Filed by:
G. Scott Shepherd, Sr. Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3807 - GShepherd@sbasite.com

October 16, 2020

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

Notice of Exempt Modification
86 Voluntown Road, Stonington, CT
41.405539
-71.845247
T-Mobile #: CT11343A_L600

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 167-foot level of the existing 196-foot Monopole at 86 Voluntown Road in Stonington, CT. The Property is owned by Blackrock Properties II, LLC. The Tower is owned by SBA Towers, LLC. T-Mobile now intends to remove (3) three 600/700 MHz antennas and replace with three (3) new 600/700 MHz antennas. The new antennas would be installed at the 167-foot level of the tower.

Please note: Per the Connecticut Siting Council Website: CSC COVID 19 Guidelines.
In order to prevent the spread of Coronavirus and protect the health and safety of our members and staff, as of March 18, 2020, the Connecticut Siting Council shall convert to full remote operations until March 30, 2020. Please be advised that during this time period, all hard copy filing requirements will be waived in lieu of an electronic filing. Please also be advised that the March 26, 2020 regular meeting shall be held via teleconference. The Council's website is not equipped with an on-line filing fee receipt service. Therefore, filing fees and/or direct cost charges associated with matters received electronically during the above-mentioned time period will be directly invoiced at a later date.

Planned Modifications:

TOWER

Remove:
- N/A

Remove and Replace:
- (3) LNX6515 Antenna (remove) – (3) APXVAARR24_43U-NA20 Antenna 600/700 MHz (replace)
- Ericsson S11B12 RRUs (remove) – (3) Ericsson Radio 4449 B71+B12 (replace)

Install New:

- Reinforcement Kit - (Sitepro PRK-1245; Commscope VSR.MS-B; Sitepro HRK-12-U; Sitepro PRK-SFS-L + (3) Pipe 2.5STD x 8' mount pipes; New Sitepro1 SCX x -43 cross-over plate assemblies
- (3) 1-5/8 Fiber

Existing Equipment to Remain:

- (3) Ericsson KRY 112 144/1 TMAs
- (3) AIR 21 KRC118023-1_B2A-B4P Antenna
- (3) Air 21 B4A/B2P antenna
- SitePro PRK-125/VSR Low profile platform w/handrails
- (9) 1-5/8" Coax

Entitlements:

- (1) 1-5/8" Fiber
- (3) 1-5/8" Coax

GROUND

Install New:

- Equipment inside existing 6131 cabinet

This facility was originally approved prior to the Council's jurisdiction, through Special Use Permit granted on July 2, 1998 by the Town of Stonington's Planning and Zoning Commission. Under Case PZ9823SPA, a multi-tenant monopole telecommunication facility and placement of associated equipment was approved. There were no post construction stipulations set. Please see attached.

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 Zoning Enforcement Officer, Candace Palmer, as well as to the property owner, Blackrock Properties II, LLC. (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, T-Mobile 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,

G. Scott Shepherd
Sr. Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
508.868.6000 + C
GShepherd@sbasite.com

Attachments

cc: Danielle Chesebrough, First Selectman / with attachments
Town of Stonington, 152 Elm Street, Stonington, CT 06378
Candace Palmer, Zoning Enforcement Officer / with attachments
Town of Stonington, 152 Elm Street, Stonington, CT 06378
Blackrock Properties II, LLC / with attachments
602 West Market Street, Germantown, OH 45327

Exhibit List

Exhibit 1	Check Copy	X To be invoiced at a later date per COVID guidelines
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	Town of Stonington P&Z Commission 7/2/98
Exhibit 6	Construction Drawings	Chappell dated 8/8/19
Exhibit 7	Structural Analysis	TES dated 7/17/19
Exhibit 8	Post Mod Mount Analysis	Geo Structural dated 6/13/19
Exhibit 9	Mount Mod Drawings	Geo Structural dated 6/19/19
Exhibit 10	EME Report	Transcom dated 5/29/19

EXHIBIT 1

Normally, Exhibit 1 would include the copy of the check for the filing fee.

EXHIBIT 2

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

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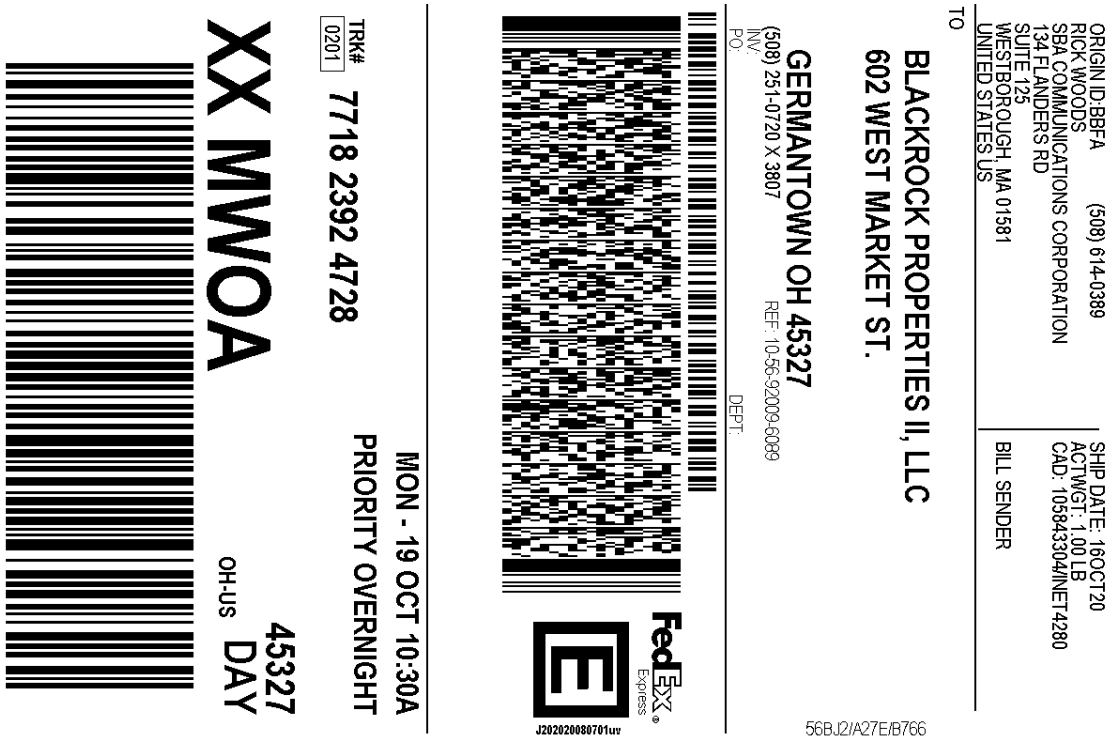

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EXHIBIT 3

Town of Stonington, CT

Property Listing Report

Map Block Lot	18-2-5	Building #	1	Section #	1	Account	00671600

Property Information

Property Location	86 VOLUNTOWN RD
Owner	BLACKROCK PROPERTIES II LLC
Co-Owner	
Mailing Address	PO BOX 1113 MIAMISBURG OH 45343
Land Use	430V TEL X STA M-00
Land Class	I
Zoning Code	HI-60
Census Tract	7051

Street Index	3000
Acreage	0.46
Utilities	
Lot Setting/Desc	Suburban
Survey Map #	NA
School District	
Fire District	Pawcatuck
Trash Day	TH
Polling Place (District)	2

Photo

Sketch

No Photo Available

Primary Construction Details

Year Built	0
Stories	
Building Style	UNKNOWN
Building Use	Vacant
Building Condition	
Occupancy	
Extra Fixtures	
Bath Style	NA
Kitchen Style	NA
AC Type	
Heating Type	
Heating Fuel	

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Total Rooms	0
Roof Style	
Roof Cover	
Interior Floors 1	
Interior Floors 2	
Exterior Walls	
Exterior Walls 2	NA
Interior Walls	
Interior Walls 2	NA

(*Industrial / Commercial Details)

Building Desc.	TEL X STA M-00
Building Grade	
Heat / AC	
Frame Type	
Baths / Plumbing	
Ceiling / Wall	
Rooms / Prtns	
Wall Height	
First Floor Use	

Report Created On 5/15/2019

Town of Stonington, CT

Property Listing Report | Map Block Lot 18-2-5 | Building # 1 | Section # 1 | Account 00671600

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	117100	81900
Land	91900	64300
Total	209000	146200

Outbuilding and Extra Features

Type	Description
FENCE-8' CHAIN	230.00 L.F.
CELL EQ SHELTER	240.00 S.F.
CELL TOWER	1.00 UNIT
CELL EQ SHELTER	240.00 S.F.
PLATFORM	120.00 UNIT
PLATFORM	180.00 UNIT
PLATFORM	36.00 UNIT
PLATFORM	648.00 UNIT

Sub Areas

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

Sales History

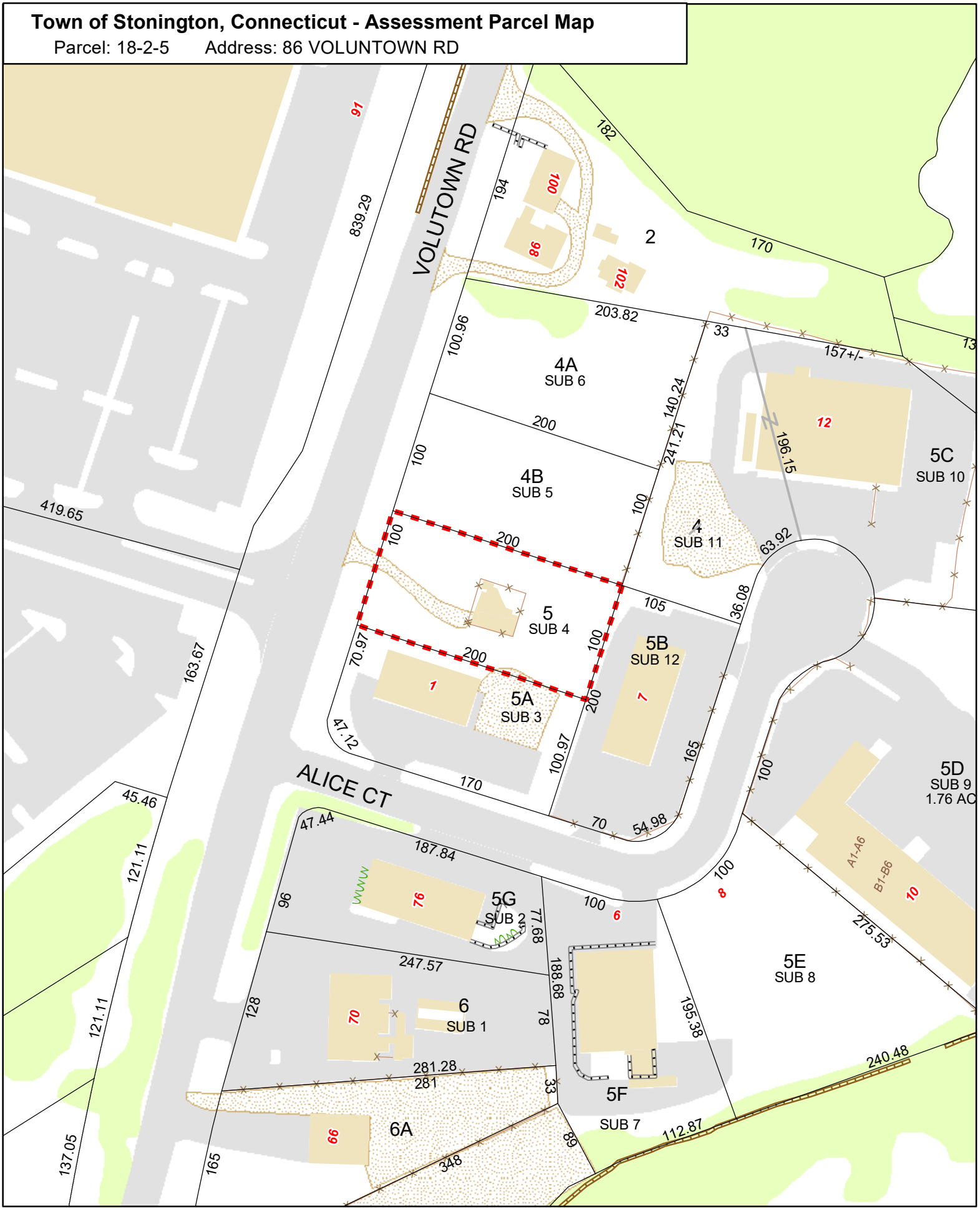
Owner of Record	Book/ Page	Sale Date	Sale Price
BLACKROCK PROPERTIES II LLC	0439/0311	7/20/1999	0
BLACKROCK PROPERTIES II LLC	0421/0916	7/17/1998	35000
BLACKROCK PROPERTIES 11 LLC	0421/0427	7/9/1998	0
PRACHNIAK STANLEY & AMELIA &	0309/0175	2/22/1989	0
PRACHNIAK STANLEY & PAUL G HOLLAND	0245/0869	12/20/1983	0
OLIVERIO DANIEL & MICHAEL A	0202/0075	6/6/1974	0

Report Created On 5/15/2019

EXHIBIT 4

Town of Stonington, Connecticut - Assessment Parcel Map

Parcel: 18-2-5 Address: 86 VOLUNTOWN RD



Approximate Scale:

1 inch = 100 feet

0 60 120 180 240 Feet

Revised To: October 2018 **Map Produced: April 2019**

EXHIBIT 5

TOWN OF STONINGTON
The Planning and Zoning Commission
152 Elm Street, P.O. Box 352
Stonington, Connecticut 06378
(860) 535-5095

July 8, 1998

Scott Thomae
SBA, Inc.
125 Shaw Street #116
New London, CT 06320

Dear Sir:

The Planning and Zoning Commission at their meeting of July 2, 1998 voted to APPROVE your application - #PZ9823SPA SBA, Inc. / SCOTT THOMAE - Application for Site Plan Approval for a multi-tenant monopole telecommunications facility and placement of associated equipment. Property located at 86 Voluntown Road, Stonington. Assessor's Map 18 Block 2 Lot 5 Zone HI. Groundwater Protection Permit Required. Your application was approved with the following stipulations:

1. Show the location of erosion & sedimentation devices on the plan.

2. Provide the geotechnical information to the Town Engineer which includes soil types and bearing capacity of the soils found on this site.

3. Clean up the lot: remove existing Russian Olive and other weedy vegetation, grade and bring in loam, apply an ecology grass seed mixture which will require mowing only once or twice a year. In addition to the planting around the tower enclosure, plant three deciduous trees in the front portion of the site in the locations indicated in the attached sketch plan and as follows: 1- Honey Locus (Gleditsia triacanthos var. inermis "Moraine or Shade Master") and 2 Winter King Hawthorn (Crataegus viridis `Winter King'), 2 inch caliper minimum at time of planting.

Please schedule an appointment with the Planning Office to review the final plans which have incorporated all the above stipulations and/or changes. Please bring to the Planning and Zoning Office for the Chairman's signature one (1) set of bluelines and one (1) set of mylars and one

If you have any questions, please feel free to contact the Planning Office.

Sincerely,

Edward C. Donnelly

Edward Donnelly, AICP
Planning Director

Enclosure

EXHIBIT 6

STONINGTON/I-95_1

86 VOLUNTOWN ROAD
STONINGTON, CT 06379
NEW LONDON COUNTY

SITE NO.: CT11343A

SITE TYPE: 196'± MONOPOLE

RF DESIGN GUIDELINE: 67D02C OUTDOOR

APPROVALS

PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
SECTOR D:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - 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.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

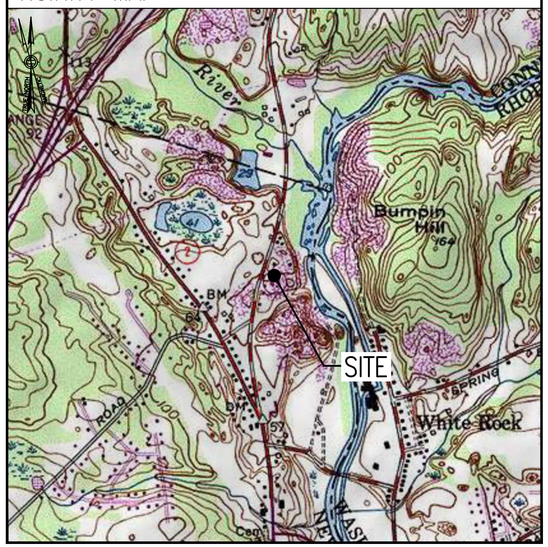
GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP

SCALE: 1" = 1000'-0"



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLAN	1
A-2	TOWER ELEVATIONS & ANTENNA PLAN	1
A-3	SITE DETAILS	1
E-1	ELECTRIC & GROUNDING DETAILS	1

SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

PROJECT SUMMARY

SITE NUMBER:	CT11343A
SBA SITE NUMBER:	CT00595-S
SBA SITE NAME:	STONINGTON EAST
SITE ADDRESS:	86 VOLUNTOWN ROAD STONINGTON, CT 06379
PROPERTY OWNER:	BLACKROCK PROPERTIES II LLC. PO BOX 1113 MIAMISBURG, OH 45343
TOWER OWNER:	SBA TOWERS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	NEW LONDON
ZONING DISTRICT:	HI-60 (COMMERCIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	196'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
SBA RSM:	STEPHEN ROTH PHONE: 860-539-4920 EMAIL: SRoth@sbasite.com
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: N.41.405571° LONGITUDE W.71.845199°

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

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

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil ·Structural ·Land Surveying
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
CLEMENT J. SAMEK
No. 26876
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/08/19	ISSUED FOR CONSTRUCTION	CMC
0	05/20/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11343A

SITE ADDRESS:
86 VOLUNTOWN ROAD
STONINGTON, CT 06379

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.076

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – T–MOBILE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

15. CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.

16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.

7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75'C (90'C IF AVAILABLE).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/08/19	ISSUED FOR CONSTRUCTION	CMC
0	05/20/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11343A

SITE ADDRESS:
86 VOLUNTOWN ROAD
STONINGTON, CT 06379

SHEET TITLE
GENERAL NOTES

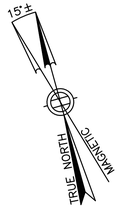
SHEET NUMBER
GN-1

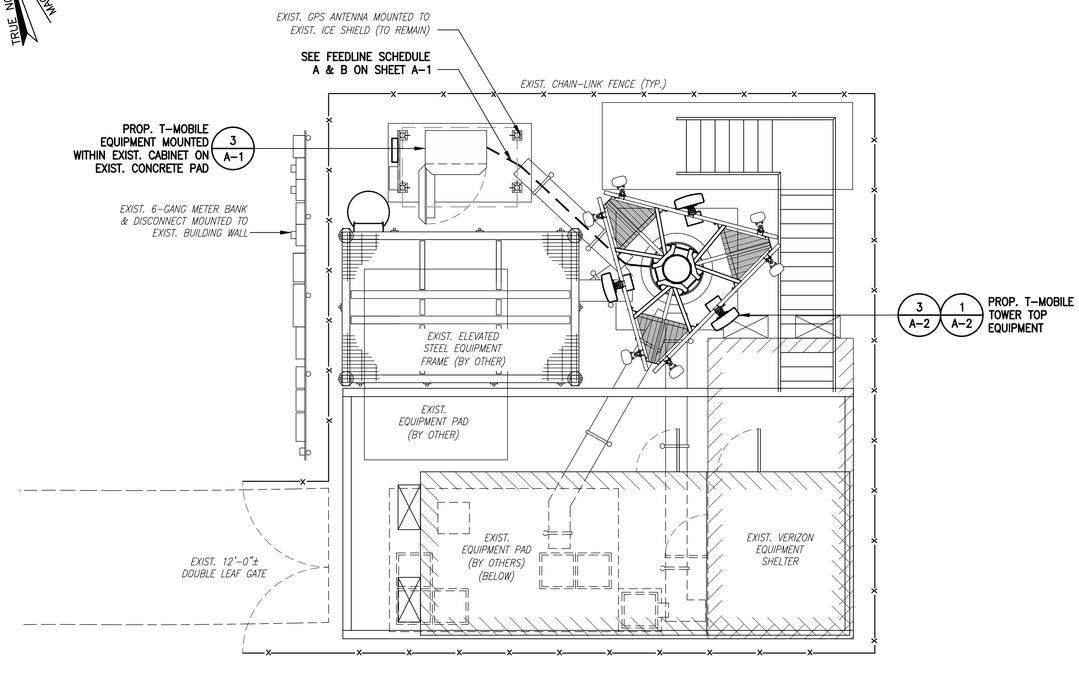
1815.076

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

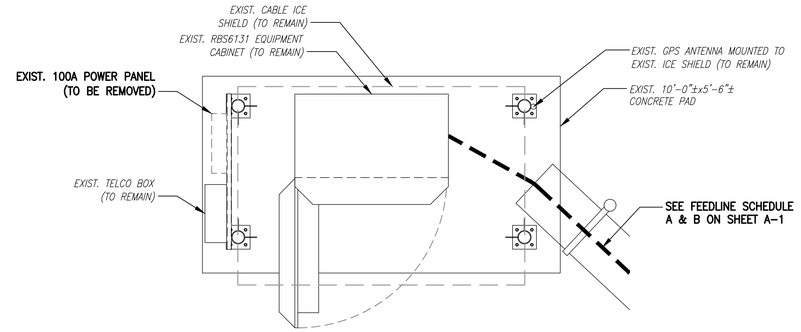
FEEDLINE SCHEDULE	FEEDLINES	LOCATION
A	*EXISTING TO REMAIN:* (9) 1-⅝" COAX CABLES (1) 1-¼" HCS FIBER CABLE *EXISTING TO BE REMOVED:* (3) 1-⅝" COAX CABLES	ROUTED PER TOWER STRUCTURAL ANALYSIS
B	**PROPOSED:** **(3) 1-⅝" HCS FIBER CABLES**	

NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

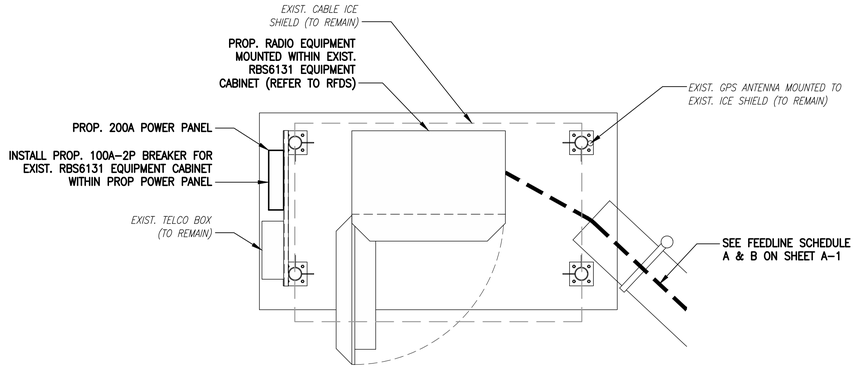




COMPOUND PLAN 1 A-1
SCALE: 1" = 5'-0"
0 5'-0" 10'-0" 15'-0"



EXISTING EQUIPMENT PLAN 2 A-1
SCALE: 1/2" = 1'-0"
0 2'-0" 4'-0" 6'-0"



PROPOSED EQUIPMENT PLAN 3 A-1
SCALE: 1/2" = 1'-0"
0 2'-0" 4'-0" 6'-0"

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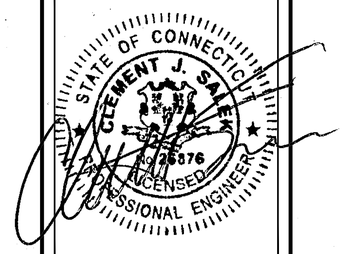

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COMPOUND & EQUIPMENT PLAN

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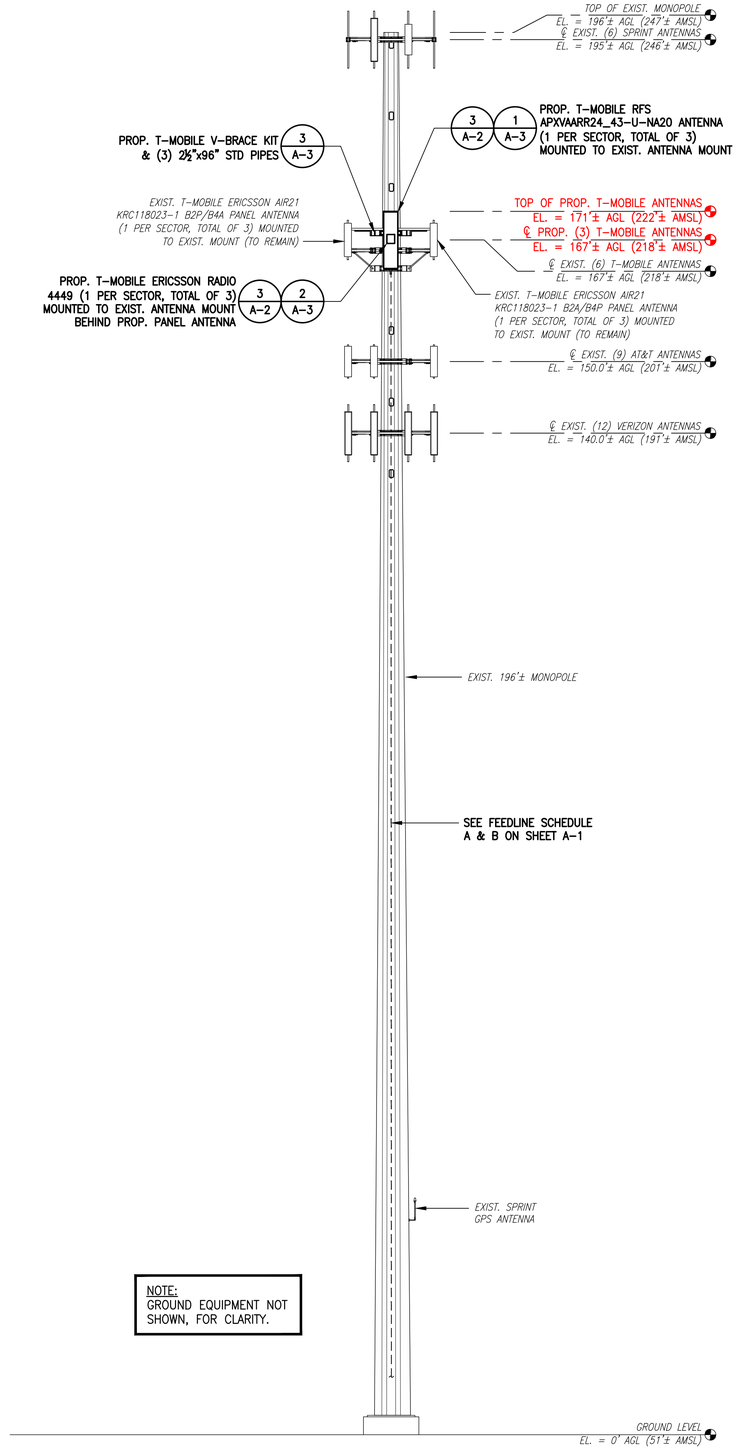


NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

TOWER ELEVATION 1 A-2

SCALE: 1" = 10'

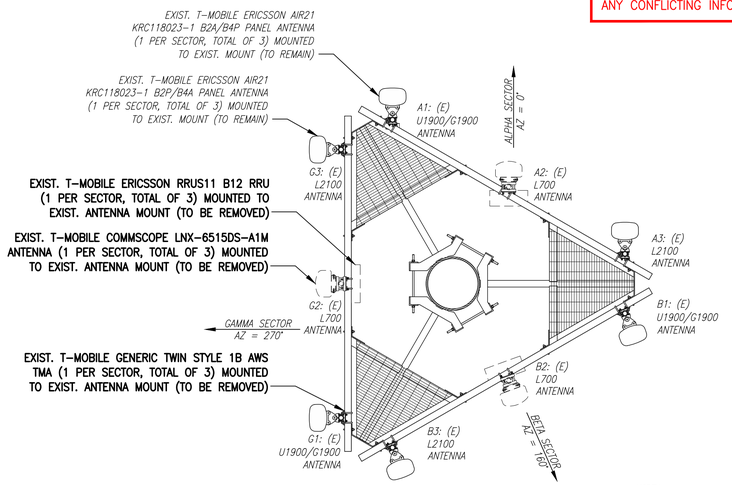
0 5' 10' 20' 30'

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

SPECIAL TOWER TOP EQUIPMENT INSTALLATION WORK NOTE (SAFETY-CLIMB ALIGNMENT REQUIREMENTS):
GENERAL CONTRACTOR SHALL ORIENT PROPOSED PLATFORM REINFORCEMENT KIT RING-MOUNTS SO THAT EXISTING SAFETY CLIMB CABLE IS NOT OBSTRUCTED/RE-ROUTED FROM VERTICAL ALIGNMENT AND IS NOT IN PHYSICAL CONTACT WITH EXISTING OR PROPOOSED RING-MOUNT HARDWARE. GENERAL CONTRACTOR SHALL INSTALL NEW OR ADDITIONAL SAFETY-CLIMB CABLE GUIDES IF ADDITIONAL CLEARANCE IS REQUIRED. ADDITIONAL CABLE GUIDES SHALL BE ATTACHED SECURELY TO THE POLE USING MECHANICAL FASTENERS OR FIELD WELDED BY A CERTIFIED WELDING TECHNICIAN.

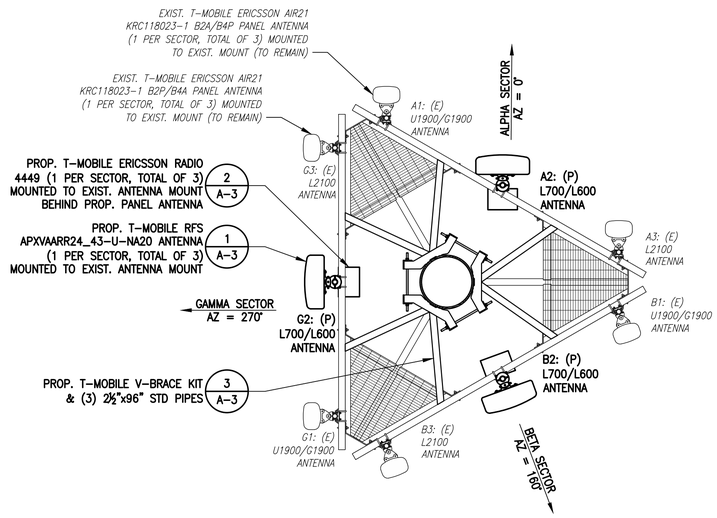
RAD CENTER NOTE:
T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.



EXISTING ANTENNA PLAN 2 A-2

SCALE: N.T.S.

NORTH



PROPOSED ANTENNA PLAN 3 A-2

SCALE: N.T.S.

NORTH

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

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www.chappellengineering.com

STATE OF CONNECTICUT
CLEMENT J. SAMEK
No. 26876
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/08/19	ISSUED FOR CONSTRUCTION	CMC
0	05/20/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11343A

SITE ADDRESS:
86 VOLUNTOWN ROAD
STONINGTON, CT 06379

SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

SHEET NUMBER
A-2

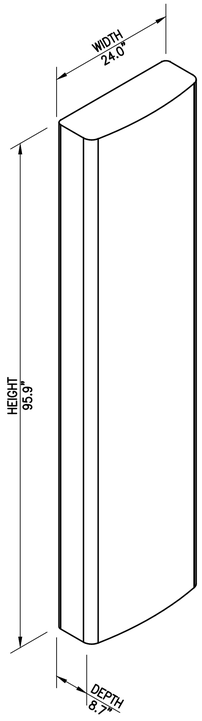
1815.076

FINAL ANTENNA CONFIGURATION

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	RADIOS/TMAS	CABLES
ALPHA	*ERICSSON AIR21 KRC118023-1 B2A/B4P*	*167'± AGL*	*0°*	*0°*	*2°*	*U1900/G1900*	–	*(1) 9x18 (1-¾") HCS CABLE (SHARED)*
	RFS APXVAARR24_43-U-NA20	**167'± AGL**	**0°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 6x12 (1-⅝") HCS CABLE**
	ERICSSON AIR21 KRC118023-1 B2P/B4A	*167'± AGL*	*0°*	*0°*	*2°*	*L2100*	–	*(1) 9x18 (1-¾") HCS CABLE (SHARED)*
BETA	*ERICSSON AIR21 KRC118023-1 B2A/B4P*	*167'± AGL*	*160°*	*0°*	*2°*	*U1900/G1900*	–	*(1) 9x18 (1-¾") HCS CABLE (SHARED)*
	RFS APXVAARR24_43-U-NA20	**167'± AGL**	**160°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 6x12 (1-⅝") HCS CABLE**
	ERICSSON AIR21 KRC118023-1 B2P/B4A	*167'± AGL*	*160°*	*0°*	*2°*	*L2100*	–	*(1) 9x18 (1-¾") HCS CABLE (SHARED)*
GAMMA	*ERICSSON AIR21 KRC118023-1 B2A/B4P*	*167'± AGL*	*270°*	*0°*	*2°*	*U1900/G1900*	–	*(1) 9x18 (1-¾") HCS CABLE (SHARED)*
	RFS APXVAARR24_43-U-NA20	**167'± AGL**	**270°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 6x12 (1-⅝") HCS CABLE**
	ERICSSON AIR21 KRC118023-1 B2P/B4A	*167'± AGL*	*270°*	*0°*	*2°*	*L2100*	–	*(1) 9x18 (1-¾") HCS CABLE (SHARED)*

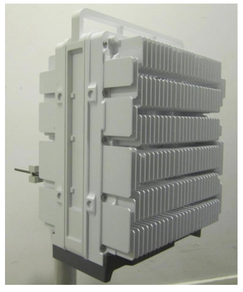
CABLE NOTE: EXISTING (3) 1-⅝" COAX CABLES TO BE REMOVED. EXISTING (9) 1-⅝" COAX CABLES TO REMAIN DISCONNECTED. (SEE FEEDLINE SCHEDULE A&B ON SHEET A-1)

NOTE: RFDS REV2.1 – 04/10/19



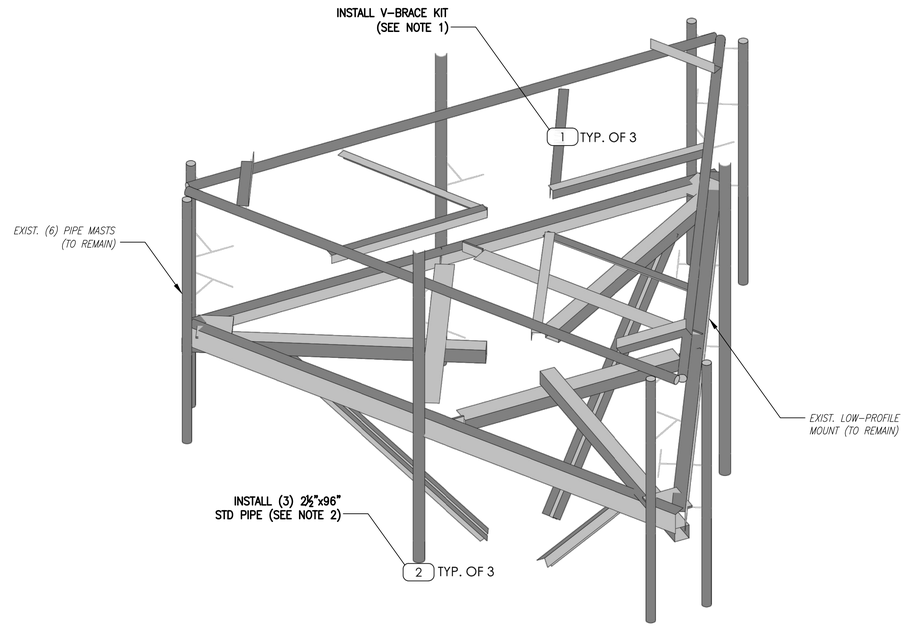
RFS APXVAARR24_43-NA20 PANEL ANTENNA
DIMENSIONS: 95.9"H x 24.0"W x 8.7"D
WEIGHT: 128.0 LBS
1 PER SECTOR, TOTAL OF 3

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



ERICSSON RADIO 4449 B12+B71
DIMENSIONS: 14.9"H x 13.2"W x 9.3"D
WEIGHT: 74.0 LBS
1 PER SECTOR, TOTAL OF 3

RRU DETAIL — SCALE: N.T.S. — 2 / A-3



NEW MOUNT AUGMENTATIONS

1	INSTALL V-BRACE KIT; LOCATED APPROXIMATELY 3.0' ABOVE THE EXISTING MOUNT FACE RAIL CENTERLINE. - SITEPRO1 PRK-SFS-L, (1) TOTAL. ATTACH RING MOUNT IN KIT TO MONOPOLE SHAFT AND SFS ANGLE GATE CLAMP BRACKETS TO HANDRAIL W/ A HORIZ. SPREAD OF APPROXIMATELY 5.2'. - ORIENT PRK-SFS COLLAR AND ANGLE BRACES SUCH THAT THE SAFETY CLIMB IS UNAFFECTED.
2	INSTALL (3) PIPE2.5STD x 8'-0" MOUNT PIPES AT POSITION 2 MOUNT PIPE LOCATION (SUPPORTING RFS APXVAARR24 PANEL ANTENNA AND 4449 RRH). ATTACH NEW PIPE2.5STD MOUNT PIPE TO EXISTING BOTTOM CHANNEL RAIL W/ (2) NEW U-BOLT ASSEMBLIES AND TO EXISTING TOP HANDRAIL PIPE W/ NEW SITEPRO1 SCX x -43 CROSS-OVER PLATE ASSEMBLIES. REMOVE THE EXISTING MOUNT PIPE.
AUGMENTATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT.	

