Filed by:
Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbasite.com

February 4, 2019

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

Notice of Exempt Modification
811 Stonington Road, Stonington, CT
41 21 12.3 N
-71 53 13.2W
Sprint #: CT33XC088

Dear Ms. Bachman:

Sprint currently maintains antennas at the 147-foot level of the existing 150-foot Monopole Tower at 811 Stonington Road, Stonington, CT. The tower is owned by SBA Towers, LLC. The property is owned by the Phillip McClellan. Sprint now intends to remove (3) existing antennas and replace with (3) newer technology cell antennas at the 147-foot level of the tower. The proposed full scope of work is as follows:

Remove:
- (6) 1 5/8" lines

Remove and Replace:
- Remove:
  - (6) Lucent - DB908H0E-M – Panel Antennas (3 actual / 3 entitlements only)
  - (1) 24" canister
- Replace with:
  - (3) Commscope - DHHTT65B-3XR – Panel Antennas
  - (1) 34" canister

Install:
- (3) RFS - KIT-FD9R6004/1C-DL – Diplexers
- (3) CCI - DPO-7126Y-0-T1 – Diplexers
- (12) 7/8" lines
- (3) 3/8" RET lines

At ground level (no change to compound size – all work within existing leased area):
- (3) RFS IBC1900HG-2A combiners mounted to existing canopy post
- (6) RFS FD9R6004/1C-3L diplexers mounted to existing canopy post
- (3) 800 MHz RRHs mounted to existing canopy post
- (3) 2500 GHz RRHs mounted to existing canopy post

Existing Tower Top Equipment to Remain (Including entitlements):
N/A

This facility was originally approved prior to the Council's jurisdiction. The Town of Stonington's Planning and Zoning Commission approved application PZ9937SPA for a 150' monopole on 9/2/99. There were no conditions placed on the tower configuration, therefore this modification complies with all conditions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Stonington's First Selectman, Robert Simmons, and Director of Planning, Jason Vincent, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modification will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
203.446.7700 + C
kpelletier@sbasite.com

Attachments
cc: Robert Simmons, First Selectman / with attachments
Town of Stonington, 152 Elm Street, Stonington, CT 06378
Jason Vincent, Director of Planning / with attachments
Town of Stonington, 152 Elm Street, Stonington, CT 06378
Phillip McClellan / with attachments
11 Velvet Lane Mystic CT 06355-1917

POWER DENSITY

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Commscope DHHTT65B-3XR	Make / Model:	Commscope DHHTT65B-3XR	Make / Model:	Commscope DHHTT65B-3XR
Gain:	13.35 / 15.25/15.05 dBd	Gain:	13.35 / 15.25 / 15.05 dBd	Gain:	13.35 / 15.25 / 15.05 dBd
Height (AGL):	**147 feet**	Height (AGL):	**147 feet**	Height (AGL):	**147 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS) / 2500 MHz (BRS)	Frequency Bands	850 MHz / 1900 MHz (PCS) / 2500 MHz (BRS)	Frequency Bands	850 MHz / 1900 MHz (PCS) / 2500 MHz (BRS)
Channel Count	18	Channel Count	18	Channel Count	18
Total TX Power(W):	440 Watts	Total TX Power(W):	440 Watts	Total TX Power(W):	440 Watts
ERP (W):	13,072.94	ERP (W):	13,072.94	ERP (W):	13,072.94
Antenna A1 MPE%	**2.72 %**	Antenna B1 MPE%	**2.72 %**	Antenna C1 MPE%	**2.72 %**

Site Composite MPE%	
Carrier	MPE%
SPRINT – Max per sector	**2.72 %**
MetroPCS	0.40 %
T-Mobile	0.50 %
AT&T	2.02 %
Site Total MPE %:	**5.64 %**

SPRINT Sector A Total:	2.72 %
SPRINT Sector B Total:	2.72 %
SPRINT Sector C Total:	2.72 %
Site Total:	5.64 %

SPRINT _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	432.54	147	0.78	850 MHz	567	0.14%
Sprint 850 MHz LTE	2	1,081.36	147	3.91	850 MHz	567	0.69%
Sprint 1900 MHz (PCS) CDMA	5	535.94	147	4.85	1900 MHz (PCS)	1000	0.48%
Sprint 1900 MHz (PCS) LTE	2	1,339.86	147	4.85	1900 MHz (PCS)	1000	0.48%
Sprint 2500 MHz (BRS) LTE	8	639.78	147	9.26	2500 MHz (BRS)	1000	0.93%
						Total:	**2.72%**

SPRINT Sector	Power Density Value (%)
Sector A:	2.72 %
Sector B:	2.72 %
Sector C:	2.72 %
SPRINT Maximum Total (per sector):	2.72 %
Site Total:	5.64 %
Site Compliance Status:	**COMPLIANT**

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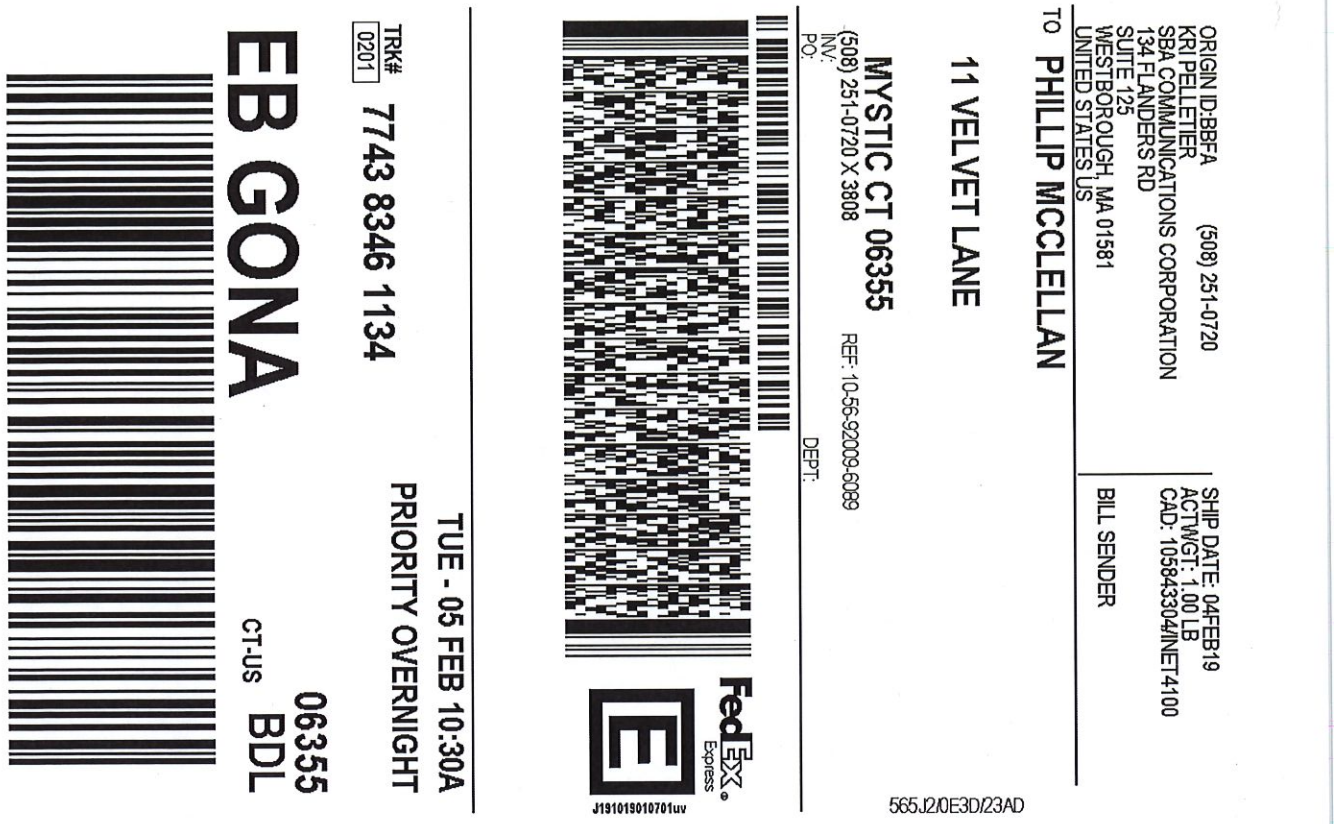

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Town of Stonington, CT
Property Listing Report

Map Block Lot 75-1-2A

Account 00490300

Property Information

Property Location	811 STONINGTON RD
Owner	MCCLELLAN PHILLIP C
Co-Owner	C/O SBA TOWERS INC
Mailing Address	8051 CONGRESS AVE BOCA RATON FL 33487-1307
Land Use	430V TEL X STA M-00
Land Class	I
Survey Map #	NA
School District	

Fire District	Wequetequock
Census Tract	7052
Neighborhood	0035
Zoning Code	RR-80
Acreage	3.3
Utilities	
Lot Setting/Desc	
Trash Day	W
Polling Place (District)	Stonington Fire 1

Photo

Sketch

Primary Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Floors	
Total Rooms	

Bedrooms	0
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

Exterior Walls	
Interior Walls	
Heating Type	
Heating Fuel	
AC Type	
Gross Bldg Area	
Total Living Area	0

Report Created On 4/9/2018

Town of Stonington, CT
Property Listing Report

Map Block Lot 75-1-2A

Account 00490300

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Outbuildings	193000	135100
Land	109500	76700
Total	302500	211800

Outbuilding and Extra Items

Type	Description
FENCE-6' CHAIN	192.00 L.F.
LIGHTS-IN W/PL	1.00 UNITS
SHELTER	
CELL TOWER	

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
MCCLELLAN PHILLIP C	589/1129	10/24/2005	365500
MCCLELLAN PHILLIP C	589/1125	10/24/2005	
MCCLELLAN PHILLIP C	449/ 686	4/27/2000	
MCCLELLAN PHILLIP C	406/ 135	7/8/1997	30000
LOPRESTO PHILIP JR & GARDNER	406/ 129	7/8/1997	
LOPRESTO PHILIP EST OF	384/ 781	10/10/1995	
LOPRESTO PHILIP EST OF	355/1003	6/1/1993	
LOPRESTO PHILIP	221/ 662	12/28/1978	

Report Created On 4/9/2018

Town of Stonington, CT
Property Listing Report

Map Block Lot 75-1-2A

Account 00490300

Property Information

Property Location	811 STONINGTON RD
Owner	MCCLELLAN PHILLIP C
Co-Owner	C/O SBA TOWERS INC
Mailing Address	8051 CONGRESS AVE BOCA RATON FL 33487-1307
Land Use	430V TEL X STA MDL-00
Land Class	I
Survey Map #	NA
School District	

Fire District	Wequetequock
Census Tract	7052
Neighborhood	0035
Zoning Code	RR-80
Acreage	3.3
Utilities	
Lot Setting/Desc	
Trash Day	W
Polling Place (District)	Stonington Fire 1

Photo

Sketch

Primary Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Floors	
Total Rooms	

Bedrooms	0
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

Exterior Walls	
Interior Walls	
Heating Type	
Heating Fuel	
AC Type	
Gross Bldg Area	
Total Living Area	0

Report Created On 10/18/2017

Town of Stonington, CT
Property Listing Report

Map Block Lot 75-1-2A

Account 00490300

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Outbuildings	193000	135100
Land	102700	71900
Total	295700	207000

Outbuilding and Extra Items

Type	Description
FENCE-6' CHAIN	192.00 L.F.
LIGHTS-IN W/PL	1.00 UNITS
SHELTER	
CELL TOWER	

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
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LOPRESTO PHILIP EST OF	384/ 781	10/10/1995	
LOPRESTO PHILIP EST OF	355/1003	6/1/1993	
LOPRESTO PHILIP	221/ 662	12/28/1978	

Report Created On 10/18/2017

EBI Consulting
environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

SPRINT Existing Facility

Site ID: CT33XC088

North Stonington 2 CT
808 Stonington Road
Stonington, CT 06378

June 20, 2018

EBI Project Number: 6218004559

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	5.64 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

June 20, 2018

SPRINT
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT33XC088 – North Stonington 2 CT**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **808 Stonington Road, Stonington, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 850 MHz Band is approximately 567 $\mu W/cm^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where 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.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed SPRINT Wireless antenna facility located at **808 Stonington Road, Stonington, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 50 Watts per Channel.

3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

7) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **Commscope DHHTT65B-3XR** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antenna mounting height centerlines of the proposed antennas are **147 feet** above ground level (AGL) for **Sector A**, **147 feet** above ground level (AGL) for **Sector B** and **147 feet** above ground level (AGL) for Sector C.

10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general population threshold limits.

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Commscope DHHTT65B-3XR	Make / Model:	Commscope DHHTT65B-3XR	Make / Model:	Commscope DHHTT65B-3XR
Gain:	13.35 / 15.25/15.05 dBd	Gain:	13.35 / 15.25 / 15.05 dBd	Gain:	13.35 / 15.25 / 15.05 dBd
Height (AGL):	**147 feet**	Height (AGL):	**147 feet**	Height (AGL):	**147 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS) / 2500 MHz (BRS)	Frequency Bands	850 MHz / 1900 MHz (PCS) / 2500 MHz (BRS)	Frequency Bands	850 MHz / 1900 MHz (PCS) / 2500 MHz (BRS)
Channel Count	18	Channel Count	18	Channel Count	18
Total TX Power(W):	440 Watts	Total TX Power(W):	440 Watts	Total TX Power(W):	440 Watts
ERP (W):	13,072.94	ERP (W):	13,072.94	ERP (W):	13,072.94
Antenna A1 MPE%	**2.72 %**	Antenna B1 MPE%	**2.72 %**	Antenna C1 MPE%	**2.72 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**2.72 %**
MetroPCS	0.40 %
T-Mobile	0.50 %
AT&T	2.02 %
Site Total MPE %:	**5.64 %**

SPRINT Sector A Total:	2.72 %
SPRINT Sector B Total:	2.72 %
SPRINT Sector C Total:	2.72 %
Site Total:	5.64 %

SPRINT _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	432.54	147	0.78	850 MHz	567	0.14%
Sprint 850 MHz LTE	2	1,081.36	147	3.91	850 MHz	567	0.69%
Sprint 1900 MHz (PCS) CDMA	5	535.94	147	4.85	1900 MHz (PCS)	1000	0.48%
Sprint 1900 MHz (PCS) LTE	2	1,339.86	147	4.85	1900 MHz (PCS)	1000	0.48%
Sprint 2500 MHz (BRS) LTE	8	639.78	147	9.26	2500 MHz (BRS)	1000	0.93%
						Total:	**2.72%**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the SPRINT facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

SPRINT Sector	Power Density Value (%)
Sector A:	2.72 %
Sector B:	2.72 %
Sector C:	2.72 %
SPRINT Maximum Total (per sector):	2.72 %
Site Total:	5.64 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **5.64 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

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

Post-Mod Structural Analysis Report

Existing 150 ft. PIROD Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01493-S

Customer Site Name: North Stonington 2 CT

Carrier Name: Sprint Nextel

Carrier Site ID / Name: CT33XC088 / North Stonington

Site Location: 811 Stonington Road

Stonington, Connecticut

New London County

Latitude: 41.353417

Longitude: -71.887000

8/21/18

Analysis Result:

Max Structural Usage: 98.8% [Pass]

Max Foundation Usage: 98% [Pass]

Report Prepared By : Stacey Hesselbein

Introduction

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

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawing prepared by PiROD, Drawing #20550-B dated 10/20/99
Foundation Drawing	Foundation Drawing prepared by PiROD, Drawing #20550-B dated 10/20/99
Geotechnical Report	Geotechnical Report prepared by FDH, Project #1207125EG1 dated 8/10/12
Existing Modification	Modification Drawing prepared by FDH, Project #11-04387E S2 dated 8/19/11
Proposed Modification	TES Job # 57603

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 140 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 108.0 mph (3-Sec. Gust)
Basic 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 / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft.
Seismic Parameters:	SS = 0.159, S1 = 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
-	147.0	6	Lucent - DB908H0E-M - Panel	Concealed (24" Canister)	(6) 1 5/8"	Sprint Nextel
4	135.0	3	RFS - APXV18-206516L - Panel	Concealed (24" Canister)	(6) 1 5/8"	T-Mobile
5	125.0	3	KMW - AMXCD1465 - Panel	Concealed (30" Canister)	(12) 7/8"	AT&T
6		3	Andrew - ETW190VS12UB - TMA/TTA			
7		6	CM1007-DBPXBC-xxx - Diplexer			
8	115.0	3	Kathrein - 742 351 - Panel	Concealed (24" Canister)	(6) 7/8" (1) 3/8"	Metro PCS

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
1	147.0	3	Commscope - DHHTT65B-3XR - Panel	Concealed (34" Canister)	(12) 7/8" (3) 3/8" RET	Sprint Nextel
2		3	RFS - KIT-FD9R6004/1C-DL - Diplexers			
3		3	CCI - DPO-7126Y-0-T1 - Diplexer			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Flanges
Max. Usage:	**98.8%**	**62.4%**	**96.1%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	995.6	11.9	30.0

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 2.1873 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the design ANSI/TIA/EIA 222-G standards under a basic wind speed of 108 mph no ice and 50 mph with 3/4" radial ice after the following proposed modification is successfully completed.

- Proposed modification design drawing by **TES** Job # 57603

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed Sprint Nextel equipment loading can be installed prior to the completion of the required modifications. We ran a reduced wind loading case as required by TIA-322 considering a construction period of no more than 6 months.

The tower and foundations passed, so the Carrier can proceed and install their proposed loading prior to the mods completion. Please be aware that this approval is being provided and is based on the method outlined in TIA-322. This approval is not a blanket approval and there is still a risk that the tower will experience a wind event that cannot be predicted by TIA-322 or our Engineers. In the event of an unforeseen wind event, Tower Engineering Solutions will not be liable nor responsible for damage to the tower or the Carriers equipment. Additionally, the tower cannot go beyond the 6 month construction period without the modifications being completed. If the modifications cannot be completed within 6 months from the completed installation of the Carrier's proposed equipment, TES must be notified immediately for further review.

Standard Conditions

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

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

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

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

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

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

Usage Diagram - Max Ratio 98.81% at 120.0ft

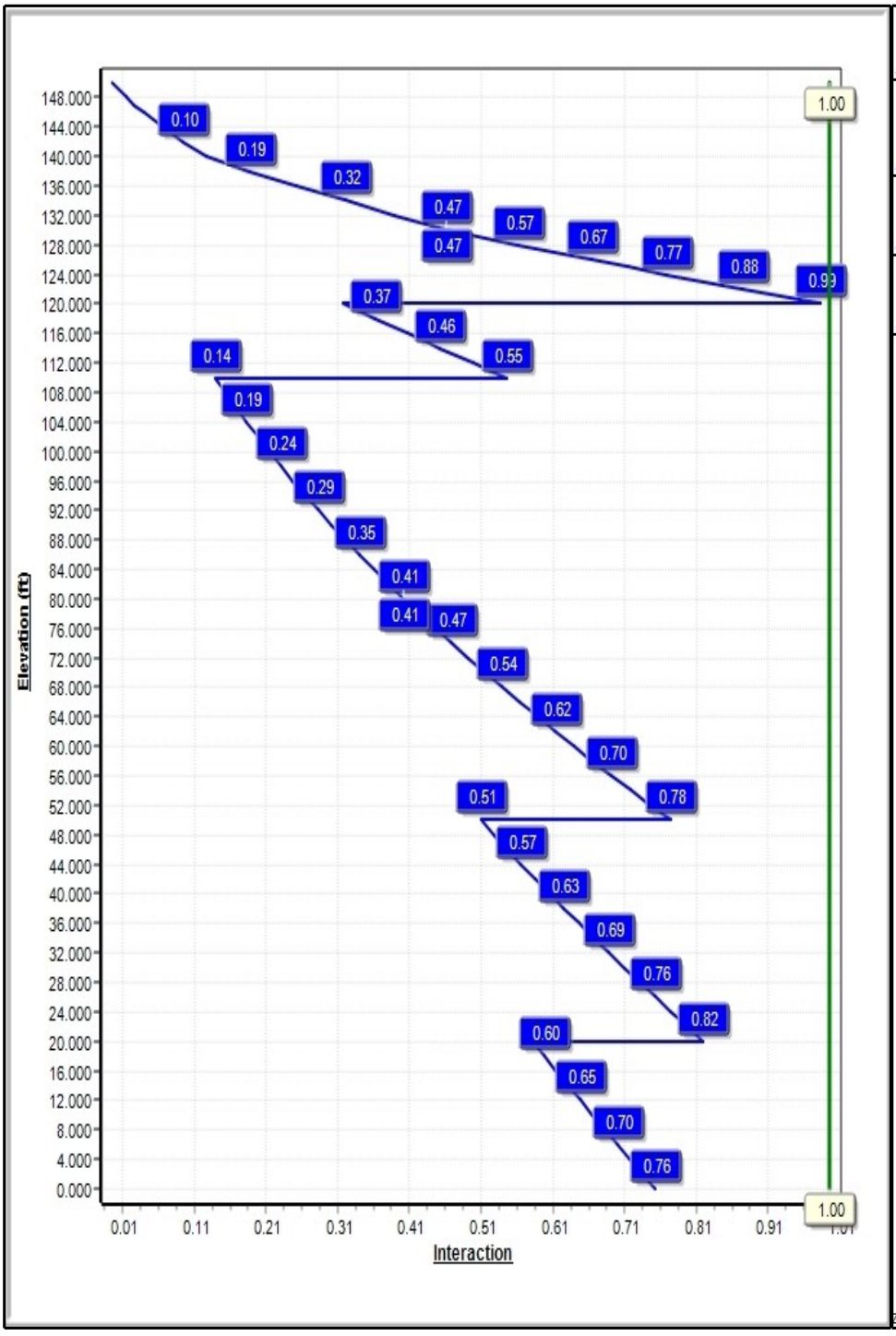
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018
Site Name:	North Stonington 2 CT	**Exposure:**	C	
Height:	150.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

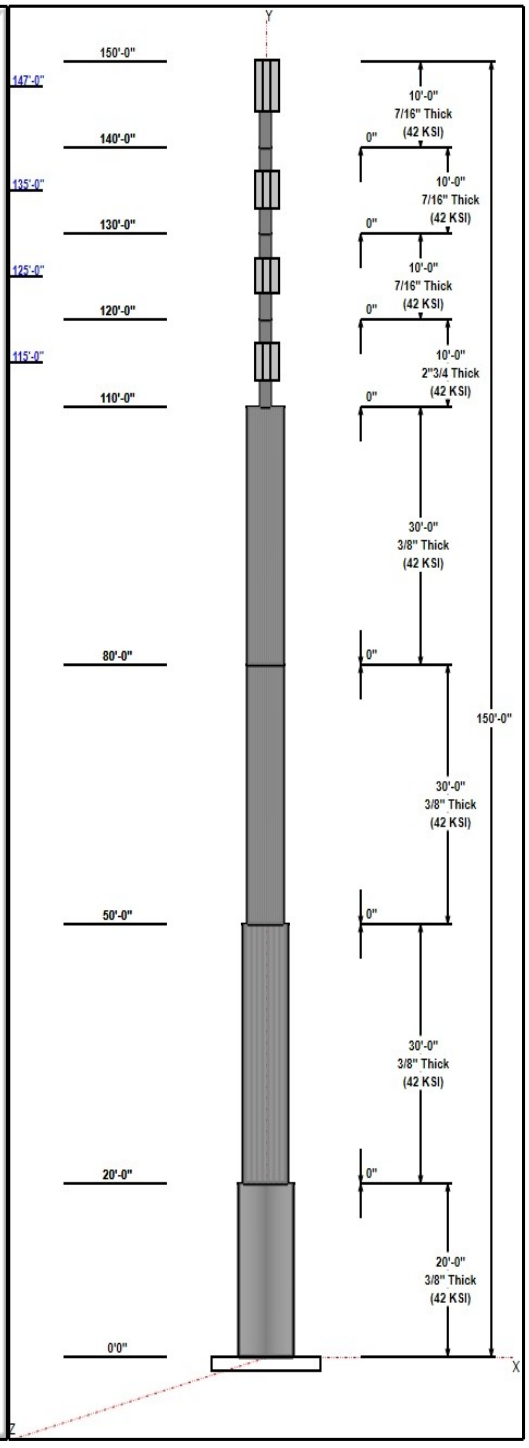
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 108 mph Wind

Iterations: 39





Structure: CT01493-S-SBA

Type: Stepped
Site Name: North Stonington 2 CT
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: Round
Taper: 0.00000

8/21/2018

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	20.00	36.00	36.00	0.375		0.00000	42
2	30.00	30.00	30.00	0.375		0.00000	42
3	30.00	24.00	24.00	0.375		0.00000	42
4	30.00	24.00	24.00	0.375		0.00000	42
5	10.00	6.75	6.75	2.745		0.00000	42
6	10.00	6.63	6.63	0.432		0.00000	42
7	10.00	6.63	6.63	0.432		0.00000	42
8	10.00	6.63	6.63	0.432		0.00000	42

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	150.00	1	34" Canister	
147.00	147.00	3	DHHTT65B-3XR	Sprint Nextel
147.00	147.00	3	KIT-FD9R6004/1C-DL	Sprint Nextel
147.00	147.00	3	DPO-7126Y-0-T1	Sprint Nextel
140.00	140.00	1	34" Canister & 24"	
135.00	135.00	3	APXV18-206516L	T-Mobile
130.00	130.00	1	24" Canister & 30"	
125.00	125.00	3	AMXCD1465	AT&T
125.00	125.00	3	ETW190VS12UB	AT&T
125.00	125.00	6	CM1007-DBPXBC-xxx	AT&T
120.00	120.00	1	30" Canister & 24"	
115.00	115.00	3	742 351	Metro PCS
110.00	110.00	1	24" Canister	

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	147.00	Inside	3/8" RET	Sprint Nextel
0.00	147.00	Inside	7/8" Coax	Sprint Nextel
0.00	135.00	Inside	1 5/8" Coax	T-Mobile
0.00	125.00	Inside	7/8" Coax	AT&T
0.00	115.00	Inside	3/8" Fiber	Metro PCS
0.00	115.00	Inside	7/8" Coax	Metro PCS

Anchor Bolts

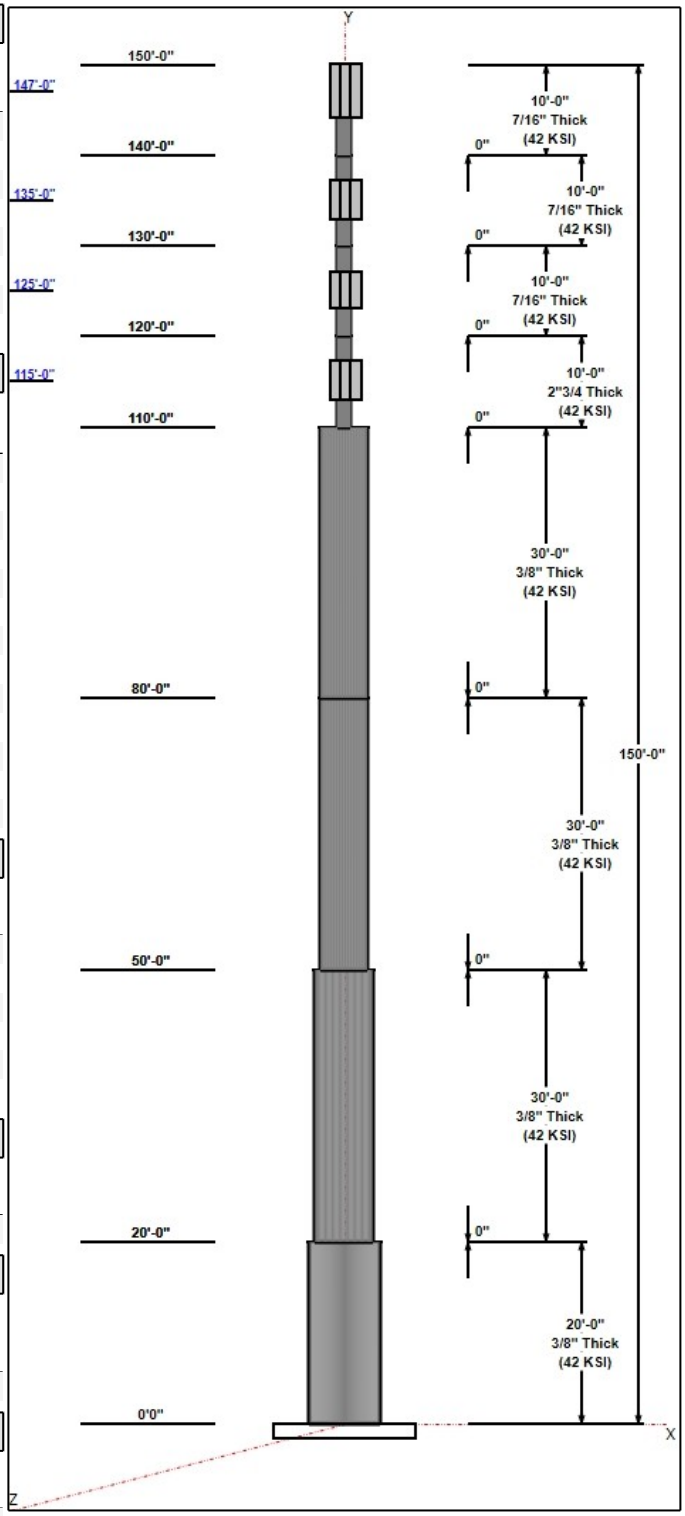
Qty	Specifications	Grade (ksi)	Arrangement
0	2.25" 18J	75.0	0

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
0.0000		60.0	0

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 108 mph Wind	995.6	11.9	21.6
0.9D + 1.6W 108 mph Wind	982.3	11.9	16.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	300.8	3.5	30.0
1.2D + 1.0E	21.2	0.3	21.6
0.9D + 1.0E	20.8	0.3	16.2



1.0D + 1.0W 60 mph Wind	206.3	2.4	18.0

Structure: CT01493-S-SBA - Coax Line Placement

Type: Monopole
Site Name: North Stonington 2 CT
Height: 150.00 (ft)

8/21/2018

Tower Engineering Solutions

Shaft Properties

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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	R	20.000	0.3750	42		0.00	2,856
2	R	30.000	0.3750	42		0.00	3,563
3	R	30.000	0.3750	42		0.00	2,841
4	R	30.000	0.3750	42		0.00	2,841
5	R	10.000	2.7450	42		0.00	1,175
6	R	10.000	0.4320	42		0.00	286
7	R	10.000	0.4320	42		0.00	286
8	R	10.000	0.4320	42		0.00	286
					Total Shaft Weight:		**14,135**

	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	36.00	0.00	41.97	6663.29	0.00	96.00	36.00	20.00	41.97	6663.29	0.00	96.00	0.000000
2	30.00	20.00	34.90	3831.77	0.00	80.00	30.00	50.00	34.90	3831.77	0.00	80.00	0.000000
3	24.00	50.00	27.83	1943.30	0.00	64.00	24.00	80.00	27.83	1943.30	0.00	64.00	0.000000
4	24.00	80.00	27.83	1943.30	0.00	64.00	24.00	110.00	27.83	1943.30	0.00	64.00	0.000000
5	6.75	110.0	34.54	69.30	0.00	2.46	6.75	120.00	34.54	69.30	0.00	2.46	0.000000
6	6.63	120.0	8.40	40.33	0.00	15.34	6.63	130.00	8.40	40.33	0.00	15.34	0.000000
7	6.63	130.0	8.40	40.33	0.00	15.34	6.63	140.00	8.40	40.33	0.00	15.34	0.000000
8	6.63	140.0	8.40	40.33	0.00	15.34	6.63	150.00	8.40	40.33	0.00	15.34	0.000000

Load Summary

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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	34" Canister	1	50.00	6.85	1.00	53.49	7.328	1.00	0.00	0.00
2	147.00	DHHTT65B-3XR	3	45.40	0.00	0.00	246.78	9.384	0.00	0.00	0.00
3	147.00	KIT-FD9R6004/1C-DL	3	3.10	0.00	0.00	11.11	0.000	0.00	0.00	0.00
4	147.00	DPO-7126Y-0-T1	3	12.60	0.00	0.00	30.64	0.000	0.00	0.00	0.00
5	140.00	34" Canister & 24" Canister	1	100.00	11.19	1.00	106.93	11.966	1.00	0.00	0.00
6	135.00	APXV18-206516L	3	18.70	0.00	0.00	87.85	0.000	0.00	0.00	0.00
7	130.00	24" Canister & 30" Canister	1	100.00	10.19	1.00	106.88	10.891	1.00	0.00	0.00
8	125.00	AMXCD1465	3	36.40	0.00	0.00	145.91	0.000	0.00	0.00	0.00
9	125.00	ETW190VS12UB	3	11.00	0.00	0.00	29.17	0.000	0.00	0.00	0.00
10	125.00	CM1007-DBPXBC-xxx	6	6.50	0.00	0.00	18.45	0.000	0.00	0.00	0.00
11	120.00	30" Canister & 24" Canister	1	100.00	10.16	1.00	106.83	10.854	1.00	0.00	0.00
12	115.00	742 351	3	29.80	0.00	0.00	122.60	0.000	0.00	0.00	0.00
13	110.00	24" Canister	1	50.00	4.13	1.00	53.38	4.410	1.00	0.00	0.00
		Totals:	**32**	**910.00**			**2,560.40**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	147.00	(3) 3/8" RET	0.00	Inside
0.00	147.00	(12) 7/8" Coax	0.00	Inside
0.00	135.00	(6) 1 5/8" Coax	0.00	Inside
0.00	125.00	(12) 7/8" Coax	0.00	Inside
0.00	115.00	(1) 3/8" Fiber	0.00	Inside
0.00	115.00	(6) 7/8" Coax	0.00	Inside

Shaft Section Properties

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 7	

Increment Length: **2 (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		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	0.0
2.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
4.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
6.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
8.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
10.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
12.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
14.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
16.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
18.00		0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
20.00	Top - Section 1	0.3750	36.000	41.970	6663.3	0.00	96.00	39.4	370.2	285.6
20.00	Bot - Section 2	0.3750	30.000	34.901	3831.8	0.00	96.00	41.7	255.5	
22.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
24.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
26.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
28.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
30.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
32.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
34.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
36.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
38.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
40.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
42.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
44.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
46.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
48.00		0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
50.00	Top - Section 2	0.3750	30.000	34.901	3831.8	0.00	80.00	41.7	255.5	237.5
50.00	Bot - Section 3	0.3750	24.000	27.833	1943.3	0.00	80.00	42.0	161.9	
52.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
54.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
56.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
58.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
60.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
62.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
64.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
66.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
68.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
70.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
72.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
74.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
76.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
78.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
80.00	Top - Section 3	0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
80.00	Bot - Section 4	0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	
82.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
84.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
86.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
88.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
90.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
92.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4

Increment Length: **2 (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)
94.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
96.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
98.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
100.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
102.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
104.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
106.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
108.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
110.00	Top - Section 4	0.3750	24.000	27.833	1943.3	0.00	64.00	42.0	161.9	189.4
110.00	Bot - Section 5	2.7450	6.750	34.538	69.3	0.00	8.74	42.0	20.5	
112.00		2.7450	6.750	34.538	69.3	0.00	2.46	42.0	20.5	235.0
114.00		2.7450	6.750	34.538	69.3	0.00	2.46	42.0	20.5	235.0
115.00		2.7450	6.750	34.538	69.3	0.00	2.46	42.0	20.5	117.5
116.00		2.7450	6.750	34.538	69.3	0.00	2.46	42.0	20.5	117.5
118.00		2.7450	6.750	34.538	69.3	0.00	2.46	42.0	20.5	235.0
120.00	Top - Section 5	2.7450	6.750	34.538	69.3	0.00	2.46	42.0	20.5	235.0
120.00	Bot - Section 6	0.4320	6.625	8.405	40.3	0.00	15.63	42.0	12.2	
122.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
124.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
125.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	28.6
126.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	28.6
128.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
130.00	Top - Section 6	0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
130.00	Bot - Section 7	0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	
132.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
134.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
135.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	28.6
136.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	28.6
138.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
140.00	Top - Section 7	0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
140.00	Bot - Section 8	0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	
142.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
144.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
146.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
147.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	28.6
148.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	28.6
150.00		0.4320	6.625	8.405	40.3	0.00	15.34	42.0	12.2	57.2
										14134.8

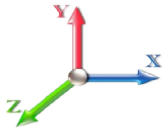
Wind Loading - Shaft

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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 108 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 39

