October 25, 2019

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

Re:	**Notice of Exempt Modification – Antenna and RRU Add**
Property Address:	**267 Norwich Westerly Road, North Stonington, CT 06539**
Applicant:	**AT&T Mobility, LLC**

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 107-feet on an existing 150-foot monopole, owned by SBA at 8051 Congress Ave, Boca Raton, FL 33487. AT&T now intends to remove three (3) 4' Kathrein 7770 Panel Antennas and three (3) 8' Powerwave P65-17-XLH-RR Panel Antennas, currently installed in position [1+4], and swap these for six (6) 8' CCI DMP65R-BU8DA Panel Antennas, each to be installed in position [1+2], all sectors. In addition, AT&T intends to remove (6) RRUS-11 and add one (1) RRUS-4449 B5/B12, one (1) RRUS-4478 B14, and (1) RRUS-8843 B2/B66A in positions [1+2], all sectors, for a total of nine (9) new RRUs. AT&T is also proposing to add (1) Raycap Squid, as well as one (1) fiber line and (2) DC Power Cables to their equipment configuration. All the changes will take place on the existing antenna mount.

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-5l0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Timothy Brennan – Building official, Town of North Stonington, CT at 40 Main Street, North Stonington, CT 06359 and Michael A. Urgo – First Selectman, Town of North Stonington, CT at 40 Main Street, North Stonington, CT 06359A copy of this letter is being sent to the property owner, North Stonington Volunteer Fire Co Inc. – Property Owner at 25 Rocky Hollow Road, North Stonington, CT 06359 and to the tower company SBA at 8051 Congress Ave, Boca Raton, FL 33487.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-CING-102-081230** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 267 Norwich Westerly Road, North Stonington, Connecticut.
- **EM-CING-102-121129**- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 267 Norwich Westerly Road, North Stonington, Connecticut.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 105-foot level of the 147-foot self-support tower.

2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

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

Sincerely,

Kristina Cottone

CC w/enclosures:
Timothy Brennan – Building official, Town of north Stonington, CT
Michael A. Urgo – First Selectman, Town of North Stonington, CT
North Stonington Volunteer Fire Co Inc. – Property Owner
SBA – Tower Company

Town of North Stonington, CT

Property Listing Report

Map Block Lot **109-3237** Account **I0182601**

Property Information

Property Location	267 NRWH WSTLY RD
Owner	NO STONINGTON VOL FIRE CO INC
Co-Owner	TAX DEPT-SBA PROPERTY
Mailing Address	8051 CONGRESS AVE BOCA RATON FL 33487 1307
Land Use	4310 TEL REL TW
Land Class	I
Zoning Code	R40
Census Tract	7071
Sub Lot	

Neighborhood	
Acreage	0.08
Utilities	
Lot Setting/Desc	Rural Level
Survey Map	
Additional Info	

Photo

Sketch

Primary Construction Details

Year Built		Bedrooms		Exterior Walls	
Stories		Full Bathrooms		Interior Walls	
Building Style		Half Bathrooms		Heating Type	
Building Use		Bath Style		Heating Fuel	
Building Condition		Kitchen Style		AC Type	
Floors		Roof Style		Gross Bldg Area	
Total Rooms		Roof Cover		Total Living Area	

Report Created On **10/11/2019**

Town of North Stonington, CT

Property Listing Report | **Map Block Lot** 109-3237 | **Account** I0182601

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Outbuildings	41700	29190
Land	115000	80500
Total	156700	109690

Outbuilding and Extra Items

Type	Description
FENCE-6' CHAIN	212.00 L.F.
COMMUNIC BLD	200.00 S.F.
COMMUNIC BLD	240.00 S.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area		0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
NO STONINGTON VOL FIRE CO INC	111/ 760	10/8/1996	0

Report Created On 10/11/2019

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

Structural Analysis Report

Existing 150 ft Valmont Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01210-S

Customer Site Name: North Stonington

Carrier Name: AT&T (App#: 122646, V3)

Carrier Site ID / Name: CTL05725 / North Stonington South

Site Location: 267 Norwich Westerly Road

N. Stonington, Connecticut

New London County

Latitude: 41.437066

Longitude: -71.881488

Analysis Result:

Max Structural Usage: 91.3% [Pass]

Max Foundation Usage: 77.0% [Pass]

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

Report Prepared By : Dipika Dhungana

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Report Prepared By : Dipika Dhungana

Introduction

The purpose of this report is to summarize the analysis results on the 150 ft Valmont 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	Monopole original structural design report prepared by Valmont. Dated 08-31-1999. Order No 18771-99.Monopole previous structural report prepared by FDH Engineering, Inc. Dated 03-05-2015. Project No 15BFHB1400.
Foundation Drawing	Valmont Microflect, DWG # 2856-F dated 07/15/1999
Geotechnical Report	Monopole geotechnical report prepared by Jaworski Geotech, Inc. dated 06-08-1999. Project No 99128G.
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed Vult = 135.0mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 105.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.162, S_1 = 0.058

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	147.0	3	Ericsson AIR 21 B2A/B4P	Low profile mount with handrail kit & tie back kit (1)Commscope MT-195-14 & VSR-MS-B (1)Sitepro PRK-1245L (1)Sitepro PRK-SFS-L	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
2		3	Ericsson AIR 21 B4A/B2P			
3		3	RFS APXVAARR24_43-U-NA20			
4		3	Ericsson KRY 112 144/1			
5		3	Ericsson Radio 4449 B71+B12			
6	137.0	3	Antel BXA-70063/6CF - Panel	Low Profile Platform	(12) 1 5/8"	Verizon
7		6	Antel LPA-80080/4CF - Panel			
8		3	Rymsa MGD5-800T2 - Panel			
9		6	RFS FD9R6004/2C-3L Diplexers			
10		2	Cleargain 850/1900 TMA's			
11	127.0	-	-	Low Profile Platform	-	-
12	120.0	3	Commscope NNVV-65B-R4 - Panel	Platform w/ Handrail (Sitepro RMQP-496-HK)	(4) 1 1/4" Fiber	Sprint Nextel
13	117.0	3	RFS APXVTM14-C-I20 - Panel			
14		3	ALU 1900 Mhz			
15		6	ALU 800 Mhz			
16		3	ALU TD-RRH8x20-25			
-	107.0	6	Powerwave 7770 - Panel	Low Profile Platform	(12) 1 5/8" (1) 1/2" Fiber cable (2) 3/4" DC power cable	AT&T
-		3	Powerwave P65-17-XLH-RR - Panel			
-		6	Powerwave LGP21903			
-		6	Diplexers			
-		1	Raycap DC6-48-60-18-8F			
25	92.0	1	Jampro JLEP (56")	(1) Standoff	(1) 7/8"	EMF Broadcasting
26	55.0	1	Skyware Global Type 183	(1) Flush Mount	(1) RG6	

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
17	107.0	3	Kathrein 7770	Low Profile Platform	(12) 1 5/8" (3) 3'' Conduit {Conduit 1: [(1) 1/2" Fiber + (2) 3/4" DC] Conduit 2: [(1) 1/2" Fiber + (2) 1" DC] Conduit 3: [(1) 1" DC]}	AT&T
18		6	Cci DMP65R-BU8DA			
19		6	Powerwave LGP21401 TMA			
20		3	Ericsson RRUS 4449 B5/B12			
21		3	Ericsson RRUS 4478 B14			
22		3	Ericsson RRUS 8843 B2 B66A			
23		1	Raycap DC6-48-60-18-8F			
24		1	Raycap DC9-48-60-24-8C-EV			

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:	**91.3%**	**79.0%**	**65.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Analysis Reactions	4988.07	47.1

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4850 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

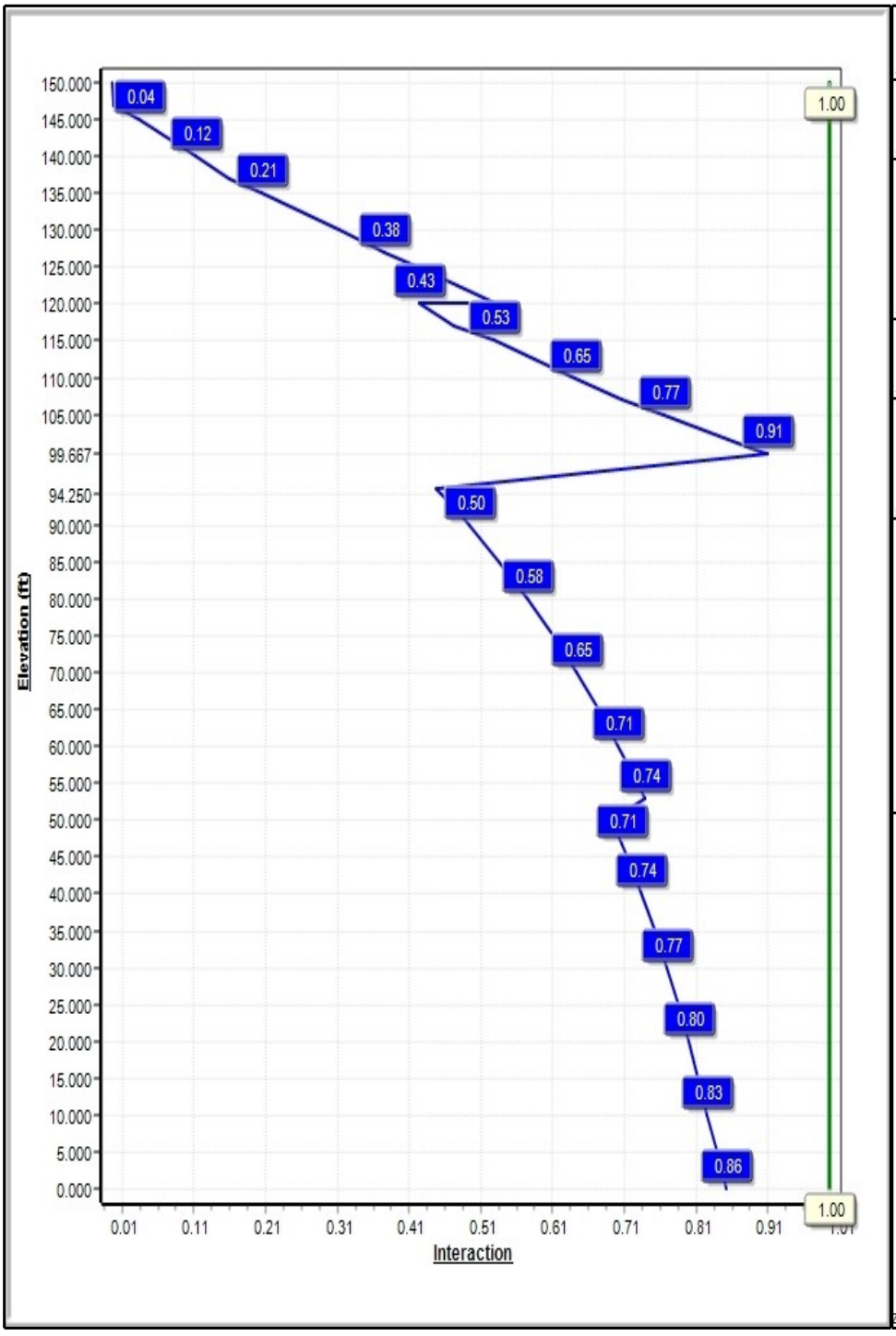
Usage Diagram - Max Ratio 91.31% at 99.7ft

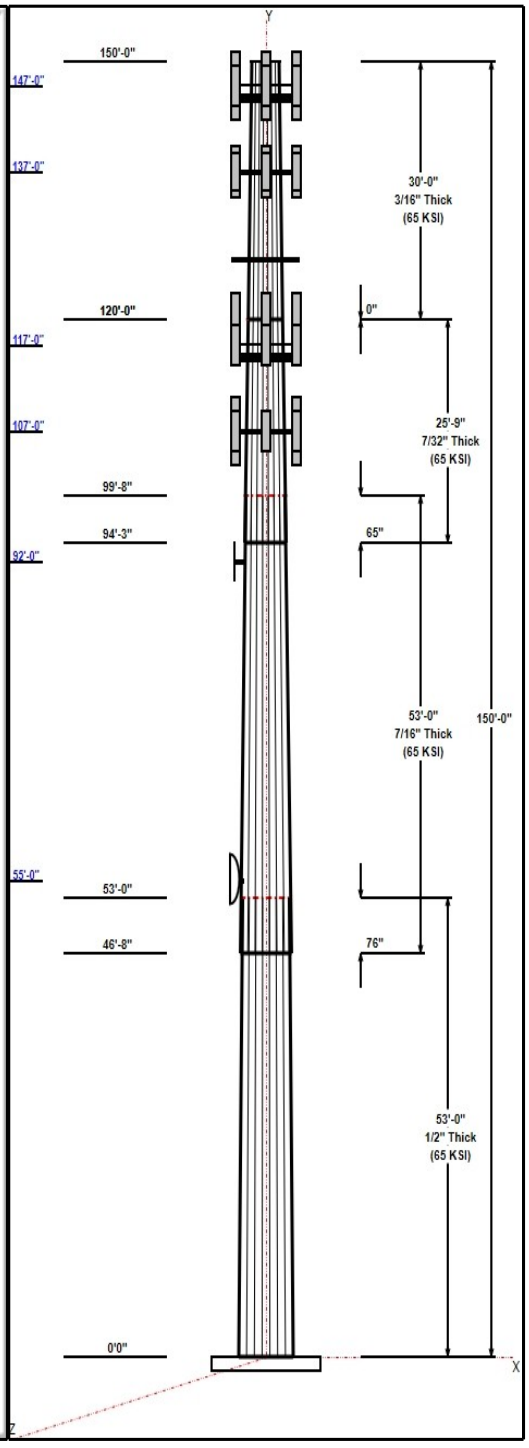
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

Tower Engineering Solutions

Dead Load Factor:	1.20	**Iterations:**	24
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 105 mph Wind





Structure: CT01210-S-SBA

Type: Tapered
Site Name: North Stonington
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.18000

10/2/2019

Tower Engineering Solutions

Shaft Properties

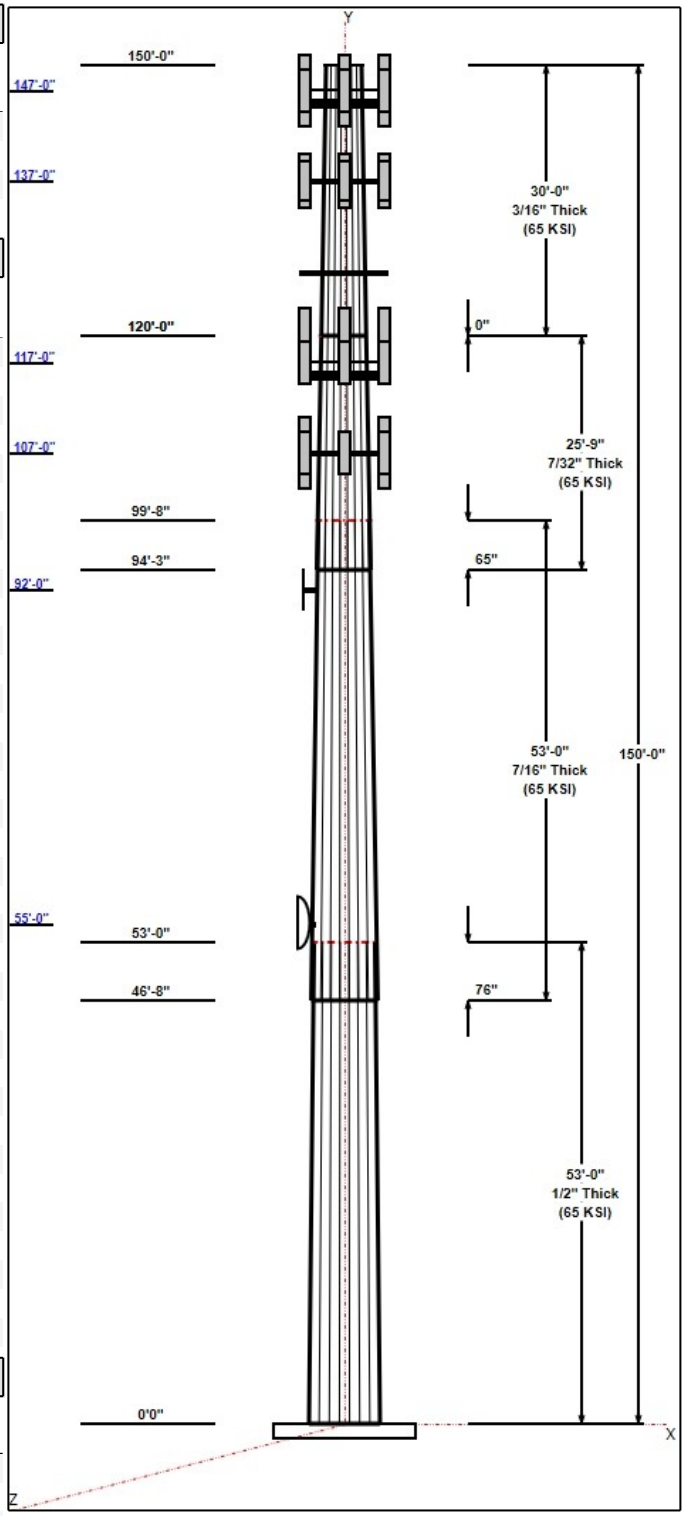
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.00	40.46	50.00	0.500		0.18000	65
2	53.00	32.93	42.47	0.438	Slip	0.18000	65
3	25.75	29.71	34.35	0.219	Slip	0.18000	65
4	30.00	24.31	29.71	0.188	Butt	0.18000	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	153.50	1	Lightning Rod	---
147.00	147.00	3	Ericsson AIR 21 B2A/B4P	T-Mobile
147.00	147.00	3	Ericsson AIR 21 B4A/B2P	T-Mobile
147.00	147.00	3	APXVAARR24_43-U-NA20	T-Mobile
147.00	147.00	3	Ericsson KRY 112 144/1	T-Mobile
147.00	147.00	3	4449	T-Mobile
147.00	147.00	1	Platform w/ Hand Rails	T-Mobile
147.00	147.00	1	PRK-1245 (kicker kit)	T-Mobile
147.00	147.00	1	(3) SFS-H (V-Braces)	T-Mobile
137.00	137.00	3	Antel BXA-70063/6CF	Verizon
137.00	137.00	6	Antel LPA-80080/4CF	Verizon
137.00	137.00	3	Rymsa MGD5-800T2	Verizon
137.00	137.00	6	RFS FD9R6004/2C-3L	Verizon
137.00	137.00	2	Cleargain 850/1900 TMA's	Verizon
137.00	137.00	1	Low Profile Platform	Verizon
127.00	127.00	1	Low Profile Platform	---
117.00	117.00	3	RFS APXVTM14-C-I20	Sprint Nextel
117.00	120.00	3	Commscope	Sprint Nextel
117.00	117.00	3	ALU 1900 Mhz	Sprint Nextel
117.00	117.00	6	ALU 800 Mhz	Sprint Nextel
117.00	117.00	3	ALU TD-RRH8x20-25	Sprint Nextel
117.00	117.00	1	Sitepro RMQP-496-HK	Sprint Nextel
107.00	107.00	6	DMP65R-BU8DA	AT&T
107.00	107.00	1	Raycap/DC6-48-60-18-8F	AT&T
107.00	107.00	3	4449	AT&T
107.00	107.00	3	B14 4478	AT&T
107.00	107.00	3	8843	AT&T
107.00	107.00	1	DC9-48-60-18-8C-EV	AT&T
107.00	107.00	3	Powerwave 7770	AT&T
107.00	107.00	6	Powerwave/LGP21401	AT&T
107.00	107.00	1	Low Profile Platform	AT&T
92.00	92.00	1	Jampro JLEP (56")	EMF Broadcasting
92.00	92.00	1	Standoff	EMF Broadcasting
55.00	55.00	1	Flush Mount	EMF Broadcasting
55.00	55.00	1	Skyware Global Type 183	EMF Broadcasting

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	147.00	Inside	1 5/8" Coax	T-Mobile
3.00	147.00	Inside	1 5/8" Fiber	T-Mobile
3.00	137.00	Inside	1 5/8" Coax	Verizon
3.00	117.00	Inside	1-1/4" Fiber	Sprint Nextel
3.00	107.00	Inside	1 5/8" Coax	AT&T
3.00	107.00	Inside	1" DC	AT&T
3.00	107.00	Inside	1/2" Fiber cable	AT&T



3.00	107.00	Inside	3" Coax	AT&T
3.00	107.00	Inside	3/4" DC	AT&T
3.00	107.00	Inside	3/4" DC power cable	AT&T
3.00	92.00	Inside	7/8" Coax	EMF Broadcasting
3.00	55.00	Inside	RG6	EMF Broadcasting

Anchor Bolts

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

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	64.3	60.0	Polygon

Reactions

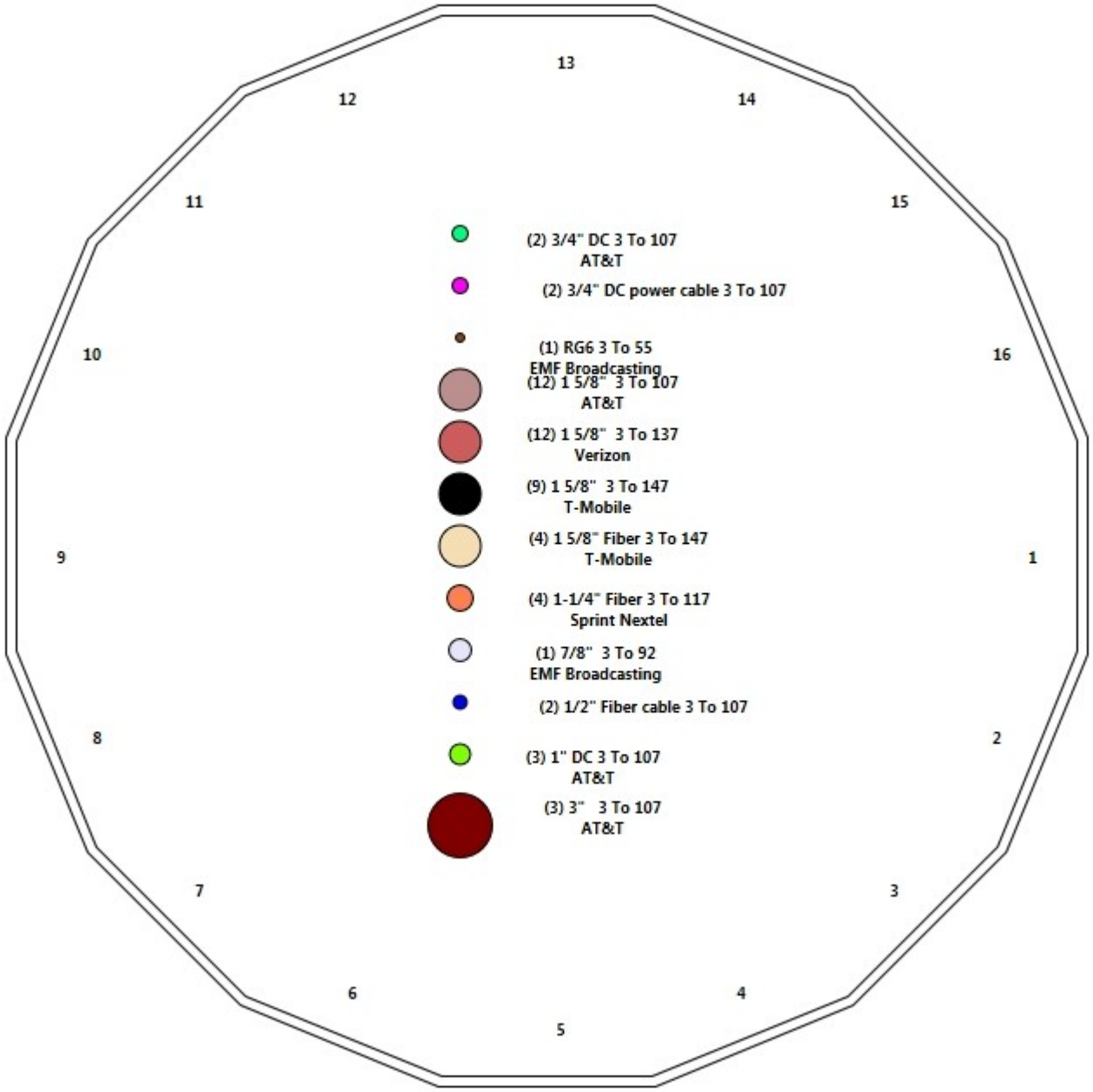
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	4988.1	47.1	54.7
0.9D + 1.6W 105 mph Wind	4931.5	47.1	41.0
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1238.9	11.3	81.6
1.2D + 1.0E	114.2	1.0	54.8
0.9D + 1.0E	112.8	1.0	41.1
1.0D + 1.0W 60 mph Wind	1012.5	9.6	45.6