MOUNT MODIFICATION DETAIL — SCALE: N.T.S. — 3 / A-3

T-MOBILE NORTHEAST LLC
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SITE DETAILS

SHEET NUMBER
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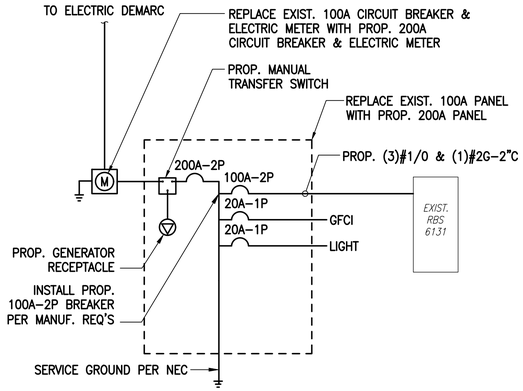
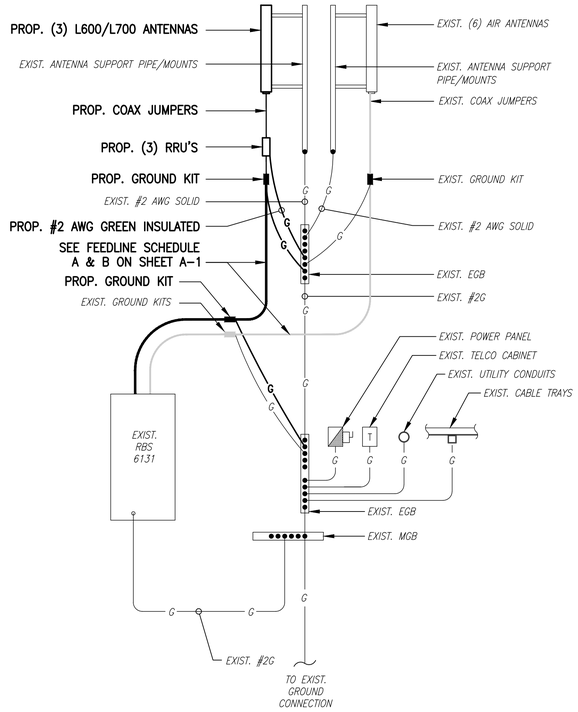
1815.076



ONE LINE DIAGRAM

SCALE: NOT TO SCALE

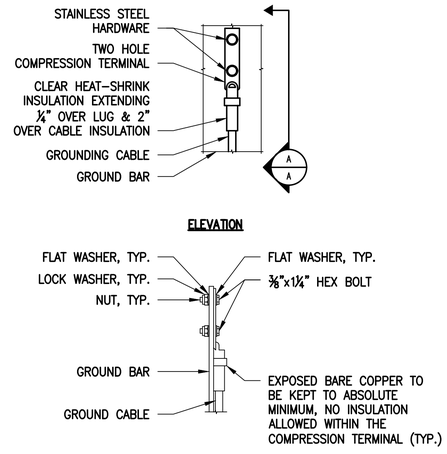
1 E-1



GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE

2 E-1



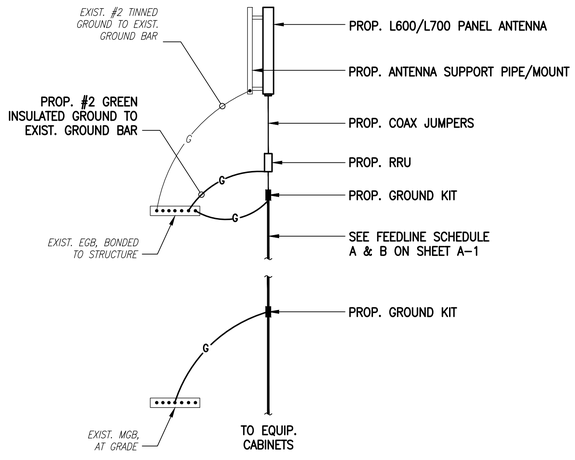
NOTES:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

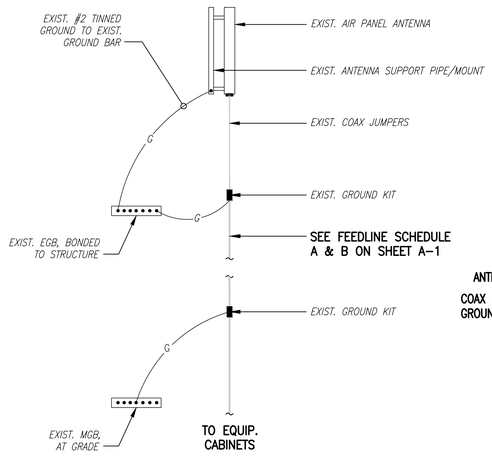
TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: NOT TO SCALE

3 E-1



L600/L700

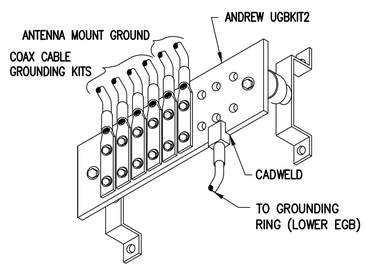


U1900/G1900 & L2100 ANTENNAS

COAX CABLE CONNECTION AND GROUNDING DETAIL

SCALE: NOT TO SCALE

4 E-1



GROUND BAR (EGB)

SCALE: NOT TO SCALE

5 E-1

ELECTRICAL AND GROUNDING 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. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. 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.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
8. 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.
9. 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.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

T-MOBILE NORTHEAST LLC

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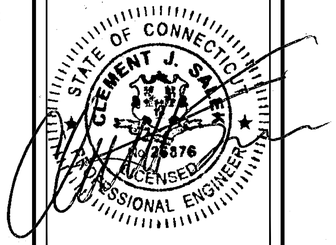

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STONINGTON, CT 06379

SHEET TITLE

ELECTRIC & GROUNDING DETAILS

SHEET NUMBER

E-1

1815.076

EXHIBIT 7

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

Structural Analysis Report

Existing 196 ft Valmont Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT00595-S

Customer Site Name: Stonington East

Carrier Name: T-Mobile (App#: 116669, v2)

Carrier Site ID / Name: CT11343A / Stonington East

Site Location: 86 Voluntown Road

Stonington, Connecticut

New London County

Latitude: 41.405539

Longitude: -71.845247

7/17/19

Analysis Result:

Max Structural Usage: 89.0% [Pass]

Max Foundation Usage: 79.0% [Pass]

Additional Usage Caused by Mount Modification: + 1.0%

Report Prepared by: Matthew Baker

Introduction

The purpose of this report is to summarize the analysis results on the 196 ft Valmont Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawing prepared by Valmont, Order #17507-98 dated 6/23/96
Foundation Drawing	Foundation Drawing prepared by Valmont, Drawing #17507-S-01 dated 7/9/98
Geotechnical Report	Geotechnical Report prepared by SAGE, Project #G004 dated 6/10/98
Modification Drawings	N/A

Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-H**.** 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:	128.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-H
Exposure Category:	C
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.184, S_1 = 0.052

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	195.0	3	RFS - APXVSPP18-C-A20 - Panel	Low Profile Platform	(4) 1 1/4"	Sprint Nextel
2		3	RFS - APXVTM14-C-120 - Panel			
3		3	Alcatel Lucent - 1900MHz RRH			
4		3	Alcatel Lucent - TD-RRH8x20-25			
5		3	Alcatel Lucent - 800MHz RRH			
6		3	Alcatel Lucent - 800MHz Filter			
7		4	RFS - ACU-A20-N - RET			
-	167.0	3	Ericsson - AIR 21 B2A B4P – Panel	Platform w/ Hand Rails w/ Reinforcement	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
-		3	Ericsson - AIR 21 B4A B2P - Panel			
-		3	Commscope - LNX-6515DS-A1M - Panel			
-		3	Ericsson - KRY 112 144/1 - TMA/TTA			
-		3	Ericsson - S11B12 - RRU			
13	150.0	6	Powerwave - 7700.00 – Panel	Low Profile Platform	(12) 1 5/8" (2) DC (1) Fiber	AT&T
14		2	Powerwave - P65-17-XLH-RR - Panel			
15		1	KMW - AM-X-CD-14-65-00T - Panel			
16		6	Powerwave - LGP21401 - TMA			
17		6	Powerwave - LGP13519 - TMA			
18		6	Ericsson - RRUS 11 - RRU			
19		1	Raycap - DC6-48-60-18-8F - Surge Suppressor			
20	140.0	2	Commscope - LNX-8513DS-VTM - Panel	Low Profile Platform	*(12) 1 5/8" *(2) 1 5/8" Hybrid	Verizon
21		2	RFS - APL866513 - Panel			
22		6	Commscope - HBXX-6517DS-A2M - Panel			
23		3	Commscope - LNX-6414DS-A1M - Panel			
24		3	ALU - RRH2x40 700 - RRU			
25		3	ALU - RRH2x60-2100 - RRU			
26		1	RFS - DB-T1-6Z-8AB-0Z - Junction Box			

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
8	167.0	3	Ericsson - Air 21 B2A/B4P - Panel	Low profile platform w/ Handrails & Reinforcement Kit (Sitepro PRK-1245; Commscope VSR.MS-B; Sitepro HRK-12-U; Sitepro PRK-SFS-L + (3) Pipe 2.5STD x 8' mount pipes; New Sitepro1 SCX x -43 cross-over plate assemblies	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
9		3	Ericsson - Air 21 B4A/B2P - Panel			
10		3	RFS - APXVAARR24_43-U-NA20 - Panel			
11		3	Ericsson - KRY 112 144/1 - TMA			
12		3	Radio - 4449 B71+B12 - RRU			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**89.0%**	**75.9%**	**73.4%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	5768.0	46.3	59.5
Analysis Reactions	6587.5	54.0	66.8
Factored Reactions*	7786.8	62.5	80.3
% of Design Reactions	84.6%	86.4%	83.2%

* Per section 15.6.2 of the TIA-222-H standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-H for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.7719 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

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

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

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

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

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

Usage Diagram - Max Ratio 88.97% at 0.0ft

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

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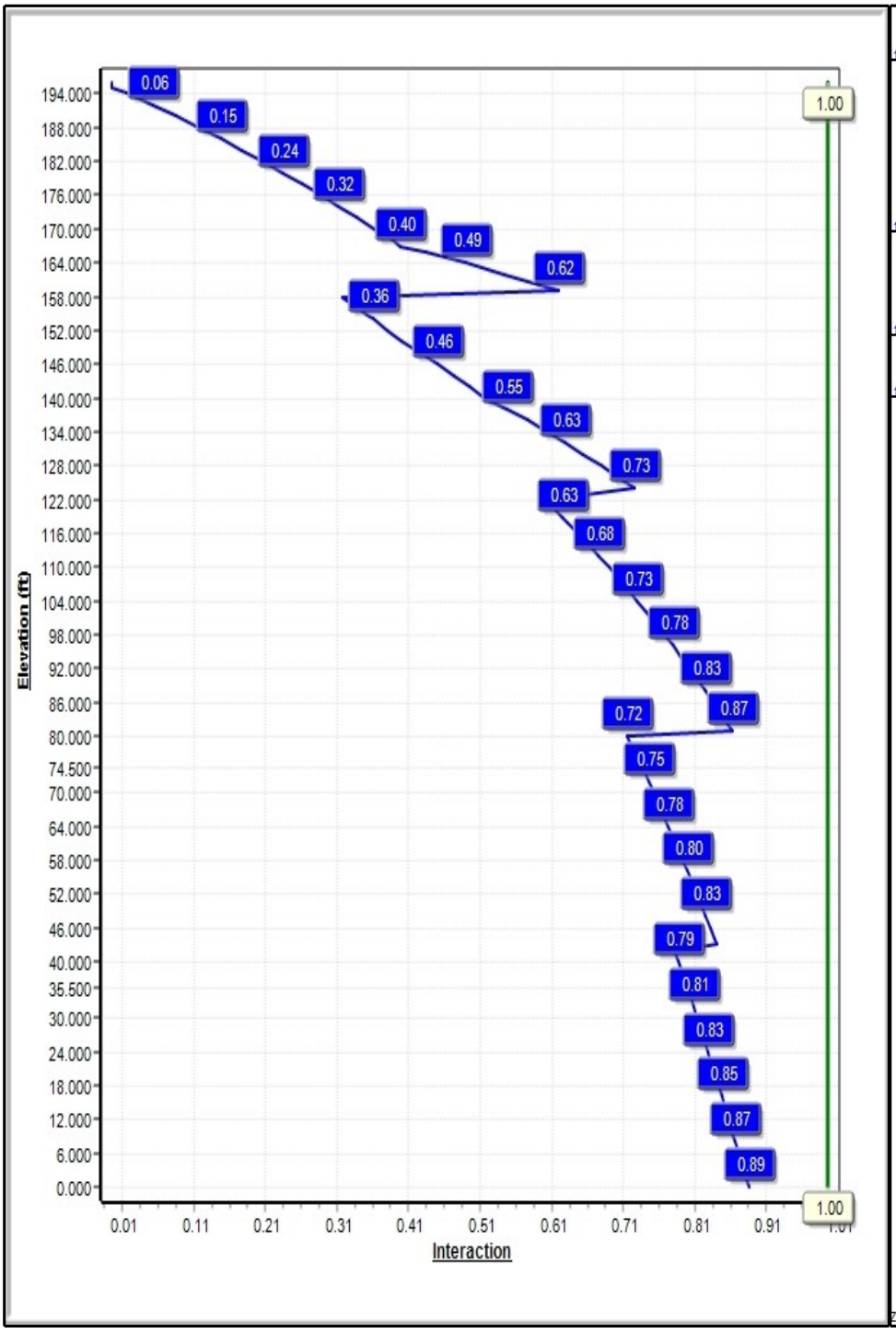
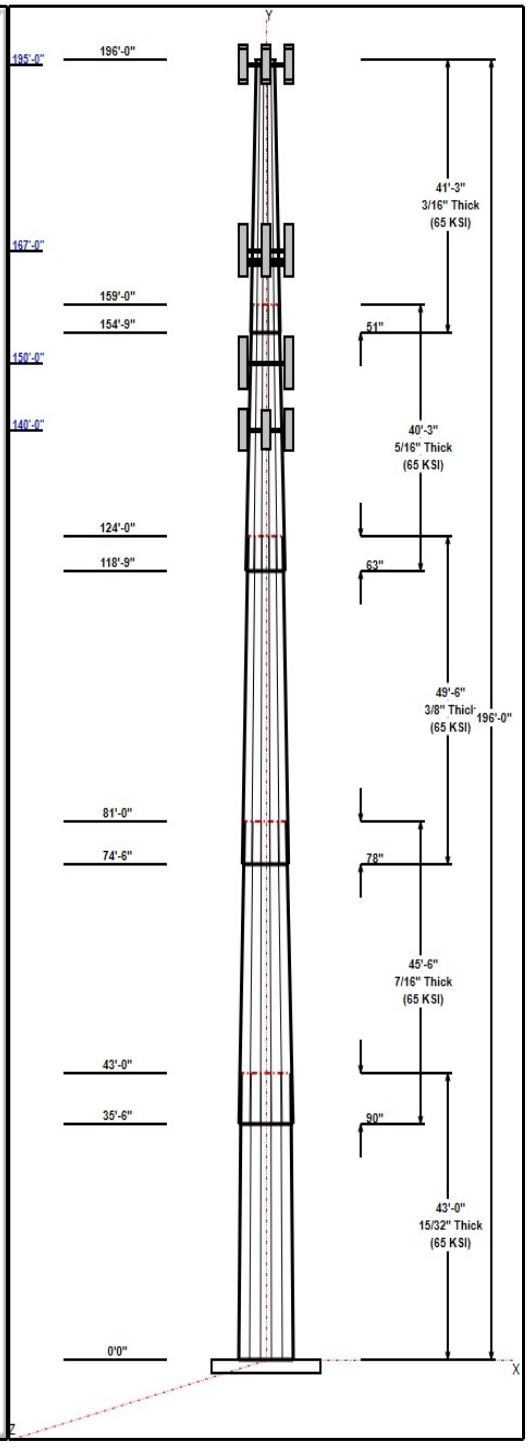
Dead Load Factor:	1.20	**Iterations:**	32
Wind Load Factor:	1.00		

Load Case : 1.2D + 1.0W 128 mph Wind





Structure: CT00595-S-SBA

Type: Tapered
Site Name: Stonington East
Height: 196.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.25120

7/17/2019

Tower Engineering Solutions

Shaft Properties

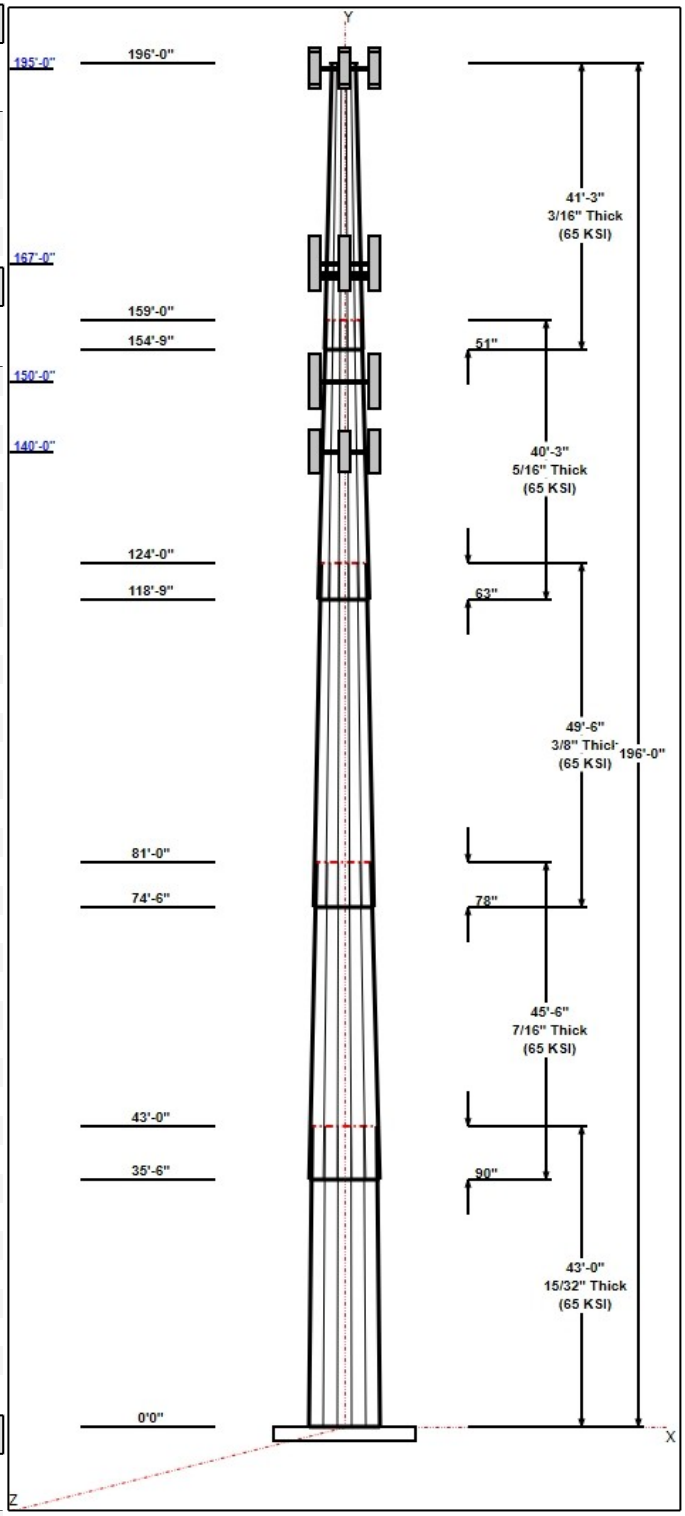
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	43.00	53.20	64.00	0.469		0.25120	65
2	45.50	44.53	55.96	0.438	Slip	0.25120	65
3	49.50	34.48	46.91	0.375	Slip	0.25120	65
4	40.25	26.31	36.42	0.313	Slip	0.25120	65
5	41.25	17.39	27.75	0.188	Slip	0.25120	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
196.00	196.00	1	6' Lightning rod	
195.00	195.00	3	APXVSPP18-C-A20	Sprint Nextel
195.00	195.00	3	APXVTM14-C-120	Sprint Nextel
195.00	195.00	3	1900MHz RRH	Sprint Nextel
195.00	195.00	3	TD-RRH8x20-25	Sprint Nextel
195.00	195.00	3	800MHz RRH	Sprint Nextel
195.00	195.00	3	800MHz Filter	Sprint Nextel
195.00	195.00	4	ACU-A20-N	Sprint Nextel
195.00	195.00	1	Low Profile Platform	Sprint Nextel
167.00	167.00	3	APXVAARR24_43-U-NA20	T-Mobile
167.00	167.00	1	PRK-1245 (kicker kit)	T-Mobile
167.00	167.00	1	(3) VSR-TS-B	T-Mobile
167.00	167.00	1	HRK12 (Handrail Kit)	T-Mobile
167.00	167.00	1	(3) SFS-H-L (V-Braces)	T-Mobile
167.00	167.00	3	4449	T-Mobile
167.00	167.00	3	AIR 21, 1.3M, B2A B4P	T-Mobile
167.00	167.00	3	AIR 21, 1.3M, B4A B2P	T-Mobile
167.00	167.00	3	KRY 112 144/1	T-Mobile
167.00	167.00	1	Low Profile	T-Mobile
150.00	150.00	6	7700.00	AT&T
150.00	150.00	2	P65-17-XLH-RR	AT&T
150.00	150.00	1	AM-X-CD-14-65-00T-RET	AT&T
150.00	150.00	6	LGP21401	AT&T
150.00	150.00	6	LGP13519	AT&T
150.00	150.00	6	RRUS 11	AT&T
150.00	150.00	1	DC6-48-60-18-8F	AT&T
150.00	150.00	1	Low Profile	AT&T
140.00	140.00	2	LNX-8513DS-VTM	Verizon
140.00	140.00	2	APL866513	Verizon
140.00	140.00	6	HBXX-6517DS-A2M	Verizon
140.00	140.00	3	LNX-6414DS-A1M	Verizon
140.00	140.00	3	RRH2x40 700	Verizon
140.00	140.00	3	RRH2x60-2100	Verizon
140.00	140.00	1	DB-T1-6Z-8AB-0Z	Verizon
140.00	140.00	1	Low Profile Platform	Verizon
30.00	30.00	1	GPS	Sprint Nextel

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	195.00	Inside	1 1/4" Coax	Sprint Nextel
0.00	167.00	Inside	1 5/8" Coax	T-Mobile
0.00	167.00	Inside	1 5/8" Fiber	T-Mobile
0.00	150.00	Inside	1 5/8" Coax	AT&T
0.00	150.00	Inside	DC	AT&T



0.00	150.00	Inside	Fiber	AT&T
0.00	140.00	Outside	1 5/8" Coax	Verizon
0.00	140.00	Outside	1 5/8" Hybrid	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.5000	78.8	60.0	Polygon

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 128 mph Wind	6587.5	54.0	66.8
0.9D + 1.0W 128 mph Wind	6511.4	54.0	50.1
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1392.7	11.0	89.9
1.2D + 1.0Ev + 1.0Eh	207.1	2.0	66.9
0.9D + 1.0Ev + 1.0Eh	204.7	2.0	50.1
1.0D + 1.0W 60 mph Wind	1439.4	11.9	55.7

Structure: CT00595-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Stonington East
Height: 196.00 (ft)

7/17/2019

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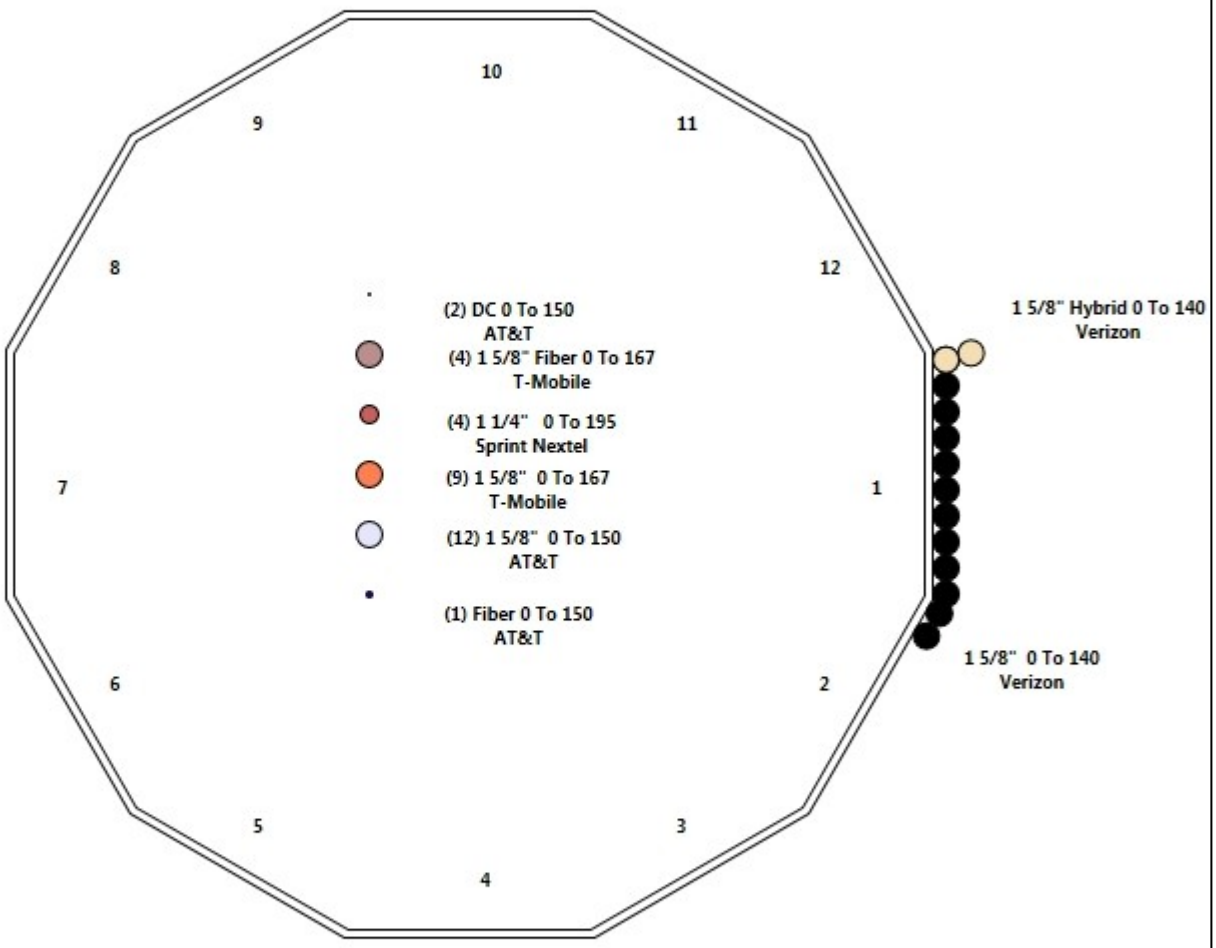

Shaft Properties

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (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

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	43.000	0.4688	65		0.00	12,838
2	12	45.500	0.4375	65	Slip	90.00	10,863
3	12	49.500	0.3750	65	Slip	78.00	8,200
4	12	40.250	0.3125	65	Slip	63.00	4,280
5	12	41.250	0.1875	65	Slip	51.00	1,897
					Total Shaft Weight:		**38,078**

	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	64.00	0.00	95.89	49402.09	34.44	136.53	53.20	43.00	79.59	28245.4	28.27	113.4	0.251199
2	55.96	35.50	78.21	30772.78	32.13	127.90	44.53	81.00	62.11	15411.7	25.13	101.7	0.251199
3	46.91	74.50	56.19	15532.14	31.38	125.10	34.48	124.00	41.18	6112.05	22.49	91.94	0.251199
4	36.42	118.7	36.33	6046.28	29.08	116.54	26.31	159.00	26.16	2256.60	20.42	84.19	0.251199
5	27.75	154.7	16.64	1613.96	37.52	148.01	17.39	196.00	10.39	392.30	22.71	92.75	0.251199

Load Summary

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (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	196.00	6' Lightning rod	1	6.50	0.38	1.00	31.36	1.125	1.00	0.00	0.00
2	195.00	APXVSPP18-C-A20	3	57.00	8.02	0.83	175.30	9.932	0.85	0.00	0.00
3	195.00	APXVTM14-C-120	3	56.00	6.34	0.79	158.87	7.086	0.81	0.00	0.00
4	195.00	1900MHz RRH	3	44.00	3.80	0.67	118.71	4.751	0.67	0.00	0.00
5	195.00	TD-RRH8x20-25	3	70.00	4.05	0.67	140.71	4.592	0.67	0.00	0.00
6	195.00	800MHz RRH	3	59.50	2.64	0.67	112.89	3.432	0.67	0.00	0.00
7	195.00	800MHz Filter	3	8.80	0.78	0.50	20.87	1.223	0.50	0.00	0.00
8	195.00	ACU-A20-N	4	1.00	0.14	0.50	3.94	0.343	0.50	0.00	0.00
9	195.00	Low Profile Platform	1	1500.00	22.00	1.00	2395.80	34.087	1.00	0.00	0.00
10	167.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	431.29	21.506	0.71	0.00	0.00
11	167.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	683.61	16.203	1.00	0.00	0.00
12	167.00	(3) VSR-TS-B	1	369.30	11.43	1.00	612.51	21.108	1.00	0.00	0.00
13	167.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	471.02	11.195	1.00	0.00	0.00
14	167.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	446.39	11.428	1.00	0.00	0.00
15	167.00	4449	3	70.00	1.65	0.67	135.86	2.038	0.67	0.00	0.00
16	167.00	AIR 21, 1.3M, B2A B4P	3	91.50	6.09	0.83	198.21	6.813	0.83	0.00	0.00
17	167.00	AIR 21, 1.3M, B4A B2P	3	90.30	6.09	0.83	197.01	6.813	0.83	0.00	0.00
18	167.00	KRY 112 144/1	3	11.00	0.41	0.50	18.27	0.730	0.50	0.00	0.00
19	167.00	Low Profile Platform-Round	1	1500.00	22.00	0.00	2382.03	33.901	0.00	0.00	0.00
20	150.00	7700.00	6	16.00	1.73	0.79	48.59	2.111	0.81	0.00	0.00
21	150.00	P65-17-XLH-RR	2	59.00	11.44	0.75	203.40	13.596	0.77	0.00	0.00
22	150.00	AM-X-CD-14-65-00T-RET	1	36.40	5.00	0.75	110.75	6.250	0.77	0.00	0.00
23	150.00	LGP21401	6	14.10	1.29	0.50	30.77	1.847	0.50	0.00	0.00
24	150.00	LGP13519	6	5.30	0.34	0.50	11.63	0.643	0.50	0.00	0.00
25	150.00	RRUS 11	6	50.70	2.52	0.67	105.79	2.942	0.67	0.00	0.00
26	150.00	DC6-48-60-18-8F	1	31.80	1.47	1.00	73.02	1.937	1.00	0.00	0.00
27	150.00	Low Profile Platform-Round	1	1500.00	22.00	0.00	2372.61	33.774	0.00	0.00	0.00
28	140.00	LNX-8513DS-VTM	2	26.30	8.17	0.83	143.02	10.039	0.85	0.00	0.00
29	140.00	APL866513	2	15.70	4.05	0.93	94.73	4.643	0.94	0.00	0.00
30	140.00	HBXX-6517DS-A2M	6	40.80	8.55	0.83	157.49	10.482	0.85	0.00	0.00
31	140.00	LNX-6414DS-A1M	3	33.10	8.09	0.80	148.77	9.941	0.82	0.00	0.00
32	140.00	RRH2x40 700	3	50.00	2.48	0.67	98.71	3.247	0.67	0.00	0.00
33	140.00	RRH2x60-2100	3	19.50	1.51	0.67	55.42	1.860	0.67	0.00	0.00
34	140.00	DB-T1-6Z-8AB-0Z	1	18.90	4.80	0.50	108.42	5.365	0.50	0.00	0.00
35	140.00	Low Profile Platform	1	1500.00	22.00	1.00	2366.61	33.693	1.00	0.00	0.00
36	30.00	GPS	1	10.00	1.00	1.00	26.64	1.404	1.00	0.00	0.00
		Totals:	**95**	**10,763.03**			**21,137.11**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	195.00	(4) 1 1/4" Coax	0.00	Inside
0.00	167.00	(9) 1 5/8" Coax	0.00	Inside
0.00	167.00	(4) 1 5/8" Fiber	0.00	Inside
0.00	150.00	(12) 1 5/8" Coax	0.00	Inside
0.00	150.00	(2) DC	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
0.00	150.00	(1) Fiber			0.00	Inside					
0.00	140.00	(12) 1 5/8" Coax			0.00	Outside					
0.00	140.00	(2) 1 5/8" Hybrid			4.00	Outside					

Shaft Section Properties

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

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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		0.4688	64.000	95.892	49402.1	34.44	136.53	67.2	1491.	0.0
2.00		0.4688	63.498	95.134	48239.3	34.15	135.46	67.5	1467.	650.0
4.00		0.4688	62.995	94.376	47095.0	33.87	134.39	67.8	1444.	644.9
6.00		0.4688	62.493	93.618	45968.8	33.58	133.32	68.1	1421.	639.7
8.00		0.4688	61.990	92.859	44860.8	33.29	132.25	68.4	1398.	634.5
10.00		0.4688	61.488	92.101	43770.7	33.00	131.17	68.7	1375.	629.4
12.00		0.4688	60.986	91.343	42698.5	32.72	130.10	69.0	1352.	624.2
14.00		0.4688	60.483	90.584	41643.9	32.43	129.03	69.3	1330.	619.1
16.00		0.4688	59.981	89.826	40606.7	32.14	127.96	69.7	1307.	613.9
18.00		0.4688	59.478	89.068	39587.0	31.86	126.89	70.0	1285.	608.7
20.00		0.4688	58.976	88.309	38584.5	31.57	125.82	70.3	1263.	603.6
22.00		0.4688	58.474	87.551	37599.0	31.28	124.74	70.6	1242.	598.4
24.00		0.4688	57.971	86.793	36630.5	30.99	123.67	70.9	1220.	593.3
26.00		0.4688	57.469	86.034	35678.7	30.71	122.60	71.2	1199.	588.1
28.00		0.4688	56.966	85.276	34743.6	30.42	121.53	71.5	1178.	582.9
30.00		0.4688	56.464	84.518	33825.0	30.13	120.46	71.9	1157.	577.8
32.00		0.4688	55.962	83.760	32922.7	29.85	119.38	72.2	1136.	572.6
34.00		0.4688	55.459	83.001	32036.6	29.56	118.31	72.5	1116.	567.5
35.50	Bot - Section 2	0.4688	55.082	82.433	31382.5	29.34	117.51	72.7	1100.	422.2
36.00		0.4688	54.957	82.243	31166.5	29.27	117.24	72.8	1095.	273.0
38.00		0.4688	54.454	81.485	30312.3	28.98	116.17	73.1	1075.	1085.8
40.00		0.4688	53.952	80.726	29473.9	28.70	115.10	73.4	1055.	1075.8
42.00		0.4688	53.450	79.968	28651.1	28.41	114.03	73.7	1035.	1065.8
43.00	Top - Section 1	0.4375	54.073	75.560	27745.2	30.97	123.60	0.0	0.0	529.2
44.00		0.4375	53.822	75.206	27357.2	30.82	123.02	71.1	981.9	256.5
46.00		0.4375	53.320	74.498	26592.1	30.51	121.87	71.4	963.5	509.4
48.00		0.4375	52.817	73.790	25841.3	30.20	120.73	71.8	945.2	504.6
50.00		0.4375	52.315	73.082	25104.9	29.90	119.58	72.1	927.1	499.8
52.00		0.4375	51.813	72.375	24382.6	29.59	118.43	72.4	909.1	495.0
54.00		0.4375	51.310	71.667	23674.2	29.28	117.28	72.8	891.3	490.1
56.00		0.4375	50.808	70.959	22979.7	28.97	116.13	73.1	873.8	485.3
58.00		0.4375	50.305	70.251	22299.0	28.67	114.98	73.4	856.3	480.5
60.00		0.4375	49.803	69.544	21631.8	28.36	113.84	73.8	839.1	475.7
62.00		0.4375	49.301	68.836	20978.0	28.05	112.69	74.1	822.0	470.9
64.00		0.4375	48.798	68.128	20337.6	27.74	111.54	74.5	805.1	466.1
66.00		0.4375	48.296	67.420	19710.3	27.44	110.39	74.8	788.4	461.2
68.00		0.4375	47.793	66.713	19096.1	27.13	109.24	75.1	771.9	456.4
70.00		0.4375	47.291	66.005	18494.7	26.82	108.09	75.5	755.5	451.6
72.00		0.4375	46.789	65.297	17906.1	26.51	106.95	75.8	739.3	446.8
74.00		0.4375	46.286	64.589	17330.2	26.20	105.80	76.1	723.3	442.0
74.50	Bot - Section 3	0.4375	46.161	64.413	17188.1	26.13	105.51	76.2	719.3	109.7
76.00		0.4375	45.784	63.882	16766.7	25.90	104.65	76.5	707.5	613.1
78.00		0.4375	45.281	63.174	16215.6	25.59	103.50	76.8	691.8	809.6
80.00		0.4375	44.779	62.466	15676.7	25.28	102.35	77.1	676.3	800.7
81.00	Top - Section 2	0.3750	45.278	54.220	13953.9	30.21	120.74	0.0	0.0	397.0
82.00		0.3750	45.027	53.917	13721.0	30.03	120.07	72.0	588.7	184.0
84.00		0.3750	44.524	53.310	13263.1	29.67	118.73	72.4	575.5	364.9
86.00		0.3750	44.022	52.704	12815.4	29.31	117.39	72.7	562.4	360.7
88.00		0.3750	43.519	52.097	12378.0	28.95	116.05	73.1	549.5	356.6
90.00		0.3750	43.017	51.490	11950.6	28.59	114.71	73.5	536.7	352.5

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)
92.00		0.3750	42.515	50.884	11533.1	28.23	113.37	73.9	524.1	348.4
94.00		0.3750	42.012	50.277	11125.5	27.88	112.03	74.3	511.6	344.2
96.00		0.3750	41.510	49.670	10727.6	27.52	110.69	74.7	499.3	340.1
98.00		0.3750	41.007	49.064	10339.4	27.16	109.35	75.1	487.1	336.0
100.00		0.3750	40.505	48.457	9960.6	26.80	108.01	75.5	475.1	331.8
102.00		0.3750	40.003	47.850	9591.1	26.44	106.67	75.9	463.2	327.7
104.00		0.3750	39.500	47.244	9230.9	26.08	105.33	76.3	451.5	323.6
106.00		0.3750	38.998	46.637	8879.9	25.72	103.99	76.7	439.9	319.5
108.00		0.3750	38.496	46.031	8537.9	25.36	102.65	77.1	428.5	315.3
110.00		0.3750	37.993	45.424	8204.7	25.00	101.31	77.4	417.2	311.2
112.00		0.3750	37.491	44.817	7880.4	24.64	99.98	77.8	406.1	307.1
114.00		0.3750	36.988	44.211	7564.7	24.29	98.64	78.2	395.1	302.9
116.00		0.3750	36.486	43.604	7257.5	23.93	97.30	78.6	384.3	298.8
118.00		0.3750	35.984	42.997	6958.8	23.57	95.96	79.0	373.6	294.7
118.75	Bot - Section 4	0.3750	35.795	42.770	6848.9	23.43	95.45	79.2	369.6	109.4
120.00		0.3750	35.481	42.391	6668.4	23.21	94.62	79.4	363.1	335.0
122.00		0.3750	34.979	41.784	6386.2	22.85	93.28	79.8	352.7	529.8
124.00	Top - Section 3	0.3125	35.101	35.006	5407.7	27.95	112.32	0.0	0.0	522.3
126.00		0.3125	34.599	34.501	5176.8	27.52	110.72	74.7	289.0	236.5
128.00		0.3125	34.097	33.995	4952.5	27.09	109.11	75.2	280.6	233.1
130.00		0.3125	33.594	33.490	4734.8	26.66	107.50	75.6	272.3	229.6
132.00		0.3125	33.092	32.984	4523.6	26.23	105.89	76.1	264.1	226.2
134.00		0.3125	32.589	32.479	4318.8	25.80	104.29	76.6	256.0	222.8
136.00		0.3125	32.087	31.973	4120.3	25.37	102.68	77.0	248.1	219.3
138.00		0.3125	31.585	31.467	3927.9	24.94	101.07	77.5	240.2	215.9
140.00		0.3125	31.082	30.962	3741.6	24.51	99.46	78.0	232.6	212.4
142.00		0.3125	30.580	30.456	3561.3	24.08	97.86	78.5	225.0	209.0
144.00		0.3125	30.077	29.951	3386.9	23.65	96.25	78.9	217.5	205.6
146.00		0.3125	29.575	29.445	3218.3	23.22	94.64	79.4	210.2	202.1
148.00		0.3125	29.073	28.940	3055.3	22.78	93.03	79.9	203.0	198.7
150.00		0.3125	28.570	28.434	2898.0	22.35	91.42	80.3	196.0	195.2
152.00		0.3125	28.068	27.929	2746.2	21.92	89.82	80.8	189.0	191.8
154.00		0.3125	27.565	27.423	2599.7	21.49	88.21	81.3	182.2	188.4
154.75	Bot - Section 5	0.3125	27.377	27.234	2546.2	21.33	87.61	81.5	179.7	69.7
156.00		0.3125	27.063	26.918	2458.6	21.06	86.60	81.7	175.5	185.5
158.00		0.3125	26.561	26.412	2322.6	20.63	84.99	81.9	168.9	292.4
159.00	Top - Section 4	0.1875	26.684	15.997	1433.6	35.99	142.32	0.0	0.0	144.1
160.00		0.1875	26.433	15.846	1393.2	35.63	140.98	65.9	101.8	54.2
162.00		0.1875	25.931	15.542	1314.7	34.91	138.30	66.6	97.9	106.8
164.00		0.1875	25.428	15.239	1239.2	34.20	135.62	67.4	94.1	104.7
166.00		0.1875	24.926	14.936	1166.7	33.48	132.94	68.2	90.4	102.7
167.00		0.1875	24.675	14.784	1131.5	33.12	131.60	68.6	88.6	50.6
168.00		0.1875	24.424	14.633	1097.1	32.76	130.26	69.0	86.8	50.0
170.00		0.1875	23.921	14.329	1030.2	32.04	127.58	69.8	83.2	98.6
172.00		0.1875	23.419	14.026	966.2	31.32	124.90	70.6	79.7	96.5
174.00		0.1875	22.916	13.723	904.9	30.61	122.22	71.3	76.3	94.4
176.00		0.1875	22.414	13.419	846.2	29.89	119.54	72.1	72.9	92.4
178.00		0.1875	21.912	13.116	790.1	29.17	116.86	72.9	69.7	90.3
180.00		0.1875	21.409	12.813	736.5	28.45	114.18	73.7	66.5	88.2
182.00		0.1875	20.907	12.509	685.4	27.73	111.50	74.5	63.3	86.2
184.00		0.1875	20.404	12.206	636.8	27.02	108.82	75.3	60.3	84.1
186.00		0.1875	19.902	11.903	590.5	26.30	106.14	76.0	57.3	82.0
188.00		0.1875	19.400	11.599	546.5	25.58	103.46	76.8	54.4	80.0
190.00		0.1875	18.897	11.296	504.7	24.86	100.79	77.6	51.6	77.9
192.00		0.1875	18.395	10.993	465.1	24.14	98.11	78.4	48.8	75.8
194.00		0.1875	17.892	10.689	427.7	23.43	95.43	79.2	46.2	73.8
195.00		0.1875	17.641	10.538	409.7	23.07	94.09	79.6	44.9	36.1
196.00		0.1875	17.390	10.386	392.3	22.71	92.75	79.9	43.6	35.6
										38078.0