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	24.112	26.52	298.71	0.600	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	342.8
4.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	342.8
6.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	342.8
8.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	342.8
10.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	342.8
12.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	342.8
14.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	342.8
16.00		1.00	0.86	24.410	26.85	300.55	0.600	0.000	2.00	6.000	3.60	154.7	0.0	342.8
18.00		1.00	0.88	25.022	27.52	304.30	0.600	0.000	2.00	6.000	3.60	158.5	0.0	342.8
20.00	Top - Section 1	1.00	0.90	25.584	28.14	307.70	0.600	0.000	2.00	6.000	3.60	162.1	0.0	342.8
22.00		1.00	0.92	26.102	28.71	259.00	0.600	0.000	2.00	5.000	3.00	137.8	0.0	285.0
24.00		1.00	0.94	26.585	29.24	261.38	0.600	0.000	2.00	5.000	3.00	140.4	0.0	285.0
26.00		1.00	0.95	27.037	29.74	263.59	0.600	0.000	2.00	5.000	3.00	142.8	0.0	285.0
28.00		1.00	0.97	27.462	30.21	265.66	0.600	0.000	2.00	5.000	3.00	145.0	0.0	285.0
30.00		1.00	0.98	27.863	30.65	267.59	0.600	0.000	2.00	5.000	3.00	147.1	0.0	285.0
32.00		1.00	1.00	28.245	31.07	269.42	0.600	0.000	2.00	5.000	3.00	149.1	0.0	285.0
34.00		1.00	1.01	28.607	31.47	271.14	0.600	0.000	2.00	5.000	3.00	151.0	0.0	285.0
36.00		1.00	1.02	28.954	31.85	272.78	0.600	0.000	2.00	5.000	3.00	152.9	0.0	285.0
38.00		1.00	1.03	29.285	32.21	274.34	0.600	0.000	2.00	5.000	3.00	154.6	0.0	285.0
40.00		1.00	1.04	29.603	32.56	275.82	0.600	0.000	2.00	5.000	3.00	156.3	0.0	285.0
42.00		1.00	1.05	29.909	32.90	277.24	0.600	0.000	2.00	5.000	3.00	157.9	0.0	285.0
44.00		1.00	1.06	30.203	33.22	278.60	0.600	0.000	2.00	5.000	3.00	159.5	0.0	285.0
46.00		1.00	1.07	30.487	33.54	279.91	0.600	0.000	2.00	5.000	3.00	161.0	0.0	285.0
48.00		1.00	1.08	30.761	33.84	281.17	0.600	0.000	2.00	5.000	3.00	162.4	0.0	285.0
50.00	Top - Section 2	1.00	1.09	31.027	34.13	282.38	0.600	0.000	2.00	5.000	3.00	163.8	0.0	285.0
52.00		1.00	1.10	31.284	34.41	226.84	0.600	0.000	2.00	4.000	2.40	132.1	0.0	227.3
54.00		1.00	1.11	31.534	34.69	227.74	0.600	0.000	2.00	4.000	2.40	133.2	0.0	227.3
56.00		1.00	1.12	31.776	34.95	228.61	0.600	0.000	2.00	4.000	2.40	134.2	0.0	227.3
58.00		1.00	1.13	32.012	35.21	229.46	0.600	0.000	2.00	4.000	2.40	135.2	0.0	227.3
60.00		1.00	1.14	32.241	35.47	230.28	0.600	0.000	2.00	4.000	2.40	136.2	0.0	227.3
62.00		1.00	1.14	32.464	35.71	231.07	0.600	0.000	2.00	4.000	2.40	137.1	0.0	227.3
64.00		1.00	1.15	32.682	35.95	231.85	0.600	0.000	2.00	4.000	2.40	138.0	0.0	227.3
66.00		1.00	1.16	32.894	36.18	232.60	0.600	0.000	2.00	4.000	2.40	138.9	0.0	227.3
68.00		1.00	1.17	33.102	36.41	233.33	0.600	0.000	2.00	4.000	2.40	139.8	0.0	227.3
70.00		1.00	1.17	33.305	36.63	234.05	0.600	0.000	2.00	4.000	2.40	140.7	0.0	227.3
72.00		1.00	1.18	33.503	36.85	234.74	0.600	0.000	2.00	4.000	2.40	141.5	0.0	227.3
74.00		1.00	1.19	33.696	37.07	235.42	0.600	0.000	2.00	4.000	2.40	142.3	0.0	227.3
76.00		1.00	1.19	33.886	37.27	236.08	0.600	0.000	2.00	4.000	2.40	143.1	0.0	227.3
78.00		1.00	1.20	34.072	37.48	236.73	0.600	0.000	2.00	4.000	2.40	143.9	0.0	227.3
80.00	Top - Section 3	1.00	1.21	34.254	37.68	237.36	0.600	0.000	2.00	4.000	2.40	144.7	0.0	227.3
82.00		1.00	1.21	34.433	37.88	237.98	0.600	0.000	2.00	4.000	2.40	145.4	0.0	227.3
84.00		1.00	1.22	34.608	38.07	238.58	0.600	0.000	2.00	4.000	2.40	146.2	0.0	227.3
86.00		1.00	1.23	34.780	38.26	239.17	0.600	0.000	2.00	4.000	2.40	146.9	0.0	227.3
88.00		1.00	1.23	34.948	38.44	239.75	0.600	0.000	2.00	4.000	2.40	147.6	0.0	227.3
90.00		1.00	1.24	35.114	38.63	240.32	0.600	0.000	2.00	4.000	2.40	148.3	0.0	227.3
92.00		1.00	1.24	35.277	38.80	240.88	0.600	0.000	2.00	4.000	2.40	149.0	0.0	227.3

Wind Loading - Shaft

Structure: CT01493-S-SBA | **Code:** EIA/TIA-222-G | 8/21/2018
Site Name: North Stonington 2 CT | **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

94.00		1.00	1.25	35.437	38.98	241.42	0.600	0.000	2.00	4.000	2.40	149.7	0.0	227.3
96.00		1.00	1.25	35.594	39.15	241.96	0.600	0.000	2.00	4.000	2.40	150.4	0.0	227.3
98.00		1.00	1.26	35.749	39.32	242.48	0.600	0.000	2.00	4.000	2.40	151.0	0.0	227.3
100.00		1.00	1.27	35.902	39.49	243.00	0.600	0.000	2.00	4.000	2.40	151.6	0.0	227.3
102.00		1.00	1.27	36.052	39.66	243.51	0.600	0.000	2.00	4.000	2.40	152.3	0.0	227.3
104.00		1.00	1.28	36.199	39.82	244.00	0.600	0.000	2.00	4.000	2.40	152.9	0.0	227.3
106.00		1.00	1.28	36.345	39.98	244.49	0.600	0.000	2.00	4.000	2.40	153.5	0.0	227.3
108.00		1.00	1.29	36.488	40.14	244.98	0.600	0.000	2.00	4.000	2.40	154.1	0.0	227.3
110.00	Top - Section 4	1.00	1.29	36.629	40.29	245.45	0.600	0.000	2.00	4.000	2.40	154.7	0.0	227.3
112.00		1.00	1.30	36.768	40.45	69.16	0.600	0.000	2.00	1.125	0.67	43.7	0.0	282.1
114.00		1.00	1.30	36.906	40.60	69.29	0.600	0.000	2.00	1.125	0.67	43.8	0.0	282.1
115.00	Appurtenance(s)	1.00	1.30	36.974	40.67	69.36	0.600	0.000	1.00	0.563	0.34	22.0	0.0	141.0
116.00		1.00	1.31	37.041	40.75	69.42	0.600	0.000	1.00	0.563	0.34	22.0	0.0	141.0
118.00		1.00	1.31	37.175	40.89	69.54	0.600	0.000	2.00	1.125	0.67	44.2	0.0	282.1
120.00	Top - Section 5	1.00	1.32	37.306	41.04	69.67	0.600	0.000	2.00	1.125	0.67	44.3	0.0	282.1
122.00		1.00	1.32	37.436	41.18	68.50	0.600	0.000	2.00	1.104	0.66	43.7	0.0	68.6
124.00		1.00	1.32	37.565	41.32	68.61	0.600	0.000	2.00	1.104	0.66	43.8	0.0	68.6
125.00	Appurtenance(s)	1.00	1.33	37.628	41.39	68.67	0.600	0.000	1.00	0.552	0.33	21.9	0.0	34.3
126.00		1.00	1.33	37.692	41.46	68.73	0.600	0.000	1.00	0.552	0.33	22.0	0.0	34.3
128.00		1.00	1.33	37.817	41.60	68.84	0.600	0.000	2.00	1.104	0.66	44.1	0.0	68.6
130.00	Top - Section 6	1.00	1.34	37.940	41.73	68.96	0.600	0.000	2.00	1.104	0.66	44.2	0.0	68.6
132.00		1.00	1.34	38.063	41.87	69.07	0.600	0.000	2.00	1.104	0.66	44.4	0.0	68.6
134.00		1.00	1.35	38.183	42.00	69.18	0.600	0.000	2.00	1.104	0.66	44.5	0.0	68.6
135.00	Appurtenance(s)	1.00	1.35	38.243	42.07	69.23	0.600	0.000	1.00	0.552	0.33	22.3	0.0	34.3
136.00		1.00	1.35	38.303	42.13	69.28	0.600	0.000	1.00	0.552	0.33	22.3	0.0	34.3
138.00		1.00	1.35	38.420	42.26	69.39	0.600	0.000	2.00	1.104	0.66	44.8	0.0	68.6
140.00	Top - Section 7	1.00	1.36	38.537	42.39	69.50	0.600	0.000	2.00	1.104	0.66	44.9	0.0	68.6
142.00		1.00	1.36	38.652	42.52	69.60	0.600	0.000	2.00	1.104	0.66	45.1	0.0	68.6
144.00		1.00	1.37	38.766	42.64	69.70	0.600	0.000	2.00	1.104	0.66	45.2	0.0	68.6
146.00		1.00	1.37	38.879	42.77	69.80	0.600	0.000	2.00	1.104	0.66	45.3	0.0	68.6
147.00	Appurtenance(s)	1.00	1.37	38.935	42.83	69.85	0.600	0.000	1.00	0.552	0.33	22.7	0.0	34.3
148.00		1.00	1.37	38.990	42.89	69.90	0.600	0.000	1.00	0.552	0.33	22.7	0.0	34.3
150.00	Appurtenance(s)	1.00	1.38	39.101	43.01	70.00	0.600	0.000	2.00	1.104	0.66	45.6	0.0	68.6
								Totals:	**150.00**			**9,050.8**		**16,961.8**

Discrete Appurtenance Forces

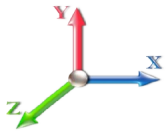
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 108 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 39

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	34" Canister	1	39.101	43.011	1.00	1.00	6.85	60.00	0.000	0.000	471.40	0.00	0.00
2	147.00	DPO-7126Y-0-T1	3	38.935	42.828	0.00	1.00	0.00	45.36	0.000	0.000	0.00	0.00	0.00
3	147.00	KIT-FD9R6004/1C-DL	3	38.935	42.828	0.00	1.00	0.00	11.16	0.000	0.000	0.00	0.00	0.00
4	147.00	DHHTT65B-3XR	3	38.935	42.828	0.00	1.00	0.00	163.44	0.000	0.000	0.00	0.00	0.00
5	140.00	34" Canister & 24"	1	38.537	42.391	1.00	1.00	11.19	120.00	0.000	0.000	758.96	0.00	0.00
6	135.00	APXV18-206516L	3	38.243	42.067	0.00	1.00	0.00	67.32	0.000	0.000	0.00	0.00	0.00
7	130.00	24" Canister & 30"	1	37.940	41.734	1.00	1.00	10.19	120.00	0.000	0.000	680.44	0.00	0.00
8	125.00	CM1007-DBPXBC-xxx	6	37.628	41.391	0.00	1.00	0.00	46.80	0.000	0.000	0.00	0.00	0.00
9	125.00	ETW190VS12UB	3	37.628	41.391	0.00	1.00	0.00	39.60	0.000	0.000	0.00	0.00	0.00
10	125.00	AMXCD1465	3	37.628	41.391	0.00	1.00	0.00	131.04	0.000	0.000	0.00	0.00	0.00
11	120.00	30" Canister & 24"	1	37.306	41.037	1.00	1.00	10.16	120.00	0.000	0.000	667.10	0.00	0.00
12	115.00	742 351	3	36.974	40.671	0.00	1.00	0.00	107.28	0.000	0.000	0.00	0.00	0.00
13	110.00	24" Canister	1	36.629	40.292	1.00	1.00	4.13	60.00	0.000	0.000	266.25	0.00	0.00
							Totals:		**1,092.00**			**2,844.15**		

Total Applied Force Summary

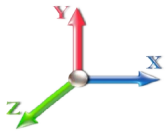
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 108 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 39

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
2.00		152.77	395.74	0.00	0.00
4.00		152.77	395.74	0.00	0.00
6.00		152.77	395.74	0.00	0.00
8.00		152.77	395.74	0.00	0.00
10.00		152.77	395.74	0.00	0.00
12.00		152.77	395.74	0.00	0.00
14.00		152.77	395.74	0.00	0.00
16.00		154.66	395.74	0.00	0.00
18.00		158.54	395.74	0.00	0.00
20.00		162.10	395.74	0.00	0.00
22.00		137.82	338.02	0.00	0.00
24.00		140.37	338.02	0.00	0.00
26.00		142.75	338.02	0.00	0.00
28.00		145.00	338.02	0.00	0.00
30.00		147.12	338.02	0.00	0.00
32.00		149.13	338.02	0.00	0.00
34.00		151.05	338.02	0.00	0.00
36.00		152.88	338.02	0.00	0.00
38.00		154.63	338.02	0.00	0.00
40.00		156.30	338.02	0.00	0.00
42.00		157.92	338.02	0.00	0.00
44.00		159.47	338.02	0.00	0.00
46.00		160.97	338.02	0.00	0.00
48.00		162.42	338.02	0.00	0.00
50.00		163.82	338.02	0.00	0.00
52.00		132.14	280.29	0.00	0.00
54.00		133.20	280.29	0.00	0.00
56.00		134.22	280.29	0.00	0.00
58.00		135.22	280.29	0.00	0.00
60.00		136.19	280.29	0.00	0.00
62.00		137.13	280.29	0.00	0.00
64.00		138.05	280.29	0.00	0.00
66.00		138.95	280.29	0.00	0.00
68.00		139.82	280.29	0.00	0.00
70.00		140.68	280.29	0.00	0.00
72.00		141.52	280.29	0.00	0.00
74.00		142.33	280.29	0.00	0.00
76.00		143.14	280.29	0.00	0.00
78.00		143.92	280.29	0.00	0.00
80.00		144.69	280.29	0.00	0.00
82.00		145.44	280.29	0.00	0.00
84.00		146.18	280.29	0.00	0.00
86.00		146.91	280.29	0.00	0.00
88.00		147.62	280.29	0.00	0.00
90.00		148.32	280.29	0.00	0.00
92.00		149.01	280.29	0.00	0.00

Total Applied Force Summary

Structure:	CT01493-S-SBA		**Code:**	EIA/TIA-222-G	8/21/2018
Site Name:	North Stonington 2 CT		**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

Tower Engineering Solutions

94.00		149.69	280.29	0.00	0.00
96.00		150.35	280.29	0.00	0.00
98.00		151.00	280.29	0.00	0.00
100.00		151.65	280.29	0.00	0.00
102.00		152.28	280.29	0.00	0.00
104.00		152.91	280.29	0.00	0.00
106.00		153.52	280.29	0.00	0.00
108.00		154.13	280.29	0.00	0.00
110.00	(1) attachments	420.97	340.29	0.00	0.00
112.00		43.68	335.05	0.00	0.00
114.00		43.84	335.05	0.00	0.00
115.00	(3) attachments	21.96	274.81	0.00	0.00
116.00		22.00	163.71	0.00	0.00
118.00		44.16	327.42	0.00	0.00
120.00	(1) attachments	711.42	447.42	0.00	0.00
122.00		43.65	114.00	0.00	0.00
124.00		43.80	114.00	0.00	0.00
125.00	(12) attachments	21.94	274.44	0.00	0.00
126.00		21.97	49.51	0.00	0.00
128.00		44.09	99.02	0.00	0.00
130.00	(1) attachments	724.68	219.02	0.00	0.00
132.00		44.38	99.02	0.00	0.00
134.00		44.52	99.02	0.00	0.00
135.00	(3) attachments	22.30	116.83	0.00	0.00
136.00		22.33	42.02	0.00	0.00
138.00		44.80	84.05	0.00	0.00
140.00	(1) attachments	803.90	204.05	0.00	0.00
142.00		45.07	84.05	0.00	0.00
144.00		45.20	84.05	0.00	0.00
146.00		45.33	84.05	0.00	0.00
147.00	(9) attachments	22.70	261.98	0.00	0.00
148.00		22.73	34.32	0.00	0.00
150.00	(1) attachments	516.99	128.64	0.00	0.00
	Totals:	**11,894.98**	**21,572.00**	**0.00**	**0.00**

Calculated Forces

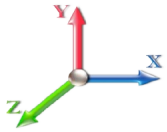
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 108 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 39

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	-21.56	-11.91	0.00	-995.60	0.00	995.60	1490.10	745.05	2187.51	1339.68	0.00	0.000	0.000	0.758
2.00	-21.15	-11.79	0.00	-971.78	0.00	971.78	1490.10	745.05	2187.51	1339.68	0.02	-0.084	0.000	0.740
4.00	-20.74	-11.66	0.00	-948.20	0.00	948.20	1490.10	745.05	2187.51	1339.68	0.07	-0.166	0.000	0.722
6.00	-20.33	-11.54	0.00	-924.87	0.00	924.87	1490.10	745.05	2187.51	1339.68	0.16	-0.246	0.000	0.704
8.00	-19.92	-11.41	0.00	-901.80	0.00	901.80	1490.10	745.05	2187.51	1339.68	0.28	-0.324	0.000	0.687
10.00	-19.51	-11.28	0.00	-878.98	0.00	878.98	1490.10	745.05	2187.51	1339.68	0.43	-0.400	0.000	0.669
12.00	-19.10	-11.15	0.00	-856.42	0.00	856.42	1490.10	745.05	2187.51	1339.68	0.61	-0.474	0.000	0.652
14.00	-18.69	-11.02	0.00	-834.12	0.00	834.12	1490.10	745.05	2187.51	1339.68	0.83	-0.546	0.000	0.635
16.00	-18.28	-10.88	0.00	-812.09	0.00	812.09	1490.10	745.05	2187.51	1339.68	1.07	-0.617	0.000	0.619
18.00	-17.88	-10.74	0.00	-790.33	0.00	790.33	1490.10	745.05	2187.51	1339.68	1.34	-0.685	0.000	0.602
20.00	-17.47	-10.59	0.00	-768.86	0.00	768.86	1490.10	745.05	2187.51	1339.68	1.65	-0.752	0.000	0.586
20.00	-17.47	-10.59	0.00	-768.86	0.00	768.86	1311.06	655.53	1597.15	948.43	1.65	-0.752	0.000	0.824
22.00	-17.12	-10.47	0.00	-747.68	0.00	747.68	1311.06	655.53	1597.15	948.43	1.97	-0.816	0.000	0.802
24.00	-16.76	-10.36	0.00	-726.73	0.00	726.73	1311.06	655.53	1597.15	948.43	2.34	-0.926	0.000	0.779
26.00	-16.41	-10.24	0.00	-706.01	0.00	706.01	1311.06	655.53	1597.15	948.43	2.75	-1.032	0.000	0.757
28.00	-16.06	-10.12	0.00	-685.53	0.00	685.53	1311.06	655.53	1597.15	948.43	3.21	-1.135	0.000	0.735
30.00	-15.70	-9.99	0.00	-665.29	0.00	665.29	1311.06	655.53	1597.15	948.43	3.70	-1.236	0.000	0.714
32.00	-15.35	-9.86	0.00	-645.31	0.00	645.31	1311.06	655.53	1597.15	948.43	4.24	-1.333	0.000	0.692
34.00	-15.00	-9.73	0.00	-625.59	0.00	625.59	1311.06	655.53	1597.15	948.43	4.82	-1.427	0.000	0.671
36.00	-14.65	-9.59	0.00	-606.13	0.00	606.13	1311.06	655.53	1597.15	948.43	5.44	-1.519	0.000	0.650
38.00	-14.31	-9.45	0.00	-586.96	0.00	586.96	1311.06	655.53	1597.15	948.43	6.09	-1.607	0.000	0.630
40.00	-13.96	-9.30	0.00	-568.07	0.00	568.07	1311.06	655.53	1597.15	948.43	6.78	-1.693	0.000	0.610
42.00	-13.61	-9.15	0.00	-549.47	0.00	549.47	1311.06	655.53	1597.15	948.43	7.51	-1.776	0.000	0.590
44.00	-13.27	-9.00	0.00	-531.17	0.00	531.17	1311.06	655.53	1597.15	948.43	8.27	-1.856	0.000	0.570
46.00	-12.92	-8.84	0.00	-513.17	0.00	513.17	1311.06	655.53	1597.15	948.43	9.07	-1.934	0.000	0.551
48.00	-12.58	-8.69	0.00	-495.48	0.00	495.48	1311.06	655.53	1597.15	948.43	9.89	-2.009	0.000	0.532
50.00	-12.24	-8.53	0.00	-478.11	0.00	478.11	1311.06	655.53	1597.15	948.43	10.75	-2.081	0.000	0.514
50.00	-12.24	-8.53	0.00	-478.11	0.00	478.11	1052.07	526.04	1018.84	624.04	10.75	-2.081	0.000	0.778
52.00	-11.95	-8.40	0.00	-461.05	0.00	461.05	1052.07	526.04	1018.84	624.04	11.64	-2.151	0.000	0.750
54.00	-11.65	-8.29	0.00	-444.24	0.00	444.24	1052.07	526.04	1018.84	624.04	12.57	-2.283	0.000	0.723
56.00	-11.36	-8.17	0.00	-427.67	0.00	427.67	1052.07	526.04	1018.84	624.04	13.55	-2.411	0.000	0.696
58.00	-11.07	-8.04	0.00	-411.34	0.00	411.34	1052.07	526.04	1018.84	624.04	14.59	-2.534	0.000	0.670
60.00	-10.78	-7.92	0.00	-395.25	0.00	395.25	1052.07	526.04	1018.84	624.04	15.67	-2.652	0.000	0.644
62.00	-10.49	-7.79	0.00	-379.42	0.00	379.42	1052.07	526.04	1018.84	624.04	16.81	-2.765	0.000	0.618
64.00	-10.20	-7.65	0.00	-363.85	0.00	363.85	1052.07	526.04	1018.84	624.04	17.99	-2.874	0.000	0.593
66.00	-9.92	-7.52	0.00	-348.54	0.00	348.54	1052.07	526.04	1018.84	624.04	19.21	-2.979	0.000	0.568
68.00	-9.63	-7.38	0.00	-333.50	0.00	333.50	1052.07	526.04	1018.84	624.04	20.48	-3.078	0.000	0.544
70.00	-9.35	-7.24	0.00	-318.75	0.00	318.75	1052.07	526.04	1018.84	624.04	21.79	-3.174	0.000	0.520
72.00	-9.07	-7.10	0.00	-304.27	0.00	304.27	1052.07	526.04	1018.84	624.04	23.14	-3.265	0.000	0.496
74.00	-8.78	-6.95	0.00	-290.07	0.00	290.07	1052.07	526.04	1018.84	624.04	24.53	-3.352	0.000	0.473
76.00	-8.50	-6.80	0.00	-276.17	0.00	276.17	1052.07	526.04	1018.84	624.04	25.95	-3.435	0.000	0.451
78.00	-8.22	-6.65	0.00	-262.56	0.00	262.56	1052.07	526.04	1018.84	624.04	27.40	-3.514	0.000	0.429
80.00	-7.94	-6.50	0.00	-249.26	0.00	249.26	1052.07	526.04	1018.84	624.04	28.89	-3.589	0.000	0.407
80.00	-7.94	-6.50	0.00	-249.26	0.00	249.26	1052.07	526.04	1018.84	624.04	28.89	-3.589	0.000	0.407
82.00	-7.67	-6.35	0.00	-236.25	0.00	236.25	1052.07	526.04	1018.84	624.04	30.41	-3.660	0.000	0.386
84.00	-7.39	-6.19	0.00	-223.55	0.00	223.55	1052.07	526.04	1018.84	624.04	31.95	-3.727	0.000	0.365
86.00	-7.11	-6.04	0.00	-211.17	0.00	211.17	1052.07	526.04	1018.84	624.04	33.53	-3.791	0.000	0.345
88.00	-6.84	-5.88	0.00	-199.09	0.00	199.09	1052.07	526.04	1018.84	624.04	35.13	-3.851	0.000	0.326

Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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	

90.00	-6.56	-5.72	0.00	-187.34	0.00	187.34	1052.07	526.04	1018.84	624.04	36.75	-3.907	0.000	0.307
92.00	-6.29	-5.55	0.00	-175.91	0.00	175.91	1052.07	526.04	1018.84	624.04	38.40	-3.961	0.000	0.288
94.00	-6.01	-5.39	0.00	-164.80	0.00	164.80	1052.07	526.04	1018.84	624.04	40.07	-4.011	0.000	0.270
96.00	-5.74	-5.23	0.00	-154.02	0.00	154.02	1052.07	526.04	1018.84	624.04	41.76	-4.057	0.000	0.252
98.00	-5.47	-5.06	0.00	-143.57	0.00	143.57	1052.07	526.04	1018.84	624.04	43.46	-4.101	0.000	0.235
100.00	-5.20	-4.89	0.00	-133.45	0.00	133.45	1052.07	526.04	1018.84	624.04	45.19	-4.141	0.000	0.219
102.00	-4.92	-4.72	0.00	-123.67	0.00	123.67	1052.07	526.04	1018.84	624.04	46.93	-4.179	0.000	0.203
104.00	-4.65	-4.55	0.00	-114.23	0.00	114.23	1052.07	526.04	1018.84	624.04	48.69	-4.214	0.000	0.188
106.00	-4.38	-4.38	0.00	-105.12	0.00	105.12	1052.07	526.04	1018.84	624.04	50.46	-4.246	0.000	0.173
108.00	-4.11	-4.21	0.00	-96.36	0.00	96.36	1052.07	526.04	1018.84	624.04	52.24	-4.275	0.000	0.158
110.00	-3.80	-3.76	0.00	-87.95	0.00	87.95	1052.07	526.04	1018.84	624.04	54.04	-4.302	0.000	0.145
110.00	-3.80	-3.76	0.00	-87.95	0.00	87.95	1305.53	652.76	129.19	160.41	54.04	-4.302	0.000	0.551
112.00	-3.45	-3.72	0.00	-80.42	0.00	80.42	1305.53	652.76	129.19	160.41	55.84	-4.327	0.000	0.504
114.00	-3.09	-3.67	0.00	-72.99	0.00	72.99	1305.53	652.76	129.19	160.41	57.79	-4.957	0.000	0.457
115.00	-2.80	-3.64	0.00	-69.32	0.00	69.32	1305.53	652.76	129.19	160.41	58.85	-5.249	0.000	0.434
116.00	-2.62	-3.62	0.00	-65.68	0.00	65.68	1305.53	652.76	129.19	160.41	59.98	-5.526	0.000	0.411
118.00	-2.26	-3.56	0.00	-58.45	0.00	58.45	1305.53	652.76	129.19	160.41	62.40	-6.036	0.000	0.366
120.00	-1.88	-2.82	0.00	-51.33	0.00	51.33	1305.53	652.76	129.19	160.41	65.02	-6.486	0.000	0.321
120.00	-1.88	-2.82	0.00	-51.33	0.00	51.33	317.71	158.85	76.59	52.28	65.02	-6.486	0.000	0.988
122.00	-1.74	-2.78	0.00	-45.69	0.00	45.69	317.71	158.85	76.59	52.28	67.82	-6.885	0.000	0.880
124.00	-1.62	-2.73	0.00	-40.14	0.00	40.14	317.71	158.85	76.59	52.28	70.82	-7.490	0.000	0.773
125.00	-1.33	-2.68	0.00	-37.41	0.00	37.41	317.71	158.85	76.59	52.28	72.41	-7.764	0.000	0.720
126.00	-1.27	-2.66	0.00	-34.73	0.00	34.73	317.71	158.85	76.59	52.28	74.06	-8.018	0.000	0.669
128.00	-1.16	-2.61	0.00	-29.41	0.00	29.41	317.71	158.85	76.59	52.28	77.51	-8.471	0.000	0.566
130.00	-1.04	-1.87	0.00	-24.19	0.00	24.19	317.71	158.85	76.59	52.28	81.12	-8.849	0.000	0.466
130.00	-1.04	-1.87	0.00	-24.19	0.00	24.19	317.71	158.85	76.59	52.28	81.12	-8.849	0.000	0.466
132.00	-0.94	-1.81	0.00	-20.46	0.00	20.46	317.71	158.85	76.59	52.28	84.88	-9.164	0.000	0.394
134.00	-0.85	-1.75	0.00	-16.83	0.00	16.83	317.71	158.85	76.59	52.28	88.76	-9.427	0.000	0.325
135.00	-0.73	-1.71	0.00	-15.08	0.00	15.08	317.71	158.85	76.59	52.28	90.74	-9.539	0.000	0.291
136.00	-0.69	-1.69	0.00	-13.36	0.00	13.36	317.71	158.85	76.59	52.28	92.74	-9.640	0.000	0.258
138.00	-0.61	-1.63	0.00	-9.99	0.00	9.99	317.71	158.85	76.59	52.28	96.79	-9.805	0.000	0.193
140.00	-0.55	-0.80	0.00	-6.73	0.00	6.73	317.71	158.85	76.59	52.28	100.91	-9.922	0.000	0.130
140.00	-0.55	-0.80	0.00	-6.73	0.00	6.73	317.71	158.85	76.59	52.28	100.91	-9.922	0.000	0.130
142.00	-0.47	-0.75	0.00	-5.12	0.00	5.12	317.71	158.85	76.59	52.28	105.06	-10.006	0.000	0.099
144.00	-0.39	-0.69	0.00	-3.63	0.00	3.63	317.71	158.85	76.59	52.28	109.24	-10.068	0.000	0.071
146.00	-0.32	-0.63	0.00	-2.25	0.00	2.25	317.71	158.85	76.59	52.28	113.45	-10.109	0.000	0.044
147.00	-0.07	-0.56	0.00	-1.62	0.00	1.62	317.71	158.85	76.59	52.28	115.56	-10.123	0.000	0.031
148.00	-0.04	-0.53	0.00	-1.06	0.00	1.06	317.71	158.85	76.59	52.28	117.67	-10.132	0.000	0.020
150.00	0.00	-0.52	0.00	0.00	0.00	0.00	317.71	158.85	76.59	52.28	121.89	-10.140	0.000	0.000

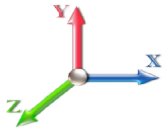
Wind Loading - Shaft

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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	

Load Case: 0.9D + 1.6W 108 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 39

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	24.112	26.52	298.71	0.600	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	257.1
4.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	257.1
6.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	257.1
8.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	257.1
10.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	257.1
12.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	257.1
14.00		1.00	0.85	24.112	26.52	298.71	0.600	0.000	2.00	6.000	3.60	152.8	0.0	257.1
16.00		1.00	0.86	24.410	26.85	300.55	0.600	0.000	2.00	6.000	3.60	154.7	0.0	257.1
18.00		1.00	0.88	25.022	27.52	304.30	0.600	0.000	2.00	6.000	3.60	158.5	0.0	257.1
20.00	Top - Section 1	1.00	0.90	25.584	28.14	307.70	0.600	0.000	2.00	6.000	3.60	162.1	0.0	257.1
22.00		1.00	0.92	26.102	28.71	259.00	0.600	0.000	2.00	5.000	3.00	137.8	0.0	213.8
24.00		1.00	0.94	26.585	29.24	261.38	0.600	0.000	2.00	5.000	3.00	140.4	0.0	213.8
26.00		1.00	0.95	27.037	29.74	263.59	0.600	0.000	2.00	5.000	3.00	142.8	0.0	213.8
28.00		1.00	0.97	27.462	30.21	265.66	0.600	0.000	2.00	5.000	3.00	145.0	0.0	213.8
30.00		1.00	0.98	27.863	30.65	267.59	0.600	0.000	2.00	5.000	3.00	147.1	0.0	213.8
32.00		1.00	1.00	28.245	31.07	269.42	0.600	0.000	2.00	5.000	3.00	149.1	0.0	213.8
34.00		1.00	1.01	28.607	31.47	271.14	0.600	0.000	2.00	5.000	3.00	151.0	0.0	213.8
36.00		1.00	1.02	28.954	31.85	272.78	0.600	0.000	2.00	5.000	3.00	152.9	0.0	213.8
38.00		1.00	1.03	29.285	32.21	274.34	0.600	0.000	2.00	5.000	3.00	154.6	0.0	213.8
40.00		1.00	1.04	29.603	32.56	275.82	0.600	0.000	2.00	5.000	3.00	156.3	0.0	213.8
42.00		1.00	1.05	29.909	32.90	277.24	0.600	0.000	2.00	5.000	3.00	157.9	0.0	213.8
44.00		1.00	1.06	30.203	33.22	278.60	0.600	0.000	2.00	5.000	3.00	159.5	0.0	213.8
46.00		1.00	1.07	30.487	33.54	279.91	0.600	0.000	2.00	5.000	3.00	161.0	0.0	213.8
48.00		1.00	1.08	30.761	33.84	281.17	0.600	0.000	2.00	5.000	3.00	162.4	0.0	213.8
50.00	Top - Section 2	1.00	1.09	31.027	34.13	282.38	0.600	0.000	2.00	5.000	3.00	163.8	0.0	213.8
52.00		1.00	1.10	31.284	34.41	226.84	0.600	0.000	2.00	4.000	2.40	132.1	0.0	170.5
54.00		1.00	1.11	31.534	34.69	227.74	0.600	0.000	2.00	4.000	2.40	133.2	0.0	170.5
56.00		1.00	1.12	31.776	34.95	228.61	0.600	0.000	2.00	4.000	2.40	134.2	0.0	170.5
58.00		1.00	1.13	32.012	35.21	229.46	0.600	0.000	2.00	4.000	2.40	135.2	0.0	170.5
60.00		1.00	1.14	32.241	35.47	230.28	0.600	0.000	2.00	4.000	2.40	136.2	0.0	170.5
62.00		1.00	1.14	32.464	35.71	231.07	0.600	0.000	2.00	4.000	2.40	137.1	0.0	170.5
64.00		1.00	1.15	32.682	35.95	231.85	0.600	0.000	2.00	4.000	2.40	138.0	0.0	170.5
66.00		1.00	1.16	32.894	36.18	232.60	0.600	0.000	2.00	4.000	2.40	138.9	0.0	170.5
68.00		1.00	1.17	33.102	36.41	233.33	0.600	0.000	2.00	4.000	2.40	139.8	0.0	170.5
70.00		1.00	1.17	33.305	36.63	234.05	0.600	0.000	2.00	4.000	2.40	140.7	0.0	170.5
72.00		1.00	1.18	33.503	36.85	234.74	0.600	0.000	2.00	4.000	2.40	141.5	0.0	170.5
74.00		1.00	1.19	33.696	37.07	235.42	0.600	0.000	2.00	4.000	2.40	142.3	0.0	170.5
76.00		1.00	1.19	33.886	37.27	236.08	0.600	0.000	2.00	4.000	2.40	143.1	0.0	170.5
78.00		1.00	1.20	34.072	37.48	236.73	0.600	0.000	2.00	4.000	2.40	143.9	0.0	170.5
80.00	Top - Section 3	1.00	1.21	34.254	37.68	237.36	0.600	0.000	2.00	4.000	2.40	144.7	0.0	170.5
82.00		1.00	1.21	34.433	37.88	237.98	0.600	0.000	2.00	4.000	2.40	145.4	0.0	170.5
84.00		1.00	1.22	34.608	38.07	238.58	0.600	0.000	2.00	4.000	2.40	146.2	0.0	170.5
86.00		1.00	1.23	34.780	38.26	239.17	0.600	0.000	2.00	4.000	2.40	146.9	0.0	170.5
88.00		1.00	1.23	34.948	38.44	239.75	0.600	0.000	2.00	4.000	2.40	147.6	0.0	170.5
90.00		1.00	1.24	35.114	38.63	240.32	0.600	0.000	2.00	4.000	2.40	148.3	0.0	170.5
92.00		1.00	1.24	35.277	38.80	240.88	0.600	0.000	2.00	4.000	2.40	149.0	0.0	170.5

Wind Loading - Shaft

Structure: CT01493-S-SBA | **Code:** EIA/TIA-222-G | 8/21/2018
Site Name: North Stonington 2 CT | **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

94.00		1.00	1.25	35.437	38.98	241.42	0.600	0.000	2.00	4.000	2.40	149.7	0.0	170.5
96.00		1.00	1.25	35.594	39.15	241.96	0.600	0.000	2.00	4.000	2.40	150.4	0.0	170.5
98.00		1.00	1.26	35.749	39.32	242.48	0.600	0.000	2.00	4.000	2.40	151.0	0.0	170.5
100.00		1.00	1.27	35.902	39.49	243.00	0.600	0.000	2.00	4.000	2.40	151.6	0.0	170.5
102.00		1.00	1.27	36.052	39.66	243.51	0.600	0.000	2.00	4.000	2.40	152.3	0.0	170.5
104.00		1.00	1.28	36.199	39.82	244.00	0.600	0.000	2.00	4.000	2.40	152.9	0.0	170.5
106.00		1.00	1.28	36.345	39.98	244.49	0.600	0.000	2.00	4.000	2.40	153.5	0.0	170.5
108.00		1.00	1.29	36.488	40.14	244.98	0.600	0.000	2.00	4.000	2.40	154.1	0.0	170.5
110.00	Top - Section 4	1.00	1.29	36.629	40.29	245.45	0.600	0.000	2.00	4.000	2.40	154.7	0.0	170.5
112.00		1.00	1.30	36.768	40.45	69.16	0.600	0.000	2.00	1.125	0.67	43.7	0.0	211.5
114.00		1.00	1.30	36.906	40.60	69.29	0.600	0.000	2.00	1.125	0.67	43.8	0.0	211.5
115.00	Appurtenance(s)	1.00	1.30	36.974	40.67	69.36	0.600	0.000	1.00	0.563	0.34	22.0	0.0	105.8
116.00		1.00	1.31	37.041	40.75	69.42	0.600	0.000	1.00	0.563	0.34	22.0	0.0	105.8
118.00		1.00	1.31	37.175	40.89	69.54	0.600	0.000	2.00	1.125	0.67	44.2	0.0	211.5
120.00	Top - Section 5	1.00	1.32	37.306	41.04	69.67	0.600	0.000	2.00	1.125	0.67	44.3	0.0	211.5
122.00		1.00	1.32	37.436	41.18	68.50	0.600	0.000	2.00	1.104	0.66	43.7	0.0	51.5
124.00		1.00	1.32	37.565	41.32	68.61	0.600	0.000	2.00	1.104	0.66	43.8	0.0	51.5
125.00	Appurtenance(s)	1.00	1.33	37.628	41.39	68.67	0.600	0.000	1.00	0.552	0.33	21.9	0.0	25.7
126.00		1.00	1.33	37.692	41.46	68.73	0.600	0.000	1.00	0.552	0.33	22.0	0.0	25.7
128.00		1.00	1.33	37.817	41.60	68.84	0.600	0.000	2.00	1.104	0.66	44.1	0.0	51.5
130.00	Top - Section 6	1.00	1.34	37.940	41.73	68.96	0.600	0.000	2.00	1.104	0.66	44.2	0.0	51.5
132.00		1.00	1.34	38.063	41.87	69.07	0.600	0.000	2.00	1.104	0.66	44.4	0.0	51.5
134.00		1.00	1.35	38.183	42.00	69.18	0.600	0.000	2.00	1.104	0.66	44.5	0.0	51.5
135.00	Appurtenance(s)	1.00	1.35	38.243	42.07	69.23	0.600	0.000	1.00	0.552	0.33	22.3	0.0	25.7
136.00		1.00	1.35	38.303	42.13	69.28	0.600	0.000	1.00	0.552	0.33	22.3	0.0	25.7
138.00		1.00	1.35	38.420	42.26	69.39	0.600	0.000	2.00	1.104	0.66	44.8	0.0	51.5
140.00	Top - Section 7	1.00	1.36	38.537	42.39	69.50	0.600	0.000	2.00	1.104	0.66	44.9	0.0	51.5
142.00		1.00	1.36	38.652	42.52	69.60	0.600	0.000	2.00	1.104	0.66	45.1	0.0	51.5
144.00		1.00	1.37	38.766	42.64	69.70	0.600	0.000	2.00	1.104	0.66	45.2	0.0	51.5
146.00		1.00	1.37	38.879	42.77	69.80	0.600	0.000	2.00	1.104	0.66	45.3	0.0	51.5
147.00	Appurtenance(s)	1.00	1.37	38.935	42.83	69.85	0.600	0.000	1.00	0.552	0.33	22.7	0.0	25.7
148.00		1.00	1.37	38.990	42.89	69.90	0.600	0.000	1.00	0.552	0.33	22.7	0.0	25.7
150.00	Appurtenance(s)	1.00	1.38	39.101	43.01	70.00	0.600	0.000	2.00	1.104	0.66	45.6	0.0	51.5
								Totals:	**150.00**			**9,050.8**		**12,721.3**