Structure: CT01210-S-SBA - Coax Line Placement

Type: Monopole
Site Name: North Stonington
Height: 150.00 (ft)

10/2/2019

Tower Engineering Solutions



Shaft Properties

Structure:	CT01210-S-SBA		**Code:**	EIA/TIA-222-G	10/2/2019
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	16	53.000	0.5000	65		0.00	12,867
2	16	53.000	0.4375	65	Slip	76.00	9,380
3	16	25.750	0.2188	65	Slip	65.00	1,945
4	16	30.000	0.1875	65	Flange	0.00	1,638
					Total Shaft Weight:		**25,830**

	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	50.00	0.00	78.95	24439.41	18.30	100.00	40.46	53.00	63.74	12857.1	14.50	80.92	0.180003
2	42.47	46.67	58.67	13097.52	17.72	97.09	32.93	99.67	45.35	6050.90	13.38	75.28	0.180003
3	34.35	94.25	23.82	3504.31	29.64	157.02	29.71	120.00	20.58	2261.65	25.43	135.8	0.180003
4	29.71	120.0	17.66	1944.73	29.93	158.46	24.31	150.00	14.43	1060.92	24.20	129.6	0.180003

Load Summary

Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	150.00	Lightning Rod	1	35.00	1.05	1.00	66.41	3.424	1.00	0.00	3.50
2	147.00	Ericsson AIR 21 B2A/B4P	3	91.50	6.04	0.85	258.15	7.126	0.85	0.00	0.00
3	147.00	Ericsson AIR 21 B4A/B2P	3	90.30	6.04	0.85	256.95	7.126	0.85	0.00	0.00
4	147.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	544.98	22.136	0.70	0.00	0.00
5	147.00	Ericsson KRY 112 144/1 TMA's	3	11.00	0.35	0.67	21.76	0.755	0.67	0.00	0.00
6	147.00	4449	3	70.00	1.65	0.67	138.07	2.187	0.67	0.00	0.00
7	147.00	Platform w/ Hand Rails (MT-195-14)	1	1600.00	36.00	1.00	3695.61	67.350	1.00	0.00	0.00
8	147.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	788.80	19.428	1.00	0.00	0.00
9	147.00	(3) SFS-H (V-Braces)	1	197.00	6.30	1.00	471.49	12.884	1.00	0.00	0.00
10	137.00	Antel BXA-70063/6CF	3	14.90	7.58	0.72	160.19	10.322	0.72	0.00	0.00
11	137.00	Antel LPA-80080/4CF	6	12.00	5.40	0.74	145.25	6.388	0.74	0.00	0.00
12	137.00	Rymsa MGD5-800T2	3	15.40	3.36	0.78	83.32	5.141	0.78	0.00	0.00
13	137.00	RFS FD9R6004/2C-3L	6	3.10	0.36	0.67	11.05	0.799	0.67	0.00	0.00
14	137.00	Cleargain 850/1900 TMA's	2	5.50	0.52	0.67	17.04	1.045	0.67	0.00	0.00
15	137.00	Low Profile Platform	1	1500.00	22.00	1.00	2797.10	39.502	1.00	0.00	0.00
16	127.00	Low Profile Platform (Abandon)	1	1500.00	22.00	1.00	2787.31	39.370	1.00	0.00	0.00
17	117.00	RFS APXVTM14-C-I20	3	56.20	6.34	0.77	211.90	7.424	0.77	0.00	0.00
18	117.00	Commscope NNVV-65B-R4	3	77.40	12.27	0.80	355.95	13.690	0.80	0.00	3.00
19	117.00	ALU 1900 Mhz	3	60.00	2.77	0.67	141.39	4.007	0.67	0.00	0.00
20	117.00	ALU 800 Mhz	6	53.00	2.49	0.67	125.15	3.606	0.67	0.00	0.00
21	117.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	177.20	4.842	0.67	0.00	0.00
22	117.00	Sitepro RMQP-496-HK	1	2449.00	48.00	1.00	4950.49	80.686	1.00	0.00	0.00
23	107.00	DMP65R-BU8DA	6	39.00	13.49	1.00	376.28	36.369	1.00	0.00	0.00
24	107.00	Raycap/DC6-48-60-18-8F	1	31.80	0.92	0.67	91.57	1.343	0.67	0.00	0.00
25	107.00	4449	3	70.00	1.65	0.67	135.42	2.168	0.67	0.00	0.00
26	107.00	B14 4478	3	59.90	1.84	0.67	105.34	2.349	0.67	0.00	0.00
27	107.00	8843	3	75.00	1.65	0.67	146.63	2.168	0.67	0.00	0.00
28	107.00	DC9-48-60-18-8C-EV	1	16.00	4.78	0.67	135.62	5.635	0.67	0.00	0.00
29	107.00	Powerwave 7770	3	35.00	5.50	0.73	164.70	6.527	0.73	0.00	0.00
30	107.00	Powerwave/LGP21401	6	5.50	0.27	0.67	13.65	0.654	0.67	0.00	0.00
31	107.00	Low Profile Platform	1	1500.00	22.00	1.00	2765.43	39.075	1.00	0.00	0.00
32	92.00	Jampro JLEP (56")	1	51.10	1.40	1.00	139.86	4.684	1.00	0.00	0.00
33	92.00	Standoff	1	40.00	2.50	1.00	116.45	7.903	1.00	0.00	0.00
34	55.00	Flush Mount	1	350.00	2.50	1.00	615.21	4.079	1.00	0.00	0.00
35	55.00	Skyware Global Type 183	1	114.00	45.75	1.00	530.58	49.852	1.00	0.00	0.00
		Totals:	**91**	**13,309.21**			**32,720.10**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	147.00	(9) 1 5/8" Coax	0.00	Inside
3.00	147.00	(4) 1 5/8" Fiber	0.00	Inside
3.00	137.00	(12) 1 5/8" Coax	0.00	Inside
3.00	117.00	(4) 1-1/4" Fiber	0.00	Inside
3.00	107.00	(12) 1 5/8" Coax	0.00	Inside
3.00	107.00	(3) 1" DC	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
3.00	107.00	(2) 1/2" Fiber cable			0.00	Inside					
3.00	107.00	(3) 3" Coax			0.00	Inside					
3.00	107.00	(2) 3/4" DC			0.00	Inside					
3.00	107.00	(2) 3/4" DC power cable			0.00	Inside					
3.00	92.00	(1) 7/8" Coax			0.00	Inside					
3.00	55.00	(1) RG6			0.00	Inside					

Shaft Section Properties

Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

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		0.5000	50.000	78.953	24439.4	18.30	100.00	81.9	958.8	0.0
5.00		0.5000	49.100	77.517	23130.4	17.94	98.20	82.3	924.1	1331.1
10.00		0.5000	48.200	76.081	21869.0	17.58	96.40	82.5	890.0	1306.7
15.00		0.5000	47.300	74.646	20654.3	17.23	94.60	82.5	856.6	1282.2
20.00		0.5000	46.400	73.210	19485.5	16.87	92.80	82.5	823.8	1257.8
25.00		0.5000	45.500	71.775	18361.6	16.51	91.00	82.5	791.6	1233.4
30.00		0.5000	44.600	70.339	17281.8	16.15	89.20	82.5	760.1	1209.0
35.00		0.5000	43.700	68.904	16245.1	15.79	87.40	82.5	729.2	1184.5
40.00		0.5000	42.800	67.468	15250.8	15.44	85.60	82.5	699.0	1160.1
45.00		0.5000	41.900	66.033	14297.9	15.08	83.80	82.5	669.4	1135.7
46.67	Bot - Section 2	0.5000	41.600	65.554	13989.3	14.96	83.20	82.5	659.6	373.1
50.00		0.5000	41.000	64.597	13385.5	14.72	82.00	82.5	640.4	1398.8
53.00	Top - Section 1	0.4375	41.335	57.077	12060.6	17.20	94.48	0.0	0.0	1241.5
55.00		0.4375	40.975	56.575	11744.9	17.04	93.66	82.5	562.3	386.7
60.00		0.4375	40.075	55.319	10979.8	16.63	91.60	82.5	537.4	951.9
65.00		0.4375	39.175	54.063	10248.7	16.22	89.54	82.5	513.2	930.5
70.00		0.4375	38.275	52.807	9550.9	15.81	87.49	82.5	489.5	909.1
75.00		0.4375	37.375	51.551	8885.4	15.40	85.43	82.5	466.3	887.8
80.00		0.4375	36.475	50.294	8251.6	14.99	83.37	82.5	443.8	866.4
85.00		0.4375	35.575	49.038	7648.7	14.58	81.31	82.5	421.7	845.0
90.00		0.4375	34.675	47.782	7075.8	14.17	79.26	82.5	400.3	823.6
92.00		0.4375	34.315	47.280	6855.0	14.01	78.43	82.5	391.9	323.5
94.25	Bot - Section 3	0.4375	33.910	46.715	6612.0	13.83	77.51	82.5	382.5	359.8
95.00		0.4375	33.775	46.526	6532.4	13.76	77.20	82.5	379.4	179.6
99.67	Top - Section 2	0.2188	33.372	23.135	3212.5	28.75	152.56	0.0	0.0	1101.5
100.00		0.2188	33.312	23.093	3195.1	28.70	152.28	70.1	188.1	26.2
105.00		0.2188	32.412	22.465	2941.4	27.88	148.17	71.0	178.0	387.6
107.00		0.2188	32.052	22.214	2843.8	27.55	146.52	71.4	174.0	152.0
110.00		0.2188	31.512	21.837	2701.5	27.06	144.06	71.9	168.2	224.8
115.00		0.2188	30.612	21.209	2475.1	26.24	139.94	72.9	158.6	366.2
117.00		0.2188	30.252	20.958	2388.2	25.92	138.30	73.2	154.9	143.5
120.00	Top - Section 3	0.2188	29.712	20.581	2261.7	25.43	135.83	73.8	149.3	212.0
120.00	Bot - Section 4	0.1875	29.712	17.659	1944.7	29.66	158.46	68.7	128.4	
125.00		0.1875	28.812	17.121	1772.2	28.97	153.66	69.8	120.7	295.9
127.00		0.1875	28.452	16.906	1706.2	28.59	151.74	70.2	117.6	115.8
130.00		0.1875	27.912	16.583	1610.3	28.02	148.86	70.9	113.2	170.9
135.00		0.1875	27.012	16.044	1458.5	27.06	144.06	71.9	105.9	277.6
137.00		0.1875	26.652	15.829	1400.6	26.68	142.14	72.4	103.1	108.5
140.00		0.1875	26.112	15.506	1316.6	26.11	139.26	73.0	98.9	159.9
145.00		0.1875	25.212	14.968	1184.1	25.16	134.46	74.1	92.1	259.2
147.00		0.1875	24.852	14.752	1133.8	24.77	132.54	74.5	89.5	101.1
150.00		0.1875	24.312	14.429	1060.9	24.20	129.66	75.2	85.6	148.9
										25829.7

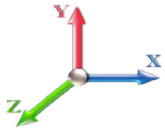
Wind Loading - Shaft

Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Load Case: 1.2D + 1.6W 105 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	22.791	25.07	411.26	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	403.85	0.750	0.000	5.00	21.050	15.79	633.3	0.0	1597.3
10.00		1.00	0.85	22.791	25.07	396.45	0.750	0.000	5.00	20.668	15.50	621.8	0.0	1568.0
15.00		1.00	0.85	22.791	25.07	389.05	0.750	0.000	5.00	20.286	15.21	610.3	0.0	1538.7
20.00		1.00	0.90	24.182	26.60	393.12	0.750	0.000	5.00	19.903	14.93	635.3	0.0	1509.4
25.00		1.00	0.95	25.345	27.88	394.66	0.750	0.000	5.00	19.521	14.64	653.1	0.0	1480.1
30.00		1.00	0.98	26.337	28.97	394.35	0.750	0.000	5.00	19.139	14.35	665.3	0.0	1450.7
35.00		1.00	1.01	27.206	29.93	392.71	0.750	0.000	5.00	18.756	14.07	673.6	0.0	1421.4
40.00		1.00	1.04	27.981	30.78	390.07	0.750	0.000	5.00	18.374	13.78	678.6	0.0	1392.1
45.00		1.00	1.07	28.684	31.55	386.63	0.750	0.000	5.00	17.991	13.49	681.2	0.0	1362.8
46.67	Bot - Section 2	1.00	1.08	28.904	31.79	385.33	0.750	0.000	1.67	5.912	4.43	225.6	0.0	447.8
50.00		1.00	1.09	29.327	32.26	382.54	0.750	0.000	3.33	11.945	8.96	462.4	0.0	1678.6
53.00	Top - Section 1	1.00	1.11	29.689	32.66	379.83	0.750	0.000	3.00	10.605	7.95	415.6	0.0	1489.9
55.00	Appurtenance(s)	1.00	1.12	29.922	32.91	386.16	0.750	0.000	2.00	6.994	5.25	276.2	0.0	464.1
60.00		1.00	1.14	30.475	33.52	381.16	0.750	0.000	5.00	17.216	12.91	692.5	0.0	1142.2
65.00		1.00	1.16	30.993	34.09	375.75	0.750	0.000	5.00	16.834	12.63	688.7	0.0	1116.6
70.00		1.00	1.17	31.480	34.63	369.99	0.750	0.000	5.00	16.451	12.34	683.6	0.0	1091.0
75.00		1.00	1.19	31.941	35.13	363.93	0.750	0.000	5.00	16.069	12.05	677.5	0.0	1065.3
80.00		1.00	1.21	32.377	35.62	357.58	0.750	0.000	5.00	15.687	11.77	670.4	0.0	1039.7
85.00		1.00	1.22	32.793	36.07	350.99	0.750	0.000	5.00	15.304	11.48	662.5	0.0	1014.0
90.00		1.00	1.24	33.190	36.51	344.18	0.750	0.000	5.00	14.922	11.19	653.8	0.0	988.4
92.00	Appurtenance(s)	1.00	1.24	33.344	36.68	341.39	0.750	0.000	2.00	5.862	4.40	258.0	0.0	388.2
94.25	Bot - Section 3	1.00	1.25	33.514	36.87	338.22	0.750	0.000	2.25	6.521	4.89	288.5	0.0	431.8
95.00		1.00	1.25	33.570	36.93	337.16	0.750	0.000	0.75	2.184	1.64	96.8	0.0	215.6
99.67	Top - Section 2	1.00	1.26	33.911	37.30	330.44	0.750	0.000	4.67	13.399	10.05	599.8	0.0	1321.8
100.00		1.00	1.27	33.935	37.33	334.34	0.750	0.000	0.33	0.944	0.71	42.3	0.0	31.5
105.00		1.00	1.28	34.285	37.71	326.98	0.750	0.000	5.00	13.961	10.47	631.8	0.0	465.1
107.00	Appurtenance(s)	1.00	1.28	34.422	37.86	323.99	0.750	0.000	2.00	5.477	4.11	248.9	0.0	182.4
110.00		1.00	1.29	34.623	38.08	319.46	0.750	0.000	3.00	8.101	6.08	370.2	0.0	269.8
115.00		1.00	1.30	34.948	38.44	311.79	0.750	0.000	5.00	13.196	9.90	608.8	0.0	439.4
117.00	Appurtenance(s)	1.00	1.31	35.075	38.58	308.69	0.750	0.000	2.00	5.171	3.88	239.4	0.0	172.2
120.00	Top - Section 3	1.00	1.32	35.263	38.79	303.99	0.750	0.000	3.00	7.642	5.73	355.7	0.0	254.4
125.00		1.00	1.33	35.567	39.12	296.05	0.750	0.000	5.00	12.431	9.32	583.6	0.0	355.1
127.00	Appurtenance(s)	1.00	1.33	35.686	39.25	292.84	0.750	0.000	2.00	4.866	3.65	229.2	0.0	138.9
130.00		1.00	1.34	35.862	39.45	287.99	0.750	0.000	3.00	7.184	5.39	340.1	0.0	205.1
135.00		1.00	1.35	36.148	39.76	279.81	0.750	0.000	5.00	11.667	8.75	556.7	0.0	333.1
137.00	Appurtenance(s)	1.00	1.35	36.260	39.89	276.51	0.750	0.000	2.00	4.560	3.42	218.2	0.0	130.2
140.00		1.00	1.36	36.426	40.07	271.52	0.750	0.000	3.00	6.725	5.04	323.3	0.0	191.9
145.00		1.00	1.37	36.696	40.37	263.14	0.750	0.000	5.00	10.902	8.18	528.1	0.0	311.1
147.00	Appurtenance(s)	1.00	1.37	36.802	40.48	259.75	0.750	0.000	2.00	4.254	3.19	206.6	0.0	121.4
150.00	Appurtenance(s)	1.00	1.38	36.959	40.65	254.65	0.750	0.000	3.00	6.266	4.70	305.7	0.0	178.7
								Totals:	**150.00**			**18,993.0**		**30,995.6**

Discrete Appurtenance Forces

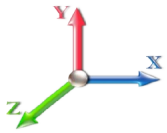
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 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	150.00	Lightning Rod	1	37.139	40.852	1.00	1.00	1.05	42.00	0.000	3.500	68.63	0.00	240.21
2	147.00	Ericsson KRY 112 144/1	3	36.802	40.482	0.50	0.75	0.53	39.60	0.000	0.000	34.17	0.00	0.00
3	147.00	Ericsson AIR 21 B4A/B2P	3	36.802	40.482	0.64	0.75	11.55	325.08	0.000	0.000	748.21	0.00	0.00
4	147.00	APXVAARR24_43-U-NA2	3	36.802	40.482	0.52	0.75	31.88	460.80	0.000	0.000	2064.78	0.00	0.00
5	147.00	Ericsson AIR 21 B2A/B4P	3	36.802	40.482	0.64	0.75	11.55	329.40	0.000	0.000	748.21	0.00	0.00
6	147.00	Platform w/ Hand Rails	1	36.802	40.482	1.00	1.00	36.00	1920.00	0.000	0.000	2331.77	0.00	0.00
7	147.00	PRK-1245 (kicker kit)	1	36.802	40.482	1.00	1.00	9.50	557.89	0.000	0.000	615.33	0.00	0.00
8	147.00	(3) SFS-H (V-Braces)	1	36.802	40.482	1.00	1.00	6.30	236.40	0.000	0.000	408.06	0.00	0.00
9	147.00	4449	3	36.802	40.482	0.50	0.75	2.49	252.00	0.000	0.000	161.11	0.00	0.00
10	137.00	Rymsa MGD5-800T2	3	36.260	39.886	0.62	0.80	6.29	55.44	0.000	0.000	401.41	0.00	0.00
11	137.00	Antel BXA-70063/6CF	3	36.260	39.886	0.58	0.80	13.10	53.64	0.000	0.000	835.90	0.00	0.00
12	137.00	Antel LPA-80080/4CF	6	36.260	39.886	0.59	0.80	19.18	86.40	0.000	0.000	1224.07	0.00	0.00
13	137.00	Cleargain 850/1900 TMA's	2	36.260	39.886	0.54	0.80	0.56	13.20	0.000	0.000	35.57	0.00	0.00
14	137.00	RFS FD9R6004/2C-3L	6	36.260	39.886	0.54	0.80	1.16	22.32	0.000	0.000	73.89	0.00	0.00
15	137.00	Low Profile Platform	1	36.260	39.886	1.00	1.00	22.00	1800.00	0.000	0.000	1403.99	0.00	0.00
16	127.00	Low Profile Platform	1	35.686	39.255	1.00	1.00	22.00	1800.00	0.000	0.000	1381.76	0.00	0.00
17	117.00	Sitepro RMQP-496-HK	1	35.075	38.583	1.00	1.00	48.00	2938.80	0.000	0.000	2963.15	0.00	0.00
18	117.00	ALU TD-RRH8x20-25	3	35.075	38.583	0.50	0.75	6.11	252.00	0.000	0.000	376.90	0.00	0.00
19	117.00	ALU 800 Mhz	6	35.075	38.583	0.50	0.75	7.51	381.60	0.000	0.000	463.45	0.00	0.00
20	117.00	ALU 1900 Mhz	3	35.075	38.583	0.50	0.75	4.18	216.00	0.000	0.000	257.78	0.00	0.00
21	117.00	Commscope	3	35.263	38.789	0.60	0.75	22.09	278.64	0.000	3.000	1370.71	0.00	4112.12
22	117.00	RFS APXVTM14-C-I20	3	35.075	38.583	0.58	0.75	10.98	202.32	0.000	0.000	678.07	0.00	0.00
23	107.00	4449	3	34.422	37.864	0.54	0.80	2.65	252.00	0.000	0.000	160.74	0.00	0.00
24	107.00	B14 4478	3	34.422	37.864	0.54	0.80	2.96	215.64	0.000	0.000	179.25	0.00	0.00
25	107.00	8843	3	34.422	37.864	0.54	0.80	2.65	270.00	0.000	0.000	160.74	0.00	0.00
26	107.00	DC9-48-60-18-8C-EV	1	34.422	37.864	0.54	0.80	2.56	19.20	0.000	0.000	155.22	0.00	0.00
27	107.00	DMP65R-BU8DA	6	34.422	37.864	0.80	0.80	64.75	280.80	0.000	0.000	3922.81	0.00	0.00
28	107.00	Raycap/DC6-48-60-18-8F	1	34.422	37.864	0.54	0.80	0.49	38.16	0.000	0.000	29.87	0.00	0.00
29	107.00	Powerwave 7770	3	34.422	37.864	0.58	0.80	9.64	126.00	0.000	0.000	583.77	0.00	0.00
30	107.00	Powerwave/LGP21401	6	34.422	37.864	0.54	0.80	0.87	39.60	0.000	0.000	52.60	0.00	0.00
31	107.00	Low Profile Platform	1	34.422	37.864	1.00	1.00	22.00	1800.00	0.000	0.000	1332.80	0.00	0.00
32	92.00	Standoff	1	33.344	36.679	1.00	1.00	2.50	48.00	0.000	0.000	146.71	0.00	0.00
33	92.00	Jampro JLEP (56")	1	33.344	36.679	1.00	1.00	1.40	61.32	0.000	0.000	82.16	0.00	0.00
34	55.00	Skyware Global Type 183	1	29.922	32.914	1.00	1.00	45.75	136.80	0.000	0.000	2409.29	0.00	0.00
35	55.00	Flush Mount	1	29.922	32.914	1.00	1.00	2.50	420.00	0.000	0.000	131.65	0.00	0.00
							Totals:		**15,971.05**			**27,994.52**		

Total Applied Force Summary

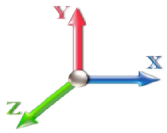
Structure:	CT01210-S-SBA		**Code:**	EIA/TIA-222-G	10/2/2019
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 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		633.28	1725.44	0.00	0.00
10.00		621.77	1888.36	0.00	0.00
15.00		610.27	1859.05	0.00	0.00
20.00		635.32	1829.74	0.00	0.00
25.00		653.08	1800.43	0.00	0.00
30.00		665.35	1771.13	0.00	0.00
35.00		673.56	1741.82	0.00	0.00
40.00		678.64	1712.51	0.00	0.00
45.00		681.21	1683.20	0.00	0.00
46.67		225.57	554.55	0.00	0.00
50.00		462.40	1892.18	0.00	0.00
53.00		415.61	1682.08	0.00	0.00
55.00	(2) attachments	2817.16	1149.03	0.00	0.00
60.00		692.55	1462.14	0.00	0.00
65.00		688.67	1436.50	0.00	0.00
70.00		683.62	1410.85	0.00	0.00
75.00		677.50	1385.21	0.00	0.00
80.00		670.42	1359.56	0.00	0.00
85.00		662.48	1333.92	0.00	0.00
90.00		653.75	1308.27	0.00	0.00
92.00	(2) attachments	486.88	625.45	0.00	0.00
94.25		288.50	574.34	0.00	0.00
95.00		96.80	263.08	0.00	0.00
99.67		599.77	1617.50	0.00	0.00
100.00		42.30	52.58	0.00	0.00
105.00		631.82	781.85	0.00	0.00
107.00	(27) attachments	6826.66	3350.55	0.00	0.00
110.00		370.24	378.01	0.00	0.00
115.00		608.76	619.76	0.00	0.00
117.00	(19) attachments	6349.49	4513.67	0.00	4112.12
120.00		355.73	348.89	0.00	0.00
125.00		583.63	512.49	0.00	0.00
127.00	(1) attachments	1610.96	2001.92	0.00	0.00
130.00		340.05	299.58	0.00	0.00
135.00		556.68	490.51	0.00	0.00
137.00	(21) attachments	4193.07	2224.13	0.00	0.00
140.00		323.34	241.46	0.00	0.00
145.00		528.08	393.65	0.00	0.00
147.00	(18) attachments	7318.27	4275.55	0.00	0.00
150.00	(1) attachments	374.32	220.74	0.00	240.21
	Totals:	**46,987.53**	**54,771.70**	**0.00**	**4,352.33**