Wind Loading - Shaft

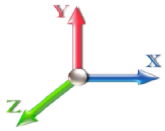
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 128 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

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	33.806	37.19	650.99	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	33.806	37.19	645.88	0.950	0.000	2.00	11.000	10.45	388.6	0.0	780.0
4.00		1.00	0.85	33.806	37.19	640.77	0.950	0.000	2.00	10.913	10.37	385.5	0.0	773.8
6.00		1.00	0.85	33.806	37.19	635.66	0.950	0.000	2.00	10.826	10.28	382.5	0.0	767.6
8.00		1.00	0.85	33.806	37.19	630.55	0.950	0.000	2.00	10.740	10.20	379.4	0.0	761.4
10.00		1.00	0.85	33.806	37.19	625.44	0.950	0.000	2.00	10.653	10.12	376.3	0.0	755.3
12.00		1.00	0.85	33.806	37.19	620.33	0.950	0.000	2.00	10.566	10.04	373.3	0.0	749.1
14.00		1.00	0.85	33.806	37.19	615.22	0.950	0.000	2.00	10.479	9.96	370.2	0.0	742.9
16.00		1.00	0.86	34.224	37.65	613.86	0.950	0.000	2.00	10.393	9.87	371.7	0.0	736.7
18.00		1.00	0.88	35.083	38.59	616.31	0.950	0.000	2.00	10.306	9.79	377.8	0.0	730.5
20.00		1.00	0.90	35.870	39.46	617.92	0.950	0.000	2.00	10.219	9.71	383.1	0.0	724.3
22.00		1.00	0.92	36.597	40.26	618.84	0.950	0.000	2.00	10.133	9.63	387.5	0.0	718.1
24.00		1.00	0.94	37.274	41.00	619.17	0.950	0.000	2.00	10.046	9.54	391.3	0.0	711.9
26.00		1.00	0.95	37.907	41.70	618.99	0.950	0.000	2.00	9.959	9.46	394.5	0.0	705.7
28.00		1.00	0.97	38.503	42.35	618.39	0.950	0.000	2.00	9.873	9.38	397.2	0.0	699.5
30.00	Appurtenance(s)	1.00	0.98	39.066	42.97	617.40	0.950	0.000	2.00	9.786	9.30	399.5	0.0	693.3
32.00		1.00	1.00	39.601	43.56	616.08	0.950	0.000	2.00	9.699	9.21	401.4	0.0	687.1
34.00		1.00	1.01	40.110	44.12	614.46	0.950	0.000	2.00	9.613	9.13	402.9	0.0	680.9
35.50	Bot - Section 2	1.00	1.02	40.476	44.52	613.06	0.950	0.000	1.50	7.153	6.79	302.5	0.0	506.6
36.00		1.00	1.02	40.595	44.65	612.56	0.950	0.000	0.50	2.411	2.29	102.3	0.0	327.6
38.00		1.00	1.03	41.060	45.17	610.43	0.950	0.000	2.00	9.590	9.11	411.5	0.0	1303.0
40.00		1.00	1.04	41.506	45.66	608.07	0.950	0.000	2.00	9.504	9.03	412.2	0.0	1291.0
42.00		1.00	1.05	41.934	46.13	605.51	0.950	0.000	2.00	9.417	8.95	412.7	0.0	1279.0
43.00	Top - Section 1	1.00	1.06	42.142	46.36	604.16	0.950	0.000	1.00	4.676	4.44	205.9	0.0	635.0
44.00		1.00	1.06	42.347	46.58	612.72	0.950	0.000	1.00	4.654	4.42	206.0	0.0	307.8
46.00		1.00	1.07	42.745	47.02	609.85	0.950	0.000	2.00	9.243	8.78	412.9	0.0	611.3
48.00		1.00	1.08	43.130	47.44	606.82	0.950	0.000	2.00	9.157	8.70	412.7	0.0	605.5
50.00		1.00	1.09	43.502	47.85	603.63	0.950	0.000	2.00	9.070	8.62	412.3	0.0	599.7
52.00		1.00	1.10	43.863	48.25	600.31	0.950	0.000	2.00	8.983	8.53	411.8	0.0	594.0
54.00		1.00	1.11	44.213	48.63	596.86	0.950	0.000	2.00	8.897	8.45	411.0	0.0	588.2
56.00		1.00	1.12	44.552	49.01	593.28	0.950	0.000	2.00	8.810	8.37	410.2	0.0	582.4
58.00		1.00	1.13	44.883	49.37	589.59	0.950	0.000	2.00	8.723	8.29	409.1	0.0	576.6
60.00		1.00	1.14	45.204	49.72	585.79	0.950	0.000	2.00	8.637	8.20	408.0	0.0	570.8
62.00		1.00	1.14	45.517	50.07	581.88	0.950	0.000	2.00	8.550	8.12	406.7	0.0	565.1
64.00		1.00	1.15	45.823	50.40	577.88	0.950	0.000	2.00	8.463	8.04	405.3	0.0	559.3
66.00		1.00	1.16	46.120	50.73	573.79	0.950	0.000	2.00	8.377	7.96	403.7	0.0	553.5
68.00		1.00	1.17	46.411	51.05	569.60	0.950	0.000	2.00	8.290	7.88	402.1	0.0	547.7
70.00		1.00	1.17	46.695	51.36	565.34	0.950	0.000	2.00	8.203	7.79	400.3	0.0	541.9
72.00		1.00	1.18	46.973	51.67	560.99	0.950	0.000	2.00	8.117	7.71	398.4	0.0	536.2
74.00		1.00	1.19	47.245	51.97	556.57	0.950	0.000	2.00	8.030	7.63	396.4	0.0	530.4
74.50	Bot - Section 3	1.00	1.19	47.312	52.04	555.46	0.950	0.000	0.50	1.994	1.89	98.6	0.0	131.7
76.00		1.00	1.19	47.511	52.26	552.08	0.950	0.000	1.50	6.046	5.74	300.2	0.0	735.7
78.00		1.00	1.20	47.771	52.55	547.52	0.950	0.000	2.00	7.986	7.59	398.7	0.0	971.5
80.00		1.00	1.21	48.027	52.83	542.89	0.950	0.000	2.00	7.899	7.50	396.4	0.0	960.8
81.00	Top - Section 2	1.00	1.21	48.152	52.97	540.55	0.950	0.000	1.00	3.917	3.72	197.1	0.0	476.4
82.00		1.00	1.21	48.277	53.10	547.31	0.950	0.000	1.00	3.895	3.70	196.5	0.0	220.8
84.00		1.00	1.22	48.522	53.37	542.58	0.950	0.000	2.00	7.726	7.34	391.7	0.0	437.8

Wind Loading - Shaft

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (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

86.00	1.00	1.23	48.763	53.64	537.79	0.950	0.000	2.00	7.639	7.26	389.3	0.0	432.9
88.00	1.00	1.23	49.000	53.90	532.94	0.950	0.000	2.00	7.552	7.17	386.7	0.0	427.9
90.00	1.00	1.24	49.232	54.16	528.03	0.950	0.000	2.00	7.466	7.09	384.1	0.0	423.0
92.00	1.00	1.24	49.461	54.41	523.07	0.950	0.000	2.00	7.379	7.01	381.4	0.0	418.0
94.00	1.00	1.25	49.685	54.65	518.06	0.950	0.000	2.00	7.292	6.93	378.6	0.0	413.1
96.00	1.00	1.25	49.906	54.90	513.00	0.950	0.000	2.00	7.206	6.85	375.8	0.0	408.1
98.00	1.00	1.26	50.123	55.14	507.90	0.950	0.000	2.00	7.119	6.76	372.9	0.0	403.2
100.00	1.00	1.27	50.337	55.37	502.74	0.950	0.000	2.00	7.032	6.68	369.9	0.0	398.2
102.00	1.00	1.27	50.547	55.60	497.54	0.950	0.000	2.00	6.946	6.60	366.9	0.0	393.3
104.00	1.00	1.28	50.754	55.83	492.30	0.950	0.000	2.00	6.859	6.52	363.8	0.0	388.3
106.00	1.00	1.28	50.958	56.05	487.01	0.950	0.000	2.00	6.772	6.43	360.6	0.0	383.3
108.00	1.00	1.29	51.159	56.27	481.69	0.950	0.000	2.00	6.686	6.35	357.4	0.0	378.4
110.00	1.00	1.29	51.357	56.49	476.32	0.953 *	0.000	2.00	6.599	6.29	355.2	0.0	373.4
112.00	1.00	1.30	51.552	56.71	470.91	0.957 *	0.000	2.00	6.512	6.23	353.3	0.0	368.5
114.00	1.00	1.30	51.744	56.92	465.47	0.961 *	0.000	2.00	6.426	6.17	351.4	0.0	363.5
116.00	1.00	1.31	51.934	57.13	459.99	0.965 *	0.000	2.00	6.339	6.12	349.4	0.0	358.6
118.00	1.00	1.31	52.121	57.33	454.47	0.969 *	0.000	2.00	6.252	6.06	347.3	0.0	353.6
118.75 Bot - Section 4	1.00	1.31	52.191	57.41	452.39	0.972 *	0.000	0.75	2.322	2.26	129.6	0.0	131.3
120.00	1.00	1.32	52.306	57.54	448.92	0.974 *	0.000	1.25	3.911	3.81	219.2	0.0	402.0
122.00	1.00	1.32	52.489	57.74	443.33	0.978 *	0.000	2.00	6.187	6.05	349.2	0.0	635.8
124.00 Top - Section 3	1.00	1.32	52.669	57.94	437.71	0.982 *	0.000	2.00	6.100	5.99	347.1	0.0	626.7
126.00	1.00	1.33	52.846	58.13	440.01	0.981 *	0.000	2.00	6.013	5.90	342.9	0.0	283.8
128.00	1.00	1.33	53.022	58.32	434.34	0.986 *	0.000	2.00	5.927	5.84	340.7	0.0	279.7
130.00	1.00	1.34	53.195	58.51	428.64	0.990 *	0.000	2.00	5.840	5.78	338.4	0.0	275.6
132.00	1.00	1.34	53.366	58.70	422.91	0.995 *	0.000	2.00	5.753	5.73	336.1	0.0	271.4
134.00	1.00	1.35	53.536	58.89	417.15	1.000 *	0.000	2.00	5.667	5.67	333.8	0.0	267.3
136.00	1.00	1.35	53.703	59.07	411.36	1.006 *	0.000	2.00	5.580	5.61	331.4	0.0	263.2
138.00	1.00	1.35	53.868	59.25	405.54	1.011 *	0.000	2.00	5.493	5.55	329.0	0.0	259.0
140.00 Appurtenance(s)	1.00	1.36	54.032	59.43	399.69	1.016 *	0.000	2.00	5.406	5.50	326.6	0.0	254.9
142.00	1.00	1.36	54.193	59.61	393.82	0.950	0.000	2.00	5.320	5.05	301.3	0.0	250.8
144.00	1.00	1.37	54.353	59.79	387.92	0.950	0.000	2.00	5.233	4.97	297.2	0.0	246.7
146.00	1.00	1.37	54.511	59.96	382.00	0.950	0.000	2.00	5.146	4.89	293.2	0.0	242.5
148.00	1.00	1.37	54.667	60.13	376.05	0.950	0.000	2.00	5.060	4.81	289.0	0.0	238.4
150.00 Appurtenance(s)	1.00	1.38	54.822	60.30	370.07	0.950	0.000	2.00	4.973	4.72	284.9	0.0	234.3
152.00	1.00	1.38	54.975	60.47	364.07	0.950	0.000	2.00	4.886	4.64	280.7	0.0	230.1
154.00	1.00	1.39	55.127	60.64	358.05	0.950	0.000	2.00	4.800	4.56	276.5	0.0	226.0
154.75 Bot - Section 5	1.00	1.39	55.183	60.70	355.78	0.950	0.000	0.75	1.778	1.69	102.5	0.0	83.7
156.00	1.00	1.39	55.277	60.80	352.00	0.950	0.000	1.25	2.976	2.83	171.9	0.0	222.7
158.00	1.00	1.39	55.425	60.97	345.93	0.950	0.000	2.00	4.691	4.46	271.7	0.0	350.9
159.00 Top - Section 4	1.00	1.40	55.499	61.05	342.88	0.950	0.000	1.00	2.313	2.20	134.1	0.0	173.0
160.00	1.00	1.40	55.572	61.13	344.72	0.950	0.000	1.00	2.291	2.18	133.1	0.0	65.0
162.00	1.00	1.40	55.718	61.29	338.61	0.950	0.000	2.00	4.518	4.29	263.0	0.0	128.2
164.00	1.00	1.40	55.862	61.45	332.48	0.950	0.000	2.00	4.431	4.21	258.7	0.0	125.7
166.00	1.00	1.41	56.004	61.60	326.33	0.950	0.000	2.00	4.344	4.13	254.2	0.0	123.2
167.00 Appurtenance(s)	1.00	1.41	56.075	61.68	323.25	0.950	0.000	1.00	2.140	2.03	125.4	0.0	60.7
168.00	1.00	1.41	56.146	61.76	320.16	0.950	0.000	1.00	2.118	2.01	124.3	0.0	60.1
170.00	1.00	1.42	56.286	61.91	313.96	0.950	0.000	2.00	4.171	3.96	245.3	0.0	118.3
172.00	1.00	1.42	56.425	62.07	307.75	0.950	0.000	2.00	4.084	3.88	240.8	0.0	115.8
174.00	1.00	1.42	56.562	62.22	301.51	0.950	0.000	2.00	3.997	3.80	236.3	0.0	113.3
176.00	1.00	1.43	56.698	62.37	295.26	0.950	0.000	2.00	3.911	3.72	231.7	0.0	110.8
178.00	1.00	1.43	56.833	62.52	288.98	0.950	0.000	2.00	3.824	3.63	227.1	0.0	108.4
180.00	1.00	1.43	56.967	62.66	282.69	0.950	0.000	2.00	3.737	3.55	222.5	0.0	105.9
182.00	1.00	1.44	57.100	62.81	276.37	0.950	0.000	2.00	3.651	3.47	217.8	0.0	103.4
184.00	1.00	1.44	57.231	62.95	270.04	0.950	0.000	2.00	3.564	3.39	213.2	0.0	100.9
186.00	1.00	1.44	57.362	63.10	263.69	0.950	0.000	2.00	3.477	3.30	208.4	0.0	98.4
188.00	1.00	1.45	57.491	63.24	257.33	0.950	0.000	2.00	3.391	3.22	203.7	0.0	96.0
190.00	1.00	1.45	57.619	63.38	250.94	0.950	0.000	2.00	3.304	3.14	198.9	0.0	93.5

Wind Loading - Shaft

Structure: CT00595-S-SBA | **Code:** EIA/TIA-222-H | 7/17/2019
Site Name: Stonington East | **Exposure:** C
Height: 196.00 (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

192.00		1.00	1.45	57.747	63.52	244.54	0.950	0.000	2.00	3.217	3.06	194.1	0.0	91.0
194.00		1.00	1.46	57.873	63.66	238.12	0.950	0.000	2.00	3.131	2.97	189.3	0.0	88.5
195.00	Appurtenance(s)	1.00	1.46	57.935	63.73	234.91	0.950	0.000	1.00	1.533	1.46	92.8	0.0	43.3
196.00	Appurtenance(s)	1.00	1.46	57.998	63.80	231.69	0.950	0.000	1.00	1.511	1.44	91.6	0.0	42.7
								Totals:	**196.00**			**33,539.4**		**45,693.6**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

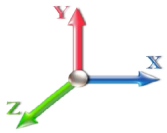
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 128 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	196.00	6' Lightning rod	1	57.998	63.798	1.00	1.00	0.38	7.80	0.000	0.000	24.24	0.00	0.00
2	195.00	TD-RRH8x20-25	3	57.935	63.729	0.54	0.80	6.51	252.00	0.000	0.000	415.03	0.00	0.00
3	195.00	APXVTM14-C-120	3	57.935	63.729	0.63	0.80	12.02	201.60	0.000	0.000	766.06	0.00	0.00
4	195.00	1900MHz RRH	3	57.935	63.729	0.54	0.80	6.11	158.40	0.000	0.000	389.41	0.00	0.00
5	195.00	APXVSPP18-C-A20	3	57.935	63.729	0.66	0.80	15.98	205.20	0.000	0.000	1018.12	0.00	0.00
6	195.00	800MHz Filter	3	57.935	63.729	0.40	0.80	0.94	31.68	0.000	0.000	59.65	0.00	0.00
7	195.00	ACU-A20-N	4	57.935	63.729	0.40	0.80	0.22	4.80	0.000	0.000	14.28	0.00	0.00
8	195.00	Low Profile Platform	1	57.935	63.729	1.00	1.00	22.00	1800.00	0.000	0.000	1402.04	0.00	0.00
9	195.00	800MHz RRH	3	57.935	63.729	0.54	0.80	4.25	214.20	0.000	0.000	270.54	0.00	0.00
10	167.00	(3) SFS-H-L (V-Braces)	1	56.075	61.683	1.00	1.00	6.70	276.00	0.000	0.000	413.27	0.00	0.00
11	167.00	PRK-1245 (kicker kit)	1	56.075	61.683	1.00	1.00	9.50	557.89	0.000	0.000	585.99	0.00	0.00
12	167.00	(3) VSR-TS-B	1	56.075	61.683	1.00	1.00	11.43	443.16	0.000	0.000	705.03	0.00	0.00
13	167.00	HRK12 (Handrail Kit)	1	56.075	61.683	1.00	1.00	6.75	314.06	0.000	0.000	416.36	0.00	0.00
14	167.00	AIR 21, 1.3M, B4A B2P	3	56.075	61.683	0.62	0.75	11.32	325.08	0.000	0.000	698.14	0.00	0.00
15	167.00	4449	3	56.075	61.683	0.50	0.75	2.49	252.00	0.000	0.000	153.43	0.00	0.00
16	167.00	AIR 21, 1.3M, B2A B4P	3	56.075	61.683	0.62	0.75	11.32	329.40	0.000	0.000	698.14	0.00	0.00
17	167.00	KRY 112 144/1	3	56.075	61.683	0.38	0.75	0.46	39.60	0.000	0.000	28.45	0.00	0.00
18	167.00	Low Profile	1	56.075	61.683	0.00	1.00	22.00	1800.00	0.000	0.000	1357.02	0.00	0.00
19	167.00	APXVAARR24_43-U-NA2	3	56.075	61.683	0.53	0.75	31.97	460.80	0.000	0.000	1971.94	0.00	0.00
20	150.00	DC6-48-60-18-8F	1	54.822	60.304	0.80	0.80	1.18	38.16	0.000	0.000	70.92	0.00	0.00
21	150.00	RRUS 11	6	54.822	60.304	0.54	0.80	8.10	365.04	0.000	0.000	488.73	0.00	0.00
22	150.00	LGP13519	6	54.822	60.304	0.40	0.80	0.82	38.16	0.000	0.000	49.21	0.00	0.00
23	150.00	LGP21401	6	54.822	60.304	0.40	0.80	3.10	101.52	0.000	0.000	186.70	0.00	0.00
24	150.00	AM-X-CD-14-65-00T-RET	1	54.822	60.304	0.60	0.80	3.00	43.68	0.000	0.000	180.91	0.00	0.00
25	150.00	P65-17-XLH-RR	2	54.822	60.304	0.60	0.80	13.73	141.60	0.000	0.000	827.86	0.00	0.00
26	150.00	7700.00	6	54.822	60.304	0.63	0.80	6.56	115.20	0.000	0.000	395.61	0.00	0.00
27	150.00	Low Profile	1	54.822	60.304	0.00	1.00	22.00	1800.00	0.000	0.000	1326.69	0.00	0.00
28	140.00	APL866513	2	54.032	59.435	0.74	0.80	6.03	37.68	0.000	0.000	358.18	0.00	0.00
29	140.00	HBXX-6517DS-A2M	6	54.032	59.435	0.66	0.80	34.06	293.76	0.000	0.000	2024.54	0.00	0.00
30	140.00	LNX-6414DS-A1M	3	54.032	59.435	0.64	0.80	15.53	119.16	0.000	0.000	923.19	0.00	0.00
31	140.00	LNX-8513DS-VTM	2	54.032	59.435	0.66	0.80	10.85	63.12	0.000	0.000	644.85	0.00	0.00
32	140.00	Low Profile Platform	1	54.032	59.435	0.80	0.80	17.60	1800.00	0.000	0.000	1046.05	0.00	0.00
33	140.00	RRH2x40 700	3	54.032	59.435	0.54	0.80	3.99	180.00	0.000	0.000	237.02	0.00	0.00
34	140.00	RRH2x60-2100	3	54.032	59.435	0.54	0.80	2.43	70.20	0.000	0.000	144.31	0.00	0.00
35	140.00	DB-T1-6Z-8AB-0Z	1	54.032	59.435	0.40	0.80	1.92	22.68	0.000	0.000	114.11	0.00	0.00
36	30.00	GPS	1	39.066	42.973	1.00	1.00	1.00	12.00	0.000	0.000	42.97	0.00	0.00
							Totals:		**12,915.64**			**20,448.99**		

Total Applied Force Summary

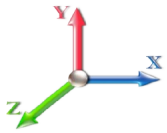
Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 128 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

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		388.59	886.63	0.00	0.00
4.00		385.53	880.44	0.00	0.00
6.00		382.47	874.25	0.00	0.00
8.00		379.40	868.05	0.00	0.00
10.00		376.34	861.86	0.00	0.00
12.00		373.28	855.67	0.00	0.00
14.00		370.22	849.48	0.00	0.00
16.00		371.69	843.28	0.00	0.00
18.00		377.84	837.09	0.00	0.00
20.00		383.07	830.90	0.00	0.00
22.00		387.52	824.71	0.00	0.00
24.00		391.30	818.51	0.00	0.00
26.00		394.52	812.32	0.00	0.00
28.00		397.23	806.13	0.00	0.00
30.00	(1) attachments	442.48	811.93	0.00	0.00
32.00		401.39	793.74	0.00	0.00
34.00		402.91	787.55	0.00	0.00
35.50		302.53	586.60	0.00	0.00
36.00		102.28	354.26	0.00	0.00
38.00		411.49	1409.57	0.00	0.00
40.00		412.20	1397.60	0.00	0.00
42.00		412.66	1385.63	0.00	0.00
43.00		205.92	688.32	0.00	0.00
44.00		205.96	361.12	0.00	0.00
46.00		412.89	717.90	0.00	0.00
48.00		412.70	712.12	0.00	0.00
50.00		412.32	706.34	0.00	0.00
52.00		411.77	700.56	0.00	0.00
54.00		411.05	694.78	0.00	0.00
56.00		410.17	689.00	0.00	0.00
58.00		409.15	683.22	0.00	0.00
60.00		407.98	677.44	0.00	0.00
62.00		406.68	671.66	0.00	0.00
64.00		405.26	665.88	0.00	0.00
66.00		403.72	660.10	0.00	0.00
68.00		402.06	654.32	0.00	0.00
70.00		400.29	648.54	0.00	0.00
72.00		398.42	642.76	0.00	0.00
74.00		396.44	636.98	0.00	0.00
74.50		98.58	158.34	0.00	0.00
76.00		300.19	815.64	0.00	0.00
78.00		398.66	1078.13	0.00	0.00
80.00		396.44	1067.39	0.00	0.00
81.00		197.11	529.67	0.00	0.00
82.00		196.52	274.08	0.00	0.00
84.00		391.75	544.45	0.00	0.00

Total Applied Force Summary

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 15

Tower Engineering Solutions

86.00		389.27	539.50	0.00	0.00
88.00		386.72	534.54	0.00	0.00
90.00		384.10	529.59	0.00	0.00
92.00		381.40	524.64	0.00	0.00
94.00		378.63	519.68	0.00	0.00
96.00		375.79	514.73	0.00	0.00
98.00		372.88	509.77	0.00	0.00
100.00		369.91	504.82	0.00	0.00
102.00		366.88	499.86	0.00	0.00
104.00		363.78	494.91	0.00	0.00
106.00		360.63	489.96	0.00	0.00
108.00		357.42	485.00	0.00	0.00
110.00		355.24	480.05	0.00	0.00
112.00		353.32	475.09	0.00	0.00
114.00		351.36	470.14	0.00	0.00
116.00		349.35	465.18	0.00	0.00
118.00		347.31	460.23	0.00	0.00
118.75		129.56	171.31	0.00	0.00
120.00		219.15	468.61	0.00	0.00
122.00		349.19	742.40	0.00	0.00
124.00		347.07	733.32	0.00	0.00
126.00		342.90	390.43	0.00	0.00
128.00		340.68	386.30	0.00	0.00
130.00		338.42	382.17	0.00	0.00
132.00		336.13	378.04	0.00	0.00
134.00		333.80	373.91	0.00	0.00
136.00		331.43	369.79	0.00	0.00
138.00		329.04	365.66	0.00	0.00
140.00	(21) attachments	5818.86	2948.13	0.00	0.00
142.00		301.27	322.17	0.00	0.00
144.00		297.23	318.04	0.00	0.00
146.00		293.16	313.91	0.00	0.00
148.00		289.05	309.78	0.00	0.00
150.00	(29) attachments	3811.52	2949.01	0.00	0.00
152.00		280.71	269.51	0.00	0.00
154.00		276.49	265.38	0.00	0.00
154.75		102.50	98.45	0.00	0.00
156.00		171.90	247.26	0.00	0.00
158.00		271.70	390.25	0.00	0.00
159.00		134.14	192.65	0.00	0.00
160.00		133.06	84.69	0.00	0.00
162.00		263.04	167.53	0.00	0.00
164.00		258.66	165.05	0.00	0.00
166.00		254.24	162.57	0.00	0.00
167.00	(20) attachments	7153.16	4878.35	0.00	0.00
168.00		124.26	63.23	0.00	0.00
170.00		245.32	124.60	0.00	0.00
172.00		240.82	122.12	0.00	0.00
174.00		236.28	119.64	0.00	0.00
176.00		231.71	117.17	0.00	0.00
178.00		227.12	114.69	0.00	0.00
180.00		222.49	112.21	0.00	0.00
182.00		217.84	109.73	0.00	0.00
184.00		213.15	107.26	0.00	0.00
186.00		208.44	104.78	0.00	0.00
188.00		203.71	102.30	0.00	0.00
190.00		198.94	99.83	0.00	0.00

Total Applied Force Summary

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 16

Tower Engineering Solutions

192.00		194.15	97.35	0.00	0.00
194.00		189.33	94.87	0.00	0.00
195.00	(23) attachments	4427.92	2914.39	0.00	0.00
196.00	(1) attachments	115.83	50.52	0.00	0.00
	Totals:	**53,988.36**	**66,851.95**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

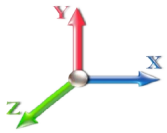
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 128 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	33.806	0.00	29.95
2.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.061	0.000	33.806	0.00	5.28
4.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	33.806	0.00	29.95
4.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.061	0.000	33.806	0.00	5.28
6.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	33.806	0.00	29.95
6.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.062	0.000	33.806	0.00	5.28
8.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	33.806	0.00	29.95
8.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.062	0.000	33.806	0.00	5.28
10.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	33.806	0.00	29.95
10.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.063	0.000	33.806	0.00	5.28
12.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	33.806	0.00	29.95
12.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.063	0.000	33.806	0.00	5.28
14.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.064	0.000	33.806	0.00	29.95
14.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.064	0.000	33.806	0.00	5.28
16.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.064	0.000	34.224	0.00	29.95
16.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.064	0.000	34.224	0.00	5.28
18.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	35.083	0.00	29.95
18.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.065	0.000	35.083	0.00	5.28
20.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	35.870	0.00	29.95
20.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.065	0.000	35.870	0.00	5.28
22.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	36.597	0.00	29.95
22.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.066	0.000	36.597	0.00	5.28
24.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	37.274	0.00	29.95
24.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.066	0.000	37.274	0.00	5.28
26.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	37.907	0.00	29.95
26.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.067	0.000	37.907	0.00	5.28
28.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	38.503	0.00	29.95
28.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.068	0.000	38.503	0.00	5.28
30.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.066	0.00	29.95
30.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.068	0.000	39.066	0.00	5.28
32.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.601	0.00	29.95
32.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.069	0.000	39.601	0.00	5.28
34.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	40.110	0.00	29.95
34.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.069	0.000	40.110	0.00	5.28
35.50	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.070	0.000	40.476	0.00	22.46
35.50	1 5/8" Hybrid	Yes	1.50	0.000	4.00	0.50	0.00	0.070	0.000	40.476	0.00	3.96
36.00	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.070	0.000	40.595	0.00	7.49
36.00	1 5/8" Hybrid	Yes	0.50	0.000	4.00	0.17	0.00	0.070	0.000	40.595	0.00	1.32
38.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	41.060	0.00	29.95
38.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.071	0.000	41.060	0.00	5.28
40.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	41.506	0.00	29.95
40.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.071	0.000	41.506	0.00	5.28
42.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	41.934	0.00	29.95
42.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.072	0.000	41.934	0.00	5.28
43.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	42.142	0.00	14.98
43.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.072	0.000	42.142	0.00	2.64
44.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	42.347	0.00	14.98

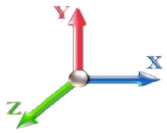
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (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	

Load Case: 1.2D + 1.0W 128 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
44.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.072	0.000	42.347	0.00	2.64
46.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	42.745	0.00	29.95
46.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.072	0.000	42.745	0.00	5.28
48.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	43.130	0.00	29.95
48.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.073	0.000	43.130	0.00	5.28
50.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	43.502	0.00	29.95
50.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.074	0.000	43.502	0.00	5.28
52.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	43.863	0.00	29.95
52.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.074	0.000	43.863	0.00	5.28
54.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	44.213	0.00	29.95
54.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.075	0.000	44.213	0.00	5.28
56.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	44.552	0.00	29.95
56.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.076	0.000	44.552	0.00	5.28
58.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	44.883	0.00	29.95
58.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.076	0.000	44.883	0.00	5.28
60.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	45.204	0.00	29.95
60.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.077	0.000	45.204	0.00	5.28
62.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	45.517	0.00	29.95
62.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.078	0.000	45.517	0.00	5.28
64.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	45.823	0.00	29.95
64.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.079	0.000	45.823	0.00	5.28
66.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	46.120	0.00	29.95
66.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.080	0.000	46.120	0.00	5.28
68.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	46.411	0.00	29.95
68.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.080	0.000	46.411	0.00	5.28
70.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	46.695	0.00	29.95
70.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.081	0.000	46.695	0.00	5.28
72.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	46.973	0.00	29.95
72.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.082	0.000	46.973	0.00	5.28
74.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	47.245	0.00	29.95
74.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.083	0.000	47.245	0.00	5.28
74.50	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.084	0.000	47.312	0.00	7.49
74.50	1 5/8" Hybrid	Yes	0.50	0.000	4.00	0.17	0.00	0.084	0.000	47.312	0.00	1.32
76.00	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.084	0.000	47.511	0.00	22.46
76.00	1 5/8" Hybrid	Yes	1.50	0.000	4.00	0.50	0.00	0.084	0.000	47.511	0.00	3.96
78.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	47.771	0.00	29.95
78.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.085	0.000	47.771	0.00	5.28
80.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	48.027	0.00	29.95
80.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.086	0.000	48.027	0.00	5.28
81.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.087	0.000	48.152	0.00	14.98
81.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.087	0.000	48.152	0.00	2.64
82.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.086	0.000	48.277	0.00	14.98
82.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.086	0.000	48.277	0.00	2.64
84.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	48.522	0.00	29.95
84.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.086	0.000	48.522	0.00	5.28
86.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	48.763	0.00	29.95
86.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.087	0.000	48.763	0.00	5.28

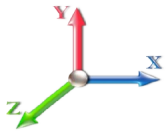
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (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	

Load Case: 1.2D + 1.0W 128 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
88.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	49.000	0.00	29.95
88.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.088	0.000	49.000	0.00	5.28
90.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	49.232	0.00	29.95
90.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	49.232	0.00	5.28
92.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	49.461	0.00	29.95
92.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	49.461	0.00	5.28
94.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	49.685	0.00	29.95
94.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.091	0.000	49.685	0.00	5.28
96.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	49.906	0.00	29.95
96.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.093	0.000	49.906	0.00	5.28
98.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.094	0.000	50.123	0.00	29.95
98.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.094	0.000	50.123	0.00	5.28
100.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	50.337	0.00	29.95
100.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.095	0.000	50.337	0.00	5.28
102.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.096	0.000	50.547	0.00	29.95
102.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.096	0.000	50.547	0.00	5.28
104.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.097	0.000	50.754	0.00	29.95
104.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.097	0.000	50.754	0.00	5.28
106.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.098	0.000	50.958	0.00	29.95
106.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.098	0.000	50.958	0.00	5.28
108.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.100	0.000	51.159	0.00	29.95
108.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.100	0.000	51.159	0.00	5.28
110.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.101	1.003	51.357	0.00	29.95
110.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.101	1.003	51.357	0.00	5.28
112.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.102	1.007	51.552	0.00	29.95
112.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.102	1.007	51.552	0.00	5.28
114.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.104	1.011	51.744	0.00	29.95
114.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.104	1.011	51.744	0.00	5.28
116.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.105	1.016	51.934	0.00	29.95
116.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.105	1.016	51.934	0.00	5.28
118.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.107	1.020	52.121	0.00	29.95
118.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.107	1.020	52.121	0.00	5.28
118.75	1 5/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.108	1.023	52.191	0.00	11.23
118.75	1 5/8" Hybrid	Yes	0.75	0.000	4.00	0.25	0.00	0.108	1.023	52.191	0.00	1.98
120.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.108	1.025	52.306	0.00	18.72
120.00	1 5/8" Hybrid	Yes	1.25	0.000	4.00	0.42	0.00	0.108	1.025	52.306	0.00	3.30
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.029	52.489	0.00	29.95
122.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.110	1.029	52.489	0.00	5.28
124.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	52.669	0.00	29.95
124.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.111	1.034	52.669	0.00	5.28
126.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.033	52.846	0.00	29.95
126.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.111	1.033	52.846	0.00	5.28
128.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.037	53.022	0.00	29.95
128.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.112	1.037	53.022	0.00	5.28
130.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	53.195	0.00	29.95
130.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.114	1.042	53.195	0.00	5.28
132.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	53.366	0.00	29.95

Linear Appurtenance Segment Forces (Factored)

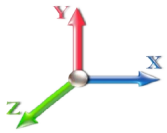
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 128 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
132.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.116	1.048	53.366	0.00	5.28
134.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.053	53.536	0.00	29.95
134.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.118	1.053	53.536	0.00	5.28
136.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.058	53.703	0.00	29.95
136.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.119	1.058	53.703	0.00	5.28
138.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.064	53.868	0.00	29.95
138.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.121	1.064	53.868	0.00	5.28
140.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	54.032	0.00	29.95
140.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.123	1.070	54.032	0.00	5.28
										Totals:	**0.0**	**2,466.2**

Calculated Forces

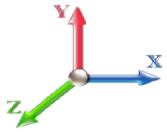
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 128 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 32