Discrete Appurtenance Forces

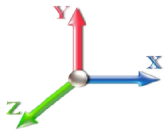
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 108 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 39

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	34" Canister	1	39.101	43.011	1.00	1.00	6.85	45.00	0.000	0.000	471.40	0.00	0.00
2	147.00	DPO-7126Y-0-T1	3	38.935	42.828	0.00	1.00	0.00	34.02	0.000	0.000	0.00	0.00	0.00
3	147.00	KIT-FD9R6004/1C-DL	3	38.935	42.828	0.00	1.00	0.00	8.37	0.000	0.000	0.00	0.00	0.00
4	147.00	DHHTT65B-3XR	3	38.935	42.828	0.00	1.00	0.00	122.58	0.000	0.000	0.00	0.00	0.00
5	140.00	34" Canister & 24"	1	38.537	42.391	1.00	1.00	11.19	90.00	0.000	0.000	758.96	0.00	0.00
6	135.00	APXV18-206516L	3	38.243	42.067	0.00	1.00	0.00	50.49	0.000	0.000	0.00	0.00	0.00
7	130.00	24" Canister & 30"	1	37.940	41.734	1.00	1.00	10.19	90.00	0.000	0.000	680.44	0.00	0.00
8	125.00	CM1007-DBPXBC-xxx	6	37.628	41.391	0.00	1.00	0.00	35.10	0.000	0.000	0.00	0.00	0.00
9	125.00	ETW190VS12UB	3	37.628	41.391	0.00	1.00	0.00	29.70	0.000	0.000	0.00	0.00	0.00
10	125.00	AMXCD1465	3	37.628	41.391	0.00	1.00	0.00	98.28	0.000	0.000	0.00	0.00	0.00
11	120.00	30" Canister & 24"	1	37.306	41.037	1.00	1.00	10.16	90.00	0.000	0.000	667.10	0.00	0.00
12	115.00	742 351	3	36.974	40.671	0.00	1.00	0.00	80.46	0.000	0.000	0.00	0.00	0.00
13	110.00	24" Canister	1	36.629	40.292	1.00	1.00	4.13	45.00	0.000	0.000	266.25	0.00	0.00
							Totals:		**819.00**			**2,844.15**		

Total Applied Force Summary

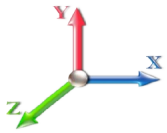
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 108 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 39

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
2.00		152.77	296.81	0.00	0.00
4.00		152.77	296.81	0.00	0.00
6.00		152.77	296.81	0.00	0.00
8.00		152.77	296.81	0.00	0.00
10.00		152.77	296.81	0.00	0.00
12.00		152.77	296.81	0.00	0.00
14.00		152.77	296.81	0.00	0.00
16.00		154.66	296.81	0.00	0.00
18.00		158.54	296.81	0.00	0.00
20.00		162.10	296.81	0.00	0.00
22.00		137.82	253.51	0.00	0.00
24.00		140.37	253.51	0.00	0.00
26.00		142.75	253.51	0.00	0.00
28.00		145.00	253.51	0.00	0.00
30.00		147.12	253.51	0.00	0.00
32.00		149.13	253.51	0.00	0.00
34.00		151.05	253.51	0.00	0.00
36.00		152.88	253.51	0.00	0.00
38.00		154.63	253.51	0.00	0.00
40.00		156.30	253.51	0.00	0.00
42.00		157.92	253.51	0.00	0.00
44.00		159.47	253.51	0.00	0.00
46.00		160.97	253.51	0.00	0.00
48.00		162.42	253.51	0.00	0.00
50.00		163.82	253.51	0.00	0.00
52.00		132.14	210.22	0.00	0.00
54.00		133.20	210.22	0.00	0.00
56.00		134.22	210.22	0.00	0.00
58.00		135.22	210.22	0.00	0.00
60.00		136.19	210.22	0.00	0.00
62.00		137.13	210.22	0.00	0.00
64.00		138.05	210.22	0.00	0.00
66.00		138.95	210.22	0.00	0.00
68.00		139.82	210.22	0.00	0.00
70.00		140.68	210.22	0.00	0.00
72.00		141.52	210.22	0.00	0.00
74.00		142.33	210.22	0.00	0.00
76.00		143.14	210.22	0.00	0.00
78.00		143.92	210.22	0.00	0.00
80.00		144.69	210.22	0.00	0.00
82.00		145.44	210.22	0.00	0.00
84.00		146.18	210.22	0.00	0.00
86.00		146.91	210.22	0.00	0.00
88.00		147.62	210.22	0.00	0.00
90.00		148.32	210.22	0.00	0.00
92.00		149.01	210.22	0.00	0.00

Total Applied Force Summary

Structure:	CT01493-S-SBA		**Code:**	EIA/TIA-222-G	8/21/2018
Site Name:	North Stonington 2 CT		**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

94.00		149.69	210.22	0.00	0.00
96.00		150.35	210.22	0.00	0.00
98.00		151.00	210.22	0.00	0.00
100.00		151.65	210.22	0.00	0.00
102.00		152.28	210.22	0.00	0.00
104.00		152.91	210.22	0.00	0.00
106.00		153.52	210.22	0.00	0.00
108.00		154.13	210.22	0.00	0.00
110.00	(1) attachments	420.97	255.22	0.00	0.00
112.00		43.68	251.29	0.00	0.00
114.00		43.84	251.29	0.00	0.00
115.00	(3) attachments	21.96	206.10	0.00	0.00
116.00		22.00	122.78	0.00	0.00
118.00		44.16	245.56	0.00	0.00
120.00	(1) attachments	711.42	335.56	0.00	0.00
122.00		43.65	85.50	0.00	0.00
124.00		43.80	85.50	0.00	0.00
125.00	(12) attachments	21.94	205.83	0.00	0.00
126.00		21.97	37.13	0.00	0.00
128.00		44.09	74.27	0.00	0.00
130.00	(1) attachments	724.68	164.27	0.00	0.00
132.00		44.38	74.27	0.00	0.00
134.00		44.52	74.27	0.00	0.00
135.00	(3) attachments	22.30	87.62	0.00	0.00
136.00		22.33	31.52	0.00	0.00
138.00		44.80	63.04	0.00	0.00
140.00	(1) attachments	803.90	153.04	0.00	0.00
142.00		45.07	63.04	0.00	0.00
144.00		45.20	63.04	0.00	0.00
146.00		45.33	63.04	0.00	0.00
147.00	(9) attachments	22.70	196.49	0.00	0.00
148.00		22.73	25.74	0.00	0.00
150.00	(1) attachments	516.99	96.48	0.00	0.00
	Totals:	**11,894.98**	**16,179.00**	**0.00**	**0.00**

Calculated Forces

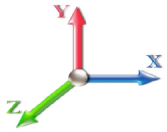
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 108 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 39

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	-16.17	-11.91	0.00	-982.25	0.00	982.25	1490.10	745.05	2187.51	1339.68	0.00	0.000	0.000	0.744
2.00	-15.86	-11.78	0.00	-958.44	0.00	958.44	1490.10	745.05	2187.51	1339.68	0.02	-0.083	0.000	0.726
4.00	-15.54	-11.64	0.00	-934.89	0.00	934.89	1490.10	745.05	2187.51	1339.68	0.07	-0.164	0.000	0.709
6.00	-15.23	-11.51	0.00	-911.60	0.00	911.60	1490.10	745.05	2187.51	1339.68	0.16	-0.243	0.000	0.691
8.00	-14.92	-11.38	0.00	-888.58	0.00	888.58	1490.10	745.05	2187.51	1339.68	0.27	-0.319	0.000	0.674
10.00	-14.61	-11.24	0.00	-865.82	0.00	865.82	1490.10	745.05	2187.51	1339.68	0.42	-0.394	0.000	0.656
12.00	-14.30	-11.10	0.00	-843.34	0.00	843.34	1490.10	745.05	2187.51	1339.68	0.60	-0.467	0.000	0.639
14.00	-13.99	-10.97	0.00	-821.13	0.00	821.13	1490.10	745.05	2187.51	1339.68	0.82	-0.538	0.000	0.623
16.00	-13.68	-10.82	0.00	-799.20	0.00	799.20	1490.10	745.05	2187.51	1339.68	1.06	-0.608	0.000	0.606
18.00	-13.38	-10.68	0.00	-777.55	0.00	777.55	1490.10	745.05	2187.51	1339.68	1.33	-0.675	0.000	0.590
20.00	-13.07	-10.53	0.00	-756.19	0.00	756.19	1490.10	745.05	2187.51	1339.68	1.62	-0.740	0.000	0.573
20.00	-13.07	-10.53	0.00	-756.19	0.00	756.19	1311.06	655.53	1597.15	948.43	1.62	-0.740	0.000	0.808
22.00	-12.80	-10.41	0.00	-735.14	0.00	735.14	1311.06	655.53	1597.15	948.43	1.95	-0.804	0.000	0.785
24.00	-12.53	-10.28	0.00	-714.33	0.00	714.33	1311.06	655.53	1597.15	948.43	2.31	-0.912	0.000	0.763
26.00	-12.26	-10.16	0.00	-693.76	0.00	693.76	1311.06	655.53	1597.15	948.43	2.71	-1.016	0.000	0.741
28.00	-11.99	-10.03	0.00	-673.44	0.00	673.44	1311.06	655.53	1597.15	948.43	3.16	-1.118	0.000	0.719
30.00	-11.73	-9.90	0.00	-653.38	0.00	653.38	1311.06	655.53	1597.15	948.43	3.65	-1.216	0.000	0.698
32.00	-11.46	-9.76	0.00	-633.58	0.00	633.58	1311.06	655.53	1597.15	948.43	4.18	-1.312	0.000	0.677
34.00	-11.20	-9.62	0.00	-614.06	0.00	614.06	1311.06	655.53	1597.15	948.43	4.75	-1.404	0.000	0.656
36.00	-10.93	-9.48	0.00	-594.81	0.00	594.81	1311.06	655.53	1597.15	948.43	5.35	-1.494	0.000	0.636
38.00	-10.67	-9.34	0.00	-575.85	0.00	575.85	1311.06	655.53	1597.15	948.43	6.00	-1.581	0.000	0.616
40.00	-10.41	-9.19	0.00	-557.18	0.00	557.18	1311.06	655.53	1597.15	948.43	6.68	-1.665	0.000	0.596
42.00	-10.15	-9.04	0.00	-538.81	0.00	538.81	1311.06	655.53	1597.15	948.43	7.39	-1.747	0.000	0.576
44.00	-9.89	-8.88	0.00	-520.74	0.00	520.74	1311.06	655.53	1597.15	948.43	8.14	-1.825	0.000	0.557
46.00	-9.63	-8.73	0.00	-502.97	0.00	502.97	1311.06	655.53	1597.15	948.43	8.92	-1.901	0.000	0.538
48.00	-9.37	-8.57	0.00	-485.52	0.00	485.52	1311.06	655.53	1597.15	948.43	9.74	-1.975	0.000	0.519
50.00	-9.11	-8.40	0.00	-468.39	0.00	468.39	1311.06	655.53	1597.15	948.43	10.58	-2.045	0.000	0.501
50.00	-9.11	-8.40	0.00	-468.39	0.00	468.39	1052.07	526.04	1018.84	624.04	10.58	-2.045	0.000	0.759
52.00	-8.89	-8.28	0.00	-451.58	0.00	451.58	1052.07	526.04	1018.84	624.04	11.45	-2.114	0.000	0.732
54.00	-8.67	-8.16	0.00	-435.02	0.00	435.02	1052.07	526.04	1018.84	624.04	12.36	-2.244	0.000	0.706
56.00	-8.44	-8.03	0.00	-418.70	0.00	418.70	1052.07	526.04	1018.84	624.04	13.33	-2.369	0.000	0.679
58.00	-8.22	-7.91	0.00	-402.64	0.00	402.64	1052.07	526.04	1018.84	624.04	14.35	-2.489	0.000	0.653
60.00	-8.00	-7.78	0.00	-386.82	0.00	386.82	1052.07	526.04	1018.84	624.04	15.41	-2.604	0.000	0.628
62.00	-7.79	-7.65	0.00	-371.27	0.00	371.27	1052.07	526.04	1018.84	624.04	16.53	-2.715	0.000	0.603
64.00	-7.57	-7.51	0.00	-355.98	0.00	355.98	1052.07	526.04	1018.84	624.04	17.69	-2.822	0.000	0.578
66.00	-7.35	-7.37	0.00	-340.95	0.00	340.95	1052.07	526.04	1018.84	624.04	18.89	-2.924	0.000	0.554
68.00	-7.14	-7.24	0.00	-326.20	0.00	326.20	1052.07	526.04	1018.84	624.04	20.14	-3.022	0.000	0.530
70.00	-6.93	-7.10	0.00	-311.73	0.00	311.73	1052.07	526.04	1018.84	624.04	21.42	-3.115	0.000	0.506
72.00	-6.71	-6.95	0.00	-297.54	0.00	297.54	1052.07	526.04	1018.84	624.04	22.74	-3.204	0.000	0.483
74.00	-6.50	-6.81	0.00	-283.64	0.00	283.64	1052.07	526.04	1018.84	624.04	24.10	-3.289	0.000	0.461
76.00	-6.29	-6.66	0.00	-270.02	0.00	270.02	1052.07	526.04	1018.84	624.04	25.50	-3.370	0.000	0.439
78.00	-6.08	-6.51	0.00	-256.70	0.00	256.70	1052.07	526.04	1018.84	624.04	26.93	-3.447	0.000	0.417
80.00	-5.87	-6.36	0.00	-243.67	0.00	243.67	1052.07	526.04	1018.84	624.04	28.39	-3.521	0.000	0.396
80.00	-5.87	-6.36	0.00	-243.67	0.00	243.67	1052.07	526.04	1018.84	624.04	28.39	-3.521	0.000	0.396
82.00	-5.66	-6.21	0.00	-230.94	0.00	230.94	1052.07	526.04	1018.84	624.04	29.87	-3.590	0.000	0.376
84.00	-5.46	-6.06	0.00	-218.52	0.00	218.52	1052.07	526.04	1018.84	624.04	31.39	-3.656	0.000	0.355
86.00	-5.25	-5.90	0.00	-206.40	0.00	206.40	1052.07	526.04	1018.84	624.04	32.94	-3.718	0.000	0.336
88.00	-5.04	-5.75	0.00	-194.59	0.00	194.59	1052.07	526.04	1018.84	624.04	34.50	-3.777	0.000	0.317

Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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	

90.00	-4.84	-5.59	0.00	-183.09	0.00	183.09	1052.07	526.04	1018.84	624.04	36.10	-3.832	0.000	0.298
92.00	-4.63	-5.43	0.00	-171.91	0.00	171.91	1052.07	526.04	1018.84	624.04	37.71	-3.884	0.000	0.280
94.00	-4.43	-5.27	0.00	-161.05	0.00	161.05	1052.07	526.04	1018.84	624.04	39.35	-3.933	0.000	0.262
96.00	-4.23	-5.11	0.00	-150.50	0.00	150.50	1052.07	526.04	1018.84	624.04	41.01	-3.979	0.000	0.245
98.00	-4.02	-4.95	0.00	-140.28	0.00	140.28	1052.07	526.04	1018.84	624.04	42.68	-4.021	0.000	0.229
100.00	-3.82	-4.79	0.00	-130.38	0.00	130.38	1052.07	526.04	1018.84	624.04	44.37	-4.061	0.000	0.213
102.00	-3.62	-4.62	0.00	-120.81	0.00	120.81	1052.07	526.04	1018.84	624.04	46.08	-4.097	0.000	0.197
104.00	-3.42	-4.45	0.00	-111.57	0.00	111.57	1052.07	526.04	1018.84	624.04	47.80	-4.131	0.000	0.182
106.00	-3.22	-4.29	0.00	-102.66	0.00	102.66	1052.07	526.04	1018.84	624.04	49.54	-4.163	0.000	0.168
108.00	-3.02	-4.12	0.00	-94.09	0.00	94.09	1052.07	526.04	1018.84	624.04	51.29	-4.192	0.000	0.154
110.00	-2.79	-3.68	0.00	-85.85	0.00	85.85	1052.07	526.04	1018.84	624.04	53.05	-4.218	0.000	0.140
110.00	-2.79	-3.68	0.00	-85.85	0.00	85.85	1305.53	652.76	129.19	160.41	53.05	-4.218	0.000	0.537
112.00	-2.52	-3.64	0.00	-78.48	0.00	78.48	1305.53	652.76	129.19	160.41	54.82	-4.242	0.000	0.491
114.00	-2.25	-3.59	0.00	-71.21	0.00	71.21	1305.53	652.76	129.19	160.41	56.72	-4.857	0.000	0.446
115.00	-2.03	-3.56	0.00	-67.62	0.00	67.62	1305.53	652.76	129.19	160.41	57.77	-5.142	0.000	0.423
116.00	-1.89	-3.54	0.00	-64.06	0.00	64.06	1305.53	652.76	129.19	160.41	58.87	-5.412	0.000	0.401
118.00	-1.62	-3.48	0.00	-56.98	0.00	56.98	1305.53	652.76	129.19	160.41	61.24	-5.909	0.000	0.356
120.00	-1.34	-2.75	0.00	-50.01	0.00	50.01	1305.53	652.76	129.19	160.41	63.81	-6.348	0.000	0.313
120.00	-1.34	-2.75	0.00	-50.01	0.00	50.01	317.71	158.85	76.59	52.28	63.81	-6.348	0.000	0.961
122.00	-1.24	-2.71	0.00	-44.51	0.00	44.51	317.71	158.85	76.59	52.28	66.54	-6.736	0.000	0.856
124.00	-1.14	-2.66	0.00	-39.09	0.00	39.09	317.71	158.85	76.59	52.28	69.48	-7.326	0.000	0.752
125.00	-0.92	-2.62	0.00	-36.43	0.00	36.43	317.71	158.85	76.59	52.28	71.04	-7.592	0.000	0.700
126.00	-0.87	-2.60	0.00	-33.81	0.00	33.81	317.71	158.85	76.59	52.28	72.65	-7.840	0.000	0.650
128.00	-0.79	-2.55	0.00	-28.62	0.00	28.62	317.71	158.85	76.59	52.28	76.02	-8.281	0.000	0.550
130.00	-0.72	-1.81	0.00	-23.52	0.00	23.52	317.71	158.85	76.59	52.28	79.56	-8.648	0.000	0.452
130.00	-0.72	-1.81	0.00	-23.52	0.00	23.52	317.71	158.85	76.59	52.28	79.56	-8.648	0.000	0.452
132.00	-0.65	-1.76	0.00	-19.90	0.00	19.90	317.71	158.85	76.59	52.28	83.23	-8.955	0.000	0.383
134.00	-0.58	-1.71	0.00	-16.38	0.00	16.38	317.71	158.85	76.59	52.28	87.02	-9.211	0.000	0.315
135.00	-0.49	-1.67	0.00	-14.67	0.00	14.67	317.71	158.85	76.59	52.28	88.95	-9.320	0.000	0.282
136.00	-0.46	-1.64	0.00	-13.00	0.00	13.00	317.71	158.85	76.59	52.28	90.91	-9.418	0.000	0.250
138.00	-0.40	-1.59	0.00	-9.71	0.00	9.71	317.71	158.85	76.59	52.28	94.87	-9.578	0.000	0.187
140.00	-0.38	-0.77	0.00	-6.53	0.00	6.53	317.71	158.85	76.59	52.28	98.89	-9.693	0.000	0.126
140.00	-0.38	-0.77	0.00	-6.53	0.00	6.53	317.71	158.85	76.59	52.28	98.89	-9.693	0.000	0.126
142.00	-0.33	-0.72	0.00	-4.98	0.00	4.98	317.71	158.85	76.59	52.28	102.95	-9.774	0.000	0.096
144.00	-0.27	-0.66	0.00	-3.54	0.00	3.54	317.71	158.85	76.59	52.28	107.04	-9.834	0.000	0.069
146.00	-0.22	-0.61	0.00	-2.21	0.00	2.21	317.71	158.85	76.59	52.28	111.14	-9.874	0.000	0.043
147.00	-0.03	-0.55	0.00	-1.60	0.00	1.60	317.71	158.85	76.59	52.28	113.20	-9.888	0.000	0.031
148.00	-0.01	-0.53	0.00	-1.05	0.00	1.05	317.71	158.85	76.59	52.28	115.26	-9.897	0.000	0.020
150.00	0.00	-0.52	0.00	0.00	0.00	0.00	317.71	158.85	76.59	52.28	119.39	-9.905	0.000	0.000

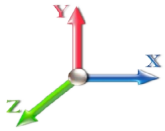
Wind Loading - Shaft

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 37

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
2.00		1.00	0.85	5.168	5.68	0.00	1.200	1.133	2.00	6.378	7.65	43.5	102.8	445.6
4.00		1.00	0.85	5.168	5.68	0.00	1.200	1.215	2.00	6.405	7.69	43.7	110.4	453.2
6.00		1.00	0.85	5.168	5.68	0.00	1.200	1.265	2.00	6.422	7.71	43.8	115.2	457.9
8.00		1.00	0.85	5.168	5.68	0.00	1.200	1.302	2.00	6.434	7.72	43.9	118.7	461.4
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	2.00	6.444	7.73	44.0	121.4	464.2
12.00		1.00	0.85	5.168	5.68	0.00	1.200	1.356	2.00	6.452	7.74	44.0	123.7	466.5
14.00		1.00	0.85	5.168	5.68	0.00	1.200	1.377	2.00	6.459	7.75	44.1	125.7	468.5
16.00		1.00	0.86	5.232	5.76	0.00	1.200	1.395	2.00	6.465	7.76	44.6	127.5	470.2
18.00		1.00	0.88	5.363	5.90	0.00	1.200	1.412	2.00	6.471	7.76	45.8	129.1	471.8
20.00	Top - Section 1	1.00	0.90	5.483	6.03	0.00	1.200	1.427	2.00	6.476	7.77	46.9	130.5	473.2
22.00		1.00	0.92	5.595	6.15	0.00	1.200	1.440	2.00	5.480	6.58	40.5	110.7	395.7
24.00		1.00	0.94	5.698	6.27	0.00	1.200	1.453	2.00	5.484	6.58	41.2	111.7	396.7
26.00		1.00	0.95	5.795	6.37	0.00	1.200	1.465	2.00	5.488	6.59	42.0	112.6	397.6
28.00		1.00	0.97	5.886	6.47	0.00	1.200	1.476	2.00	5.492	6.59	42.7	113.5	398.5
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	2.00	5.495	6.59	43.3	114.3	399.3
32.00		1.00	1.00	6.054	6.66	0.00	1.200	1.495	2.00	5.498	6.60	43.9	115.1	400.1
34.00		1.00	1.01	6.132	6.74	0.00	1.200	1.504	2.00	5.501	6.60	44.5	115.8	400.8
36.00		1.00	1.02	6.206	6.83	0.00	1.200	1.513	2.00	5.504	6.61	45.1	116.5	401.5
38.00		1.00	1.03	6.277	6.90	0.00	1.200	1.521	2.00	5.507	6.61	45.6	117.2	402.2
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	2.00	5.510	6.61	46.1	117.8	402.8
42.00		1.00	1.05	6.410	7.05	0.00	1.200	1.537	2.00	5.512	6.61	46.6	118.4	403.4
44.00		1.00	1.06	6.474	7.12	0.00	1.200	1.544	2.00	5.515	6.62	47.1	119.0	404.0
46.00		1.00	1.07	6.534	7.19	0.00	1.200	1.551	2.00	5.517	6.62	47.6	119.5	404.6
48.00		1.00	1.08	6.593	7.25	0.00	1.200	1.557	2.00	5.519	6.62	48.0	120.1	405.1
50.00	Top - Section 2	1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.00	5.521	6.63	48.5	120.6	405.6
52.00		1.00	1.10	6.705	7.38	0.00	1.200	1.570	2.00	4.523	5.43	40.0	98.1	325.4
54.00		1.00	1.11	6.759	7.43	0.00	1.200	1.576	2.00	4.525	5.43	40.4	98.5	325.8
56.00		1.00	1.12	6.811	7.49	0.00	1.200	1.581	2.00	4.527	5.43	40.7	98.9	326.2
58.00		1.00	1.13	6.861	7.55	0.00	1.200	1.587	2.00	4.529	5.43	41.0	99.2	326.5
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	2.00	4.531	5.44	41.3	99.6	326.9
62.00		1.00	1.14	6.958	7.65	0.00	1.200	1.598	2.00	4.533	5.44	41.6	99.9	327.2
64.00		1.00	1.15	7.005	7.71	0.00	1.200	1.603	2.00	4.534	5.44	41.9	100.3	327.6
66.00		1.00	1.16	7.050	7.76	0.00	1.200	1.608	2.00	4.536	5.44	42.2	100.6	327.9
68.00		1.00	1.17	7.095	7.80	0.00	1.200	1.612	2.00	4.537	5.44	42.5	100.9	328.2
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	2.00	4.539	5.45	42.8	101.2	328.5
72.00		1.00	1.18	7.181	7.90	0.00	1.200	1.622	2.00	4.541	5.45	43.0	101.5	328.8
74.00		1.00	1.19	7.222	7.94	0.00	1.200	1.626	2.00	4.542	5.45	43.3	101.8	329.1
76.00		1.00	1.19	7.263	7.99	0.00	1.200	1.631	2.00	4.544	5.45	43.6	102.1	329.4
78.00		1.00	1.20	7.303	8.03	0.00	1.200	1.635	2.00	4.545	5.45	43.8	102.4	329.7
80.00	Top - Section 3	1.00	1.21	7.342	8.08	0.00	1.200	1.639	2.00	4.546	5.46	44.1	102.7	330.0
82.00		1.00	1.21	7.380	8.12	0.00	1.200	1.643	2.00	4.548	5.46	44.3	102.9	330.2
84.00		1.00	1.22	7.418	8.16	0.00	1.200	1.647	2.00	4.549	5.46	44.5	103.2	330.5
86.00		1.00	1.23	7.454	8.20	0.00	1.200	1.651	2.00	4.550	5.46	44.8	103.5	330.8
88.00		1.00	1.23	7.491	8.24	0.00	1.200	1.655	2.00	4.552	5.46	45.0	103.7	331.0
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	2.00	4.553	5.46	45.2	104.0	331.3
92.00		1.00	1.24	7.561	8.32	0.00	1.200	1.662	2.00	4.554	5.46	45.5	104.2	331.5

Wind Loading - Shaft

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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	

94.00	1.00	1.25	7.595	8.35	0.00	1.200	1.666	2.00	4.555	5.47	45.7	104.4	331.7
96.00	1.00	1.25	7.629	8.39	0.00	1.200	1.669	2.00	4.556	5.47	45.9	104.7	332.0
98.00	1.00	1.26	7.662	8.43	0.00	1.200	1.672	2.00	4.557	5.47	46.1	104.9	332.2
100.00	1.00	1.27	7.695	8.46	0.00	1.200	1.676	2.00	4.559	5.47	46.3	105.1	332.4
102.00	1.00	1.27	7.727	8.50	0.00	1.200	1.679	2.00	4.560	5.47	46.5	105.4	332.7
104.00	1.00	1.28	7.759	8.53	0.00	1.200	1.682	2.00	4.561	5.47	46.7	105.6	332.9
106.00	1.00	1.28	7.790	8.57	0.00	1.200	1.686	2.00	4.562	5.47	46.9	105.8	333.1
108.00	1.00	1.29	7.821	8.60	0.00	1.200	1.689	2.00	4.563	5.48	47.1	106.0	333.3
110.00 Top - Section 4	1.00	1.29	7.851	8.64	0.00	1.200	1.692	2.00	4.564	5.48	47.3	106.2	333.5
112.00	1.00	1.30	7.881	8.67	0.00	1.200	1.695	2.00	1.690	2.03	17.6	35.0	317.0
114.00	1.00	1.30	7.910	8.70	0.00	1.200	1.698	2.00	1.691	2.03	17.7	35.1	317.1
115.00 Appurtenance(s)	1.00	1.30	7.925	8.72	0.00	1.200	1.699	1.00	0.846	1.01	8.8	17.5	158.6
116.00	1.00	1.31	7.939	8.73	0.00	1.200	1.701	1.00	0.846	1.02	8.9	17.6	158.6
118.00	1.00	1.31	7.968	8.76	0.00	1.200	1.704	2.00	1.693	2.03	17.8	35.2	317.3
120.00 Top - Section 5	1.00	1.32	7.996	8.80	0.00	1.200	1.707	2.00	1.694	2.03	17.9	35.3	317.3
122.00	1.00	1.32	8.024	8.83	31.71	1.200	1.710	2.00	1.674	2.01	17.7	34.8	103.5
124.00	1.00	1.32	8.051	8.86	31.77	1.200	1.712	2.00	1.675	2.01	17.8	34.9	103.5
125.00 Appurtenance(s)	1.00	1.33	8.065	8.87	31.79	1.200	1.714	1.00	0.838	1.01	8.9	17.5	51.8
126.00	1.00	1.33	8.079	8.89	31.82	1.200	1.715	1.00	0.838	1.01	8.9	17.5	51.8
128.00	1.00	1.33	8.105	8.92	31.87	1.200	1.718	2.00	1.677	2.01	17.9	35.0	103.7
130.00 Top - Section 6	1.00	1.34	8.132	8.95	31.92	1.200	1.720	2.00	1.678	2.01	18.0	35.1	103.7
132.00	1.00	1.34	8.158	8.97	31.98	1.200	1.723	2.00	1.679	2.01	18.1	35.1	103.8
134.00	1.00	1.35	8.184	9.00	0.00	1.200	1.726	2.00	1.679	2.02	18.1	35.2	103.9
135.00 Appurtenance(s)	1.00	1.35	8.197	9.02	0.00	1.200	1.727	1.00	0.840	1.01	9.1	17.6	51.9
136.00	1.00	1.35	8.210	9.03	0.00	1.200	1.728	1.00	0.840	1.01	9.1	17.6	52.0
138.00	1.00	1.35	8.235	9.06	0.00	1.200	1.731	2.00	1.681	2.02	18.3	35.3	104.0
140.00 Top - Section 7	1.00	1.36	8.260	9.09	0.00	1.200	1.733	2.00	1.682	2.02	18.3	35.4	104.0
142.00	1.00	1.36	8.285	9.11	0.00	1.200	1.736	2.00	1.683	2.02	18.4	35.5	104.1
144.00	1.00	1.37	8.309	9.14	0.00	1.200	1.738	2.00	1.684	2.02	18.5	35.5	104.2
146.00	1.00	1.37	8.333	9.17	0.00	1.200	1.741	2.00	1.684	2.02	18.5	35.6	104.2
147.00 Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	1.742	1.00	0.842	1.01	9.3	17.8	52.1
148.00	1.00	1.37	8.357	9.19	0.00	1.200	1.743	1.00	0.843	1.01	9.3	17.8	52.1
150.00 Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	1.745	2.00	1.686	2.02	18.7	35.7	104.3
							Totals:	**150.00**			**2,798.8**		**23,691.4**

Discrete Appurtenance Forces

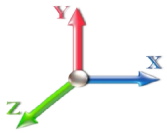
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 37

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	34" Canister	1	8.381	9.219	1.00	1.00	7.33	60.00	0.000	0.000	67.56	0.00	0.00
2	147.00	DPO-7126Y-0-T1	3	8.345	9.180	0.00	1.00	0.00	84.18	0.000	0.000	0.00	0.00	0.00
3	147.00	KIT-FD9R6004/1C-DL	3	8.345	9.180	0.00	1.00	0.00	28.29	0.000	0.000	0.00	0.00	0.00
4	147.00	DHHTT65B-3XR	3	8.345	9.180	0.00	1.00	28.15	767.57	0.000	0.000	258.42	0.00	0.00
5	140.00	34" Canister & 24"	1	8.260	9.086	1.00	1.00	11.97	226.93	0.000	0.000	108.72	0.00	0.00
6	135.00	APXV18-206516L	3	8.197	9.016	0.00	1.00	0.00	214.46	0.000	0.000	0.00	0.00	0.00
7	130.00	24" Canister & 30"	1	8.132	8.945	1.00	1.00	10.89	226.88	0.000	0.000	97.42	0.00	0.00
8	125.00	CM1007-DBPXBC-xxx	6	8.065	8.872	0.00	1.00	0.00	98.13	0.000	0.000	0.00	0.00	0.00
9	125.00	ETW190VS12UB	3	8.065	8.872	0.00	1.00	0.00	78.22	0.000	0.000	0.00	0.00	0.00
10	125.00	AMXCD1465	3	8.065	8.872	0.00	1.00	0.00	363.87	0.000	0.000	0.00	0.00	0.00
11	120.00	30" Canister & 24"	1	7.996	8.796	1.00	1.00	10.85	226.83	0.000	0.000	95.46	0.00	0.00
12	115.00	742 351	3	7.925	8.717	0.00	1.00	0.00	303.78	0.000	0.000	0.00	0.00	0.00
13	110.00	24" Canister	1	7.851	8.636	1.00	1.00	4.41	113.38	0.000	0.000	38.08	0.00	0.00
							Totals:		**2,792.51**			**665.66**		

Total Applied Force Summary

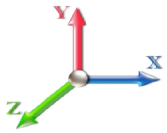
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 37

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
2.00		43.51	498.57	0.00	0.00
4.00		43.69	506.19	0.00	0.00
6.00		43.81	510.92	0.00	0.00
8.00		43.89	514.40	0.00	0.00
10.00		43.96	517.17	0.00	0.00
12.00		44.01	519.49	0.00	0.00
14.00		44.06	521.48	0.00	0.00
16.00		44.65	523.23	0.00	0.00
18.00		45.81	524.80	0.00	0.00
20.00		46.87	526.22	0.00	0.00
22.00		40.47	448.67	0.00	0.00
24.00		41.25	449.69	0.00	0.00
26.00		41.98	450.62	0.00	0.00
28.00		42.67	451.50	0.00	0.00
30.00		43.32	452.32	0.00	0.00
32.00		43.94	453.10	0.00	0.00
34.00		44.53	453.83	0.00	0.00
36.00		45.09	454.53	0.00	0.00
38.00		45.63	455.19	0.00	0.00
40.00		46.15	455.82	0.00	0.00
42.00		46.64	456.43	0.00	0.00
44.00		47.12	457.01	0.00	0.00
46.00		47.59	457.56	0.00	0.00
48.00		48.03	458.10	0.00	0.00
50.00		48.47	458.61	0.00	0.00
52.00		40.04	378.37	0.00	0.00
54.00		40.37	378.76	0.00	0.00
56.00		40.70	379.14	0.00	0.00
58.00		41.02	379.51	0.00	0.00
60.00		41.33	379.87	0.00	0.00
62.00		41.63	380.22	0.00	0.00
64.00		41.93	380.56	0.00	0.00
66.00		42.21	380.88	0.00	0.00
68.00		42.49	381.20	0.00	0.00
70.00		42.77	381.52	0.00	0.00
72.00		43.04	381.82	0.00	0.00
74.00		43.30	382.12	0.00	0.00
76.00		43.56	382.40	0.00	0.00
78.00		43.81	382.69	0.00	0.00
80.00		44.06	382.96	0.00	0.00
82.00		44.30	383.23	0.00	0.00
84.00		44.54	383.50	0.00	0.00
86.00		44.77	383.76	0.00	0.00
88.00		45.00	384.01	0.00	0.00
90.00		45.23	384.26	0.00	0.00
92.00		45.45	384.50	0.00	0.00

Total Applied Force Summary

Structure:	CT01493-S-SBA		**Code:**	EIA/TIA-222-G	8/21/2018
Site Name:	North Stonington 2 CT		**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