Calculated Forces

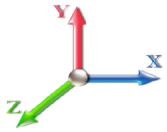
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

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	-54.65	-47.13	0.00	-4988.0	0.00	4988.07	5817.07	2908.54	11858.0	5886.84	0.00	0.000	0.000	0.857
5.00	-52.70	-46.75	0.00	-4752.4	0.00	4752.45	5739.57	2869.78	11485.2	5701.74	0.15	-0.283	0.000	0.843
10.00	-50.58	-46.37	0.00	-4518.7	0.00	4518.70	5652.47	2826.24	11099.3	5510.17	0.60	-0.569	0.000	0.829
15.00	-48.50	-45.98	0.00	-4286.8	0.00	4286.88	5545.82	2772.91	10682.2	5303.14	1.35	-0.855	0.000	0.817
20.00	-46.46	-45.54	0.00	-4057.0	0.00	4057.00	5439.17	2719.58	10273.2	5100.07	2.40	-1.142	0.000	0.804
25.00	-44.44	-45.07	0.00	-3829.2	0.00	3829.29	5332.51	2666.26	9872.18	4900.97	3.75	-1.430	0.000	0.790
30.00	-42.47	-44.57	0.00	-3603.9	0.00	3603.92	5225.86	2612.93	9479.11	4705.83	5.40	-1.718	0.000	0.774
35.00	-40.53	-44.05	0.00	-3381.0	0.00	3381.06	5119.21	2559.60	9094.03	4514.66	7.36	-2.006	0.000	0.757
40.00	-38.63	-43.50	0.00	-3160.8	0.00	3160.83	5012.56	2506.28	8716.92	4327.45	9.61	-2.292	0.000	0.738
45.00	-36.83	-42.87	0.00	-2943.3	0.00	2943.34	4905.90	2452.95	8347.81	4144.20	12.16	-2.577	0.000	0.718
46.67	-36.18	-42.71	0.00	-2871.8	0.00	2871.89	4870.35	2435.18	8226.55	4084.00	13.08	-2.673	0.000	0.711
50.00	-34.18	-42.26	0.00	-2729.5	0.00	2729.54	4799.25	2399.63	7986.68	3964.92	15.02	-2.863	0.000	0.696
53.00	-32.42	-41.84	0.00	-2602.7	0.00	2602.75	4240.56	2120.28	7137.82	3543.51	16.87	-3.033	0.000	0.743
55.00	-31.29	-39.08	0.00	-2519.0	0.00	2519.07	4203.23	2101.62	7012.05	3481.07	18.16	-3.146	0.000	0.731
60.00	-29.67	-38.45	0.00	-2323.6	0.00	2323.69	4109.91	2054.96	6702.51	3327.41	21.61	-3.440	0.000	0.706
65.00	-28.09	-37.82	0.00	-2131.4	0.00	2131.43	4016.59	2008.29	6399.97	3177.21	25.37	-3.728	0.000	0.678
70.00	-26.55	-37.17	0.00	-1942.3	0.00	1942.35	3923.27	1961.63	6104.41	3030.48	29.42	-4.011	0.000	0.648
75.00	-25.05	-36.51	0.00	-1756.5	0.00	1756.50	3829.95	1914.97	5815.84	2887.23	33.77	-4.286	0.000	0.615
80.00	-23.58	-35.85	0.00	-1573.9	0.00	1573.95	3736.63	1868.31	5534.25	2747.44	38.40	-4.553	0.000	0.580
85.00	-22.15	-35.17	0.00	-1394.7	0.00	1394.71	3643.31	1821.65	5259.66	2611.12	43.30	-4.809	0.000	0.541
90.00	-20.80	-34.47	0.00	-1218.8	0.00	1218.85	3549.99	1774.99	4992.05	2478.26	48.46	-5.052	0.000	0.498
92.00	-20.16	-33.97	0.00	-1149.9	0.00	1149.90	3512.66	1756.33	4886.96	2426.09	50.60	-5.147	0.000	0.480
94.25	-19.58	-33.65	0.00	-1073.4	0.00	1073.48	3470.66	1735.33	4770.08	2368.07	53.05	-5.251	0.000	0.459
95.00	-19.26	-33.57	0.00	-1048.2	0.00	1048.24	3456.66	1728.33	4731.43	2348.88	53.87	-5.285	0.000	0.452
99.67	-17.64	-32.85	0.00	-891.59	0.00	891.59	1458.24	729.12	1997.89	991.83	59.13	-5.482	0.000	0.913
100.00	-17.48	-32.86	0.00	-880.64	0.00	880.64	1456.89	728.44	1992.39	989.11	59.52	-5.496	0.000	0.904
105.00	-16.63	-32.23	0.00	-716.32	0.00	716.32	1435.99	717.99	1910.05	948.23	65.46	-5.852	0.000	0.769
107.00	-13.94	-25.13	0.00	-651.87	0.00	651.87	1427.33	713.67	1877.17	931.90	67.94	-5.984	0.000	0.711
110.00	-13.50	-24.78	0.00	-576.48	0.00	576.48	1414.04	707.02	1827.92	907.46	71.75	-6.168	0.000	0.646
115.00	-12.87	-24.14	0.00	-452.60	0.00	452.60	1391.05	695.52	1746.12	866.85	78.35	-6.439	0.000	0.533
117.00	-9.07	-17.34	0.00	-400.20	0.00	400.20	1381.56	690.78	1713.52	850.66	81.06	-6.538	0.000	0.478
120.00	-8.72	-16.97	0.00	-348.17	0.00	348.17	1367.01	683.50	1664.77	826.46	85.21	-6.672	0.000	0.428
120.00	-8.72	-16.97	0.00	-348.17	0.00	348.17	1091.99	545.99	1332.66	661.59	85.21	-6.672	0.000	0.535
125.00	-8.24	-16.35	0.00	-263.30	0.00	263.30	1075.35	537.67	1272.10	631.52	92.29	-6.864	0.000	0.426
127.00	-6.42	-14.52	0.00	-230.59	0.00	230.59	1068.40	534.20	1247.88	619.50	95.17	-6.943	0.000	0.379
130.00	-6.14	-14.16	0.00	-187.02	0.00	187.02	1057.66	528.83	1211.58	601.48	99.56	-7.048	0.000	0.317
135.00	-5.70	-13.56	0.00	-116.20	0.00	116.20	1038.92	519.46	1151.22	571.51	107.00	-7.181	0.000	0.209
137.00	-4.01	-9.12	0.00	-89.09	0.00	89.09	1031.13	515.57	1127.15	559.57	110.01	-7.222	0.000	0.163
140.00	-3.81	-8.77	0.00	-61.72	0.00	61.72	1019.14	509.57	1091.15	541.69	114.55	-7.267	0.000	0.118
145.00	-3.48	-8.20	0.00	-17.84	0.00	17.84	998.31	499.16	1031.47	512.07	122.17	-7.310	0.000	0.039
147.00	-0.17	-0.40	0.00	-1.44	0.00	1.44	989.69	494.84	1007.74	500.29	125.23	-7.315	0.000	0.003
150.00	0.00	-0.37	0.00	-0.24	0.00	0.24	976.44	488.22	972.32	482.70	129.81	-7.316	0.000	0.000

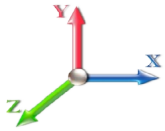
Wind Loading - Shaft

Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 0.9D + 1.6W 105 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	22.791	25.07	411.26	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	403.85	0.750	0.000	5.00	21.050	15.79	633.3	0.0	1198.0
10.00		1.00	0.85	22.791	25.07	396.45	0.750	0.000	5.00	20.668	15.50	621.8	0.0	1176.0
15.00		1.00	0.85	22.791	25.07	389.05	0.750	0.000	5.00	20.286	15.21	610.3	0.0	1154.0
20.00		1.00	0.90	24.182	26.60	393.12	0.750	0.000	5.00	19.903	14.93	635.3	0.0	1132.0
25.00		1.00	0.95	25.345	27.88	394.66	0.750	0.000	5.00	19.521	14.64	653.1	0.0	1110.0
30.00		1.00	0.98	26.337	28.97	394.35	0.750	0.000	5.00	19.139	14.35	665.3	0.0	1088.1
35.00		1.00	1.01	27.206	29.93	392.71	0.750	0.000	5.00	18.756	14.07	673.6	0.0	1066.1
40.00		1.00	1.04	27.981	30.78	390.07	0.750	0.000	5.00	18.374	13.78	678.6	0.0	1044.1
45.00		1.00	1.07	28.684	31.55	386.63	0.750	0.000	5.00	17.991	13.49	681.2	0.0	1022.1
46.67	Bot - Section 2	1.00	1.08	28.904	31.79	385.33	0.750	0.000	1.67	5.912	4.43	225.6	0.0	335.8
50.00		1.00	1.09	29.327	32.26	382.54	0.750	0.000	3.33	11.945	8.96	462.4	0.0	1258.9
53.00	Top - Section 1	1.00	1.11	29.689	32.66	379.83	0.750	0.000	3.00	10.605	7.95	415.6	0.0	1117.4
55.00	Appurtenance(s)	1.00	1.12	29.922	32.91	386.16	0.750	0.000	2.00	6.994	5.25	276.2	0.0	348.1
60.00		1.00	1.14	30.475	33.52	381.16	0.750	0.000	5.00	17.216	12.91	692.5	0.0	856.7
65.00		1.00	1.16	30.993	34.09	375.75	0.750	0.000	5.00	16.834	12.63	688.7	0.0	837.5
70.00		1.00	1.17	31.480	34.63	369.99	0.750	0.000	5.00	16.451	12.34	683.6	0.0	818.2
75.00		1.00	1.19	31.941	35.13	363.93	0.750	0.000	5.00	16.069	12.05	677.5	0.0	799.0
80.00		1.00	1.21	32.377	35.62	357.58	0.750	0.000	5.00	15.687	11.77	670.4	0.0	779.8
85.00		1.00	1.22	32.793	36.07	350.99	0.750	0.000	5.00	15.304	11.48	662.5	0.0	760.5
90.00		1.00	1.24	33.190	36.51	344.18	0.750	0.000	5.00	14.922	11.19	653.8	0.0	741.3
92.00	Appurtenance(s)	1.00	1.24	33.344	36.68	341.39	0.750	0.000	2.00	5.862	4.40	258.0	0.0	291.1
94.25	Bot - Section 3	1.00	1.25	33.514	36.87	338.22	0.750	0.000	2.25	6.521	4.89	288.5	0.0	323.8
95.00		1.00	1.25	33.570	36.93	337.16	0.750	0.000	0.75	2.184	1.64	96.8	0.0	161.7
99.67	Top - Section 2	1.00	1.26	33.911	37.30	330.44	0.750	0.000	4.67	13.399	10.05	599.8	0.0	991.4
100.00		1.00	1.27	33.935	37.33	334.34	0.750	0.000	0.33	0.944	0.71	42.3	0.0	23.6
105.00		1.00	1.28	34.285	37.71	326.98	0.750	0.000	5.00	13.961	10.47	631.8	0.0	348.8
107.00	Appurtenance(s)	1.00	1.28	34.422	37.86	323.99	0.750	0.000	2.00	5.477	4.11	248.9	0.0	136.8
110.00		1.00	1.29	34.623	38.08	319.46	0.750	0.000	3.00	8.101	6.08	370.2	0.0	202.4
115.00		1.00	1.30	34.948	38.44	311.79	0.750	0.000	5.00	13.196	9.90	608.8	0.0	329.6
117.00	Appurtenance(s)	1.00	1.31	35.075	38.58	308.69	0.750	0.000	2.00	5.171	3.88	239.4	0.0	129.1
120.00	Top - Section 3	1.00	1.32	35.263	38.79	303.99	0.750	0.000	3.00	7.642	5.73	355.7	0.0	190.8
125.00		1.00	1.33	35.567	39.12	296.05	0.750	0.000	5.00	12.431	9.32	583.6	0.0	266.3
127.00	Appurtenance(s)	1.00	1.33	35.686	39.25	292.84	0.750	0.000	2.00	4.866	3.65	229.2	0.0	104.2
130.00		1.00	1.34	35.862	39.45	287.99	0.750	0.000	3.00	7.184	5.39	340.1	0.0	153.8
135.00		1.00	1.35	36.148	39.76	279.81	0.750	0.000	5.00	11.667	8.75	556.7	0.0	249.8
137.00	Appurtenance(s)	1.00	1.35	36.260	39.89	276.51	0.750	0.000	2.00	4.560	3.42	218.2	0.0	97.6
140.00		1.00	1.36	36.426	40.07	271.52	0.750	0.000	3.00	6.725	5.04	323.3	0.0	143.9
145.00		1.00	1.37	36.696	40.37	263.14	0.750	0.000	5.00	10.902	8.18	528.1	0.0	233.3
147.00	Appurtenance(s)	1.00	1.37	36.802	40.48	259.75	0.750	0.000	2.00	4.254	3.19	206.6	0.0	91.0
150.00	Appurtenance(s)	1.00	1.38	36.959	40.65	254.65	0.750	0.000	3.00	6.266	4.70	305.7	0.0	134.1
								Totals:	**150.00**			**18,993.0**		**23,246.7**

Discrete Appurtenance Forces

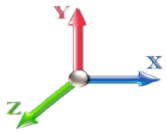
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 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	150.00	Lightning Rod	1	37.139	40.852	1.00	1.00	1.05	31.50	0.000	3.500	68.63	0.00	240.21
2	147.00	Ericsson KRY 112 144/1	3	36.802	40.482	0.50	0.75	0.53	29.70	0.000	0.000	34.17	0.00	0.00
3	147.00	Ericsson AIR 21 B4A/B2P	3	36.802	40.482	0.64	0.75	11.55	243.81	0.000	0.000	748.21	0.00	0.00
4	147.00	APXVAARR24_43-U-NA2	3	36.802	40.482	0.52	0.75	31.88	345.60	0.000	0.000	2064.78	0.00	0.00
5	147.00	Ericsson AIR 21 B2A/B4P	3	36.802	40.482	0.64	0.75	11.55	247.05	0.000	0.000	748.21	0.00	0.00
6	147.00	Platform w/ Hand Rails	1	36.802	40.482	1.00	1.00	36.00	1440.00	0.000	0.000	2331.77	0.00	0.00
7	147.00	PRK-1245 (kicker kit)	1	36.802	40.482	1.00	1.00	9.50	418.42	0.000	0.000	615.33	0.00	0.00
8	147.00	(3) SFS-H (V-Braces)	1	36.802	40.482	1.00	1.00	6.30	177.30	0.000	0.000	408.06	0.00	0.00
9	147.00	4449	3	36.802	40.482	0.50	0.75	2.49	189.00	0.000	0.000	161.11	0.00	0.00
10	137.00	Rymsa MGD5-800T2	3	36.260	39.886	0.62	0.80	6.29	41.58	0.000	0.000	401.41	0.00	0.00
11	137.00	Antel BXA-70063/6CF	3	36.260	39.886	0.58	0.80	13.10	40.23	0.000	0.000	835.90	0.00	0.00
12	137.00	Antel LPA-80080/4CF	6	36.260	39.886	0.59	0.80	19.18	64.80	0.000	0.000	1224.07	0.00	0.00
13	137.00	Cleargain 850/1900 TMA's	2	36.260	39.886	0.54	0.80	0.56	9.90	0.000	0.000	35.57	0.00	0.00
14	137.00	RFS FD9R6004/2C-3L	6	36.260	39.886	0.54	0.80	1.16	16.74	0.000	0.000	73.89	0.00	0.00
15	137.00	Low Profile Platform	1	36.260	39.886	1.00	1.00	22.00	1350.00	0.000	0.000	1403.99	0.00	0.00
16	127.00	Low Profile Platform	1	35.686	39.255	1.00	1.00	22.00	1350.00	0.000	0.000	1381.76	0.00	0.00
17	117.00	Sitepro RMQP-496-HK	1	35.075	38.583	1.00	1.00	48.00	2204.10	0.000	0.000	2963.15	0.00	0.00
18	117.00	ALU TD-RRH8x20-25	3	35.075	38.583	0.50	0.75	6.11	189.00	0.000	0.000	376.90	0.00	0.00
19	117.00	ALU 800 Mhz	6	35.075	38.583	0.50	0.75	7.51	286.20	0.000	0.000	463.45	0.00	0.00
20	117.00	ALU 1900 Mhz	3	35.075	38.583	0.50	0.75	4.18	162.00	0.000	0.000	257.78	0.00	0.00
21	117.00	Commscope	3	35.263	38.789	0.60	0.75	22.09	208.98	0.000	3.000	1370.71	0.00	4112.12
22	117.00	RFS APXVTM14-C-I20	3	35.075	38.583	0.58	0.75	10.98	151.74	0.000	0.000	678.07	0.00	0.00
23	107.00	4449	3	34.422	37.864	0.54	0.80	2.65	189.00	0.000	0.000	160.74	0.00	0.00
24	107.00	B14 4478	3	34.422	37.864	0.54	0.80	2.96	161.73	0.000	0.000	179.25	0.00	0.00
25	107.00	8843	3	34.422	37.864	0.54	0.80	2.65	202.50	0.000	0.000	160.74	0.00	0.00
26	107.00	DC9-48-60-18-8C-EV	1	34.422	37.864	0.54	0.80	2.56	14.40	0.000	0.000	155.22	0.00	0.00
27	107.00	DMP65R-BU8DA	6	34.422	37.864	0.80	0.80	64.75	210.60	0.000	0.000	3922.81	0.00	0.00
28	107.00	Raycap/DC6-48-60-18-8F	1	34.422	37.864	0.54	0.80	0.49	28.62	0.000	0.000	29.87	0.00	0.00
29	107.00	Powerwave 7770	3	34.422	37.864	0.58	0.80	9.64	94.50	0.000	0.000	583.77	0.00	0.00
30	107.00	Powerwave/LGP21401	6	34.422	37.864	0.54	0.80	0.87	29.70	0.000	0.000	52.60	0.00	0.00
31	107.00	Low Profile Platform	1	34.422	37.864	1.00	1.00	22.00	1350.00	0.000	0.000	1332.80	0.00	0.00
32	92.00	Standoff	1	33.344	36.679	1.00	1.00	2.50	36.00	0.000	0.000	146.71	0.00	0.00
33	92.00	Jampro JLEP (56")	1	33.344	36.679	1.00	1.00	1.40	45.99	0.000	0.000	82.16	0.00	0.00
34	55.00	Skyware Global Type 183	1	29.922	32.914	1.00	1.00	45.75	102.60	0.000	0.000	2409.29	0.00	0.00
35	55.00	Flush Mount	1	29.922	32.914	1.00	1.00	2.50	315.00	0.000	0.000	131.65	0.00	0.00
							Totals:		**11,978.29**			**27,994.52**		

Total Applied Force Summary

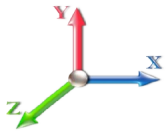
Structure:	CT01210-S-SBA		**Code:**	EIA/TIA-222-G	10/2/2019
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 15

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 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		633.28	1294.08	0.00	0.00
10.00		621.77	1416.27	0.00	0.00
15.00		610.27	1394.29	0.00	0.00
20.00		635.32	1372.31	0.00	0.00
25.00		653.08	1350.33	0.00	0.00
30.00		665.35	1328.34	0.00	0.00
35.00		673.56	1306.36	0.00	0.00
40.00		678.64	1284.38	0.00	0.00
45.00		681.21	1262.40	0.00	0.00
46.67		225.57	415.92	0.00	0.00
50.00		462.40	1419.13	0.00	0.00
53.00		415.61	1261.56	0.00	0.00
55.00	(2) attachments	2817.16	861.77	0.00	0.00
60.00		692.55	1096.61	0.00	0.00
65.00		688.67	1077.37	0.00	0.00
70.00		683.62	1058.14	0.00	0.00
75.00		677.50	1038.91	0.00	0.00
80.00		670.42	1019.67	0.00	0.00
85.00		662.48	1000.44	0.00	0.00
90.00		653.75	981.21	0.00	0.00
92.00	(2) attachments	486.88	469.09	0.00	0.00
94.25		288.50	430.75	0.00	0.00
95.00		96.80	197.31	0.00	0.00
99.67		599.77	1213.13	0.00	0.00
100.00		42.30	39.43	0.00	0.00
105.00		631.82	586.39	0.00	0.00
107.00	(27) attachments	6826.66	2512.91	0.00	0.00
110.00		370.24	283.51	0.00	0.00
115.00		608.76	464.82	0.00	0.00
117.00	(19) attachments	6349.49	3385.26	0.00	4112.12
120.00		355.73	261.67	0.00	0.00
125.00		583.63	384.37	0.00	0.00
127.00	(1) attachments	1610.96	1501.44	0.00	0.00
130.00		340.05	224.69	0.00	0.00
135.00		556.68	367.88	0.00	0.00
137.00	(21) attachments	4193.07	1668.09	0.00	0.00
140.00		323.34	181.10	0.00	0.00
145.00		528.08	295.24	0.00	0.00
147.00	(18) attachments	7318.27	3206.67	0.00	0.00
150.00	(1) attachments	374.32	165.55	0.00	240.21
	Totals:	**46,987.53**	**41,078.77**	**0.00**	**4,352.33**

Calculated Forces

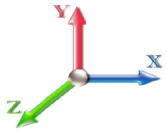
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

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	-40.96	-47.09	0.00	-4931.5	0.00	4931.53	5817.07	2908.54	11858.0	5886.84	0.00	0.000	0.000	0.845
5.00	-39.44	-46.65	0.00	-4696.0	0.00	4696.09	5739.57	2869.78	11485.2	5701.74	0.15	-0.280	0.000	0.831
10.00	-37.80	-46.20	0.00	-4462.8	0.00	4462.86	5652.47	2826.24	11099.3	5510.17	0.59	-0.562	0.000	0.817
15.00	-36.19	-45.75	0.00	-4231.8	0.00	4231.85	5545.82	2772.91	10682.2	5303.14	1.34	-0.845	0.000	0.805
20.00	-34.60	-45.27	0.00	-4003.0	0.00	4003.09	5439.17	2719.58	10273.2	5100.07	2.37	-1.128	0.000	0.792
25.00	-33.05	-44.75	0.00	-3776.7	0.00	3776.76	5332.51	2666.26	9872.18	4900.97	3.71	-1.412	0.000	0.777
30.00	-31.52	-44.20	0.00	-3553.0	0.00	3553.03	5225.86	2612.93	9479.11	4705.83	5.34	-1.696	0.000	0.761
35.00	-30.02	-43.64	0.00	-3332.0	0.00	3332.01	5119.21	2559.60	9094.03	4514.66	7.27	-1.979	0.000	0.744
40.00	-28.55	-43.05	0.00	-3113.8	0.00	3113.83	5012.56	2506.28	8716.92	4327.45	9.49	-2.262	0.000	0.726
45.00	-27.18	-42.41	0.00	-2898.5	0.00	2898.58	4905.90	2452.95	8347.81	4144.20	12.01	-2.542	0.000	0.705
46.67	-26.67	-42.23	0.00	-2827.9	0.00	2827.90	4870.35	2435.18	8226.55	4084.00	12.91	-2.637	0.000	0.698
50.00	-25.15	-41.78	0.00	-2687.1	0.00	2687.14	4799.25	2399.63	7986.68	3964.92	14.82	-2.824	0.000	0.683
53.00	-23.81	-41.36	0.00	-2561.8	0.00	2561.81	4240.56	2120.28	7137.82	3543.51	16.65	-2.991	0.000	0.729
55.00	-22.96	-38.58	0.00	-2479.1	0.00	2479.10	4203.23	2101.62	7012.05	3481.07	17.93	-3.103	0.000	0.718
60.00	-21.72	-37.93	0.00	-2286.2	0.00	2286.21	4109.91	2054.96	6702.51	3327.41	21.33	-3.391	0.000	0.693
65.00	-20.50	-37.28	0.00	-2096.5	0.00	2096.55	4016.59	2008.29	6399.97	3177.21	25.03	-3.675	0.000	0.665
70.00	-19.31	-36.62	0.00	-1910.1	0.00	1910.15	3923.27	1961.63	6104.41	3030.48	29.03	-3.953	0.000	0.636
75.00	-18.16	-35.96	0.00	-1727.0	0.00	1727.04	3829.95	1914.97	5815.84	2887.23	33.31	-4.224	0.000	0.603
80.00	-17.04	-35.29	0.00	-1547.2	0.00	1547.27	3736.63	1868.31	5534.25	2747.44	37.87	-4.486	0.000	0.568
85.00	-15.94	-34.61	0.00	-1370.8	0.00	1370.84	3643.31	1821.65	5259.66	2611.12	42.70	-4.738	0.000	0.530
90.00	-14.92	-33.92	0.00	-1197.7	0.00	1197.77	3549.99	1774.99	4992.05	2478.26	47.79	-4.977	0.000	0.488
92.00	-14.44	-33.42	0.00	-1129.9	0.00	1129.92	3512.66	1756.33	4886.96	2426.09	49.89	-5.070	0.000	0.470
94.25	-14.00	-33.11	0.00	-1054.7	0.00	1054.72	3470.66	1735.33	4770.08	2368.07	52.31	-5.172	0.000	0.450
95.00	-13.75	-33.03	0.00	-1029.8	0.00	1029.89	3456.66	1728.33	4731.43	2348.88	53.12	-5.206	0.000	0.443
99.67	-12.54	-32.34	0.00	-875.77	0.00	875.77	1458.24	729.12	1997.89	991.83	58.30	-5.400	0.000	0.894
100.00	-12.39	-32.33	0.00	-864.99	0.00	864.99	1456.89	728.44	1992.39	989.11	58.68	-5.413	0.000	0.885
105.00	-11.74	-31.70	0.00	-703.33	0.00	703.33	1435.99	717.99	1910.05	948.23	64.53	-5.762	0.000	0.752
107.00	-9.87	-24.68	0.00	-639.93	0.00	639.93	1427.33	713.67	1877.17	931.90	66.97	-5.892	0.000	0.695
110.00	-9.53	-24.32	0.00	-565.91	0.00	565.91	1414.04	707.02	1827.92	907.46	70.73	-6.073	0.000	0.632
115.00	-9.06	-23.69	0.00	-444.32	0.00	444.32	1391.05	695.52	1746.12	866.85	77.22	-6.339	0.000	0.520
117.00	-6.37	-17.01	0.00	-392.83	0.00	392.83	1381.56	690.78	1713.52	850.66	79.90	-6.436	0.000	0.467
120.00	-6.10	-16.65	0.00	-341.79	0.00	341.79	1367.01	683.50	1664.77	826.46	83.98	-6.567	0.000	0.419
120.00	-6.10	-16.65	0.00	-341.79	0.00	341.79	1091.99	545.99	1332.66	661.59	83.98	-6.567	0.000	0.523
125.00	-5.75	-16.04	0.00	-258.54	0.00	258.54	1075.35	537.67	1272.10	631.52	90.94	-6.756	0.000	0.416
127.00	-4.43	-14.27	0.00	-226.47	0.00	226.47	1068.40	534.20	1247.88	619.50	93.79	-6.834	0.000	0.370
130.00	-4.22	-13.91	0.00	-183.66	0.00	183.66	1057.66	528.83	1211.58	601.48	98.10	-6.937	0.000	0.310
135.00	-3.90	-13.32	0.00	-114.10	0.00	114.10	1038.92	519.46	1151.22	571.51	105.43	-7.068	0.000	0.204
137.00	-2.76	-8.96	0.00	-87.46	0.00	87.46	1031.13	515.57	1127.15	559.57	108.39	-7.107	0.000	0.159
140.00	-2.61	-8.61	0.00	-60.60	0.00	60.60	1019.14	509.57	1091.15	541.69	112.86	-7.152	0.000	0.115
145.00	-2.38	-8.05	0.00	-17.53	0.00	17.53	998.31	499.16	1031.47	512.07	120.36	-7.195	0.000	0.037
147.00	-0.12	-0.39	0.00	-1.42	0.00	1.42	989.69	494.84	1007.74	500.29	123.37	-7.199	0.000	0.003
150.00	0.00	-0.37	0.00	-0.24	0.00	0.24	976.44	488.22	972.32	482.70	127.88	-7.200	0.000	0.000