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	-66.81	-54.03	0.00	-6587.4	0.00	6587.48	5795.46	1682.91	8909.80	7510.36	0.00	0.000	0.000	0.890
2.00	-65.86	-53.73	0.00	-6479.4	0.00	6479.41	5776.44	1669.60	8769.44	7426.09	0.02	-0.075	0.000	0.885
4.00	-64.91	-53.43	0.00	-6371.9	0.00	6371.95	5757.00	1656.30	8630.20	7341.68	0.07	-0.151	0.000	0.880
6.00	-63.96	-53.13	0.00	-6265.0	0.00	6265.09	5737.14	1642.99	8492.07	7257.12	0.15	-0.227	0.000	0.875
8.00	-63.03	-52.83	0.00	-6158.8	0.00	6158.83	5716.84	1629.68	8355.05	7172.43	0.26	-0.304	0.000	0.871
10.00	-62.09	-52.54	0.00	-6053.1	0.00	6053.17	5696.12	1616.37	8219.15	7087.63	0.40	-0.382	0.000	0.866
12.00	-61.17	-52.24	0.00	-5948.1	0.00	5948.10	5674.97	1603.06	8084.36	7002.73	0.58	-0.460	0.000	0.861
14.00	-60.25	-51.94	0.00	-5843.6	0.00	5843.63	5653.40	1589.76	7950.69	6917.75	0.79	-0.538	0.000	0.856
16.00	-59.34	-51.65	0.00	-5739.7	0.00	5739.74	5631.39	1576.45	7818.13	6832.69	1.03	-0.617	0.000	0.852
18.00	-58.44	-51.34	0.00	-5636.4	0.00	5636.45	5608.96	1563.14	7686.69	6747.57	1.31	-0.697	0.000	0.847
20.00	-57.54	-51.03	0.00	-5533.7	0.00	5533.77	5586.10	1549.83	7556.36	6662.41	1.62	-0.777	0.000	0.842
22.00	-56.65	-50.71	0.00	-5431.7	0.00	5431.72	5562.81	1536.52	7427.15	6577.21	1.96	-0.858	0.000	0.837
24.00	-55.76	-50.38	0.00	-5330.3	0.00	5330.30	5539.10	1523.21	7299.05	6491.99	2.34	-0.940	0.000	0.832
26.00	-54.89	-50.06	0.00	-5229.5	0.00	5229.53	5514.96	1509.91	7172.06	6406.77	2.75	-1.022	0.000	0.827
28.00	-54.02	-49.72	0.00	-5129.4	0.00	5129.42	5490.39	1496.60	7046.19	6321.55	3.20	-1.104	0.000	0.822
30.00	-53.14	-49.34	0.00	-5029.9	0.00	5029.98	5465.39	1483.29	6921.43	6236.35	3.68	-1.188	0.000	0.817
32.00	-52.29	-49.00	0.00	-4931.3	0.00	4931.31	5439.96	1469.98	6797.79	6151.18	4.19	-1.271	0.000	0.812
34.00	-51.44	-48.64	0.00	-4833.3	0.00	4833.31	5414.11	1456.67	6675.26	6066.06	4.75	-1.356	0.000	0.807
35.50	-50.83	-48.37	0.00	-4760.3	0.00	4760.35	5394.44	1446.69	6584.09	6002.26	5.18	-1.420	0.000	0.804
36.00	-50.43	-48.30	0.00	-4736.1	0.00	4736.16	5387.83	1443.36	6553.84	5981.00	5.33	-1.441	0.000	0.802
38.00	-48.96	-47.93	0.00	-4639.5	0.00	4639.56	5361.12	1430.06	6433.54	5896.01	5.96	-1.527	0.000	0.797
40.00	-47.50	-47.55	0.00	-4543.7	0.00	4543.71	5333.99	1416.75	6314.36	5811.11	6.61	-1.613	0.000	0.792
42.00	-46.08	-47.15	0.00	-4448.6	0.00	4448.62	5306.43	1403.44	6196.29	5726.30	7.31	-1.700	0.000	0.787
43.00	-45.36	-46.96	0.00	-4401.4	0.00	4401.47	4823.70	1326.07	5927.09	5273.35	7.67	-1.744	0.000	0.845
44.00	-44.95	-46.79	0.00	-4354.5	0.00	4354.51	4812.47	1319.86	5871.70	5236.23	8.04	-1.788	0.000	0.842
46.00	-44.17	-46.43	0.00	-4260.9	0.00	4260.93	4789.68	1307.44	5761.71	5161.99	8.81	-1.877	0.000	0.836
48.00	-43.40	-46.06	0.00	-4168.0	0.00	4168.08	4766.46	1295.02	5652.75	5087.77	9.61	-1.968	0.000	0.830
50.00	-42.64	-45.69	0.00	-4075.9	0.00	4075.97	4742.82	1282.60	5544.84	5013.57	10.46	-2.058	0.000	0.823
52.00	-41.88	-45.32	0.00	-3984.5	0.00	3984.59	4718.75	1270.18	5437.96	4939.41	11.34	-2.150	0.000	0.817
54.00	-41.13	-44.95	0.00	-3893.9	0.00	3893.95	4694.25	1257.76	5332.12	4865.31	12.26	-2.242	0.000	0.810
56.00	-40.39	-44.58	0.00	-3804.0	0.00	3804.06	4669.32	1245.33	5227.33	4791.28	13.22	-2.334	0.000	0.804
58.00	-39.65	-44.20	0.00	-3714.9	0.00	3714.91	4643.97	1232.91	5123.57	4717.32	14.22	-2.427	0.000	0.797
60.00	-38.92	-43.83	0.00	-3626.5	0.00	3626.50	4618.19	1220.49	5020.86	4643.46	15.26	-2.521	0.000	0.791
62.00	-38.19	-43.46	0.00	-3538.8	0.00	3538.84	4591.98	1208.07	4919.18	4569.71	16.33	-2.615	0.000	0.784
64.00	-37.48	-43.08	0.00	-3451.9	0.00	3451.93	4565.34	1195.65	4818.55	4496.07	17.45	-2.710	0.000	0.777
66.00	-36.77	-42.71	0.00	-3365.7	0.00	3365.77	4538.28	1183.23	4718.95	4422.57	18.60	-2.805	0.000	0.770
68.00	-36.06	-42.34	0.00	-3280.3	0.00	3280.35	4510.78	1170.81	4620.40	4349.22	19.80	-2.901	0.000	0.764
70.00	-35.36	-41.96	0.00	-3195.6	0.00	3195.68	4482.87	1158.39	4522.88	4276.03	21.04	-2.998	0.000	0.757
72.00	-34.67	-41.59	0.00	-3111.7	0.00	3111.75	4454.52	1145.97	4426.41	4203.01	22.31	-3.095	0.000	0.749
74.00	-34.01	-41.20	0.00	-3028.5	0.00	3028.57	4425.74	1133.55	4330.97	4130.17	23.63	-3.192	0.000	0.742
74.50	-33.83	-41.12	0.00	-3007.9	0.00	3007.98	4418.48	1130.44	4307.27	4111.99	23.96	-3.217	0.000	0.740
76.00	-32.97	-40.82	0.00	-2946.3	0.00	2946.30	4396.54	1121.12	4236.58	4057.54	24.99	-3.291	0.000	0.735
78.00	-31.84	-40.42	0.00	-2864.6	0.00	2864.66	4366.91	1108.70	4143.22	3985.11	26.39	-3.390	0.000	0.727
80.00	-30.75	-40.00	0.00	-2783.8	0.00	2783.83	4336.86	1096.28	4050.91	3912.92	27.83	-3.489	0.000	0.720
81.00	-30.20	-39.79	0.00	-2743.8	0.00	2743.84	3502.12	951.57	3560.67	3204.59	28.56	-3.539	0.000	0.867
82.00	-29.88	-39.62	0.00	-2704.0	0.00	2704.04	3492.03	946.24	3520.94	3177.33	29.31	-3.589	0.000	0.861
84.00	-29.29	-39.25	0.00	-2624.8	0.00	2624.80	3471.52	935.60	3442.15	3122.83	30.84	-3.700	0.000	0.851
86.00	-28.70	-38.88	0.00	-2546.3	0.00	2546.30	3450.59	924.95	3364.26	3068.38	32.41	-3.810	0.000	0.840

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

Tower Engineering Solutions

88.00	-28.12	-38.52	0.00	-2468.5	0.00	2468.53	3429.23	914.30	3287.26	3013.99	34.03	-3.922	0.000	0.829
90.00	-27.54	-38.15	0.00	-2391.5	0.00	2391.50	3407.44	903.66	3211.15	2959.67	35.70	-4.034	0.000	0.818
92.00	-26.97	-37.79	0.00	-2315.1	0.00	2315.19	3385.23	893.01	3135.93	2905.43	37.41	-4.146	0.000	0.807
94.00	-26.41	-37.42	0.00	-2239.6	0.00	2239.62	3362.58	882.36	3061.60	2851.28	39.17	-4.258	0.000	0.795
96.00	-25.85	-37.06	0.00	-2164.7	0.00	2164.78	3339.51	871.72	2988.16	2797.25	40.97	-4.371	0.000	0.783
98.00	-25.30	-36.70	0.00	-2090.6	0.00	2090.66	3316.01	861.07	2915.61	2743.33	42.83	-4.483	0.000	0.772
100.00	-24.75	-36.34	0.00	-2017.2	0.00	2017.26	3292.09	850.42	2843.96	2689.56	44.73	-4.596	0.000	0.759
102.00	-24.21	-35.98	0.00	-1944.5	0.00	1944.58	3267.73	839.78	2773.20	2635.93	46.68	-4.710	0.000	0.747
104.00	-23.68	-35.62	0.00	-1872.6	0.00	1872.62	3242.95	829.13	2703.33	2582.46	48.67	-4.823	0.000	0.734
106.00	-23.15	-35.27	0.00	-1801.3	0.00	1801.38	3217.75	818.48	2634.35	2529.17	50.72	-4.936	0.000	0.721
108.00	-22.63	-34.92	0.00	-1730.8	0.00	1730.84	3192.11	807.84	2566.26	2476.07	52.81	-5.049	0.000	0.708
110.00	-22.12	-34.56	0.00	-1661.0	0.00	1661.01	3166.05	797.19	2499.06	2423.18	54.94	-5.162	0.000	0.694
112.00	-21.61	-34.21	0.00	-1591.8	0.00	1591.89	3139.56	786.54	2432.76	2370.49	57.13	-5.275	0.000	0.680
114.00	-21.11	-33.86	0.00	-1523.4	0.00	1523.47	3112.64	775.90	2367.34	2318.04	59.36	-5.388	0.000	0.666
116.00	-20.61	-33.51	0.00	-1455.7	0.00	1455.75	3085.29	765.25	2302.82	2265.83	61.64	-5.500	0.000	0.651
118.00	-20.14	-33.14	0.00	-1388.7	0.00	1388.74	3057.52	754.60	2239.19	2213.87	63.96	-5.611	0.000	0.636
118.75	-19.95	-33.02	0.00	-1363.8	0.00	1363.88	3046.99	750.61	2215.56	2194.45	64.85	-5.653	0.000	0.630
120.00	-19.46	-32.78	0.00	-1322.6	0.00	1322.61	3029.32	743.96	2176.45	2162.18	66.33	-5.723	0.000	0.620
122.00	-18.69	-32.40	0.00	-1257.0	0.00	1257.05	3000.69	733.31	2114.60	2110.77	68.75	-5.833	0.000	0.604
124.00	-17.94	-32.01	0.00	-1192.2	0.00	1192.26	2338.57	614.36	1781.07	1656.86	71.21	-5.942	0.000	0.730
126.00	-17.52	-31.66	0.00	-1128.2	0.00	1128.24	2319.39	605.49	1730.00	1619.32	73.72	-6.050	0.000	0.707
128.00	-17.11	-31.32	0.00	-1064.9	0.00	1064.91	2299.78	596.62	1679.67	1581.89	76.28	-6.171	0.000	0.683
130.00	-16.70	-30.98	0.00	-1002.2	0.00	1002.28	2279.74	587.74	1630.09	1544.58	78.89	-6.290	0.000	0.659
132.00	-16.30	-30.63	0.00	-940.33	0.00	940.33	2259.27	578.87	1581.25	1507.39	81.54	-6.406	0.000	0.634
134.00	-15.91	-30.29	0.00	-879.06	0.00	879.06	2238.38	570.00	1533.15	1470.34	84.24	-6.521	0.000	0.608
136.00	-15.52	-29.95	0.00	-818.48	0.00	818.48	2217.06	561.13	1485.79	1433.45	87.00	-6.633	0.000	0.581
138.00	-15.14	-29.61	0.00	-758.58	0.00	758.58	2195.31	552.25	1439.18	1396.73	89.79	-6.741	0.000	0.553
140.00	-12.86	-23.50	0.00	-699.37	0.00	699.37	2173.13	543.38	1393.31	1360.19	92.63	-6.847	0.000	0.522
142.00	-12.53	-23.19	0.00	-652.36	0.00	652.36	2150.53	534.51	1348.18	1323.84	95.52	-6.950	0.000	0.500
144.00	-12.21	-22.88	0.00	-605.98	0.00	605.98	2127.50	525.64	1303.79	1287.70	98.44	-7.050	0.000	0.478
146.00	-11.90	-22.57	0.00	-560.23	0.00	560.23	2104.04	516.77	1260.15	1251.78	101.41	-7.148	0.000	0.455
148.00	-11.59	-22.26	0.00	-515.10	0.00	515.10	2080.15	507.89	1217.25	1216.10	104.42	-7.243	0.000	0.431
150.00	-9.12	-18.12	0.00	-470.58	0.00	470.58	2055.84	499.02	1175.10	1180.67	107.46	-7.335	0.000	0.404
152.00	-8.87	-17.82	0.00	-434.34	0.00	434.34	2031.10	490.15	1133.68	1145.49	110.55	-7.424	0.000	0.385
154.00	-8.62	-17.52	0.00	-398.71	0.00	398.71	2005.93	481.28	1093.01	1110.59	113.67	-7.510	0.000	0.365
154.75	-8.52	-17.41	0.00	-385.57	0.00	385.57	1996.38	477.95	1077.95	1097.58	114.85	-7.542	0.000	0.357
156.00	-8.28	-17.22	0.00	-363.80	0.00	363.80	1980.33	472.40	1053.09	1075.98	116.82	-7.595	0.000	0.344
158.00	-7.91	-16.91	0.00	-329.36	0.00	329.36	1946.84	463.53	1013.90	1037.68	120.01	-7.675	0.000	0.323
159.00	-7.73	-16.75	0.00	-312.46	0.00	312.46	942.51	280.76	619.93	509.56	121.62	-7.714	0.000	0.625
160.00	-7.64	-16.62	0.00	-295.71	0.00	295.71	939.15	278.09	608.23	502.90	123.24	-7.753	0.000	0.600
162.00	-7.48	-16.35	0.00	-262.47	0.00	262.47	932.13	272.77	585.17	489.52	126.50	-7.867	0.000	0.548
164.00	-7.32	-16.08	0.00	-229.77	0.00	229.77	924.68	267.45	562.55	476.06	129.81	-7.973	0.000	0.494
166.00	-7.18	-15.82	0.00	-197.60	0.00	197.60	916.80	262.12	540.38	462.54	133.16	-8.071	0.000	0.439
167.00	-3.35	-8.05	0.00	-181.78	0.00	181.78	912.70	259.46	529.46	455.76	134.85	-8.118	0.000	0.403
168.00	-3.29	-7.92	0.00	-173.73	0.00	173.73	908.49	256.80	518.65	448.97	136.55	-8.162	0.000	0.392
170.00	-3.19	-7.67	0.00	-157.88	0.00	157.88	899.76	251.48	497.37	435.36	139.98	-8.248	0.000	0.367
172.00	-3.10	-7.42	0.00	-142.55	0.00	142.55	890.60	246.15	476.54	421.74	143.44	-8.331	0.000	0.342
174.00	-3.00	-7.17	0.00	-127.71	0.00	127.71	881.01	240.83	456.15	408.10	146.93	-8.411	0.000	0.317
176.00	-2.91	-6.93	0.00	-113.37	0.00	113.37	870.99	235.51	436.21	394.47	150.46	-8.487	0.000	0.292
178.00	-2.83	-6.69	0.00	-99.52	0.00	99.52	860.55	230.18	416.71	380.86	154.02	-8.558	0.000	0.265
180.00	-2.74	-6.46	0.00	-86.14	0.00	86.14	849.68	224.86	397.66	367.28	157.61	-8.625	0.000	0.239
182.00	-2.66	-6.23	0.00	-73.23	0.00	73.23	838.38	219.54	379.06	353.74	161.22	-8.687	0.000	0.211
184.00	-2.58	-6.00	0.00	-60.78	0.00	60.78	826.65	214.21	360.90	340.26	164.86	-8.742	0.000	0.183
186.00	-2.50	-5.78	0.00	-48.77	0.00	48.77	814.50	208.89	343.18	326.85	168.52	-8.791	0.000	0.153
188.00	-2.43	-5.57	0.00	-37.21	0.00	37.21	801.91	203.57	325.91	313.52	172.19	-8.833	0.000	0.122
190.00	-2.36	-5.36	0.00	-26.08	0.00	26.08	788.90	198.24	309.09	300.29	175.89	-8.865	0.000	0.091
192.00	-2.29	-5.15	0.00	-15.37	0.00	15.37	775.47	192.92	292.71	287.17	179.59	-8.889	0.000	0.057

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (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	

194.00	-2.23	-4.95	0.00	-5.07	0.00	5.07	761.60	187.60	276.78	274.17	183.30	-8.901	0.000	0.022
195.00	-0.03	-0.12	0.00	-0.12	0.00	0.12	754.51	184.94	268.98	267.73	185.16	-8.903	0.000	0.000
196.00	0.00	-0.12	0.00	0.00	0.00	0.00	747.31	182.27	261.30	261.31	187.02	-8.903	0.000	0.000

Wind Loading - Shaft

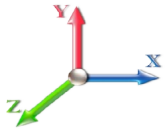
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 128 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

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	33.806	37.19	650.99	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	33.806	37.19	645.88	0.950	0.000	2.00	11.000	10.45	388.6	0.0	585.0
4.00		1.00	0.85	33.806	37.19	640.77	0.950	0.000	2.00	10.913	10.37	385.5	0.0	580.4
6.00		1.00	0.85	33.806	37.19	635.66	0.950	0.000	2.00	10.826	10.28	382.5	0.0	575.7
8.00		1.00	0.85	33.806	37.19	630.55	0.950	0.000	2.00	10.740	10.20	379.4	0.0	571.1
10.00		1.00	0.85	33.806	37.19	625.44	0.950	0.000	2.00	10.653	10.12	376.3	0.0	566.4
12.00		1.00	0.85	33.806	37.19	620.33	0.950	0.000	2.00	10.566	10.04	373.3	0.0	561.8
14.00		1.00	0.85	33.806	37.19	615.22	0.950	0.000	2.00	10.479	9.96	370.2	0.0	557.2
16.00		1.00	0.86	34.224	37.65	613.86	0.950	0.000	2.00	10.393	9.87	371.7	0.0	552.5
18.00		1.00	0.88	35.083	38.59	616.31	0.950	0.000	2.00	10.306	9.79	377.8	0.0	547.9
20.00		1.00	0.90	35.870	39.46	617.92	0.950	0.000	2.00	10.219	9.71	383.1	0.0	543.2
22.00		1.00	0.92	36.597	40.26	618.84	0.950	0.000	2.00	10.133	9.63	387.5	0.0	538.6
24.00		1.00	0.94	37.274	41.00	619.17	0.950	0.000	2.00	10.046	9.54	391.3	0.0	533.9
26.00		1.00	0.95	37.907	41.70	618.99	0.950	0.000	2.00	9.959	9.46	394.5	0.0	529.3
28.00		1.00	0.97	38.503	42.35	618.39	0.950	0.000	2.00	9.873	9.38	397.2	0.0	524.6
30.00	Appurtenance(s)	1.00	0.98	39.066	42.97	617.40	0.950	0.000	2.00	9.786	9.30	399.5	0.0	520.0
32.00		1.00	1.00	39.601	43.56	616.08	0.950	0.000	2.00	9.699	9.21	401.4	0.0	515.3
34.00		1.00	1.01	40.110	44.12	614.46	0.950	0.000	2.00	9.613	9.13	402.9	0.0	510.7
35.50	Bot - Section 2	1.00	1.02	40.476	44.52	613.06	0.950	0.000	1.50	7.153	6.79	302.5	0.0	380.0
36.00		1.00	1.02	40.595	44.65	612.56	0.950	0.000	0.50	2.411	2.29	102.3	0.0	245.7
38.00		1.00	1.03	41.060	45.17	610.43	0.950	0.000	2.00	9.590	9.11	411.5	0.0	977.2
40.00		1.00	1.04	41.506	45.66	608.07	0.950	0.000	2.00	9.504	9.03	412.2	0.0	968.2
42.00		1.00	1.05	41.934	46.13	605.51	0.950	0.000	2.00	9.417	8.95	412.7	0.0	959.3
43.00	Top - Section 1	1.00	1.06	42.142	46.36	604.16	0.950	0.000	1.00	4.676	4.44	205.9	0.0	476.3
44.00		1.00	1.06	42.347	46.58	612.72	0.950	0.000	1.00	4.654	4.42	206.0	0.0	230.9
46.00		1.00	1.07	42.745	47.02	609.85	0.950	0.000	2.00	9.243	8.78	412.9	0.0	458.5
48.00		1.00	1.08	43.130	47.44	606.82	0.950	0.000	2.00	9.157	8.70	412.7	0.0	454.1
50.00		1.00	1.09	43.502	47.85	603.63	0.950	0.000	2.00	9.070	8.62	412.3	0.0	449.8
52.00		1.00	1.10	43.863	48.25	600.31	0.950	0.000	2.00	8.983	8.53	411.8	0.0	445.5
54.00		1.00	1.11	44.213	48.63	596.86	0.950	0.000	2.00	8.897	8.45	411.0	0.0	441.1
56.00		1.00	1.12	44.552	49.01	593.28	0.950	0.000	2.00	8.810	8.37	410.2	0.0	436.8
58.00		1.00	1.13	44.883	49.37	589.59	0.950	0.000	2.00	8.723	8.29	409.1	0.0	432.5
60.00		1.00	1.14	45.204	49.72	585.79	0.950	0.000	2.00	8.637	8.20	408.0	0.0	428.1
62.00		1.00	1.14	45.517	50.07	581.88	0.950	0.000	2.00	8.550	8.12	406.7	0.0	423.8
64.00		1.00	1.15	45.823	50.40	577.88	0.950	0.000	2.00	8.463	8.04	405.3	0.0	419.5
66.00		1.00	1.16	46.120	50.73	573.79	0.950	0.000	2.00	8.377	7.96	403.7	0.0	415.1
68.00		1.00	1.17	46.411	51.05	569.60	0.950	0.000	2.00	8.290	7.88	402.1	0.0	410.8
70.00		1.00	1.17	46.695	51.36	565.34	0.950	0.000	2.00	8.203	7.79	400.3	0.0	406.4
72.00		1.00	1.18	46.973	51.67	560.99	0.950	0.000	2.00	8.117	7.71	398.4	0.0	402.1
74.00		1.00	1.19	47.245	51.97	556.57	0.950	0.000	2.00	8.030	7.63	396.4	0.0	397.8
74.50	Bot - Section 3	1.00	1.19	47.312	52.04	555.46	0.950	0.000	0.50	1.994	1.89	98.6	0.0	98.8
76.00		1.00	1.19	47.511	52.26	552.08	0.950	0.000	1.50	6.046	5.74	300.2	0.0	551.8
78.00		1.00	1.20	47.771	52.55	547.52	0.950	0.000	2.00	7.986	7.59	398.7	0.0	728.6
80.00		1.00	1.21	48.027	52.83	542.89	0.950	0.000	2.00	7.899	7.50	396.4	0.0	720.6
81.00	Top - Section 2	1.00	1.21	48.152	52.97	540.55	0.950	0.000	1.00	3.917	3.72	197.1	0.0	357.3
82.00		1.00	1.21	48.277	53.10	547.31	0.950	0.000	1.00	3.895	3.70	196.5	0.0	165.6
84.00		1.00	1.22	48.522	53.37	542.58	0.950	0.000	2.00	7.726	7.34	391.7	0.0	328.4

Wind Loading - Shaft

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (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

86.00	1.00	1.23	48.763	53.64	537.79	0.950	0.000	2.00	7.639	7.26	389.3	0.0	324.7
88.00	1.00	1.23	49.000	53.90	532.94	0.950	0.000	2.00	7.552	7.17	386.7	0.0	321.0
90.00	1.00	1.24	49.232	54.16	528.03	0.950	0.000	2.00	7.466	7.09	384.1	0.0	317.2
92.00	1.00	1.24	49.461	54.41	523.07	0.950	0.000	2.00	7.379	7.01	381.4	0.0	313.5
94.00	1.00	1.25	49.685	54.65	518.06	0.950	0.000	2.00	7.292	6.93	378.6	0.0	309.8
96.00	1.00	1.25	49.906	54.90	513.00	0.950	0.000	2.00	7.206	6.85	375.8	0.0	306.1
98.00	1.00	1.26	50.123	55.14	507.90	0.950	0.000	2.00	7.119	6.76	372.9	0.0	302.4
100.00	1.00	1.27	50.337	55.37	502.74	0.950	0.000	2.00	7.032	6.68	369.9	0.0	298.7
102.00	1.00	1.27	50.547	55.60	497.54	0.950	0.000	2.00	6.946	6.60	366.9	0.0	294.9
104.00	1.00	1.28	50.754	55.83	492.30	0.950	0.000	2.00	6.859	6.52	363.8	0.0	291.2
106.00	1.00	1.28	50.958	56.05	487.01	0.950	0.000	2.00	6.772	6.43	360.6	0.0	287.5
108.00	1.00	1.29	51.159	56.27	481.69	0.950	0.000	2.00	6.686	6.35	357.4	0.0	283.8
110.00	1.00	1.29	51.357	56.49	476.32	0.953 *	0.000	2.00	6.599	6.29	355.2	0.0	280.1
112.00	1.00	1.30	51.552	56.71	470.91	0.957 *	0.000	2.00	6.512	6.23	353.3	0.0	276.4
114.00	1.00	1.30	51.744	56.92	465.47	0.961 *	0.000	2.00	6.426	6.17	351.4	0.0	272.6
116.00	1.00	1.31	51.934	57.13	459.99	0.965 *	0.000	2.00	6.339	6.12	349.4	0.0	268.9
118.00	1.00	1.31	52.121	57.33	454.47	0.969 *	0.000	2.00	6.252	6.06	347.3	0.0	265.2
118.75 Bot - Section 4	1.00	1.31	52.191	57.41	452.39	0.972 *	0.000	0.75	2.322	2.26	129.6	0.0	98.5
120.00	1.00	1.32	52.306	57.54	448.92	0.974 *	0.000	1.25	3.911	3.81	219.2	0.0	301.5
122.00	1.00	1.32	52.489	57.74	443.33	0.978 *	0.000	2.00	6.187	6.05	349.2	0.0	476.8
124.00 Top - Section 3	1.00	1.32	52.669	57.94	437.71	0.982 *	0.000	2.00	6.100	5.99	347.1	0.0	470.0
126.00	1.00	1.33	52.846	58.13	440.01	0.981 *	0.000	2.00	6.013	5.90	342.9	0.0	212.9
128.00	1.00	1.33	53.022	58.32	434.34	0.986 *	0.000	2.00	5.927	5.84	340.7	0.0	209.8
130.00	1.00	1.34	53.195	58.51	428.64	0.990 *	0.000	2.00	5.840	5.78	338.4	0.0	206.7
132.00	1.00	1.34	53.366	58.70	422.91	0.995 *	0.000	2.00	5.753	5.73	336.1	0.0	203.6
134.00	1.00	1.35	53.536	58.89	417.15	1.000 *	0.000	2.00	5.667	5.67	333.8	0.0	200.5
136.00	1.00	1.35	53.703	59.07	411.36	1.006 *	0.000	2.00	5.580	5.61	331.4	0.0	197.4
138.00	1.00	1.35	53.868	59.25	405.54	1.011 *	0.000	2.00	5.493	5.55	329.0	0.0	194.3
140.00 Appurtenance(s)	1.00	1.36	54.032	59.43	399.69	1.016 *	0.000	2.00	5.406	5.50	326.6	0.0	191.2
142.00	1.00	1.36	54.193	59.61	393.82	0.950	0.000	2.00	5.320	5.05	301.3	0.0	188.1
144.00	1.00	1.37	54.353	59.79	387.92	0.950	0.000	2.00	5.233	4.97	297.2	0.0	185.0
146.00	1.00	1.37	54.511	59.96	382.00	0.950	0.000	2.00	5.146	4.89	293.2	0.0	181.9
148.00	1.00	1.37	54.667	60.13	376.05	0.950	0.000	2.00	5.060	4.81	289.0	0.0	178.8
150.00 Appurtenance(s)	1.00	1.38	54.822	60.30	370.07	0.950	0.000	2.00	4.973	4.72	284.9	0.0	175.7
152.00	1.00	1.38	54.975	60.47	364.07	0.950	0.000	2.00	4.886	4.64	280.7	0.0	172.6
154.00	1.00	1.39	55.127	60.64	358.05	0.950	0.000	2.00	4.800	4.56	276.5	0.0	169.5
154.75 Bot - Section 5	1.00	1.39	55.183	60.70	355.78	0.950	0.000	0.75	1.778	1.69	102.5	0.0	62.8
156.00	1.00	1.39	55.277	60.80	352.00	0.950	0.000	1.25	2.976	2.83	171.9	0.0	167.0
158.00	1.00	1.39	55.425	60.97	345.93	0.950	0.000	2.00	4.691	4.46	271.7	0.0	263.2
159.00 Top - Section 4	1.00	1.40	55.499	61.05	342.88	0.950	0.000	1.00	2.313	2.20	134.1	0.0	129.7
160.00	1.00	1.40	55.572	61.13	344.72	0.950	0.000	1.00	2.291	2.18	133.1	0.0	48.8
162.00	1.00	1.40	55.718	61.29	338.61	0.950	0.000	2.00	4.518	4.29	263.0	0.0	96.1
164.00	1.00	1.40	55.862	61.45	332.48	0.950	0.000	2.00	4.431	4.21	258.7	0.0	94.3
166.00	1.00	1.41	56.004	61.60	326.33	0.950	0.000	2.00	4.344	4.13	254.2	0.0	92.4
167.00 Appurtenance(s)	1.00	1.41	56.075	61.68	323.25	0.950	0.000	1.00	2.140	2.03	125.4	0.0	45.5
168.00	1.00	1.41	56.146	61.76	320.16	0.950	0.000	1.00	2.118	2.01	124.3	0.0	45.0
170.00	1.00	1.42	56.286	61.91	313.96	0.950	0.000	2.00	4.171	3.96	245.3	0.0	88.7
172.00	1.00	1.42	56.425	62.07	307.75	0.950	0.000	2.00	4.084	3.88	240.8	0.0	86.8
174.00	1.00	1.42	56.562	62.22	301.51	0.950	0.000	2.00	3.997	3.80	236.3	0.0	85.0
176.00	1.00	1.43	56.698	62.37	295.26	0.950	0.000	2.00	3.911	3.72	231.7	0.0	83.1
178.00	1.00	1.43	56.833	62.52	288.98	0.950	0.000	2.00	3.824	3.63	227.1	0.0	81.3
180.00	1.00	1.43	56.967	62.66	282.69	0.950	0.000	2.00	3.737	3.55	222.5	0.0	79.4
182.00	1.00	1.44	57.100	62.81	276.37	0.950	0.000	2.00	3.651	3.47	217.8	0.0	77.5
184.00	1.00	1.44	57.231	62.95	270.04	0.950	0.000	2.00	3.564	3.39	213.2	0.0	75.7
186.00	1.00	1.44	57.362	63.10	263.69	0.950	0.000	2.00	3.477	3.30	208.4	0.0	73.8
188.00	1.00	1.45	57.491	63.24	257.33	0.950	0.000	2.00	3.391	3.22	203.7	0.0	72.0
190.00	1.00	1.45	57.619	63.38	250.94	0.950	0.000	2.00	3.304	3.14	198.9	0.0	70.1

Wind Loading - Shaft

Structure: CT00595-S-SBA | **Code:** EIA/TIA-222-H | 7/17/2019
Site Name: Stonington East | **Exposure:** C
Height: 196.00 (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

192.00		1.00	1.45	57.747	63.52	244.54	0.950	0.000	2.00	3.217	3.06	194.1	0.0	68.3
194.00		1.00	1.46	57.873	63.66	238.12	0.950	0.000	2.00	3.131	2.97	189.3	0.0	66.4
195.00	Appurtenance(s)	1.00	1.46	57.935	63.73	234.91	0.950	0.000	1.00	1.533	1.46	92.8	0.0	32.5
196.00	Appurtenance(s)	1.00	1.46	57.998	63.80	231.69	0.950	0.000	1.00	1.511	1.44	91.6	0.0	32.0
								Totals:	**196.00**			**33,539.4**		**34,270.2**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

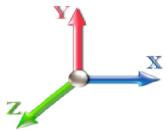
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 128 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	196.00	6' Lightning rod	1	57.998	63.798	1.00	1.00	0.38	5.85	0.000	0.000	24.24	0.00	0.00
2	195.00	TD-RRH8x20-25	3	57.935	63.729	0.54	0.80	6.51	189.00	0.000	0.000	415.03	0.00	0.00
3	195.00	APXVTM14-C-120	3	57.935	63.729	0.63	0.80	12.02	151.20	0.000	0.000	766.06	0.00	0.00
4	195.00	1900MHz RRH	3	57.935	63.729	0.54	0.80	6.11	118.80	0.000	0.000	389.41	0.00	0.00
5	195.00	APXVSPP18-C-A20	3	57.935	63.729	0.66	0.80	15.98	153.90	0.000	0.000	1018.12	0.00	0.00
6	195.00	800MHz Filter	3	57.935	63.729	0.40	0.80	0.94	23.76	0.000	0.000	59.65	0.00	0.00
7	195.00	ACU-A20-N	4	57.935	63.729	0.40	0.80	0.22	3.60	0.000	0.000	14.28	0.00	0.00
8	195.00	Low Profile Platform	1	57.935	63.729	1.00	1.00	22.00	1350.00	0.000	0.000	1402.04	0.00	0.00
9	195.00	800MHz RRH	3	57.935	63.729	0.54	0.80	4.25	160.65	0.000	0.000	270.54	0.00	0.00
10	167.00	(3) SFS-H-L (V-Braces)	1	56.075	61.683	1.00	1.00	6.70	207.00	0.000	0.000	413.27	0.00	0.00
11	167.00	PRK-1245 (kicker kit)	1	56.075	61.683	1.00	1.00	9.50	418.42	0.000	0.000	585.99	0.00	0.00
12	167.00	(3) VSR-TS-B	1	56.075	61.683	1.00	1.00	11.43	332.37	0.000	0.000	705.03	0.00	0.00
13	167.00	HRK12 (Handrail Kit)	1	56.075	61.683	1.00	1.00	6.75	235.55	0.000	0.000	416.36	0.00	0.00
14	167.00	AIR 21, 1.3M, B4A B2P	3	56.075	61.683	0.62	0.75	11.32	243.81	0.000	0.000	698.14	0.00	0.00
15	167.00	4449	3	56.075	61.683	0.50	0.75	2.49	189.00	0.000	0.000	153.43	0.00	0.00
16	167.00	AIR 21, 1.3M, B2A B4P	3	56.075	61.683	0.62	0.75	11.32	247.05	0.000	0.000	698.14	0.00	0.00
17	167.00	KRY 112 144/1	3	56.075	61.683	0.38	0.75	0.46	29.70	0.000	0.000	28.45	0.00	0.00
18	167.00	Low Profile	1	56.075	61.683	0.00	1.00	22.00	1350.00	0.000	0.000	1357.02	0.00	0.00
19	167.00	APXVAARR24_43-U-NA2	3	56.075	61.683	0.53	0.75	31.97	345.60	0.000	0.000	1971.94	0.00	0.00
20	150.00	DC6-48-60-18-8F	1	54.822	60.304	0.80	0.80	1.18	28.62	0.000	0.000	70.92	0.00	0.00
21	150.00	RRUS 11	6	54.822	60.304	0.54	0.80	8.10	273.78	0.000	0.000	488.73	0.00	0.00
22	150.00	LGP13519	6	54.822	60.304	0.40	0.80	0.82	28.62	0.000	0.000	49.21	0.00	0.00
23	150.00	LGP21401	6	54.822	60.304	0.40	0.80	3.10	76.14	0.000	0.000	186.70	0.00	0.00
24	150.00	AM-X-CD-14-65-00T-RET	1	54.822	60.304	0.60	0.80	3.00	32.76	0.000	0.000	180.91	0.00	0.00
25	150.00	P65-17-XLH-RR	2	54.822	60.304	0.60	0.80	13.73	106.20	0.000	0.000	827.86	0.00	0.00
26	150.00	7700.00	6	54.822	60.304	0.63	0.80	6.56	86.40	0.000	0.000	395.61	0.00	0.00
27	150.00	Low Profile	1	54.822	60.304	0.00	1.00	22.00	1350.00	0.000	0.000	1326.69	0.00	0.00
28	140.00	APL866513	2	54.032	59.435	0.74	0.80	6.03	28.26	0.000	0.000	358.18	0.00	0.00
29	140.00	HBXX-6517DS-A2M	6	54.032	59.435	0.66	0.80	34.06	220.32	0.000	0.000	2024.54	0.00	0.00
30	140.00	LNX-6414DS-A1M	3	54.032	59.435	0.64	0.80	15.53	89.37	0.000	0.000	923.19	0.00	0.00
31	140.00	LNX-8513DS-VTM	2	54.032	59.435	0.66	0.80	10.85	47.34	0.000	0.000	644.85	0.00	0.00
32	140.00	Low Profile Platform	1	54.032	59.435	0.80	0.80	17.60	1350.00	0.000	0.000	1046.05	0.00	0.00
33	140.00	RRH2x40 700	3	54.032	59.435	0.54	0.80	3.99	135.00	0.000	0.000	237.02	0.00	0.00
34	140.00	RRH2x60-2100	3	54.032	59.435	0.54	0.80	2.43	52.65	0.000	0.000	144.31	0.00	0.00
35	140.00	DB-T1-6Z-8AB-0Z	1	54.032	59.435	0.40	0.80	1.92	17.01	0.000	0.000	114.11	0.00	0.00
36	30.00	GPS	1	39.066	42.973	1.00	1.00	1.00	9.00	0.000	0.000	42.97	0.00	0.00
							Totals:		**9,686.73**			**20,448.99**		

Total Applied Force Summary

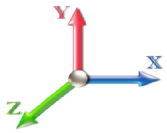
Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 28

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 128 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

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		388.59	664.98	0.00	0.00
4.00		385.53	660.33	0.00	0.00
6.00		382.47	655.69	0.00	0.00
8.00		379.40	651.04	0.00	0.00
10.00		376.34	646.40	0.00	0.00
12.00		373.28	641.75	0.00	0.00
14.00		370.22	637.11	0.00	0.00
16.00		371.69	632.46	0.00	0.00
18.00		377.84	627.82	0.00	0.00
20.00		383.07	623.17	0.00	0.00
22.00		387.52	618.53	0.00	0.00
24.00		391.30	613.88	0.00	0.00
26.00		394.52	609.24	0.00	0.00
28.00		397.23	604.59	0.00	0.00
30.00	(1) attachments	442.48	608.95	0.00	0.00
32.00		401.39	595.31	0.00	0.00
34.00		402.91	590.66	0.00	0.00
35.50		302.53	439.95	0.00	0.00
36.00		102.28	265.70	0.00	0.00
38.00		411.49	1057.18	0.00	0.00
40.00		412.20	1048.20	0.00	0.00
42.00		412.66	1039.22	0.00	0.00
43.00		205.92	516.24	0.00	0.00
44.00		205.96	270.84	0.00	0.00
46.00		412.89	538.42	0.00	0.00
48.00		412.70	534.09	0.00	0.00
50.00		412.32	529.75	0.00	0.00
52.00		411.77	525.42	0.00	0.00
54.00		411.05	521.08	0.00	0.00
56.00		410.17	516.75	0.00	0.00
58.00		409.15	512.41	0.00	0.00
60.00		407.98	508.08	0.00	0.00
62.00		406.68	503.74	0.00	0.00
64.00		405.26	499.41	0.00	0.00
66.00		403.72	495.07	0.00	0.00
68.00		402.06	490.74	0.00	0.00
70.00		400.29	486.40	0.00	0.00
72.00		398.42	482.07	0.00	0.00
74.00		396.44	477.73	0.00	0.00
74.50		98.58	118.76	0.00	0.00
76.00		300.19	611.73	0.00	0.00
78.00		398.66	808.59	0.00	0.00
80.00		396.44	800.54	0.00	0.00
81.00		197.11	397.25	0.00	0.00
82.00		196.52	205.56	0.00	0.00
84.00		391.75	408.34	0.00	0.00

Total Applied Force Summary

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (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

Tower Engineering Solutions

86.00		389.27	404.62	0.00	0.00
88.00		386.72	400.91	0.00	0.00
90.00		384.10	397.19	0.00	0.00
92.00		381.40	393.48	0.00	0.00
94.00		378.63	389.76	0.00	0.00
96.00		375.79	386.04	0.00	0.00
98.00		372.88	382.33	0.00	0.00
100.00		369.91	378.61	0.00	0.00
102.00		366.88	374.90	0.00	0.00
104.00		363.78	371.18	0.00	0.00
106.00		360.63	367.47	0.00	0.00
108.00		357.42	363.75	0.00	0.00
110.00		355.24	360.04	0.00	0.00
112.00		353.32	356.32	0.00	0.00
114.00		351.36	352.60	0.00	0.00
116.00		349.35	348.89	0.00	0.00
118.00		347.31	345.17	0.00	0.00
118.75		129.56	128.48	0.00	0.00
120.00		219.15	351.46	0.00	0.00
122.00		349.19	556.80	0.00	0.00
124.00		347.07	549.99	0.00	0.00
126.00		342.90	292.82	0.00	0.00
128.00		340.68	289.72	0.00	0.00
130.00		338.42	286.63	0.00	0.00
132.00		336.13	283.53	0.00	0.00
134.00		333.80	280.44	0.00	0.00
136.00		331.43	277.34	0.00	0.00
138.00		329.04	274.24	0.00	0.00
140.00	(21) attachments	5818.86	2211.10	0.00	0.00
142.00		301.27	241.63	0.00	0.00
144.00		297.23	238.53	0.00	0.00
146.00		293.16	235.43	0.00	0.00
148.00		289.05	232.34	0.00	0.00
150.00	(29) attachments	3811.52	2211.76	0.00	0.00
152.00		280.71	202.13	0.00	0.00
154.00		276.49	199.04	0.00	0.00
154.75		102.50	73.84	0.00	0.00
156.00		171.90	185.44	0.00	0.00
158.00		271.70	292.68	0.00	0.00
159.00		134.14	144.48	0.00	0.00
160.00		133.06	63.52	0.00	0.00
162.00		263.04	125.65	0.00	0.00
164.00		258.66	123.79	0.00	0.00
166.00		254.24	121.93	0.00	0.00
167.00	(20) attachments	7153.16	3658.77	0.00	0.00
168.00		124.26	47.42	0.00	0.00
170.00		245.32	93.45	0.00	0.00
172.00		240.82	91.59	0.00	0.00
174.00		236.28	89.73	0.00	0.00
176.00		231.71	87.87	0.00	0.00
178.00		227.12	86.02	0.00	0.00
180.00		222.49	84.16	0.00	0.00
182.00		217.84	82.30	0.00	0.00
184.00		213.15	80.44	0.00	0.00
186.00		208.44	78.58	0.00	0.00
188.00		203.71	76.73	0.00	0.00
190.00		198.94	74.87	0.00	0.00