Tower Engineering Solutions

94.00		45.67	384.74	0.00	0.00
96.00		45.88	384.98	0.00	0.00
98.00		46.10	385.21	0.00	0.00
100.00		46.30	385.43	0.00	0.00
102.00		46.51	385.65	0.00	0.00
104.00		46.71	385.87	0.00	0.00
106.00		46.91	386.09	0.00	0.00
108.00		47.10	386.30	0.00	0.00
110.00	(1) attachments	85.38	499.89	0.00	0.00
112.00		17.58	370.03	0.00	0.00
114.00		17.66	370.10	0.00	0.00
115.00	(3) attachments	8.85	488.85	0.00	0.00
116.00		8.87	181.27	0.00	0.00
118.00		17.81	362.61	0.00	0.00
120.00	(1) attachments	113.34	589.51	0.00	0.00
122.00		17.73	148.82	0.00	0.00
124.00		17.80	148.88	0.00	0.00
125.00	(12) attachments	8.92	614.67	0.00	0.00
126.00		8.94	66.99	0.00	0.00
128.00		17.94	134.04	0.00	0.00
130.00	(1) attachments	115.43	360.99	0.00	0.00
132.00		18.08	134.17	0.00	0.00
134.00		18.14	134.24	0.00	0.00
135.00	(3) attachments	9.09	281.59	0.00	0.00
136.00		9.10	59.66	0.00	0.00
138.00		18.27	119.38	0.00	0.00
140.00	(1) attachments	127.06	346.38	0.00	0.00
142.00		18.40	119.51	0.00	0.00
144.00		18.46	119.57	0.00	0.00
146.00		18.53	119.63	0.00	0.00
147.00	(9) attachments	267.70	939.86	0.00	0.00
148.00		9.29	52.14	0.00	0.00
150.00	(1) attachments	86.21	164.33	0.00	0.00
	Totals:	**3,464.44**	**30,002.14**	**0.00**	**0.00**

Calculated Forces

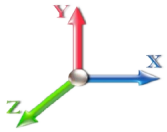
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 37

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	-30.00	-3.47	0.00	-300.83	0.00	300.83	1490.10	745.05	2187.51	1339.68	0.00	0.000	0.000	0.245
2.00	-29.50	-3.44	0.00	-293.89	0.00	293.89	1490.10	745.05	2187.51	1339.68	0.01	-0.025	0.000	0.239
4.00	-28.99	-3.41	0.00	-287.01	0.00	287.01	1490.10	745.05	2187.51	1339.68	0.02	-0.050	0.000	0.234
6.00	-28.48	-3.38	0.00	-280.19	0.00	280.19	1490.10	745.05	2187.51	1339.68	0.05	-0.074	0.000	0.228
8.00	-27.97	-3.34	0.00	-273.44	0.00	273.44	1490.10	745.05	2187.51	1339.68	0.08	-0.098	0.000	0.223
10.00	-27.45	-3.31	0.00	-266.75	0.00	266.75	1490.10	745.05	2187.51	1339.68	0.13	-0.121	0.000	0.218
12.00	-26.93	-3.27	0.00	-260.14	0.00	260.14	1490.10	745.05	2187.51	1339.68	0.19	-0.144	0.000	0.212
14.00	-26.40	-3.24	0.00	-253.59	0.00	253.59	1490.10	745.05	2187.51	1339.68	0.25	-0.166	0.000	0.207
16.00	-25.88	-3.20	0.00	-247.11	0.00	247.11	1490.10	745.05	2187.51	1339.68	0.32	-0.187	0.000	0.202
18.00	-25.35	-3.16	0.00	-240.71	0.00	240.71	1490.10	745.05	2187.51	1339.68	0.41	-0.208	0.000	0.197
20.00	-24.83	-3.12	0.00	-234.38	0.00	234.38	1490.10	745.05	2187.51	1339.68	0.50	-0.228	0.000	0.192
20.00	-24.83	-3.12	0.00	-234.38	0.00	234.38	1311.06	655.53	1597.15	948.43	0.50	-0.228	0.000	0.266
22.00	-24.38	-3.09	0.00	-228.14	0.00	228.14	1311.06	655.53	1597.15	948.43	0.60	-0.248	0.000	0.259
24.00	-23.93	-3.06	0.00	-221.95	0.00	221.95	1311.06	655.53	1597.15	948.43	0.71	-0.281	0.000	0.252
26.00	-23.47	-3.03	0.00	-215.83	0.00	215.83	1311.06	655.53	1597.15	948.43	0.83	-0.314	0.000	0.245
28.00	-23.02	-3.00	0.00	-209.77	0.00	209.77	1311.06	655.53	1597.15	948.43	0.97	-0.345	0.000	0.239
30.00	-22.57	-2.96	0.00	-203.77	0.00	203.77	1311.06	655.53	1597.15	948.43	1.12	-0.376	0.000	0.232
32.00	-22.11	-2.93	0.00	-197.84	0.00	197.84	1311.06	655.53	1597.15	948.43	1.29	-0.406	0.000	0.225
34.00	-21.66	-2.89	0.00	-191.99	0.00	191.99	1311.06	655.53	1597.15	948.43	1.46	-0.435	0.000	0.219
36.00	-21.20	-2.85	0.00	-186.20	0.00	186.20	1311.06	655.53	1597.15	948.43	1.65	-0.463	0.000	0.213
38.00	-20.75	-2.81	0.00	-180.50	0.00	180.50	1311.06	655.53	1597.15	948.43	1.85	-0.490	0.000	0.206
40.00	-20.29	-2.77	0.00	-174.87	0.00	174.87	1311.06	655.53	1597.15	948.43	2.06	-0.516	0.000	0.200
42.00	-19.83	-2.73	0.00	-169.33	0.00	169.33	1311.06	655.53	1597.15	948.43	2.28	-0.542	0.000	0.194
44.00	-19.37	-2.69	0.00	-163.87	0.00	163.87	1311.06	655.53	1597.15	948.43	2.52	-0.567	0.000	0.188
46.00	-18.92	-2.64	0.00	-158.49	0.00	158.49	1311.06	655.53	1597.15	948.43	2.76	-0.591	0.000	0.182
48.00	-18.46	-2.60	0.00	-153.21	0.00	153.21	1311.06	655.53	1597.15	948.43	3.01	-0.614	0.000	0.176
50.00	-18.00	-2.55	0.00	-148.02	0.00	148.02	1311.06	655.53	1597.15	948.43	3.27	-0.636	0.000	0.170
50.00	-18.00	-2.55	0.00	-148.02	0.00	148.02	1052.07	526.04	1018.84	624.04	3.27	-0.636	0.000	0.254
52.00	-17.62	-2.52	0.00	-142.92	0.00	142.92	1052.07	526.04	1018.84	624.04	3.55	-0.658	0.000	0.246
54.00	-17.24	-2.48	0.00	-137.88	0.00	137.88	1052.07	526.04	1018.84	624.04	3.83	-0.699	0.000	0.237
56.00	-16.86	-2.45	0.00	-132.92	0.00	132.92	1052.07	526.04	1018.84	624.04	4.13	-0.739	0.000	0.229
58.00	-16.48	-2.41	0.00	-128.02	0.00	128.02	1052.07	526.04	1018.84	624.04	4.45	-0.777	0.000	0.221
60.00	-16.10	-2.38	0.00	-123.19	0.00	123.19	1052.07	526.04	1018.84	624.04	4.78	-0.814	0.000	0.213
62.00	-15.72	-2.34	0.00	-118.44	0.00	118.44	1052.07	526.04	1018.84	624.04	5.13	-0.849	0.000	0.205
64.00	-15.34	-2.30	0.00	-113.76	0.00	113.76	1052.07	526.04	1018.84	624.04	5.49	-0.883	0.000	0.197
66.00	-14.95	-2.26	0.00	-109.16	0.00	109.16	1052.07	526.04	1018.84	624.04	5.87	-0.916	0.000	0.189
68.00	-14.57	-2.22	0.00	-104.64	0.00	104.64	1052.07	526.04	1018.84	624.04	6.26	-0.947	0.000	0.182
70.00	-14.19	-2.18	0.00	-100.20	0.00	100.20	1052.07	526.04	1018.84	624.04	6.66	-0.977	0.000	0.174
72.00	-13.81	-2.14	0.00	-95.84	0.00	95.84	1052.07	526.04	1018.84	624.04	7.08	-1.006	0.000	0.167
74.00	-13.43	-2.09	0.00	-91.57	0.00	91.57	1052.07	526.04	1018.84	624.04	7.51	-1.033	0.000	0.160
76.00	-13.04	-2.05	0.00	-87.39	0.00	87.39	1052.07	526.04	1018.84	624.04	7.94	-1.059	0.000	0.152
78.00	-12.66	-2.00	0.00	-83.29	0.00	83.29	1052.07	526.04	1018.84	624.04	8.39	-1.084	0.000	0.146
80.00	-12.28	-1.95	0.00	-79.29	0.00	79.29	1052.07	526.04	1018.84	624.04	8.85	-1.108	0.000	0.139
80.00	-12.28	-1.95	0.00	-79.29	0.00	79.29	1052.07	526.04	1018.84	624.04	8.85	-1.108	0.000	0.139
82.00	-11.90	-1.91	0.00	-75.38	0.00	75.38	1052.07	526.04	1018.84	624.04	9.32	-1.131	0.000	0.132
84.00	-11.51	-1.86	0.00	-71.57	0.00	71.57	1052.07	526.04	1018.84	624.04	9.80	-1.152	0.000	0.126
86.00	-11.13	-1.81	0.00	-67.85	0.00	67.85	1052.07	526.04	1018.84	624.04	10.29	-1.173	0.000	0.119
88.00	-10.75	-1.76	0.00	-64.23	0.00	64.23	1052.07	526.04	1018.84	624.04	10.78	-1.192	0.000	0.113

Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 29	

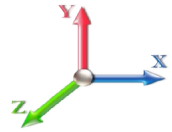
90.00	-10.36	-1.71	0.00	-60.70	0.00	60.70	1052.07	526.04	1018.84	624.04	11.28	-1.210	0.000	0.107
92.00	-9.98	-1.66	0.00	-57.28	0.00	57.28	1052.07	526.04	1018.84	624.04	11.80	-1.227	0.000	0.101
94.00	-9.59	-1.61	0.00	-53.96	0.00	53.96	1052.07	526.04	1018.84	624.04	12.31	-1.244	0.000	0.096
96.00	-9.21	-1.56	0.00	-50.74	0.00	50.74	1052.07	526.04	1018.84	624.04	12.84	-1.259	0.000	0.090
98.00	-8.82	-1.51	0.00	-47.62	0.00	47.62	1052.07	526.04	1018.84	624.04	13.37	-1.273	0.000	0.085
100.00	-8.44	-1.45	0.00	-44.61	0.00	44.61	1052.07	526.04	1018.84	624.04	13.90	-1.287	0.000	0.080
102.00	-8.06	-1.40	0.00	-41.71	0.00	41.71	1052.07	526.04	1018.84	624.04	14.45	-1.300	0.000	0.075
104.00	-7.67	-1.34	0.00	-38.91	0.00	38.91	1052.07	526.04	1018.84	624.04	14.99	-1.311	0.000	0.070
106.00	-7.29	-1.29	0.00	-36.22	0.00	36.22	1052.07	526.04	1018.84	624.04	15.54	-1.322	0.000	0.065
108.00	-6.90	-1.24	0.00	-33.64	0.00	33.64	1052.07	526.04	1018.84	624.04	16.10	-1.333	0.000	0.060
110.00	-6.40	-1.14	0.00	-31.17	0.00	31.17	1052.07	526.04	1018.84	624.04	16.66	-1.342	0.000	0.056
110.00	-6.40	-1.14	0.00	-31.17	0.00	31.17	1305.53	652.76	129.19	160.41	16.66	-1.342	0.000	0.199
112.00	-6.03	-1.13	0.00	-28.89	0.00	28.89	1305.53	652.76	129.19	160.41	17.22	-1.351	0.000	0.185
114.00	-5.66	-1.12	0.00	-26.64	0.00	26.64	1305.53	652.76	129.19	160.41	17.84	-1.579	0.000	0.170
115.00	-5.17	-1.10	0.00	-25.52	0.00	25.52	1305.53	652.76	129.19	160.41	18.18	-1.686	0.000	0.163
116.00	-4.98	-1.10	0.00	-24.42	0.00	24.42	1305.53	652.76	129.19	160.41	18.54	-1.788	0.000	0.156
118.00	-4.62	-1.09	0.00	-22.22	0.00	22.22	1305.53	652.76	129.19	160.41	19.33	-1.980	0.000	0.142
120.00	-4.03	-0.96	0.00	-20.05	0.00	20.05	1305.53	652.76	129.19	160.41	20.20	-2.154	0.000	0.128
120.00	-4.03	-0.96	0.00	-20.05	0.00	20.05	317.71	158.85	76.59	52.28	20.20	-2.154	0.000	0.396
122.00	-3.88	-0.95	0.00	-18.13	0.00	18.13	317.71	158.85	76.59	52.28	21.14	-2.310	0.000	0.359
124.00	-3.73	-0.94	0.00	-16.22	0.00	16.22	317.71	158.85	76.59	52.28	22.16	-2.553	0.000	0.322
125.00	-3.11	-0.91	0.00	-15.28	0.00	15.28	317.71	158.85	76.59	52.28	22.70	-2.664	0.000	0.302
126.00	-3.04	-0.90	0.00	-14.37	0.00	14.37	317.71	158.85	76.59	52.28	23.27	-2.768	0.000	0.285
128.00	-2.91	-0.89	0.00	-12.56	0.00	12.56	317.71	158.85	76.59	52.28	24.47	-2.958	0.000	0.249
130.00	-2.55	-0.76	0.00	-10.78	0.00	10.78	317.71	158.85	76.59	52.28	25.74	-3.123	0.000	0.214
130.00	-2.55	-0.76	0.00	-10.78	0.00	10.78	317.71	158.85	76.59	52.28	25.74	-3.123	0.000	0.214
132.00	-2.42	-0.74	0.00	-9.26	0.00	9.26	317.71	158.85	76.59	52.28	27.08	-3.264	0.000	0.185
134.00	-2.28	-0.72	0.00	-7.78	0.00	7.78	317.71	158.85	76.59	52.28	28.47	-3.385	0.000	0.156
135.00	-2.00	-0.69	0.00	-7.06	0.00	7.06	317.71	158.85	76.59	52.28	29.19	-3.437	0.000	0.141
136.00	-1.94	-0.68	0.00	-6.36	0.00	6.36	317.71	158.85	76.59	52.28	29.91	-3.484	0.000	0.128
138.00	-1.82	-0.66	0.00	-5.00	0.00	5.00	317.71	158.85	76.59	52.28	31.39	-3.564	0.000	0.101
140.00	-1.49	-0.51	0.00	-3.67	0.00	3.67	317.71	158.85	76.59	52.28	32.90	-3.626	0.000	0.075
140.00	-1.49	-0.51	0.00	-3.67	0.00	3.67	317.71	158.85	76.59	52.28	32.90	-3.626	0.000	0.075
142.00	-1.37	-0.49	0.00	-2.64	0.00	2.64	317.71	158.85	76.59	52.28	34.42	-3.670	0.000	0.055
144.00	-1.25	-0.46	0.00	-1.67	0.00	1.67	317.71	158.85	76.59	52.28	35.97	-3.701	0.000	0.036
146.00	-1.13	-0.44	0.00	-0.74	0.00	0.74	317.71	158.85	76.59	52.28	37.52	-3.718	0.000	0.018
147.00	-0.21	-0.11	0.00	-0.30	0.00	0.30	317.71	158.85	76.59	52.28	38.30	-3.721	0.000	0.006
148.00	-0.16	-0.10	0.00	-0.19	0.00	0.19	317.71	158.85	76.59	52.28	39.08	-3.723	0.000	0.004
150.00	0.00	-0.09	0.00	0.00	0.00	0.00	317.71	158.85	76.59	52.28	40.64	-3.724	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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	

IES Tower Engineering Solutions

Load Case:	1.2D + 1.0E					**Iterations**	32
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**	0.34	**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	
2.00		285.63	0.00	0.01	0.01	1.97	
4.00		285.63	0.00	0.03	0.01	3.17	
6.00		285.63	0.00	0.04	0.02	3.98	
8.00		285.63	0.01	0.05	0.03	4.55	
10.00		285.63	0.01	0.05	0.03	4.97	
12.00		285.63	0.01	0.06	0.03	5.28	
14.00		285.63	0.02	0.06	0.04	5.51	
16.00		285.63	0.02	0.06	0.04	5.68	
18.00		285.63	0.03	0.07	0.04	5.81	
20.00	Top - Section 1	285.63	0.03	0.07	0.04	5.91	
22.00		237.52	0.04	0.07	0.04	4.99	
24.00		237.52	0.05	0.07	0.04	5.04	
26.00		237.52	0.06	0.07	0.04	5.10	
28.00		237.52	0.07	0.07	0.04	5.15	
30.00		237.52	0.08	0.07	0.04	5.20	
32.00		237.52	0.09	0.07	0.04	5.25	
34.00		237.52	0.10	0.07	0.04	5.30	
36.00		237.52	0.11	0.07	0.04	5.36	
38.00		237.52	0.12	0.07	0.03	5.41	
40.00		237.52	0.13	0.07	0.03	5.47	
42.00		237.52	0.15	0.07	0.03	5.52	
44.00		237.52	0.16	0.07	0.03	5.57	
46.00		237.52	0.18	0.07	0.03	5.61	
48.00		237.52	0.19	0.06	0.02	5.63	
50.00	Top - Section 2	237.52	0.21	0.06	0.02	5.63	
52.00		189.42	0.23	0.06	0.02	4.47	
54.00		189.42	0.24	0.06	0.02	4.42	
56.00		189.42	0.26	0.05	0.02	4.33	
58.00		189.42	0.28	0.05	0.01	4.19	
60.00		189.42	0.30	0.04	0.01	4.00	
62.00		189.42	0.32	0.04	0.01	3.74	
64.00		189.42	0.34	0.03	0.01	3.41	
66.00		189.42	0.37	0.03	0.01	2.99	
68.00		189.42	0.39	0.02	0.01	2.48	
70.00		189.42	0.41	0.01	0.01	1.89	
72.00		189.42	0.44	0.01	0.01	1.21	
74.00		189.42	0.46	0.00	0.01	0.47	
76.00		189.42	0.49	-0.01	0.01	-0.31	
78.00		189.42	0.51	-0.02	0.01	-1.10	
80.00	Top - Section 3	189.42	0.54	-0.03	0.01	-1.87	
82.00		189.42	0.56	-0.04	0.01	-2.59	
84.00		189.42	0.59	-0.05	0.01	-3.24	
86.00		189.42	0.62	-0.06	0.02	-3.80	
88.00		189.42	0.65	-0.07	0.02	-4.27	
90.00		189.42	0.68	-0.08	0.03	-4.63	

Seismic Segment Forces (Factored)

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 31	

92.00			189.42	0.71	-0.09	0.03	-4.88	
94.00			189.42	0.74	-0.10	0.04	-5.04	
96.00			189.42	0.77	-0.11	0.05	-5.10	
98.00			189.42	0.81	-0.11	0.06	-5.07	
100.00			189.42	0.84	-0.12	0.07	-4.94	
102.00			189.42	0.87	-0.12	0.08	-4.73	
104.00			189.42	0.91	-0.12	0.09	-4.43	
106.00			189.42	0.94	-0.12	0.11	-4.06	
108.00			189.42	0.98	-0.11	0.12	-3.60	
110.00	Top - Section 4		239.42	1.02	-0.11	0.14	-3.87	
112.00			235.05	1.05	-0.09	0.16	-3.03	
114.00			235.05	1.09	-0.07	0.18	-2.16	
115.00	Appurtenance(s)		206.92	1.11	-0.06	0.19	-1.49	
116.00			117.52	1.13	-0.05	0.21	-0.60	
118.00			235.05	1.17	-0.02	0.23	-0.14	
120.00	Top - Section 5		335.05	1.21	0.01	0.26	1.46	
122.00			57.20	1.25	0.06	0.29	0.56	
124.00			57.20	1.29	0.11	0.33	0.89	
125.00	Appurtenance(s)		209.80	1.31	0.14	0.35	3.90	
126.00			28.60	1.33	0.17	0.37	0.62	
128.00			57.20	1.38	0.24	0.41	1.62	
130.00	Top - Section 6		157.20	1.42	0.32	0.45	5.58	
132.00			57.20	1.46	0.42	0.50	2.46	
134.00			57.20	1.51	0.52	0.55	2.92	
135.00	Appurtenance(s)		84.70	1.53	0.58	0.58	4.68	
136.00			28.60	1.55	0.64	0.61	1.70	
138.00			57.20	1.60	0.78	0.67	3.92	
140.00	Top - Section 7		157.20	1.65	0.93	0.73	12.24	
142.00			57.20	1.69	1.10	0.81	5.02	
144.00			57.20	1.74	1.29	0.88	5.61	
146.00			57.20	1.79	1.50	0.96	6.23	
147.00	Appurtenance(s)		211.90	1.82	1.61	1.00	24.27	
148.00			28.60	1.84	1.73	1.05	3.44	
150.00	Appurtenance(s)		107.20	1.89	1.98	1.14	14.16	
		Totals:	**15,044.8**				**191.0**	**Total Wind:** **11,895.0**

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

Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 32	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	32
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**	0.34	**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	-21.57	-0.27	0.00	-21.15	0.00	21.15	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.030
2.00	-21.18	-0.26	0.00	-20.62	0.00	20.62	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.030
4.00	-20.78	-0.26	0.00	-20.09	0.00	20.09	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.029
6.00	-20.38	-0.26	0.00	-19.57	0.00	19.57	1490.10	745.05	2187.51	1339.68		0.00	-0.01	0.028
8.00	-19.99	-0.25	0.00	-19.05	0.00	19.05	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.028
10.00	-19.59	-0.25	0.00	-18.55	0.00	18.55	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.027
12.00	-19.20	-0.24	0.00	-18.05	0.00	18.05	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.026
14.00	-18.80	-0.24	0.00	-17.56	0.00	17.56	1490.10	745.05	2187.51	1339.68		0.02	-0.01	0.026
16.00	-18.41	-0.23	0.00	-17.08	0.00	17.08	1490.10	745.05	2187.51	1339.68		0.02	-0.01	0.025
18.00	-18.01	-0.23	0.00	-16.61	0.00	16.61	1490.10	745.05	2187.51	1339.68		0.03	-0.01	0.024
20.00	-17.61	-0.22	0.00	-16.15	0.00	16.15	1490.10	745.05	2187.51	1339.68		0.03	-0.02	0.024
20.00	-17.61	-0.22	0.00	-16.15	0.00	16.15	1311.06	655.53	1597.15	948.43		0.03	-0.02	0.030
22.00	-17.28	-0.22	0.00	-15.71	0.00	15.71	1311.06	655.53	1597.15	948.43		0.04	-0.02	0.030
24.00	-16.94	-0.21	0.00	-15.27	0.00	15.27	1311.06	655.53	1597.15	948.43		0.05	-0.02	0.029
26.00	-16.60	-0.21	0.00	-14.84	0.00	14.84	1311.06	655.53	1597.15	948.43		0.06	-0.02	0.028
28.00	-16.26	-0.20	0.00	-14.42	0.00	14.42	1311.06	655.53	1597.15	948.43		0.07	-0.02	0.028
30.00	-15.92	-0.20	0.00	-14.01	0.00	14.01	1311.06	655.53	1597.15	948.43		0.08	-0.03	0.027
32.00	-15.59	-0.20	0.00	-13.61	0.00	13.61	1311.06	655.53	1597.15	948.43		0.09	-0.03	0.026
34.00	-15.25	-0.19	0.00	-13.22	0.00	13.22	1311.06	655.53	1597.15	948.43		0.10	-0.03	0.026
36.00	-14.91	-0.19	0.00	-12.84	0.00	12.84	1311.06	655.53	1597.15	948.43		0.11	-0.03	0.025
38.00	-14.57	-0.18	0.00	-12.47	0.00	12.47	1311.06	655.53	1597.15	948.43		0.13	-0.03	0.024
40.00	-14.23	-0.17	0.00	-12.11	0.00	12.11	1311.06	655.53	1597.15	948.43		0.14	-0.04	0.024
42.00	-13.90	-0.17	0.00	-11.76	0.00	11.76	1311.06	655.53	1597.15	948.43		0.16	-0.04	0.023
44.00	-13.56	-0.16	0.00	-11.42	0.00	11.42	1311.06	655.53	1597.15	948.43		0.17	-0.04	0.022
46.00	-13.22	-0.16	0.00	-11.09	0.00	11.09	1311.06	655.53	1597.15	948.43		0.19	-0.04	0.022
48.00	-12.88	-0.15	0.00	-10.77	0.00	10.77	1311.06	655.53	1597.15	948.43		0.21	-0.04	0.021
50.00	-12.54	-0.15	0.00	-10.47	0.00	10.47	1311.06	655.53	1597.15	948.43		0.23	-0.04	0.021
50.00	-12.54	-0.15	0.00	-10.47	0.00	10.47	1052.07	526.04	1018.84	624.04		0.23	-0.04	0.029
52.00	-12.26	-0.14	0.00	-10.17	0.00	10.17	1052.07	526.04	1018.84	624.04		0.25	-0.05	0.028
54.00	-11.98	-0.14	0.00	-9.89	0.00	9.89	1052.07	526.04	1018.84	624.04		0.27	-0.05	0.027
56.00	-11.70	-0.14	0.00	-9.61	0.00	9.61	1052.07	526.04	1018.84	624.04		0.29	-0.05	0.027
58.00	-11.42	-0.13	0.00	-9.34	0.00	9.34	1052.07	526.04	1018.84	624.04		0.31	-0.05	0.026
60.00	-11.14	-0.13	0.00	-9.07	0.00	9.07	1052.07	526.04	1018.84	624.04		0.33	-0.06	0.025
62.00	-10.86	-0.12	0.00	-8.82	0.00	8.82	1052.07	526.04	1018.84	624.04		0.36	-0.06	0.024
64.00	-10.58	-0.12	0.00	-8.57	0.00	8.57	1052.07	526.04	1018.84	624.04		0.38	-0.06	0.024
66.00	-10.30	-0.12	0.00	-8.33	0.00	8.33	1052.07	526.04	1018.84	624.04		0.41	-0.06	0.023
68.00	-10.02	-0.12	0.00	-8.09	0.00	8.09	1052.07	526.04	1018.84	624.04		0.44	-0.07	0.022
70.00	-9.74	-0.11	0.00	-7.86	0.00	7.86	1052.07	526.04	1018.84	624.04		0.46	-0.07	0.022
72.00	-9.46	-0.11	0.00	-7.63	0.00	7.63	1052.07	526.04	1018.84	624.04		0.49	-0.07	0.021
74.00	-9.18	-0.11	0.00	-7.40	0.00	7.40	1052.07	526.04	1018.84	624.04		0.52	-0.07	0.021
76.00	-8.90	-0.11	0.00	-7.18	0.00	7.18	1052.07	526.04	1018.84	624.04		0.56	-0.08	0.020
78.00	-8.62	-0.11	0.00	-6.95	0.00	6.95	1052.07	526.04	1018.84	624.04		0.59	-0.08	0.019
80.00	-8.34	-0.11	0.00	-6.73	0.00	6.73	1052.07	526.04	1018.84	624.04		0.62	-0.08	0.019
80.00	-8.34	-0.11	0.00	-6.73	0.00	6.73	1052.07	526.04	1018.84	624.04		0.62	-0.08	0.019
82.00	-8.06	-0.11	0.00	-6.51	0.00	6.51	1052.07	526.04	1018.84	624.04		0.65	-0.08	0.018
84.00	-7.78	-0.11	0.00	-6.28	0.00	6.28	1052.07	526.04	1018.84	624.04		0.69	-0.08	0.017
86.00	-7.50	-0.11	0.00	-6.06	0.00	6.06	1052.07	526.04	1018.84	624.04		0.73	-0.09	0.017

Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 33	

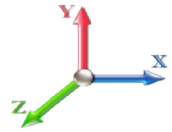
88.00	-7.22	-0.11	0.00	-5.83	0.00	5.83	1052.07	526.04	1018.84	624.04	0.76	-0.09	0.016
90.00	-6.94	-0.11	0.00	-5.61	0.00	5.61	1052.07	526.04	1018.84	624.04	0.80	-0.09	0.016
92.00	-6.66	-0.11	0.00	-5.39	0.00	5.39	1052.07	526.04	1018.84	624.04	0.84	-0.09	0.015
94.00	-6.38	-0.11	0.00	-5.17	0.00	5.17	1052.07	526.04	1018.84	624.04	0.87	-0.09	0.014
96.00	-6.10	-0.11	0.00	-4.95	0.00	4.95	1052.07	526.04	1018.84	624.04	0.91	-0.09	0.014
98.00	-5.82	-0.11	0.00	-4.72	0.00	4.72	1052.07	526.04	1018.84	624.04	0.95	-0.10	0.013
100.00	-5.54	-0.11	0.00	-4.50	0.00	4.50	1052.07	526.04	1018.84	624.04	0.99	-0.10	0.012
102.00	-5.26	-0.11	0.00	-4.28	0.00	4.28	1052.07	526.04	1018.84	624.04	1.03	-0.10	0.012
104.00	-4.98	-0.11	0.00	-4.06	0.00	4.06	1052.07	526.04	1018.84	624.04	1.07	-0.10	0.011
106.00	-4.70	-0.11	0.00	-3.85	0.00	3.85	1052.07	526.04	1018.84	624.04	1.12	-0.10	0.011
108.00	-4.42	-0.11	0.00	-3.63	0.00	3.63	1052.07	526.04	1018.84	624.04	1.16	-0.10	0.010
110.00	-4.08	-0.11	0.00	-3.41	0.00	3.41	1052.07	526.04	1018.84	624.04	1.20	-0.10	0.009
110.00	-4.08	-0.11	0.00	-3.41	0.00	3.41	1305.53	652.76	129.19	160.41	1.20	-0.10	0.024
112.00	-3.74	-0.11	0.00	-3.20	0.00	3.20	1305.53	652.76	129.19	160.41	1.24	-0.10	0.023
114.00	-3.41	-0.11	0.00	-2.98	0.00	2.98	1305.53	652.76	129.19	160.41	1.29	-0.13	0.021
115.00	-3.13	-0.11	0.00	-2.87	0.00	2.87	1305.53	652.76	129.19	160.41	1.32	-0.14	0.020
116.00	-2.97	-0.11	0.00	-2.76	0.00	2.76	1305.53	652.76	129.19	160.41	1.35	-0.15	0.019
118.00	-2.64	-0.11	0.00	-2.54	0.00	2.54	1305.53	652.76	129.19	160.41	1.42	-0.17	0.018
120.00	-2.19	-0.11	0.00	-2.33	0.00	2.33	1305.53	652.76	129.19	160.41	1.50	-0.19	0.016
120.00	-2.19	-0.11	0.00	-2.33	0.00	2.33	317.71	158.85	76.59	52.28	1.50	-0.19	0.051
122.00	-2.08	-0.11	0.00	-2.11	0.00	2.11	317.71	158.85	76.59	52.28	1.58	-0.21	0.047
124.00	-1.96	-0.11	0.00	-1.90	0.00	1.90	317.71	158.85	76.59	52.28	1.68	-0.24	0.042
125.00	-1.69	-0.10	0.00	-1.79	0.00	1.79	317.71	158.85	76.59	52.28	1.73	-0.25	0.040
126.00	-1.64	-0.10	0.00	-1.69	0.00	1.69	317.71	158.85	76.59	52.28	1.78	-0.27	0.038
128.00	-1.54	-0.10	0.00	-1.49	0.00	1.49	317.71	158.85	76.59	52.28	1.90	-0.29	0.033
130.00	-1.32	-0.09	0.00	-1.29	0.00	1.29	317.71	158.85	76.59	52.28	2.02	-0.31	0.029
130.00	-1.32	-0.09	0.00	-1.29	0.00	1.29	317.71	158.85	76.59	52.28	2.02	-0.31	0.029
132.00	-1.22	-0.09	0.00	-1.10	0.00	1.10	317.71	158.85	76.59	52.28	2.16	-0.32	0.025
134.00	-1.12	-0.09	0.00	-0.92	0.00	0.92	317.71	158.85	76.59	52.28	2.30	-0.34	0.021
135.00	-1.01	-0.08	0.00	-0.83	0.00	0.83	317.71	158.85	76.59	52.28	2.37	-0.34	0.019
136.00	-0.96	-0.08	0.00	-0.75	0.00	0.75	317.71	158.85	76.59	52.28	2.44	-0.35	0.017
138.00	-0.88	-0.08	0.00	-0.59	0.00	0.59	317.71	158.85	76.59	52.28	2.59	-0.36	0.014
140.00	-0.68	-0.06	0.00	-0.44	0.00	0.44	317.71	158.85	76.59	52.28	2.74	-0.37	0.010
140.00	-0.68	-0.06	0.00	-0.44	0.00	0.44	317.71	158.85	76.59	52.28	2.74	-0.37	0.010
142.00	-0.59	-0.06	0.00	-0.31	0.00	0.31	317.71	158.85	76.59	52.28	2.90	-0.37	0.008
144.00	-0.51	-0.05	0.00	-0.20	0.00	0.20	317.71	158.85	76.59	52.28	3.05	-0.38	0.005
146.00	-0.42	-0.04	0.00	-0.09	0.00	0.09	317.71	158.85	76.59	52.28	3.21	-0.38	0.003
147.00	-0.16	-0.02	0.00	-0.05	0.00	0.05	317.71	158.85	76.59	52.28	3.29	-0.38	0.001
148.00	-0.13	-0.01	0.00	-0.03	0.00	0.03	317.71	158.85	76.59	52.28	3.37	-0.38	0.001
150.00	0.00	-0.01	0.00	0.00	0.00	0.00	317.71	158.85	76.59	52.28	3.53	-0.38	0.000

Seismic Segment Forces (Factored)

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 34	

IES Tower Engineering Solutions

Load Case:	0.9D + 1.0E					**Iterations**	32
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**	0.34	**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	
2.00		285.63	0.00	0.01	0.01	1.97	
4.00		285.63	0.00	0.03	0.01	3.17	
6.00		285.63	0.00	0.04	0.02	3.98	
8.00		285.63	0.01	0.05	0.03	4.55	
10.00		285.63	0.01	0.05	0.03	4.97	
12.00		285.63	0.01	0.06	0.03	5.28	
14.00		285.63	0.02	0.06	0.04	5.51	
16.00		285.63	0.02	0.06	0.04	5.68	
18.00		285.63	0.03	0.07	0.04	5.81	
20.00	Top - Section 1	285.63	0.03	0.07	0.04	5.91	
22.00		237.52	0.04	0.07	0.04	4.99	
24.00		237.52	0.05	0.07	0.04	5.04	
26.00		237.52	0.06	0.07	0.04	5.10	
28.00		237.52	0.07	0.07	0.04	5.15	
30.00		237.52	0.08	0.07	0.04	5.20	
32.00		237.52	0.09	0.07	0.04	5.25	
34.00		237.52	0.10	0.07	0.04	5.30	
36.00		237.52	0.11	0.07	0.04	5.36	
38.00		237.52	0.12	0.07	0.03	5.41	
40.00		237.52	0.13	0.07	0.03	5.47	
42.00		237.52	0.15	0.07	0.03	5.52	
44.00		237.52	0.16	0.07	0.03	5.57	
46.00		237.52	0.18	0.07	0.03	5.61	
48.00		237.52	0.19	0.06	0.02	5.63	
50.00	Top - Section 2	237.52	0.21	0.06	0.02	5.63	
52.00		189.42	0.23	0.06	0.02	4.47	
54.00		189.42	0.24	0.06	0.02	4.42	
56.00		189.42	0.26	0.05	0.02	4.33	
58.00		189.42	0.28	0.05	0.01	4.19	
60.00		189.42	0.30	0.04	0.01	4.00	
62.00		189.42	0.32	0.04	0.01	3.74	
64.00		189.42	0.34	0.03	0.01	3.41	
66.00		189.42	0.37	0.03	0.01	2.99	
68.00		189.42	0.39	0.02	0.01	2.48	
70.00		189.42	0.41	0.01	0.01	1.89	
72.00		189.42	0.44	0.01	0.01	1.21	
74.00		189.42	0.46	0.00	0.01	0.47	
76.00		189.42	0.49	-0.01	0.01	-0.31	
78.00		189.42	0.51	-0.02	0.01	-1.10	
80.00	Top - Section 3	189.42	0.54	-0.03	0.01	-1.87	
82.00		189.42	0.56	-0.04	0.01	-2.59	
84.00		189.42	0.59	-0.05	0.01	-3.24	
86.00		189.42	0.62	-0.06	0.02	-3.80	
88.00		189.42	0.65	-0.07	0.02	-4.27	
90.00		189.42	0.68	-0.08	0.03	-4.63	

Seismic Segment Forces (Factored)

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 35	

92.00			189.42	0.71	-0.09	0.03	-4.88		
94.00			189.42	0.74	-0.10	0.04	-5.04		
96.00			189.42	0.77	-0.11	0.05	-5.10		
98.00			189.42	0.81	-0.11	0.06	-5.07		
100.00			189.42	0.84	-0.12	0.07	-4.94		
102.00			189.42	0.87	-0.12	0.08	-4.73		
104.00			189.42	0.91	-0.12	0.09	-4.43		
106.00			189.42	0.94	-0.12	0.11	-4.06		
108.00			189.42	0.98	-0.11	0.12	-3.60		
110.00	Top - Section 4		239.42	1.02	-0.11	0.14	-3.87		
112.00			235.05	1.05	-0.09	0.16	-3.03		
114.00			235.05	1.09	-0.07	0.18	-2.16		
115.00	Appurtenance(s)		206.92	1.11	-0.06	0.19	-1.49		
116.00			117.52	1.13	-0.05	0.21	-0.60		
118.00			235.05	1.17	-0.02	0.23	-0.14		
120.00	Top - Section 5		335.05	1.21	0.01	0.26	1.46		
122.00			57.20	1.25	0.06	0.29	0.56		
124.00			57.20	1.29	0.11	0.33	0.89		
125.00	Appurtenance(s)		209.80	1.31	0.14	0.35	3.90		
126.00			28.60	1.33	0.17	0.37	0.62		
128.00			57.20	1.38	0.24	0.41	1.62		
130.00	Top - Section 6		157.20	1.42	0.32	0.45	5.58		
132.00			57.20	1.46	0.42	0.50	2.46		
134.00			57.20	1.51	0.52	0.55	2.92		
135.00	Appurtenance(s)		84.70	1.53	0.58	0.58	4.68		
136.00			28.60	1.55	0.64	0.61	1.70		
138.00			57.20	1.60	0.78	0.67	3.92		
140.00	Top - Section 7		157.20	1.65	0.93	0.73	12.24		
142.00			57.20	1.69	1.10	0.81	5.02		
144.00			57.20	1.74	1.29	0.88	5.61		
146.00			57.20	1.79	1.50	0.96	6.23		
147.00	Appurtenance(s)		211.90	1.82	1.61	1.00	24.27		
148.00			28.60	1.84	1.73	1.05	3.44		
150.00	Appurtenance(s)		107.20	1.89	1.98	1.14	14.16		
		Totals:	**15,044.8**				**191.0**	**Total Wind:**	**11,895.0**