Wind Loading - Shaft

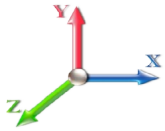
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

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	22.085	26.50	150.7	395.3	1992.5
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	21.777	26.13	148.6	416.8	1984.8
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	21.441	25.73	146.3	426.6	1965.3
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	21.092	25.31	152.7	431.3	1940.7
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	20.737	24.88	157.3	433.0	1913.1
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	20.377	24.45	160.6	432.8	1883.5
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	20.014	24.02	163.0	431.1	1852.6
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	19.648	23.58	164.6	428.4	1820.5
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	19.281	23.14	165.5	424.9	1787.7
46.67	Bot - Section 2	1.00	1.08	6.554	7.21	0.00	1.200	1.553	1.67	6.344	7.61	54.9	141.2	588.9
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	3.33	12.813	15.38	112.5	286.2	1964.8
53.00	Top - Section 1	1.00	1.11	6.732	7.41	0.00	1.200	1.573	3.00	11.391	13.67	101.2	255.9	1745.7
55.00	Appurtenance(s)	1.00	1.12	6.785	7.46	0.00	1.200	1.579	2.00	7.520	9.02	67.3	169.8	633.9
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	18.543	22.25	169.1	419.3	1561.6
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	18.171	21.81	168.6	413.7	1530.3
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	17.799	21.36	167.7	407.7	1498.6
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	17.426	20.91	166.6	401.3	1466.6
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	17.052	20.46	165.3	394.7	1434.4
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	16.678	20.01	163.7	387.8	1401.9
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	16.304	19.56	162.0	380.7	1369.1
92.00	Appurtenance(s)	1.00	1.24	7.561	8.32	0.00	1.200	1.662	2.00	6.416	7.70	64.0	151.1	539.3
94.25	Bot - Section 3	1.00	1.25	7.600	8.36	0.00	1.200	1.666	2.25	7.146	8.58	71.7	168.5	600.3
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	0.75	2.393	2.87	24.0	56.7	272.3
99.67	Top - Section 2	1.00	1.26	7.690	8.46	0.00	1.200	1.675	4.67	14.702	17.64	149.2	346.3	1668.1
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	0.33	1.037	1.24	10.5	24.7	56.2
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	15.364	18.44	157.7	362.8	827.9
107.00	Appurtenance(s)	1.00	1.28	7.805	8.59	0.00	1.200	1.687	2.00	6.040	7.25	62.2	143.9	326.3
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	3.00	8.947	10.74	92.7	213.0	482.8
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	14.612	17.53	152.9	346.9	786.4
117.00	Appurtenance(s)	1.00	1.31	7.954	8.75	0.00	1.200	1.702	2.00	5.739	6.89	60.3	137.5	309.7
120.00	Top - Section 3	1.00	1.32	7.996	8.80	0.00	1.200	1.707	3.00	8.496	10.19	89.7	203.3	457.7
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	13.859	16.63	147.5	330.5	685.5
127.00	Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	1.716	2.00	5.438	6.53	58.1	130.8	269.8
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	3.00	8.044	9.65	86.3	193.2	398.3
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	13.106	15.73	141.8	313.5	646.6
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	1.729	2.00	5.136	6.16	55.7	124.0	254.2
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	3.00	7.591	9.11	82.8	182.9	374.8
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	12.351	14.82	135.7	296.1	607.2
147.00	Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	1.742	2.00	4.834	5.80	53.3	117.0	238.4
150.00	Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	1.745	3.00	7.139	8.57	79.0	172.3	351.1
								Totals:	**150.00**			**4,683.2**		**42,489.1**

Discrete Appurtenance Forces

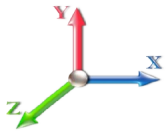
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

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	150.00	Lightning Rod	1	8.421	9.264	1.00	1.00	3.42	64.41	0.000	3.500	31.71	0.00	111.00
2	147.00	Ericsson KRY 112 144/1	3	8.345	9.180	0.50	0.75	1.14	62.58	0.000	0.000	10.44	0.00	0.00
3	147.00	Ericsson AIR 21 B4A/B2P	3	8.345	9.180	0.64	0.75	13.63	825.03	0.000	0.000	125.11	0.00	0.00
4	147.00	APXVAARR24_43-U-NA2	3	8.345	9.180	0.52	0.75	34.86	1711.75	0.000	0.000	320.04	0.00	0.00
5	147.00	Ericsson AIR 21 B2A/B4P	3	8.345	9.180	0.64	0.75	13.63	829.35	0.000	0.000	125.11	0.00	0.00
6	147.00	Platform w/ Hand Rails	1	8.345	9.180	1.00	1.00	67.35	3415.60	0.000	0.000	618.25	0.00	0.00
7	147.00	PRK-1245 (kicker kit)	1	8.345	9.180	1.00	1.00	19.43	786.69	0.000	0.000	178.34	0.00	0.00
8	147.00	(3) SFS-H (V-Braces)	1	8.345	9.180	1.00	1.00	12.88	423.89	0.000	0.000	118.27	0.00	0.00
9	147.00	4449	3	8.345	9.180	0.50	0.75	3.30	456.22	0.000	0.000	30.26	0.00	0.00
10	137.00	Rymsa MGD5-800T2	3	8.222	9.044	0.62	0.80	9.62	200.09	0.000	0.000	87.03	0.00	0.00
11	137.00	Antel BXA-70063/6CF	3	8.222	9.044	0.58	0.80	17.84	363.50	0.000	0.000	161.33	0.00	0.00
12	137.00	Antel LPA-80080/4CF	6	8.222	9.044	0.59	0.80	22.69	885.93	0.000	0.000	205.23	0.00	0.00
13	137.00	Cleargain 850/1900 TMA's	2	8.222	9.044	0.54	0.80	1.12	29.67	0.000	0.000	10.13	0.00	0.00
14	137.00	RFS FD9R6004/2C-3L	6	8.222	9.044	0.54	0.80	2.57	56.24	0.000	0.000	23.25	0.00	0.00
15	137.00	Low Profile Platform	1	8.222	9.044	1.00	1.00	39.50	2797.10	0.000	0.000	357.28	0.00	0.00
16	127.00	Low Profile Platform	1	8.092	8.901	1.00	1.00	39.37	2787.31	0.000	0.000	350.44	0.00	0.00
17	117.00	Sitepro RMQP-496-HK	1	7.954	8.749	1.00	1.00	80.69	4650.29	0.000	0.000	705.91	0.00	0.00
18	117.00	ALU TD-RRH8x20-25	3	7.954	8.749	0.50	0.75	7.30	573.60	0.000	0.000	63.86	0.00	0.00
19	117.00	ALU 800 Mhz	6	7.954	8.749	0.50	0.75	10.87	687.87	0.000	0.000	95.11	0.00	0.00
20	117.00	ALU 1900 Mhz	3	7.954	8.749	0.50	0.75	6.04	388.46	0.000	0.000	52.85	0.00	0.00
21	117.00	Commscope	3	7.996	8.796	0.60	0.75	24.64	916.89	0.000	3.000	216.75	0.00	650.25
22	117.00	RFS APXVTM14-C-I20	3	7.954	8.749	0.58	0.75	12.86	669.42	0.000	0.000	112.53	0.00	0.00
23	107.00	4449	3	7.805	8.586	0.54	0.80	3.49	448.25	0.000	0.000	29.93	0.00	0.00
24	107.00	B14 4478	3	7.805	8.586	0.54	0.80	3.78	316.86	0.000	0.000	32.43	0.00	0.00
25	107.00	8843	3	7.805	8.586	0.54	0.80	3.49	484.90	0.000	0.000	29.93	0.00	0.00
26	107.00	DC9-48-60-18-8C-EV	1	7.805	8.586	0.54	0.80	3.02	109.02	0.000	0.000	25.93	0.00	0.00
27	107.00	DMP65R-BU8DA	6	7.805	8.586	0.80	0.80	174.57	1704.47	0.000	0.000	1498.86	0.00	0.00
28	107.00	Raycap/DC6-48-60-18-8F	1	7.805	8.586	0.54	0.80	0.72	80.23	0.000	0.000	6.18	0.00	0.00
29	107.00	Powerwave 7770	3	7.805	8.586	0.58	0.80	11.44	515.09	0.000	0.000	98.19	0.00	0.00
30	107.00	Powerwave/LGP21401	6	7.805	8.586	0.54	0.80	2.10	74.09	0.000	0.000	18.07	0.00	0.00
31	107.00	Low Profile Platform	1	7.805	8.586	1.00	1.00	39.07	2765.43	0.000	0.000	335.49	0.00	0.00
32	92.00	Standoff	1	7.561	8.317	1.00	1.00	7.90	101.45	0.000	0.000	65.73	0.00	0.00
33	92.00	Jampro JLEP (56")	1	7.561	8.317	1.00	1.00	4.68	123.38	0.000	0.000	38.96	0.00	0.00
34	55.00	Skyware Global Type 183	1	6.785	7.463	1.00	1.00	49.85	421.48	0.000	0.000	372.07	0.00	0.00
35	55.00	Flush Mount	1	6.785	7.463	1.00	1.00	4.08	585.21	0.000	0.000	30.44	0.00	0.00
							Totals:		**31,311.75**			**6,581.47**		

Total Applied Force Summary

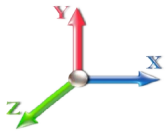
Structure:	CT01210-S-SBA		**Code:**	EIA/TIA-222-G	10/2/2019
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 19

Tower Engineering Solutions

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		150.66	2120.69	0.00	0.00
10.00		148.56	2305.14	0.00	0.00
15.00		146.26	2285.66	0.00	0.00
20.00		152.67	2261.04	0.00	0.00
25.00		157.31	2233.45	0.00	0.00
30.00		160.63	2203.90	0.00	0.00
35.00		162.97	2172.94	0.00	0.00
40.00		164.56	2140.92	0.00	0.00
45.00		165.54	2108.05	0.00	0.00
46.67		54.88	695.72	0.00	0.00
50.00		112.48	2178.36	0.00	0.00
53.00		101.23	1937.97	0.00	0.00
55.00	(2) attachments	469.86	1768.73	0.00	0.00
60.00		169.14	1881.46	0.00	0.00
65.00		168.57	1850.18	0.00	0.00
70.00		167.71	1818.52	0.00	0.00
75.00		166.60	1786.55	0.00	0.00
80.00		165.26	1754.28	0.00	0.00
85.00		163.71	1721.75	0.00	0.00
90.00		161.97	1688.99	0.00	0.00
92.00	(2) attachments	168.72	892.08	0.00	0.00
94.25		71.69	742.86	0.00	0.00
95.00		24.04	319.78	0.00	0.00
99.67		149.23	1963.76	0.00	0.00
100.00		10.54	77.28	0.00	0.00
105.00		157.67	1144.64	0.00	0.00
107.00	(27) attachments	2137.25	6951.36	0.00	0.00
110.00		92.72	590.98	0.00	0.00
115.00		152.85	966.69	0.00	0.00
117.00	(19) attachments	1307.27	8268.32	0.00	650.25
120.00		89.67	552.15	0.00	0.00
125.00		147.55	842.97	0.00	0.00
127.00	(1) attachments	408.53	3120.07	0.00	0.00
130.00		86.34	492.81	0.00	0.00
135.00		141.80	804.02	0.00	0.00
137.00	(21) attachments	899.99	4649.68	0.00	0.00
140.00		82.77	424.38	0.00	0.00
145.00		135.67	689.74	0.00	0.00
147.00	(18) attachments	1579.07	8782.52	0.00	0.00
150.00	(1) attachments	110.68	415.49	0.00	111.00
	Totals:	**11,264.65**	**81,605.88**	**0.00**	**761.25**

Calculated Forces

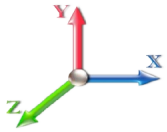
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	-81.60	-11.32	0.00	-1238.9	0.00	1238.93	5817.07	2908.54	11858.0	5886.84	0.00	0.000	0.000	0.224
5.00	-79.46	-11.26	0.00	-1182.3	0.00	1182.35	5739.57	2869.78	11485.2	5701.74	0.04	-0.070	0.000	0.221
10.00	-77.15	-11.20	0.00	-1126.0	0.00	1126.04	5652.47	2826.24	11099.3	5510.17	0.15	-0.141	0.000	0.218
15.00	-74.85	-11.15	0.00	-1070.0	0.00	1070.02	5545.82	2772.91	10682.2	5303.14	0.34	-0.213	0.000	0.215
20.00	-72.57	-11.07	0.00	-1014.3	0.00	1014.30	5439.17	2719.58	10273.2	5100.07	0.60	-0.285	0.000	0.212
25.00	-70.33	-10.99	0.00	-958.93	0.00	958.93	5332.51	2666.26	9872.18	4900.97	0.93	-0.357	0.000	0.209
30.00	-68.11	-10.90	0.00	-903.97	0.00	903.97	5225.86	2612.93	9479.11	4705.83	1.35	-0.429	0.000	0.205
35.00	-65.92	-10.80	0.00	-849.46	0.00	849.46	5119.21	2559.60	9094.03	4514.66	1.83	-0.501	0.000	0.201
40.00	-63.77	-10.70	0.00	-795.44	0.00	795.44	5012.56	2506.28	8716.92	4327.45	2.40	-0.573	0.000	0.197
45.00	-61.66	-10.56	0.00	-741.94	0.00	741.94	4905.90	2452.95	8347.81	4144.20	3.04	-0.645	0.000	0.192
46.67	-60.96	-10.54	0.00	-724.33	0.00	724.33	4870.35	2435.18	8226.55	4084.00	3.27	-0.669	0.000	0.190
50.00	-58.77	-10.45	0.00	-689.21	0.00	689.21	4799.25	2399.63	7986.68	3964.92	3.75	-0.717	0.000	0.186
53.00	-56.83	-10.36	0.00	-657.87	0.00	657.87	4240.56	2120.28	7137.82	3543.51	4.21	-0.760	0.000	0.199
55.00	-55.06	-9.91	0.00	-637.15	0.00	637.15	4203.23	2101.62	7012.05	3481.07	4.54	-0.789	0.000	0.196
60.00	-53.16	-9.78	0.00	-587.59	0.00	587.59	4109.91	2054.96	6702.51	3327.41	5.41	-0.863	0.000	0.190
65.00	-51.31	-9.65	0.00	-538.68	0.00	538.68	4016.59	2008.29	6399.97	3177.21	6.35	-0.936	0.000	0.182
70.00	-49.48	-9.51	0.00	-490.42	0.00	490.42	3923.27	1961.63	6104.41	3030.48	7.37	-1.007	0.000	0.174
75.00	-47.68	-9.37	0.00	-442.85	0.00	442.85	3829.95	1914.97	5815.84	2887.23	8.46	-1.077	0.000	0.166
80.00	-45.92	-9.22	0.00	-396.00	0.00	396.00	3736.63	1868.31	5534.25	2747.44	9.62	-1.144	0.000	0.156
85.00	-44.19	-9.07	0.00	-349.87	0.00	349.87	3643.31	1821.65	5259.66	2611.12	10.86	-1.208	0.000	0.146
90.00	-42.50	-8.91	0.00	-304.51	0.00	304.51	3549.99	1774.99	4992.05	2478.26	12.15	-1.269	0.000	0.135
92.00	-41.61	-8.74	0.00	-286.69	0.00	286.69	3512.66	1756.33	4886.96	2426.09	12.69	-1.293	0.000	0.130
94.25	-40.87	-8.66	0.00	-267.04	0.00	267.04	3470.66	1735.33	4770.08	2368.07	13.31	-1.319	0.000	0.125
95.00	-40.54	-8.65	0.00	-260.54	0.00	260.54	3456.66	1728.33	4731.43	2348.88	13.51	-1.327	0.000	0.123
99.67	-38.58	-8.47	0.00	-220.18	0.00	220.18	1458.24	729.12	1997.89	991.83	14.84	-1.376	0.000	0.249
100.00	-38.50	-8.49	0.00	-217.36	0.00	217.36	1456.89	728.44	1992.39	989.11	14.93	-1.379	0.000	0.246
105.00	-37.35	-8.34	0.00	-174.91	0.00	174.91	1435.99	717.99	1910.05	948.23	16.43	-1.467	0.000	0.211
107.00	-30.45	-6.05	0.00	-158.23	0.00	158.23	1427.33	713.67	1877.17	931.90	17.05	-1.499	0.000	0.191
110.00	-29.86	-5.97	0.00	-140.09	0.00	140.09	1414.04	707.02	1827.92	907.46	18.00	-1.544	0.000	0.176
115.00	-28.89	-5.81	0.00	-110.26	0.00	110.26	1391.05	695.52	1746.12	866.85	19.66	-1.610	0.000	0.148
117.00	-20.66	-4.28	0.00	-97.99	0.00	97.99	1381.56	690.78	1713.52	850.66	20.34	-1.634	0.000	0.130
120.00	-20.11	-4.19	0.00	-85.15	0.00	85.15	1367.01	683.50	1664.77	826.46	21.37	-1.666	0.000	0.118
120.00	-20.11	-4.19	0.00	-85.15	0.00	85.15	1091.99	545.99	1332.66	661.59	21.37	-1.666	0.000	0.147
125.00	-19.27	-4.03	0.00	-64.21	0.00	64.21	1075.35	537.67	1272.10	631.52	23.14	-1.713	0.000	0.120
127.00	-16.16	-3.53	0.00	-56.16	0.00	56.16	1068.40	534.20	1247.88	619.50	23.87	-1.733	0.000	0.106
130.00	-15.67	-3.44	0.00	-45.57	0.00	45.57	1057.66	528.83	1211.58	601.48	24.96	-1.758	0.000	0.091
135.00	-14.87	-3.28	0.00	-28.38	0.00	28.38	1038.92	519.46	1151.22	571.51	26.82	-1.791	0.000	0.064
137.00	-10.25	-2.23	0.00	-21.83	0.00	21.83	1031.13	515.57	1127.15	559.57	27.58	-1.800	0.000	0.049
140.00	-9.82	-2.14	0.00	-15.14	0.00	15.14	1019.14	509.57	1091.15	541.69	28.71	-1.812	0.000	0.038
145.00	-9.14	-1.98	0.00	-4.45	0.00	4.45	998.31	499.16	1031.47	512.07	30.62	-1.822	0.000	0.018
147.00	-0.41	-0.12	0.00	-0.48	0.00	0.48	989.69	494.84	1007.74	500.29	31.38	-1.823	0.000	0.001
150.00	0.00	-0.11	0.00	-0.11	0.00	0.11	976.44	488.22	972.32	482.70	32.52	-1.824	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT01210-S-SBA		**Code:**	EIA/TIA-222-G	10/2/2019
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 21

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.11		**Ss**	0.16
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.04		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.31		**SA**	0.01	**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		1331.0	0.00	0.03	0.02	17.90	
10.00		1306.6	0.01	0.05	0.03	23.90	
15.00		1282.2	0.02	0.06	0.04	26.30	
20.00		1257.8	0.03	0.07	0.04	27.18	
25.00		1233.3	0.05	0.07	0.04	27.45	
30.00		1208.9	0.08	0.07	0.04	27.56	
35.00		1184.5	0.10	0.07	0.04	27.71	
40.00		1160.1	0.13	0.07	0.03	27.90	
45.00		1135.6	0.17	0.07	0.03	27.98	
46.67	Bot - Section 2	373.13	0.18	0.06	0.03	9.25	
50.00		1398.8	0.21	0.06	0.02	34.82	
53.00	Top - Section 1	1241.5	0.24	0.06	0.02	30.66	
55.00	Appurtenance(s)	850.73	0.25	0.05	0.02	20.71	
60.00		951.87	0.30	0.04	0.01	21.24	
65.00		930.50	0.35	0.03	0.01	16.64	
70.00		909.13	0.41	0.01	0.01	9.35	
75.00		887.76	0.47	-0.01	0.01	-0.16	
80.00		866.39	0.54	-0.03	0.01	-9.88	
85.00		845.02	0.61	-0.06	0.02	-17.46	
90.00		823.65	0.68	-0.08	0.03	-21.78	
92.00	Appurtenance(s)	414.58	0.71	-0.09	0.03	-11.50	
94.25	Bot - Section 3	359.82	0.75	-0.10	0.04	-10.27	
95.00		179.64	0.76	-0.10	0.04	-5.15	
99.67	Top - Section 2	1101.5	0.83	-0.12	0.06	-30.62	
100.00		26.22	0.84	-0.12	0.07	-0.72	
105.00		387.56	0.93	-0.12	0.10	-9.20	
107.00	Appurtenance(s)	2686.5	0.96	-0.12	0.11	-57.50	
110.00		224.84	1.02	-0.11	0.14	-3.85	
115.00		366.19	1.11	-0.06	0.19	-2.89	
117.00	Appurtenance(s)	3701.2	1.15	-0.04	0.22	-12.77	
120.00	Top - Section 3	212.02	1.21	0.01	0.26	0.85	
125.00		295.88	1.31	0.14	0.35	5.49	
127.00	Appurtenance(s)	1615.7	1.35	0.20	0.39	40.64	
130.00		170.93	1.42	0.32	0.45	6.13	
135.00		277.56	1.53	0.58	0.58	15.55	
137.00	Appurtenance(s)	1800.9	1.58	0.71	0.64	116.90	
140.00		159.94	1.65	0.93	0.73	12.65	
145.00		259.24	1.77	1.39	0.92	27.27	
147.00	Appurtenance(s)	3535.4	1.82	1.61	1.00	411.86	
150.00	Appurtenance(s)	183.95	1.89	1.98	1.14	24.72	
	Totals:	**39,138.9**				**844.9**	**Total Wind:** **46,987.5**