Total Applied Force Summary

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 30

Tower Engineering Solutions

192.00		194.15	73.01	0.00	0.00
194.00		189.33	71.15	0.00	0.00
195.00	(23) attachments	4427.92	2185.79	0.00	0.00
196.00	(1) attachments	115.83	37.89	0.00	0.00
	Totals:	**53,988.36**	**50,138.96**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

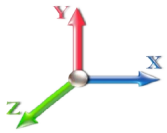
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 128 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	33.806	0.00	22.46
2.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.061	0.000	33.806	0.00	3.96
4.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	33.806	0.00	22.46
4.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.061	0.000	33.806	0.00	3.96
6.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	33.806	0.00	22.46
6.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.062	0.000	33.806	0.00	3.96
8.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	33.806	0.00	22.46
8.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.062	0.000	33.806	0.00	3.96
10.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	33.806	0.00	22.46
10.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.063	0.000	33.806	0.00	3.96
12.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	33.806	0.00	22.46
12.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.063	0.000	33.806	0.00	3.96
14.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.064	0.000	33.806	0.00	22.46
14.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.064	0.000	33.806	0.00	3.96
16.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.064	0.000	34.224	0.00	22.46
16.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.064	0.000	34.224	0.00	3.96
18.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	35.083	0.00	22.46
18.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.065	0.000	35.083	0.00	3.96
20.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	35.870	0.00	22.46
20.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.065	0.000	35.870	0.00	3.96
22.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	36.597	0.00	22.46
22.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.066	0.000	36.597	0.00	3.96
24.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	37.274	0.00	22.46
24.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.066	0.000	37.274	0.00	3.96
26.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	37.907	0.00	22.46
26.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.067	0.000	37.907	0.00	3.96
28.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	38.503	0.00	22.46
28.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.068	0.000	38.503	0.00	3.96
30.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.066	0.00	22.46
30.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.068	0.000	39.066	0.00	3.96
32.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.601	0.00	22.46
32.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.069	0.000	39.601	0.00	3.96
34.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	40.110	0.00	22.46
34.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.069	0.000	40.110	0.00	3.96
35.50	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.070	0.000	40.476	0.00	16.85
35.50	1 5/8" Hybrid	Yes	1.50	0.000	4.00	0.50	0.00	0.070	0.000	40.476	0.00	2.97
36.00	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.070	0.000	40.595	0.00	5.62
36.00	1 5/8" Hybrid	Yes	0.50	0.000	4.00	0.17	0.00	0.070	0.000	40.595	0.00	0.99
38.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	41.060	0.00	22.46
38.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.071	0.000	41.060	0.00	3.96
40.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	41.506	0.00	22.46
40.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.071	0.000	41.506	0.00	3.96
42.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	41.934	0.00	22.46
42.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.072	0.000	41.934	0.00	3.96
43.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	42.142	0.00	11.23
43.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.072	0.000	42.142	0.00	1.98
44.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	42.347	0.00	11.23

Linear Appurtenance Segment Forces (Factored)

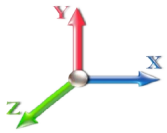
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 128 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
44.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.072	0.000	42.347	0.00	1.98
46.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	42.745	0.00	22.46
46.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.072	0.000	42.745	0.00	3.96
48.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	43.130	0.00	22.46
48.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.073	0.000	43.130	0.00	3.96
50.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	43.502	0.00	22.46
50.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.074	0.000	43.502	0.00	3.96
52.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	43.863	0.00	22.46
52.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.074	0.000	43.863	0.00	3.96
54.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	44.213	0.00	22.46
54.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.075	0.000	44.213	0.00	3.96
56.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	44.552	0.00	22.46
56.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.076	0.000	44.552	0.00	3.96
58.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	44.883	0.00	22.46
58.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.076	0.000	44.883	0.00	3.96
60.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	45.204	0.00	22.46
60.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.077	0.000	45.204	0.00	3.96
62.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	45.517	0.00	22.46
62.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.078	0.000	45.517	0.00	3.96
64.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	45.823	0.00	22.46
64.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.079	0.000	45.823	0.00	3.96
66.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	46.120	0.00	22.46
66.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.080	0.000	46.120	0.00	3.96
68.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	46.411	0.00	22.46
68.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.080	0.000	46.411	0.00	3.96
70.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	46.695	0.00	22.46
70.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.081	0.000	46.695	0.00	3.96
72.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	46.973	0.00	22.46
72.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.082	0.000	46.973	0.00	3.96
74.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	47.245	0.00	22.46
74.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.083	0.000	47.245	0.00	3.96
74.50	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.084	0.000	47.312	0.00	5.62
74.50	1 5/8" Hybrid	Yes	0.50	0.000	4.00	0.17	0.00	0.084	0.000	47.312	0.00	0.99
76.00	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.084	0.000	47.511	0.00	16.85
76.00	1 5/8" Hybrid	Yes	1.50	0.000	4.00	0.50	0.00	0.084	0.000	47.511	0.00	2.97
78.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	47.771	0.00	22.46
78.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.085	0.000	47.771	0.00	3.96
80.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	48.027	0.00	22.46
80.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.086	0.000	48.027	0.00	3.96
81.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.087	0.000	48.152	0.00	11.23
81.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.087	0.000	48.152	0.00	1.98
82.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.086	0.000	48.277	0.00	11.23
82.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.086	0.000	48.277	0.00	1.98
84.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	48.522	0.00	22.46
84.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.086	0.000	48.522	0.00	3.96
86.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	48.763	0.00	22.46
86.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.087	0.000	48.763	0.00	3.96

Linear Appurtenance Segment Forces (Factored)

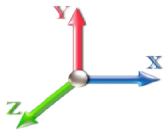
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 33	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 128 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
88.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	49.000	0.00	22.46
88.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.088	0.000	49.000	0.00	3.96
90.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	49.232	0.00	22.46
90.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	49.232	0.00	3.96
92.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	49.461	0.00	22.46
92.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	49.461	0.00	3.96
94.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	49.685	0.00	22.46
94.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.091	0.000	49.685	0.00	3.96
96.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	49.906	0.00	22.46
96.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.093	0.000	49.906	0.00	3.96
98.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.094	0.000	50.123	0.00	22.46
98.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.094	0.000	50.123	0.00	3.96
100.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	50.337	0.00	22.46
100.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.095	0.000	50.337	0.00	3.96
102.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.096	0.000	50.547	0.00	22.46
102.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.096	0.000	50.547	0.00	3.96
104.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.097	0.000	50.754	0.00	22.46
104.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.097	0.000	50.754	0.00	3.96
106.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.098	0.000	50.958	0.00	22.46
106.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.098	0.000	50.958	0.00	3.96
108.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.100	0.000	51.159	0.00	22.46
108.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.100	0.000	51.159	0.00	3.96
110.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.101	1.003	51.357	0.00	22.46
110.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.101	1.003	51.357	0.00	3.96
112.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.102	1.007	51.552	0.00	22.46
112.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.102	1.007	51.552	0.00	3.96
114.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.104	1.011	51.744	0.00	22.46
114.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.104	1.011	51.744	0.00	3.96
116.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.105	1.016	51.934	0.00	22.46
116.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.105	1.016	51.934	0.00	3.96
118.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.107	1.020	52.121	0.00	22.46
118.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.107	1.020	52.121	0.00	3.96
118.75	1 5/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.108	1.023	52.191	0.00	8.42
118.75	1 5/8" Hybrid	Yes	0.75	0.000	4.00	0.25	0.00	0.108	1.023	52.191	0.00	1.49
120.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.108	1.025	52.306	0.00	14.04
120.00	1 5/8" Hybrid	Yes	1.25	0.000	4.00	0.42	0.00	0.108	1.025	52.306	0.00	2.48
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.029	52.489	0.00	22.46
122.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.110	1.029	52.489	0.00	3.96
124.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	52.669	0.00	22.46
124.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.111	1.034	52.669	0.00	3.96
126.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.033	52.846	0.00	22.46
126.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.111	1.033	52.846	0.00	3.96
128.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.037	53.022	0.00	22.46
128.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.112	1.037	53.022	0.00	3.96
130.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	53.195	0.00	22.46
130.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.114	1.042	53.195	0.00	3.96
132.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	53.366	0.00	22.46

Linear Appurtenance Segment Forces (Factored)

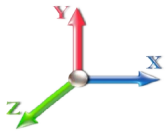
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 128 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
132.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.116	1.048	53.366	0.00	3.96
134.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.053	53.536	0.00	22.46
134.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.118	1.053	53.536	0.00	3.96
136.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.058	53.703	0.00	22.46
136.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.119	1.058	53.703	0.00	3.96
138.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.064	53.868	0.00	22.46
138.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.121	1.064	53.868	0.00	3.96
140.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	54.032	0.00	22.46
140.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.123	1.070	54.032	0.00	3.96
										Totals:	**0.0**	**1,849.7**

Calculated Forces

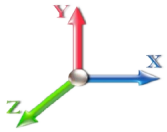
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 128 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 31

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	-50.10	-54.02	0.00	-6511.3	0.00	6511.37	5795.46	1682.91	8909.80	7510.36	0.00	0.000	0.000	0.877
2.00	-49.37	-53.70	0.00	-6403.3	0.00	6403.33	5776.44	1669.60	8769.44	7426.09	0.02	-0.074	0.000	0.872
4.00	-48.64	-53.37	0.00	-6295.9	0.00	6295.94	5757.00	1656.30	8630.20	7341.68	0.06	-0.149	0.000	0.867
6.00	-47.91	-53.05	0.00	-6189.1	0.00	6189.19	5737.14	1642.99	8492.07	7257.12	0.14	-0.225	0.000	0.862
8.00	-47.19	-52.73	0.00	-6083.0	0.00	6083.09	5716.84	1629.68	8355.05	7172.43	0.25	-0.301	0.000	0.857
10.00	-46.48	-52.41	0.00	-5977.6	0.00	5977.63	5696.12	1616.37	8219.15	7087.63	0.40	-0.377	0.000	0.853
12.00	-45.77	-52.10	0.00	-5872.8	0.00	5872.80	5674.97	1603.06	8084.36	7002.73	0.57	-0.454	0.000	0.848
14.00	-45.07	-51.78	0.00	-5768.6	0.00	5768.60	5653.40	1589.76	7950.69	6917.75	0.78	-0.532	0.000	0.843
16.00	-44.37	-51.47	0.00	-5665.0	0.00	5665.04	5631.39	1576.45	7818.13	6832.69	1.02	-0.610	0.000	0.838
18.00	-43.67	-51.14	0.00	-5562.1	0.00	5562.10	5608.96	1563.14	7686.69	6747.57	1.29	-0.689	0.000	0.833
20.00	-42.98	-50.81	0.00	-5459.8	0.00	5459.82	5586.10	1549.83	7556.36	6662.41	1.60	-0.768	0.000	0.828
22.00	-42.30	-50.47	0.00	-5358.2	0.00	5358.20	5562.81	1536.52	7427.15	6577.21	1.94	-0.847	0.000	0.823
24.00	-41.62	-50.13	0.00	-5257.2	0.00	5257.25	5539.10	1523.21	7299.05	6491.99	2.31	-0.928	0.000	0.818
26.00	-40.95	-49.79	0.00	-5156.9	0.00	5156.99	5514.96	1509.91	7172.06	6406.77	2.72	-1.009	0.000	0.813
28.00	-40.28	-49.43	0.00	-5057.4	0.00	5057.42	5490.39	1496.60	7046.19	6321.55	3.16	-1.090	0.000	0.808
30.00	-39.61	-49.04	0.00	-4958.5	0.00	4958.56	5465.39	1483.29	6921.43	6236.35	3.63	-1.172	0.000	0.803
32.00	-38.95	-48.68	0.00	-4860.4	0.00	4860.49	5439.96	1469.98	6797.79	6151.18	4.14	-1.255	0.000	0.798
34.00	-38.31	-48.31	0.00	-4763.1	0.00	4763.13	5414.11	1456.67	6675.26	6066.06	4.69	-1.338	0.000	0.793
35.50	-37.84	-48.03	0.00	-4690.6	0.00	4690.66	5394.44	1446.69	6584.09	6002.26	5.12	-1.401	0.000	0.790
36.00	-37.54	-47.95	0.00	-4666.6	0.00	4666.65	5387.83	1443.36	6553.84	5981.00	5.27	-1.422	0.000	0.788
38.00	-36.42	-47.57	0.00	-4570.7	0.00	4570.75	5361.12	1430.06	6433.54	5896.01	5.88	-1.506	0.000	0.783
40.00	-35.31	-47.18	0.00	-4475.6	0.00	4475.61	5333.99	1416.75	6314.36	5811.11	6.53	-1.591	0.000	0.778
42.00	-34.23	-46.78	0.00	-4381.2	0.00	4381.25	5306.43	1403.44	6196.29	5726.30	7.21	-1.677	0.000	0.773
43.00	-33.69	-46.58	0.00	-4334.4	0.00	4334.48	4823.70	1326.07	5927.09	5273.35	7.57	-1.720	0.000	0.830
44.00	-33.37	-46.41	0.00	-4287.9	0.00	4287.90	4812.47	1319.86	5871.70	5236.23	7.94	-1.764	0.000	0.827
46.00	-32.77	-46.03	0.00	-4195.0	0.00	4195.09	4789.68	1307.44	5761.71	5161.99	8.69	-1.852	0.000	0.821
48.00	-32.18	-45.65	0.00	-4103.0	0.00	4103.04	4766.46	1295.02	5652.75	5087.77	9.49	-1.941	0.000	0.814
50.00	-31.60	-45.27	0.00	-4011.7	0.00	4011.75	4742.82	1282.60	5544.84	5013.57	10.32	-2.030	0.000	0.808
52.00	-31.02	-44.88	0.00	-3921.2	0.00	3921.22	4718.75	1270.18	5437.96	4939.41	11.19	-2.120	0.000	0.802
54.00	-30.44	-44.50	0.00	-3831.4	0.00	3831.45	4694.25	1257.76	5332.12	4865.31	12.10	-2.210	0.000	0.795
56.00	-29.87	-44.12	0.00	-3742.4	0.00	3742.45	4669.32	1245.33	5227.33	4791.28	13.05	-2.301	0.000	0.789
58.00	-29.31	-43.74	0.00	-3654.2	0.00	3654.21	4643.97	1232.91	5123.57	4717.32	14.03	-2.393	0.000	0.782
60.00	-28.75	-43.35	0.00	-3566.7	0.00	3566.74	4618.19	1220.49	5020.86	4643.46	15.05	-2.485	0.000	0.776
62.00	-28.19	-42.97	0.00	-3480.0	0.00	3480.04	4591.98	1208.07	4919.18	4569.71	16.11	-2.578	0.000	0.769
64.00	-27.64	-42.59	0.00	-3394.1	0.00	3394.10	4565.34	1195.65	4818.55	4496.07	17.21	-2.671	0.000	0.762
66.00	-27.10	-42.21	0.00	-3308.9	0.00	3308.93	4538.28	1183.23	4718.95	4422.57	18.35	-2.765	0.000	0.755
68.00	-26.56	-41.82	0.00	-3224.5	0.00	3224.52	4510.78	1170.81	4620.40	4349.22	19.53	-2.859	0.000	0.749
70.00	-26.02	-41.44	0.00	-3140.8	0.00	3140.87	4482.87	1158.39	4522.88	4276.03	20.75	-2.954	0.000	0.742
72.00	-25.49	-41.06	0.00	-3057.9	0.00	3057.99	4454.52	1145.97	4426.41	4203.01	22.01	-3.049	0.000	0.735
74.00	-25.00	-40.67	0.00	-2975.8	0.00	2975.86	4425.74	1133.55	4330.97	4130.17	23.30	-3.145	0.000	0.727
74.50	-24.85	-40.58	0.00	-2955.5	0.00	2955.53	4418.48	1130.44	4307.27	4111.99	23.63	-3.169	0.000	0.726
76.00	-24.19	-40.28	0.00	-2894.6	0.00	2894.66	4396.54	1121.12	4236.58	4057.54	24.64	-3.242	0.000	0.720
78.00	-23.34	-39.88	0.00	-2814.0	0.00	2814.09	4366.91	1108.70	4143.22	3985.11	26.02	-3.339	0.000	0.713
80.00	-22.52	-39.47	0.00	-2734.3	0.00	2734.33	4336.86	1096.28	4050.91	3912.92	27.44	-3.436	0.000	0.705
81.00	-22.10	-39.26	0.00	-2694.8	0.00	2694.86	3502.12	951.57	3560.67	3204.59	28.16	-3.485	0.000	0.849
82.00	-21.85	-39.09	0.00	-2655.6	0.00	2655.60	3492.03	946.24	3520.94	3177.33	28.90	-3.535	0.000	0.844
84.00	-21.39	-38.71	0.00	-2577.4	0.00	2577.43	3471.52	935.60	3442.15	3122.83	30.40	-3.643	0.000	0.833
86.00	-20.94	-38.33	0.00	-2500.0	0.00	2500.01	3450.59	924.95	3364.26	3068.38	31.95	-3.752	0.000	0.823

Calculated Forces

Structure:	CT00595-S-SBA					**Code:**	EIA/TIA-222-H				7/17/2019			
Site Name:	Stonington East					**Exposure:**	C							
Height:	196.00 (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			

88.00	-20.50	-37.96	0.00	-2423.3	0.00	2423.35	3429.23	914.30	3287.26	3013.99	33.55	-3.862	0.000	0.812
90.00	-20.05	-37.59	0.00	-2347.4	0.00	2347.42	3407.44	903.66	3211.15	2959.67	35.19	-3.971	0.000	0.801
92.00	-19.62	-37.22	0.00	-2272.2	0.00	2272.25	3385.23	893.01	3135.93	2905.43	36.87	-4.081	0.000	0.790
94.00	-19.18	-36.85	0.00	-2197.8	0.00	2197.81	3362.58	882.36	3061.60	2851.28	38.61	-4.191	0.000	0.778
96.00	-18.76	-36.48	0.00	-2124.1	0.00	2124.11	3339.51	871.72	2988.16	2797.25	40.39	-4.302	0.000	0.767
98.00	-18.33	-36.12	0.00	-2051.1	0.00	2051.14	3316.01	861.07	2915.61	2743.33	42.21	-4.413	0.000	0.755
100.00	-17.92	-35.75	0.00	-1978.9	0.00	1978.90	3292.09	850.42	2843.96	2689.56	44.08	-4.524	0.000	0.743
102.00	-17.50	-35.39	0.00	-1907.4	0.00	1907.40	3267.73	839.78	2773.20	2635.93	46.00	-4.635	0.000	0.731
104.00	-17.09	-35.03	0.00	-1836.6	0.00	1836.61	3242.95	829.13	2703.33	2582.46	47.96	-4.746	0.000	0.718
106.00	-16.69	-34.68	0.00	-1766.5	0.00	1766.55	3217.75	818.48	2634.35	2529.17	49.97	-4.857	0.000	0.705
108.00	-16.29	-34.32	0.00	-1697.1	0.00	1697.19	3192.11	807.84	2566.26	2476.07	52.03	-4.968	0.000	0.692
110.00	-15.90	-33.97	0.00	-1628.5	0.00	1628.56	3166.05	797.19	2499.06	2423.18	54.13	-5.078	0.000	0.679
112.00	-15.51	-33.61	0.00	-1560.6	0.00	1560.63	3139.56	786.54	2432.76	2370.49	56.28	-5.189	0.000	0.665
114.00	-15.13	-33.26	0.00	-1493.4	0.00	1493.40	3112.64	775.90	2367.34	2318.04	58.48	-5.299	0.000	0.651
116.00	-14.75	-32.91	0.00	-1426.8	0.00	1426.89	3085.29	765.25	2302.82	2265.83	60.72	-5.409	0.000	0.636
118.00	-14.40	-32.55	0.00	-1361.0	0.00	1361.07	3057.52	754.60	2239.19	2213.87	63.00	-5.518	0.000	0.621
118.75	-14.25	-32.42	0.00	-1336.6	0.00	1336.66	3046.99	750.61	2215.56	2194.45	63.87	-5.560	0.000	0.616
120.00	-13.87	-32.19	0.00	-1296.1	0.00	1296.14	3029.32	743.96	2176.45	2162.18	65.33	-5.628	0.000	0.606
122.00	-13.29	-31.81	0.00	-1231.7	0.00	1231.77	3000.69	733.31	2114.60	2110.77	67.71	-5.736	0.000	0.590
124.00	-12.72	-31.43	0.00	-1168.1	0.00	1168.15	2338.57	614.36	1781.07	1656.86	70.13	-5.843	0.000	0.713
126.00	-12.41	-31.09	0.00	-1105.2	0.00	1105.28	2319.39	605.49	1730.00	1619.32	72.60	-5.949	0.000	0.691
128.00	-12.09	-30.74	0.00	-1043.1	0.00	1043.11	2299.78	596.62	1679.67	1581.89	75.12	-6.067	0.000	0.667
130.00	-11.78	-30.40	0.00	-981.62	0.00	981.62	2279.74	587.74	1630.09	1544.58	77.68	-6.183	0.000	0.643
132.00	-11.48	-30.06	0.00	-920.83	0.00	920.83	2259.27	578.87	1581.25	1507.39	80.29	-6.297	0.000	0.619
134.00	-11.18	-29.72	0.00	-860.71	0.00	860.71	2238.38	570.00	1533.15	1470.34	82.95	-6.409	0.000	0.593
136.00	-10.88	-29.38	0.00	-801.28	0.00	801.28	2217.06	561.13	1485.79	1433.45	85.65	-6.519	0.000	0.567
138.00	-10.60	-29.04	0.00	-742.53	0.00	742.53	2195.31	552.25	1439.18	1396.73	88.40	-6.626	0.000	0.539
140.00	-9.04	-23.02	0.00	-684.46	0.00	684.46	2173.13	543.38	1393.31	1360.19	91.19	-6.729	0.000	0.509
142.00	-8.79	-22.70	0.00	-638.43	0.00	638.43	2150.53	534.51	1348.18	1323.84	94.03	-6.830	0.000	0.488
144.00	-8.55	-22.39	0.00	-593.02	0.00	593.02	2127.50	525.64	1303.79	1287.70	96.90	-6.928	0.000	0.466
146.00	-8.32	-22.09	0.00	-548.23	0.00	548.23	2104.04	516.77	1260.15	1251.78	99.82	-7.024	0.000	0.444
148.00	-8.09	-21.79	0.00	-504.05	0.00	504.05	2080.15	507.89	1217.25	1216.10	102.77	-7.117	0.000	0.420
150.00	-6.34	-17.74	0.00	-460.48	0.00	460.48	2055.84	499.02	1175.10	1180.67	105.77	-7.207	0.000	0.394
152.00	-6.15	-17.44	0.00	-425.00	0.00	425.00	2031.10	490.15	1133.68	1145.49	108.80	-7.294	0.000	0.375
154.00	-5.97	-17.15	0.00	-390.11	0.00	390.11	2005.93	481.28	1093.01	1110.59	111.86	-7.378	0.000	0.356
154.75	-5.90	-17.04	0.00	-377.25	0.00	377.25	1996.38	477.95	1077.95	1097.58	113.02	-7.409	0.000	0.348
156.00	-5.72	-16.86	0.00	-355.95	0.00	355.95	1980.33	472.40	1053.09	1075.98	114.96	-7.461	0.000	0.335
158.00	-5.45	-16.55	0.00	-322.24	0.00	322.24	1946.84	463.53	1013.90	1037.68	118.10	-7.539	0.000	0.315
159.00	-5.31	-16.41	0.00	-305.68	0.00	305.68	942.51	280.76	619.93	509.56	119.68	-7.578	0.000	0.609
160.00	-5.24	-16.27	0.00	-289.28	0.00	289.28	939.15	278.09	608.23	502.90	121.26	-7.615	0.000	0.584
162.00	-5.13	-16.00	0.00	-256.73	0.00	256.73	932.13	272.77	585.17	489.52	124.47	-7.727	0.000	0.533
164.00	-5.01	-15.74	0.00	-224.73	0.00	224.73	924.68	267.45	562.55	476.06	127.72	-7.831	0.000	0.481
166.00	-4.91	-15.48	0.00	-193.25	0.00	193.25	916.80	262.12	540.38	462.54	131.01	-7.927	0.000	0.427
167.00	-2.27	-7.89	0.00	-177.77	0.00	177.77	912.70	259.46	529.46	455.76	132.67	-7.972	0.000	0.393
168.00	-2.23	-7.76	0.00	-169.88	0.00	169.88	908.49	256.80	518.65	448.97	134.34	-8.016	0.000	0.382
170.00	-2.16	-7.51	0.00	-154.36	0.00	154.36	899.76	251.48	497.37	435.36	137.71	-8.100	0.000	0.358
172.00	-2.09	-7.26	0.00	-139.34	0.00	139.34	890.60	246.15	476.54	421.74	141.10	-8.181	0.000	0.334
174.00	-2.03	-7.02	0.00	-124.82	0.00	124.82	881.01	240.83	456.15	408.10	144.54	-8.259	0.000	0.309
176.00	-1.97	-6.78	0.00	-110.79	0.00	110.79	870.99	235.51	436.21	394.47	148.00	-8.333	0.000	0.284
178.00	-1.91	-6.54	0.00	-97.23	0.00	97.23	860.55	230.18	416.71	380.86	151.49	-8.403	0.000	0.258
180.00	-1.85	-6.31	0.00	-84.15	0.00	84.15	849.68	224.86	397.66	367.28	155.02	-8.468	0.000	0.232
182.00	-1.79	-6.09	0.00	-71.53	0.00	71.53	838.38	219.54	379.06	353.74	158.56	-8.528	0.000	0.205
184.00	-1.74	-5.86	0.00	-59.36	0.00	59.36	826.65	214.21	360.90	340.26	162.14	-8.582	0.000	0.177
186.00	-1.69	-5.65	0.00	-47.63	0.00	47.63	814.50	208.89	343.18	326.85	165.73	-8.630	0.000	0.149
188.00	-1.64	-5.44	0.00	-36.33	0.00	36.33	801.91	203.57	325.91	313.52	169.34	-8.671	0.000	0.119
190.00	-1.59	-5.23	0.00	-25.46	0.00	25.46	788.90	198.24	309.09	300.29	172.97	-8.703	0.000	0.088
192.00	-1.55	-5.03	0.00	-15.00	0.00	15.00	775.47	192.92	292.71	287.17	176.60	-8.726	0.000	0.055

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (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	

194.00	-1.51	-4.83	0.00	-4.95	0.00	4.95	761.60	187.60	276.78	274.17	180.25	-8.738	0.000	0.021
195.00	-0.02	-0.12	0.00	-0.12	0.00	0.12	754.51	184.94	268.98	267.73	182.07	-8.740	0.000	0.000
196.00	0.00	-0.12	0.00	0.00	0.00	0.00	747.31	182.27	261.30	261.31	183.89	-8.740	0.000	0.000

Wind Loading - Shaft

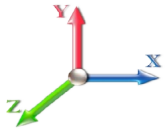
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 38	

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 30

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	5.158	5.67	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	5.158	5.67	0.00	1.200	0.756	2.00	11.251	13.50	76.6	125.8	905.8
4.00		1.00	0.85	5.158	5.67	0.00	1.200	0.810	2.00	11.183	13.42	76.1	133.9	907.7
6.00		1.00	0.85	5.158	5.67	0.00	1.200	0.843	2.00	11.107	13.33	75.6	138.4	906.1
8.00		1.00	0.85	5.158	5.67	0.00	1.200	0.868	2.00	11.029	13.23	75.1	141.4	902.8
10.00		1.00	0.85	5.158	5.67	0.00	1.200	0.887	2.00	10.949	13.14	74.6	143.5	898.7
12.00		1.00	0.85	5.158	5.67	0.00	1.200	0.904	2.00	10.867	13.04	74.0	145.0	894.0
14.00		1.00	0.85	5.158	5.67	0.00	1.200	0.918	2.00	10.785	12.94	73.4	146.0	888.9
16.00		1.00	0.86	5.222	5.74	0.00	1.200	0.930	2.00	10.703	12.84	73.8	146.8	883.5
18.00		1.00	0.88	5.353	5.89	0.00	1.200	0.941	2.00	10.620	12.74	75.0	147.4	877.8
20.00		1.00	0.90	5.473	6.02	0.00	1.200	0.951	2.00	10.536	12.64	76.1	147.7	872.0
22.00		1.00	0.92	5.584	6.14	0.00	1.200	0.960	2.00	10.453	12.54	77.1	147.9	866.0
24.00		1.00	0.94	5.688	6.26	0.00	1.200	0.969	2.00	10.369	12.44	77.8	147.9	859.9
26.00		1.00	0.95	5.784	6.36	0.00	1.200	0.976	2.00	10.285	12.34	78.5	147.9	853.6
28.00		1.00	0.97	5.875	6.46	0.00	1.200	0.984	2.00	10.201	12.24	79.1	147.7	847.2
30.00	Appurtenance(s)	1.00	0.98	5.961	6.56	0.00	1.200	0.991	2.00	10.116	12.14	79.6	147.5	840.8
32.00		1.00	1.00	6.043	6.65	0.00	1.200	0.997	2.00	10.032	12.04	80.0	147.1	834.3
34.00		1.00	1.01	6.120	6.73	0.00	1.200	1.003	2.00	9.947	11.94	80.4	146.7	827.7
35.50	Bot - Section 2	1.00	1.02	6.176	6.79	0.00	1.200	1.007	1.50	7.404	8.89	60.4	109.8	616.4
36.00		1.00	1.02	6.194	6.81	0.00	1.200	1.009	0.50	2.495	2.99	20.4	37.1	364.8
38.00		1.00	1.03	6.265	6.89	0.00	1.200	1.014	2.00	9.928	11.91	82.1	148.1	1451.0
40.00		1.00	1.04	6.333	6.97	0.00	1.200	1.019	2.00	9.843	11.81	82.3	147.5	1438.5
42.00		1.00	1.05	6.399	7.04	0.00	1.200	1.024	2.00	9.758	11.71	82.4	146.9	1425.9
43.00	Top - Section 1	1.00	1.06	6.430	7.07	0.00	1.200	1.027	1.00	4.847	5.82	41.1	73.3	708.3
44.00		1.00	1.06	6.462	7.11	0.00	1.200	1.029	1.00	4.826	5.79	41.2	73.1	381.0
46.00		1.00	1.07	6.522	7.17	0.00	1.200	1.034	2.00	9.588	11.51	82.5	145.6	756.9
48.00		1.00	1.08	6.581	7.24	0.00	1.200	1.038	2.00	9.503	11.40	82.6	144.9	750.4
50.00		1.00	1.09	6.638	7.30	0.00	1.200	1.042	2.00	9.418	11.30	82.5	144.1	743.8
52.00		1.00	1.10	6.693	7.36	0.00	1.200	1.047	2.00	9.332	11.20	82.4	143.3	737.3
54.00		1.00	1.11	6.746	7.42	0.00	1.200	1.050	2.00	9.247	11.10	82.3	142.5	730.7
56.00		1.00	1.12	6.798	7.48	0.00	1.200	1.054	2.00	9.161	10.99	82.2	141.7	724.1
58.00		1.00	1.13	6.849	7.53	0.00	1.200	1.058	2.00	9.076	10.89	82.0	140.8	717.4
60.00		1.00	1.14	6.898	7.59	0.00	1.200	1.062	2.00	8.991	10.79	81.9	139.9	710.7
62.00		1.00	1.14	6.945	7.64	0.00	1.200	1.065	2.00	8.905	10.69	81.6	139.0	704.0
64.00		1.00	1.15	6.992	7.69	0.00	1.200	1.068	2.00	8.819	10.58	81.4	138.0	697.3
66.00		1.00	1.16	7.037	7.74	0.00	1.200	1.072	2.00	8.734	10.48	81.1	137.1	690.6
68.00		1.00	1.17	7.082	7.79	0.00	1.200	1.075	2.00	8.648	10.38	80.8	136.1	683.8
70.00		1.00	1.17	7.125	7.84	0.00	1.200	1.078	2.00	8.563	10.28	80.5	135.1	677.0
72.00		1.00	1.18	7.168	7.88	0.00	1.200	1.081	2.00	8.477	10.17	80.2	134.1	670.2
74.00		1.00	1.19	7.209	7.93	0.00	1.200	1.084	2.00	8.391	10.07	79.8	133.0	663.4
74.50	Bot - Section 3	1.00	1.19	7.219	7.94	0.00	1.200	1.085	0.50	2.084	2.50	19.9	33.2	164.9
76.00		1.00	1.19	7.250	7.97	0.00	1.200	1.087	1.50	6.318	7.58	60.5	100.6	836.3
78.00		1.00	1.20	7.289	8.02	0.00	1.200	1.090	2.00	8.349	10.02	80.3	133.0	1104.6
80.00		1.00	1.21	7.328	8.06	0.00	1.200	1.093	2.00	8.263	9.92	79.9	132.0	1092.8
81.00	Top - Section 2	1.00	1.21	7.347	8.08	0.00	1.200	1.094	1.00	4.099	4.92	39.8	65.7	542.1
82.00		1.00	1.21	7.366	8.10	0.00	1.200	1.095	1.00	4.078	4.89	39.7	65.4	286.2
84.00		1.00	1.22	7.404	8.14	0.00	1.200	1.098	2.00	8.092	9.71	79.1	129.8	567.6

Wind Loading - Shaft

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (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

86.00	1.00	1.23	7.441	8.18	0.00	1.200	1.101	2.00	8.006	9.61	78.6	128.6	561.5
88.00	1.00	1.23	7.477	8.22	0.00	1.200	1.103	2.00	7.920	9.50	78.2	127.5	555.4
90.00	1.00	1.24	7.512	8.26	0.00	1.200	1.106	2.00	7.834	9.40	77.7	126.4	549.3
92.00	1.00	1.24	7.547	8.30	0.00	1.200	1.108	2.00	7.748	9.30	77.2	125.2	543.2
94.00	1.00	1.25	7.581	8.34	0.00	1.200	1.110	2.00	7.663	9.20	76.7	124.0	537.1
96.00	1.00	1.25	7.615	8.38	0.00	1.200	1.113	2.00	7.577	9.09	76.2	122.9	531.0
98.00	1.00	1.26	7.648	8.41	0.00	1.200	1.115	2.00	7.491	8.99	75.6	121.7	524.8
100.00	1.00	1.27	7.681	8.45	0.00	1.200	1.117	2.00	7.405	8.89	75.1	120.5	518.7
102.00	1.00	1.27	7.713	8.48	0.00	1.200	1.119	2.00	7.319	8.78	74.5	119.2	512.5
104.00	1.00	1.28	7.744	8.52	0.00	1.200	1.122	2.00	7.233	8.68	73.9	118.0	506.3
106.00	1.00	1.28	7.776	8.55	0.00	1.200	1.124	2.00	7.147	8.58	73.4	116.8	500.1
108.00	1.00	1.29	7.806	8.59	0.00	1.200	1.126	2.00	7.061	8.47	72.8	115.5	493.9
110.00	1.00	1.29	7.836	8.62	0.00	1.204 *	1.128	2.00	6.975	8.40	72.4	114.3	487.7
112.00	1.00	1.30	7.866	8.65	0.00	1.209 *	1.130	2.00	6.889	8.33	72.0	113.0	481.5
114.00	1.00	1.30	7.896	8.69	0.00	1.214 *	1.132	2.00	6.803	8.26	71.7	111.8	475.3
116.00	1.00	1.31	7.925	8.72	0.00	1.219 *	1.134	2.00	6.717	8.19	71.4	110.5	469.1
118.00	1.00	1.31	7.953	8.75	0.00	1.224 *	1.136	2.00	6.631	8.12	71.0	109.2	462.8
118.75 Bot - Section 4	1.00	1.31	7.964	8.76	0.00	1.228 *	1.137	0.75	2.464	3.03	26.5	40.8	172.1
120.00	1.00	1.32	7.981	8.78	0.00	1.230 *	1.138	1.25	4.148	5.10	44.8	68.6	470.6
122.00	1.00	1.32	8.009	8.81	0.00	1.235 *	1.140	2.00	6.567	8.11	71.4	108.5	744.3
124.00 Top - Section 3	1.00	1.32	8.037	8.84	0.00	1.241 *	1.142	2.00	6.480	8.04	71.1	107.2	733.9
126.00	1.00	1.33	8.064	8.87	0.00	1.239 *	1.143	2.00	6.394	7.92	70.3	105.8	389.7
128.00	1.00	1.33	8.090	8.90	0.00	1.245 *	1.145	2.00	6.308	7.85	69.9	104.5	384.2
130.00	1.00	1.34	8.117	8.93	0.00	1.251 *	1.147	2.00	6.222	7.78	69.5	103.2	378.8
132.00	1.00	1.34	8.143	8.96	0.00	1.257 *	1.149	2.00	6.136	7.71	69.1	101.9	373.3
134.00	1.00	1.35	8.169	8.99	0.00	1.264 *	1.150	2.00	6.050	7.64	68.7	100.5	367.8
136.00	1.00	1.35	8.194	9.01	0.00	1.270 *	1.152	2.00	5.964	7.57	68.3	99.2	362.4
138.00	1.00	1.35	8.220	9.04	0.00	1.277 *	1.154	2.00	5.878	7.51	67.9	97.8	356.9
140.00 Appurtenance(s)	1.00	1.36	8.245	9.07	0.00	1.284 *	1.155	2.00	5.792	7.44	67.4	96.5	351.4
142.00	1.00	1.36	8.269	9.10	0.00	1.200	1.157	2.00	5.705	6.85	62.3	95.1	345.9
144.00	1.00	1.37	8.294	9.12	0.00	1.200	1.159	2.00	5.619	6.74	61.5	93.7	340.4
146.00	1.00	1.37	8.318	9.15	0.00	1.200	1.160	2.00	5.533	6.64	60.8	92.3	334.9
148.00	1.00	1.37	8.342	9.18	0.00	1.200	1.162	2.00	5.447	6.54	60.0	91.0	329.4
150.00 Appurtenance(s)	1.00	1.38	8.365	9.20	0.00	1.200	1.163	2.00	5.361	6.43	59.2	89.6	323.9
152.00	1.00	1.38	8.389	9.23	0.00	1.200	1.165	2.00	5.275	6.33	58.4	88.2	318.3
154.00	1.00	1.39	8.412	9.25	0.00	1.200	1.167	2.00	5.188	6.23	57.6	86.8	312.8
154.75 Bot - Section 5	1.00	1.39	8.420	9.26	0.00	1.200	1.167	0.75	1.923	2.31	21.4	32.3	116.0
156.00	1.00	1.39	8.435	9.28	0.00	1.200	1.168	1.25	3.219	3.86	35.8	54.1	276.7
158.00	1.00	1.39	8.457	9.30	0.00	1.200	1.170	2.00	5.081	6.10	56.7	85.1	436.0
159.00 Top - Section 4	1.00	1.40	8.468	9.32	0.00	1.200	1.170	1.00	2.508	3.01	28.0	42.2	215.2
160.00	1.00	1.40	8.480	9.33	0.00	1.200	1.171	1.00	2.486	2.98	27.8	41.8	106.9
162.00	1.00	1.40	8.502	9.35	0.00	1.200	1.172	2.00	4.908	5.89	55.1	82.3	210.4
164.00	1.00	1.40	8.524	9.38	0.00	1.200	1.174	2.00	4.822	5.79	54.3	80.8	206.5
166.00	1.00	1.41	8.546	9.40	0.00	1.200	1.175	2.00	4.736	5.68	53.4	79.4	202.6
167.00 Appurtenance(s)	1.00	1.41	8.556	9.41	0.00	1.200	1.176	1.00	2.336	2.80	26.4	39.4	100.0
168.00	1.00	1.41	8.567	9.42	0.00	1.200	1.177	1.00	2.314	2.78	26.2	39.0	99.1
170.00	1.00	1.42	8.589	9.45	0.00	1.200	1.178	2.00	4.564	5.48	51.7	76.5	194.8
172.00	1.00	1.42	8.610	9.47	0.00	1.200	1.180	2.00	4.477	5.37	50.9	75.1	190.9
174.00	1.00	1.42	8.631	9.49	0.00	1.200	1.181	2.00	4.391	5.27	50.0	73.7	187.0
176.00	1.00	1.43	8.651	9.52	0.00	1.200	1.182	2.00	4.305	5.17	49.2	72.2	183.0
178.00	1.00	1.43	8.672	9.54	0.00	1.200	1.184	2.00	4.219	5.06	48.3	70.7	179.1
180.00	1.00	1.43	8.693	9.56	0.00	1.200	1.185	2.00	4.132	4.96	47.4	69.3	175.2
182.00	1.00	1.44	8.713	9.58	0.00	1.200	1.186	2.00	4.046	4.86	46.5	67.8	171.2
184.00	1.00	1.44	8.733	9.61	0.00	1.200	1.187	2.00	3.960	4.75	45.6	66.4	167.3
186.00	1.00	1.44	8.753	9.63	0.00	1.200	1.189	2.00	3.874	4.65	44.8	64.9	163.3
188.00	1.00	1.45	8.772	9.65	0.00	1.200	1.190	2.00	3.787	4.54	43.9	63.4	159.4
190.00	1.00	1.45	8.792	9.67	0.00	1.200	1.191	2.00	3.701	4.44	43.0	61.9	155.4