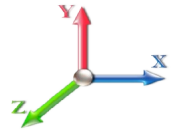
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 36	

Tower Engineering Solutions

Load Case: 0.9D + 1.0E



Gust Response Factor	1.10			**Sds**	0.11	**Iterations**	32		
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.04	**Ss**	0.16		
Wind Load Factor	0.00	**Structure Frequency**	0.34	**SA**	0.01	**S1**	0.06	**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	-16.18	-0.27	0.00	-20.85	0.00	20.85	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.026
2.00	-15.88	-0.26	0.00	-20.32	0.00	20.32	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.026
4.00	-15.59	-0.26	0.00	-19.79	0.00	19.79	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.025
6.00	-15.29	-0.26	0.00	-19.27	0.00	19.27	1490.10	745.05	2187.51	1339.68		0.00	-0.01	0.025
8.00	-14.99	-0.25	0.00	-18.75	0.00	18.75	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.024
10.00	-14.69	-0.25	0.00	-18.25	0.00	18.25	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.023
12.00	-14.40	-0.24	0.00	-17.75	0.00	17.75	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.023
14.00	-14.10	-0.24	0.00	-17.26	0.00	17.26	1490.10	745.05	2187.51	1339.68		0.02	-0.01	0.022
16.00	-13.80	-0.23	0.00	-16.78	0.00	16.78	1490.10	745.05	2187.51	1339.68		0.02	-0.01	0.022
18.00	-13.51	-0.23	0.00	-16.32	0.00	16.32	1490.10	745.05	2187.51	1339.68		0.03	-0.01	0.021
20.00	-13.21	-0.22	0.00	-15.86	0.00	15.86	1490.10	745.05	2187.51	1339.68		0.03	-0.02	0.021
20.00	-13.21	-0.22	0.00	-15.86	0.00	15.86	1311.06	655.53	1597.15	948.43		0.03	-0.02	0.027
22.00	-12.96	-0.22	0.00	-15.42	0.00	15.42	1311.06	655.53	1597.15	948.43		0.04	-0.02	0.026
24.00	-12.70	-0.21	0.00	-14.98	0.00	14.98	1311.06	655.53	1597.15	948.43		0.05	-0.02	0.025
26.00	-12.45	-0.21	0.00	-14.56	0.00	14.56	1311.06	655.53	1597.15	948.43		0.06	-0.02	0.025
28.00	-12.20	-0.20	0.00	-14.14	0.00	14.14	1311.06	655.53	1597.15	948.43		0.07	-0.02	0.024
30.00	-11.94	-0.20	0.00	-13.74	0.00	13.74	1311.06	655.53	1597.15	948.43		0.08	-0.03	0.024
32.00	-11.69	-0.19	0.00	-13.34	0.00	13.34	1311.06	655.53	1597.15	948.43		0.09	-0.03	0.023
34.00	-11.44	-0.19	0.00	-12.95	0.00	12.95	1311.06	655.53	1597.15	948.43		0.10	-0.03	0.022
36.00	-11.18	-0.18	0.00	-12.58	0.00	12.58	1311.06	655.53	1597.15	948.43		0.11	-0.03	0.022
38.00	-10.93	-0.18	0.00	-12.21	0.00	12.21	1311.06	655.53	1597.15	948.43		0.13	-0.03	0.021
40.00	-10.68	-0.17	0.00	-11.85	0.00	11.85	1311.06	655.53	1597.15	948.43		0.14	-0.04	0.021
42.00	-10.42	-0.17	0.00	-11.51	0.00	11.51	1311.06	655.53	1597.15	948.43		0.16	-0.04	0.020
44.00	-10.17	-0.16	0.00	-11.17	0.00	11.17	1311.06	655.53	1597.15	948.43		0.17	-0.04	0.020
46.00	-9.92	-0.16	0.00	-10.85	0.00	10.85	1311.06	655.53	1597.15	948.43		0.19	-0.04	0.019
48.00	-9.66	-0.15	0.00	-10.54	0.00	10.54	1311.06	655.53	1597.15	948.43		0.21	-0.04	0.018
50.00	-9.41	-0.15	0.00	-10.24	0.00	10.24	1311.06	655.53	1597.15	948.43		0.22	-0.04	0.018
50.00	-9.41	-0.15	0.00	-10.24	0.00	10.24	1052.07	526.04	1018.84	624.04		0.22	-0.04	0.025
52.00	-9.20	-0.14	0.00	-9.95	0.00	9.95	1052.07	526.04	1018.84	624.04		0.24	-0.04	0.025
54.00	-8.99	-0.14	0.00	-9.66	0.00	9.66	1052.07	526.04	1018.84	624.04		0.26	-0.05	0.024
56.00	-8.78	-0.13	0.00	-9.39	0.00	9.39	1052.07	526.04	1018.84	624.04		0.28	-0.05	0.023
58.00	-8.57	-0.13	0.00	-9.12	0.00	9.12	1052.07	526.04	1018.84	624.04		0.30	-0.05	0.023
60.00	-8.36	-0.12	0.00	-8.87	0.00	8.87	1052.07	526.04	1018.84	624.04		0.33	-0.06	0.022
62.00	-8.15	-0.12	0.00	-8.62	0.00	8.62	1052.07	526.04	1018.84	624.04		0.35	-0.06	0.022
64.00	-7.94	-0.12	0.00	-8.37	0.00	8.37	1052.07	526.04	1018.84	624.04		0.37	-0.06	0.021
66.00	-7.73	-0.12	0.00	-8.14	0.00	8.14	1052.07	526.04	1018.84	624.04		0.40	-0.06	0.020
68.00	-7.52	-0.11	0.00	-7.91	0.00	7.91	1052.07	526.04	1018.84	624.04		0.43	-0.07	0.020
70.00	-7.31	-0.11	0.00	-7.68	0.00	7.68	1052.07	526.04	1018.84	624.04		0.46	-0.07	0.019
72.00	-7.10	-0.11	0.00	-7.46	0.00	7.46	1052.07	526.04	1018.84	624.04		0.48	-0.07	0.019
74.00	-6.89	-0.11	0.00	-7.24	0.00	7.24	1052.07	526.04	1018.84	624.04		0.51	-0.07	0.018
76.00	-6.68	-0.11	0.00	-7.02	0.00	7.02	1052.07	526.04	1018.84	624.04		0.55	-0.07	0.018
78.00	-6.47	-0.11	0.00	-6.80	0.00	6.80	1052.07	526.04	1018.84	624.04		0.58	-0.08	0.017
80.00	-6.25	-0.11	0.00	-6.59	0.00	6.59	1052.07	526.04	1018.84	624.04		0.61	-0.08	0.016
80.00	-6.25	-0.11	0.00	-6.59	0.00	6.59	1052.07	526.04	1018.84	624.04		0.61	-0.08	0.016
82.00	-6.04	-0.11	0.00	-6.37	0.00	6.37	1052.07	526.04	1018.84	624.04		0.64	-0.08	0.016
84.00	-5.83	-0.11	0.00	-6.15	0.00	6.15	1052.07	526.04	1018.84	624.04		0.68	-0.08	0.015
86.00	-5.62	-0.11	0.00	-5.93	0.00	5.93	1052.07	526.04	1018.84	624.04		0.71	-0.08	0.015

Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 37	

88.00	-5.41	-0.11	0.00	-5.71	0.00	5.71	1052.07	526.04	1018.84	624.04	0.75	-0.09	0.014
90.00	-5.20	-0.11	0.00	-5.50	0.00	5.50	1052.07	526.04	1018.84	624.04	0.78	-0.09	0.014
92.00	-4.99	-0.11	0.00	-5.28	0.00	5.28	1052.07	526.04	1018.84	624.04	0.82	-0.09	0.013
94.00	-4.78	-0.11	0.00	-5.06	0.00	5.06	1052.07	526.04	1018.84	624.04	0.86	-0.09	0.013
96.00	-4.57	-0.11	0.00	-4.85	0.00	4.85	1052.07	526.04	1018.84	624.04	0.90	-0.09	0.012
98.00	-4.36	-0.11	0.00	-4.63	0.00	4.63	1052.07	526.04	1018.84	624.04	0.93	-0.09	0.012
100.00	-4.15	-0.11	0.00	-4.42	0.00	4.42	1052.07	526.04	1018.84	624.04	0.97	-0.09	0.011
102.00	-3.94	-0.11	0.00	-4.20	0.00	4.20	1052.07	526.04	1018.84	624.04	1.01	-0.10	0.010
104.00	-3.73	-0.11	0.00	-3.99	0.00	3.99	1052.07	526.04	1018.84	624.04	1.05	-0.10	0.010
106.00	-3.52	-0.11	0.00	-3.77	0.00	3.77	1052.07	526.04	1018.84	624.04	1.09	-0.10	0.009
108.00	-3.31	-0.11	0.00	-3.56	0.00	3.56	1052.07	526.04	1018.84	624.04	1.14	-0.10	0.009
110.00	-3.06	-0.11	0.00	-3.35	0.00	3.35	1052.07	526.04	1018.84	624.04	1.18	-0.10	0.008
110.00	-3.06	-0.11	0.00	-3.35	0.00	3.35	1305.53	652.76	129.19	160.41	1.18	-0.10	0.023
112.00	-2.81	-0.11	0.00	-3.13	0.00	3.13	1305.53	652.76	129.19	160.41	1.22	-0.10	0.022
114.00	-2.55	-0.11	0.00	-2.92	0.00	2.92	1305.53	652.76	129.19	160.41	1.27	-0.13	0.020
115.00	-2.35	-0.11	0.00	-2.82	0.00	2.82	1305.53	652.76	129.19	160.41	1.29	-0.14	0.019
116.00	-2.22	-0.11	0.00	-2.71	0.00	2.71	1305.53	652.76	129.19	160.41	1.32	-0.15	0.019
118.00	-1.98	-0.11	0.00	-2.50	0.00	2.50	1305.53	652.76	129.19	160.41	1.39	-0.17	0.017
120.00	-1.64	-0.11	0.00	-2.28	0.00	2.28	1305.53	652.76	129.19	160.41	1.47	-0.19	0.015
120.00	-1.64	-0.11	0.00	-2.28	0.00	2.28	317.71	158.85	76.59	52.28	1.47	-0.19	0.049
122.00	-1.56	-0.10	0.00	-2.07	0.00	2.07	317.71	158.85	76.59	52.28	1.55	-0.21	0.045
124.00	-1.47	-0.10	0.00	-1.86	0.00	1.86	317.71	158.85	76.59	52.28	1.64	-0.24	0.040
125.00	-1.27	-0.10	0.00	-1.76	0.00	1.76	317.71	158.85	76.59	52.28	1.69	-0.25	0.038
126.00	-1.23	-0.10	0.00	-1.66	0.00	1.66	317.71	158.85	76.59	52.28	1.75	-0.26	0.036
128.00	-1.16	-0.10	0.00	-1.46	0.00	1.46	317.71	158.85	76.59	52.28	1.86	-0.28	0.032
130.00	-0.99	-0.09	0.00	-1.26	0.00	1.26	317.71	158.85	76.59	52.28	1.98	-0.30	0.027
130.00	-0.99	-0.09	0.00	-1.26	0.00	1.26	317.71	158.85	76.59	52.28	1.98	-0.30	0.027
132.00	-0.92	-0.09	0.00	-1.08	0.00	1.08	317.71	158.85	76.59	52.28	2.11	-0.32	0.024
134.00	-0.84	-0.09	0.00	-0.90	0.00	0.90	317.71	158.85	76.59	52.28	2.25	-0.33	0.020
135.00	-0.75	-0.08	0.00	-0.82	0.00	0.82	317.71	158.85	76.59	52.28	2.32	-0.34	0.018
136.00	-0.72	-0.08	0.00	-0.74	0.00	0.74	317.71	158.85	76.59	52.28	2.39	-0.34	0.016
138.00	-0.66	-0.07	0.00	-0.58	0.00	0.58	317.71	158.85	76.59	52.28	2.54	-0.35	0.013
140.00	-0.51	-0.06	0.00	-0.43	0.00	0.43	317.71	158.85	76.59	52.28	2.69	-0.36	0.010
140.00	-0.51	-0.06	0.00	-0.43	0.00	0.43	317.71	158.85	76.59	52.28	2.69	-0.36	0.010
142.00	-0.44	-0.06	0.00	-0.31	0.00	0.31	317.71	158.85	76.59	52.28	2.84	-0.37	0.007
144.00	-0.38	-0.05	0.00	-0.19	0.00	0.19	317.71	158.85	76.59	52.28	2.99	-0.37	0.005
146.00	-0.32	-0.04	0.00	-0.09	0.00	0.09	317.71	158.85	76.59	52.28	3.15	-0.37	0.003
147.00	-0.12	-0.02	0.00	-0.05	0.00	0.05	317.71	158.85	76.59	52.28	3.23	-0.37	0.001
148.00	-0.10	-0.01	0.00	-0.03	0.00	0.03	317.71	158.85	76.59	52.28	3.30	-0.37	0.001
150.00	0.00	-0.01	0.00	0.00	0.00	0.00	317.71	158.85	76.59	52.28	3.46	-0.37	0.000

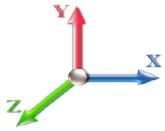
Wind Loading - Shaft

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 38	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 36

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	165.95	0.600	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	2.00	6.000	3.60	29.5	0.0	285.6
4.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	2.00	6.000	3.60	29.5	0.0	285.6
6.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	2.00	6.000	3.60	29.5	0.0	285.6
8.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	2.00	6.000	3.60	29.5	0.0	285.6
10.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	2.00	6.000	3.60	29.5	0.0	285.6
12.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	2.00	6.000	3.60	29.5	0.0	285.6
14.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	2.00	6.000	3.60	29.5	0.0	285.6
16.00		1.00	0.86	7.534	8.29	166.97	0.600	0.000	2.00	6.000	3.60	29.8	0.0	285.6
18.00		1.00	0.88	7.723	8.50	169.06	0.600	0.000	2.00	6.000	3.60	30.6	0.0	285.6
20.00	Top - Section 1	1.00	0.90	7.896	8.69	170.94	0.600	0.000	2.00	6.000	3.60	31.3	0.0	285.6
22.00		1.00	0.92	8.056	8.86	143.89	0.600	0.000	2.00	5.000	3.00	26.6	0.0	237.5
24.00		1.00	0.94	8.205	9.03	145.21	0.600	0.000	2.00	5.000	3.00	27.1	0.0	237.5
26.00		1.00	0.95	8.345	9.18	146.44	0.600	0.000	2.00	5.000	3.00	27.5	0.0	237.5
28.00		1.00	0.97	8.476	9.32	147.59	0.600	0.000	2.00	5.000	3.00	28.0	0.0	237.5
30.00		1.00	0.98	8.600	9.46	148.66	0.600	0.000	2.00	5.000	3.00	28.4	0.0	237.5
32.00		1.00	1.00	8.717	9.59	149.68	0.600	0.000	2.00	5.000	3.00	28.8	0.0	237.5
34.00		1.00	1.01	8.829	9.71	150.63	0.600	0.000	2.00	5.000	3.00	29.1	0.0	237.5
36.00		1.00	1.02	8.936	9.83	151.54	0.600	0.000	2.00	5.000	3.00	29.5	0.0	237.5
38.00		1.00	1.03	9.039	9.94	152.41	0.600	0.000	2.00	5.000	3.00	29.8	0.0	237.5
40.00		1.00	1.04	9.137	10.05	153.23	0.600	0.000	2.00	5.000	3.00	30.2	0.0	237.5
42.00		1.00	1.05	9.231	10.15	154.02	0.600	0.000	2.00	5.000	3.00	30.5	0.0	237.5
44.00		1.00	1.06	9.322	10.25	154.78	0.600	0.000	2.00	5.000	3.00	30.8	0.0	237.5
46.00		1.00	1.07	9.410	10.35	155.50	0.600	0.000	2.00	5.000	3.00	31.1	0.0	237.5
48.00		1.00	1.08	9.494	10.44	156.20	0.600	0.000	2.00	5.000	3.00	31.3	0.0	237.5
50.00	Top - Section 2	1.00	1.09	9.576	10.53	156.88	0.600	0.000	2.00	5.000	3.00	31.6	0.0	237.5
52.00		1.00	1.10	9.656	10.62	126.02	0.600	0.000	2.00	4.000	2.40	25.5	0.0	189.4
54.00		1.00	1.11	9.733	10.71	126.52	0.600	0.000	2.00	4.000	2.40	25.7	0.0	189.4
56.00		1.00	1.12	9.807	10.79	127.01	0.600	0.000	2.00	4.000	2.40	25.9	0.0	189.4
58.00		1.00	1.13	9.880	10.87	127.48	0.600	0.000	2.00	4.000	2.40	26.1	0.0	189.4
60.00		1.00	1.14	9.951	10.95	127.93	0.600	0.000	2.00	4.000	2.40	26.3	0.0	189.4
62.00		1.00	1.14	10.020	11.02	128.37	0.600	0.000	2.00	4.000	2.40	26.5	0.0	189.4
64.00		1.00	1.15	10.087	11.10	128.80	0.600	0.000	2.00	4.000	2.40	26.6	0.0	189.4
66.00		1.00	1.16	10.153	11.17	129.22	0.600	0.000	2.00	4.000	2.40	26.8	0.0	189.4
68.00		1.00	1.17	10.217	11.24	129.63	0.600	0.000	2.00	4.000	2.40	27.0	0.0	189.4
70.00		1.00	1.17	10.279	11.31	130.03	0.600	0.000	2.00	4.000	2.40	27.1	0.0	189.4
72.00		1.00	1.18	10.340	11.37	130.41	0.600	0.000	2.00	4.000	2.40	27.3	0.0	189.4
74.00		1.00	1.19	10.400	11.44	130.79	0.600	0.000	2.00	4.000	2.40	27.5	0.0	189.4
76.00		1.00	1.19	10.459	11.50	131.16	0.600	0.000	2.00	4.000	2.40	27.6	0.0	189.4
78.00		1.00	1.20	10.516	11.57	131.51	0.600	0.000	2.00	4.000	2.40	27.8	0.0	189.4
80.00	Top - Section 3	1.00	1.21	10.572	11.63	131.87	0.600	0.000	2.00	4.000	2.40	27.9	0.0	189.4
82.00		1.00	1.21	10.627	11.69	132.21	0.600	0.000	2.00	4.000	2.40	28.1	0.0	189.4
84.00		1.00	1.22	10.681	11.75	132.54	0.600	0.000	2.00	4.000	2.40	28.2	0.0	189.4
86.00		1.00	1.23	10.734	11.81	132.87	0.600	0.000	2.00	4.000	2.40	28.3	0.0	189.4
88.00		1.00	1.23	10.787	11.87	133.20	0.600	0.000	2.00	4.000	2.40	28.5	0.0	189.4
90.00		1.00	1.24	10.838	11.92	133.51	0.600	0.000	2.00	4.000	2.40	28.6	0.0	189.4
92.00		1.00	1.24	10.888	11.98	133.82	0.600	0.000	2.00	4.000	2.40	28.7	0.0	189.4

Wind Loading - Shaft

Structure: CT01493-S-SBA | **Code:** EIA/TIA-222-G | 8/21/2018
Site Name: North Stonington 2 CT | **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: 39

Tower Engineering Solutions

94.00		1.00	1.25	10.937	12.03	134.12	0.600	0.000	2.00	4.000	2.40	28.9	0.0	189.4
96.00		1.00	1.25	10.986	12.08	134.42	0.600	0.000	2.00	4.000	2.40	29.0	0.0	189.4
98.00		1.00	1.26	11.034	12.14	134.71	0.600	0.000	2.00	4.000	2.40	29.1	0.0	189.4
100.00		1.00	1.27	11.081	12.19	135.00	0.600	0.000	2.00	4.000	2.40	29.3	0.0	189.4
102.00		1.00	1.27	11.127	12.24	135.28	0.600	0.000	2.00	4.000	2.40	29.4	0.0	189.4
104.00		1.00	1.28	11.173	12.29	135.56	0.600	0.000	2.00	4.000	2.40	29.5	0.0	189.4
106.00		1.00	1.28	11.218	12.34	135.83	0.600	0.000	2.00	4.000	2.40	29.6	0.0	189.4
108.00		1.00	1.29	11.262	12.39	136.10	0.600	0.000	2.00	4.000	2.40	29.7	0.0	189.4
110.00	Top - Section 4	1.00	1.29	11.305	12.44	136.36	0.600	0.000	2.00	4.000	2.40	29.8	0.0	189.4
112.00		1.00	1.30	11.348	12.48	38.42	0.999	0.000	2.00	1.125	1.12	14.0	0.0	235.0
114.00		1.00	1.30	11.391	12.53	38.50	0.998	0.000	2.00	1.125	1.12	14.1	0.0	235.0
115.00	Appurtenance(s)	1.00	1.30	11.412	12.55	38.53	0.997	0.000	1.00	0.563	0.56	7.0	0.0	117.5
116.00		1.00	1.31	11.432	12.58	38.57	0.996	0.000	1.00	0.563	0.56	7.0	0.0	117.5
118.00		1.00	1.31	11.474	12.62	38.64	0.994	0.000	2.00	1.125	1.12	14.1	0.0	235.0
120.00	Top - Section 5	1.00	1.32	11.514	12.67	38.70	0.992	0.000	2.00	1.125	1.12	14.1	0.0	235.0
122.00		1.00	1.32	11.554	12.71	38.05	1.009	0.000	2.00	1.104	1.11	14.2	0.0	57.2
124.00		1.00	1.32	11.594	12.75	38.12	1.007	0.000	2.00	1.104	1.11	14.2	0.0	57.2
125.00	Appurtenance(s)	1.00	1.33	11.614	12.78	38.15	1.007	0.000	1.00	0.552	0.56	7.1	0.0	28.6
126.00		1.00	1.33	11.633	12.80	38.18	1.006	0.000	1.00	0.552	0.56	7.1	0.0	28.6
128.00		1.00	1.33	11.672	12.84	38.25	1.004	0.000	2.00	1.104	1.11	14.2	0.0	57.2
130.00	Top - Section 6	1.00	1.34	11.710	12.88	38.31	1.002	0.000	2.00	1.104	1.11	14.3	0.0	57.2
132.00		1.00	1.34	11.748	12.92	38.37	1.001	0.000	2.00	1.104	1.11	14.3	0.0	57.2
134.00		1.00	1.35	11.785	12.96	38.43	0.999	0.000	2.00	1.104	1.10	14.3	0.0	57.2
135.00	Appurtenance(s)	1.00	1.35	11.803	12.98	38.46	0.998	0.000	1.00	0.552	0.55	7.2	0.0	28.6
136.00		1.00	1.35	11.822	13.00	38.49	0.998	0.000	1.00	0.552	0.55	7.2	0.0	28.6
138.00		1.00	1.35	11.858	13.04	38.55	0.996	0.000	2.00	1.104	1.10	14.3	0.0	57.2
140.00	Top - Section 7	1.00	1.36	11.894	13.08	38.61	0.995	0.000	2.00	1.104	1.10	14.4	0.0	57.2
142.00		1.00	1.36	11.930	13.12	38.67	0.993	0.000	2.00	1.104	1.10	14.4	0.0	57.2
144.00		1.00	1.37	11.965	13.16	38.72	0.992	0.000	2.00	1.104	1.09	14.4	0.0	57.2
146.00		1.00	1.37	12.000	13.20	38.78	0.990	0.000	2.00	1.104	1.09	14.4	0.0	57.2
147.00	Appurtenance(s)	1.00	1.37	12.017	13.22	38.81	0.989	0.000	1.00	0.552	0.55	7.2	0.0	28.6
148.00		1.00	1.37	12.034	13.24	38.84	0.989	0.000	1.00	0.552	0.55	7.2	0.0	28.6
150.00	Appurtenance(s)	1.00	1.38	12.068	13.27	38.89	0.987	0.000	2.00	1.104	1.09	14.5	0.0	57.2
								Totals:	**150.00**			**1,859.6**		**14,134.8**

Discrete Appurtenance Forces

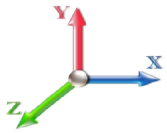
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 40	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 36

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	34" Canister	1	12.068	13.275	1.00	1.00	6.85	50.00	0.000	0.000	90.93	0.00	0.00
2	147.00	DPO-7126Y-0-T1	3	12.017	13.219	0.00	1.00	0.00	37.80	0.000	0.000	0.00	0.00	0.00
3	147.00	KIT-FD9R6004/1C-DL	3	12.017	13.219	0.00	1.00	0.00	9.30	0.000	0.000	0.00	0.00	0.00
4	147.00	DHHTT65B-3XR	3	12.017	13.219	0.00	1.00	0.00	136.20	0.000	0.000	0.00	0.00	0.00
5	140.00	34" Canister & 24"	1	11.894	13.084	1.00	1.00	11.19	100.00	0.000	0.000	146.40	0.00	0.00
6	135.00	APXV18-206516L	3	11.803	12.984	0.00	1.00	0.00	56.10	0.000	0.000	0.00	0.00	0.00
7	130.00	24" Canister & 30"	1	11.710	12.881	1.00	1.00	10.19	100.00	0.000	0.000	131.26	0.00	0.00
8	125.00	CM1007-DBPXBC-xxx	6	11.614	12.775	0.00	1.00	0.00	39.00	0.000	0.000	0.00	0.00	0.00
9	125.00	ETW190VS12UB	3	11.614	12.775	0.00	1.00	0.00	33.00	0.000	0.000	0.00	0.00	0.00
10	125.00	AMXCD1465	3	11.614	12.775	0.00	1.00	0.00	109.20	0.000	0.000	0.00	0.00	0.00
11	120.00	30" Canister & 24"	1	11.514	12.666	1.00	1.00	10.16	100.00	0.000	0.000	128.68	0.00	0.00
12	115.00	742 351	3	11.412	12.553	0.00	1.00	0.00	89.40	0.000	0.000	0.00	0.00	0.00
13	110.00	24" Canister	1	11.305	12.436	1.00	1.00	4.13	50.00	0.000	0.000	51.36	0.00	0.00
							Totals:		**910.00**			**548.64**		

Total Applied Force Summary

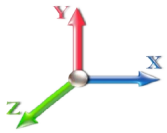
Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 41	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 36

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
2.00		29.47	329.79	0.00	0.00
4.00		29.47	329.79	0.00	0.00
6.00		29.47	329.79	0.00	0.00
8.00		29.47	329.79	0.00	0.00
10.00		29.47	329.79	0.00	0.00
12.00		29.47	329.79	0.00	0.00
14.00		29.47	329.79	0.00	0.00
16.00		29.83	329.79	0.00	0.00
18.00		30.58	329.79	0.00	0.00
20.00		31.27	329.79	0.00	0.00
22.00		26.59	281.68	0.00	0.00
24.00		27.08	281.68	0.00	0.00
26.00		27.54	281.68	0.00	0.00
28.00		27.97	281.68	0.00	0.00
30.00		28.38	281.68	0.00	0.00
32.00		28.77	281.68	0.00	0.00
34.00		29.14	281.68	0.00	0.00
36.00		29.49	281.68	0.00	0.00
38.00		29.83	281.68	0.00	0.00
40.00		30.15	281.68	0.00	0.00
42.00		30.46	281.68	0.00	0.00
44.00		30.76	281.68	0.00	0.00
46.00		31.05	281.68	0.00	0.00
48.00		31.33	281.68	0.00	0.00
50.00		31.60	281.68	0.00	0.00
52.00		25.49	233.58	0.00	0.00
54.00		25.69	233.58	0.00	0.00
56.00		25.89	233.58	0.00	0.00
58.00		26.08	233.58	0.00	0.00
60.00		26.27	233.58	0.00	0.00
62.00		26.45	233.58	0.00	0.00
64.00		26.63	233.58	0.00	0.00
66.00		26.80	233.58	0.00	0.00
68.00		26.97	233.58	0.00	0.00
70.00		27.14	233.58	0.00	0.00
72.00		27.30	233.58	0.00	0.00
74.00		27.46	233.58	0.00	0.00
76.00		27.61	233.58	0.00	0.00
78.00		27.76	233.58	0.00	0.00
80.00		27.91	233.58	0.00	0.00
82.00		28.06	233.58	0.00	0.00
84.00		28.20	233.58	0.00	0.00
86.00		28.34	233.58	0.00	0.00
88.00		28.48	233.58	0.00	0.00
90.00		28.61	233.58	0.00	0.00
92.00		28.74	233.58	0.00	0.00

Total Applied Force Summary

Structure:	CT01493-S-SBA		**Code:**	EIA/TIA-222-G	8/21/2018
Site Name:	North Stonington 2 CT		**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: 42

Tower Engineering Solutions

94.00		28.87	233.58	0.00	0.00
96.00		29.00	233.58	0.00	0.00
98.00		29.13	233.58	0.00	0.00
100.00		29.25	233.58	0.00	0.00
102.00		29.38	233.58	0.00	0.00
104.00		29.50	233.58	0.00	0.00
106.00		29.61	233.58	0.00	0.00
108.00		29.73	233.58	0.00	0.00
110.00	(1) attachments	81.21	283.58	0.00	0.00
112.00		14.03	279.21	0.00	0.00
114.00		14.06	279.21	0.00	0.00
115.00	(3) attachments	7.04	229.00	0.00	0.00
116.00		7.04	136.42	0.00	0.00
118.00		14.11	272.85	0.00	0.00
120.00	(1) attachments	142.82	372.85	0.00	0.00
122.00		14.16	95.00	0.00	0.00
124.00		14.19	95.00	0.00	0.00
125.00	(12) attachments	7.10	228.70	0.00	0.00
126.00		7.10	41.26	0.00	0.00
128.00		14.23	82.52	0.00	0.00
130.00	(1) attachments	145.51	182.52	0.00	0.00
132.00		14.28	82.52	0.00	0.00
134.00		14.30	82.52	0.00	0.00
135.00	(3) attachments	7.16	97.36	0.00	0.00
136.00		7.16	35.02	0.00	0.00
138.00		14.35	70.04	0.00	0.00
140.00	(1) attachments	160.77	170.04	0.00	0.00
142.00		14.39	70.04	0.00	0.00
144.00		14.41	70.04	0.00	0.00
146.00		14.43	70.04	0.00	0.00
147.00	(9) attachments	7.22	218.32	0.00	0.00
148.00		7.23	28.60	0.00	0.00
150.00	(1) attachments	105.41	107.20	0.00	0.00
	Totals:	**2,408.19**	**17,976.66**	**0.00**	**0.00**

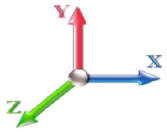
Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 43	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 36

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	-17.98	-2.41	0.00	-206.25	0.00	206.25	1490.10	745.05	2187.51	1339.68	0.00	0.000	0.000	0.166
2.00	-17.65	-2.39	0.00	-201.43	0.00	201.43	1490.10	745.05	2187.51	1339.68	0.00	-0.017	0.000	0.162
4.00	-17.32	-2.36	0.00	-196.66	0.00	196.66	1490.10	745.05	2187.51	1339.68	0.01	-0.034	0.000	0.158
6.00	-16.98	-2.34	0.00	-191.94	0.00	191.94	1490.10	745.05	2187.51	1339.68	0.03	-0.051	0.000	0.155
8.00	-16.65	-2.31	0.00	-187.26	0.00	187.26	1490.10	745.05	2187.51	1339.68	0.06	-0.067	0.000	0.151
10.00	-16.32	-2.29	0.00	-182.64	0.00	182.64	1490.10	745.05	2187.51	1339.68	0.09	-0.083	0.000	0.147
12.00	-15.99	-2.26	0.00	-178.07	0.00	178.07	1490.10	745.05	2187.51	1339.68	0.13	-0.098	0.000	0.144
14.00	-15.66	-2.23	0.00	-173.55	0.00	173.55	1490.10	745.05	2187.51	1339.68	0.17	-0.113	0.000	0.140
16.00	-15.33	-2.21	0.00	-169.08	0.00	169.08	1490.10	745.05	2187.51	1339.68	0.22	-0.128	0.000	0.137
18.00	-15.00	-2.18	0.00	-164.66	0.00	164.66	1490.10	745.05	2187.51	1339.68	0.28	-0.142	0.000	0.133
20.00	-14.67	-2.15	0.00	-160.30	0.00	160.30	1490.10	745.05	2187.51	1339.68	0.34	-0.156	0.000	0.130
20.00	-14.67	-2.15	0.00	-160.30	0.00	160.30	1311.06	655.53	1597.15	948.43	0.34	-0.156	0.000	0.180
22.00	-14.39	-2.13	0.00	-156.00	0.00	156.00	1311.06	655.53	1597.15	948.43	0.41	-0.170	0.000	0.175
24.00	-14.11	-2.11	0.00	-151.74	0.00	151.74	1311.06	655.53	1597.15	948.43	0.49	-0.193	0.000	0.171
26.00	-13.83	-2.08	0.00	-147.53	0.00	147.53	1311.06	655.53	1597.15	948.43	0.57	-0.215	0.000	0.166
28.00	-13.54	-2.06	0.00	-143.36	0.00	143.36	1311.06	655.53	1597.15	948.43	0.67	-0.236	0.000	0.161
30.00	-13.26	-2.03	0.00	-139.25	0.00	139.25	1311.06	655.53	1597.15	948.43	0.77	-0.257	0.000	0.157
32.00	-12.98	-2.01	0.00	-135.18	0.00	135.18	1311.06	655.53	1597.15	948.43	0.88	-0.278	0.000	0.152
34.00	-12.70	-1.98	0.00	-131.16	0.00	131.16	1311.06	655.53	1597.15	948.43	1.00	-0.297	0.000	0.148
36.00	-12.41	-1.96	0.00	-127.20	0.00	127.20	1311.06	655.53	1597.15	948.43	1.13	-0.317	0.000	0.144
38.00	-12.13	-1.93	0.00	-123.29	0.00	123.29	1311.06	655.53	1597.15	948.43	1.27	-0.335	0.000	0.139
40.00	-11.85	-1.90	0.00	-119.43	0.00	119.43	1311.06	655.53	1597.15	948.43	1.41	-0.353	0.000	0.135
42.00	-11.57	-1.87	0.00	-115.63	0.00	115.63	1311.06	655.53	1597.15	948.43	1.56	-0.371	0.000	0.131
44.00	-11.29	-1.84	0.00	-111.89	0.00	111.89	1311.06	655.53	1597.15	948.43	1.72	-0.388	0.000	0.127
46.00	-11.00	-1.81	0.00	-108.21	0.00	108.21	1311.06	655.53	1597.15	948.43	1.89	-0.404	0.000	0.122
48.00	-10.72	-1.78	0.00	-104.58	0.00	104.58	1311.06	655.53	1597.15	948.43	2.06	-0.420	0.000	0.118
50.00	-10.44	-1.75	0.00	-101.02	0.00	101.02	1311.06	655.53	1597.15	948.43	2.24	-0.435	0.000	0.114
50.00	-10.44	-1.75	0.00	-101.02	0.00	101.02	1052.07	526.04	1018.84	624.04	2.24	-0.435	0.000	0.172
52.00	-10.21	-1.73	0.00	-97.52	0.00	97.52	1052.07	526.04	1018.84	624.04	2.43	-0.450	0.000	0.166
54.00	-9.97	-1.70	0.00	-94.07	0.00	94.07	1052.07	526.04	1018.84	624.04	2.62	-0.478	0.000	0.160
56.00	-9.74	-1.68	0.00	-90.66	0.00	90.66	1052.07	526.04	1018.84	624.04	2.83	-0.505	0.000	0.155
58.00	-9.50	-1.66	0.00	-87.30	0.00	87.30	1052.07	526.04	1018.84	624.04	3.04	-0.531	0.000	0.149
60.00	-9.27	-1.63	0.00	-83.98	0.00	83.98	1052.07	526.04	1018.84	624.04	3.27	-0.556	0.000	0.143
62.00	-9.04	-1.61	0.00	-80.72	0.00	80.72	1052.07	526.04	1018.84	624.04	3.51	-0.580	0.000	0.138
64.00	-8.80	-1.58	0.00	-77.51	0.00	77.51	1052.07	526.04	1018.84	624.04	3.76	-0.603	0.000	0.133
66.00	-8.57	-1.56	0.00	-74.34	0.00	74.34	1052.07	526.04	1018.84	624.04	4.01	-0.625	0.000	0.127
68.00	-8.33	-1.53	0.00	-71.23	0.00	71.23	1052.07	526.04	1018.84	624.04	4.28	-0.647	0.000	0.122
70.00	-8.10	-1.50	0.00	-68.17	0.00	68.17	1052.07	526.04	1018.84	624.04	4.56	-0.667	0.000	0.117
72.00	-7.87	-1.47	0.00	-65.17	0.00	65.17	1052.07	526.04	1018.84	624.04	4.84	-0.687	0.000	0.112
74.00	-7.63	-1.45	0.00	-62.22	0.00	62.22	1052.07	526.04	1018.84	624.04	5.13	-0.705	0.000	0.107
76.00	-7.40	-1.42	0.00	-59.33	0.00	59.33	1052.07	526.04	1018.84	624.04	5.43	-0.723	0.000	0.102
78.00	-7.17	-1.39	0.00	-56.49	0.00	56.49	1052.07	526.04	1018.84	624.04	5.74	-0.740	0.000	0.097
80.00	-6.93	-1.36	0.00	-53.71	0.00	53.71	1052.07	526.04	1018.84	624.04	6.05	-0.756	0.000	0.093
80.00	-6.93	-1.36	0.00	-53.71	0.00	53.71	1052.07	526.04	1018.84	624.04	6.05	-0.756	0.000	0.093
82.00	-6.70	-1.33	0.00	-50.99	0.00	50.99	1052.07	526.04	1018.84	624.04	6.37	-0.772	0.000	0.088
84.00	-6.47	-1.30	0.00	-48.33	0.00	48.33	1052.07	526.04	1018.84	624.04	6.70	-0.786	0.000	0.084
86.00	-6.23	-1.27	0.00	-45.73	0.00	45.73	1052.07	526.04	1018.84	624.04	7.03	-0.800	0.000	0.079
88.00	-6.00	-1.24	0.00	-43.18	0.00	43.18	1052.07	526.04	1018.84	624.04	7.37	-0.813	0.000	0.075