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

Calculated Forces

Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.11			**Ss**	0.16
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.04			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.31	**SA**	0.01	**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	-54.77	-1.04	0.00	-114.24	0.00	114.24	5817.07	2908.54	11858.0	5886.84		0.00	0.00	0.029
5.00	-53.05	-1.03	0.00	-109.04	0.00	109.04	5739.57	2869.78	11485.2	5701.74		0.00	-0.01	0.028
10.00	-51.16	-1.01	0.00	-103.89	0.00	103.89	5652.47	2826.24	11099.3	5510.17		0.01	-0.01	0.028
15.00	-49.30	-0.99	0.00	-98.84	0.00	98.84	5545.82	2772.91	10682.2	5303.14		0.03	-0.02	0.028
20.00	-47.47	-0.97	0.00	-93.89	0.00	93.89	5439.17	2719.58	10273.2	5100.07		0.06	-0.03	0.027
25.00	-45.67	-0.94	0.00	-89.06	0.00	89.06	5332.51	2666.26	9872.18	4900.97		0.09	-0.03	0.027
30.00	-43.90	-0.92	0.00	-84.34	0.00	84.34	5225.86	2612.93	9479.11	4705.83		0.12	-0.04	0.026
35.00	-42.15	-0.90	0.00	-79.74	0.00	79.74	5119.21	2559.60	9094.03	4514.66		0.17	-0.05	0.026
40.00	-40.44	-0.87	0.00	-75.26	0.00	75.26	5012.56	2506.28	8716.92	4327.45		0.22	-0.05	0.025
45.00	-38.76	-0.85	0.00	-70.90	0.00	70.90	4905.90	2452.95	8347.81	4144.20		0.28	-0.06	0.025
46.67	-38.20	-0.84	0.00	-69.49	0.00	69.49	4870.35	2435.18	8226.55	4084.00		0.30	-0.06	0.025
50.00	-36.31	-0.80	0.00	-66.70	0.00	66.70	4799.25	2399.63	7986.68	3964.92		0.35	-0.07	0.024
53.00	-34.63	-0.77	0.00	-64.29	0.00	64.29	4240.56	2120.28	7137.82	3543.51		0.39	-0.07	0.026
55.00	-33.48	-0.75	0.00	-62.74	0.00	62.74	4203.23	2101.62	7012.05	3481.07		0.42	-0.07	0.026
60.00	-32.02	-0.73	0.00	-58.97	0.00	58.97	4109.91	2054.96	6702.51	3327.41		0.50	-0.08	0.026
65.00	-30.58	-0.72	0.00	-55.30	0.00	55.30	4016.59	2008.29	6399.97	3177.21		0.59	-0.09	0.025
70.00	-29.17	-0.71	0.00	-51.70	0.00	51.70	3923.27	1961.63	6104.41	3030.48		0.69	-0.10	0.024
75.00	-27.79	-0.71	0.00	-48.14	0.00	48.14	3829.95	1914.97	5815.84	2887.23		0.79	-0.10	0.024
80.00	-26.43	-0.71	0.00	-44.57	0.00	44.57	3736.63	1868.31	5534.25	2747.44		0.91	-0.11	0.023
85.00	-25.09	-0.71	0.00	-41.00	0.00	41.00	3643.31	1821.65	5259.66	2611.12		1.03	-0.12	0.023
90.00	-23.78	-0.71	0.00	-37.43	0.00	37.43	3549.99	1774.99	4992.05	2478.26		1.15	-0.13	0.022
92.00	-23.16	-0.71	0.00	-36.00	0.00	36.00	3512.66	1756.33	4886.96	2426.09		1.21	-0.13	0.021
94.25	-22.58	-0.71	0.00	-34.39	0.00	34.39	3470.66	1735.33	4770.08	2368.07		1.27	-0.13	0.021
95.00	-22.32	-0.71	0.00	-33.86	0.00	33.86	3456.66	1728.33	4731.43	2348.88		1.29	-0.13	0.021
99.67	-20.70	-0.71	0.00	-30.52	0.00	30.52	1458.24	729.12	1997.89	991.83		1.42	-0.14	0.045
100.00	-20.65	-0.71	0.00	-30.29	0.00	30.29	1456.89	728.44	1992.39	989.11		1.43	-0.14	0.045
105.00	-19.87	-0.72	0.00	-26.71	0.00	26.71	1435.99	717.99	1910.05	948.23		1.59	-0.15	0.042
107.00	-16.52	-0.71	0.00	-25.28	0.00	25.28	1427.33	713.67	1877.17	931.90		1.65	-0.16	0.039
110.00	-16.14	-0.71	0.00	-23.16	0.00	23.16	1414.04	707.02	1827.92	907.46		1.75	-0.17	0.037
115.00	-15.52	-0.71	0.00	-19.61	0.00	19.61	1391.05	695.52	1746.12	866.85		1.93	-0.18	0.034
117.00	-11.01	-0.70	0.00	-18.19	0.00	18.19	1381.56	690.78	1713.52	850.66		2.01	-0.18	0.029
120.00	-10.66	-0.70	0.00	-16.10	0.00	16.10	1367.01	683.50	1664.77	826.46		2.12	-0.19	0.027
120.00	-10.66	-0.70	0.00	-16.10	0.00	16.10	1091.99	545.99	1332.66	661.59		2.12	-0.19	0.034
125.00	-10.15	-0.69	0.00	-12.62	0.00	12.62	1075.35	537.67	1272.10	631.52		2.32	-0.20	0.029
127.00	-8.14	-0.64	0.00	-11.24	0.00	11.24	1068.40	534.20	1247.88	619.50		2.41	-0.20	0.026
130.00	-7.84	-0.64	0.00	-9.31	0.00	9.31	1057.66	528.83	1211.58	601.48		2.53	-0.20	0.023
135.00	-7.35	-0.62	0.00	-6.12	0.00	6.12	1038.92	519.46	1151.22	571.51		2.75	-0.21	0.018
137.00	-5.13	-0.50	0.00	-4.88	0.00	4.88	1031.13	515.57	1127.15	559.57		2.84	-0.21	0.014
140.00	-4.89	-0.48	0.00	-3.40	0.00	3.40	1019.14	509.57	1091.15	541.69		2.98	-0.22	0.011
145.00	-4.49	-0.45	0.00	-0.98	0.00	0.98	998.31	499.16	1031.47	512.07		3.20	-0.22	0.006
147.00	-0.22	-0.03	0.00	-0.08	0.00	0.08	989.69	494.84	1007.74	500.29		3.30	-0.22	0.000
150.00	0.00	-0.02	0.00	0.00	0.00	0.00	976.44	488.22	972.32	482.70		3.43	-0.22	0.000

Seismic Segment Forces (Factored)

Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.11		**Ss**	0.16
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.04		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.31		**SA**	0.01	**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		1331.0	0.00	0.03	0.02	17.90	
10.00		1306.6	0.01	0.05	0.03	23.90	
15.00		1282.2	0.02	0.06	0.04	26.30	
20.00		1257.8	0.03	0.07	0.04	27.18	
25.00		1233.3	0.05	0.07	0.04	27.45	
30.00		1208.9	0.08	0.07	0.04	27.56	
35.00		1184.5	0.10	0.07	0.04	27.71	
40.00		1160.1	0.13	0.07	0.03	27.90	
45.00		1135.6	0.17	0.07	0.03	27.98	
46.67	Bot - Section 2	373.13	0.18	0.06	0.03	9.25	
50.00		1398.8	0.21	0.06	0.02	34.82	
53.00	Top - Section 1	1241.5	0.24	0.06	0.02	30.66	
55.00	Appurtenance(s)	850.73	0.25	0.05	0.02	20.71	
60.00		951.87	0.30	0.04	0.01	21.24	
65.00		930.50	0.35	0.03	0.01	16.64	
70.00		909.13	0.41	0.01	0.01	9.35	
75.00		887.76	0.47	-0.01	0.01	-0.16	
80.00		866.39	0.54	-0.03	0.01	-9.88	
85.00		845.02	0.61	-0.06	0.02	-17.46	
90.00		823.65	0.68	-0.08	0.03	-21.78	
92.00	Appurtenance(s)	414.58	0.71	-0.09	0.03	-11.50	
94.25	Bot - Section 3	359.82	0.75	-0.10	0.04	-10.27	
95.00		179.64	0.76	-0.10	0.04	-5.15	
99.67	Top - Section 2	1101.5	0.83	-0.12	0.06	-30.62	
100.00		26.22	0.84	-0.12	0.07	-0.72	
105.00		387.56	0.93	-0.12	0.10	-9.20	
107.00	Appurtenance(s)	2686.5	0.96	-0.12	0.11	-57.50	
110.00		224.84	1.02	-0.11	0.14	-3.85	
115.00		366.19	1.11	-0.06	0.19	-2.89	
117.00	Appurtenance(s)	3701.2	1.15	-0.04	0.22	-12.77	
120.00	Top - Section 3	212.02	1.21	0.01	0.26	0.85	
125.00		295.88	1.31	0.14	0.35	5.49	
127.00	Appurtenance(s)	1615.7	1.35	0.20	0.39	40.64	
130.00		170.93	1.42	0.32	0.45	6.13	
135.00		277.56	1.53	0.58	0.58	15.55	
137.00	Appurtenance(s)	1800.9	1.58	0.71	0.64	116.90	
140.00		159.94	1.65	0.93	0.73	12.65	
145.00		259.24	1.77	1.39	0.92	27.27	
147.00	Appurtenance(s)	3535.4	1.82	1.61	1.00	411.86	
150.00	Appurtenance(s)	183.95	1.89	1.98	1.14	24.72	
	Totals:	**39,138.9**				**844.9**	**Total Wind:** **46,987.5**

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

Calculated Forces

Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.11			**Ss**	0.16
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.04			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.31	**SA**	0.01			**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	-41.08	-1.04	0.00	-112.83	0.00	112.83	5817.07	2908.54	11858.0	5886.84		0.00	0.00	0.026
5.00	-39.78	-1.03	0.00	-107.63	0.00	107.63	5739.57	2869.78	11485.2	5701.74		0.00	-0.01	0.026
10.00	-38.37	-1.01	0.00	-102.50	0.00	102.50	5652.47	2826.24	11099.3	5510.17		0.01	-0.01	0.025
15.00	-36.97	-0.98	0.00	-97.46	0.00	97.46	5545.82	2772.91	10682.2	5303.14		0.03	-0.02	0.025
20.00	-35.60	-0.96	0.00	-92.54	0.00	92.54	5439.17	2719.58	10273.2	5100.07		0.05	-0.03	0.025
25.00	-34.25	-0.94	0.00	-87.74	0.00	87.74	5332.51	2666.26	9872.18	4900.97		0.09	-0.03	0.024
30.00	-32.92	-0.91	0.00	-83.05	0.00	83.05	5225.86	2612.93	9479.11	4705.83		0.12	-0.04	0.024
35.00	-31.62	-0.89	0.00	-78.50	0.00	78.50	5119.21	2559.60	9094.03	4514.66		0.17	-0.05	0.024
40.00	-30.33	-0.86	0.00	-74.06	0.00	74.06	5012.56	2506.28	8716.92	4327.45		0.22	-0.05	0.023
45.00	-29.07	-0.83	0.00	-69.75	0.00	69.75	4905.90	2452.95	8347.81	4144.20		0.28	-0.06	0.023
46.67	-28.65	-0.83	0.00	-68.36	0.00	68.36	4870.35	2435.18	8226.55	4084.00		0.30	-0.06	0.023
50.00	-27.23	-0.79	0.00	-65.61	0.00	65.61	4799.25	2399.63	7986.68	3964.92		0.34	-0.07	0.022
53.00	-25.97	-0.76	0.00	-63.23	0.00	63.23	4240.56	2120.28	7137.82	3543.51		0.39	-0.07	0.024
55.00	-25.11	-0.74	0.00	-61.71	0.00	61.71	4203.23	2101.62	7012.05	3481.07		0.42	-0.07	0.024
60.00	-24.01	-0.72	0.00	-58.00	0.00	58.00	4109.91	2054.96	6702.51	3327.41		0.50	-0.08	0.023
65.00	-22.94	-0.71	0.00	-54.39	0.00	54.39	4016.59	2008.29	6399.97	3177.21		0.58	-0.09	0.023
70.00	-21.88	-0.70	0.00	-50.85	0.00	50.85	3923.27	1961.63	6104.41	3030.48		0.68	-0.09	0.022
75.00	-20.84	-0.70	0.00	-47.36	0.00	47.36	3829.95	1914.97	5815.84	2887.23		0.78	-0.10	0.022
80.00	-19.82	-0.70	0.00	-43.86	0.00	43.86	3736.63	1868.31	5534.25	2747.44		0.89	-0.11	0.021
85.00	-18.82	-0.70	0.00	-40.36	0.00	40.36	3643.31	1821.65	5259.66	2611.12		1.01	-0.12	0.021
90.00	-17.84	-0.70	0.00	-36.85	0.00	36.85	3549.99	1774.99	4992.05	2478.26		1.14	-0.12	0.020
92.00	-17.37	-0.70	0.00	-35.45	0.00	35.45	3512.66	1756.33	4886.96	2426.09		1.19	-0.13	0.020
94.25	-16.94	-0.70	0.00	-33.88	0.00	33.88	3470.66	1735.33	4770.08	2368.07		1.25	-0.13	0.019
95.00	-16.74	-0.70	0.00	-33.35	0.00	33.35	3456.66	1728.33	4731.43	2348.88		1.27	-0.13	0.019
99.67	-15.53	-0.70	0.00	-30.08	0.00	30.08	1458.24	729.12	1997.89	991.83		1.40	-0.14	0.041
100.00	-15.49	-0.70	0.00	-29.85	0.00	29.85	1456.89	728.44	1992.39	989.11		1.41	-0.14	0.041
105.00	-14.90	-0.70	0.00	-26.35	0.00	26.35	1435.99	717.99	1910.05	948.23		1.56	-0.15	0.038
107.00	-12.39	-0.70	0.00	-24.94	0.00	24.94	1427.33	713.67	1877.17	931.90		1.63	-0.16	0.035
110.00	-12.10	-0.70	0.00	-22.86	0.00	22.86	1414.04	707.02	1827.92	907.46		1.73	-0.16	0.034
115.00	-11.64	-0.70	0.00	-19.37	0.00	19.37	1391.05	695.52	1746.12	866.85		1.90	-0.17	0.031
117.00	-8.25	-0.69	0.00	-17.98	0.00	17.98	1381.56	690.78	1713.52	850.66		1.98	-0.18	0.027
120.00	-7.99	-0.69	0.00	-15.91	0.00	15.91	1367.01	683.50	1664.77	826.46		2.09	-0.18	0.025
120.00	-7.99	-0.69	0.00	-15.91	0.00	15.91	1091.99	545.99	1332.66	661.59		2.09	-0.18	0.031
125.00	-7.61	-0.68	0.00	-12.48	0.00	12.48	1075.35	537.67	1272.10	631.52		2.29	-0.19	0.027
127.00	-6.11	-0.64	0.00	-11.12	0.00	11.12	1068.40	534.20	1247.88	619.50		2.37	-0.20	0.024
130.00	-5.88	-0.63	0.00	-9.21	0.00	9.21	1057.66	528.83	1211.58	601.48		2.50	-0.20	0.021
135.00	-5.51	-0.61	0.00	-6.06	0.00	6.06	1038.92	519.46	1151.22	571.51		2.71	-0.21	0.016
137.00	-3.85	-0.49	0.00	-4.83	0.00	4.83	1031.13	515.57	1127.15	559.57		2.80	-0.21	0.012
140.00	-3.67	-0.48	0.00	-3.36	0.00	3.36	1019.14	509.57	1091.15	541.69		2.93	-0.21	0.010
145.00	-3.37	-0.45	0.00	-0.97	0.00	0.97	998.31	499.16	1031.47	512.07		3.16	-0.22	0.005
147.00	-0.17	-0.03	0.00	-0.08	0.00	0.08	989.69	494.84	1007.74	500.29		3.25	-0.22	0.000
150.00	0.00	-0.02	0.00	0.00	0.00	0.00	976.44	488.22	972.32	482.70		3.38	-0.22	0.000

Wind Loading - Shaft

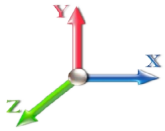
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	235.00	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	230.77	0.750	0.000	5.00	21.050	15.79	129.2	0.0	1331.1
10.00		1.00	0.85	7.442	8.19	226.54	0.750	0.000	5.00	20.668	15.50	126.9	0.0	1306.7
15.00		1.00	0.85	7.442	8.19	222.31	0.750	0.000	5.00	20.286	15.21	124.5	0.0	1282.2
20.00		1.00	0.90	7.896	8.69	224.64	0.750	0.000	5.00	19.903	14.93	129.7	0.0	1257.8
25.00		1.00	0.95	8.276	9.10	225.52	0.750	0.000	5.00	19.521	14.64	133.3	0.0	1233.4
30.00		1.00	0.98	8.600	9.46	225.34	0.750	0.000	5.00	19.139	14.35	135.8	0.0	1209.0
35.00		1.00	1.01	8.883	9.77	224.41	0.750	0.000	5.00	18.756	14.07	137.5	0.0	1184.5
40.00		1.00	1.04	9.137	10.05	222.90	0.750	0.000	5.00	18.374	13.78	138.5	0.0	1160.1
45.00		1.00	1.07	9.366	10.30	220.93	0.750	0.000	5.00	17.991	13.49	139.0	0.0	1135.7
46.67	Bot - Section 2	1.00	1.08	9.438	10.38	220.19	0.750	0.000	1.67	5.912	4.43	46.0	0.0	373.1
50.00		1.00	1.09	9.576	10.53	218.60	0.750	0.000	3.33	11.945	8.96	94.4	0.0	1398.8
53.00	Top - Section 1	1.00	1.11	9.694	10.66	217.04	0.750	0.000	3.00	10.605	7.95	84.8	0.0	1241.5
55.00	Appurtenance(s)	1.00	1.12	9.770	10.75	220.67	0.750	0.000	2.00	6.994	5.25	56.4	0.0	386.7
60.00		1.00	1.14	9.951	10.95	217.80	0.750	0.000	5.00	17.216	12.91	141.3	0.0	951.9
65.00		1.00	1.16	10.120	11.13	214.71	0.750	0.000	5.00	16.834	12.63	140.5	0.0	930.5
70.00		1.00	1.17	10.279	11.31	211.42	0.750	0.000	5.00	16.451	12.34	139.5	0.0	909.1
75.00		1.00	1.19	10.430	11.47	207.96	0.750	0.000	5.00	16.069	12.05	138.3	0.0	887.8
80.00		1.00	1.21	10.572	11.63	204.33	0.750	0.000	5.00	15.687	11.77	136.8	0.0	866.4
85.00		1.00	1.22	10.708	11.78	200.57	0.750	0.000	5.00	15.304	11.48	135.2	0.0	845.0
90.00		1.00	1.24	10.838	11.92	196.67	0.750	0.000	5.00	14.922	11.19	133.4	0.0	823.6
92.00	Appurtenance(s)	1.00	1.24	10.888	11.98	195.08	0.750	0.000	2.00	5.862	4.40	52.7	0.0	323.5
94.25	Bot - Section 3	1.00	1.25	10.943	12.04	193.27	0.750	0.000	2.25	6.521	4.89	58.9	0.0	359.8
95.00		1.00	1.25	10.962	12.06	192.66	0.750	0.000	0.75	2.184	1.64	19.8	0.0	179.6
99.67	Top - Section 2	1.00	1.26	11.073	12.18	188.82	0.750	0.000	4.67	13.399	10.05	122.4	0.0	1101.5
100.00		1.00	1.27	11.081	12.19	191.05	0.750	0.000	0.33	0.944	0.71	8.6	0.0	26.2
105.00		1.00	1.28	11.195	12.31	186.85	0.750	0.000	5.00	13.961	10.47	128.9	0.0	387.6
107.00	Appurtenance(s)	1.00	1.28	11.240	12.36	185.14	0.750	0.000	2.00	5.477	4.11	50.8	0.0	152.0
110.00		1.00	1.29	11.305	12.44	182.55	0.750	0.000	3.00	8.101	6.08	75.6	0.0	224.8
115.00		1.00	1.30	11.412	12.55	178.17	0.750	0.000	5.00	13.196	9.90	124.2	0.0	366.2
117.00	Appurtenance(s)	1.00	1.31	11.453	12.60	176.39	0.750	0.000	2.00	5.171	3.88	48.9	0.0	143.5
120.00	Top - Section 3	1.00	1.32	11.514	12.67	173.71	0.750	0.000	3.00	7.642	5.73	72.6	0.0	212.0
125.00		1.00	1.33	11.614	12.78	169.17	0.750	0.000	5.00	12.431	9.32	119.1	0.0	295.9
127.00	Appurtenance(s)	1.00	1.33	11.653	12.82	167.34	0.750	0.000	2.00	4.866	3.65	46.8	0.0	115.8
130.00		1.00	1.34	11.710	12.88	164.56	0.750	0.000	3.00	7.184	5.39	69.4	0.0	170.9
135.00		1.00	1.35	11.803	12.98	159.89	0.750	0.000	5.00	11.667	8.75	113.6	0.0	277.6
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	158.00	0.750	0.000	2.00	4.560	3.42	44.5	0.0	108.5
140.00		1.00	1.36	11.894	13.08	155.16	0.750	0.000	3.00	6.725	5.04	66.0	0.0	159.9
145.00		1.00	1.37	11.982	13.18	150.36	0.750	0.000	5.00	10.902	8.18	107.8	0.0	259.2
147.00	Appurtenance(s)	1.00	1.37	12.017	13.22	148.43	0.750	0.000	2.00	4.254	3.19	42.2	0.0	101.1
150.00	Appurtenance(s)	1.00	1.38	12.068	13.27	145.51	0.750	0.000	3.00	6.266	4.70	62.4	0.0	148.9
								Totals:	**150.00**			**3,876.1**		**25,829.7**

Discrete Appurtenance Forces

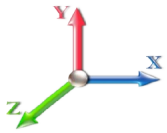
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

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	150.00	Lightning Rod	1	12.127	13.340	1.00	1.00	1.05	35.00	0.000	3.500	14.01	0.00	49.02
2	147.00	Ericsson KRY 112 144/1	3	12.017	13.219	0.50	0.75	0.53	33.00	0.000	0.000	6.97	0.00	0.00
3	147.00	Ericsson AIR 21 B4A/B2P	3	12.017	13.219	0.64	0.75	11.55	270.90	0.000	0.000	152.69	0.00	0.00
4	147.00	APXVAARR24_43-U-NA2	3	12.017	13.219	0.52	0.75	31.88	384.00	0.000	0.000	421.38	0.00	0.00
5	147.00	Ericsson AIR 21 B2A/B4P	3	12.017	13.219	0.64	0.75	11.55	274.50	0.000	0.000	152.69	0.00	0.00
6	147.00	Platform w/ Hand Rails	1	12.017	13.219	1.00	1.00	36.00	1600.00	0.000	0.000	475.87	0.00	0.00
7	147.00	PRK-1245 (kicker kit)	1	12.017	13.219	1.00	1.00	9.50	464.91	0.000	0.000	125.58	0.00	0.00
8	147.00	(3) SFS-H (V-Braces)	1	12.017	13.219	1.00	1.00	6.30	197.00	0.000	0.000	83.28	0.00	0.00
9	147.00	4449	3	12.017	13.219	0.50	0.75	2.49	210.00	0.000	0.000	32.88	0.00	0.00
10	137.00	Rymsa MGD5-800T2	3	11.840	13.024	0.62	0.80	6.29	46.20	0.000	0.000	81.92	0.00	0.00
11	137.00	Antel BXA-70063/6CF	3	11.840	13.024	0.58	0.80	13.10	44.70	0.000	0.000	170.59	0.00	0.00
12	137.00	Antel LPA-80080/4CF	6	11.840	13.024	0.59	0.80	19.18	72.00	0.000	0.000	249.81	0.00	0.00
13	137.00	Cleargain 850/1900 TMA's	2	11.840	13.024	0.54	0.80	0.56	11.00	0.000	0.000	7.26	0.00	0.00
14	137.00	RFS FD9R6004/2C-3L	6	11.840	13.024	0.54	0.80	1.16	18.60	0.000	0.000	15.08	0.00	0.00
15	137.00	Low Profile Platform	1	11.840	13.024	1.00	1.00	22.00	1500.00	0.000	0.000	286.53	0.00	0.00
16	127.00	Low Profile Platform	1	11.653	12.818	1.00	1.00	22.00	1500.00	0.000	0.000	281.99	0.00	0.00
17	117.00	Sitepro RMQP-496-HK	1	11.453	12.598	1.00	1.00	48.00	2449.00	0.000	0.000	604.72	0.00	0.00
18	117.00	ALU TD-RRH8x20-25	3	11.453	12.598	0.50	0.75	6.11	210.00	0.000	0.000	76.92	0.00	0.00
19	117.00	ALU 800 Mhz	6	11.453	12.598	0.50	0.75	7.51	318.00	0.000	0.000	94.58	0.00	0.00
20	117.00	ALU 1900 Mhz	3	11.453	12.598	0.50	0.75	4.18	180.00	0.000	0.000	52.61	0.00	0.00
21	117.00	Commscope	3	11.514	12.666	0.60	0.75	22.09	232.20	0.000	3.000	279.74	0.00	839.21
22	117.00	RFS APXVTM14-C-I20	3	11.453	12.598	0.58	0.75	10.98	168.60	0.000	0.000	138.38	0.00	0.00
23	107.00	4449	3	11.240	12.364	0.54	0.80	2.65	210.00	0.000	0.000	32.80	0.00	0.00
24	107.00	B14 4478	3	11.240	12.364	0.54	0.80	2.96	179.70	0.000	0.000	36.58	0.00	0.00
25	107.00	8843	3	11.240	12.364	0.54	0.80	2.65	225.00	0.000	0.000	32.80	0.00	0.00
26	107.00	DC9-48-60-18-8C-EV	1	11.240	12.364	0.54	0.80	2.56	16.00	0.000	0.000	31.68	0.00	0.00
27	107.00	DMP65R-BU8DA	6	11.240	12.364	0.80	0.80	64.75	234.00	0.000	0.000	800.57	0.00	0.00
28	107.00	Raycap/DC6-48-60-18-8F	1	11.240	12.364	0.54	0.80	0.49	31.80	0.000	0.000	6.10	0.00	0.00
29	107.00	Powerwave 7770	3	11.240	12.364	0.58	0.80	9.64	105.00	0.000	0.000	119.14	0.00	0.00
30	107.00	Powerwave/LGP21401	6	11.240	12.364	0.54	0.80	0.87	33.00	0.000	0.000	10.74	0.00	0.00
31	107.00	Low Profile Platform	1	11.240	12.364	1.00	1.00	22.00	1500.00	0.000	0.000	272.00	0.00	0.00
32	92.00	Standoff	1	10.888	11.977	1.00	1.00	2.50	40.00	0.000	0.000	29.94	0.00	0.00
33	92.00	Jampro JLEP (56")	1	10.888	11.977	1.00	1.00	1.40	51.10	0.000	0.000	16.77	0.00	0.00
34	55.00	Skyware Global Type 183	1	9.770	10.747	1.00	1.00	45.75	114.00	0.000	0.000	491.69	0.00	0.00
35	55.00	Flush Mount	1	9.770	10.747	1.00	1.00	2.50	350.00	0.000	0.000	26.87	0.00	0.00
							Totals:		**13,309.21**			**5,713.17**		