Wind Loading - Shaft

Structure: CT00595-S-SBA
Site Name: Stonington East
Height: 196.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

7/17/2019

Tower Engineering Solutions

192.00		1.00	1.45	8.811	9.69	0.00	1.200	1.193	2.00	3.615	4.34	42.0	60.4	151.5
194.00		1.00	1.46	8.831	9.71	0.00	1.200	1.194	2.00	3.529	4.23	41.1	59.0	147.5
195.00	Appurtenance(s)	1.00	1.46	8.840	9.72	0.00	1.200	1.194	1.00	1.732	2.08	20.2	29.1	72.4
196.00	Appurtenance(s)	1.00	1.46	8.850	9.73	0.00	1.200	1.195	1.00	1.710	2.05	20.0	28.7	71.4
								Totals:	**196.00**			**6,818.6**		**56,945.0**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

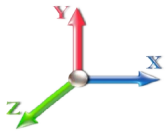
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 41	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 30

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	196.00	6' Lightning rod	1	8.850	9.735	1.00	1.00	1.12	27.36	0.000	0.000	10.95	0.00	0.00
2	195.00	TD-RRH8x20-25	3	8.840	9.724	0.54	0.80	7.38	464.14	0.000	0.000	71.81	0.00	0.00
3	195.00	APXVTM14-C-120	3	8.840	9.724	0.65	0.80	13.78	510.21	0.000	0.000	133.96	0.00	0.00
4	195.00	1900MHz RRH	3	8.840	9.724	0.54	0.80	7.64	288.93	0.000	0.000	74.29	0.00	0.00
5	195.00	APXVSPP18-C-A20	3	8.840	9.724	0.68	0.80	20.26	411.59	0.000	0.000	197.03	0.00	0.00
6	195.00	800MHz Filter	3	8.840	9.724	0.40	0.80	1.47	52.90	0.000	0.000	14.27	0.00	0.00
7	195.00	ACU-A20-N	4	8.840	9.724	0.40	0.80	0.55	11.36	0.000	0.000	5.34	0.00	0.00
8	195.00	Low Profile Platform	1	8.840	9.724	1.00	1.00	34.09	2395.80	0.000	0.000	331.47	0.00	0.00
9	195.00	800MHz RRH	3	8.840	9.724	0.54	0.80	5.52	307.16	0.000	0.000	53.67	0.00	0.00
10	167.00	(3) SFS-H-L (V-Braces)	1	8.556	9.412	1.00	1.00	11.43	391.39	0.000	0.000	107.56	0.00	0.00
11	167.00	PRK-1245 (kicker kit)	1	8.556	9.412	1.00	1.00	16.20	681.50	0.000	0.000	152.51	0.00	0.00
12	167.00	(3) VSR-TS-B	1	8.556	9.412	1.00	1.00	21.11	605.67	0.000	0.000	198.67	0.00	0.00
13	167.00	HRK12 (Handrail Kit)	1	8.556	9.412	1.00	1.00	11.20	785.08	0.000	0.000	105.37	0.00	0.00
14	167.00	AIR 21, 1.3M, B4A B2P	3	8.556	9.412	0.62	0.75	12.77	645.20	0.000	0.000	120.19	0.00	0.00
15	167.00	4449	3	8.556	9.412	0.50	0.75	3.07	415.67	0.000	0.000	28.92	0.00	0.00
16	167.00	AIR 21, 1.3M, B2A B4P	3	8.556	9.412	0.62	0.75	12.77	649.52	0.000	0.000	120.19	0.00	0.00
17	167.00	KRY 112 144/1	3	8.556	9.412	0.38	0.75	0.82	54.98	0.000	0.000	7.73	0.00	0.00
18	167.00	Low Profile	1	8.556	9.412	0.00	1.00	33.90	2382.03	0.000	0.000	319.08	0.00	0.00
19	167.00	APXVAARR24_43-U-NA2	3	8.556	9.412	0.54	0.75	34.55	1066.78	0.000	0.000	325.19	0.00	0.00
20	150.00	DC6-48-60-18-8F	1	8.365	9.202	0.80	0.80	1.55	61.68	0.000	0.000	14.26	0.00	0.00
21	150.00	RRUS 11	6	8.365	9.202	0.54	0.80	9.46	695.59	0.000	0.000	87.05	0.00	0.00
22	150.00	LGP13519	6	8.365	9.202	0.40	0.80	1.54	59.95	0.000	0.000	14.19	0.00	0.00
23	150.00	LGP21401	6	8.365	9.202	0.40	0.80	4.43	158.93	0.000	0.000	40.79	0.00	0.00
24	150.00	AM-X-CD-14-65-00T-RET	1	8.365	9.202	0.62	0.80	3.85	86.13	0.000	0.000	35.42	0.00	0.00
25	150.00	P65-17-XLH-RR	2	8.365	9.202	0.62	0.80	16.75	306.40	0.000	0.000	154.13	0.00	0.00
26	150.00	7700.00	6	8.365	9.202	0.65	0.80	8.21	310.74	0.000	0.000	75.53	0.00	0.00
27	150.00	Low Profile	1	8.365	9.202	0.00	1.00	33.77	2372.61	0.000	0.000	310.78	0.00	0.00
28	140.00	APL866513	2	8.245	9.069	0.75	0.80	6.98	195.73	0.000	0.000	63.33	0.00	0.00
29	140.00	HBXX-6517DS-A2M	6	8.245	9.069	0.68	0.80	42.77	691.50	0.000	0.000	387.87	0.00	0.00
30	140.00	LNX-6414DS-A1M	3	8.245	9.069	0.66	0.80	19.56	316.18	0.000	0.000	177.42	0.00	0.00
31	140.00	LNX-8513DS-VTM	2	8.245	9.069	0.68	0.80	13.65	195.56	0.000	0.000	123.82	0.00	0.00
32	140.00	Low Profile Platform	1	8.245	9.069	0.80	0.80	26.95	2366.61	0.000	0.000	244.45	0.00	0.00
33	140.00	RRH2x40 700	3	8.245	9.069	0.54	0.80	5.22	262.84	0.000	0.000	47.35	0.00	0.00
34	140.00	RRH2x60-2100	3	8.245	9.069	0.54	0.80	2.99	177.97	0.000	0.000	27.13	0.00	0.00
35	140.00	DB-T1-6Z-8AB-0Z	1	8.245	9.069	0.40	0.80	2.15	112.20	0.000	0.000	19.46	0.00	0.00
36	30.00	GPS	1	5.961	6.557	1.00	1.00	1.40	20.64	0.000	0.000	9.21	0.00	0.00
							Totals:		**20,538.52**			**4,210.39**		

Total Applied Force Summary

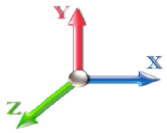
Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 42

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 30

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		76.61	1057.05	0.00	0.00
4.00		76.15	1061.70	0.00	0.00
6.00		75.63	1061.74	0.00	0.00
8.00		75.10	1059.78	0.00	0.00
10.00		74.55	1056.68	0.00	0.00
12.00		74.00	1052.83	0.00	0.00
14.00		73.44	1048.46	0.00	0.00
16.00		73.78	1043.69	0.00	0.00
18.00		75.04	1038.61	0.00	0.00
20.00		76.12	1033.29	0.00	0.00
22.00		77.05	1027.76	0.00	0.00
24.00		77.84	1022.06	0.00	0.00
26.00		78.53	1016.21	0.00	0.00
28.00		79.11	1010.24	0.00	0.00
30.00	(1) attachments	88.81	1024.80	0.00	0.00
32.00		80.01	997.98	0.00	0.00
34.00		80.36	991.71	0.00	0.00
35.50		60.36	739.63	0.00	0.00
36.00		20.40	405.84	0.00	0.00
38.00		82.11	1615.65	0.00	0.00
40.00		82.29	1603.41	0.00	0.00
42.00		82.42	1591.10	0.00	0.00
43.00		41.14	790.97	0.00	0.00
44.00		41.16	463.66	0.00	0.00
46.00		82.55	922.54	0.00	0.00
48.00		82.55	916.28	0.00	0.00
50.00		82.52	909.97	0.00	0.00
52.00		82.45	903.62	0.00	0.00
54.00		82.34	897.24	0.00	0.00
56.00		82.21	890.82	0.00	0.00
58.00		82.05	884.37	0.00	0.00
60.00		81.86	877.88	0.00	0.00
62.00		81.64	871.37	0.00	0.00
64.00		81.40	864.83	0.00	0.00
66.00		81.13	858.27	0.00	0.00
68.00		80.84	851.68	0.00	0.00
70.00		80.53	845.06	0.00	0.00
72.00		80.20	838.43	0.00	0.00
74.00		79.85	831.77	0.00	0.00
74.50		19.86	206.98	0.00	0.00
76.00		60.46	962.65	0.00	0.00
78.00		80.33	1273.22	0.00	0.00
80.00		79.93	1261.56	0.00	0.00
81.00		39.76	626.52	0.00	0.00
82.00		39.65	370.69	0.00	0.00
84.00		79.08	736.71	0.00	0.00

Total Applied Force Summary

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (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

Tower Engineering Solutions

86.00		78.63	730.77	0.00	0.00
88.00		78.17	724.82	0.00	0.00
90.00		77.69	718.86	0.00	0.00
92.00		77.19	712.87	0.00	0.00
94.00		76.68	706.88	0.00	0.00
96.00		76.16	700.87	0.00	0.00
98.00		75.62	694.85	0.00	0.00
100.00		75.07	688.81	0.00	0.00
102.00		74.51	682.76	0.00	0.00
104.00		73.94	676.70	0.00	0.00
106.00		73.35	670.63	0.00	0.00
108.00		72.76	664.55	0.00	0.00
110.00		72.37	658.46	0.00	0.00
112.00		72.04	652.35	0.00	0.00
114.00		71.70	646.24	0.00	0.00
116.00		71.35	640.11	0.00	0.00
118.00		71.00	633.98	0.00	0.00
118.75		26.50	236.30	0.00	0.00
120.00		44.80	577.61	0.00	0.00
122.00		71.44	915.61	0.00	0.00
124.00		71.07	905.32	0.00	0.00
126.00		70.28	561.22	0.00	0.00
128.00		69.89	555.87	0.00	0.00
130.00		69.50	550.51	0.00	0.00
132.00		69.10	545.14	0.00	0.00
134.00		68.69	539.77	0.00	0.00
136.00		68.28	534.39	0.00	0.00
138.00		67.86	529.00	0.00	0.00
140.00	(21) attachments	1158.27	4842.19	0.00	0.00
142.00		62.28	417.27	0.00	0.00
144.00		61.52	411.77	0.00	0.00
146.00		60.75	406.26	0.00	0.00
148.00		59.98	400.75	0.00	0.00
150.00	(29) attachments	791.35	4447.25	0.00	0.00
152.00		58.41	357.69	0.00	0.00
154.00		57.61	352.16	0.00	0.00
154.75		21.38	130.80	0.00	0.00
156.00		35.84	301.33	0.00	0.00
158.00		56.72	475.35	0.00	0.00
159.00		28.04	234.84	0.00	0.00
160.00		27.83	126.54	0.00	0.00
162.00		55.08	249.80	0.00	0.00
164.00		54.26	245.90	0.00	0.00
166.00		53.42	241.99	0.00	0.00
167.00	(20) attachments	1511.78	7797.52	0.00	0.00
168.00		26.17	102.22	0.00	0.00
170.00		51.74	201.14	0.00	0.00
172.00		50.88	197.22	0.00	0.00
174.00		50.03	193.30	0.00	0.00
176.00		49.16	189.37	0.00	0.00
178.00		48.29	185.44	0.00	0.00
180.00		47.42	181.50	0.00	0.00
182.00		46.53	177.56	0.00	0.00
184.00		45.65	173.61	0.00	0.00
186.00		44.75	169.66	0.00	0.00
188.00		43.86	165.71	0.00	0.00
190.00		42.95	161.75	0.00	0.00

Total Applied Force Summary

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (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

192.00		42.04	157.79	0.00	0.00
194.00		41.13	153.82	0.00	0.00
195.00	(23) attachments	902.05	4517.71	0.00	0.00
196.00	(1) attachments	30.93	98.80	0.00	0.00
	Totals:	**11,028.95**	**89,938.59**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

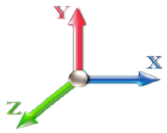
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 45	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	5.158	0.00	67.12
2.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.92	0.00	0.061	0.000	5.158	0.00	12.71
4.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	5.158	0.00	69.34
4.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.94	0.00	0.061	0.000	5.158	0.00	13.26
6.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	5.158	0.00	70.71
6.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.95	0.00	0.062	0.000	5.158	0.00	13.60
8.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	5.158	0.00	71.72
8.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.96	0.00	0.062	0.000	5.158	0.00	13.86
10.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	5.158	0.00	72.53
10.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.96	0.00	0.063	0.000	5.158	0.00	14.06
12.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	5.158	0.00	73.20
12.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.97	0.00	0.063	0.000	5.158	0.00	14.23
14.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.064	0.000	5.158	0.00	73.79
14.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.97	0.00	0.064	0.000	5.158	0.00	14.38
16.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.064	0.000	5.222	0.00	74.30
16.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.98	0.00	0.064	0.000	5.222	0.00	14.52
18.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	5.353	0.00	74.76
18.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.98	0.00	0.065	0.000	5.353	0.00	14.64
20.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	5.473	0.00	75.17
20.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.98	0.00	0.065	0.000	5.473	0.00	14.74
22.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	5.584	0.00	75.55
22.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.99	0.00	0.066	0.000	5.584	0.00	14.84
24.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	5.688	0.00	75.90
24.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.99	0.00	0.066	0.000	5.688	0.00	14.94
26.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	5.784	0.00	76.22
26.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.99	0.00	0.067	0.000	5.784	0.00	15.02
28.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	5.875	0.00	76.53
28.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.99	0.00	0.068	0.000	5.875	0.00	15.10
30.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	5.961	0.00	76.81
30.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.00	0.00	0.068	0.000	5.961	0.00	15.18
32.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	6.043	0.00	77.08
32.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.00	0.00	0.069	0.000	6.043	0.00	15.25
34.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	6.120	0.00	77.33
34.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.00	0.00	0.069	0.000	6.120	0.00	15.31
35.50	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.070	0.000	6.176	0.00	58.14
35.50	1 5/8" Hybrid	Yes	1.50	0.000	4.00	0.75	0.00	0.070	0.000	6.176	0.00	11.52
36.00	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.070	0.000	6.194	0.00	19.39
36.00	1 5/8" Hybrid	Yes	0.50	0.000	4.00	0.25	0.00	0.070	0.000	6.194	0.00	3.84
38.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	6.265	0.00	77.80
38.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.00	0.00	0.071	0.000	6.265	0.00	15.44
40.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	6.333	0.00	78.02
40.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.01	0.00	0.071	0.000	6.333	0.00	15.50
42.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	6.399	0.00	78.23
42.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.01	0.00	0.072	0.000	6.399	0.00	15.55
43.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	6.430	0.00	39.17
43.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.50	0.00	0.072	0.000	6.430	0.00	7.79
44.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	6.462	0.00	39.22

Linear Appurtenance Segment Forces (Factored)

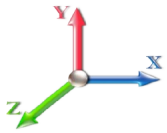
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 46	

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 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
44.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.50	0.00	0.072	0.000	6.462	0.00	7.80
46.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	6.522	0.00	78.62
46.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.01	0.00	0.072	0.000	6.522	0.00	15.66
48.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	6.581	0.00	78.81
48.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.01	0.00	0.073	0.000	6.581	0.00	15.71
50.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	6.638	0.00	78.99
50.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.01	0.00	0.074	0.000	6.638	0.00	15.76
52.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	6.693	0.00	79.16
52.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.074	0.000	6.693	0.00	15.80
54.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.746	0.00	79.33
54.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.075	0.000	6.746	0.00	15.85
56.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.798	0.00	79.49
56.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.076	0.000	6.798	0.00	15.89
58.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.849	0.00	79.64
58.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.076	0.000	6.849	0.00	15.93
60.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.898	0.00	79.80
60.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.077	0.000	6.898	0.00	15.97
62.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.945	0.00	79.94
62.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.078	0.000	6.945	0.00	16.01
64.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	6.992	0.00	80.08
64.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.079	0.000	6.992	0.00	16.05
66.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	7.037	0.00	80.22
66.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.080	0.000	7.037	0.00	16.09
68.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	7.082	0.00	80.36
68.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.02	0.00	0.080	0.000	7.082	0.00	16.13
70.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	7.125	0.00	80.49
70.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.03	0.00	0.081	0.000	7.125	0.00	16.16
72.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	7.168	0.00	80.62
72.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.03	0.00	0.082	0.000	7.168	0.00	16.20
74.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	7.209	0.00	80.74
74.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.03	0.00	0.083	0.000	7.209	0.00	16.23
74.50	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.084	0.000	7.219	0.00	20.19
74.50	1 5/8" Hybrid	Yes	0.50	0.000	4.00	0.26	0.00	0.084	0.000	7.219	0.00	4.06
76.00	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.084	0.000	7.250	0.00	60.65
76.00	1 5/8" Hybrid	Yes	1.50	0.000	4.00	0.77	0.00	0.084	0.000	7.250	0.00	12.20
78.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	7.289	0.00	80.99
78.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.03	0.00	0.085	0.000	7.289	0.00	16.30
80.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	7.328	0.00	81.10
80.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.03	0.00	0.086	0.000	7.328	0.00	16.33
81.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.087	0.000	7.347	0.00	40.58
81.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.52	0.00	0.087	0.000	7.347	0.00	8.17
82.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.086	0.000	7.366	0.00	40.61
82.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.52	0.00	0.086	0.000	7.366	0.00	8.18
84.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	7.404	0.00	81.33
84.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.03	0.00	0.086	0.000	7.404	0.00	16.39
86.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	7.441	0.00	81.44
86.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.03	0.00	0.087	0.000	7.441	0.00	16.42

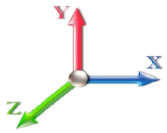
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 47	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
88.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	7.477	0.00	81.55
88.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.03	0.00	0.088	0.000	7.477	0.00	16.45
90.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	7.512	0.00	81.65
90.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.089	0.000	7.512	0.00	16.48
92.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	7.547	0.00	81.75
92.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.090	0.000	7.547	0.00	16.51
94.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	7.581	0.00	81.86
94.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.091	0.000	7.581	0.00	16.54
96.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	7.615	0.00	81.95
96.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.093	0.000	7.615	0.00	16.56
98.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.094	0.000	7.648	0.00	82.05
98.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.094	0.000	7.648	0.00	16.59
100.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	7.681	0.00	82.15
100.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.095	0.000	7.681	0.00	16.62
102.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.096	0.000	7.713	0.00	82.24
102.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.096	0.000	7.713	0.00	16.64
104.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.097	0.000	7.744	0.00	82.33
104.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.097	0.000	7.744	0.00	16.67
106.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.098	0.000	7.776	0.00	82.42
106.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.098	0.000	7.776	0.00	16.69
108.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.100	0.000	7.806	0.00	82.51
108.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.100	0.000	7.806	0.00	16.72
110.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.101	1.003	7.836	0.00	82.60
110.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.101	1.003	7.836	0.00	16.74
112.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.102	1.007	7.866	0.00	82.69
112.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.102	1.007	7.866	0.00	16.77
114.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.104	1.011	7.896	0.00	82.77
114.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.104	1.011	7.896	0.00	16.79
116.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.105	1.016	7.925	0.00	82.86
116.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.04	0.00	0.105	1.016	7.925	0.00	16.81
118.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.107	1.020	7.953	0.00	82.94
118.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.107	1.020	7.953	0.00	16.84
118.75	1 5/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.108	1.023	7.964	0.00	31.11
118.75	1 5/8" Hybrid	Yes	0.75	0.000	4.00	0.39	0.00	0.108	1.023	7.964	0.00	6.32
120.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.108	1.025	7.981	0.00	51.89
120.00	1 5/8" Hybrid	Yes	1.25	0.000	4.00	0.65	0.00	0.108	1.025	7.981	0.00	10.54
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.029	8.009	0.00	83.10
122.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.110	1.029	8.009	0.00	16.88
124.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	8.037	0.00	83.18
124.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.111	1.034	8.037	0.00	16.90
126.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.033	8.064	0.00	83.26
126.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.111	1.033	8.064	0.00	16.92
128.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.037	8.090	0.00	83.33
128.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.112	1.037	8.090	0.00	16.95
130.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	8.117	0.00	83.41
130.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.114	1.042	8.117	0.00	16.97
132.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	8.143	0.00	83.48

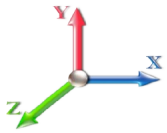
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 48	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 30

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
132.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.116	1.048	8.143	0.00	16.99
134.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.053	8.169	0.00	83.56
134.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.118	1.053	8.169	0.00	17.01
136.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.058	8.194	0.00	83.63
136.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.119	1.058	8.194	0.00	17.03
138.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.064	8.220	0.00	83.70
138.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.121	1.064	8.220	0.00	17.05
140.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	8.245	0.00	83.77
140.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	1.05	0.00	0.123	1.070	8.245	0.00	17.07
										Totals:	**0.0**	**6,678.6**

Calculated Forces

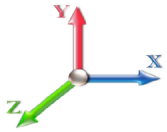
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 49	

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 30

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	-89.94	-11.04	0.00	-1392.6	0.00	1392.69	5795.46	1682.91	8909.80	7510.36	0.00	0.000	0.000	0.201
2.00	-88.88	-10.99	0.00	-1370.6	0.00	1370.61	5776.44	1669.60	8769.44	7426.09	0.00	-0.016	0.000	0.200
4.00	-87.81	-10.94	0.00	-1348.6	0.00	1348.63	5757.00	1656.30	8630.20	7341.68	0.01	-0.032	0.000	0.199
6.00	-86.75	-10.89	0.00	-1326.7	0.00	1326.76	5737.14	1642.99	8492.07	7257.12	0.03	-0.048	0.000	0.198
8.00	-85.68	-10.83	0.00	-1304.9	0.00	1304.99	5716.84	1629.68	8355.05	7172.43	0.05	-0.064	0.000	0.197
10.00	-84.62	-10.78	0.00	-1283.3	0.00	1283.32	5696.12	1616.37	8219.15	7087.63	0.09	-0.081	0.000	0.196
12.00	-83.57	-10.73	0.00	-1261.7	0.00	1261.76	5674.97	1603.06	8084.36	7002.73	0.12	-0.097	0.000	0.195
14.00	-82.52	-10.68	0.00	-1240.3	0.00	1240.30	5653.40	1589.76	7950.69	6917.75	0.17	-0.114	0.000	0.194
16.00	-81.47	-10.63	0.00	-1218.9	0.00	1218.94	5631.39	1576.45	7818.13	6832.69	0.22	-0.131	0.000	0.193
18.00	-80.43	-10.57	0.00	-1197.6	0.00	1197.69	5608.96	1563.14	7686.69	6747.57	0.28	-0.148	0.000	0.192
20.00	-79.39	-10.52	0.00	-1176.5	0.00	1176.54	5586.10	1549.83	7556.36	6662.41	0.34	-0.165	0.000	0.191
22.00	-78.36	-10.46	0.00	-1155.5	0.00	1155.50	5562.81	1536.52	7427.15	6577.21	0.42	-0.182	0.000	0.190
24.00	-77.34	-10.40	0.00	-1134.5	0.00	1134.58	5539.10	1523.21	7299.05	6491.99	0.50	-0.199	0.000	0.189
26.00	-76.32	-10.35	0.00	-1113.7	0.00	1113.77	5514.96	1509.91	7172.06	6406.77	0.58	-0.217	0.000	0.188
28.00	-75.31	-10.29	0.00	-1093.0	0.00	1093.08	5490.39	1496.60	7046.19	6321.55	0.68	-0.234	0.000	0.187
30.00	-74.28	-10.22	0.00	-1072.5	0.00	1072.51	5465.39	1483.29	6921.43	6236.35	0.78	-0.252	0.000	0.186
32.00	-73.28	-10.15	0.00	-1052.0	0.00	1052.08	5439.96	1469.98	6797.79	6151.18	0.89	-0.270	0.000	0.185
34.00	-72.28	-10.09	0.00	-1031.7	0.00	1031.78	5414.11	1456.67	6675.26	6066.06	1.01	-0.288	0.000	0.183
35.50	-71.54	-10.04	0.00	-1016.6	0.00	1016.65	5394.44	1446.69	6584.09	6002.26	1.10	-0.302	0.000	0.183
36.00	-71.13	-10.03	0.00	-1011.6	0.00	1011.63	5387.83	1443.36	6553.84	5981.00	1.13	-0.306	0.000	0.182
38.00	-69.52	-9.96	0.00	-991.58	0.00	991.58	5361.12	1430.06	6433.54	5896.01	1.26	-0.325	0.000	0.181
40.00	-67.91	-9.89	0.00	-971.66	0.00	971.66	5333.99	1416.75	6314.36	5811.11	1.40	-0.343	0.000	0.180
42.00	-66.32	-9.81	0.00	-951.88	0.00	951.88	5306.43	1403.44	6196.29	5726.30	1.55	-0.362	0.000	0.179
43.00	-65.52	-9.78	0.00	-942.07	0.00	942.07	4823.70	1326.07	5927.09	5273.35	1.63	-0.371	0.000	0.192
44.00	-65.06	-9.75	0.00	-932.29	0.00	932.29	4812.47	1319.86	5871.70	5236.23	1.71	-0.380	0.000	0.192
46.00	-64.13	-9.68	0.00	-912.79	0.00	912.79	4789.68	1307.44	5761.71	5161.99	1.87	-0.400	0.000	0.190
48.00	-63.21	-9.61	0.00	-893.43	0.00	893.43	4766.46	1295.02	5652.75	5087.77	2.04	-0.419	0.000	0.189
50.00	-62.30	-9.55	0.00	-874.20	0.00	874.20	4742.82	1282.60	5544.84	5013.57	2.22	-0.438	0.000	0.188
52.00	-61.40	-9.48	0.00	-855.11	0.00	855.11	4718.75	1270.18	5437.96	4939.41	2.41	-0.458	0.000	0.186
54.00	-60.50	-9.41	0.00	-836.16	0.00	836.16	4694.25	1257.76	5332.12	4865.31	2.61	-0.478	0.000	0.185
56.00	-59.60	-9.34	0.00	-817.34	0.00	817.34	4669.32	1245.33	5227.33	4791.28	2.81	-0.498	0.000	0.183
58.00	-58.72	-9.27	0.00	-798.66	0.00	798.66	4643.97	1232.91	5123.57	4717.32	3.02	-0.518	0.000	0.182
60.00	-57.84	-9.20	0.00	-780.12	0.00	780.12	4618.19	1220.49	5020.86	4643.46	3.24	-0.538	0.000	0.181
62.00	-56.96	-9.13	0.00	-761.72	0.00	761.72	4591.98	1208.07	4919.18	4569.71	3.47	-0.558	0.000	0.179
64.00	-56.09	-9.06	0.00	-743.45	0.00	743.45	4565.34	1195.65	4818.55	4496.07	3.71	-0.578	0.000	0.178
66.00	-55.23	-8.99	0.00	-725.33	0.00	725.33	4538.28	1183.23	4718.95	4422.57	3.96	-0.599	0.000	0.176
68.00	-54.38	-8.92	0.00	-707.35	0.00	707.35	4510.78	1170.81	4620.40	4349.22	4.21	-0.620	0.000	0.175
70.00	-53.53	-8.85	0.00	-689.51	0.00	689.51	4482.87	1158.39	4522.88	4276.03	4.48	-0.640	0.000	0.173
72.00	-52.69	-8.78	0.00	-671.81	0.00	671.81	4454.52	1145.97	4426.41	4203.01	4.75	-0.661	0.000	0.172
74.00	-51.86	-8.70	0.00	-654.25	0.00	654.25	4425.74	1133.55	4330.97	4130.17	5.03	-0.682	0.000	0.170
74.50	-51.65	-8.69	0.00	-649.89	0.00	649.89	4418.48	1130.44	4307.27	4111.99	5.11	-0.688	0.000	0.170
76.00	-50.69	-8.63	0.00	-636.86	0.00	636.86	4396.54	1121.12	4236.58	4057.54	5.32	-0.704	0.000	0.169
78.00	-49.41	-8.56	0.00	-619.59	0.00	619.59	4366.91	1108.70	4143.22	3985.11	5.62	-0.725	0.000	0.167
80.00	-48.15	-8.47	0.00	-602.48	0.00	602.48	4336.86	1096.28	4050.91	3912.92	5.93	-0.747	0.000	0.165
81.00	-47.52	-8.44	0.00	-594.00	0.00	594.00	3502.12	951.57	3560.67	3204.59	6.09	-0.757	0.000	0.199
82.00	-47.15	-8.41	0.00	-585.57	0.00	585.57	3492.03	946.24	3520.94	3177.33	6.25	-0.768	0.000	0.198
84.00	-46.41	-8.34	0.00	-568.76	0.00	568.76	3471.52	935.60	3442.15	3122.83	6.58	-0.792	0.000	0.196
86.00	-45.68	-8.27	0.00	-552.09	0.00	552.09	3450.59	924.95	3364.26	3068.38	6.91	-0.816	0.000	0.193

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 50	

Tower Engineering Solutions

88.00	-44.95	-8.20	0.00	-535.56	0.00	535.56	3429.23	914.30	3287.26	3013.99	7.26	-0.840	0.000	0.191
90.00	-44.23	-8.13	0.00	-519.17	0.00	519.17	3407.44	903.66	3211.15	2959.67	7.62	-0.865	0.000	0.188
92.00	-43.51	-8.06	0.00	-502.92	0.00	502.92	3385.23	893.01	3135.93	2905.43	7.99	-0.889	0.000	0.186
94.00	-42.80	-7.99	0.00	-486.80	0.00	486.80	3362.58	882.36	3061.60	2851.28	8.36	-0.913	0.000	0.184
96.00	-42.10	-7.92	0.00	-470.83	0.00	470.83	3339.51	871.72	2988.16	2797.25	8.75	-0.938	0.000	0.181
98.00	-41.40	-7.85	0.00	-454.99	0.00	454.99	3316.01	861.07	2915.61	2743.33	9.15	-0.962	0.000	0.178
100.00	-40.71	-7.78	0.00	-439.30	0.00	439.30	3292.09	850.42	2843.96	2689.56	9.56	-0.987	0.000	0.176
102.00	-40.03	-7.71	0.00	-423.74	0.00	423.74	3267.73	839.78	2773.20	2635.93	9.98	-1.012	0.000	0.173
104.00	-39.35	-7.64	0.00	-408.32	0.00	408.32	3242.95	829.13	2703.33	2582.46	10.41	-1.036	0.000	0.170
106.00	-38.68	-7.57	0.00	-393.04	0.00	393.04	3217.75	818.48	2634.35	2529.17	10.85	-1.061	0.000	0.168
108.00	-38.01	-7.50	0.00	-377.89	0.00	377.89	3192.11	807.84	2566.26	2476.07	11.30	-1.086	0.000	0.165
110.00	-37.35	-7.43	0.00	-362.89	0.00	362.89	3166.05	797.19	2499.06	2423.18	11.76	-1.110	0.000	0.162
112.00	-36.70	-7.37	0.00	-348.02	0.00	348.02	3139.56	786.54	2432.76	2370.49	12.23	-1.135	0.000	0.159
114.00	-36.05	-7.30	0.00	-333.29	0.00	333.29	3112.64	775.90	2367.34	2318.04	12.71	-1.160	0.000	0.155
116.00	-35.41	-7.23	0.00	-318.70	0.00	318.70	3085.29	765.25	2302.82	2265.83	13.20	-1.184	0.000	0.152
118.00	-34.77	-7.15	0.00	-304.25	0.00	304.25	3057.52	754.60	2239.19	2213.87	13.70	-1.209	0.000	0.149
118.75	-34.54	-7.13	0.00	-298.88	0.00	298.88	3046.99	750.61	2215.56	2194.45	13.89	-1.218	0.000	0.148
120.00	-33.96	-7.08	0.00	-289.97	0.00	289.97	3029.32	743.96	2176.45	2162.18	14.21	-1.233	0.000	0.145
122.00	-33.04	-7.01	0.00	-275.80	0.00	275.80	3000.69	733.31	2114.60	2110.77	14.73	-1.257	0.000	0.142
124.00	-32.13	-6.93	0.00	-261.79	0.00	261.79	2338.57	614.36	1781.07	1656.86	15.27	-1.281	0.000	0.172
126.00	-31.57	-6.86	0.00	-247.94	0.00	247.94	2319.39	605.49	1730.00	1619.32	15.81	-1.305	0.000	0.167
128.00	-31.01	-6.79	0.00	-234.22	0.00	234.22	2299.78	596.62	1679.67	1581.89	16.36	-1.331	0.000	0.162
130.00	-30.46	-6.72	0.00	-220.64	0.00	220.64	2279.74	587.74	1630.09	1544.58	16.92	-1.358	0.000	0.156
132.00	-29.92	-6.65	0.00	-207.20	0.00	207.20	2259.27	578.87	1581.25	1507.39	17.50	-1.383	0.000	0.151
134.00	-29.38	-6.58	0.00	-193.89	0.00	193.89	2238.38	570.00	1533.15	1470.34	18.08	-1.409	0.000	0.145
136.00	-28.84	-6.52	0.00	-180.72	0.00	180.72	2217.06	561.13	1485.79	1433.45	18.68	-1.433	0.000	0.139
138.00	-28.31	-6.45	0.00	-167.69	0.00	167.69	2195.31	552.25	1439.18	1396.73	19.28	-1.457	0.000	0.133
140.00	-23.50	-5.17	0.00	-154.80	0.00	154.80	2173.13	543.38	1393.31	1360.19	19.90	-1.481	0.000	0.125
142.00	-23.08	-5.11	0.00	-144.46	0.00	144.46	2150.53	534.51	1348.18	1323.84	20.53	-1.503	0.000	0.120
144.00	-22.67	-5.05	0.00	-134.24	0.00	134.24	2127.50	525.64	1303.79	1287.70	21.16	-1.526	0.000	0.115
146.00	-22.26	-4.98	0.00	-124.15	0.00	124.15	2104.04	516.77	1260.15	1251.78	21.80	-1.547	0.000	0.110
148.00	-21.86	-4.92	0.00	-114.18	0.00	114.18	2080.15	507.89	1217.25	1216.10	22.46	-1.568	0.000	0.104
150.00	-17.44	-4.01	0.00	-104.35	0.00	104.35	2055.84	499.02	1175.10	1180.67	23.12	-1.589	0.000	0.097
152.00	-17.08	-3.95	0.00	-96.32	0.00	96.32	2031.10	490.15	1133.68	1145.49	23.79	-1.608	0.000	0.093
154.00	-16.73	-3.89	0.00	-88.43	0.00	88.43	2005.93	481.28	1093.01	1110.59	24.47	-1.628	0.000	0.088
154.75	-16.60	-3.86	0.00	-85.51	0.00	85.51	1996.38	477.95	1077.95	1097.58	24.72	-1.635	0.000	0.086
156.00	-16.29	-3.82	0.00	-80.68	0.00	80.68	1980.33	472.40	1053.09	1075.98	25.15	-1.646	0.000	0.083
158.00	-15.82	-3.76	0.00	-73.04	0.00	73.04	1946.84	463.53	1013.90	1037.68	25.85	-1.664	0.000	0.079
159.00	-15.59	-3.72	0.00	-69.28	0.00	69.28	942.51	280.76	619.93	509.56	26.19	-1.673	0.000	0.153
160.00	-15.46	-3.70	0.00	-65.56	0.00	65.56	939.15	278.09	608.23	502.90	26.55	-1.681	0.000	0.147
162.00	-15.21	-3.64	0.00	-58.17	0.00	58.17	932.13	272.77	585.17	489.52	27.26	-1.707	0.000	0.135
164.00	-14.96	-3.58	0.00	-50.89	0.00	50.89	924.68	267.45	562.55	476.06	27.98	-1.730	0.000	0.123
166.00	-14.72	-3.53	0.00	-43.72	0.00	43.72	916.80	262.12	540.38	462.54	28.71	-1.752	0.000	0.111
167.00	-6.98	-1.78	0.00	-40.19	0.00	40.19	912.70	259.46	529.46	455.76	29.07	-1.762	0.000	0.096
168.00	-6.87	-1.75	0.00	-38.41	0.00	38.41	908.49	256.80	518.65	448.97	29.44	-1.772	0.000	0.093
170.00	-6.67	-1.70	0.00	-34.91	0.00	34.91	899.76	251.48	497.37	435.36	30.19	-1.791	0.000	0.088
172.00	-6.48	-1.64	0.00	-31.52	0.00	31.52	890.60	246.15	476.54	421.74	30.94	-1.809	0.000	0.082
174.00	-6.29	-1.59	0.00	-28.24	0.00	28.24	881.01	240.83	456.15	408.10	31.71	-1.827	0.000	0.076
176.00	-6.10	-1.53	0.00	-25.06	0.00	25.06	870.99	235.51	436.21	394.47	32.48	-1.844	0.000	0.071
178.00	-5.91	-1.48	0.00	-22.00	0.00	22.00	860.55	230.18	416.71	380.86	33.25	-1.860	0.000	0.065
180.00	-5.73	-1.43	0.00	-19.04	0.00	19.04	849.68	224.86	397.66	367.28	34.03	-1.874	0.000	0.059
182.00	-5.56	-1.38	0.00	-16.18	0.00	16.18	838.38	219.54	379.06	353.74	34.82	-1.888	0.000	0.052
184.00	-5.38	-1.33	0.00	-13.42	0.00	13.42	826.65	214.21	360.90	340.26	35.62	-1.900	0.000	0.046
186.00	-5.22	-1.28	0.00	-10.77	0.00	10.77	814.50	208.89	343.18	326.85	36.41	-1.911	0.000	0.039
188.00	-5.05	-1.23	0.00	-8.21	0.00	8.21	801.91	203.57	325.91	313.52	37.22	-1.920	0.000	0.033
190.00	-4.89	-1.18	0.00	-5.75	0.00	5.75	788.90	198.24	309.09	300.29	38.02	-1.928	0.000	0.025
192.00	-4.73	-1.13	0.00	-3.39	0.00	3.39	775.47	192.92	292.71	287.17	38.83	-1.933	0.000	0.018

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 51	

194.00	-4.58	-1.09	0.00	-1.12	0.00	1.12	761.60	187.60	276.78	274.17	39.64	-1.935	0.000	0.010
195.00	-0.10	-0.03	0.00	-0.03	0.00	0.03	754.51	184.94	268.98	267.73	40.05	-1.936	0.000	0.000
196.00	0.00	-0.03	0.00	0.00	0.00	0.00	747.31	182.27	261.30	261.31	40.45	-1.936	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 52	