Calculated Forces

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G 8/21/2018
Site Name:	North Stonington 2 CT	**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: 44

Tower Engineering Solutions

90.00	-5.77	-1.21	0.00	-40.70	0.00	40.70	1052.07	526.04	1018.84	624.04	7.71	-0.825	0.000	0.071
92.00	-5.53	-1.18	0.00	-38.28	0.00	38.28	1052.07	526.04	1018.84	624.04	8.06	-0.837	0.000	0.067
94.00	-5.30	-1.15	0.00	-35.92	0.00	35.92	1052.07	526.04	1018.84	624.04	8.41	-0.848	0.000	0.063
96.00	-5.07	-1.12	0.00	-33.63	0.00	33.63	1052.07	526.04	1018.84	624.04	8.77	-0.858	0.000	0.059
98.00	-4.83	-1.08	0.00	-31.39	0.00	31.39	1052.07	526.04	1018.84	624.04	9.13	-0.867	0.000	0.055
100.00	-4.60	-1.05	0.00	-29.23	0.00	29.23	1052.07	526.04	1018.84	624.04	9.50	-0.876	0.000	0.051
102.00	-4.37	-1.02	0.00	-27.12	0.00	27.12	1052.07	526.04	1018.84	624.04	9.86	-0.884	0.000	0.048
104.00	-4.13	-0.99	0.00	-25.08	0.00	25.08	1052.07	526.04	1018.84	624.04	10.24	-0.892	0.000	0.044
106.00	-3.90	-0.95	0.00	-23.11	0.00	23.11	1052.07	526.04	1018.84	624.04	10.61	-0.899	0.000	0.041
108.00	-3.67	-0.92	0.00	-21.20	0.00	21.20	1052.07	526.04	1018.84	624.04	10.99	-0.906	0.000	0.037
110.00	-3.38	-0.84	0.00	-19.35	0.00	19.35	1052.07	526.04	1018.84	624.04	11.37	-0.912	0.000	0.034
110.00	-3.38	-0.84	0.00	-19.35	0.00	19.35	1305.53	652.76	129.19	160.41	11.37	-0.912	0.000	0.123
112.00	-3.10	-0.82	0.00	-17.68	0.00	17.68	1305.53	652.76	129.19	160.41	11.75	-0.917	0.000	0.113
114.00	-2.82	-0.81	0.00	-16.04	0.00	16.04	1305.53	652.76	129.19	160.41	12.17	-1.055	0.000	0.102
115.00	-2.59	-0.80	0.00	-15.23	0.00	15.23	1305.53	652.76	129.19	160.41	12.39	-1.120	0.000	0.097
116.00	-2.46	-0.79	0.00	-14.43	0.00	14.43	1305.53	652.76	129.19	160.41	12.64	-1.180	0.000	0.092
118.00	-2.18	-0.78	0.00	-12.84	0.00	12.84	1305.53	652.76	129.19	160.41	13.15	-1.292	0.000	0.082
120.00	-1.81	-0.63	0.00	-11.29	0.00	11.29	1305.53	652.76	129.19	160.41	13.72	-1.392	0.000	0.072
120.00	-1.81	-0.63	0.00	-11.29	0.00	11.29	317.71	158.85	76.59	52.28	13.72	-1.392	0.000	0.222
122.00	-1.72	-0.62	0.00	-10.03	0.00	10.03	317.71	158.85	76.59	52.28	14.32	-1.479	0.000	0.197
124.00	-1.62	-0.60	0.00	-8.80	0.00	8.80	317.71	158.85	76.59	52.28	14.97	-1.612	0.000	0.173
125.00	-1.39	-0.59	0.00	-8.20	0.00	8.20	317.71	158.85	76.59	52.28	15.31	-1.672	0.000	0.161
126.00	-1.35	-0.58	0.00	-7.61	0.00	7.61	317.71	158.85	76.59	52.28	15.67	-1.728	0.000	0.150
128.00	-1.27	-0.57	0.00	-6.45	0.00	6.45	317.71	158.85	76.59	52.28	16.41	-1.827	0.000	0.127
130.00	-1.09	-0.42	0.00	-5.31	0.00	5.31	317.71	158.85	76.59	52.28	17.19	-1.910	0.000	0.105
130.00	-1.09	-0.42	0.00	-5.31	0.00	5.31	317.71	158.85	76.59	52.28	17.19	-1.910	0.000	0.105
132.00	-1.01	-0.40	0.00	-4.47	0.00	4.47	317.71	158.85	76.59	52.28	18.01	-1.979	0.000	0.089
134.00	-0.92	-0.39	0.00	-3.67	0.00	3.67	317.71	158.85	76.59	52.28	18.85	-2.036	0.000	0.073
135.00	-0.83	-0.38	0.00	-3.28	0.00	3.28	317.71	158.85	76.59	52.28	19.28	-2.061	0.000	0.065
136.00	-0.79	-0.37	0.00	-2.91	0.00	2.91	317.71	158.85	76.59	52.28	19.71	-2.083	0.000	0.058
138.00	-0.72	-0.35	0.00	-2.17	0.00	2.17	317.71	158.85	76.59	52.28	20.59	-2.119	0.000	0.044
140.00	-0.56	-0.18	0.00	-1.47	0.00	1.47	317.71	158.85	76.59	52.28	21.49	-2.144	0.000	0.030
140.00	-0.56	-0.18	0.00	-1.47	0.00	1.47	317.71	158.85	76.59	52.28	21.49	-2.144	0.000	0.030
142.00	-0.49	-0.17	0.00	-1.10	0.00	1.10	317.71	158.85	76.59	52.28	22.39	-2.162	0.000	0.023
144.00	-0.42	-0.15	0.00	-0.77	0.00	0.77	317.71	158.85	76.59	52.28	23.30	-2.176	0.000	0.016
146.00	-0.35	-0.13	0.00	-0.47	0.00	0.47	317.71	158.85	76.59	52.28	24.21	-2.184	0.000	0.010
147.00	-0.13	-0.12	0.00	-0.34	0.00	0.34	317.71	158.85	76.59	52.28	24.67	-2.187	0.000	0.007
148.00	-0.10	-0.11	0.00	-0.22	0.00	0.22	317.71	158.85	76.59	52.28	25.13	-2.189	0.000	0.005
150.00	0.00	-0.11	0.00	0.00	0.00	0.00	317.71	158.85	76.59	52.28	26.04	-2.191	0.000	0.000

Final Analysis Summary

Structure:	CT01493-S-SBA	**Code:**	EIA/TIA-222-G	8/21/2018	
Site Name:	North Stonington 2 CT	**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: 45	

Tower Engineering Solutions

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 108 mph Wind	11.9	0.00	21.56	0.00	0.00	995.60
0.9D + 1.6W 108 mph Wind	11.9	0.00	16.17	0.00	0.00	982.25
1.2D + 1.0Di + 1.0Wi 50 mph Wind	3.5	0.00	30.00	0.00	0.00	300.83
1.2D + 1.0E	0.3	0.00	21.57	0.00	0.00	21.15
0.9D + 1.0E	0.3	0.00	16.18	0.00	0.00	20.85
1.0D + 1.0W 60 mph Wind	2.4	0.00	17.98	0.00	0.00	206.25

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 108 mph Wind	-1.88	-2.82	0.00	-51.33	0.00	-51.33	1305.53	652.76	129.19	160.41	120.00	0.988
0.9D + 1.6W 108 mph Wind	-1.34	-2.75	0.00	-50.01	0.00	-50.01	1305.53	652.76	129.19	160.41	120.00	0.961
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-4.03	-0.96	0.00	-20.05	0.00	-20.05	1305.53	652.76	129.19	160.41	120.00	0.396
1.2D + 1.0E	-2.19	-0.11	0.00	-2.33	0.00	-2.33	1305.53	652.76	129.19	160.41	120.00	0.051
0.9D + 1.0E	-1.64	-0.11	0.00	-2.28	0.00	-2.28	1305.53	652.76	129.19	160.41	120.00	0.049
1.0D + 1.0W 60 mph Wind	-1.81	-0.63	0.00	-11.29	0.00	-11.29	1305.53	652.76	129.19	160.41	120.00	0.222

Last revised on 11/28/2017

Monopole Mat Foundation Design

			Date
			8/21/2018
Customer Name:	Sprint Nextel	**EIA/TIA Standard:**	EIA-222-G
Site Name:	North Stonington 2 Ct	**Structure Height (Ft.):**	150
Site Number:	CT01493-S-SBA	**Engineer Name:**	S. Hesselbein
Engr. Number:	57603	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

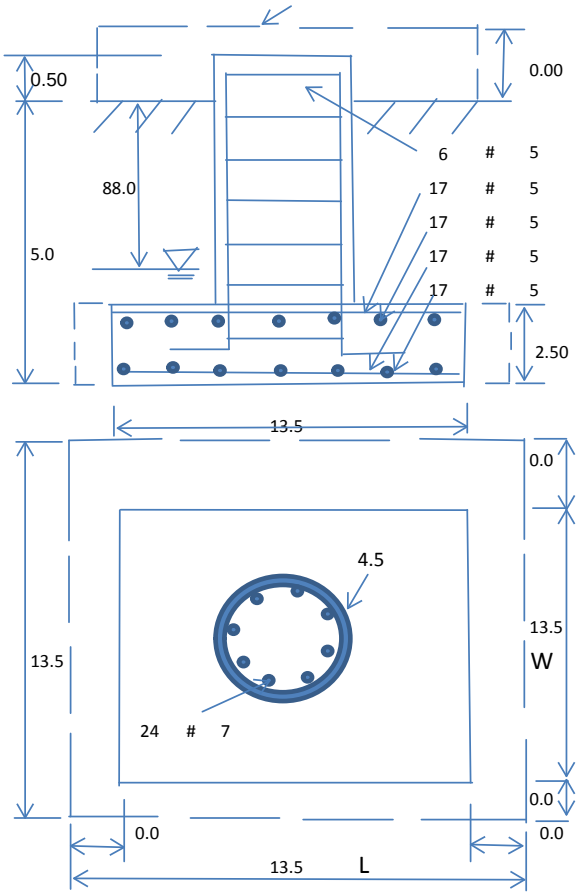
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	21.6	Shear Force (Kips):	11.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	995.6
Allowable overstress %:	0.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	4.5	Depth of Base BG (ft.):	5.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.50
Length of Pad (ft.):	13.5	Width of Pad (ft.):	13.5
Final Length of pad (ft)	13.5	Final width of pad (ft):	13.5
Control Value for Cell D18:	0	Control Value for Cell F18:	0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	7	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	24	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	5	
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):	17	Qty. of Rebar in Pad (W):	17	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	17	Qty. of Rebar in Pad (W):	17	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	135.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	88.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	225	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	Yes	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	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.):	415.86	Total Dry Soil Weight (Kips):	56.14
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	56.14	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	503.34	Total Dry Concrete Weight (Kips):	75.50
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	75.50	Total Vertical Load on Base (Kips):	153.20

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	6134	<	Allowable Factored Soil Bearing (psf): 22500	0.27	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	1022.1	>	Design Factored Momont (kips-ft): 1006	0.98	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.02	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			
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	0.60		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	1475.8	>	Design Factored Moment (Mu, Kips-Ft	1031.3	0.70	OK!
Calculated Shear Capacity (Kips):	322.1	>	Design Factored Shear (Kips):	11.9	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	777.6	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	3017.7	>	Design Factored Axial Load (Pu Kips):	21.6	0.01	OK!
Moment & Axial Strength Combination:	0.70	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.006		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	355.2	>	One-Way Factored Shear (L-D. Kips):	93.3	0.26	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	355.2	>	One-Way Factored Shear (W-D., Kips)	93.3	0.26	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	266.9	>	One-Way Factored Shear (C-C, Kips):	88.5	0.33	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0012	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0012		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	623.8	>	Moment at Bottom (L-Dir. K-Ft):	301.6	0.48	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	623.8	>	Moment at Bottom (W-Dir. K-Ft):	301.6	0.48	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	878.3	>	Moment at Bottom (C-C Dir. K-Ft):	426.5	0.49	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0012	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0012		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	623.8	>	Moment at the top (L-Dir K-Ft):	106.4	0.17	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	623.8	>	Moment at the top (W-Dir K-Ft):	106.4	0.17	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	878.3	>	Moment at the top (C-C Dir. K-Ft):	108.9	0.12	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	398.2	k-ft.	Max. factored shear stress v_{u_CD}:		3.3	Psi
Max. factored shear stress v_{u_AB}:	8.1	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	8.1	Psi	Check Usage of Punching Shear Capacity:		0.05	OK!

WESTCHESTER SERVICES LLC

ARCHITECTURE & ENGINEERING DIVISION
604 FOX GLEN. BARRINGTON, IL 60010
847/277-0070. FAX: 847/277-0080
AE@westchesterservices.com / www.westchesterservices.com

Date: **March 7, 2018**

Bryan Bakis
SBA Communications Corporation
134 Flanders Road, Suite 125
Westborough, MA 01581

Subject: Mount Assessment Letter
Sprint Co-Locate
Site Number: CT33XC088
Site Name: North Stonington 2, CT
Project: DO Macro Upgrade

Engineering Firm Designation: **Westchester Services, LLC**

Site Data: **808 Stonington Rd, Stonington, CT 06379**
New London County – 150ft Monopole

Bryan Bakis,

Westchester Services, LLC is pleased to submit this **"Mount Assessment Letter"** to determine the structural integrity of the existing and proposed antenna mounts.

The purpose of the assessment is to determine acceptability of the existing antenna mounts and proposed premanufactured components to adequately support the proposed appurtenances in each sector. The final antenna and equipment configurations are as follows:

Proposed Antenna and Equipment:
(3) Commscope DHHTT65B-3XR ((1) per sector)
(3) RFS KIT-FD9R6004/1C-DL ((1) per sector)
(3) CCI DPO-7126Y-0-T1 ((1) per sector)

Proposed Pre-manufactured Components for Antenna Mount Modification:
(Schematic Design Only)
(1) 34" dia. 10ft tall stealth canister
1/2" Solid SS Strap Clamps
(to attach new antennas to existing mounts)

The existing mounts currently support one antenna per sector, all located inside of an RF transparent canister. Based on the antenna cut sheets and field photographs we feel that the current antenna mount condition is insufficient for the proposed upgrades. However, we feel that it would be sufficient if the proposed pre-manufactured mounting components listed above are installed to modify the existing antenna mounts. Further investigation/calculations would be required to verify the existing antenna shroud pipe mast is indeed adequate and is not a part of this assessment.

Existing and Proposed Equipment **Sufficient Capacity**

We at Westchester Services, LLC appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects please give us a call.

I certify that this report was prepared by me or under my direct supervision and that I am a licensed Professional Engineer under the laws of the State of Connecticut.

Philip Koziol, PE
Professional Engineer

3/7/18

Exp. 1/31/19

WESTCHESTER
SERVICES LLC

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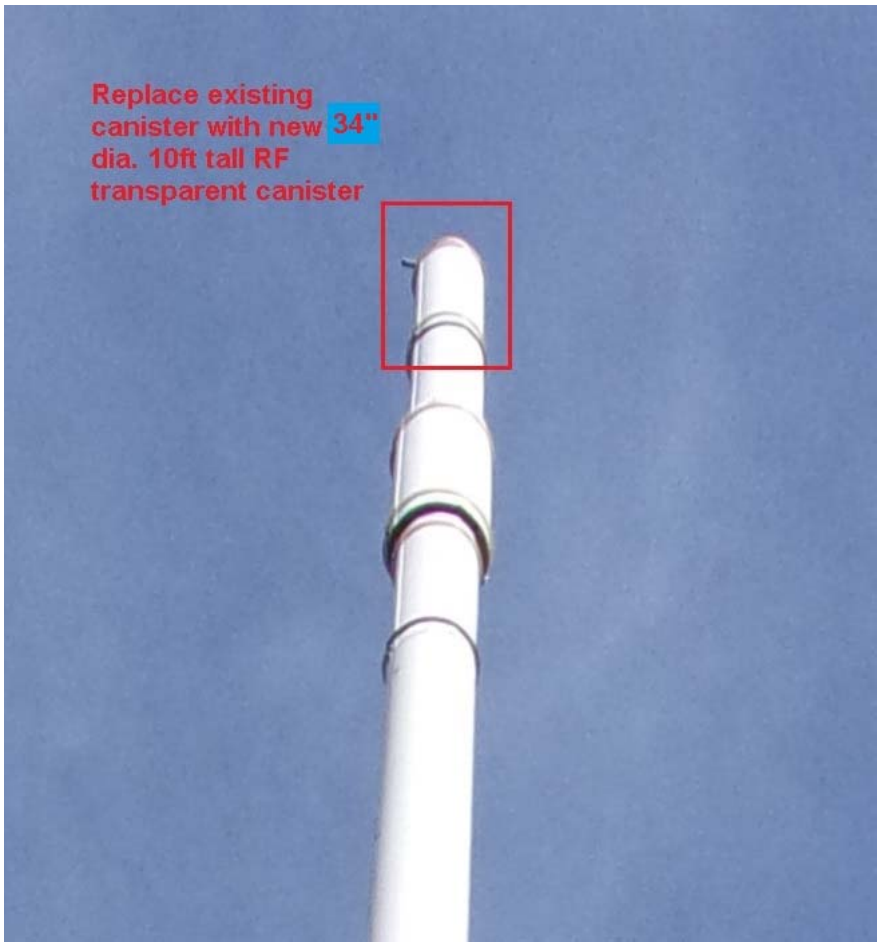

MODIFICATION AND DESIGN DRAWINGS FOR AN EXISTING 150' PIROD MONOPOLE TOWER

PROPOSED CARRIER: SPRINT NEXTEL

SITE: CT01493-S-SBA / NORTH STONINGTON 2 CT

COORDINATES (LATITUDE: 41.353417°, LONGITUDE: -71.887000°)

CONSTRUCTION CLASS

TES HAS DETERMINED THIS AS A CLASS **IV** CONSTRUCTION PROJECT PER ANSI/ASSE A10.48

COMPLETE FABRICATION DRAWINGS FOR ALL MATERIALS REQUIRED FOR THIS PROJECT ARE AVAILABLE FROM TOWER ENGINEERING SOLUTIONS (TES). PLEASE CONTACT TES FOR MORE INFORMATION.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	TOWER PROFILE	0
A-2	CANISTER REINFORCEMENT DETAILS	0

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE **TES** PROJECT NO. 56408, DATED 7/20/2018.

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO: 57603

CUSTOMER SITE NO: CT01493-S-SBA

CUSTOMER SITE NAME: NORTH STONINGTON 2 CT

811 STONINGTON ROAD
STONINGTON, CT 06378

STATE OF CONNECTICUT
HANMING YOU
28931
LICENSED ENGINEER
PROFESSIONAL
1/3/19

DRAWN BY: CAH | CHECKED BY: SH/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CAH	01/03/19

SHEET TITLE: TITLE SHEET

SHEET NUMBER: T-1 | REV #: 0

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	LENGTH	SHEET LIST (INSTALLATION)	SHEET LIST (FABRICATE)	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE						
			Following Items are Non-standard Parts						
2	2	ATR78-120	7/8" DIA. THREAD ROD X 10'-0" (F1554 GR 105)	---	A-2	---	---	---	GALVANIZED
1	1	ATR78-132	7/8" DIA. THREAD ROD X 11'-0" (F1554 GR 105)	---	A-2	---	---	---	GALVANIZED
12	13	---	HEAVY HEX NUT, 7/8" DIA. A325	---	A-2	---	---	---	GALVANIZED
12	13	---	FLATWASHER, 7/8" DIA. F436	---	A-2	---	---	---	GALVANIZED
8	8	ATR100-13	1" DIA. ALL THREAD ROD X 1'-1" (F1554 GR 105)	---	A-2	---	---	---	GALVANIZED
32	33	---	HEAVY HEX NUT, 1" DIA. A325	---	A-2	---	---	---	GALVANIZED
32	33	---	FLATWASHER, 1" DIA. F436	---	A-2	---	---	---	GALVANIZED
3	4	PLW-238	PL 1 1/4" X 2 3/8" DIA. A572-50	---	A-2	F-1	1.6	6.4	GALVANIZED
4	4	CPL-1	PL 1 1/4" X 3 13/16" X 0'-11 1/16" A572-50	---	A-2	F-1	11.3	45.2	GALVANIZED
2	2	BRKW-1	ROLLED PLATE WELDMENT A572-50	---	A-2	F-2	13.6	27.2	GALVANIZED
2	2	MBW-1	MOUNTING BRACKET WELDMENT A572-50	---	A-2	F-4	23.5	47	GALVANIZED
1	1	BRKW-2	ROLLED PLATE WELDMENT A572-50	---	A-2	F-3	15.6	15.6	GALVANIZED
6	6	PL-5	PL 5/8" X 7 1/8" X 1'-2 3/4" A572-50	---	A-2	F-6	19.6	117.6	GALVANIZED
15	16	---	BOLT 5/8" X 4" A325	---	A-2	---	---	---	(1) HHN-LKW GALVANIZED
1	1	MBW-2	MOUNTING BRACKET WELDMENT A572-50	---	A-2	F-5	16.25	16.25	GALVANIZED
3	4	---	BOLT 1" X 4 1/2" A325	---	A-2	---	---	---	(1) HHN-LKW GALVANIZED
1	1	---	34" O.D. X 10'-0" SMOOTH ROUND (MULTI-PART SHROUD WITH EXPANSION KITS AND TOP CAP)	---	A-1	---	---	---	
2	2		LANCO /HENRY 287 WHITE ACRYLIC ELASTOMERIC COATING AND SEALER OR EQUIV (GALLON)	---	A-1	---	---	---	PROVIDED BY CONTRACTOR
			ALL APLXXXX, LPXXXX AND RLPXXXX ARE PATENTED PRODUCTS AND CANNOT BE FABRICATED BY THIRD PARTIES. THESE PARTS ARE AVAILABLE FROM: **METROSITE, LLC.** **180 IND PARK BLVD COMMERCE, GA 30529** **OFFICE: (706) 335-7045** **FAX: (706) 335-7056**						
			NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.						
						TOTAL WEIGHT (LBS) =		**275.3**	

Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607

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5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
57603

CUSTOMER SITE NO:
CT01493-S-SBA
CUSTOMER SITE NAME:
NORTH STONINGTON 2 CT
811 STONINGTON ROAD
STONINGTON, CT 06378

DRAWN BY: CAH | CHECKED BY: SH/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CAH	01/03/19

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER:
BOM

REV #:
0

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48/2016 CONNECTICUT STATE BUILDING CODE, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2012 SECTION 1705 – TABLE 1705.2.2 FOR STEEL CONSTRUCTION AND TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING [a,b]

BOLT LENGTH [c]	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 [d]	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS [d]
NOT MORE THAN $4d_b$	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN $4d_b$ BUT NOT MORE THAN $8d_b$	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN $8d_b$ BUT NOT MORE THAN $12d_b$	2/3 TURN	5/6 TURN	1 TURN

[a] NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

[b] APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

[c] WHEN THE BOLT LENGTH EXCEEDS $12d_b$, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

[d] BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607

SBA

5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
57603

CUSTOMER SITE NO:
CT01493-S-SBA
CUSTOMER SITE NAME:
NORTH STONINGTON 2 CT
811 STONINGTON ROAD
STONINGTON, CT 06378

DRAWN BY: CAH | CHECKED BY: SH/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CAH	01/03/19

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: GN-1
REV #: 0

NOTES:

1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE MONOPOLE AND ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.

SCOPE OF WORK

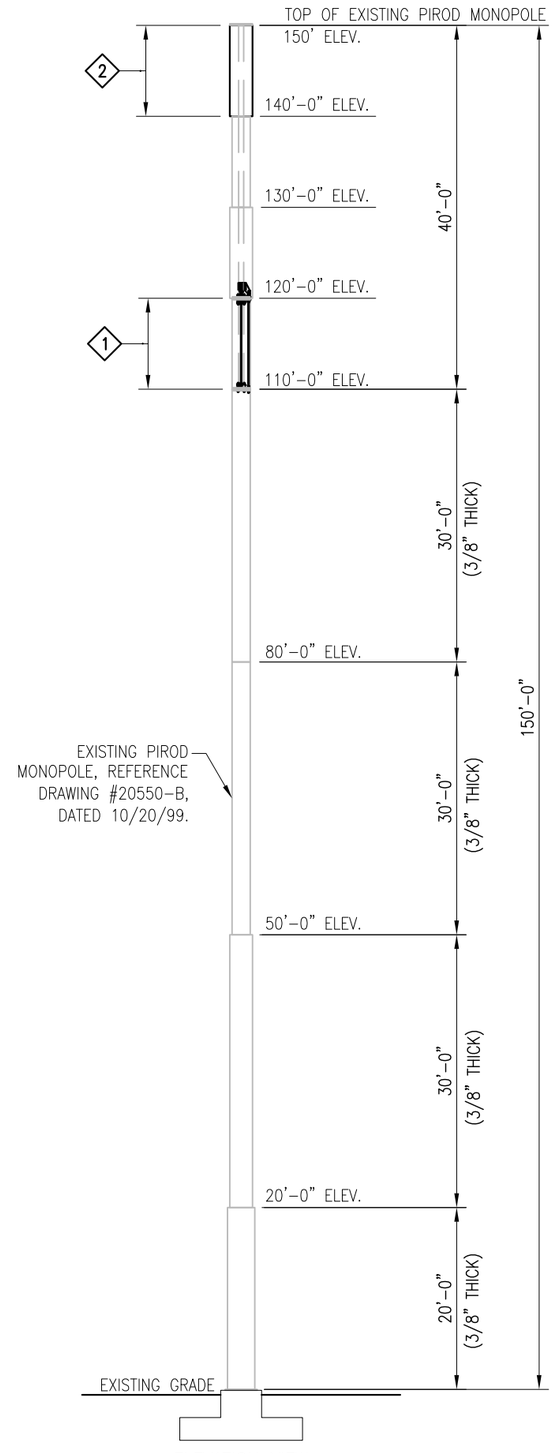
1. REINFORCE EXISTING SPINE FROM 110'–0" ELEV. TO 120'–0" ELEV. SEE SHEET A–2 FOR DETAILS.
2. REPLACE EXISTING (1) 24" O.D. X 10'–0" SMOOTH ROUND CANISTER SHROUDS FROM 140' TO 150' ELEV. WITH NEW (1) 34" O.D. X 10'–0" SMOOTH ROUND, MULTI–PART CANISTER SHROUDS EXPANSION KITS WITH TOP CAP PLATE (TO BE PROVIDED BY OTHERS.) INSTALL NEW SHROUDS PER THE MANUFACTURER'S INSTRUCTIONS. NEW SHROUD COLOR SHOULD MATCH EXISTING POLE COLOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN–UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.

PHOTO 1
FOUNDATION

PHOTO 2
TOWER PROFILE

FOUNDATION COATING NOTES:

1. THE COATING MATERIALS SHALL BE LANCO WHITE ACRYLIC ELASTOMERIC COATING AND SEALER, OR HYDRO ARMOR COATING.
2. THE COATING CAN BE PLACED AT LEAST (2) DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR FOUNDATION REINFORCEMENT, AND MINIMUM (4) DAYS FOR NEW FOUNDATION CONSTRUCTION.
3. THE CONCRETE SURFACE SHALL BE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE COATING.
4. THE COATING SHALL BE APPLIED TO ALL THE SURFACES OF THE CONCRETE ABOVE THE GROUND AND 6" BELOW THE GRADE SURFACE IF APPLICABLE.
5. MINIMUM 30 MILS COATING IS REQUIRED.
6. APPLY COLD GALVANIZE AT LEAST 2'–3' ABOVE FOUNDATION.



ELEVATION VIEW
(TOWER W/ PROPOSED MODIFICATIONS)

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483–0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)–487–SITE

TES JOB NO:
57603

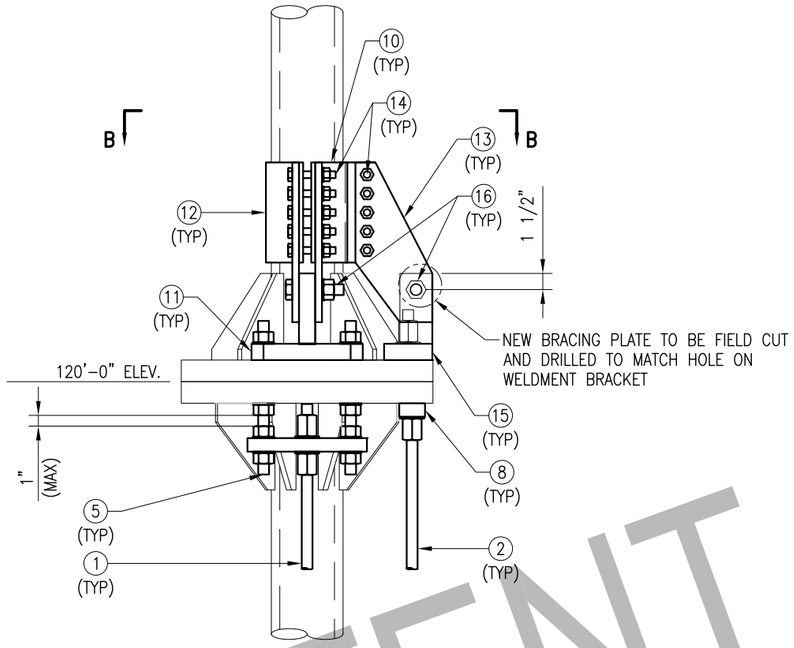
CUSTOMER SITE NO:
CT01493–S–SBA
CUSTOMER SITE NAME:
NORTH STONINGTON 2 CT
811 STONINGTON ROAD
STONINGTON, CT 06378

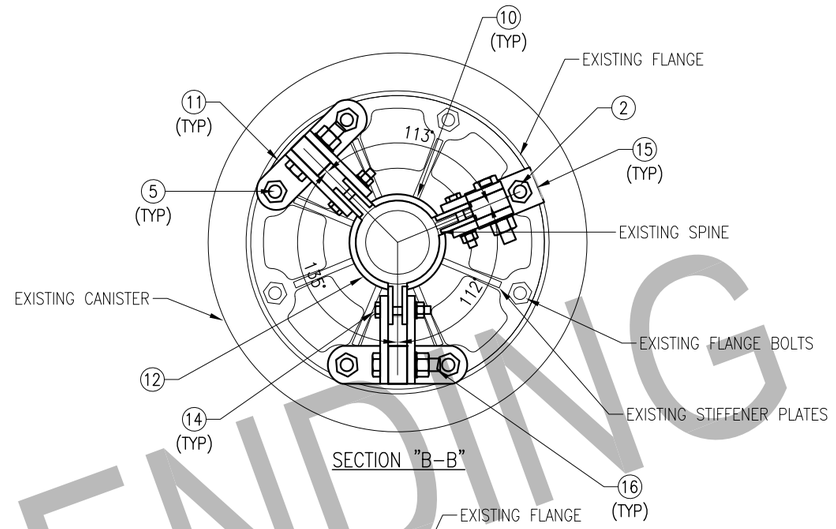
DRAWN BY: CAH | CHECKED BY: SH/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CAH	01/03/19

SHEET TITLE:
TOWER PROFILE

SHEET NUMBER: A–1
REV #: 0





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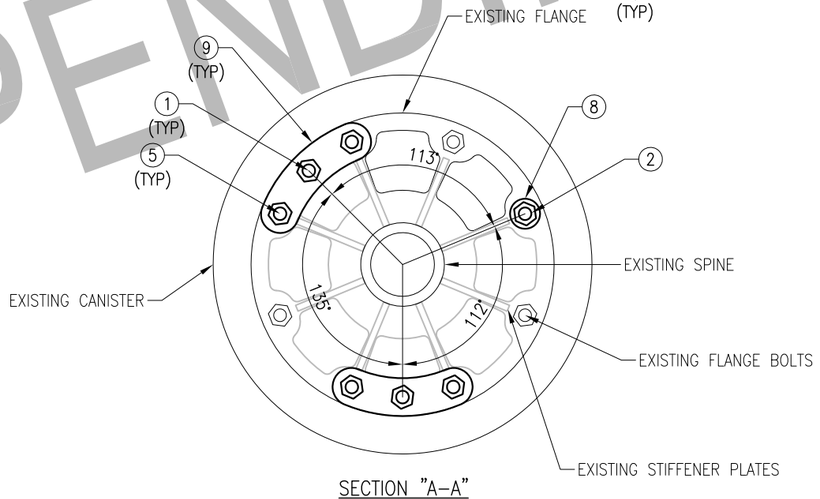
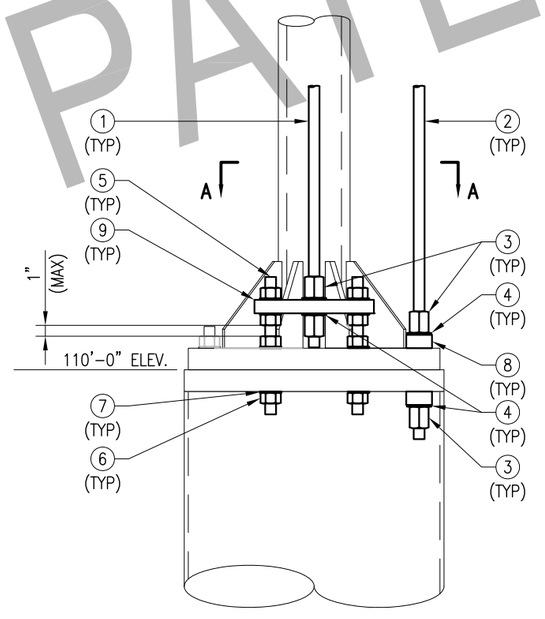


SECTION "A-A"



ELEVATION VIEW
(110'-0" TO 120'-0" ELEV.)

ITEM NO.	QTY.	PART NO.	DESCRIPTION
16	3	---	BOLT 1" X 4 1/2" A325
15	1	MBW-2	MOUNTING BRACKET WELDMENT A572-50
14	15	---	BOLT 5/8" X 4" A325
13	6	PL-5	PL 5/8" X 7 1/8" X 1'-2 3/4" A572-50
12	1	BRKW-2	ROLLED PLATE WELDMENT A572-50
11	2	MBW-1	MOUNTING BRACKET WELDMENT A572-50
10	2	BRKW-1	ROLLED PLATE WELDMENT A572-50
9	4	CPL-1	PL 1 1/4" X 3 13/16" X 0'-11 1/16" A572-50
8	3	PLW-238	PL 1 1/4" X 2 3/8" DIA. A572-50
7	32	---	FLATWASHER, 1" DIA. F436
6	32	---	HEAVY HEX NUT, 1" DIA. A325
5	8	ATR100-13	1" DIA. ALL THREAD ROD X 1'-1" (F1554 GR 105)
4	12	---	FLATWASHER, 7/8" DIA. F436
3	12	---	HEAVY HEX NUT, 7/8" DIA. A325
2	1	ATR78-132	7/8" DIA. THREAD ROD X 11'-0" (F1554 GR 105)
1	2	ATR78-120	7/8" DIA. THREAD ROD X 10'-0" (F1554 GR 105)

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
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PHONE: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
57603

CUSTOMER SITE NO:
CT01493-S-SBA
CUSTOMER SITE NAME:
NORTH STONINGTON 2 CT
811 STONINGTON ROAD
STONINGTON, CT 06378

DRAWN BY: CAH | CHECKED BY: SH/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CAH	01/03/19

SHEET TITLE:
CANISTER REINFORCEMENT DETAILS

SHEET NUMBER: A-2
REV #: 0

SPECIAL CONSTRUCTION NOTE:

SPRINT WORK IS CONTINGENT ON THE FOLLOWING:
* COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS.
* COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT.
* GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.

Sprint®

SITE NAME:	**NORTH STONINGTON 2 CT**
SITE NUMBER:	**CT33XC088**
AUGMENT ID:	**CT33XC088Q17.2**
SITE ADDRESS:	**808 STONINGTON ROAD STONINGTON, CT 06378**
JURISDICTION:	**TOWN OF STONINGTON**
SITE TYPE:	**EXISTING 150' FLAGPOLE**
PROGRAM:	**DO MACRO UPGRADE EQUIPMENT DEPLOYMENT**

PROJECT INFORMATION

SITE INFORMATION:

LATITUDE: (PER SBA RECORD)	41° 21' 12.3" N (41.353417°)
LONGITUDE: (PER SBA RECORD)	71° 53' 13.2" W (71.887°)
GROUND ELEVATION:	46± AMSL (PER 2C DOCUMENT)
STRUCTURE HEIGHT:	150'± AGL (FROM RECORD STRUCTURAL)
STRUCTURE TYPE:	FLAGPOLE
ZONING JURISDICTION:	TOWN OF STONINGTON
ZONING DISTRICT/ OCCUPANCY:	FR (FARM-RESIDENTIAL DISTRICT)

APPLICANT:
SPRINT
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495

PROPERTY OWNER:
NKW LLC
P.O. BOX 275
LEDYARD, CT

TOWER OWNER:
SBA TOWERS, LLC
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

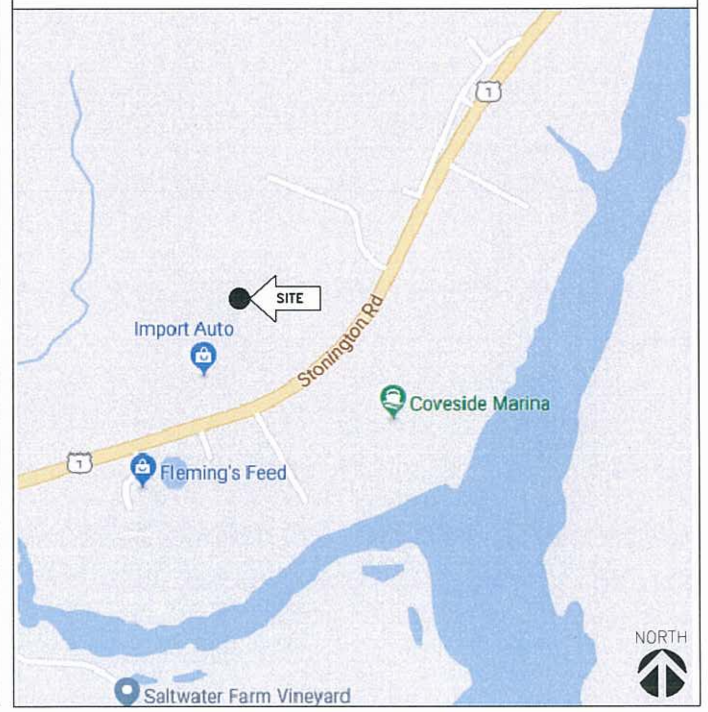
SBA SITE ID: CT01493-S-01
SBA SITE NAME: NORTH STONINGTON 2 CT

SBA CONTACT:
STEPHEN ROTH
SROTH@SBASITE.COM
(617) 794-1405

A&E FIRM:
WESTCHESTER SERVICES, L.L.C.
604 FOX GLEN
BARRINGTON, IL 60010
PHONE: (224) 277-0070

LOCATION MAP N.T.S.