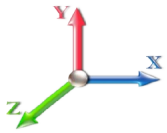
Total Applied Force Summary

Structure:	CT01210-S-SBA		**Code:**	EIA/TIA-222-G	10/2/2019
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

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		129.24	1437.87	0.00	0.00
10.00		126.89	1573.63	0.00	0.00
15.00		124.55	1549.21	0.00	0.00
20.00		129.66	1524.79	0.00	0.00
25.00		133.28	1500.36	0.00	0.00
30.00		135.79	1475.94	0.00	0.00
35.00		137.46	1451.51	0.00	0.00
40.00		138.50	1427.09	0.00	0.00
45.00		139.02	1402.67	0.00	0.00
46.67		46.04	462.13	0.00	0.00
50.00		94.37	1576.82	0.00	0.00
53.00		84.82	1401.73	0.00	0.00
55.00	(2) attachments	574.93	957.53	0.00	0.00
60.00		141.34	1218.45	0.00	0.00
65.00		140.55	1197.08	0.00	0.00
70.00		139.51	1175.71	0.00	0.00
75.00		138.26	1154.34	0.00	0.00
80.00		136.82	1132.97	0.00	0.00
85.00		135.20	1111.60	0.00	0.00
90.00		133.42	1090.23	0.00	0.00
92.00	(2) attachments	99.36	521.21	0.00	0.00
94.25		58.88	478.61	0.00	0.00
95.00		19.75	219.23	0.00	0.00
99.67		122.40	1347.92	0.00	0.00
100.00		8.63	43.82	0.00	0.00
105.00		128.94	651.54	0.00	0.00
107.00	(27) attachments	1393.20	2792.12	0.00	0.00
110.00		75.56	315.01	0.00	0.00
115.00		124.24	516.47	0.00	0.00
117.00	(19) attachments	1295.81	3761.40	0.00	839.21
120.00		72.60	290.74	0.00	0.00
125.00		119.11	427.08	0.00	0.00
127.00	(1) attachments	328.77	1668.27	0.00	0.00
130.00		69.40	249.65	0.00	0.00
135.00		113.61	408.76	0.00	0.00
137.00	(21) attachments	855.73	1853.44	0.00	0.00
140.00		65.99	201.22	0.00	0.00
145.00		107.77	328.04	0.00	0.00
147.00	(18) attachments	1493.52	3562.96	0.00	0.00
150.00	(1) attachments	76.39	183.95	0.00	49.02
	Totals:	**9,589.29**	**45,643.08**	**0.00**	**888.23**

Calculated Forces

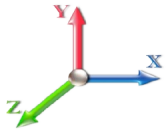
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	10/2/2019	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.64	-9.61	0.00	-1012.4	0.00	1012.46	5817.07	2908.54	11858.0	5886.84	0.00	0.000	0.000	0.180
5.00	-44.19	-9.53	0.00	-964.40	0.00	964.40	5739.57	2869.78	11485.2	5701.74	0.03	-0.058	0.000	0.177
10.00	-42.61	-9.44	0.00	-916.77	0.00	916.77	5652.47	2826.24	11099.3	5510.17	0.12	-0.115	0.000	0.174
15.00	-41.05	-9.35	0.00	-869.57	0.00	869.57	5545.82	2772.91	10682.2	5303.14	0.27	-0.173	0.000	0.171
20.00	-39.52	-9.26	0.00	-822.80	0.00	822.80	5439.17	2719.58	10273.2	5100.07	0.49	-0.232	0.000	0.169
25.00	-38.01	-9.16	0.00	-776.50	0.00	776.50	5332.51	2666.26	9872.18	4900.97	0.76	-0.290	0.000	0.166
30.00	-36.52	-9.05	0.00	-730.72	0.00	730.72	5225.86	2612.93	9479.11	4705.83	1.10	-0.349	0.000	0.162
35.00	-35.06	-8.94	0.00	-685.46	0.00	685.46	5119.21	2559.60	9094.03	4514.66	1.49	-0.407	0.000	0.159
40.00	-33.63	-8.82	0.00	-640.77	0.00	640.77	5012.56	2506.28	8716.92	4327.45	1.95	-0.465	0.000	0.155
45.00	-32.22	-8.69	0.00	-596.65	0.00	596.65	4905.90	2452.95	8347.81	4144.20	2.47	-0.523	0.000	0.151
46.67	-31.75	-8.66	0.00	-582.16	0.00	582.16	4870.35	2435.18	8226.55	4084.00	2.65	-0.542	0.000	0.149
50.00	-30.17	-8.57	0.00	-553.29	0.00	553.29	4799.25	2399.63	7986.68	3964.92	3.05	-0.581	0.000	0.146
53.00	-28.77	-8.48	0.00	-527.59	0.00	527.59	4240.56	2120.28	7137.82	3543.51	3.42	-0.615	0.000	0.156
55.00	-27.81	-7.92	0.00	-510.62	0.00	510.62	4203.23	2101.62	7012.05	3481.07	3.69	-0.638	0.000	0.153
60.00	-26.59	-7.79	0.00	-471.02	0.00	471.02	4109.91	2054.96	6702.51	3327.41	4.39	-0.697	0.000	0.148
65.00	-25.38	-7.66	0.00	-432.07	0.00	432.07	4016.59	2008.29	6399.97	3177.21	5.15	-0.756	0.000	0.142
70.00	-24.20	-7.53	0.00	-393.76	0.00	393.76	3923.27	1961.63	6104.41	3030.48	5.97	-0.813	0.000	0.136
75.00	-23.04	-7.40	0.00	-356.12	0.00	356.12	3829.95	1914.97	5815.84	2887.23	6.85	-0.869	0.000	0.129
80.00	-21.91	-7.26	0.00	-319.14	0.00	319.14	3736.63	1868.31	5534.25	2747.44	7.79	-0.923	0.000	0.122
85.00	-20.79	-7.13	0.00	-282.83	0.00	282.83	3643.31	1821.65	5259.66	2611.12	8.79	-0.975	0.000	0.114
90.00	-19.70	-6.99	0.00	-247.19	0.00	247.19	3549.99	1774.99	4992.05	2478.26	9.83	-1.024	0.000	0.105
92.00	-19.18	-6.88	0.00	-233.22	0.00	233.22	3512.66	1756.33	4886.96	2426.09	10.27	-1.044	0.000	0.102
94.25	-18.70	-6.82	0.00	-217.73	0.00	217.73	3470.66	1735.33	4770.08	2368.07	10.77	-1.065	0.000	0.097
95.00	-18.48	-6.80	0.00	-212.62	0.00	212.62	3456.66	1728.33	4731.43	2348.88	10.93	-1.072	0.000	0.096
99.67	-17.13	-6.66	0.00	-180.86	0.00	180.86	1458.24	729.12	1997.89	991.83	12.00	-1.112	0.000	0.194
100.00	-17.08	-6.67	0.00	-178.64	0.00	178.64	1456.89	728.44	1992.39	989.11	12.08	-1.114	0.000	0.192
105.00	-16.43	-6.54	0.00	-145.32	0.00	145.32	1435.99	717.99	1910.05	948.23	13.29	-1.187	0.000	0.165
107.00	-13.66	-5.09	0.00	-132.24	0.00	132.24	1427.33	713.67	1877.17	931.90	13.79	-1.213	0.000	0.152
110.00	-13.34	-5.02	0.00	-116.96	0.00	116.96	1414.04	707.02	1827.92	907.46	14.56	-1.251	0.000	0.138
115.00	-12.83	-4.89	0.00	-91.85	0.00	91.85	1391.05	695.52	1746.12	866.85	15.90	-1.306	0.000	0.115
117.00	-9.09	-3.52	0.00	-81.23	0.00	81.23	1381.56	690.78	1713.52	850.66	16.46	-1.326	0.000	0.102
120.00	-8.80	-3.44	0.00	-70.68	0.00	70.68	1367.01	683.50	1664.77	826.46	17.30	-1.353	0.000	0.092
120.00	-8.80	-3.44	0.00	-70.68	0.00	70.68	1091.99	545.99	1332.66	661.59	17.30	-1.353	0.000	0.115
125.00	-8.38	-3.32	0.00	-53.47	0.00	53.47	1075.35	537.67	1272.10	631.52	18.74	-1.392	0.000	0.092
127.00	-6.72	-2.95	0.00	-46.83	0.00	46.83	1068.40	534.20	1247.88	619.50	19.32	-1.408	0.000	0.082
130.00	-6.47	-2.88	0.00	-37.99	0.00	37.99	1057.66	528.83	1211.58	601.48	20.22	-1.429	0.000	0.069
135.00	-6.06	-2.75	0.00	-23.60	0.00	23.60	1038.92	519.46	1151.22	571.51	21.73	-1.457	0.000	0.047
137.00	-4.23	-1.85	0.00	-18.09	0.00	18.09	1031.13	515.57	1127.15	559.57	22.34	-1.465	0.000	0.036
140.00	-4.03	-1.78	0.00	-12.54	0.00	12.54	1019.14	509.57	1091.15	541.69	23.26	-1.474	0.000	0.027
145.00	-3.71	-1.67	0.00	-3.62	0.00	3.62	998.31	499.16	1031.47	512.07	24.81	-1.483	0.000	0.011
147.00	-0.18	-0.08	0.00	-0.29	0.00	0.29	989.69	494.84	1007.74	500.29	25.43	-1.484	0.000	0.001
150.00	0.00	-0.08	0.00	-0.05	0.00	0.05	976.44	488.22	972.32	482.70	26.37	-1.484	0.000	0.000

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 105 mph Wind	47.1	0.00	54.65	0.00	0.00	4988.07
0.9D + 1.6W 105 mph Wind	47.1	0.00	40.96	0.00	0.00	4931.53
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.3	0.00	81.60	0.00	0.00	1238.93
1.2D + 1.0E	1.0	0.00	54.77	0.00	0.00	114.24
0.9D + 1.0E	1.0	0.00	41.08	0.00	0.00	112.83
1.0D + 1.0W 60 mph Wind	9.6	0.00	45.64	0.00	0.00	1012.46

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 105 mph Wind	-17.64	-32.85	0.00	-891.59	0.00	-891.59	1458.24	729.12	1997.89	991.83	99.67	0.913
0.9D + 1.6W 105 mph Wind	-12.54	-32.34	0.00	-875.77	0.00	-875.77	1458.24	729.12	1997.89	991.83	99.67	0.894
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-38.58	-8.47	0.00	-220.18	0.00	-220.18	1458.24	729.12	1997.89	991.83	99.67	0.249
1.2D + 1.0E	-20.70	-0.71	0.00	-30.52	0.00	-30.52	1458.24	729.12	1997.89	991.83	99.67	0.045
0.9D + 1.0E	-15.53	-0.70	0.00	-30.08	0.00	-30.08	1458.24	729.12	1997.89	991.83	99.67	0.041
1.0D + 1.0W 60 mph Wind	-17.13	-6.66	0.00	-180.86	0.00	-180.86	1458.24	729.12	1997.89	991.83	99.67	0.194

Base Plate Summary

Structure:	CT01210-S-SB		**Code:**	EIA/TIA-222-G	10/2/2019
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 30

Tower Engineering Solutions

Reactions		Base Plate		Anchor Bolts	
Original Design		**Yield (ksi):**	60.00	**Bolt Circle:**	58.26
Moment (kip-ft):	3715.00	**Width (in):**	64.26	**Number Bolts:**	20.00
Axial (kip):	47.88	**Style:**	Polygon	**Bolt Type:**	2.25" 18J
Shear (kip):	33.15	**Polygon Sides:**	16.00	**Bolt Diameter (in):**	2.25
Analysis		**Clip Length (in):**	0.00	**Yield (ksi):**	75.00
Moment (kip-ft):	4988.07	**Effective Len (in):**	13.09	**Ultimate (ksi):**	100.00
Axial (kip):	81.60	**Moment (kip-in):**	865.49	**Arrangement:**	Radial
Shear (kip):	47.13	**Allow Stress (ksi):**	81.00	**Cluster Dist (in):**	0.00
		Applied Stress (ksi):	0.00	**Start Angle (deg):**	0.00
Moment Design %:	134.27	**Stress Ratio:**	0.65	Compression	
				Force (kip):	209.56
				Allowable (kip):	260.00
				Ratio:	0.82
				Tension	
				Force (kip):	201.40
				Allowable (kip):	260.00
				Ratio:	0.79

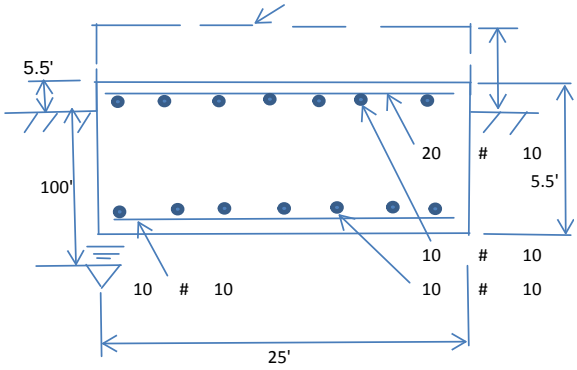
Monopole Mat Foundation Design

				Date
				10/2/2019
Customer Name:	SBA Communcations Corp	**EIA/TIA Standard:**	EIA-222-G
Site Name:	CT01210-S-SBA	**Structure Height (Ft.):**	53
Site Number:		**Engineer Name:**	J. Chen
Engr. Number:		**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

Analysis or Design? Analysis

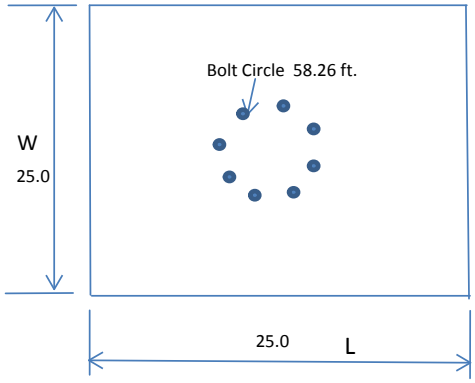


Base Reactions (Factored):

Axial Load (Kips):	85.5	Shear Force (Kips):	47.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4994.1
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Anchor Bolt Circle (ft.):	58.26	Depth of Base BG (ft.):	0.00
Thickness of Pad (ft):	5.50		
Length of Pad (ft.):	25	Width of Pad (ft.):	25
Final Length of pad (ft)	25.0	Final width of pad (ft):	25.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Pad Rebar Yield (Ksi):	60	Tie Spacing (in):	12.0	
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):	20	Qty. of Rebar in Pad (W):	20	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	10	Qty. of Rebar in Pad (W):	10	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Water Table B.G.S. (ft):	100.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	9000	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.):	0.00	Total Dry Soil Weight (Kips):	0.00
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	0.00	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3437.50	Total Dry Concrete Weight (Kips):	515.63
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	515.63	Total Vertical Load on Base (Kips):	601.13

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	4412	<	Allowable Factored Soil Bearing (psf): 6750	0.65	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6869.5	>	Design Factored Momont (kips-ft): 5256	0.77	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.31	OK!			

Check the capacities of Reinforceing Concrete:

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

Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1537.4	>	One-Way Factored Shear (L-D. Kips):	0.0	0.00	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1537.4	>	One-Way Factored Shear (W-D., Kips)	0.0	0.00	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1439.3	>	One-Way Factored Shear (C-C, Kips):	604.2	0.42	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0014	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0014		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	7015.6	>	Moment at Bottom (L-Direct. K-Ft):	0.0	0.00	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	7015.6	>	Moment at Bottom (W-Direct. K-Ft):	0.0	0.00	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	10325.8	>	Moment at Bottom (C-C Dir. K-Ft):	0.0	0.00	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0007	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0007		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	3536.3	>	Moment at the top (L-Dir Kips-Ft):	1921.2	0.54	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3536.3	>	Moment at the top (W-Dir Kips-Ft):	1921.2	0.54	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	5102.1	>	Moment at the top (C-C Direc. K-Ft):	-337.3	-0.07	OK!

INFINIGY

THE SOLUTIONS ARE ENDLESS

Non-Ionizing Radiation Report

Compiled For: Smartlink on behalf of AT&T

Site Name: North Stonington South

Site FA: 10071175

Site ID: CTL05725

267 Norwich Westerly Road, North Stonington, CT 06359

Latitude: 41.4370917 Longitude: -71.8815

Structure Type: Monopole

Report Date: October 8, 2019

Status: AT&T will be compliant with FCC rules on RF Exposure with the signage recommendation in section 4 of this report.

Table of Contents

1. Executive Summary:

Smartlink on behalf of AT&T has contracted Infinigy Solutions, LLC to determine whether the site North Stonington South located at 267 Norwich Westerly Road in North Stonington, CT Will Be Compliant with all Federal Communications Commission (FCC) rules and regulations for radio frequency (RF) exposure as indicated in **47CFR§1.1310**.

The report incorporates a theoretical RF field analysis in accordance with the FCC Rules and Regulations for all individuals classified as "Occupational or Controlled" and "General Public or Uncontrolled" (see Appendix A and B).

This document and the conclusions herein are based on information provided by Smartlink on behalf of AT&T.

As a result of the analysis, **AT&T Will Be Compliant with FCC rules with the installation of signage recommended in section 4.**

Engineering assumptions were made regarding the collation operator(s). The assumptions were made based upon typical deployment configurations and practices of the operator(s).

AT&T – Sole Carriers, All Bands Cumulative Exposure %		
Uncontrolled / General Population	Exposure values at the site (mW/cm^2)	0.0283
	% Exposure	3.74%
Controlled / Occupational	Exposure values at the site (mW/cm^2)	0.0263
	% Exposure	0.79%

2. Site Summary:

Site Information	
Site Name: North Stonington South	
Site Address: 267 Norwich Westerly Road, North Stonington, CT 06371	
Site Type: Monopole	
Compliance Status	Will Be Compliant
Mitigation Required	No
Signage Required	Yes
Barriers Required	No
Access Locked	No
Area Controlled or Uncontrolled	Uncontrolled

3. Site Compliance

This report also incorporates overview of the site information:

- Antenna Inventory Table
- Calculation Tables showing exposure for each carrier transmit frequency
- Total exposure for all carriers existing and proposed at ground level considering the centerline of all antennas and horizontal distance from the tower.
- Maximum Effective Radiated Power Assumed as Worst Case for Calculations used in this study
- Calculations based on flat ground around base of the structure

4. Site Compliance Recommendations

Infinigy recommends the following upon the installation of antennas at the site:

Base of tower

Caution 2 sign.

Note: The above signage recommendation is moot if there is an existing caution 2 sign at the base of the tower.

5. Antenna Inventory Table

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency	Rad Ctr (Ft)	Total ERP Power (Watts)
1a	Alpha	AT&T	CCI	DMP65R-BU8D-700	700	107	1475
1c	Alpha	AT&T	CCI	DMP65R-BU8D-2100	2100	107	3837
1d	Alpha	AT&T	CCI	DMP65R-BU8D-850	850	107	1000
2a	Alpha	AT&T	CCI	DMP65R-BU8D-700	700	107	2951
2b	Alpha	AT&T	CCI	DMP65R-BU8D-1900	1900	107	3664
3	Alpha	AT&T	Powerwave	7770-850	850	107	1000
4a	Beta	AT&T	CCI	DMP65R-BU8D-700	700	107	1475
4b	Beta	AT&T	CCI	DMP65R-BU8D-850	850	107	1523
4c	Beta	AT&T	CCI	DMP65R-BU8D-2100	2100	107	3837
4d	Beta	AT&T	CCI	DMP65R-BU8D-850	850	107	1000
5a	Beta	AT&T	CCI	DMP65R-BU8D-700	700	107	2951
5b	Beta	AT&T	CCI	DMP65R-BU8D-1900	1900	107	3664
6	Beta	AT&T	Powerwave	7770-850	850	107	1000
7a	Gamma	AT&T	CCI	DMP65R-BU8D-700	700	107	1475
7b	Gamma	AT&T	CCI	DMP65R-BU8D-850	850	107	1523
7c	Gamma	AT&T	CCI	DMP65R-BU8D-2100	2100	107	3837
7d	Gamma	AT&T	CCI	DMP65R-BU8D-850	850	107	1000
8a	Gamma	AT&T	CCI	DMP65R-BU8D-700	700	107	2951
8b	Gamma	AT&T	CCI	DMP65R-BU8D-1900	1900	107	3664
9	Gamma	AT&T	Powerwave	7770-850	850	107	1000
10	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B-700	700	140	1537
11	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B-2100	2100	140	2094
12	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B-1900	1900	140	1886
13	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B-850	850	140	1537
14	Beta	Verizon Wireless	Commscope	NNH-65C-R2B-700	700	140	1537

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency	Rad Ctr (Ft)	Total ERP Power (Watts)
15	Beta	Verizon Wireless	Commscope	NNH-65C-R2B-2100	2100	140	2094
16	Beta	Verizon Wireless	Commscope	NNH-65C-R2B-1900	1900	140	1886
17	Beta	Verizon Wireless	Commscope	NNH-65C-R2B-850	850	140	1537
18	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B-700	700	140	1537
19	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B-2100	2100	140	2094
20	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B-1900	1900	140	1886
21	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B-850	850	140	1537

6. RF Guidelines

To ensure safety of company workers, the following points need to be taken into consideration and implemented at wireless sites in accordance with the Carriers policies:

a) Worksite: Any employee at the site should avoid working directly in front of the antenna or in areas predicted to exceed general population exposure limits by 100%. Workers should insist that the transmitters be switched off during the work period.

b) RF Safety Training and Awareness: All employees working in areas exceeding the general population limits should have a basic awareness of RF safety measures. Videos, classroom lectures and online courses are all appropriate training methods on these topics.

c) Site Access: Restricting access to transmitting antenna locations is one of the most important elements of RF safety. This can be done with:
   - Locked doors/gates/ladder access
   - Alarmed doors
   - Restrictive barriers

d) Three-foot Buffer: There is an inverse relationship between the strength of the field and the distance from the antenna. The RF field diminishes with distance from the antenna. Workers should maintain a three-foot distance from the antennas.

e) Antennas: Workers should always assume that the antenna is transmitting and should never stop right in front of the antenna. If someone must pass by an antenna, he/she should move quickly, thus reducing RF exposure.