Tower Engineering Solutions

Load Case:	1.2D + 1.0Ev + 1.0Eh					**Iterations**	27
Gust Response Factor	1.10			**Sds**	0.11	**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.03	**S1**	0.05
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**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		650.02	0.00	0.01	0.01	19.57	
4.00		644.86	0.00	0.02	0.01	22.16	
6.00		639.70	0.00	0.03	0.02	23.81	
8.00		634.54	0.00	0.04	0.02	24.94	
10.00		629.38	0.00	0.04	0.03	25.72	
12.00		624.22	0.01	0.05	0.03	26.26	
14.00		619.06	0.01	0.05	0.03	26.63	
16.00		613.90	0.01	0.06	0.03	26.86	
18.00		608.74	0.02	0.06	0.04	26.99	
20.00		603.57	0.02	0.06	0.04	27.05	
22.00		598.41	0.02	0.07	0.04	27.04	
24.00		593.25	0.03	0.07	0.04	26.99	
26.00		588.09	0.03	0.07	0.04	26.91	
28.00		582.93	0.04	0.07	0.04	26.80	
30.00	Appurtenance(s)	587.77	0.04	0.07	0.04	27.14	
32.00		572.61	0.05	0.07	0.04	26.54	
34.00		567.45	0.06	0.07	0.04	26.40	
35.50	Bot - Section 2	422.20	0.06	0.07	0.04	19.70	
36.00		273.01	0.06	0.07	0.04	12.75	
38.00		1085.8	0.07	0.07	0.04	50.92	
40.00		1075.8	0.08	0.07	0.04	50.66	
42.00		1065.8	0.09	0.07	0.04	50.41	
43.00	Top - Section 1	529.18	0.09	0.07	0.04	25.09	
44.00		256.51	0.10	0.07	0.04	12.19	
46.00		509.41	0.10	0.07	0.04	24.33	
48.00		504.59	0.11	0.07	0.04	24.22	
50.00		499.78	0.12	0.07	0.03	24.12	
52.00		494.96	0.13	0.07	0.03	24.03	
54.00		490.14	0.14	0.07	0.03	23.93	
56.00		485.33	0.15	0.07	0.03	23.82	
58.00		480.51	0.17	0.07	0.03	23.71	
60.00		475.69	0.18	0.07	0.03	23.59	
62.00		470.88	0.19	0.06	0.02	23.46	
64.00		466.06	0.20	0.06	0.02	23.30	
66.00		461.24	0.21	0.06	0.02	23.11	
68.00		456.43	0.23	0.06	0.02	22.88	
70.00		451.61	0.24	0.06	0.02	22.62	
72.00		446.79	0.26	0.05	0.02	22.29	
74.00		441.98	0.27	0.05	0.02	21.90	
74.50	Bot - Section 3	109.74	0.27	0.05	0.01	5.43	
76.00		613.07	0.28	0.05	0.01	30.05	
78.00		809.60	0.30	0.05	0.01	39.07	
80.00		800.65	0.31	0.04	0.01	37.80	
81.00	Top - Section 2	396.97	0.32	0.04	0.01	18.49	
82.00		183.98	0.33	0.04	0.01	8.43	

Seismic Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 53	

Tower Engineering Solutions

84.00		364.87	0.35	0.03	0.01	16.08
86.00		360.74	0.36	0.03	0.01	15.11
88.00		356.61	0.38	0.02	0.01	13.99
90.00		352.48	0.40	0.02	0.01	12.72
92.00		348.36	0.42	0.01	0.01	11.30
94.00		344.23	0.43	0.01	0.01	9.78
96.00		340.10	0.45	0.00	0.01	8.17
98.00		335.97	0.47	-0.01	0.01	6.54
100.00		331.84	0.49	-0.01	0.01	4.94
102.00		327.71	0.51	-0.02	0.01	3.43
104.00		323.58	0.53	-0.03	0.01	2.05
106.00		319.46	0.55	-0.04	0.01	0.83
108.00		315.33	0.57	-0.04	0.01	-0.22
110.00		311.20	0.60	-0.05	0.01	-1.09
112.00		307.07	0.62	-0.06	0.02	-1.79
114.00		302.94	0.64	-0.07	0.02	-2.33
116.00		298.81	0.66	-0.07	0.02	-2.73
118.00		294.68	0.69	-0.08	0.03	-3.00
118.75	Bot - Section 4	109.44	0.69	-0.08	0.03	-1.15
120.00		334.98	0.71	-0.09	0.03	-3.64
122.00		529.83	0.73	-0.10	0.04	-5.94
124.00	Top - Section 3	522.26	0.76	-0.10	0.04	-5.87
126.00		236.52	0.78	-0.11	0.05	-2.60
128.00		233.08	0.81	-0.11	0.06	-2.43
130.00		229.64	0.83	-0.12	0.06	-2.21
132.00		226.20	0.86	-0.12	0.07	-1.93
134.00		222.75	0.88	-0.12	0.08	-1.61
136.00		219.31	0.91	-0.12	0.09	-1.24
138.00		215.87	0.94	-0.12	0.10	-0.83
140.00	Appurtenance(s)	2367.9	0.96	-0.12	0.11	-4.19
142.00		208.99	0.99	-0.11	0.13	0.11
144.00		205.55	1.02	-0.10	0.14	0.63
146.00		202.11	1.05	-0.09	0.16	1.18
148.00		198.67	1.08	-0.08	0.17	1.75
150.00	Appurtenance(s)	2398.0	1.11	-0.07	0.19	28.97
152.00		191.79	1.14	-0.05	0.21	2.99
154.00		188.35	1.17	-0.02	0.23	3.64
154.75	Bot - Section 5	69.74	1.18	-0.01	0.24	1.45
156.00		185.55	1.20	0.00	0.25	4.32
158.00		292.41	1.23	0.03	0.28	8.05
159.00	Top - Section 4	144.14	1.24	0.05	0.29	4.29
160.00		54.18	1.26	0.07	0.30	1.73
162.00		106.81	1.29	0.11	0.33	3.93
164.00		104.74	1.32	0.15	0.36	4.37
166.00		102.68	1.36	0.21	0.39	4.83
167.00	Appurtenance(s)	4048.9	1.37	0.23	0.40	201.36
168.00		50.05	1.39	0.26	0.42	2.63
170.00		98.55	1.42	0.33	0.45	5.75
172.00		96.49	1.46	0.40	0.49	6.21
174.00		94.42	1.49	0.48	0.53	6.67
176.00		92.36	1.52	0.56	0.57	7.14
178.00		90.29	1.56	0.66	0.62	7.60
180.00		88.23	1.59	0.76	0.66	8.06
182.00		86.16	1.63	0.87	0.71	8.51
184.00		84.10	1.67	1.00	0.76	8.95
186.00		82.04	1.70	1.13	0.82	9.39
188.00		79.97	1.74	1.28	0.88	9.82

Seismic Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 54	

190.00			77.91	1.78	1.43	0.94	10.24		
192.00			75.84	1.81	1.60	1.00	10.64		
194.00			73.78	1.85	1.78	1.07	11.03		
195.00	Appurtenance(s)		2426.0	1.87	1.88	1.10	373.97		
196.00	Appurtenance(s)		42.10	1.89	1.98	1.14	6.69		
		Totals:	**48,841.0**				**1,977.1**	**Total Wind:**	**53,988.4**

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

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 55	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Iterations 27

Gust Response Factor	1.10			**Sds**	0.11			**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.03			**S1**	0.05
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**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	-66.85	-2.02	0.00	-207.15	0.00	207.15	5795.46	1682.91	8909.80	7510.36		0.00	0.00	0.039
2.00	-65.97	-2.00	0.00	-203.11	0.00	203.11	5776.44	1669.60	8769.44	7426.09		0.00	0.00	0.039
4.00	-65.08	-1.98	0.00	-199.10	0.00	199.10	5757.00	1656.30	8630.20	7341.68		0.00	0.00	0.038
6.00	-64.21	-1.96	0.00	-195.13	0.00	195.13	5737.14	1642.99	8492.07	7257.12		0.00	-0.01	0.038
8.00	-63.34	-1.94	0.00	-191.20	0.00	191.20	5716.84	1629.68	8355.05	7172.43		0.01	-0.01	0.038
10.00	-62.48	-1.92	0.00	-187.32	0.00	187.32	5696.12	1616.37	8219.15	7087.63		0.01	-0.01	0.037
12.00	-61.62	-1.89	0.00	-183.48	0.00	183.48	5674.97	1603.06	8084.36	7002.73		0.02	-0.01	0.037
14.00	-60.77	-1.87	0.00	-179.70	0.00	179.70	5653.40	1589.76	7950.69	6917.75		0.02	-0.02	0.037
16.00	-59.93	-1.85	0.00	-175.96	0.00	175.96	5631.39	1576.45	7818.13	6832.69		0.03	-0.02	0.036
18.00	-59.09	-1.82	0.00	-172.27	0.00	172.27	5608.96	1563.14	7686.69	6747.57		0.04	-0.02	0.036
20.00	-58.26	-1.80	0.00	-168.63	0.00	168.63	5586.10	1549.83	7556.36	6662.41		0.05	-0.02	0.036
22.00	-57.44	-1.77	0.00	-165.04	0.00	165.04	5562.81	1536.52	7427.15	6577.21		0.06	-0.03	0.035
24.00	-56.62	-1.75	0.00	-161.50	0.00	161.50	5539.10	1523.21	7299.05	6491.99		0.07	-0.03	0.035
26.00	-55.81	-1.72	0.00	-158.00	0.00	158.00	5514.96	1509.91	7172.06	6406.77		0.09	-0.03	0.035
28.00	-55.00	-1.70	0.00	-154.56	0.00	154.56	5490.39	1496.60	7046.19	6321.55		0.10	-0.03	0.034
30.00	-54.19	-1.67	0.00	-151.17	0.00	151.17	5465.39	1483.29	6921.43	6236.35		0.11	-0.04	0.034
32.00	-53.40	-1.65	0.00	-147.83	0.00	147.83	5439.96	1469.98	6797.79	6151.18		0.13	-0.04	0.034
34.00	-52.61	-1.62	0.00	-144.54	0.00	144.54	5414.11	1456.67	6675.26	6066.06		0.15	-0.04	0.034
35.50	-52.02	-1.60	0.00	-142.11	0.00	142.11	5394.44	1446.69	6584.09	6002.26		0.16	-0.04	0.033
36.00	-51.67	-1.59	0.00	-141.31	0.00	141.31	5387.83	1443.36	6553.84	5981.00		0.16	-0.04	0.033
38.00	-50.26	-1.54	0.00	-138.13	0.00	138.13	5361.12	1430.06	6433.54	5896.01		0.18	-0.05	0.033
40.00	-48.86	-1.49	0.00	-135.04	0.00	135.04	5333.99	1416.75	6314.36	5811.11		0.20	-0.05	0.032
42.00	-47.47	-1.44	0.00	-132.06	0.00	132.06	5306.43	1403.44	6196.29	5726.30		0.22	-0.05	0.032
43.00	-46.79	-1.42	0.00	-130.62	0.00	130.62	4823.70	1326.07	5927.09	5273.35		0.24	-0.05	0.034
44.00	-46.42	-1.41	0.00	-129.21	0.00	129.21	4812.47	1319.86	5871.70	5236.23		0.25	-0.05	0.034
46.00	-45.71	-1.38	0.00	-126.40	0.00	126.40	4789.68	1307.44	5761.71	5161.99		0.27	-0.06	0.034
48.00	-44.99	-1.36	0.00	-123.63	0.00	123.63	4766.46	1295.02	5652.75	5087.77		0.29	-0.06	0.034
50.00	-44.29	-1.34	0.00	-120.91	0.00	120.91	4742.82	1282.60	5544.84	5013.57		0.32	-0.06	0.033
52.00	-43.59	-1.31	0.00	-118.24	0.00	118.24	4718.75	1270.18	5437.96	4939.41		0.35	-0.07	0.033
54.00	-42.89	-1.29	0.00	-115.61	0.00	115.61	4694.25	1257.76	5332.12	4865.31		0.38	-0.07	0.033
56.00	-42.20	-1.27	0.00	-113.03	0.00	113.03	4669.32	1245.33	5227.33	4791.28		0.40	-0.07	0.033
58.00	-41.52	-1.25	0.00	-110.49	0.00	110.49	4643.97	1232.91	5123.57	4717.32		0.43	-0.07	0.032
60.00	-40.84	-1.22	0.00	-108.00	0.00	108.00	4618.19	1220.49	5020.86	4643.46		0.47	-0.08	0.032
62.00	-40.17	-1.20	0.00	-105.55	0.00	105.55	4591.98	1208.07	4919.18	4569.71		0.50	-0.08	0.032
64.00	-39.51	-1.18	0.00	-103.15	0.00	103.15	4565.34	1195.65	4818.55	4496.07		0.53	-0.08	0.032
66.00	-38.85	-1.16	0.00	-100.79	0.00	100.79	4538.28	1183.23	4718.95	4422.57		0.57	-0.08	0.031
68.00	-38.19	-1.14	0.00	-98.48	0.00	98.48	4510.78	1170.81	4620.40	4349.22		0.60	-0.09	0.031
70.00	-37.54	-1.11	0.00	-96.21	0.00	96.21	4482.87	1158.39	4522.88	4276.03		0.64	-0.09	0.031
72.00	-36.90	-1.09	0.00	-93.98	0.00	93.98	4454.52	1145.97	4426.41	4203.01		0.68	-0.09	0.031
74.00	-36.26	-1.07	0.00	-91.79	0.00	91.79	4425.74	1133.55	4330.97	4130.17		0.72	-0.10	0.030
74.50	-36.10	-1.07	0.00	-91.26	0.00	91.26	4418.48	1130.44	4307.27	4111.99		0.73	-0.10	0.030
76.00	-35.29	-1.04	0.00	-89.66	0.00	89.66	4396.54	1121.12	4236.58	4057.54		0.76	-0.10	0.030
78.00	-34.21	-1.00	0.00	-87.59	0.00	87.59	4366.91	1108.70	4143.22	3985.11		0.80	-0.10	0.030
80.00	-33.14	-0.96	0.00	-85.60	0.00	85.60	4336.86	1096.28	4050.91	3912.92		0.85	-0.11	0.030
81.00	-32.61	-0.94	0.00	-84.64	0.00	84.64	3502.12	951.57	3560.67	3204.59		0.87	-0.11	0.036
82.00	-32.34	-0.93	0.00	-83.70	0.00	83.70	3492.03	946.24	3520.94	3177.33		0.89	-0.11	0.036
84.00	-31.80	-0.92	0.00	-81.84	0.00	81.84	3471.52	935.60	3442.15	3122.83		0.94	-0.11	0.035

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 56

86.00	-31.26	-0.90	0.00	-80.00	0.00	80.00	3450.59	924.95	3364.26	3068.38	0.98	-0.12	0.035
88.00	-30.72	-0.89	0.00	-78.20	0.00	78.20	3429.23	914.30	3287.26	3013.99	1.03	-0.12	0.035
90.00	-30.19	-0.88	0.00	-76.42	0.00	76.42	3407.44	903.66	3211.15	2959.67	1.08	-0.12	0.035
92.00	-29.67	-0.87	0.00	-74.67	0.00	74.67	3385.23	893.01	3135.93	2905.43	1.14	-0.13	0.034
94.00	-29.15	-0.86	0.00	-72.93	0.00	72.93	3362.58	882.36	3061.60	2851.28	1.19	-0.13	0.034
96.00	-28.63	-0.85	0.00	-71.22	0.00	71.22	3339.51	871.72	2988.16	2797.25	1.24	-0.13	0.034
98.00	-28.12	-0.84	0.00	-69.52	0.00	69.52	3316.01	861.07	2915.61	2743.33	1.30	-0.14	0.034
100.00	-27.62	-0.84	0.00	-67.83	0.00	67.83	3292.09	850.42	2843.96	2689.56	1.36	-0.14	0.034
102.00	-27.12	-0.84	0.00	-66.15	0.00	66.15	3267.73	839.78	2773.20	2635.93	1.42	-0.14	0.033
104.00	-26.62	-0.84	0.00	-64.47	0.00	64.47	3242.95	829.13	2703.33	2582.46	1.48	-0.15	0.033
106.00	-26.13	-0.84	0.00	-62.80	0.00	62.80	3217.75	818.48	2634.35	2529.17	1.54	-0.15	0.033
108.00	-25.65	-0.84	0.00	-61.13	0.00	61.13	3192.11	807.84	2566.26	2476.07	1.61	-0.16	0.033
110.00	-25.17	-0.84	0.00	-59.46	0.00	59.46	3166.05	797.19	2499.06	2423.18	1.67	-0.16	0.032
112.00	-24.69	-0.84	0.00	-57.79	0.00	57.79	3139.56	786.54	2432.76	2370.49	1.74	-0.16	0.032
114.00	-24.22	-0.84	0.00	-56.11	0.00	56.11	3112.64	775.90	2367.34	2318.04	1.81	-0.17	0.032
116.00	-23.76	-0.84	0.00	-54.44	0.00	54.44	3085.29	765.25	2302.82	2265.83	1.88	-0.17	0.032
118.00	-23.30	-0.84	0.00	-52.76	0.00	52.76	3057.52	754.60	2239.19	2213.87	1.96	-0.18	0.031
118.75	-23.13	-0.84	0.00	-52.14	0.00	52.14	3046.99	750.61	2215.56	2194.45	1.99	-0.18	0.031
120.00	-22.66	-0.84	0.00	-51.09	0.00	51.09	3029.32	743.96	2176.45	2162.18	2.03	-0.18	0.031
122.00	-21.91	-0.84	0.00	-49.41	0.00	49.41	3000.69	733.31	2114.60	2110.77	2.11	-0.19	0.031
124.00	-21.18	-0.84	0.00	-47.74	0.00	47.74	2338.57	614.36	1781.07	1656.86	2.19	-0.19	0.038
126.00	-20.79	-0.84	0.00	-46.07	0.00	46.07	2319.39	605.49	1730.00	1619.32	2.27	-0.19	0.037
128.00	-20.40	-0.84	0.00	-44.39	0.00	44.39	2299.78	596.62	1679.67	1581.89	2.35	-0.20	0.037
130.00	-20.02	-0.84	0.00	-42.72	0.00	42.72	2279.74	587.74	1630.09	1544.58	2.44	-0.20	0.036
132.00	-19.64	-0.84	0.00	-41.05	0.00	41.05	2259.27	578.87	1581.25	1507.39	2.52	-0.21	0.036
134.00	-19.27	-0.84	0.00	-39.37	0.00	39.37	2238.38	570.00	1533.15	1470.34	2.61	-0.21	0.035
136.00	-18.90	-0.84	0.00	-37.69	0.00	37.69	2217.06	561.13	1485.79	1433.45	2.70	-0.22	0.035
138.00	-18.53	-0.84	0.00	-36.02	0.00	36.02	2195.31	552.25	1439.18	1396.73	2.79	-0.22	0.034
140.00	-15.59	-0.83	0.00	-34.34	0.00	34.34	2173.13	543.38	1393.31	1360.19	2.89	-0.23	0.032
142.00	-15.26	-0.83	0.00	-32.68	0.00	32.68	2150.53	534.51	1348.18	1323.84	2.99	-0.23	0.032
144.00	-14.95	-0.83	0.00	-31.03	0.00	31.03	2127.50	525.64	1303.79	1287.70	3.09	-0.24	0.031
146.00	-14.63	-0.83	0.00	-29.37	0.00	29.37	2104.04	516.77	1260.15	1251.78	3.19	-0.24	0.030
148.00	-14.32	-0.82	0.00	-27.72	0.00	27.72	2080.15	507.89	1217.25	1216.10	3.29	-0.25	0.030
150.00	-11.37	-0.78	0.00	-26.07	0.00	26.07	2055.84	499.02	1175.10	1180.67	3.40	-0.25	0.028
152.00	-11.10	-0.78	0.00	-24.50	0.00	24.50	2031.10	490.15	1133.68	1145.49	3.51	-0.26	0.027
154.00	-10.84	-0.78	0.00	-22.94	0.00	22.94	2005.93	481.28	1093.01	1110.59	3.62	-0.26	0.026
154.75	-10.74	-0.78	0.00	-22.35	0.00	22.35	1996.38	477.95	1077.95	1097.58	3.66	-0.27	0.026
156.00	-10.49	-0.77	0.00	-21.39	0.00	21.39	1980.33	472.40	1053.09	1075.98	3.73	-0.27	0.025
158.00	-10.10	-0.76	0.00	-19.84	0.00	19.84	1946.84	463.53	1013.90	1037.68	3.84	-0.27	0.024
159.00	-9.91	-0.76	0.00	-19.08	0.00	19.08	942.51	280.76	619.93	509.56	3.90	-0.28	0.048
160.00	-9.82	-0.76	0.00	-18.33	0.00	18.33	939.15	278.09	608.23	502.90	3.96	-0.28	0.047
162.00	-9.66	-0.75	0.00	-16.82	0.00	16.82	932.13	272.77	585.17	489.52	4.08	-0.29	0.045
164.00	-9.49	-0.75	0.00	-15.31	0.00	15.31	924.68	267.45	562.55	476.06	4.20	-0.29	0.042
166.00	-9.33	-0.74	0.00	-13.82	0.00	13.82	916.80	262.12	540.38	462.54	4.32	-0.30	0.040
167.00	-4.45	-0.52	0.00	-13.07	0.00	13.07	912.70	259.46	529.46	455.76	4.38	-0.30	0.034
168.00	-4.39	-0.51	0.00	-12.56	0.00	12.56	908.49	256.80	518.65	448.97	4.45	-0.31	0.033
170.00	-4.26	-0.51	0.00	-11.53	0.00	11.53	899.76	251.48	497.37	435.36	4.58	-0.31	0.031
172.00	-4.14	-0.50	0.00	-10.52	0.00	10.52	890.60	246.15	476.54	421.74	4.71	-0.32	0.030
174.00	-4.02	-0.49	0.00	-9.51	0.00	9.51	881.01	240.83	456.15	408.10	4.85	-0.32	0.028
176.00	-3.91	-0.49	0.00	-8.53	0.00	8.53	870.99	235.51	436.21	394.47	4.98	-0.33	0.026
178.00	-3.79	-0.48	0.00	-7.55	0.00	7.55	860.55	230.18	416.71	380.86	5.12	-0.34	0.024
180.00	-3.68	-0.47	0.00	-6.59	0.00	6.59	849.68	224.86	397.66	367.28	5.26	-0.34	0.022
182.00	-3.57	-0.46	0.00	-5.65	0.00	5.65	838.38	219.54	379.06	353.74	5.41	-0.35	0.020
184.00	-3.46	-0.45	0.00	-4.73	0.00	4.73	826.65	214.21	360.90	340.26	5.55	-0.35	0.018
186.00	-3.36	-0.44	0.00	-3.82	0.00	3.82	814.50	208.89	343.18	326.85	5.70	-0.35	0.016
188.00	-3.25	-0.43	0.00	-2.94	0.00	2.94	801.91	203.57	325.91	313.52	5.85	-0.36	0.013
190.00	-3.15	-0.42	0.00	-2.07	0.00	2.07	788.90	198.24	309.09	300.29	6.00	-0.36	0.011

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 57	

192.00	-3.06	-0.41	0.00	-1.23	0.00	1.23	775.47	192.92	292.71	287.17	6.15	-0.36	0.008
194.00	-2.96	-0.40	0.00	-0.41	0.00	0.41	761.60	187.60	276.78	274.17	6.30	-0.36	0.005
195.00	-0.05	-0.01	0.00	-0.01	0.00	0.01	754.51	184.94	268.98	267.73	6.38	-0.36	0.000
196.00	0.00	-0.01	0.00	0.00	0.00	0.00	747.31	182.27	261.30	261.31	6.46	-0.36	0.000

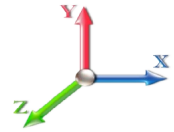
Seismic Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 58	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.11	**Iterations**	27
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.03	**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**SA**	0.01	**S1**	0.05
						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		650.02	0.00	0.01	0.01	19.57	
4.00		644.86	0.00	0.02	0.01	22.16	
6.00		639.70	0.00	0.03	0.02	23.81	
8.00		634.54	0.00	0.04	0.02	24.94	
10.00		629.38	0.00	0.04	0.03	25.72	
12.00		624.22	0.01	0.05	0.03	26.26	
14.00		619.06	0.01	0.05	0.03	26.63	
16.00		613.90	0.01	0.06	0.03	26.86	
18.00		608.74	0.02	0.06	0.04	26.99	
20.00		603.57	0.02	0.06	0.04	27.05	
22.00		598.41	0.02	0.07	0.04	27.04	
24.00		593.25	0.03	0.07	0.04	26.99	
26.00		588.09	0.03	0.07	0.04	26.91	
28.00		582.93	0.04	0.07	0.04	26.80	
30.00	Appurtenance(s)	587.77	0.04	0.07	0.04	27.14	
32.00		572.61	0.05	0.07	0.04	26.54	
34.00		567.45	0.06	0.07	0.04	26.40	
35.50	Bot - Section 2	422.20	0.06	0.07	0.04	19.70	
36.00		273.01	0.06	0.07	0.04	12.75	
38.00		1085.8	0.07	0.07	0.04	50.92	
40.00		1075.8	0.08	0.07	0.04	50.66	
42.00		1065.8	0.09	0.07	0.04	50.41	
43.00	Top - Section 1	529.18	0.09	0.07	0.04	25.09	
44.00		256.51	0.10	0.07	0.04	12.19	
46.00		509.41	0.10	0.07	0.04	24.33	
48.00		504.59	0.11	0.07	0.04	24.22	
50.00		499.78	0.12	0.07	0.03	24.12	
52.00		494.96	0.13	0.07	0.03	24.03	
54.00		490.14	0.14	0.07	0.03	23.93	
56.00		485.33	0.15	0.07	0.03	23.82	
58.00		480.51	0.17	0.07	0.03	23.71	
60.00		475.69	0.18	0.07	0.03	23.59	
62.00		470.88	0.19	0.06	0.02	23.46	
64.00		466.06	0.20	0.06	0.02	23.30	
66.00		461.24	0.21	0.06	0.02	23.11	
68.00		456.43	0.23	0.06	0.02	22.88	
70.00		451.61	0.24	0.06	0.02	22.62	
72.00		446.79	0.26	0.05	0.02	22.29	
74.00		441.98	0.27	0.05	0.02	21.90	
74.50	Bot - Section 3	109.74	0.27	0.05	0.01	5.43	
76.00		613.07	0.28	0.05	0.01	30.05	
78.00		809.60	0.30	0.05	0.01	39.07	
80.00		800.65	0.31	0.04	0.01	37.80	
81.00	Top - Section 2	396.97	0.32	0.04	0.01	18.49	
82.00		183.98	0.33	0.04	0.01	8.43	

Seismic Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 59	

Tower Engineering Solutions

84.00		364.87	0.35	0.03	0.01	16.08
86.00		360.74	0.36	0.03	0.01	15.11
88.00		356.61	0.38	0.02	0.01	13.99
90.00		352.48	0.40	0.02	0.01	12.72
92.00		348.36	0.42	0.01	0.01	11.30
94.00		344.23	0.43	0.01	0.01	9.78
96.00		340.10	0.45	0.00	0.01	8.17
98.00		335.97	0.47	-0.01	0.01	6.54
100.00		331.84	0.49	-0.01	0.01	4.94
102.00		327.71	0.51	-0.02	0.01	3.43
104.00		323.58	0.53	-0.03	0.01	2.05
106.00		319.46	0.55	-0.04	0.01	0.83
108.00		315.33	0.57	-0.04	0.01	-0.22
110.00		311.20	0.60	-0.05	0.01	-1.09
112.00		307.07	0.62	-0.06	0.02	-1.79
114.00		302.94	0.64	-0.07	0.02	-2.33
116.00		298.81	0.66	-0.07	0.02	-2.73
118.00		294.68	0.69	-0.08	0.03	-3.00
118.75	Bot - Section 4	109.44	0.69	-0.08	0.03	-1.15
120.00		334.98	0.71	-0.09	0.03	-3.64
122.00		529.83	0.73	-0.10	0.04	-5.94
124.00	Top - Section 3	522.26	0.76	-0.10	0.04	-5.87
126.00		236.52	0.78	-0.11	0.05	-2.60
128.00		233.08	0.81	-0.11	0.06	-2.43
130.00		229.64	0.83	-0.12	0.06	-2.21
132.00		226.20	0.86	-0.12	0.07	-1.93
134.00		222.75	0.88	-0.12	0.08	-1.61
136.00		219.31	0.91	-0.12	0.09	-1.24
138.00		215.87	0.94	-0.12	0.10	-0.83
140.00	Appurtenance(s)	2367.9	0.96	-0.12	0.11	-4.19
142.00		208.99	0.99	-0.11	0.13	0.11
144.00		205.55	1.02	-0.10	0.14	0.63
146.00		202.11	1.05	-0.09	0.16	1.18
148.00		198.67	1.08	-0.08	0.17	1.75
150.00	Appurtenance(s)	2398.0	1.11	-0.07	0.19	28.97
152.00		191.79	1.14	-0.05	0.21	2.99
154.00		188.35	1.17	-0.02	0.23	3.64
154.75	Bot - Section 5	69.74	1.18	-0.01	0.24	1.45
156.00		185.55	1.20	0.00	0.25	4.32
158.00		292.41	1.23	0.03	0.28	8.05
159.00	Top - Section 4	144.14	1.24	0.05	0.29	4.29
160.00		54.18	1.26	0.07	0.30	1.73
162.00		106.81	1.29	0.11	0.33	3.93
164.00		104.74	1.32	0.15	0.36	4.37
166.00		102.68	1.36	0.21	0.39	4.83
167.00	Appurtenance(s)	4048.9	1.37	0.23	0.40	201.36
168.00		50.05	1.39	0.26	0.42	2.63
170.00		98.55	1.42	0.33	0.45	5.75
172.00		96.49	1.46	0.40	0.49	6.21
174.00		94.42	1.49	0.48	0.53	6.67
176.00		92.36	1.52	0.56	0.57	7.14
178.00		90.29	1.56	0.66	0.62	7.60
180.00		88.23	1.59	0.76	0.66	8.06
182.00		86.16	1.63	0.87	0.71	8.51
184.00		84.10	1.67	1.00	0.76	8.95
186.00		82.04	1.70	1.13	0.82	9.39
188.00		79.97	1.74	1.28	0.88	9.82

Seismic Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 60	

190.00		77.91	1.78	1.43	0.94	10.24		
192.00		75.84	1.81	1.60	1.00	10.64		
194.00		73.78	1.85	1.78	1.07	11.03		
195.00	Appurtenance(s)	2426.0	1.87	1.88	1.10	373.97		
196.00	Appurtenance(s)	42.10	1.89	1.98	1.14	6.69		
	Totals:	**48,841.0**				**1,977.1**	**Total Wind:**	**53,988.4**

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

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 61	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 27

Gust Response Factor	1.10			**Sds**	0.11			**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.03			**S1**	0.05
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**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	-50.14	-2.02	0.00	-204.73	0.00	204.73	5795.46	1682.91	8909.80	7510.36		0.00	0.00	0.036
2.00	-49.47	-2.00	0.00	-200.68	0.00	200.68	5776.44	1669.60	8769.44	7426.09		0.00	0.00	0.036
4.00	-48.81	-1.98	0.00	-196.68	0.00	196.68	5757.00	1656.30	8630.20	7341.68		0.00	0.00	0.035
6.00	-48.16	-1.96	0.00	-192.71	0.00	192.71	5737.14	1642.99	8492.07	7257.12		0.00	-0.01	0.035
8.00	-47.51	-1.94	0.00	-188.79	0.00	188.79	5716.84	1629.68	8355.05	7172.43		0.01	-0.01	0.035
10.00	-46.86	-1.91	0.00	-184.91	0.00	184.91	5696.12	1616.37	8219.15	7087.63		0.01	-0.01	0.034
12.00	-46.22	-1.89	0.00	-181.08	0.00	181.08	5674.97	1603.06	8084.36	7002.73		0.02	-0.01	0.034
14.00	-45.58	-1.86	0.00	-177.30	0.00	177.30	5653.40	1589.76	7950.69	6917.75		0.02	-0.02	0.034
16.00	-44.95	-1.84	0.00	-173.57	0.00	173.57	5631.39	1576.45	7818.13	6832.69		0.03	-0.02	0.033
18.00	-44.32	-1.81	0.00	-169.89	0.00	169.89	5608.96	1563.14	7686.69	6747.57		0.04	-0.02	0.033
20.00	-43.70	-1.79	0.00	-166.27	0.00	166.27	5586.10	1549.83	7556.36	6662.41		0.05	-0.02	0.033
22.00	-43.08	-1.76	0.00	-162.69	0.00	162.69	5562.81	1536.52	7427.15	6577.21		0.06	-0.03	0.032
24.00	-42.46	-1.74	0.00	-159.16	0.00	159.16	5539.10	1523.21	7299.05	6491.99		0.07	-0.03	0.032
26.00	-41.86	-1.71	0.00	-155.69	0.00	155.69	5514.96	1509.91	7172.06	6406.77		0.08	-0.03	0.032
28.00	-41.25	-1.69	0.00	-152.26	0.00	152.26	5490.39	1496.60	7046.19	6321.55		0.10	-0.03	0.032
30.00	-40.64	-1.66	0.00	-148.89	0.00	148.89	5465.39	1483.29	6921.43	6236.35		0.11	-0.04	0.031
32.00	-40.05	-1.64	0.00	-145.56	0.00	145.56	5439.96	1469.98	6797.79	6151.18		0.13	-0.04	0.031
34.00	-39.46	-1.61	0.00	-142.29	0.00	142.29	5414.11	1456.67	6675.26	6066.06		0.14	-0.04	0.031
35.50	-39.02	-1.59	0.00	-139.87	0.00	139.87	5394.44	1446.69	6584.09	6002.26		0.16	-0.04	0.031
36.00	-38.75	-1.58	0.00	-139.08	0.00	139.08	5387.83	1443.36	6553.84	5981.00		0.16	-0.04	0.030
38.00	-37.69	-1.53	0.00	-135.92	0.00	135.92	5361.12	1430.06	6433.54	5896.01		0.18	-0.05	0.030
40.00	-36.64	-1.48	0.00	-132.86	0.00	132.86	5333.99	1416.75	6314.36	5811.11		0.20	-0.05	0.030
42.00	-35.61	-1.43	0.00	-129.90	0.00	129.90	5306.43	1403.44	6196.29	5726.30		0.22	-0.05	0.029
43.00	-35.09	-1.41	0.00	-128.47	0.00	128.47	4823.70	1326.07	5927.09	5273.35		0.23	-0.05	0.032
44.00	-34.82	-1.39	0.00	-127.06	0.00	127.06	4812.47	1319.86	5871.70	5236.23		0.24	-0.05	0.032
46.00	-34.28	-1.37	0.00	-124.28	0.00	124.28	4789.68	1307.44	5761.71	5161.99		0.27	-0.06	0.031
48.00	-33.75	-1.35	0.00	-121.54	0.00	121.54	4766.46	1295.02	5652.75	5087.77		0.29	-0.06	0.031
50.00	-33.22	-1.32	0.00	-118.84	0.00	118.84	4742.82	1282.60	5544.84	5013.57		0.32	-0.06	0.031
52.00	-32.69	-1.30	0.00	-116.19	0.00	116.19	4718.75	1270.18	5437.96	4939.41		0.34	-0.06	0.030
54.00	-32.17	-1.28	0.00	-113.59	0.00	113.59	4694.25	1257.76	5332.12	4865.31		0.37	-0.07	0.030
56.00	-31.65	-1.26	0.00	-111.04	0.00	111.04	4669.32	1245.33	5227.33	4791.28		0.40	-0.07	0.030
58.00	-31.14	-1.23	0.00	-108.53	0.00	108.53	4643.97	1232.91	5123.57	4717.32		0.43	-0.07	0.030
60.00	-30.63	-1.21	0.00	-106.06	0.00	106.06	4618.19	1220.49	5020.86	4643.46		0.46	-0.07	0.029
62.00	-30.13	-1.19	0.00	-103.64	0.00	103.64	4591.98	1208.07	4919.18	4569.71		0.49	-0.08	0.029
64.00	-29.63	-1.16	0.00	-101.27	0.00	101.27	4565.34	1195.65	4818.55	4496.07		0.52	-0.08	0.029
66.00	-29.13	-1.14	0.00	-98.94	0.00	98.94	4538.28	1183.23	4718.95	4422.57		0.56	-0.08	0.029
68.00	-28.64	-1.12	0.00	-96.66	0.00	96.66	4510.78	1170.81	4620.40	4349.22		0.59	-0.09	0.029
70.00	-28.16	-1.10	0.00	-94.42	0.00	94.42	4482.87	1158.39	4522.88	4276.03		0.63	-0.09	0.028
72.00	-27.67	-1.08	0.00	-92.22	0.00	92.22	4454.52	1145.97	4426.41	4203.01		0.67	-0.09	0.028
74.00	-27.20	-1.05	0.00	-90.07	0.00	90.07	4425.74	1133.55	4330.97	4130.17		0.71	-0.09	0.028
74.50	-27.08	-1.05	0.00	-89.54	0.00	89.54	4418.48	1130.44	4307.27	4111.99		0.72	-0.10	0.028
76.00	-26.47	-1.02	0.00	-87.97	0.00	87.97	4396.54	1121.12	4236.58	4057.54		0.75	-0.10	0.028
78.00	-25.66	-0.98	0.00	-85.93	0.00	85.93	4366.91	1108.70	4143.22	3985.11		0.79	-0.10	0.027
80.00	-24.86	-0.94	0.00	-83.97	0.00	83.97	4336.86	1096.28	4050.91	3912.92		0.83	-0.10	0.027
81.00	-24.46	-0.92	0.00	-83.03	0.00	83.03	3502.12	951.57	3560.67	3204.59		0.85	-0.11	0.033
82.00	-24.25	-0.92	0.00	-82.10	0.00	82.10	3492.03	946.24	3520.94	3177.33		0.88	-0.11	0.033
84.00	-23.85	-0.90	0.00	-80.27	0.00	80.27	3471.52	935.60	3442.15	3122.83		0.92	-0.11	0.033