AREA MAP N.T.S.



DRAWING INDEX

SHEET NO.	SHEET DESCRIPTION	REV. NO.
T-1	TITLE SHEET	0
SP-1	OUTLINE SPECIFICATIONS	0
SP-2	OUTLINE SPECIFICATIONS	0
SP-3	OUTLINE SPECIFICATIONS	0
A-1	COMPOUND PLAN	0
A-2	ELEVATION AND ANTENNA PLANS	0
A-3	TOWER EQUIPMENT DETAILS	0
S-1	ANTENNA AND RRH MOUNTING DETAILS	0
E-1	ELECTRICAL AND GROUNDING DETAILS	0
RF-1	RF DATA SHEET	0
RF-2	PLUMBING DIAGRAM AND RAN WIRING	0

CODE COMPLIANCE

1. 2016 CONNECTICUT STATE BUILDING CODE WITH AMENDMENTS.
2. 2014 NATIONAL ELECTRICAL CODE WITH AMENDMENTS
3. TIA-EIA-222-G

BASED ON INFORMATION PROVIDED BY SPRINT, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW).

SCOPE OF WORK

1. REMOVE EXISTING STEALTH CANISTER AND INSTALL (1) NEW 34"ø STEALTH CANISTER (BY SBA)
2. REMOVE (3) EXISTING SPRINT PANEL ANTENNAS & REPLACE W/(3) NEW SPRINT TRI-BAND PANEL ANTENNAS.
3. INSTALL (3) NEW 2500 MHz RRHS AT GRADE.
4. INSTALL (3) NEW 800 MHZ RRHS AT GRADE.
5. INSTALL (6) NEW DIPLEXERS & (3) NEW COMBINERS AT GRADE.
6. INSTALL (6) NEW DIPLEXERS AT TOWER TOP.
7. REMOVE (6) EXISTING 1-5/8" COAX CABLES.
8. INSTALL (3) NEW 3/8" RET CABLES.
9. INSTALL (12) NEW 7/8" COAX.

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
   • ADA COMPLIANCE NOT REQUIRED.
   • POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   • NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

APPROVALS

TITLE	SIGNATURE	DATE
PROJECT MANAGER:		
CONSTRUCTION:		
RF ENGINEER:		
ZONING/SITE ACQ:		
OPERATIONS:		
TOWER OWNER:		

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

Sprint™
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
TEL: (508) 251-0720

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

STATE OF CONNECTICUT — JOHN B. — LICENSED ARCHITECT — NO. 10137
3/1/18

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF CONNECTICUT"

CHECKED BY:	JK
APPROVED BY:	JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/07/18	ISSUED FOR CONSTRUCTION	SDB
0	01/19/18	ISSUED FOR CONSTRUCTION	SH

SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 - SCOPE OF WORK

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:

A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

1. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
2. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY –GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
3. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC") AND NFPA 101 (LIFE SAFETY CODE).
4. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
5. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
6. AMERICAN CONCRETE INSTITUTE (ACI)
7. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
8. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
9. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
10. PORTLAND CEMENT ASSOCIATION (PCA)
11. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
12. BRICK INDUSTRY ASSOCIATION (BIA)
13. AMERICAN WELDING SOCIETY (AWS)
14. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
15. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
16. DOOR AND HARDWARE INSTITUTE (DHI)
17. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
18. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B. COMPANY: SPRINT 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.
F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.
G. CONSTRUCTION MANAGER – ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

1.8 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.

1.9 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 RED 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.
B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.
C . DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

1.10 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.

1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:

1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

A. TOP HAT
B. HOW TO INSTALL A NEW CABINET
C. BASE BAND UNIT IN EXISTING UNIT
D. INSTALLATION OF BATTERIES
E. INSTALLATION OF HYBRID CABLE
F. INSTALLATION OF RRH'S
G. CABLING
H. TS-0200 REV 4 – ANTENNA LINE ACCEPTANCE STANDARDS
I. SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1.
J. COMMISSIONING MOPS
K. SPRINT CELL SITE ENGINEERING NOTICE – EN-2013-002
L. SPRINT ENGINEERING LETTER – EL-0504
M. SPRINT ENGINEERING LETTER – EL-0568
N. SPRINT TECHNICAL SPECIFICATION – TS-0193

1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

A. CONTRACTOR WILL UTILIZE ITS BEST EFFORTS TO WORK WITH SPRINT ELECTRONIC PROJECT MANAGEMENT SYSTEMS. CONTRACTOR UNDERSTANDS THAT SUFFICIENT INTERNET ACCESS, EQUIVALENT TO "BROADBAND" OR BETTER, IS REQUIRED TO TIMELY AND EFFECTIVELY UTILIZE SPRINT DATA AND DOCUMENT MANAGEMENT SYSTEMS AND AGREES TO MAINTAIN APPROPRIATE CONNECTIONS FOR CONTRACTOR'S STAFF AND OFFICES THAT ARE COMPATIBLE WITH SPRINT DATA AND DOCUMENT MANAGEMENT SYSTEMS

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 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.

3.2 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.

3.3 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.

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

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER 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.

SECTION 01 200 - COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:

A. COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.
B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

1. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

3.2 DELIVERABLES:

A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.
C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 - CELL SITE CONSTRUCTION

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 NOTICE TO PROCEED:

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 FUNCTIONAL REQUIREMENTS:

A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.
B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.
C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES
D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNAL AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:

A. 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.
B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
   1. 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.
   2. 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.
D. 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
E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER
B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.
   1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
   2. PROJECT PROGRESS REPORTS.
   3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
   13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
   14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

CONTINUE SHEET SP-2

Sprint
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
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WESTCHESTER SERVICES LLC
604 FOX GLEN
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ae@westchesterservices.com

STATE OF CONNECTICUT
JOHN M. BENZ
3/16/18
NO. 10137
LICENSED ARCHITECT

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF CONNECTICUT"

CHECKED BY: JK

APPROVED BY: JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/07/18	ISSUED FOR CONSTRUCTION	SDB
0	01/19/18	ISSUED FOR CONSTRUCTION	SH

SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
OUTLINE SPECIFICATIONS

SHEET NUMBER
SP-1

CONTINUED FROM SP-1:

SECTION 01 400 - SUBMITTALS, TESTS, AND INSPECTIONS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 SUBMITTALS:

A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.

B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.

1. CONCRETE MIX–DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
5. CHEMICAL GROUNDING DESIGN.

C. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

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

B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. COAX SWEEPS AND FIBER TESTS PER SPRINT TS–0200 CURRENT VERSION ANTENNA LINE ACCEPTANCE STANDARDS.
2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE–FOR–THE–PURPOSE ANTENNA ALIGNMENT TOOL.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING;

1. AZIMUTH, DOWNTILT, AGL – UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
3. ALL AVAILABLE JURISDICTIONAL INFORMATION
4. PDF SCAN OF REDLINES PRODUCED IN FIELD
5. ELECTRONIC AS–BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS–BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPS

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPS

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY: 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.

1. 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.
2. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS.
5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS:

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE– AND POST–CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. ANTENNA AZIMUTH , DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS – ANTENNALIGN ALIGNMENT TOOL (AAT)
7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.
8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC.). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.
9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.
10. SCAN–ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
11. ALL AVAILABLE JURISDICTIONAL INFORMATION
12. PDF SCAN OF REDLINES PRODUCED IN FIELD

E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

F. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.

3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.

A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.

1. CONCRETE MIX AND CYLINDER BREAK REPORTS.
2. STRUCTURAL BACKFILL COMPACTION REPORTS.
3. SITE RESISTANCE TO EARTH TEST.
4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.
6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".

B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;

1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.
2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;
3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS – PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.
4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING – TOP AND BOTTOM; PHOTOS OF COAX GROUNDING––TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
5. ROOF TOPS: PRE–CONSTRUCTION AND POST–CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
6. SITE LAYOUT – PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
7. FINISHED UTILITIES: CLOSE–UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE–UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE–UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.
8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.
9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 500 - PROJECT REPORTING

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 WEEKLY REPORTS:

A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.

B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.

3.2 PROJECT CONFERENCE CALLS:

A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.

3.3 PROJECT TRACKING IN SMS:

A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.

3.4 ADDITIONAL REPORTING:

A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.

3.5 PROJECT PHOTOGRAPHS:

A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:

1. SHELTER AND TOWER OVERVIEW.
2. TOWER FOUNDATION(S) – FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
5. PHOTOS OF TOWER SECTION STACKING.
6. CONCRETE TESTING / SAMPLES.
7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
9. SHELTER FOUNDATION––FORMS AND STEEL BEFORE POURING.
10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
11. COAX CABLE ENTRY INTO SHELTER.
12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
19. ELECTRICAL TRENCH(S) WITH FOIL–BACKED TAPE BEFORE FURTHER BACKFILL.
20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
21. TELCO TRENCH WITH FOIL–BACKED TAPE BEFORE FURTHER BACKFILL.
22. SHELTER GROUND–RING TRENCH WITH GROUND–WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
23. TOWER GROUND–RING TRENCH WITH GROUND–WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
24. FENCE GROUND–RING TRENCH WITH GROUND–WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
25. ALL BTS GROUND CONNECTIONS.
26. ALL GROUND TEST WELLS.
27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
30. GPS ANTENNAS.
31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
32. DOGHOUSE/CABLE EXIT FROM ROOF.
33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
34. MASTER BUS BAR.
35. TELCO BOARD AND NIU.
36. ELECTRICAL DISTRIBUTION WALL.
37. CABLE ENTRY WITH SURGE SUPPRESSION.
38. ENTRANCE TO EQUIPMENT ROOM.
39. COAX WEATHERPROOFING–TOP AND BOTTOM OF TOWER.
40. COAX GROUNDING –TOP AND BOTTOM OF TOWER.
41. ANTENNA AND MAST GROUNDING.
42. LANDSCAPING – WHERE APPLICABLE.

3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

SECTION 07 500 - ROOF CUTTING, PATCHING AND REPAIR

SUMMARY:
THIS SECTION SPECIFIES CUTTING AND PATCHING EXISTING ROOFING SYSTEMS WHERE CONDUIT OR CABLES EXIT THE BUILDING ONTO THE ROOF OR BUILDING–MOUNTED ANTENNAS, AND AS REQUIRED FOR WATERTIGHT PERFORMANCE. ROOFTOP ENTRY OPENINGS IN MEMBRANE ROOFTOPS SHALL BE CONSTRUCTED TO COMPLY WITH LANDLORD, ANY EXISTING WARRANTY, AND LOCAL JURISDICTIONAL STANDARDS.

1.4 SUBMITTALS:

A. PRE–CONSTRUCTION ROOF PHOTOS: COMPLETE A ROOF INSPECTION PRIOR TO THE INSTALLATION OF SPRINT EQUIPMENT ON ANY ROOFTOP BUILD. AT A MINIMUM INSPECT AND PHOTOGRAPH (MINIMUM 3 EA.) ALL AREAS IMPACTED BY THE ADDITION OF THE SPRINT EQUIPMENT.

B. PROVIDE SIMILAR PHOTOGRAPHS SHOWING ROOF CONDITIONS AFTER CONSTRUCTION (MINIMUM 3 EA.)

C. ROOF INSPECTION PHOTOGRAPHS SHOULD BE UPLOADED WITH CLOSEOUT PHOTOGRAPHS.

SECTION 09 900 - PAINTING

QUALITY ASSURANCE:

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. COMPLY WITH ALL ENVIRONMENTAL REGULATIONS FOR VOLATILE ORGANIC COMPOUNDS.

CONTINUE SHEET SP-3

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STATE OF CONNECTICUT
JOHN M. MARTIN
LICENSED ARCHITECT
NO. 10137
3/1/18

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF CONNECTICUT"

CHECKED BY: JK

APPROVED BY: JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/07/18	ISSUED FOR CONSTRUCTION	SDB
0	01/19/18	ISSUED FOR CONSTRUCTION	SH

SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
OUTLINE SPECIFICATIONS

SHEET NUMBER
SP-2

CONTINUED FROM SP-2:

MATERIALS:

A. MANUFACTURERS: BENJAMIN MOORE, ICI DEVOE COATINGS, PPG, SHERWIN WILLIAMS OR APPROVED EQUAL. PROVIDE PREMIUM GRADE, PROFESSIONAL-QUALITY PRODUCTS FOR COATING SYSTEMS.

PAINT SCHEDULE:

A. EXTERIOR ANTENNAE AND ANTENNA MOUNTING HARDWARE: ONE COAT OF PRIMER AND TWO FINISH COATS. PAINT FOR ANTENNAE SHALL BE NON-METALLIC BASED AND CONTAIN NO METALLIC PARTICLES. PROVIDE COLORS AND PATTERNS AS REQUIRED TO MASK APPEARANCE OF ANTENNAE ON ADJACENT BUILDING SURFACES AND AS ACCEPTABLE TO THE OWNER. REFER TO ANTENNA MANUFACTURER'S INSTRUCTIONS WHENEVER POSSIBLE.

B. ROOF TOP CONSTRUCTION: TOUCH UP – PREPARE SURFACES TO BE REPAIRED. FOLLOW INDUSTRY STANDARDS AND REQUIREMENTS OF OWNER TO MATCH EXISTING COATING AND FINISH.

PAINTING APPLICATION:

1. INSPECT SURFACES, REPORT UNSATISFACTORY CONDITIONS IN WRITING; BEGINNING WORK MEANS ACCEPTANCE OF SUBSTRATE.
2. COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR PREPARATION, PRIMING AND COATING WORK. COORDINATE WITH WORK OF OTHER SECTIONS.
3. MATCH APPROVED MOCK-UPS FOR COLOR, TEXTURE, AND PATTERN. RE-COAT OR REMOVE AND REPLACE WORK WHICH DOES NOT MATCH OR SHOWS LOSS OF ADHESION.
4. CLEAN UP, TOUCH UP AND PROTECT WORK.

TOUCHUP PAINTING:

1. GALVANIZING DAMAGE AND ALL BOLTS AND NUTS SHALL BE TOUCHED UP AFTER TOWER ERECTION WITH "GALVANOX," "DRY GALV," OR "ZINC-IT."
2. FIELD TOUCHUP PAINT SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. ALL METAL COMPONENTS SHALL BE HANDLED WITH CARE TO PREVENT DAMAGE TO THE COMPONENTS, THEIR PRESERVATIVE TREATMENT, OR THEIR PROTECTIVE COATINGS.

SECTION 11 700 - ANTENNA ASSEMBLY, REMOTE RADIO HEADS AND CABLE INSTALLATION

SUMMARY:
THIS SECTION SPECIFIES INSTALLATION OF ANTENNAS, RRH'S, AND CABLE EQUIPMENT, INSTALLATION, AND TESTING OF COAXIAL FIBER CABLE.

ANTENNAS AND RRH'S:
THE NUMBER AND TYPE OF ANTENNAS AND RRH'S TO BE INSTALLED IS DETAILED ON THE CONSTRUCTION DRAWINGS.

HYBRID CABLE:
HYBRID CABLE WILL BE DC/FIBER AND FURNISHED FOR INSTALLATION AT EACH SITE. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S REQUIREMENTS.

JUMPERS AND CONNECTORS:
FURNISH AND INSTALL 1/2" COAX JUMPER CABLES BETWEEN THE RRH'S AND ANTENNAS. JUMPERS SHALL BE TYPE LDF 4, FLC 12-50, CR 540, OR FXL 540. SUPER-FLEX CABLES ARE NOT ACCEPTABLE. JUMPERS BETWEEN THE RRH'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED COAXIAL CABLE. DO NOT USE SUPERFLEX OUTDOORS. JUMPERS SHALL BE FACTORY FABRICATED IN APPROPRIATE LENGTHS WITH A MAXIMUM OF 4 FEET EXCESS PER JUMPER AND HAVE CONNECTORS AT EACH END, MANUFACTURED BY SUPPLIER. IF JUMPERS ARE FIELD FABRICATED, FOLLOW MANUFACTURER'S REQUIREMENTS FOR INSTALLATION OF CONNECTORS

REMOTE ELECTRICAL TILT (RET) CABLES:

MISCELLANEOUS:
INSTALL SPLITTERS, COMBINERS, FILTERS PER RF DATA SHEET, FURNISHED BY SPRINT.

ANTENNA INSTALLATION:
THE CONTRACTOR SHALL ASSEMBLE ALL ANTENNAS ONSITE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER. ANTENNA HEIGHT, AZIMUTH, AND FEED ORIENTATION INFORMATION SHALL BE A DESIGNATED ON THE CONSTRUCTION DRAWINGS.

A. THE CONTRACTOR SHALL POSITION THE ANTENNA ON TOWER PIPE MOUNTS SO THAT THE BOTTOM STRUT IS LEVEL. THE PIPE MOUNTS SHALL BE PLUMB TO WITHIN 1 DEGREE.

B. ANTENNA MOUNTING REQUIREMENTS: PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS.

HYBRID CABLES INSTALLATION:

A. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

B. THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADII.

C. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.

1. FASTENING MAIN HYBRID CABLES: ALL CABLES SHALL BE PERMANENTLY FASTENED TO THE COAX LADDER AT 4'-0" OC USING NON-MAGNETIC STAINLESS STEEL CLIPS.
2. FASTENING INDIVIDUAL FIBER AND DC CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA), WITHIN THE MMBTS CABINET AND ANY INTERMEDIATE DISTRIBUTION BOXES:
   a. FIBER: SUPPORT FIBER BUNDLES USING ½" VELCRO STRAPS OF THE REQUIRED LENGTH @ 18" OC. STRAPS SHALL BE UV, OIL AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR APPROVED EQUAL.
   b. DC: SUPPORT DC BUNDLES WITH ZIP TIES OF THE ADEQUATE LENGTH. ZIP TIES TO BE UV STABILIZED, BLACK NYLON, WITH TENSILE STRENGTH AT 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.
3. FASTENING JUMPERS: SECURE JUMPERS TO THE SIDE ARMS OR HEAD FRAMES USING STAINLESS STEEL TIE WRAPS OR STAINLESS STEEL BUTTERFLY CLIPS.
4. CABLE INSTALLATION:
   a. INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, NOTIFY THE CONSTRUCTION MANAGER.
   b. CABLE ROUTING: CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN THE CABLE ENVELOP AS INDICATED ON THE DRAWINGS. AVOID TWISTING AND CROSSOVERS.
   c. HOIST CABLE USING PROPER HOISTING GRIPS. DO NOT EXCEED MANUFACTURES RECOMMENDED MAXIMUM BEND RADIUS.

5. GROUNDING OF TRANSMISSION LINES: ALL TRANSMISSION LINES SHALL BE GROUNDED AS INDICATED ON DRAWINGS.
6. HYBRID CABLE COLOR CODING: ALL COLOR CODING SHALL BE AS REQUIRED PER SPRINT TS 0200 CURRENT VERSION.
7. HYBRID CABLE LABELING: INDIVIDUAL HYBRID AND DC BUNDLES SHALL BE LABELED ALPHA-NUMERICALLY ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE-EN 2012-001, REV 1.

WEATHERPROOFING EXTERIOR CONNECTORS AND HYBRID CABLE GROUND KITS:

A. ALL FIBER & COAX CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED.

B. WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.

1. COLD SHRINK: ENCOMPASS CONNECTOR IN COLD SHRINK TUBING AND PROVIDE A DOUBLE WRAP OF 2" ELECTRICAL TAPE EXTENDING 2" BEYOND TUBING. PROVIDE 3M COLD SHRINK CXS SERIES OR EQUAL.
2. SELF-AMALGAMATING TAPE: CLEAN SURFACES. APPLY A DOUBLE WRAP OF SELF-AMALGAMATING TAPE 2" BEYOND CONNECTOR. APPLY A SECOND WRAP OF SELF-AMALGAMATING TAPE IN OPPOSITE DIRECTION. APPLY DOUBLE WRAP OF 2" WIDE ELECTRICAL TAPE EXTENDING 2" BEYOND THE SELF-AMALGAMATING TAPE.
3. 3M SLIM LOCK CLOSURE 716: SUBSTITUTIONS WILL NOT BE ALLOWED.
4. OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE

SECTION 11 800 – INSTALLATION OF MULTIMODAL BASE STATIONS (MMBTS) AND RELATED EQUIPMENT

SUMMARY:

A. THIS SECTION SPECIFIES MMBTS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BY NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).

B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRE BY THE APPLICABLE INSTALLATION MOPS.

C. COMPLY WITH MANUFACTURERS INSTALLATION AND START-UP REQUIREMENTS

DC CIRCUIT BREAKER LABELING

A. LABEL CIRCUIT BREAKERS ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1.

SECTION 11 800 - INSTALLATION OF MULTIMODAL BASE TRANSCIEVER STATIONS (MMBTS) AND RELATED EQUIPMENT

SUMMARY:

A. THIS SECTION SPECIFIES MMBTS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BY NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).

B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRE BY THE APPLICABLE INSTALLATION MOPS.

C. COMPLY WITH MANUFACTURERS INSTALLATION AND START-UP REQUIREMENTS

SUPPORTING DEVICES:

A. MANUFACTURED STRUCTURAL SUPPORT MATERIALS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
1. ALLIED TUBE AND CONDUIT
2. B-LINE SYSTEM
3. UNISTRUT DIVERSIFIED PRODUCTS
4. THOMAS & BETTS

B. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:
1. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
2. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.
3. FASTEN BY MEANS OF WOOD SCREWS ON WOOD.
4. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.
5. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
6. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL.
7. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
8. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
9. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

SUPPORTING DEVICES:

A. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.

B. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.

C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:

D. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.

E. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:

A. UPDATE AND PROVIDE TYPED CIRCUIT BREAKER SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF AC PANEL BOARDS WITH ANY CHANGES MADE TO THE AC SYSTEM.

B. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANELBOARD.

SECTION 26 200 - ELECTRICAL MATERIALS AND EQUIPMENT

CONDUIT:

A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS AND FOR ENCASED RUNS IN CONCRETE. RIGID CONDUIT AND FITTINGS SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS C80.1, FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. FITTINGS SHALL BE THREADED – SET SCREW OR COMPRESSION FITTINGS WILL NOT BE ACCEPTABLE. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND.

B. UNDERGROUND CONDUIT IN CONCRETE SHALL BE POLYVINYLCHLORIDE (PVC) SUITABLE FOR DIRECT BURIAL AS APPLICABLE. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.

C. TRANSITIONS BETWEEN PVC AND RIGID (RGS) SHALL BE MADE WITH PVC COATED METALLIC LONG SWEEP RADIUS ELBOWS.

D. EMT OR RIGID GALVANIZED STEEL CONDUIT MAY BE USED IN FINISHED SPACES CONCEALED IN WALLS AND CEILINGS. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-563, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR APPROVED EQUAL. FITTINGS SHALL BE METALLIC COMPRESSION. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE.

E. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO EQUIPMENT. FITTINGS SHALL BE METALLIC GLAND TYPE COMPRESSION FITTINGS, MAINTAINING THE INTEGRITY OF CONDUIT SYSTEM. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6-FEET. LFMC SHALL BE PROTECTED AND SUPPORTED AS REQUIRE BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE OR UNIVERSAL METAL HOSE, OR APPROVED EQUAL.

F. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH (21MM).

HUBS AND BOXES:

A. AT ENTRANCES TO CABINETS OR OTHER EQUIPMENT NOT HAVING INTEGRAL THREADED HUBS PROVIDE METALLIC THREADED HUBS OF THE SIZE AND CONFIGURATION REQUIRED. HUB SHALL INCLUDE LOCKNUT AND NEOPRENE O-RING SEAL. PROVIDE IMPACT RESISTANT 105 DEGREE C PLASTIC BUSHINGS TO PROTECT CABLE INSULATION.

B. CABLE TERMINATION FITTINGS FOR CONDUIT
1. CABLE TERMINATORS FOR RGS CONDUITS SHALL BE TYPE CRC BY O-Z/GEDNEY OR EQUAL.
2. CABLE TERMINATORS FOR LFMC SHALL BE ETCO – CL2075; OR MADE FOR THE PURPOSE PRODUCTS BY ROXTEC.

C. EXTERIOR PULL BOXES AND PULL BOXES IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE-HINDS WAB SERIES OR EQUAL.

D. CONDUIT OUTLET BODIES SHALL BE PLATED CAST ALLOY WITH SIMILAR GASKETED COVERS. OUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE-HINDS FORM 8 OR EQUAL.

E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COOPER, ADALET, APPLETON, O-Z GEDNEY, RACO, OR APPROVED EQUAL.

SUPPLEMENTAL GROUNDING SYSTEM

A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS. PROVIDE STRANDED OR SOLID BARE OR INSULATED CONDUCTORS AS INDICATED.

B. SUPPLEMENTAL GROUNDING SYSTEM: ALL CONNECTIONS TO BE MADE WITH CAD WELDS, EXCEPT AT EQUIPMENT USE LUGS OR OTHER AVAILABLE GROUNDING MEANS AS REQUIRED BY MANUFACTURER; AT GROUND BARS USE TWO HOLE SPADES WITH NO OX.

C. STOLEN GROUND-BARS: IN THE EVENT OF STOLEN GROUND BARS, CONTACT SPRINT CM FOR REPLACEMENT INSTRUCTION USING THREADED ROD KITS.

EXISTING STRUCTURE:

A. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

CONDUIT AND CONDUCTOR INSTALLATION:

A. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

B. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE.

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STATE OF CONNECTICUT LICENSED ARCHITECT NO. 10137

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF CONNECTICUT"

CHECKED BY: JK

APPROVED BY: JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/07/18	ISSUED FOR CONSTRUCTION	SDB
0	01/19/18	ISSUED FOR CONSTRUCTION	SH

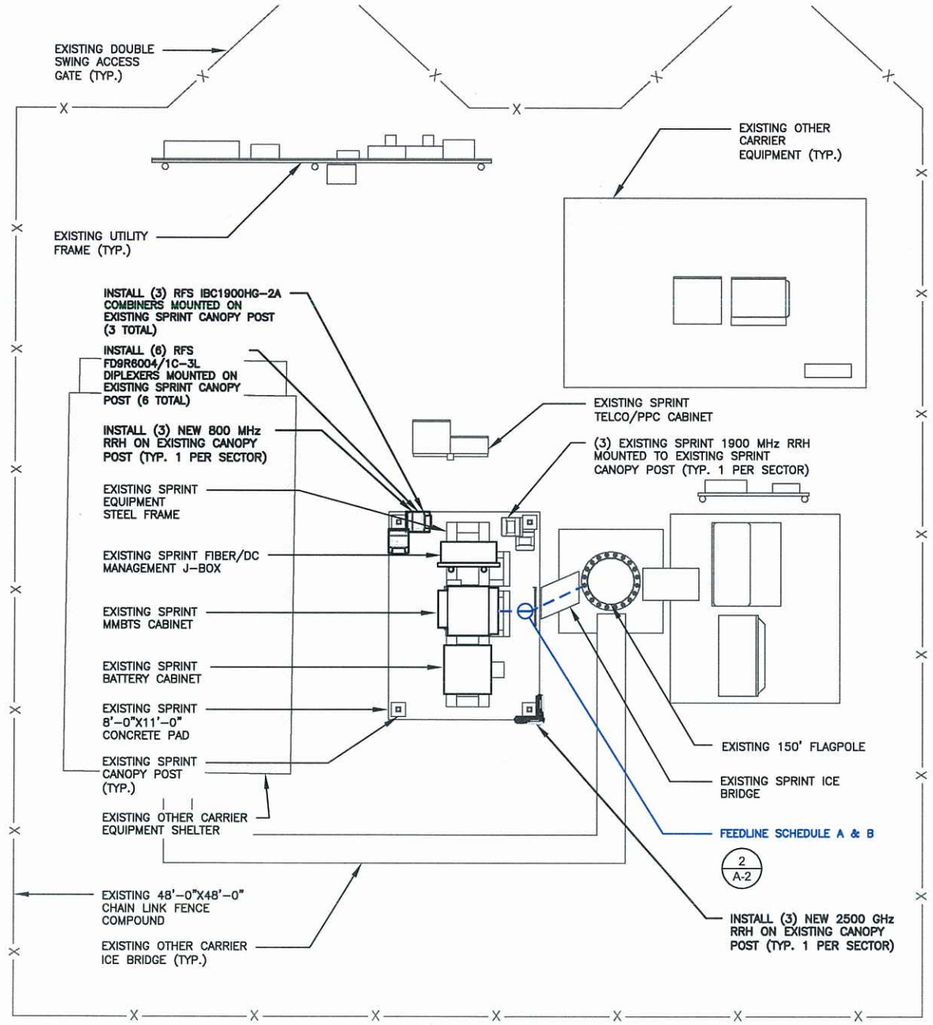
SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
OUTLINE SPECIFICATIONS

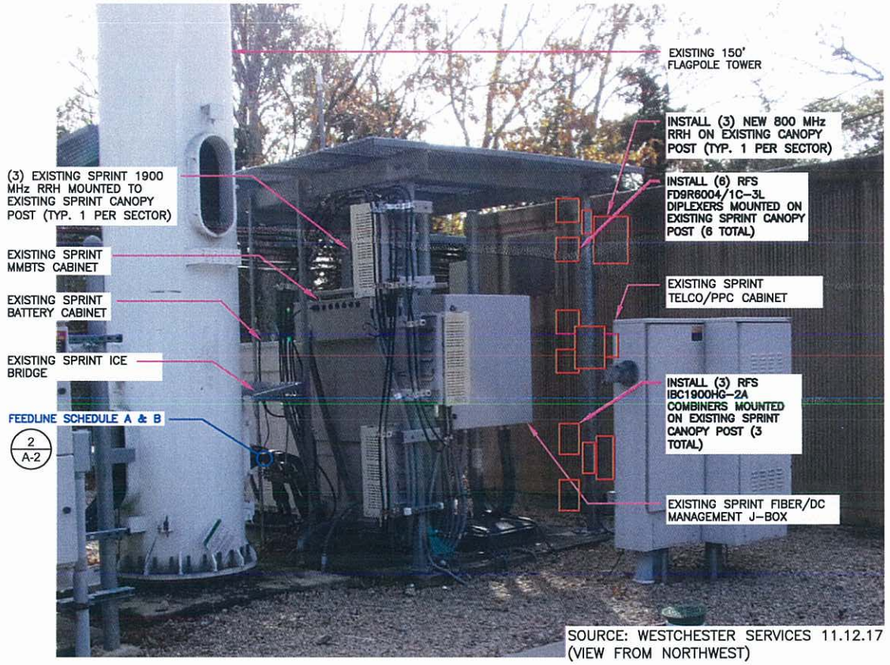
SHEET NUMBER
SP-3



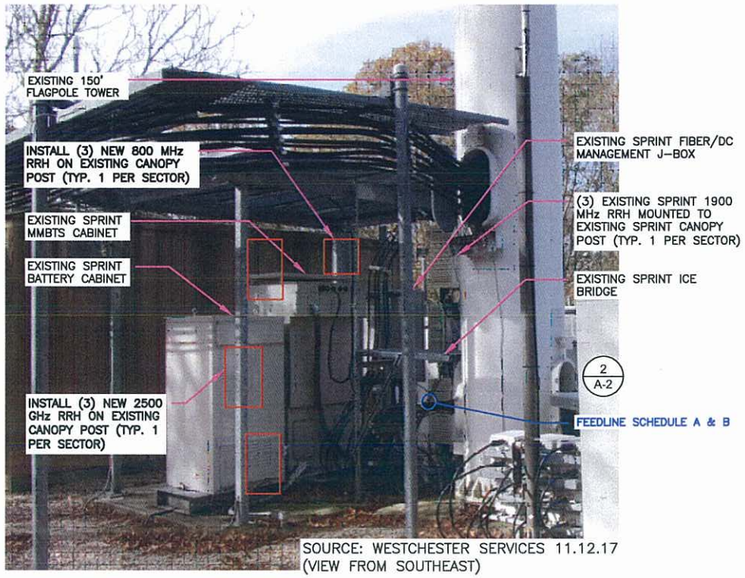
NORTH

COMPOUND PLAN 1 / A-1
SCALE: 1/8"=1'-0" (11x17)
1/4"=1'-0" (22x34)

0 1' 2' 4'



SOURCE: WESTCHESTER SERVICES 11.12.17
(VIEW FROM NORTHWEST)



SOURCE: WESTCHESTER SERVICES 11.12.17
(VIEW FROM SOUTHEAST)

EQUIPMENT PLAN PHOTO DETIAL 2 / A-1
SCALE: N.T.S.

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STATE OF CONNECTICUT
JOHN M. DAVIS
LICENSED ARCHITECT
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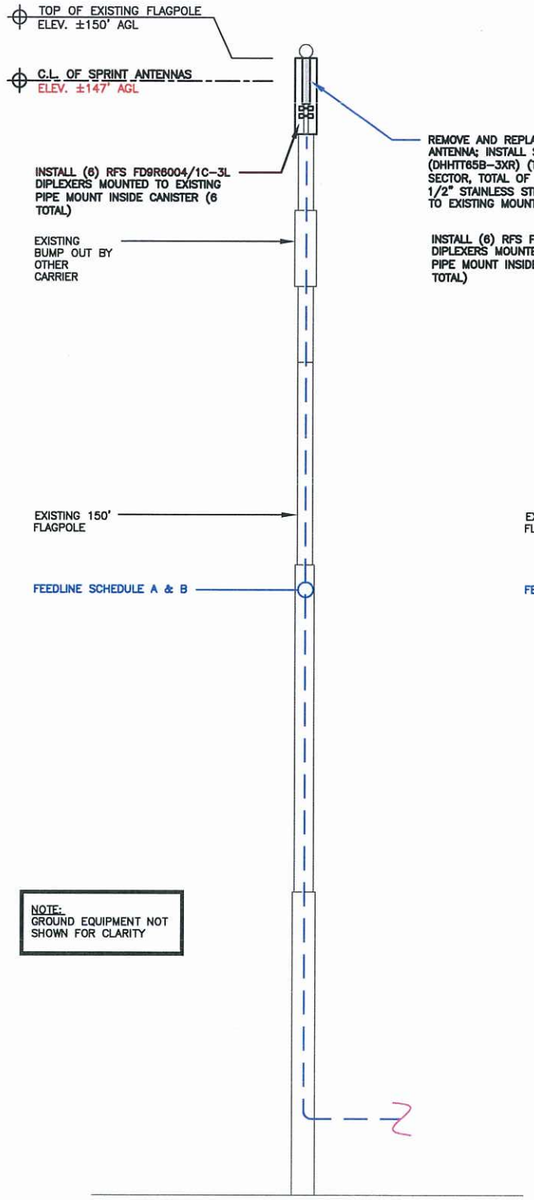
STONINGTON, CT 06378

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1

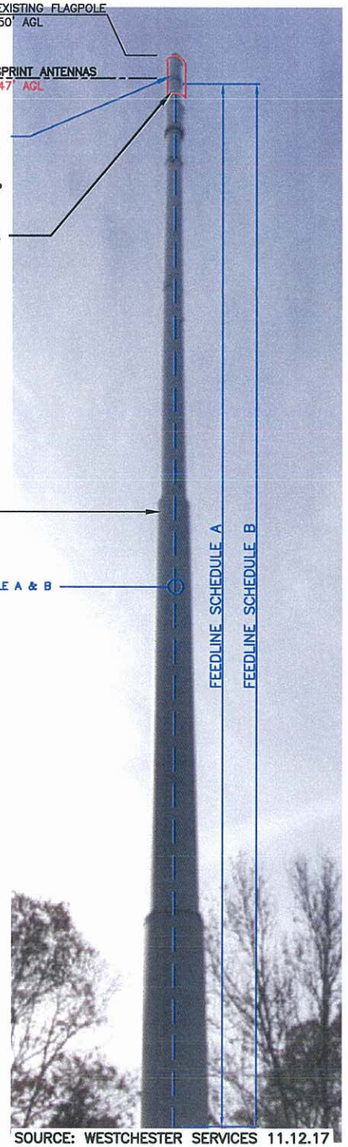


NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

NORTH

ELEVATION 1 / A-2
SCALE: 1"=10'-0" (22x34)
1/2"=10'-0" (11x17)

0 5' 10'



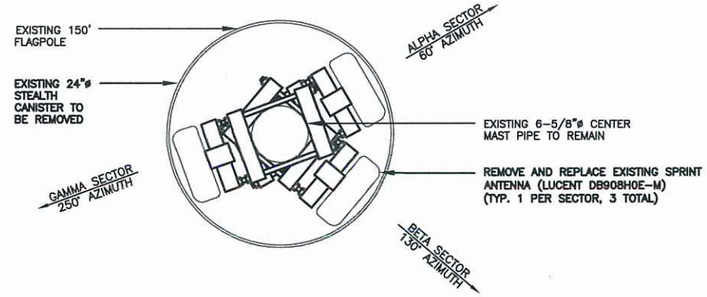
SOURCE: WESTCHESTER SERVICES 11.12.17

FEEDLINES		
FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	(6) EXISTING 1-5/8" COAX CABLES TO BE REMOVED	ROUTED INSIDE TOWER
B	(3) NEW 3/8" RET CABLES TO FOLLOW EXISTING ROUTING (12) NEW 7/8" COAX TO FOLLOW EXISTING ROUTING	ROUTED INSIDE TOWER

NOTE:
EXISTING SPRINT EQUIPMENT FEELDINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS, RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

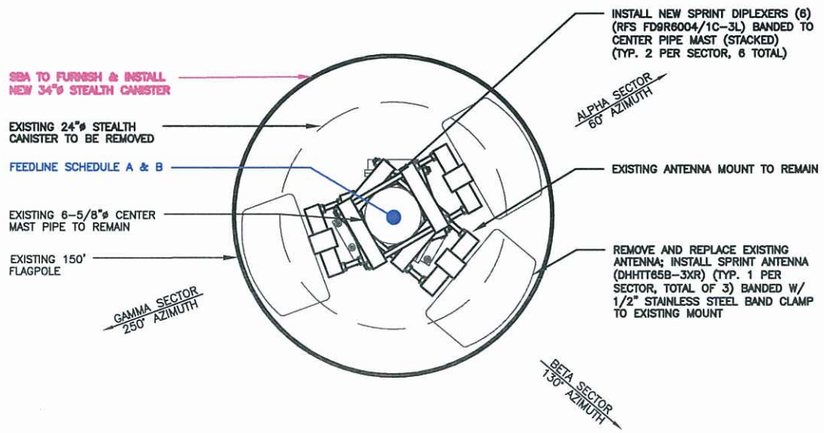
TOWER ELEVATION PHOTO DETAIL 2 / A-2
SCALE: N.T.S.