Attachment 1: AT&T Exposure Analysis

AT&T 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.5**
	Exposure values at the site (mW/cm^2)	**0.0059**
	% Exposure	**1.18%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.3**
	Exposure values at the site (mW/cm^2)	**0.0059**
	% Exposure	**0.26%**

AT&T 850 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0020**
	% Exposure	**0.34%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0020**
	% Exposure	**0.07%**

AT&T 850 MHz UMTS		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.22%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.05%**

AT&T 850 MHz 5G		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.22%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.05%**

AT&T 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0049**
	% Exposure	**0.49%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0049**
	% Exposure	**0.10%**

AT&T 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0051**
	% Exposure	**0.51%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0051**
	% Exposure	**0.10%**

Attachment 2: Verizon Wireless Exposure Analysis

Verizon Wireless 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.5**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.25%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.3**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.5**

Verizon Wireless 850 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.21%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.05%**

Verizon Wireless 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0016**
	% Exposure	**0.16%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0016**
	% Exposure	**0.03%**

Verizon Wireless 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0017**
	% Exposure	**0.17%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0017**
	% Exposure	**0.03%**

7. Appendix A: FCC Guidelines

FCC Policies

The Federal Communications Commission (FCC) in 1996 implemented regulations and policies for analysis of RF propagation to evaluate RF emissions. All the analysis and results of this report are compared with FCC's (Federal Communications Commission) rules to determine whether a site is compliant for Occupational/Controlled or General Public/Uncontrolled exposure. All the analysis of RF propagation is done in terms of a percentage. The limits primarily indicate the power density and are generally expressed in terms of milliwatts per centimeter square, mW/cm^2.

FCC guidelines incorporate two separate tiers of exposure limits that are dependent on the scenario/ situation in which that exposure takes place or the status of the individuals who are subjected to that exposure. The decision as to which tier is applied to a scenario is based on the following definitions:

Occupational / Controlled

These limits apply in situations when someone is exposed to RF energy through his/her occupation, is fully aware of the harmful effects of the RF exposure and has an ability to exercise control over this exposure. Occupational / controlled exposure limits also apply when exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. limits for Occupational/Controlled exposure can be found on Table 1(A).

General Population / Uncontrolled

These limits apply to situations in which the general public may be exposed or in which persons who are exposed because of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure to RF. Therefore, members of the general public would always be considered under this category, for example, in the case of a telecommunications tower that exposes people in a nearby residential area. Exposure limits for General Population/Uncontrolled can be found on Table 1(B).

Table 1. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(A) Limits for Occupational/Controlled Exposure

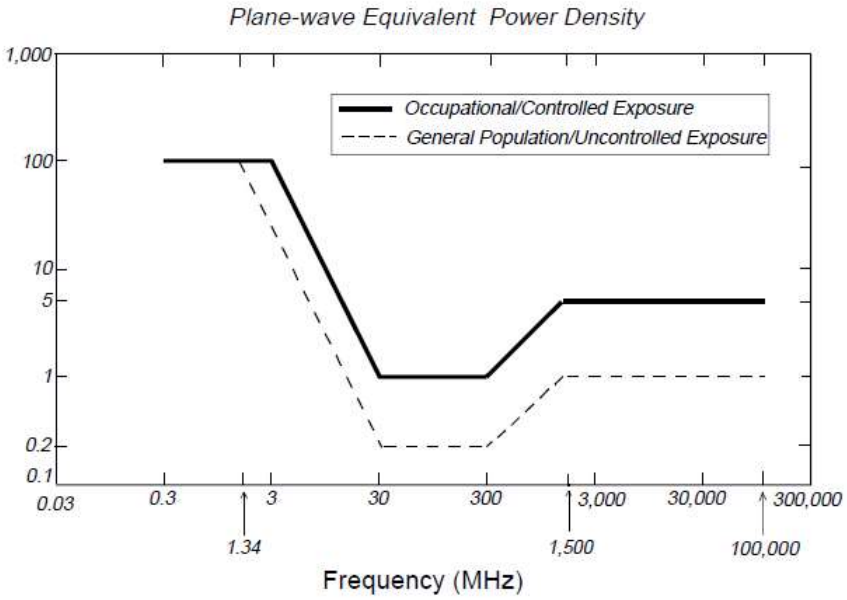
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

Figure 1. *FCC Limits for Maximum Permissible Exposure (MPE)*



OSHA Statement:

The objective of the OSHA Act is to ensure the safety and health of the working men and women by enforcing certain standards. The act also assists and encourages the states in their efforts to ensure safe and healthy working conditions through means of research, information, education and training in the field of occupational safety and health and for other purposes.

According to OSHA Act section 5, important duties to be considered are:

(a) Each employer

1) Shall furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious harm to his employees
2) Shall comply with occupational safety and health standards promulgated under this act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

8. Appendix B: Preparer Certification

I, Tim Harris, preparer of this report, certify that I am fully trained and aware of the rules and regulations of both the Federal Communications Commission and the Occupational Safety and Heath Administration regarding Human Exposure to Radio Frequency Radiation. In addition, I have been trained in 1) RF safety and 2) RF modeling using RoofView modeling software.

I certify that the information contained in this report is true and correct to the best of my knowledge.

Timothy A. Harris *10/8/2019*

Signature Date

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Thursday, October 24, 2019 9:00 AM
To: Kristina Cottone
Subject: FedEx Shipment 776780798042 Delivered

Your package has been delivered

Tracking # 776780798042

Ship date:
Wed, 10/23/2019

Kristina Cottone
Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivered

Delivery date:
Thu, 10/24/2019 8:55 am

Timothy Brennan
TOWN OF NORTH STONINGTON
40 MAIN ST
NORTH STONINGTON, CT
06359161240
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	776780798042
Status:	Delivered: 10/24/2019 08:55 AM Signed for By: CDIAS
Reference:	CTL05725 North Stonington
Signed for by:	CDIAS
Delivery location:	North Stonington, CT
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/24/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 7:59 AM CDT on 10/24/2019.

All weights are estimated.

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Thursday, October 24, 2019 9:00 AM
To: Kristina Cottone
Subject: FedEx Shipment 776781615223 Delivered

Your package has been delivered

Tracking # 776781615223

Ship date:
Wed, 10/23/2019

Kristina Cottone
Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivered

Delivery date:
Thu, 10/24/2019 8:55 am

Michael A. Urgo- First Selectman
TOWN OF NORTH STONINGTON
40 MAIN ST
NORTH STONINGTON, CT
06359161240
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	776781615223
Status:	Delivered: 10/24/2019 08:55 AM Signed for By: CDIAS
Reference:	CTL05725 North Stonington
Signed for by:	CDIAS
Delivery location:	North Stonington, CT
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/24/2019

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Thursday, October 24, 2019 3:08 PM
To: Kristina Cottone
Subject: FedEx Shipment 776781640132 Delivered

Your package has been delivered

Tracking # 776781640132

Ship date:
Wed, 10/23/2019

Kristina Cottone
Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivered

Delivery date:
Thu, 10/24/2019 3:06 pm

North Stonington Volunteer Fire Co
NORTH STONINGTON VOLUNTEER FIRE CO
25 ROCKY HOLLOW RD
NORTH STONINGTON, CT 06359163525
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	776781640132
Status:	Delivered: 10/24/2019 3:06 PM
Reference:	CTL05725 North Stonington
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/24/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:08 PM CDT on 10/24/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Monday, October 28, 2019 2:50 PM
To: Kristina Cottone
Subject: FedEx Shipment 776781665011 Delivered

Your package has been delivered

Tracking # 776781665011

Ship date:
Wed, 10/23/2019

Kristina Cottone
Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivered

Delivery date:
Mon, 10/28/2019

Carla Shorter
SBA COMMUNICATIONS CORP.
8051 CONGRESS AVE
BOCA RATON, FL
33487131099
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	776781665011
Status:	Delivered: 10/28/2019
Reference:	CTL05725 North Stonington
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/28/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 1:49 PM CDT on 10/28/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date the package should be delivered by, based on the selected service, destination, and ship date. Limitations and exceptions may apply.Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

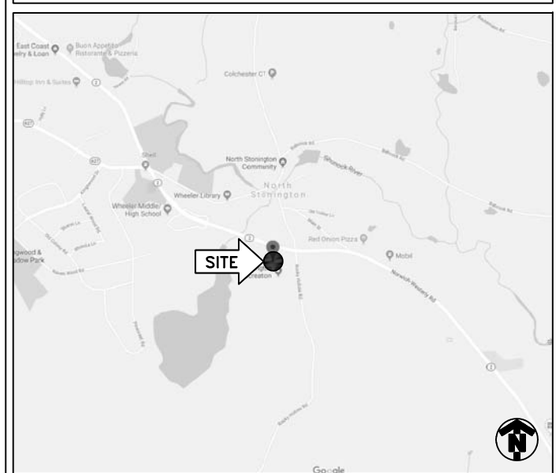
SHEET INDEX

DRIVING DIRECTIONS

FROM 550 COCHITUATE RD.:

GET ON I-90 WEST/MASSACHUETTS TURNPIKE. HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/MASSACHUETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 WEST/MASSACHUETTS TURNPIKE. FOLLOW I-90 WEST/MASSACHUETTS TURNPIKE AND I-395 SOUTH TO GRISWOLD. TAKE EXIT 22 FROM I-395 SOUTH. MERGE ONTO I-90 WEST/MASSACHUETTS TURNPIKE. TAKE EXIT 10 TOWARD MA-12 NORTH/AUBURN/WORCESTER. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-395 SOUTH/US-20 EAST/NORWICH CT AND MERGE ONTO I-395 SOUTH. TAKE EXIT 22 FOR CT-138 TOWARD CT-164/JEWETT CITY/GRISWOLD. FOLLOW CT-164 SOUTH TO CT-2 EAST IN NORTH STONINGTON. CONTINUE STRAIGHT ONTO GIRSWOLD EXPY. TURN LEFT ONTO CT-164 SOUTH. USE THE LEFT 2 LANES TO TURN LEFT ONTO CT-2 EAST.

LOCATION MAP



PROJECT

LTE 2C/3C/4C/5C/RETROFIT

SITE NAME

NORTH STONINGTON SOUTH

CELL SITE ID

CTL05725

FA SITE NUMBER

10071175

PACE ID

MRCTB041588/MRCTB041383/MRCTB041404
MRCTB041792/MRCTB041632

SITE ADDRESS

267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06359

STRUCTURE TYPE

MONOPOLE

PROJECT TEAM

smartlink

PROJECT MANAGER

INFINIGY

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

ENGINEER

SCOPE OF WORK (PER LTE RFDS, DATED 08/29/2019 V3.00):

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

TOWER
- REMOVE (6) PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- REMOVE (3) RRUS-11 B12
- INSTALL (3) B14 4478
- INSTALL (3) 4449 B5/B12
- INSTALL (3) 8843 B2/B66A
- INSTALL (1) DC9 SQUID WITH (1) FIBER AND (3) DC CABLES

GROUND
- SWAP BB WITH (2) 6630
- ADD IDLe CABLE

PROJECT SUMMARY

SITE NAME:	NORTH STONINGTON SOUTH	
CELL SITE ID:	CTL05725	
FA SITE #:	10071175	
SITE ADDRESS:	267 NORWICH WESTERLY ROAD NORTH STONINGTON, CT 06359	
COUNTY:	NEW LONDON	
SITE COORDINATES: LATITUDE: LONGITUDE:	 41.4370917° N 71.8815000° W	 (NAD 83) (NAD 83)
RAD CENTER	±107'	(AGL)
LANDLORD:	SBA COMMUNICATIONS	
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
CLIENT REPRESENTATIVE:	SMARTLINK, LLC 85 RANGEWAY RD., BUILDING 3, SUITE 102 NORTH BILLERICA, MA 01862	
CONTACT:	EDWARD WEISSMAN (917)528-1857	
ENGINEER:	INFINIGY 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205	
CONTACT:	ALEX WELLER (518) 690-0790	
BUILDING CODE:	2018 CT STATE BUILDING CODE 2015 INTERNATIONAL BUILDING CODE ANSI/TIA-222 G 2015 INTERNATIONAL PLUMBING CODE 2015 INTERNATIONAL MECHANICAL CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE 2017 NFPA 70	
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE (LATEST EDITION)	

811 Know what's below. Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG
TOLL FREE: 1-800-922-4455 OR www.cbyd.com
CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

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Albany, NY 12205
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Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN S. STEVENS
09/25/2019
24705
LICENSED PROFESSIONAL ENGINEER

No.	Submittal / Revision	App'd	Date
1	ISSUED FOR PERMIT	BMM	09/25/19
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267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06359

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 09/25/19

CD

Drawing Title
TITLE PAGE

Drawing Number
T1

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
D. AND NFPA 101 (LIFE SAFETY CODE).
E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:
A: WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B: COMPANY: AT&T CORPORATION
C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
D: CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
E: THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.7 NOTICE TO PROCEED:
A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:
A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.

B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.

C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.

D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.

E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.

F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.

G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.

B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.

C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.

E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.

F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.

G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
F	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
T	TRANSFORMER
M	KILOWATT HOUR METER
JB	JUNCTION BOX
PB	PULL BOX TO NEC/TELCO STANDARDS
----------	UNDERGROUND UTILITIES
●	EXOTHERMIC WELD CONNECTION
■	MECHANICAL CONNECTION
OR ⊗	GROUND ROD
OR ⊠	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
G	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES
# / #	REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

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STATE OF CONNECTICUT
JOHN S. STEVENS
09/25/2019
24705
LICENSED PROFESSIONAL ENGINEER

No.	Submittal / Revision	App'd	Date
1	ISSUED FOR PERMIT	BMM	09/25/19
0	ISSUED FOR REVIEW	BMM	09/16/19

Drawn: BMM Date: 09/16/19
Designed: ASW Date: 09/16/19
Checked: AJD Date: 09/16/19

Project Number: 499-006

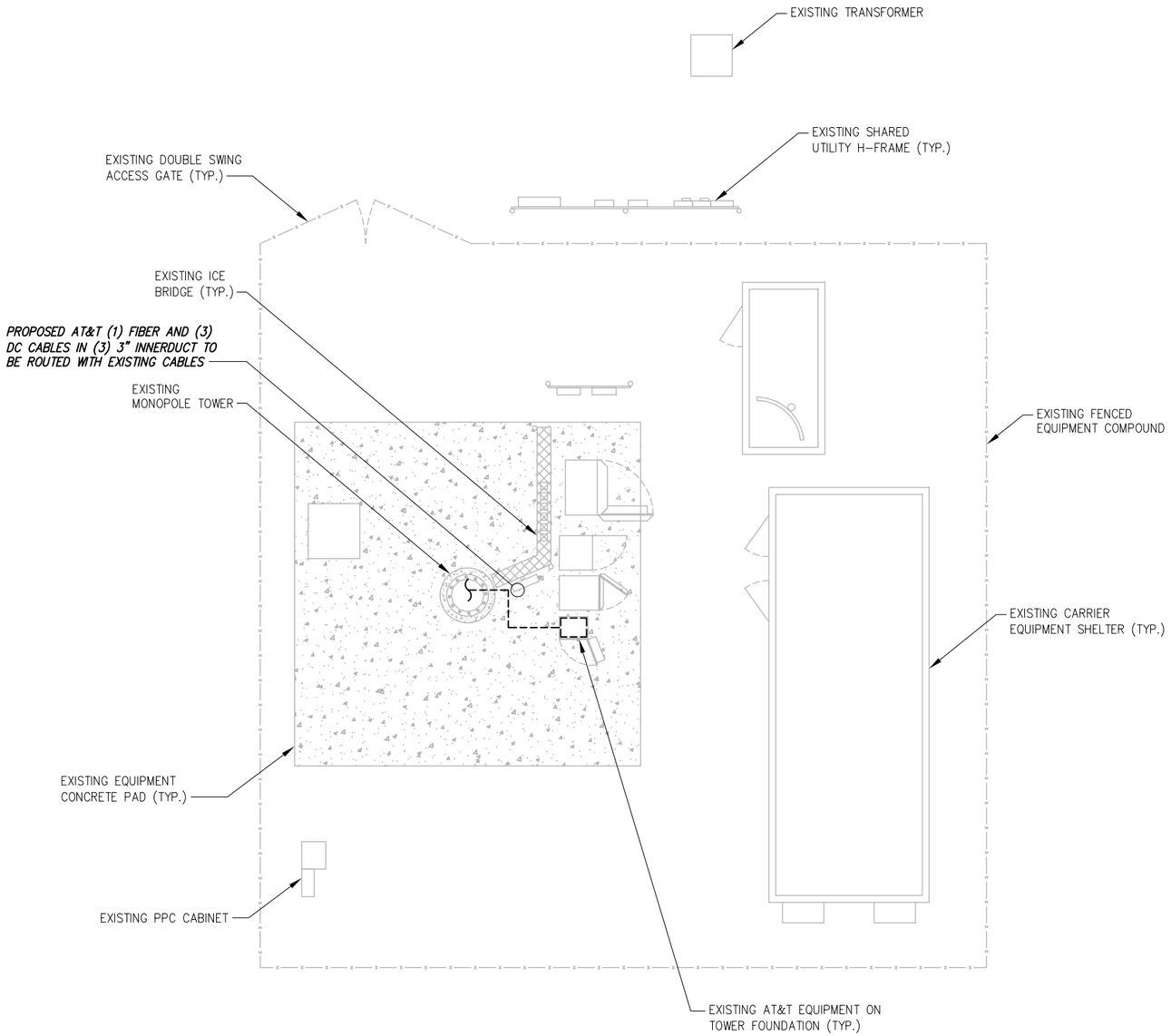
Project Title:
NORTH STONINGTON SOUTH
CTL05725
FA# 10071175
267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06359

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 09/25/19
CD

Drawing Title
GENERAL NOTES

Drawing Number
C1



BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

N
TRUE NORTH

1 SITE PLAN
SCALE: AS NOTED

GRAPHIC SCALE:
10' 5' 0 5' 10'
SCALE (11x17): 1" = 10'-0"
SCALE (22x34): 1" = 5'-0"

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STATE OF CONNECTICUT
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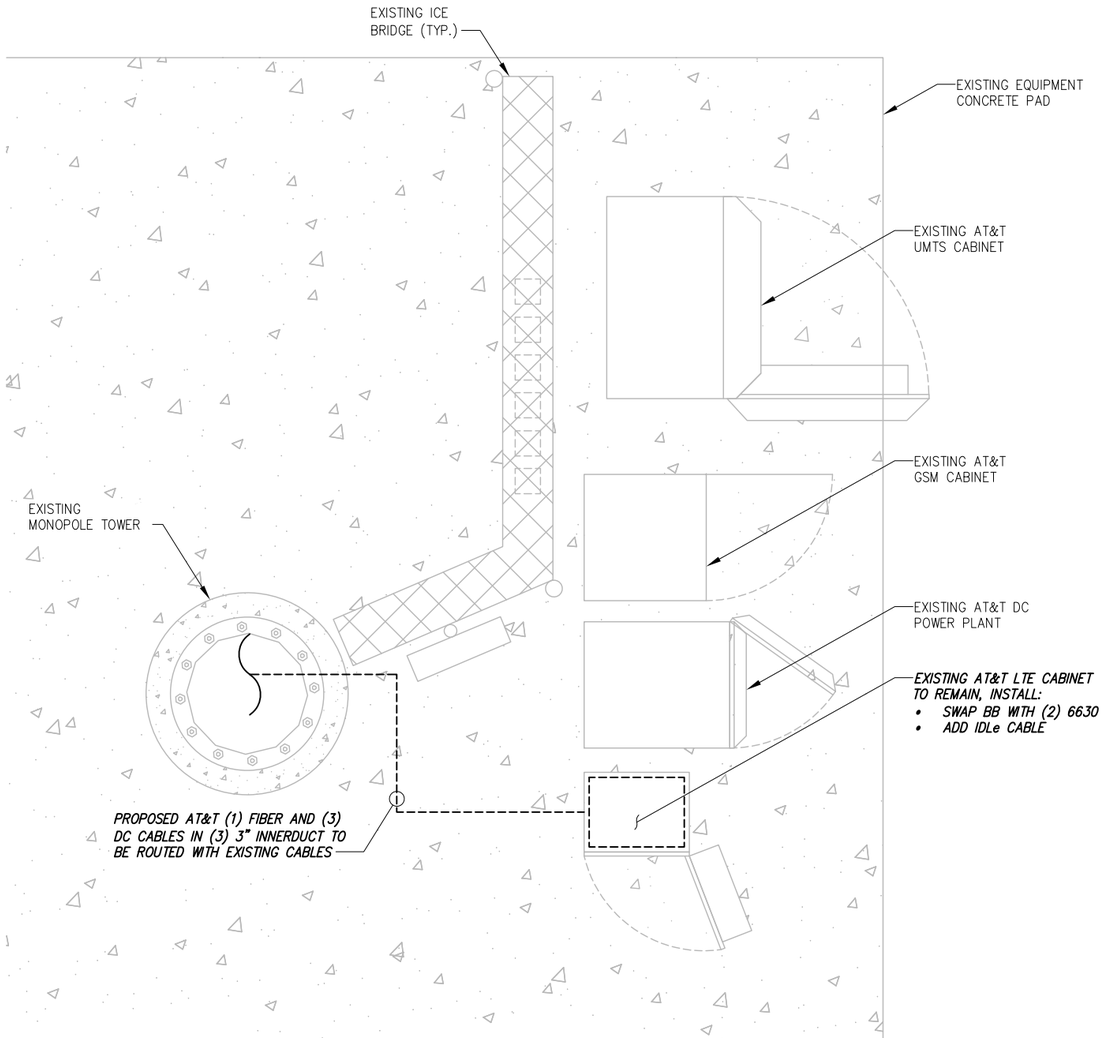
Prepared For:
smartlink

Drawing Scale:
AS NOTED
Date:
09/25/19

CD

Drawing Title
OVERALL SITE PLAN

Drawing Number
C2



BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

N
TRUE NORTH

2 ENLARGED EQUIPMENT PLAN
SCALE: AS NOTED

GRAPHIC SCALE:
2' 1' 0 1' 2'
SCALE (11x17): 1" = 2'-0"
SCALE (22x34): 1" = 1'-0"

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NORTH STONINGTON, CT 06359

Prepared For: smartlink

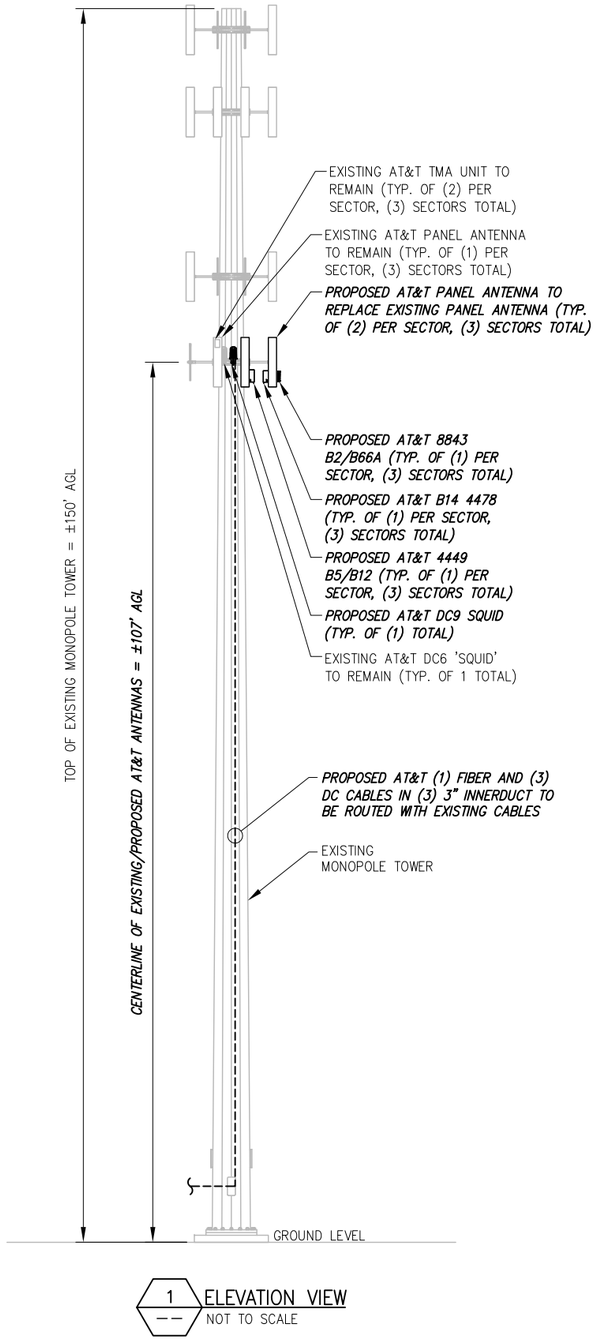
Drawing Scale: AS NOTED
Date: 09/25/19
CD

