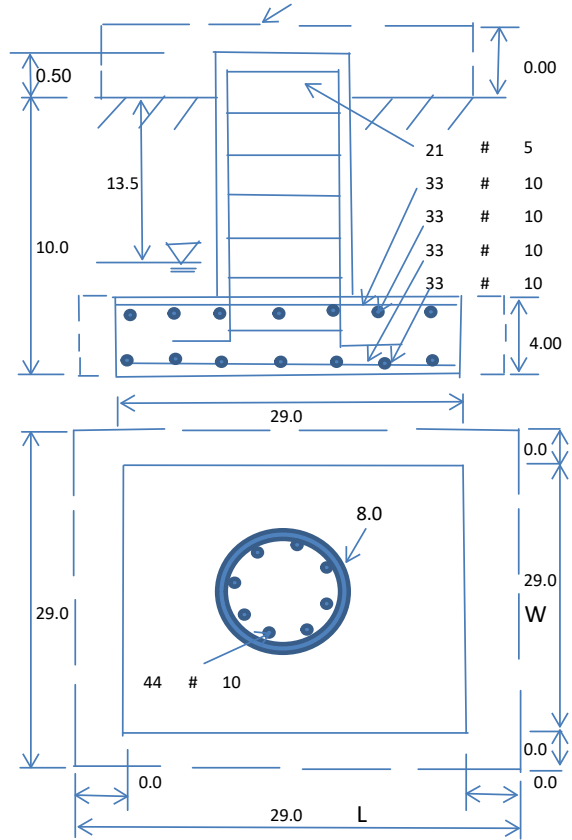
Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	13.5	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	4000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	4744.41	Total Dry Soil Weight (Kips):	569.33
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	569.33	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3690.73	Total Dry Concrete Weight (Kips):	553.61
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	553.61	Total Vertical Load on Base (Kips):	1178.44

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2394	<	Allowable Factored Soil Bearing (psf):	3000	0.80	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	15459.1	>	Design Factored Momont (kips-ft):	5176	0.33	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.99					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):	1.27	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	10399.3	> Design Factored Moment (Mu, Kips-F	5015.9	0.48	OK!
Calculated Shear Capacity (Kips):	912.1	> Design Factored Shear (Kips):	40.1	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	3017.5	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9523.8	> Design Factored Axial Load (Pu Kips):	55.5	0.01	OK!
Moment & Axial Strength Combination:	0.48	OK! Check Tie Spacing (Design/Required):	0.5		OK!
Pier Reinforcement Ratio:	0.008	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1268.7	> One-Way Factored Shear (L-D. Kips):	301.3	0.24	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1268.7	> One-Way Factored Shear (W-D., Kips)	301.3	0.24	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	1120.7	> One-Way Factored Shear (C-C, Kips):	270.0	0.24	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0027	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0027		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	8101.7	> Moment at Bottom (L-Dir. K-Ft):	2083.3	0.26	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	8101.7	> Moment at Bottom (W-Dir. K-Ft):	2083.3	0.26	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	11366.0	> Moment at Bottom (C-C Dir. K-Ft):	2946.2	0.26	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0027	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0027		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	8101.7	> Moment at the top (L-Dir K-Ft):	847.9	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	8101.7	> Moment at the top (W-Dir K-Ft):	847.9	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	11366.0	> Moment at the top (C-C Dir. K-Ft):	795.1	0.07	OK!

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

Moment transferred by punching shear:	1902.1	k-ft.	Max. factored shear stress $v_{u,CD}$:	3.1	Psi
Max. factored shear stress $v_{u,AB}$:	7.4	Psi	Factored shear Strength ϕv_n :	164.3	Psi
Max. factored shear stress v_u :	7.4	Psi	Check Usage of Punching Shear Capacity:	0.04	OK!