SPECIAL CONSTRUCTION NOTE:
SPRINT WORK IS CONTINGENT ON THE FOLLOWING:
* COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS.
* COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT.
* GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.



NORTH

EXISITNG ANTENNA PLAN 3 / A-2
SCALE: N.T.S.



NORTH

PROPOSED ANTENNA PLAN 4 / A-2
SCALE: N.T.S.

SPECIAL INSTALLATION NOTE:
JUMPERS FROM RRHs TO ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

Sprint
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581 TEL: (508) 251-0720

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

STATE OF CONNECTICUT
JOHN M. BRECHT
3/7/18
NO. 10137
LICENSED ARCHITECT

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF CONNECTICUT"

CHECKED BY:	JK
APPROVED BY:	JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/07/18	ISSUED FOR CONSTRUCTION	SDB
0	01/19/18	ISSUED FOR CONSTRUCTION	SH

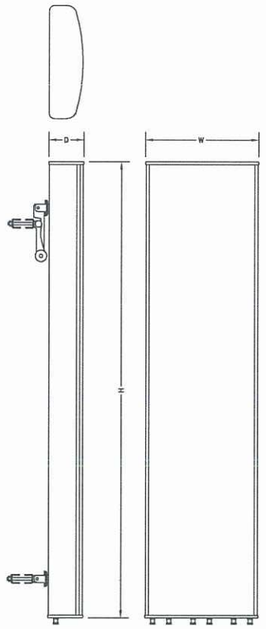
SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

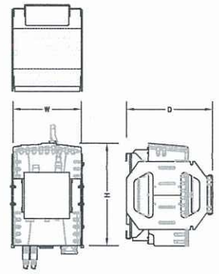
SHEET TITLE
ELEVATION & ANTENNA PLANS

SHEET NUMBER
A-2



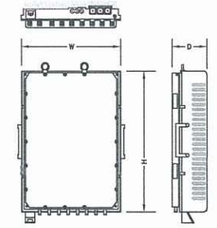
ANTENNA SPECIFICATIONS	
MANUF.	COMMSCOPE
MODEL #	DHHTT65B-3XR
HEIGHT	72.1"
WIDTH	11.9"
DEPTH	7.1"
WEIGHT	45.4± LBS.

ANTENNA DETAIL 1/A-3
SCALE: N.T.S.



800 MHZ RRH SPECIFICATIONS	
MANUF.	NOKIA (ALU)
MODEL #	800MHZ 2X50W
HEIGHT	19.7"
WIDTH	13"
DEPTH	10.8"
WEIGHT	53± LBS

800 MHz RRH DETAIL 2/A-3
SCALE: N.T.S.

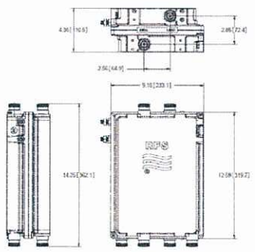


2.5 GHZ RRH SPECIFICATIONS	
MANUF.	NOKIA (ALU)
MODEL #	TD-RRH8X20-25
HEIGHT	26.1"
WIDTH	18.6"
DEPTH	6.7"
WEIGHT	70± LBS

2.5 GHz RRH DETAIL 3/A-3
SCALE: N.T.S.

DIPLEXER SPECIFICATIONS	
MANUF.	RFS
MODEL #	KIT-FD9R6004/1C-3L
HEIGHT	5.8"
WIDTH	6.5"
DEPTH	1.5"
WEIGHT	2.6± LBS

DIPLEXER DETAIL 4/A-3
SCALE: N.T.S.



COMBINER SPECIFICATIONS	
MANUF.	RFS
MODEL #	IBC1900HG-2A
HEIGHT	12.6"
WIDTH	9.2"
DEPTH	4.35"
WEIGHT	22± LBS

COMBINER DETAIL 5/A-3
SCALE: N.T.S.

RAN EQUIPMENT LIST
(G.C. SHALL FURNISH AND INSTALL ALL OTHER MATERIALS & EQUIPMENT NOT SUPPLIED BY SPRINT)

DESCRIPTION	# UNITS	QUANTITY	MAKE/MODEL/MATERIAL	PROVIDED BY
ANTENNA	3	3	COMMSCOPE DHHTT65B-3XR	SPRINT
RRU (AT GROUND LEVEL)	3	3	ALCATEL LUCENT RRH TD-RRH8X20-25	SPRINT
RRU (AT GROUND LEVEL)	3	3	ALCATEL-LUCENT RRH-2x50-800 (800 MHz)	SPRINT
RRU (AT GROUND LEVEL)	3	3	ALCATEL-LUCENT RRH-4x45-1900 (1900 MHz)	SPRINT
DIPLEXERS	12	6 (TOWER TOP) 6 (TOWER BOTTOM)	RFS FD9R6004/1C-CL DIPLEXERS	SPRINT
COMBINERS	3	3 (TOWER BOTTOM)	IBC1900HG-2A COMBINERS	SPRINT
COAX	12	12	7/8" COAX CABLE AT ±165'	SPRINT
RET	3	3	3/8" RET CABLE AT ±165'	SPRINT
RF JUMPERS	18	18	RF JUMPER CABLES	SPRINT

SPRINT-PROVIDED EQUIPMENT SCHEDULE 4/A-3
SCALE: N.T.S.

Sprint
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581 TEL: (508) 251-0720

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

STATE OF CONNECTICUT
JOHN M. BARRETT
3/9/18
NO. 10137
LICENSED ARCHITECT

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CHECKED BY: JK

APPROVED BY: JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
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0	01/19/18	ISSUED FOR CONSTRUCTION	SH

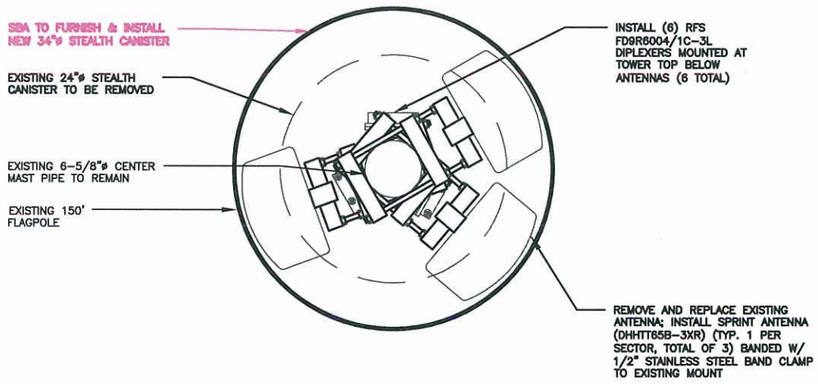
SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
TOWER EQUIPMENT DETAILS

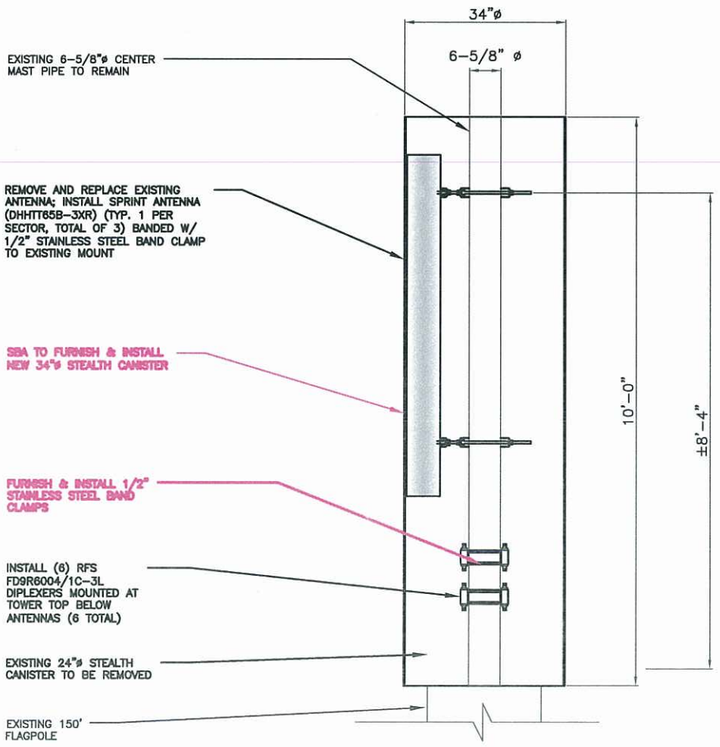
SHEET NUMBER
A-3



NORTH

ANTENNA CANISTER PLAN DETAIL (1 / S-1)

SCALE: N.T.S.



ANTENNA & DIPLEXER MOUNTING DETAIL (2 / S-1)

SCALE: N.T.S.

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NOTE:
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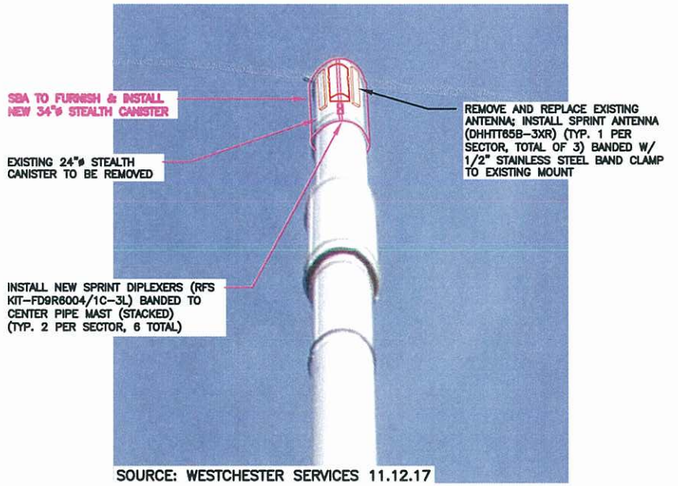
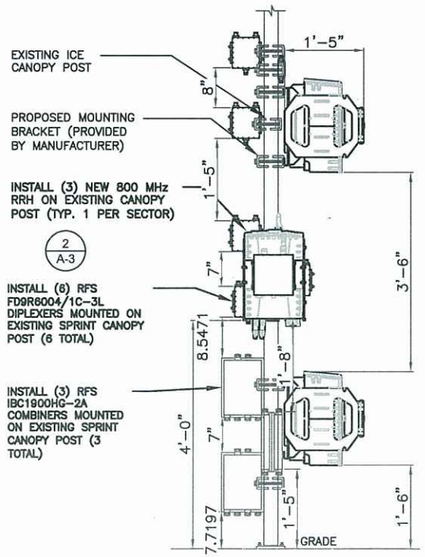
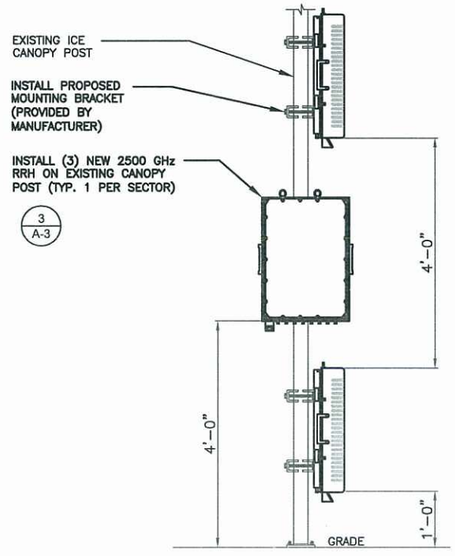


ANTENNA MOUNT PHOTO DETAIL (3 / S-1)

SCALE: N.T.S.





RRH, DIPLEXER, & COMBINER MOUNTING DETAIL (4 / S-1)

SCALE: N.T.S.

Sprint
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581 TEL: (508) 251-0720

WESTCHESTER SERVICES LLC
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BARRINGTON, IL 60010
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FAX : 847.277.0080
ae@westchesterservices.com

STATE OF CONNECTICUT
JOHN M. BRADY
LICENSED ARCHITECT
NO. 10137

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF CONNECTICUT"

CHECKED BY: JK

APPROVED BY: JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
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0	01/19/18	ISSUED FOR CONSTRUCTION	SH

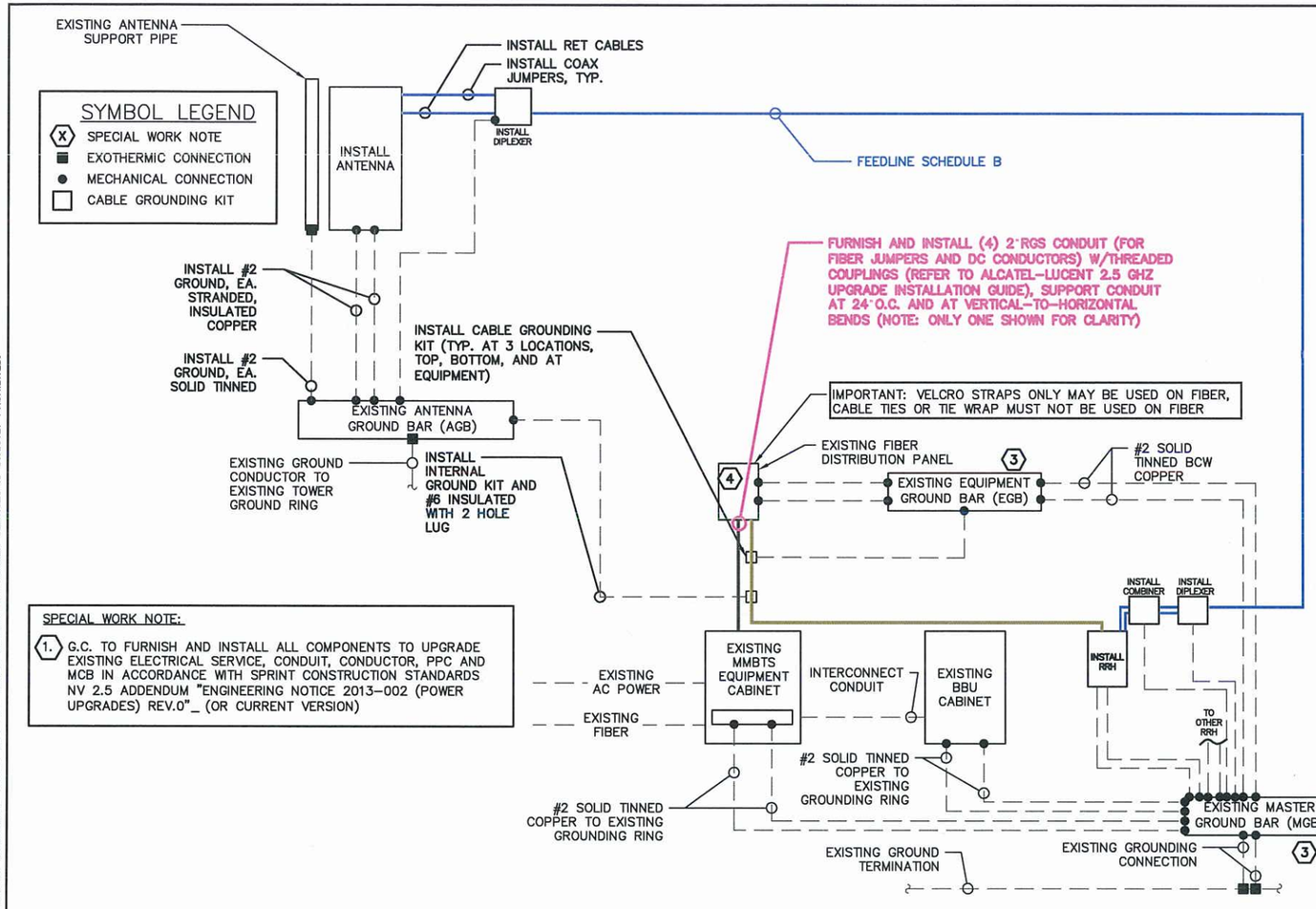
SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

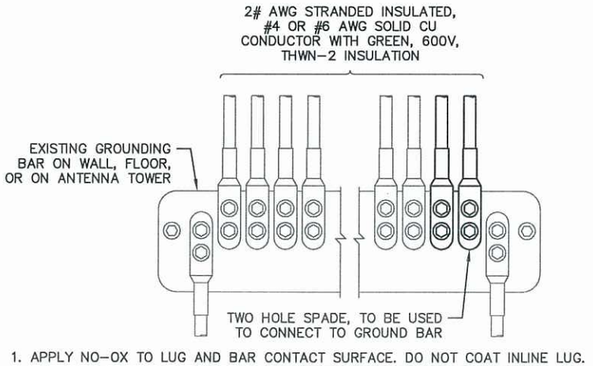
SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
ANTENNA & RRH MOUNTING DETAILS

SHEET NUMBER
S-1

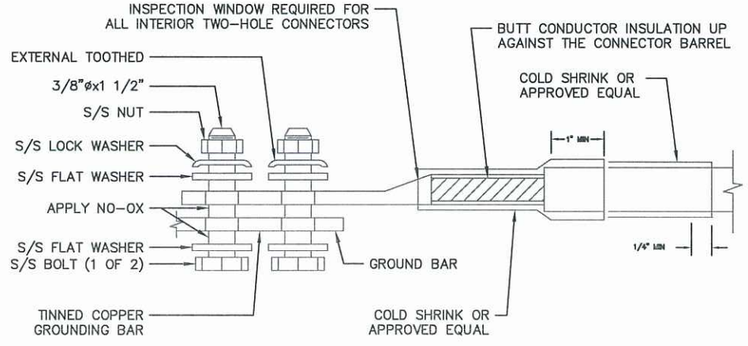


TYPICAL POWER AND GROUNDING ONE LINE DIAGRAMS (1 / E-1)
SCALE: N.T.S.



1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR (2 / E-1)
SCALE: N.T.S.



TWO HOLE LUG (3 / E-1)
SCALE: N.T.S.

ELECTRICAL NOTES

1) ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2) THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING WITH LOCAL UTILITY COMPANIES AND SPRINT CONSTRUCTION MANAGER.
3) ALL CONDUITS ROUTED BELOW GRADE SHALL TRANSITION TO RIGID GALVANIZED ELBOWS WITH RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE.
4) ALL METAL CONDUITS SHALL BE PROVIDED WITH GROUNDING BUSHINGS.
5) GENERAL CONTRACTOR SHALL PROVIDE ALL DIRECT BURIED CONDUITS WITH PLASTIC WARNING TAPE IDENTIFYING CONTENTS. TAPE COLORS SHALL BE ORANGE FOR TELEPHONE AND RED FOR ELECTRIC.
6) ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
7) THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIALS DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
8) GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
9) ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
10) BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
11) ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
12) RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
13) RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
14) FIBER OPTIC CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 770-OPTICAL FIBER CABLES AND RACEWAYS.
15) COMMUNICATIONS CIRCUITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 800-COMMUNICATIONS SYSTEMS.

PROTECTIVE GROUNDING SYSTEMS GENERAL NOTES:

1. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250-GROUNDING AND BONDING.
2. GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES" AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING".
3. PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTIVE ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.
4. GROUND CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED, REMOVE THE COATING, APPLY A NON-CORROSIVE APPROVED COMPOUND TO CLEAN SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVAMOX" OR EQUAL.
5. ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
6. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
7. ALL GROUND WIRES SHALL BE #2 SOLID TINNED BCW UNLESS NOTED OTHERWISE.
8. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.
9. GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
10. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 SOLID TINNED BCW EQUIPMENT CABINETS WALL HAVE (2) CONNECTIONS.
11. GROUND HYBRIFLEX SHIELD AT TOP, BOTTOM AND AT TRANSITION TO HYBRIFLEX JUMPER CABLES AT EQUIPMENT CABINET ENTRANCE USING MANUFACTURER'S GUIDELINES. WHEN HYBRIFLEX CABLE EXCEEDS 200', GROUND AT INTERVALS NOT EXCEEDING 100'.
12. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.
13. EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL OTHERWISE. THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH AN ANTI-OXIDANT (THOMAS BETTS KOPR-SHILD) BEFORE MAKING THE CRIMP CONNECTIONS THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED TORQUES ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS.
14. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING. CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF-TAPPING SCREWS.
15. THE MASTER GROUND BAR (MGB) SHALL BE MADE OF BARE 1/4"x2" COPPER (FOR OUTDOOR APPLICATIONS IT SHALL BE TINNED COPPER) AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MGB SHALL ELECTRICAL INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
16. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
17. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH SPRINT CONSTRUCTION MANAGER.
18. FOR NEW OR REPAIRED GROUNDING EQUIPMENT. REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
    -ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08-24-12 (OR CURRENT VERSION)
    -SPRINT ENGINEERING LETTER EL-0504 DATED 04-20-12 (OR CURRENT VERSION)

Sprint
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

SBA
SBA COMMUNICATIONS CORP.
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STATE OF CONNECTICUT
JOHN M. BARRETT
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NO. 10137

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CHECKED BY: JK

APPROVED BY: JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/07/18	ISSUED FOR CONSTRUCTION	SDB
0	01/19/18	ISSUED FOR CONSTRUCTION	SH

SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER
E-1

Augment ID: CT33XC088Q17.2
RFDS ID: 111254

NOTE: RFDS PROVIDED BY SPRINT DATED 08/15/17. EXCERPTS TAKEN DEPICT RELEVANT RF DESIGN INFORMATION. A&E VENDOR SCOPE OF WORK LIMITED TO DESIGN OF MECHANICAL/STRUCTURAL EQUIPMENT ATTACHMENTS.

SprintVision RF Design Sheet

Site Identification	
Cascade	CT33XC088
SMS Schedule ID	12323228
SMS Schedule Name	D0 Macro Upgrade
PID	
RRU OEM	ALU
Switch OEM	Alcatel Lucent
RFDS Issue Date	2017-08-15 00:00:00.0
RFDS Revision Date	2017-10-19 00:00:00.0
RFDS Revision	2

Filter Analysis Complete	YES
RFDS - Issue Date	08/15/2017
Design Status	Complete
Project Description	D0 Macro Upgrade - Add 800MHz (3G + 4G) and 2500 MHz

Battery Backup Cabinet Model	
Model Number	
Weight (Lbs.)	
Dimensions (In.)	
Manufacturer	

Contact Information	
Engineer Email	Bill.M.Hastings@sprint.com
Sprint Badged RF Engineer	Bill Hastings
RF Engineer Email	Bill.M.Hastings@sprint.com
RF Engineer Phone	978-690-9700
RF Manager	Jonathan Hull
RF Manager Email	Jonathan.B.Hull@Sprint.com
RF Manager Phone	617-233-2920

Carrier Count	
2500 LTE	3
1900 LTE	1
1900 EVDO	
1900 Voice	1
800 LTE	1
800 Voice	1

BTS #1 Model	
Model Number	
Weight (Lbs.)	
Dimensions (In.)	
Manufacturer	
Number of BTS #1	

Location Details	
Latitude	41.35306
Longitude	-71.88722
Market	Northern Connecticut
Region	Northeast
City	Stonington
State	CT
Zip Code	CT/06378
County	New London

2500MHz	3
1900MHz	3
800MHz	3

SprintVision RF Design Sheet

Band: 2500	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Radio Model						
Model Number	TD-RRH8x20-25	TD-RRH8x20-25	TD-RRH8x20-25	N/A	N/A	N/A
Weight (lbs)	76.2	76.2	76.2	N/A	N/A	N/A
Dimensions	26 x 18.6 x 6.7	26 x 18.6 x 6.7	26 x 18.6 x 6.7	N/A	N/A	N/A
Manufacturer	ALU	ALU	ALU	N/A	N/A	N/A
Number of RRUs needed	1	1	1	0	0	0
Trunk Cable 1						
Model Number	Hybriflex	N/A	N/A	N/A	N/A	N/A
Weight (Lbs.)	1	N/A	N/A	N/A	N/A	N/A
Dimensions (In.)	1.54	N/A	N/A	N/A	N/A	N/A
Manufacturer	ALU	N/A	N/A	N/A	N/A	N/A
Trunk Cable 1 Qty						

Band: 1900	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Radio Model						
Model Number	N/A	N/A	N/A	N/A	N/A	N/A
Weight (lbs)	N/A	N/A	N/A	N/A	N/A	N/A
Dimensions	N/A	N/A	N/A	N/A	N/A	N/A
Manufacturer	N/A	N/A	N/A	N/A	N/A	N/A
Number of RRUs needed	0	0	0	0	0	0

Band: 800	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Radio Model						
Model Number	RRH-2x50-800	RRH-2x50-800	RRH-2x50-800	N/A	N/A	N/A
Weight (lbs)	69.1	69.1	69.1	N/A	N/A	N/A
Dimensions	16 x 13 x 10	16 x 13 x 10	16 x 13 x 10	N/A	N/A	N/A
Manufacturer	ALU	ALU	ALU	N/A	N/A	N/A
Number of RRUs needed	1	1	1	0	0	0

SprintVision RF Design Sheet

Band: 1900	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Antenna1						
Model Number	DHHTT65B-3XR	DHHTT65B-3XR	DHHTT65B-3XR			
Weight (lbs)	48.5	48.5	48.5	N/A	N/A	N/A
Dimensions	72 x 12 x 7.1	72 x 12 x 7.1	72 x 12 x 7.1	N/A	N/A	N/A
Manufacturer	CommScope	CommScope	CommScope	N/A	N/A	N/A
Ant1 Top Jumper Make/Model/Qty	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0
Ant 1 RF requested Diameter	1/2"	1/2"	1/2"	N/A	N/A	N/A
Ant 1 RF requested Top Jumper Length(ft)	8	8	8	N/A	N/A	N/A
Antenna 1 Azimuth	60	130	250	N/A	N/A	N/A
Antenna 1 Mechanical DT	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Center Line (ft)	149.9671964	149.9671964	149.9671964	N/A	N/A	N/A
Antenna 1 Electrical DT	3	3	3	N/A	N/A	N/A
Antenna 1 Electrical DT 2	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Electrical DT 3	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Twist	N/A	N/A	N/A	N/A	N/A	N/A

SPRINT CONSTRUCTION STANDARDS:

GENERAL CONTRACTOR SHALL ADHERE TO THE FOLLOWING SPRINT CONSTRUCTION STANDARDS.

- CONSTRUCTION STANDARDS: INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES – CURRENT VERSION, INCLUDING EXHIBITS A–M.
- CONSTRUCTION SPECIFICATIONS: CONSTRUCTION STANDARDS EXHIBIT A – STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES (CURRENT VERSION).
- GROUNDING STANDARDS: EXTERIOR GROUNDING SYSTEM DESIGN. GROUNDING STANDARDS (SUPPLEMENT): ANTI–THEFT UPDATE TO SPRINT GROUNDING 082412 AND SPRINT ENGINEERING LETTER EL–0504 DATED 04.20.12.
- WEATHER PROOFING STANDARDS: EXCERPT FROM CONSTRUCTION STANDARDS EXHIBIT A, SECTION 3.6 WEATHERPROOFING CONNECTORS AND GROUND KITS.
- COLOR CODING: SPRINT NEXTEL ANT AND LINE COLOR CODING PER SPRINT TS–0200 CURRENT VERSION.
- GENERAL CONTRACTOR TO FIELD VERIFY AZIMUTH AND CL HEIGHT AND MECHANICAL DOWNTILT. IF DIFFERENT THAN CALLED OUT IN RFDS, HALT ANTENNA WORK FOR ONE HOUR, CALL SPRINT RF ENGINEER (OR MANAGER IF RF ENGINEER DOES NOT ANSWER, BUT STILL LEAVE A MESSAGE TO RF ENGINEER) USING SPRINT–PROVIDED CONTACT INFORMATION FOR FURTHER INSTRUCTIONS. IF SPRINT DOES NOT RESPOND WITHIN ONE HOUR, PLACE ANTENNA AT SAME CL HEIGHT AS PLAN AND EMAIL CORRECT CL HEIGHT AND AZIMUTH TO SPRINT RF ENGINEER. UPDATE AS–BUILT DRAWING WITH CORRECT CL HEIGHT. ALSO EMAIL CORRECT ANTENNA CL HEIGHT, AZIMUTH AND MECHANICAL DOWNTILT TO RF ENGINEER.
- AISG TESTS TO VERIFY OPERATION IS TO BE PERFORMED AFTER FINAL INSTALLATION OF ANTENNAS AND AISG CABLES HAVE BEEN CONNECTED. VERIFY OPERATION OF ALL EXISTING SPRINT AISG EQUIPMENT INCLUDING 800MHZ, 1.9GHZ AND 2.5G. TEST INCLUDE COMPLETE DOWNTILT, AZIMUTH (IF APPLICABLE) AND BEAMWIDTH SWINGS (IF APPLICABLE). DOCUMENT AISG TEST RESULTS IN COAX SWEEP TEST SPREADSHEET.
- GENERAL CONTRACTOR MUST INSURE THAT NO OBJECT IS LOCATED IN FRONT OF ANTENNA. THIS MEANS NO OBJECT IS TO BE LOCATED 45 DEGREES LEFT AND RIGHT OF FRONT OF ANTENNA OR 7 DEGREES UP AND DOWN FROM CENTER OF ANTENNA. IF THIS IS NOT POSSIBLE, CONTACT RF ENGINEER FOR FURTHER INSTRUCTION.
- GENERAL CONTRACT IS REQUIRED TO USE A DIGITAL ALIGNMENT TOOL TO SET AZIMUTH, ROLL AND DOWNTILT. AZIMUTH ACCURACY IS TO BE WITHIN 1 DEGREES. DOWNTILT AND ROLL (LEFT TO RIGHT TILT) IS TO BE WITHIN 0.1 DEGREES. IF FOR SOME REASON THIS ACCURACY CANNOT BE ACHIEVED, UPDATE AS–BUILT DRAWINGS AND EMAIL SPRINT RF ENGINEER WITH AS–BUILT SETTINGS. USE 3Z RF ALIGNMENT TOOL OR EQUIVALENT TOOL.
  HTTP://WWW.3ZTELECOM.COM/ANTENNA–ALIGNMENT–TOOL/.

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

RF DATA SHEET (1 / RF–1)
SCALE: N.T.S.

Sprint
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357–7641

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581 TEL: (508) 251-0720

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX : 847.277.0080
ae@westchesterservices.com

STATE OF CONNECTICUT · JOHN M. BANNISTER · 9/7/18 · NO. 10137 · LICENSED ARCHITECT

"I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION AND CONTROL AND I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF CONNECTICUT"

CHECKED BY: JK

APPROVED BY: JMB

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/07/18	ISSUED FOR CONSTRUCTION	SDB
0	01/19/18	ISSUED FOR CONSTRUCTION	SH

SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

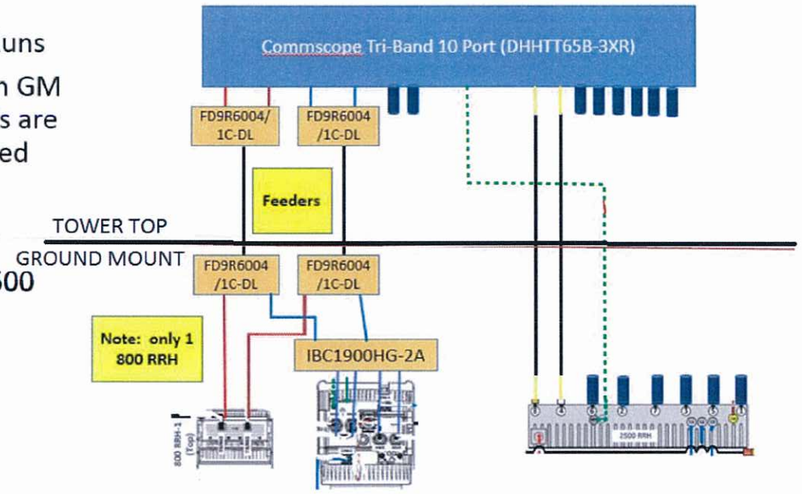
SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
RF DATA SHEET

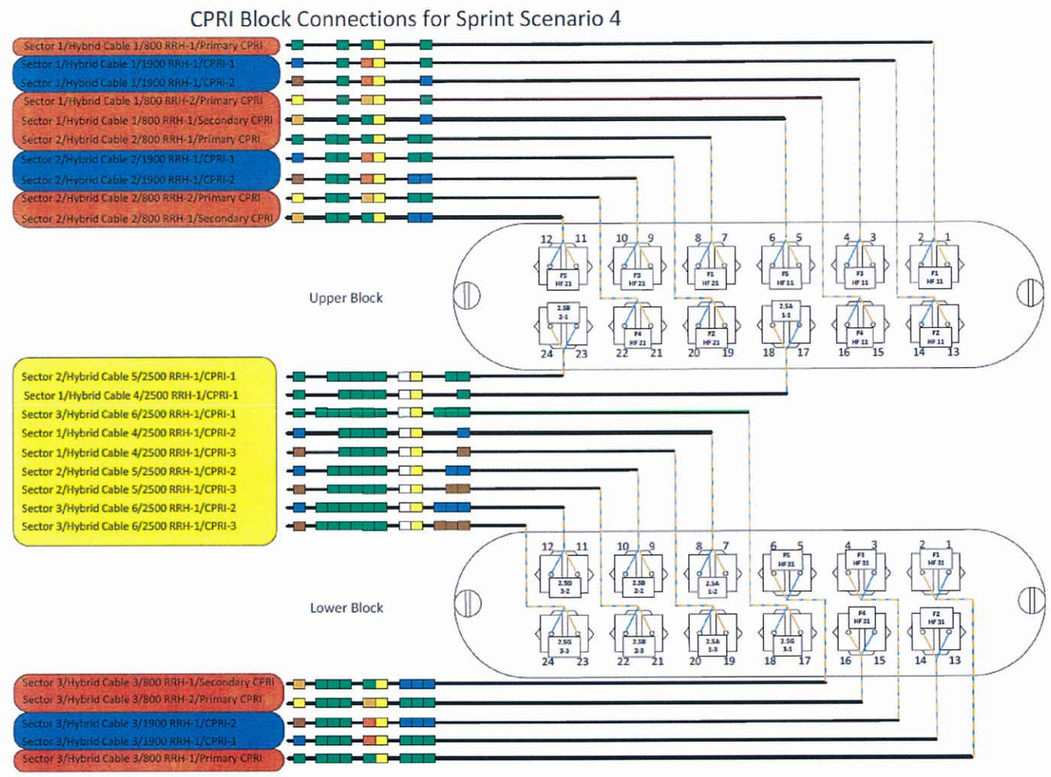
SHEET NUMBER
RF-1

Option Z-12 (All Ground Mount) Plumb. Diag.

- 12 Total Coax Runs
- 2.5 RRHs are on GM 800/1900 RRH's are Ground Mounted
- RED: 2 x 800
- BLUE: 4 x 1900
- YELLOW: 2 x 2500



CPRI Block Connections for Sprint Scenario 4



Sector	Cable	First Ring	Second Ring	Third Ring
1 Alpha	1	Green	No Tape	No Tape
1	2	Blue	No Tape	No Tape
1	3	Brown	No Tape	No Tape
1	4	White	No Tape	No Tape
1	5	Red	No Tape	No Tape
1	6	Gray	No Tape	No Tape
1	7	Purple	No Tape	No Tape
1	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
2	2	Blue	Blue	No Tape
2	3	Brown	Brown	No Tape
2	4	White	White	No Tape
2	5	Red	Red	No Tape
2	6	Gray	Gray	No Tape
2	7	Purple	Purple	No Tape
2	8	Orange	Orange	No Tape
3 Gamma	1	Green	Green	Green
3	2	Blue	Blue	Blue
3	3	Brown	Brown	Brown
3	4	White	White	White
3	5	Red	Red	Red
3	6	Gray	Gray	Gray
3	7	Purple	Purple	Purple
3	8	Orange	Orange	Orange

Frequency/ Radio	Indicator	ID
800 #1	Yellow	Green
800 #2	Yellow	Orange
1900 #1	Yellow	Red
1900 #2	Yellow	Brown
1900 #3	Yellow	Blue
1900 #4	Yellow	Grey
2500 #1	Yellow	White
2500 #2	Yellow	Purple

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STATE OF CONNECTICUT
JOHN M. BRADY
3/16
NO. 10137
LICENSED ARCHITECT

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0	01/19/18	ISSUED FOR CONSTRUCTION	SH

SITE NUMBER:
CT33XC088

SITE NAME:
NORTH STONINGTON 2 CT

SITE ADDRESS:
808 STONINGTON ROAD
STONINGTON, CT 06378

SHEET TITLE
PLUMBING DIAGRAM & RAN WIRING

SHEET NUMBER
RF-2