Drawing Title
ENLARGED SITE PLAN

Drawing Number
C2A

NOTE:
- *INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY STRUCTURAL ANALYSIS.*
- *FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE 'MOUNT ANALYSIS REPORT' COMPLETED BY INFINIGY, DATED 09/05/19.*

NOTE:
- 3' MINIMUM SEPARATION BETWEEN ALL LTE ANTENNAS
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS



1 ELEVATION VIEW
NOT TO SCALE

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 08/29/19, V 3.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/ DIPLEXER	RRUS	AZIMUTH	ANTENNA ℄ HEIGHT	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	*(P) LTE 700/850/AWS /5G 850*	*CCI DMP65R-BU8DA*	--	*(1) (P) 4449 B5/B12*	*60°*	*±107'*	(1) (E) FIBER CABLE (2) (E) DC CABLES	--	*(1) (E) DC6 'SQUID' (1) (P) DC9 'SQUID'*
	A-2	*(P) LTE 700/1900*	*CCI DMP65R-BU8DA*	--	*(1) (P) B14 4478 (1) (P) 8843 B2/B66A*	*60°*	*±107'*	SEE A-1 FOR CABLE INFORMATION	--	
	A-3	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	120°	±107'	(2) (E) 1-5/8" COAX CABLES	±135'	
	A-4	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	--	
BETA	B-1	*(P) LTE 700/850/AWS /5G 850*	*CCI DMP65R-BU8DA*	--	*(1) (P) 4449 B5/B12*	*180°*	*±107'*	*(1) (P) FIBER CABLE (3) (P) DC CABLES*	--	
	B-2	*(P) LTE 700/1900*	*CCI DMP65R-BU8DA*	--	*(1) (P) B14 4478 (1) (P) 8843 B2/B66A*	*180°*	*±107'*	SEE A-1 FOR CABLE INFORMATION	--	
	B-3	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	210°	±107'	(2) (E) 1-5/8" COAX CABLES	±135'	
	B-4	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	--	
GAMMA	G-1	*(P) LTE 700/850/AWS /5G 850*	*CCI DMP65R-BU8DA*	--	*(1) (P) 4449 B5/B12*	*290°*	*±107'*	SEE A-1 FOR CABLE INFORMATION	--	
	G-2	*(P) LTE 700/1900*	*CCI DMP65R-BU8DA*	--	*(1) (P) B14 4478 (1) (P) 8843 B2/B66A*	*290°*	*±107'*	SEE A-1 FOR CABLE INFORMATION	--	
	G-3	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	310°	±107'	(2) (E) 1-5/8" COAX CABLES	±135'	
	G-4	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	--	

2 AT&T ANTENNA SCHEDULE
NOT TO SCALE

INFINIGY
INFINIGY ENGINEERING, PLLC
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STATE OF CONNECTICUT
JOHN C. STEVENS
09/25/2019
24705
LICENSED PROFESSIONAL ENGINEER

No.	Submittal / Revision	App'd	Date
1	ISSUED FOR PERMIT	BMM	09/25/19
0	ISSUED FOR REVIEW	BMM	09/16/19

Drawn: BMM Date: 09/16/19
Designed: ASW Date: 09/16/19
Checked: AJD Date: 09/16/19

Project Number: 499-006

Project Title:
NORTH STONINGTON SOUTH
CTL05725
FA# 10071175
267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06359

Prepared For: smartlink

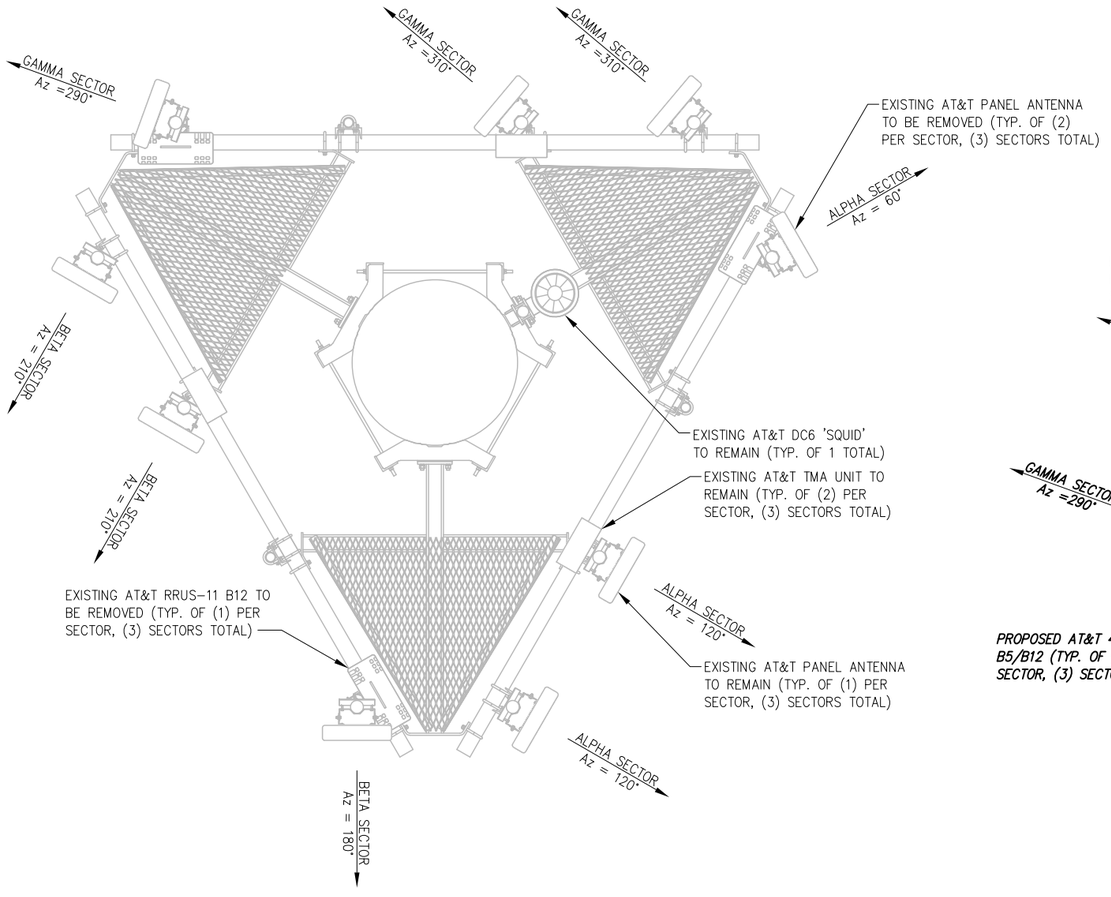
Drawing Scale: AS NOTED
Date: 09/25/19
CD

Drawing Title
ELEVATION VIEW

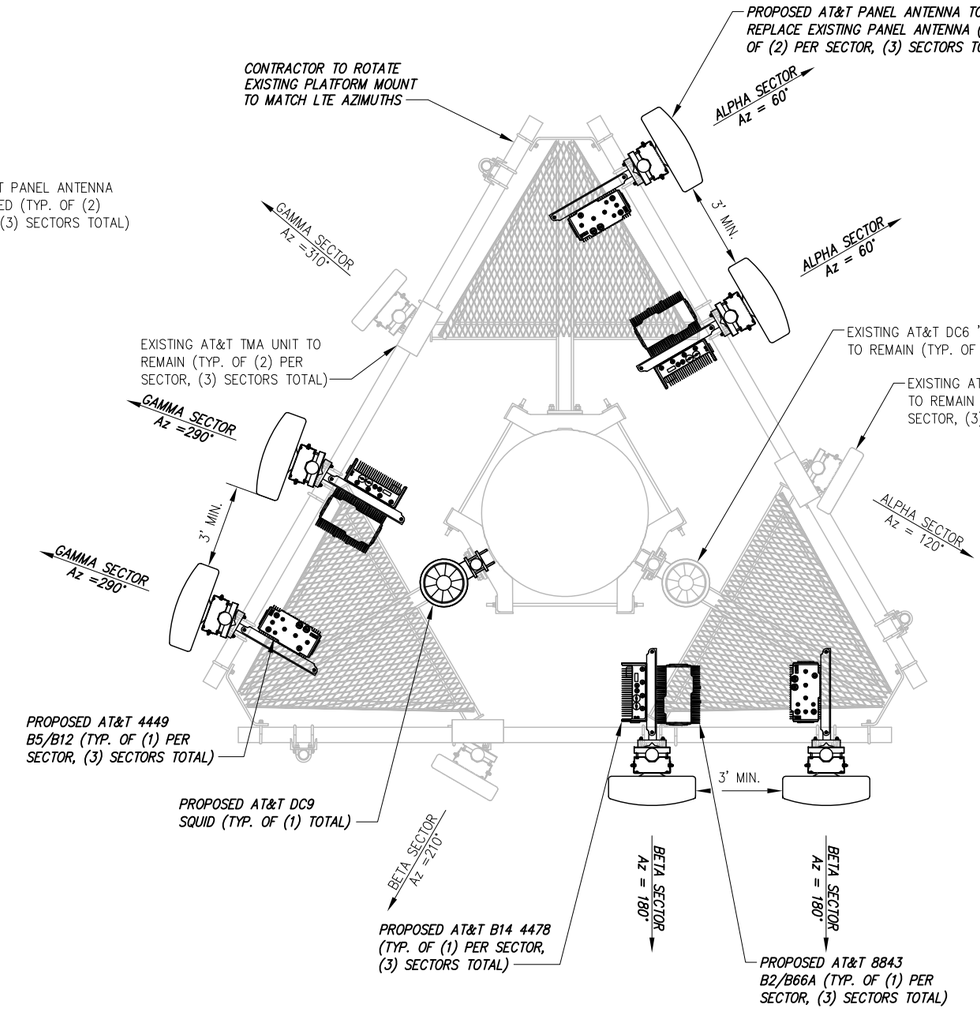
Drawing Number
C3

NOTE:
- 3' MINIMUM SEPARATION BETWEEN ALL LTE ANTENNAS
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS

NOTE:
- *INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY STRUCTURAL ANALYSIS.*
- *FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE 'MOUNT ANALYSIS REPORT' COMPLETED BY INFINIGY, DATED 09/05/19.*



1 EXISTING ANTENNA ORIENTATION PLAN
NOT TO SCALE



2 PROPOSED ANTENNA ORIENTATION PLAN
NOT TO SCALE

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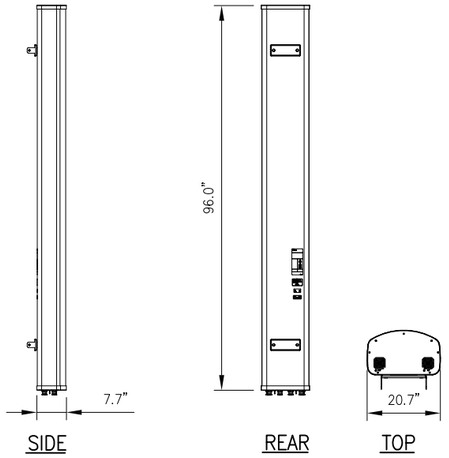
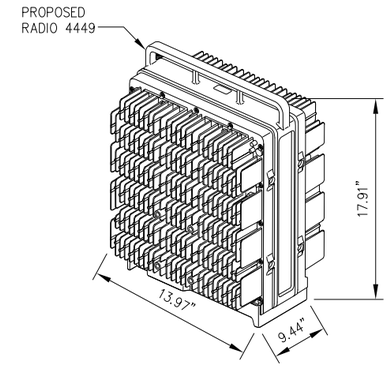
Drawing Title
ANTENNA ORIENTATION PLAN

Drawing Number
C4



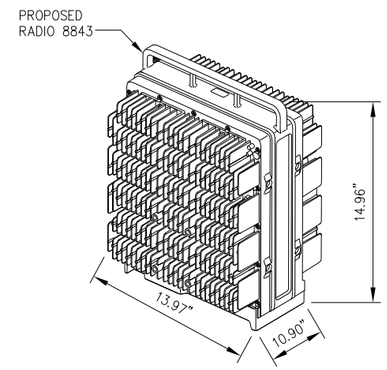
CCI MODEL NO.:	DMP65R-BU8DA
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96.0"x20.7"x7.7"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	95.7 LBS
CONNECTOR:	7-16 DIN FEMALE

1 ANTENNA DETAIL
NOT TO SCALE



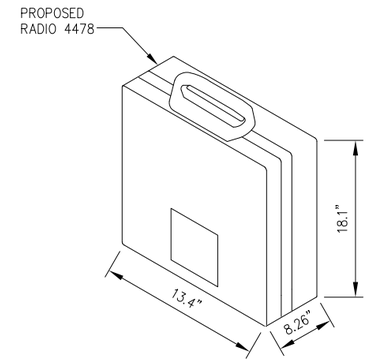
RADIO 4449 SPECIFICATIONS
- HxWxD, (INCHES) : 17.91"x13.97"x9.44"
- WEIGHT (LBS) : 70.54
- COLOR : GRAY

2 ERICSSON RADIO 4449 DETAIL
NOT TO SCALE



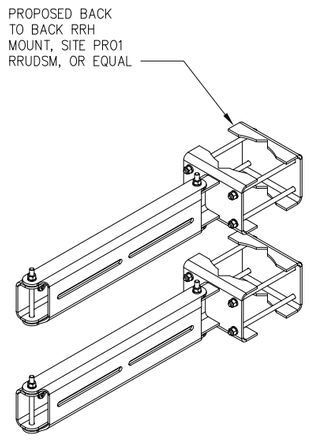
RADIO 8843 SPECIFICATIONS
- HxWxD, (INCHES) : 14.96"x13.97"x10.90"
- WEIGHT (LBS) : 71.87
- COLOR : GRAY

3 ERICSSON RADIO 8843 DETAIL
NOT TO SCALE

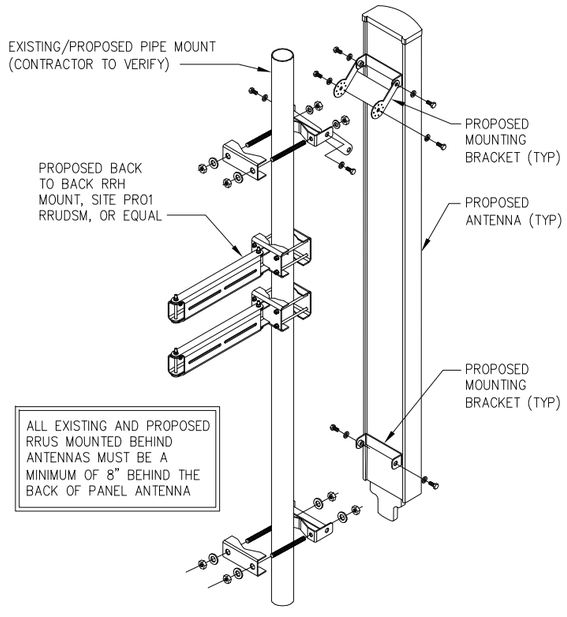


RADIO 4478-B14 SPECIFICATIONS
- HxWxD, (INCHES) : 18.1"x13.4"x8.26"
- WEIGHT (LBS) : 59.5
- COLOR : GRAY
- MOUNTING BRACKET: SXK1250244/1

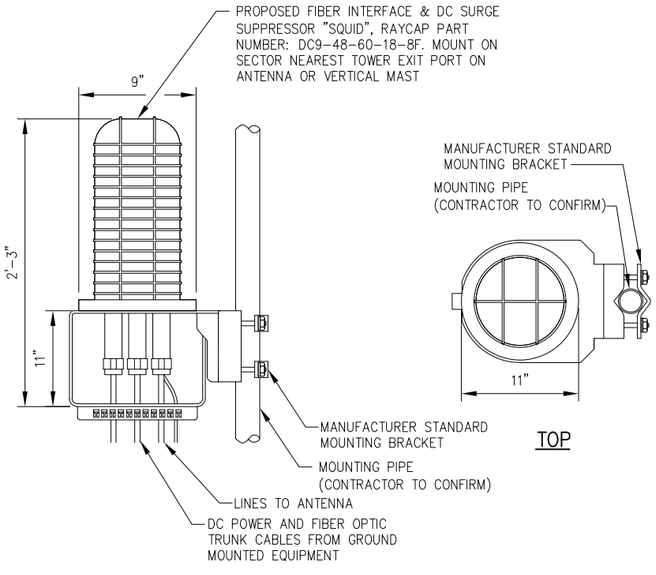
4 ERICSSON RADIO 4478-B14 DETAIL
NOT TO SCALE



5 BACK TO BACK PIPE MOUNT DETAIL
NOT TO SCALE



6 ANTENNA MOUNTING DETAIL
NOT TO SCALE



7 SQUID DETAIL
NOT TO SCALE

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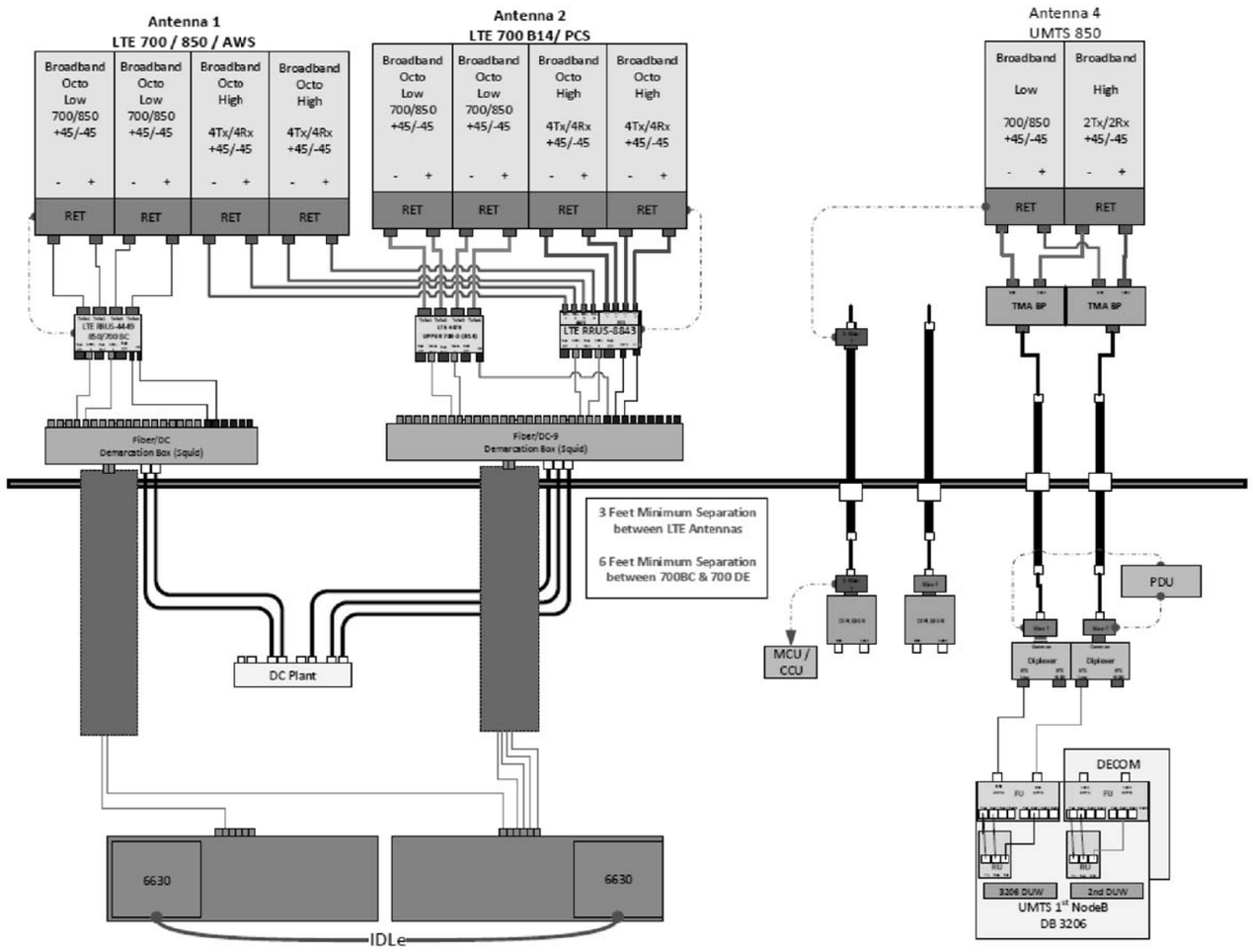
Drawing Title
EQUIPMENT DETAILS

Drawing Number
C5



ALPHA/BETA/GAMMA

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)
NOT TO SCALE

*BASED ON LTE RFDS, DATED 08/29/2019, V3.00

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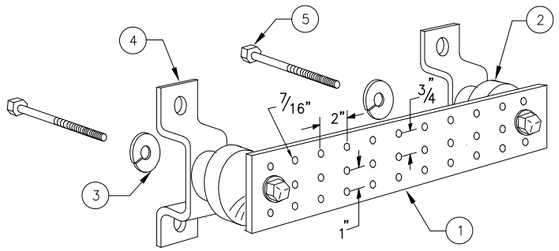
Drawing Title
PLUMBING DIAGRAM

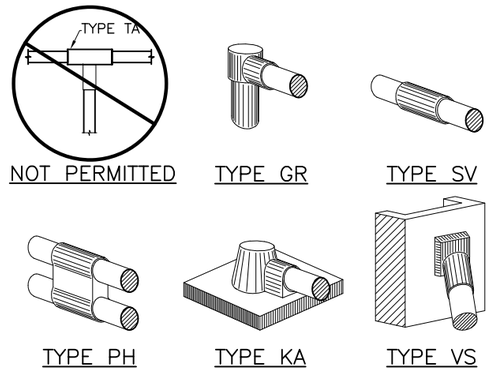
Drawing Number
C6



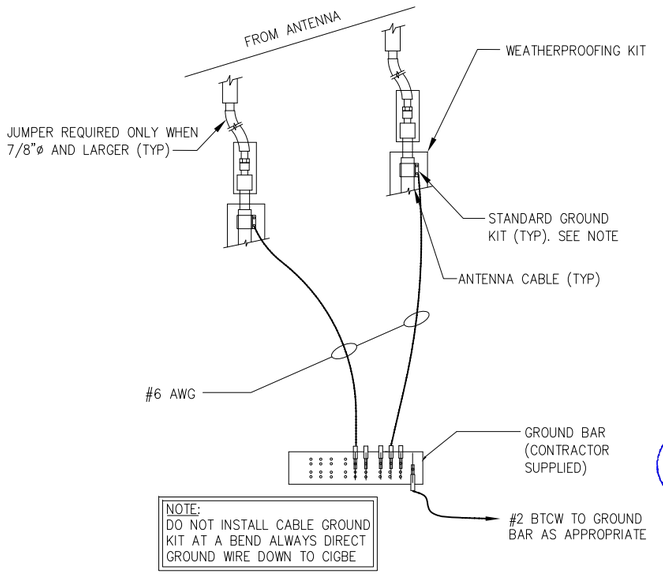
LEGEND

1 – SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2 – INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061–4
3 – 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015–8
4 – WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A–6056
5 – 5/8–11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012–1
6 – GROUND BAR SHALL BE SIZED TO ACCOMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
7 – GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
8 – GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
9 – HARDWARE DIAMETER SHALL BE MINIMUM 3/8"

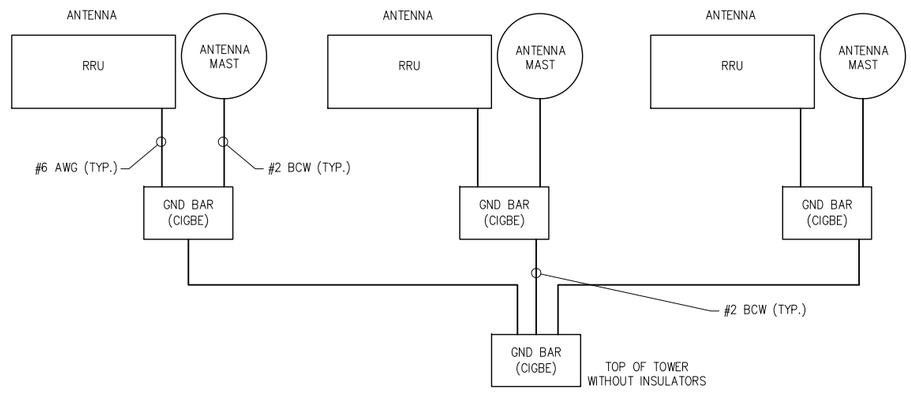
1 — GROUND BAR
NOT TO SCALE



2 — CADWELDS (TYPICAL)
NOT TO SCALE



3 — CONNECTION OF GROUND WIRES TO GROUNDING BARS @ ANTENNAS
NOT TO SCALE



4 — SCHEMATIC DIAGRAM GROUNDING SYSTEM
NOT TO SCALE

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Drawing Title
GROUNDING DETAILS

Drawing Number
C7