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 62

86.00	-23.44	-0.89	0.00	-78.47	0.00	78.47	3450.59	924.95	3364.26	3068.38	0.97	-0.11	0.032
88.00	-23.04	-0.87	0.00	-76.70	0.00	76.70	3429.23	914.30	3287.26	3013.99	1.02	-0.12	0.032
90.00	-22.64	-0.86	0.00	-74.96	0.00	74.96	3407.44	903.66	3211.15	2959.67	1.07	-0.12	0.032
92.00	-22.25	-0.85	0.00	-73.23	0.00	73.23	3385.23	893.01	3135.93	2905.43	1.12	-0.12	0.032
94.00	-21.86	-0.84	0.00	-71.54	0.00	71.54	3362.58	882.36	3061.60	2851.28	1.17	-0.13	0.032
96.00	-21.47	-0.83	0.00	-69.85	0.00	69.85	3339.51	871.72	2988.16	2797.25	1.23	-0.13	0.031
98.00	-21.09	-0.83	0.00	-68.19	0.00	68.19	3316.01	861.07	2915.61	2743.33	1.28	-0.13	0.031
100.00	-20.71	-0.82	0.00	-66.54	0.00	66.54	3292.09	850.42	2843.96	2689.56	1.34	-0.14	0.031
102.00	-20.34	-0.82	0.00	-64.89	0.00	64.89	3267.73	839.78	2773.20	2635.93	1.40	-0.14	0.031
104.00	-19.97	-0.82	0.00	-63.25	0.00	63.25	3242.95	829.13	2703.33	2582.46	1.46	-0.15	0.031
106.00	-19.60	-0.82	0.00	-61.62	0.00	61.62	3217.75	818.48	2634.35	2529.17	1.52	-0.15	0.030
108.00	-19.24	-0.82	0.00	-59.99	0.00	59.99	3192.11	807.84	2566.26	2476.07	1.58	-0.15	0.030
110.00	-18.88	-0.82	0.00	-58.35	0.00	58.35	3166.05	797.19	2499.06	2423.18	1.65	-0.16	0.030
112.00	-18.52	-0.82	0.00	-56.72	0.00	56.72	3139.56	786.54	2432.76	2370.49	1.72	-0.16	0.030
114.00	-18.17	-0.82	0.00	-55.08	0.00	55.08	3112.64	775.90	2367.34	2318.04	1.78	-0.17	0.030
116.00	-17.82	-0.82	0.00	-53.44	0.00	53.44	3085.29	765.25	2302.82	2265.83	1.85	-0.17	0.029
118.00	-17.47	-0.82	0.00	-51.81	0.00	51.81	3057.52	754.60	2239.19	2213.87	1.93	-0.17	0.029
118.75	-17.34	-0.82	0.00	-51.19	0.00	51.19	3046.99	750.61	2215.56	2194.45	1.95	-0.18	0.029
120.00	-16.99	-0.82	0.00	-50.17	0.00	50.17	3029.32	743.96	2176.45	2162.18	2.00	-0.18	0.029
122.00	-16.44	-0.82	0.00	-48.53	0.00	48.53	3000.69	733.31	2114.60	2110.77	2.08	-0.18	0.028
124.00	-15.89	-0.82	0.00	-46.89	0.00	46.89	2338.57	614.36	1781.07	1656.86	2.15	-0.19	0.035
126.00	-15.59	-0.82	0.00	-45.26	0.00	45.26	2319.39	605.49	1730.00	1619.32	2.23	-0.19	0.035
128.00	-15.30	-0.82	0.00	-43.62	0.00	43.62	2299.78	596.62	1679.67	1581.89	2.31	-0.20	0.034
130.00	-15.02	-0.82	0.00	-41.99	0.00	41.99	2279.74	587.74	1630.09	1544.58	2.40	-0.20	0.034
132.00	-14.73	-0.82	0.00	-40.35	0.00	40.35	2259.27	578.87	1581.25	1507.39	2.48	-0.21	0.033
134.00	-14.45	-0.82	0.00	-38.71	0.00	38.71	2238.38	570.00	1533.15	1470.34	2.57	-0.21	0.033
136.00	-14.17	-0.82	0.00	-37.07	0.00	37.07	2217.06	561.13	1485.79	1433.45	2.66	-0.22	0.032
138.00	-13.90	-0.82	0.00	-35.43	0.00	35.43	2195.31	552.25	1439.18	1396.73	2.75	-0.22	0.032
140.00	-11.69	-0.81	0.00	-33.80	0.00	33.80	2173.13	543.38	1393.31	1360.19	2.84	-0.23	0.030
142.00	-11.45	-0.81	0.00	-32.17	0.00	32.17	2150.53	534.51	1348.18	1323.84	2.94	-0.23	0.030
144.00	-11.21	-0.81	0.00	-30.55	0.00	30.55	2127.50	525.64	1303.79	1287.70	3.04	-0.24	0.029
146.00	-10.97	-0.81	0.00	-28.92	0.00	28.92	2104.04	516.77	1260.15	1251.78	3.14	-0.24	0.028
148.00	-10.74	-0.81	0.00	-27.30	0.00	27.30	2080.15	507.89	1217.25	1216.10	3.24	-0.25	0.028
150.00	-8.53	-0.77	0.00	-25.69	0.00	25.69	2055.84	499.02	1175.10	1180.67	3.34	-0.25	0.026
152.00	-8.33	-0.77	0.00	-24.15	0.00	24.15	2031.10	490.15	1133.68	1145.49	3.45	-0.26	0.025
154.00	-8.13	-0.76	0.00	-22.61	0.00	22.61	2005.93	481.28	1093.01	1110.59	3.56	-0.26	0.024
154.75	-8.05	-0.76	0.00	-22.04	0.00	22.04	1996.38	477.95	1077.95	1097.58	3.60	-0.26	0.024
156.00	-7.87	-0.76	0.00	-21.09	0.00	21.09	1980.33	472.40	1053.09	1075.98	3.67	-0.27	0.024
158.00	-7.58	-0.75	0.00	-19.57	0.00	19.57	1946.84	463.53	1013.90	1037.68	3.78	-0.27	0.023
159.00	-7.43	-0.74	0.00	-18.82	0.00	18.82	942.51	280.76	619.93	509.56	3.83	-0.27	0.045
160.00	-7.37	-0.74	0.00	-18.08	0.00	18.08	939.15	278.09	608.23	502.90	3.89	-0.27	0.044
162.00	-7.24	-0.74	0.00	-16.59	0.00	16.59	932.13	272.77	585.17	489.52	4.01	-0.28	0.042
164.00	-7.12	-0.73	0.00	-15.12	0.00	15.12	924.68	267.45	562.55	476.06	4.13	-0.29	0.039
166.00	-7.00	-0.73	0.00	-13.65	0.00	13.65	916.80	262.12	540.38	462.54	4.25	-0.30	0.037
167.00	-3.34	-0.51	0.00	-12.92	0.00	12.92	912.70	259.46	529.46	455.76	4.31	-0.30	0.032
168.00	-3.29	-0.51	0.00	-12.41	0.00	12.41	908.49	256.80	518.65	448.97	4.38	-0.30	0.031
170.00	-3.20	-0.50	0.00	-11.39	0.00	11.39	899.76	251.48	497.37	435.36	4.50	-0.31	0.030
172.00	-3.11	-0.50	0.00	-10.39	0.00	10.39	890.60	246.15	476.54	421.74	4.63	-0.31	0.028
174.00	-3.02	-0.49	0.00	-9.40	0.00	9.40	881.01	240.83	456.15	408.10	4.77	-0.32	0.026
176.00	-2.93	-0.48	0.00	-8.42	0.00	8.42	870.99	235.51	436.21	394.47	4.90	-0.33	0.025
178.00	-2.84	-0.47	0.00	-7.46	0.00	7.46	860.55	230.18	416.71	380.86	5.04	-0.33	0.023
180.00	-2.76	-0.47	0.00	-6.51	0.00	6.51	849.68	224.86	397.66	367.28	5.18	-0.34	0.021
182.00	-2.68	-0.46	0.00	-5.58	0.00	5.58	838.38	219.54	379.06	353.74	5.32	-0.34	0.019
184.00	-2.60	-0.45	0.00	-4.67	0.00	4.67	826.65	214.21	360.90	340.26	5.46	-0.34	0.017
186.00	-2.52	-0.44	0.00	-3.78	0.00	3.78	814.50	208.89	343.18	326.85	5.61	-0.35	0.015
188.00	-2.44	-0.43	0.00	-2.90	0.00	2.90	801.91	203.57	325.91	313.52	5.75	-0.35	0.012
190.00	-2.37	-0.42	0.00	-2.05	0.00	2.05	788.90	198.24	309.09	300.29	5.90	-0.35	0.010

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 63	

192.00	-2.29	-0.41	0.00	-1.21	0.00	1.21	775.47	192.92	292.71	287.17	6.05	-0.36	0.007
194.00	-2.22	-0.39	0.00	-0.40	0.00	0.40	761.60	187.60	276.78	274.17	6.20	-0.36	0.004
195.00	-0.04	-0.01	0.00	-0.01	0.00	0.01	754.51	184.94	268.98	267.73	6.28	-0.36	0.000
196.00	0.00	-0.01	0.00	0.00	0.00	0.00	747.31	182.27	261.30	261.31	6.35	-0.36	0.000

Wind Loading - Shaft

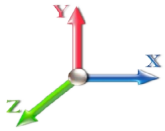
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 64	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

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	7.428	8.17	305.15	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	7.428	8.17	302.76	0.950	0.000	2.00	11.000	10.45	85.4	0.0	650.0
4.00		1.00	0.85	7.428	8.17	300.36	0.950	0.000	2.00	10.913	10.37	84.7	0.0	644.9
6.00		1.00	0.85	7.428	8.17	297.96	0.950	0.000	2.00	10.826	10.28	84.0	0.0	639.7
8.00		1.00	0.85	7.428	8.17	295.57	0.950	0.000	2.00	10.740	10.20	83.4	0.0	634.5
10.00		1.00	0.85	7.428	8.17	293.17	0.950	0.000	2.00	10.653	10.12	82.7	0.0	629.4
12.00		1.00	0.85	7.428	8.17	290.78	0.950	0.000	2.00	10.566	10.04	82.0	0.0	624.2
14.00		1.00	0.85	7.428	8.17	288.38	0.950	0.000	2.00	10.479	9.96	81.3	0.0	619.1
16.00		1.00	0.86	7.520	8.27	287.75	0.950	0.000	2.00	10.393	9.87	81.7	0.0	613.9
18.00		1.00	0.88	7.709	8.48	288.90	0.950	0.000	2.00	10.306	9.79	83.0	0.0	608.7
20.00		1.00	0.90	7.882	8.67	289.65	0.950	0.000	2.00	10.219	9.71	84.2	0.0	603.6
22.00		1.00	0.92	8.041	8.85	290.08	0.950	0.000	2.00	10.133	9.63	85.1	0.0	598.4
24.00		1.00	0.94	8.190	9.01	290.23	0.950	0.000	2.00	10.046	9.54	86.0	0.0	593.3
26.00		1.00	0.95	8.329	9.16	290.15	0.950	0.000	2.00	9.959	9.46	86.7	0.0	588.1
28.00		1.00	0.97	8.460	9.31	289.87	0.950	0.000	2.00	9.873	9.38	87.3	0.0	582.9
30.00	Appurtenance(s)	1.00	0.98	8.584	9.44	289.41	0.950	0.000	2.00	9.786	9.30	87.8	0.0	577.8
32.00		1.00	1.00	8.701	9.57	288.79	0.950	0.000	2.00	9.699	9.21	88.2	0.0	572.6
34.00		1.00	1.01	8.813	9.69	288.03	0.950	0.000	2.00	9.613	9.13	88.5	0.0	567.5
35.50	Bot - Section 2	1.00	1.02	8.894	9.78	287.37	0.950	0.000	1.50	7.153	6.79	66.5	0.0	422.2
36.00		1.00	1.02	8.920	9.81	287.14	0.950	0.000	0.50	2.411	2.29	22.5	0.0	273.0
38.00		1.00	1.03	9.022	9.92	286.14	0.950	0.000	2.00	9.590	9.11	90.4	0.0	1085.8
40.00		1.00	1.04	9.120	10.03	285.03	0.950	0.000	2.00	9.504	9.03	90.6	0.0	1075.8
42.00		1.00	1.05	9.214	10.14	283.83	0.950	0.000	2.00	9.417	8.95	90.7	0.0	1065.8
43.00	Top - Section 1	1.00	1.06	9.260	10.19	283.20	0.950	0.000	1.00	4.676	4.44	45.2	0.0	529.2
44.00		1.00	1.06	9.305	10.24	287.21	0.950	0.000	1.00	4.654	4.42	45.3	0.0	256.5
46.00		1.00	1.07	9.392	10.33	285.87	0.950	0.000	2.00	9.243	8.78	90.7	0.0	509.4
48.00		1.00	1.08	9.477	10.42	284.45	0.950	0.000	2.00	9.157	8.70	90.7	0.0	504.6
50.00		1.00	1.09	9.559	10.51	282.95	0.950	0.000	2.00	9.070	8.62	90.6	0.0	499.8
52.00		1.00	1.10	9.638	10.60	281.40	0.950	0.000	2.00	8.983	8.53	90.5	0.0	495.0
54.00		1.00	1.11	9.715	10.69	279.78	0.950	0.000	2.00	8.897	8.45	90.3	0.0	490.1
56.00		1.00	1.12	9.789	10.77	278.10	0.950	0.000	2.00	8.810	8.37	90.1	0.0	485.3
58.00		1.00	1.13	9.862	10.85	276.37	0.950	0.000	2.00	8.723	8.29	89.9	0.0	480.5
60.00		1.00	1.14	9.933	10.93	274.59	0.950	0.000	2.00	8.637	8.20	89.6	0.0	475.7
62.00		1.00	1.14	10.001	11.00	272.76	0.950	0.000	2.00	8.550	8.12	89.4	0.0	470.9
64.00		1.00	1.15	10.068	11.08	270.88	0.950	0.000	2.00	8.463	8.04	89.0	0.0	466.1
66.00		1.00	1.16	10.134	11.15	268.96	0.950	0.000	2.00	8.377	7.96	88.7	0.0	461.2
68.00		1.00	1.17	10.198	11.22	267.00	0.950	0.000	2.00	8.290	7.88	88.3	0.0	456.4
70.00		1.00	1.17	10.260	11.29	265.00	0.950	0.000	2.00	8.203	7.79	88.0	0.0	451.6
72.00		1.00	1.18	10.321	11.35	262.97	0.950	0.000	2.00	8.117	7.71	87.5	0.0	446.8
74.00		1.00	1.19	10.381	11.42	260.89	0.950	0.000	2.00	8.030	7.63	87.1	0.0	442.0
74.50	Bot - Section 3	1.00	1.19	10.396	11.44	260.37	0.950	0.000	0.50	1.994	1.89	21.7	0.0	109.7
76.00		1.00	1.19	10.439	11.48	258.79	0.950	0.000	1.50	6.046	5.74	66.0	0.0	613.1
78.00		1.00	1.20	10.497	11.55	256.65	0.950	0.000	2.00	7.986	7.59	87.6	0.0	809.6
80.00		1.00	1.21	10.553	11.61	254.48	0.950	0.000	2.00	7.899	7.50	87.1	0.0	800.7
81.00	Top - Section 2	1.00	1.21	10.580	11.64	253.38	0.950	0.000	1.00	3.917	3.72	43.3	0.0	397.0
82.00		1.00	1.21	10.608	11.67	256.55	0.950	0.000	1.00	3.895	3.70	43.2	0.0	184.0
84.00		1.00	1.22	10.662	11.73	254.33	0.950	0.000	2.00	7.726	7.34	86.1	0.0	364.9

Wind Loading - Shaft

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 65	

Tower Engineering Solutions

86.00	1.00	1.23	10.715	11.79	252.09	0.950	0.000	2.00	7.639	7.26	85.5	0.0	360.7
88.00	1.00	1.23	10.767	11.84	249.81	0.950	0.000	2.00	7.552	7.17	85.0	0.0	356.6
90.00	1.00	1.24	10.818	11.90	247.51	0.950	0.000	2.00	7.466	7.09	84.4	0.0	352.5
92.00	1.00	1.24	10.868	11.95	245.19	0.950	0.000	2.00	7.379	7.01	83.8	0.0	348.4
94.00	1.00	1.25	10.917	12.01	242.84	0.950	0.000	2.00	7.292	6.93	83.2	0.0	344.2
96.00	1.00	1.25	10.966	12.06	240.47	0.950	0.000	2.00	7.206	6.85	82.6	0.0	340.1
98.00	1.00	1.26	11.013	12.11	238.08	0.950	0.000	2.00	7.119	6.76	81.9	0.0	336.0
100.00	1.00	1.27	11.060	12.17	235.66	0.950	0.000	2.00	7.032	6.68	81.3	0.0	331.8
102.00	1.00	1.27	11.106	12.22	233.22	0.950	0.000	2.00	6.946	6.60	80.6	0.0	327.7
104.00	1.00	1.28	11.152	12.27	230.76	0.950	0.000	2.00	6.859	6.52	79.9	0.0	323.6
106.00	1.00	1.28	11.197	12.32	228.29	0.950	0.000	2.00	6.772	6.43	79.2	0.0	319.5
108.00	1.00	1.29	11.241	12.37	225.79	0.950	0.000	2.00	6.686	6.35	78.5	0.0	315.3
110.00	1.00	1.29	11.284	12.41	223.27	0.953 *	0.000	2.00	6.599	6.29	78.1	0.0	311.2
112.00	1.00	1.30	11.327	12.46	220.74	0.957 *	0.000	2.00	6.512	6.23	77.6	0.0	307.1
114.00	1.00	1.30	11.370	12.51	218.19	0.961 *	0.000	2.00	6.426	6.17	77.2	0.0	302.9
116.00	1.00	1.31	11.411	12.55	215.62	0.965 *	0.000	2.00	6.339	6.12	76.8	0.0	298.8
118.00	1.00	1.31	11.452	12.60	213.03	0.969 *	0.000	2.00	6.252	6.06	76.3	0.0	294.7
118.75 Bot - Section 4	1.00	1.31	11.468	12.61	212.06	0.972 *	0.000	0.75	2.322	2.26	28.5	0.0	109.4
120.00	1.00	1.32	11.493	12.64	210.43	0.974 *	0.000	1.25	3.911	3.81	48.2	0.0	335.0
122.00	1.00	1.32	11.533	12.69	207.81	0.978 *	0.000	2.00	6.187	6.05	76.7	0.0	529.8
124.00 Top - Section 3	1.00	1.32	11.573	12.73	205.18	0.982 *	0.000	2.00	6.100	5.99	76.3	0.0	522.3
126.00	1.00	1.33	11.612	12.77	206.25	0.981 *	0.000	2.00	6.013	5.90	75.3	0.0	236.5
128.00	1.00	1.33	11.650	12.82	203.60	0.986 *	0.000	2.00	5.927	5.84	74.9	0.0	233.1
130.00	1.00	1.34	11.688	12.86	200.92	0.990 *	0.000	2.00	5.840	5.78	74.4	0.0	229.6
132.00	1.00	1.34	11.726	12.90	198.24	0.995 *	0.000	2.00	5.753	5.73	73.9	0.0	226.2
134.00	1.00	1.35	11.763	12.94	195.54	1.000 *	0.000	2.00	5.667	5.67	73.3	0.0	222.8
136.00	1.00	1.35	11.800	12.98	192.82	1.006 *	0.000	2.00	5.580	5.61	72.8	0.0	219.3
138.00	1.00	1.35	11.836	13.02	190.10	1.011 *	0.000	2.00	5.493	5.55	72.3	0.0	215.9
140.00 Appurtenance(s)	1.00	1.36	11.872	13.06	187.36	1.016 *	0.000	2.00	5.406	5.50	71.8	0.0	212.4
142.00	1.00	1.36	11.908	13.10	184.60	0.950	0.000	2.00	5.320	5.05	66.2	0.0	209.0
144.00	1.00	1.37	11.943	13.14	181.84	0.950	0.000	2.00	5.233	4.97	65.3	0.0	205.6
146.00	1.00	1.37	11.978	13.18	179.06	0.950	0.000	2.00	5.146	4.89	64.4	0.0	202.1
148.00	1.00	1.37	12.012	13.21	176.27	0.950	0.000	2.00	5.060	4.81	63.5	0.0	198.7
150.00 Appurtenance(s)	1.00	1.38	12.046	13.25	173.47	0.950	0.000	2.00	4.973	4.72	62.6	0.0	195.2
152.00	1.00	1.38	12.080	13.29	170.66	0.950	0.000	2.00	4.886	4.64	61.7	0.0	191.8
154.00	1.00	1.39	12.113	13.32	167.83	0.950	0.000	2.00	4.800	4.56	60.8	0.0	188.4
154.75 Bot - Section 5	1.00	1.39	12.125	13.34	166.77	0.950	0.000	0.75	1.778	1.69	22.5	0.0	69.7
156.00	1.00	1.39	12.146	13.36	165.00	0.950	0.000	1.25	2.976	2.83	37.8	0.0	185.5
158.00	1.00	1.39	12.178	13.40	162.15	0.950	0.000	2.00	4.691	4.46	59.7	0.0	292.4
159.00 Top - Section 4	1.00	1.40	12.195	13.41	160.73	0.950	0.000	1.00	2.313	2.20	29.5	0.0	144.1
160.00	1.00	1.40	12.211	13.43	161.59	0.950	0.000	1.00	2.291	2.18	29.2	0.0	54.2
162.00	1.00	1.40	12.243	13.47	158.73	0.950	0.000	2.00	4.518	4.29	57.8	0.0	106.8
164.00	1.00	1.40	12.274	13.50	155.85	0.950	0.000	2.00	4.431	4.21	56.8	0.0	104.7
166.00	1.00	1.41	12.306	13.54	152.97	0.950	0.000	2.00	4.344	4.13	55.9	0.0	102.7
167.00 Appurtenance(s)	1.00	1.41	12.321	13.55	151.52	0.950	0.000	1.00	2.140	2.03	27.5	0.0	50.6
168.00	1.00	1.41	12.337	13.57	150.07	0.950	0.000	1.00	2.118	2.01	27.3	0.0	50.0
170.00	1.00	1.42	12.367	13.60	147.17	0.950	0.000	2.00	4.171	3.96	53.9	0.0	98.6
172.00	1.00	1.42	12.398	13.64	144.26	0.950	0.000	2.00	4.084	3.88	52.9	0.0	96.5
174.00	1.00	1.42	12.428	13.67	141.33	0.950	0.000	2.00	3.997	3.80	51.9	0.0	94.4
176.00	1.00	1.43	12.458	13.70	138.40	0.950	0.000	2.00	3.911	3.72	50.9	0.0	92.4
178.00	1.00	1.43	12.488	13.74	135.46	0.950	0.000	2.00	3.824	3.63	49.9	0.0	90.3
180.00	1.00	1.43	12.517	13.77	132.51	0.950	0.000	2.00	3.737	3.55	48.9	0.0	88.2
182.00	1.00	1.44	12.546	13.80	129.55	0.950	0.000	2.00	3.651	3.47	47.9	0.0	86.2
184.00	1.00	1.44	12.575	13.83	126.58	0.950	0.000	2.00	3.564	3.39	46.8	0.0	84.1
186.00	1.00	1.44	12.604	13.86	123.61	0.950	0.000	2.00	3.477	3.30	45.8	0.0	82.0
188.00	1.00	1.45	12.632	13.90	120.62	0.950	0.000	2.00	3.391	3.22	44.8	0.0	80.0
190.00	1.00	1.45	12.661	13.93	117.63	0.950	0.000	2.00	3.304	3.14	43.7	0.0	77.9

Wind Loading - Shaft

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 66	

Tower Engineering Solutions

192.00		1.00	1.45	12.688	13.96	114.63	0.950	0.000	2.00	3.217	3.06	42.7	0.0	75.8
194.00		1.00	1.46	12.716	13.99	111.62	0.950	0.000	2.00	3.131	2.97	41.6	0.0	73.8
195.00	Appurtenance(s)	1.00	1.46	12.730	14.00	110.11	0.950	0.000	1.00	1.533	1.46	20.4	0.0	36.1
196.00	Appurtenance(s)	1.00	1.46	12.744	14.02	108.60	0.950	0.000	1.00	1.511	1.44	20.1	0.0	35.6
								Totals:	**196.00**			**7,369.5**		**38,078.0**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

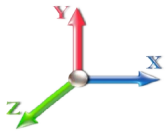
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 67	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	196.00	6' Lightning rod	1	12.744	14.018	1.00	1.00	0.38	6.50	0.000	0.000	5.33	0.00	0.00
2	195.00	TD-RRH8x20-25	3	12.730	14.003	0.54	0.80	6.51	210.00	0.000	0.000	91.19	0.00	0.00
3	195.00	APXVTM14-C-120	3	12.730	14.003	0.63	0.80	12.02	168.00	0.000	0.000	168.32	0.00	0.00
4	195.00	1900MHz RRH	3	12.730	14.003	0.54	0.80	6.11	132.00	0.000	0.000	85.56	0.00	0.00
5	195.00	APXVSPP18-C-A20	3	12.730	14.003	0.66	0.80	15.98	171.00	0.000	0.000	223.71	0.00	0.00
6	195.00	800MHz Filter	3	12.730	14.003	0.40	0.80	0.94	26.40	0.000	0.000	13.11	0.00	0.00
7	195.00	ACU-A20-N	4	12.730	14.003	0.40	0.80	0.22	4.00	0.000	0.000	3.14	0.00	0.00
8	195.00	Low Profile Platform	1	12.730	14.003	1.00	1.00	22.00	1500.00	0.000	0.000	308.06	0.00	0.00
9	195.00	800MHz RRH	3	12.730	14.003	0.54	0.80	4.25	178.50	0.000	0.000	59.44	0.00	0.00
10	167.00	(3) SFS-H-L (V-Braces)	1	12.321	13.553	1.00	1.00	6.70	230.00	0.000	0.000	90.81	0.00	0.00
11	167.00	PRK-1245 (kicker kit)	1	12.321	13.553	1.00	1.00	9.50	464.91	0.000	0.000	128.76	0.00	0.00
12	167.00	(3) VSR-TS-B	1	12.321	13.553	1.00	1.00	11.43	369.30	0.000	0.000	154.91	0.00	0.00
13	167.00	HRK12 (Handrail Kit)	1	12.321	13.553	1.00	1.00	6.75	261.72	0.000	0.000	91.49	0.00	0.00
14	167.00	AIR 21, 1.3M, B4A B2P	3	12.321	13.553	0.62	0.75	11.32	270.90	0.000	0.000	153.40	0.00	0.00
15	167.00	4449	3	12.321	13.553	0.50	0.75	2.49	210.00	0.000	0.000	33.71	0.00	0.00
16	167.00	AIR 21, 1.3M, B2A B4P	3	12.321	13.553	0.62	0.75	11.32	274.50	0.000	0.000	153.40	0.00	0.00
17	167.00	KRY 112 144/1	3	12.321	13.553	0.38	0.75	0.46	33.00	0.000	0.000	6.25	0.00	0.00
18	167.00	Low Profile	1	12.321	13.553	0.00	1.00	22.00	1500.00	0.000	0.000	298.17	0.00	0.00
19	167.00	APXVAARR24_43-U-NA2	3	12.321	13.553	0.53	0.75	31.97	384.00	0.000	0.000	433.29	0.00	0.00
20	150.00	DC6-48-60-18-8F	1	12.046	13.250	0.80	0.80	1.18	31.80	0.000	0.000	15.58	0.00	0.00
21	150.00	RRUS 11	6	12.046	13.250	0.54	0.80	8.10	304.20	0.000	0.000	107.39	0.00	0.00
22	150.00	LGP13519	6	12.046	13.250	0.40	0.80	0.82	31.80	0.000	0.000	10.81	0.00	0.00
23	150.00	LGP21401	6	12.046	13.250	0.40	0.80	3.10	84.60	0.000	0.000	41.02	0.00	0.00
24	150.00	AM-X-CD-14-65-00T-RET	1	12.046	13.250	0.60	0.80	3.00	36.40	0.000	0.000	39.75	0.00	0.00
25	150.00	P65-17-XLH-RR	2	12.046	13.250	0.60	0.80	13.73	118.00	0.000	0.000	181.90	0.00	0.00
26	150.00	7700.00	6	12.046	13.250	0.63	0.80	6.56	96.00	0.000	0.000	86.93	0.00	0.00
27	150.00	Low Profile	1	12.046	13.250	0.00	1.00	22.00	1500.00	0.000	0.000	291.51	0.00	0.00
28	140.00	APL866513	2	11.872	13.059	0.74	0.80	6.03	31.40	0.000	0.000	78.70	0.00	0.00
29	140.00	HBXX-6517DS-A2M	6	11.872	13.059	0.66	0.80	34.06	244.80	0.000	0.000	444.84	0.00	0.00
30	140.00	LNX-6414DS-A1M	3	11.872	13.059	0.64	0.80	15.53	99.30	0.000	0.000	202.85	0.00	0.00
31	140.00	LNX-8513DS-VTM	2	11.872	13.059	0.66	0.80	10.85	52.60	0.000	0.000	141.69	0.00	0.00
32	140.00	Low Profile Platform	1	11.872	13.059	0.80	0.80	17.60	1500.00	0.000	0.000	229.85	0.00	0.00
33	140.00	RRH2x40 700	3	11.872	13.059	0.54	0.80	3.99	150.00	0.000	0.000	52.08	0.00	0.00
34	140.00	RRH2x60-2100	3	11.872	13.059	0.54	0.80	2.43	58.50	0.000	0.000	31.71	0.00	0.00
35	140.00	DB-T1-6Z-8AB-0Z	1	11.872	13.059	0.40	0.80	1.92	18.90	0.000	0.000	25.07	0.00	0.00
36	30.00	GPS	1	8.584	9.442	1.00	1.00	1.00	10.00	0.000	0.000	9.44	0.00	0.00
							Totals:		**10,763.03**			**4,493.19**		

Total Applied Force Summary

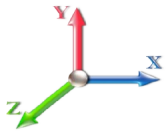
Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 68

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

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		85.38	738.86	0.00	0.00
4.00		84.71	733.70	0.00	0.00
6.00		84.04	728.54	0.00	0.00
8.00		83.37	723.38	0.00	0.00
10.00		82.69	718.22	0.00	0.00
12.00		82.02	713.06	0.00	0.00
14.00		81.35	707.90	0.00	0.00
16.00		81.67	702.74	0.00	0.00
18.00		83.02	697.58	0.00	0.00
20.00		84.17	692.41	0.00	0.00
22.00		85.15	687.25	0.00	0.00
24.00		85.98	682.09	0.00	0.00
26.00		86.69	676.93	0.00	0.00
28.00		87.28	671.77	0.00	0.00
30.00	(1) attachments	97.22	676.61	0.00	0.00
32.00		88.20	661.45	0.00	0.00
34.00		88.53	656.29	0.00	0.00
35.50		66.47	488.83	0.00	0.00
36.00		22.47	295.22	0.00	0.00
38.00		90.42	1174.64	0.00	0.00
40.00		90.57	1164.67	0.00	0.00
42.00		90.67	1154.69	0.00	0.00
43.00		45.25	573.60	0.00	0.00
44.00		45.26	300.93	0.00	0.00
46.00		90.72	598.25	0.00	0.00
48.00		90.68	593.43	0.00	0.00
50.00		90.60	588.62	0.00	0.00
52.00		90.48	583.80	0.00	0.00
54.00		90.32	578.98	0.00	0.00
56.00		90.13	574.17	0.00	0.00
58.00		89.90	569.35	0.00	0.00
60.00		89.64	564.53	0.00	0.00
62.00		89.36	559.72	0.00	0.00
64.00		89.05	554.90	0.00	0.00
66.00		88.71	550.08	0.00	0.00
68.00		88.34	545.27	0.00	0.00
70.00		87.95	540.45	0.00	0.00
72.00		87.54	535.63	0.00	0.00
74.00		87.11	530.82	0.00	0.00
74.50		21.66	131.95	0.00	0.00
76.00		65.96	679.70	0.00	0.00
78.00		87.60	898.44	0.00	0.00
80.00		87.11	889.49	0.00	0.00
81.00		43.31	441.39	0.00	0.00
82.00		43.18	228.40	0.00	0.00
84.00		86.08	453.71	0.00	0.00

Total Applied Force Summary

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 69

86.00		85.53	449.58	0.00	0.00
88.00		84.97	445.45	0.00	0.00
90.00		84.40	441.32	0.00	0.00
92.00		83.80	437.20	0.00	0.00
94.00		83.19	433.07	0.00	0.00
96.00		82.57	428.94	0.00	0.00
98.00		81.93	424.81	0.00	0.00
100.00		81.28	420.68	0.00	0.00
102.00		80.61	416.55	0.00	0.00
104.00		79.93	412.42	0.00	0.00
106.00		79.24	408.30	0.00	0.00
108.00		78.53	404.17	0.00	0.00
110.00		78.06	400.04	0.00	0.00
112.00		77.63	395.91	0.00	0.00
114.00		77.20	391.78	0.00	0.00
116.00		76.76	387.65	0.00	0.00
118.00		76.31	383.52	0.00	0.00
118.75		28.47	142.76	0.00	0.00
120.00		48.15	390.51	0.00	0.00
122.00		76.73	618.67	0.00	0.00
124.00		76.26	611.10	0.00	0.00
126.00		75.34	325.36	0.00	0.00
128.00		74.86	321.92	0.00	0.00
130.00		74.36	318.48	0.00	0.00
132.00		73.86	315.04	0.00	0.00
134.00		73.34	311.59	0.00	0.00
136.00		72.82	308.15	0.00	0.00
138.00		72.30	304.71	0.00	0.00
140.00	(21) attachments	1278.56	2456.77	0.00	0.00
142.00		66.20	268.47	0.00	0.00
144.00		65.31	265.03	0.00	0.00
146.00		64.41	261.59	0.00	0.00
148.00		63.51	258.15	0.00	0.00
150.00	(29) attachments	837.49	2457.51	0.00	0.00
152.00		61.68	224.59	0.00	0.00
154.00		60.75	221.15	0.00	0.00
154.75		22.52	82.04	0.00	0.00
156.00		37.77	206.05	0.00	0.00
158.00		59.70	325.21	0.00	0.00
159.00		29.47	160.54	0.00	0.00
160.00		29.24	70.58	0.00	0.00
162.00		57.80	139.61	0.00	0.00
164.00		56.83	137.54	0.00	0.00
166.00		55.86	135.48	0.00	0.00
167.00	(20) attachments	1571.74	4065.30	0.00	0.00
168.00		27.30	52.69	0.00	0.00
170.00		53.90	103.83	0.00	0.00
172.00		52.91	101.77	0.00	0.00
174.00		51.92	99.70	0.00	0.00
176.00		50.91	97.64	0.00	0.00
178.00		49.90	95.57	0.00	0.00
180.00		48.89	93.51	0.00	0.00
182.00		47.86	91.44	0.00	0.00
184.00		46.84	89.38	0.00	0.00
186.00		45.80	87.32	0.00	0.00
188.00		44.76	85.25	0.00	0.00
190.00		43.71	83.19	0.00	0.00

Total Applied Force Summary

Structure:	CT00595-S-SBA		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 70

Tower Engineering Solutions

192.00		42.66	81.12	0.00	0.00
194.00		41.60	79.06	0.00	0.00
195.00	(23) attachments	972.93	2428.66	0.00	0.00
196.00	(1) attachments	25.45	42.10	0.00	0.00
	Totals:	**11,862.68**	**55,709.96**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

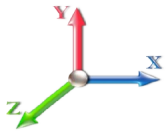
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 71	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	7.428	0.00	24.96
2.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.061	0.000	7.428	0.00	4.40
4.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	7.428	0.00	24.96
4.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.061	0.000	7.428	0.00	4.40
6.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.428	0.00	24.96
6.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.062	0.000	7.428	0.00	4.40
8.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.428	0.00	24.96
8.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.062	0.000	7.428	0.00	4.40
10.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	7.428	0.00	24.96
10.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.063	0.000	7.428	0.00	4.40
12.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	7.428	0.00	24.96
12.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.063	0.000	7.428	0.00	4.40
14.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.064	0.000	7.428	0.00	24.96
14.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.064	0.000	7.428	0.00	4.40
16.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.064	0.000	7.520	0.00	24.96
16.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.064	0.000	7.520	0.00	4.40
18.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	7.709	0.00	24.96
18.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.065	0.000	7.709	0.00	4.40
20.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	7.882	0.00	24.96
20.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.065	0.000	7.882	0.00	4.40
22.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	8.041	0.00	24.96
22.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.066	0.000	8.041	0.00	4.40
24.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	8.190	0.00	24.96
24.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.066	0.000	8.190	0.00	4.40
26.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.329	0.00	24.96
26.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.067	0.000	8.329	0.00	4.40
28.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	8.460	0.00	24.96
28.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.068	0.000	8.460	0.00	4.40
30.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	8.584	0.00	24.96
30.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.068	0.000	8.584	0.00	4.40
32.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	8.701	0.00	24.96
32.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.069	0.000	8.701	0.00	4.40
34.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	8.813	0.00	24.96
34.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.069	0.000	8.813	0.00	4.40
35.50	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.070	0.000	8.894	0.00	18.72
35.50	1 5/8" Hybrid	Yes	1.50	0.000	4.00	0.50	0.00	0.070	0.000	8.894	0.00	3.30
36.00	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.070	0.000	8.920	0.00	6.24
36.00	1 5/8" Hybrid	Yes	0.50	0.000	4.00	0.17	0.00	0.070	0.000	8.920	0.00	1.10
38.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	9.022	0.00	24.96
38.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.071	0.000	9.022	0.00	4.40
40.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	9.120	0.00	24.96
40.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.071	0.000	9.120	0.00	4.40
42.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	9.214	0.00	24.96
42.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.072	0.000	9.214	0.00	4.40
43.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	9.260	0.00	12.48
43.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.072	0.000	9.260	0.00	2.20
44.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	9.305	0.00	12.48

Linear Appurtenance Segment Forces (Factored)

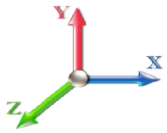
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 72	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
44.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.072	0.000	9.305	0.00	2.20
46.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	9.392	0.00	24.96
46.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.072	0.000	9.392	0.00	4.40
48.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	9.477	0.00	24.96
48.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.073	0.000	9.477	0.00	4.40
50.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	9.559	0.00	24.96
50.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.074	0.000	9.559	0.00	4.40
52.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	9.638	0.00	24.96
52.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.074	0.000	9.638	0.00	4.40
54.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	9.715	0.00	24.96
54.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.075	0.000	9.715	0.00	4.40
56.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	9.789	0.00	24.96
56.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.076	0.000	9.789	0.00	4.40
58.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	9.862	0.00	24.96
58.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.076	0.000	9.862	0.00	4.40
60.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	9.933	0.00	24.96
60.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.077	0.000	9.933	0.00	4.40
62.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	10.001	0.00	24.96
62.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.078	0.000	10.001	0.00	4.40
64.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	10.068	0.00	24.96
64.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.079	0.000	10.068	0.00	4.40
66.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	10.134	0.00	24.96
66.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.080	0.000	10.134	0.00	4.40
68.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	10.198	0.00	24.96
68.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.080	0.000	10.198	0.00	4.40
70.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	10.260	0.00	24.96
70.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.081	0.000	10.260	0.00	4.40
72.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	10.321	0.00	24.96
72.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.082	0.000	10.321	0.00	4.40
74.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	10.381	0.00	24.96
74.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.083	0.000	10.381	0.00	4.40
74.50	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.084	0.000	10.396	0.00	6.24
74.50	1 5/8" Hybrid	Yes	0.50	0.000	4.00	0.17	0.00	0.084	0.000	10.396	0.00	1.10
76.00	1 5/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.084	0.000	10.439	0.00	18.72
76.00	1 5/8" Hybrid	Yes	1.50	0.000	4.00	0.50	0.00	0.084	0.000	10.439	0.00	3.30
78.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	10.497	0.00	24.96
78.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.085	0.000	10.497	0.00	4.40
80.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	10.553	0.00	24.96
80.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.086	0.000	10.553	0.00	4.40
81.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.087	0.000	10.580	0.00	12.48
81.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.087	0.000	10.580	0.00	2.20
82.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.086	0.000	10.608	0.00	12.48
82.00	1 5/8" Hybrid	Yes	1.00	0.000	4.00	0.33	0.00	0.086	0.000	10.608	0.00	2.20
84.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	10.662	0.00	24.96
84.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.086	0.000	10.662	0.00	4.40
86.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	10.715	0.00	24.96
86.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.087	0.000	10.715	0.00	4.40

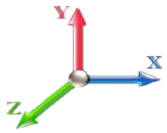
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 73	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
88.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	10.767	0.00	24.96
88.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.088	0.000	10.767	0.00	4.40
90.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	10.818	0.00	24.96
90.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	10.818	0.00	4.40
92.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	10.868	0.00	24.96
92.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	10.868	0.00	4.40
94.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	10.917	0.00	24.96
94.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.091	0.000	10.917	0.00	4.40
96.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	10.966	0.00	24.96
96.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.093	0.000	10.966	0.00	4.40
98.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.094	0.000	11.013	0.00	24.96
98.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.094	0.000	11.013	0.00	4.40
100.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	11.060	0.00	24.96
100.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.095	0.000	11.060	0.00	4.40
102.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.096	0.000	11.106	0.00	24.96
102.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.096	0.000	11.106	0.00	4.40
104.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.097	0.000	11.152	0.00	24.96
104.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.097	0.000	11.152	0.00	4.40
106.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.098	0.000	11.197	0.00	24.96
106.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.098	0.000	11.197	0.00	4.40
108.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.100	0.000	11.241	0.00	24.96
108.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.100	0.000	11.241	0.00	4.40
110.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.101	1.003	11.284	0.00	24.96
110.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.101	1.003	11.284	0.00	4.40
112.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.102	1.007	11.327	0.00	24.96
112.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.102	1.007	11.327	0.00	4.40
114.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.104	1.011	11.370	0.00	24.96
114.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.104	1.011	11.370	0.00	4.40
116.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.105	1.016	11.411	0.00	24.96
116.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.105	1.016	11.411	0.00	4.40
118.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.107	1.020	11.452	0.00	24.96
118.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.107	1.020	11.452	0.00	4.40
118.75	1 5/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.108	1.023	11.468	0.00	9.36
118.75	1 5/8" Hybrid	Yes	0.75	0.000	4.00	0.25	0.00	0.108	1.023	11.468	0.00	1.65
120.00	1 5/8" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.108	1.025	11.493	0.00	15.60
120.00	1 5/8" Hybrid	Yes	1.25	0.000	4.00	0.42	0.00	0.108	1.025	11.493	0.00	2.75
122.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.029	11.533	0.00	24.96
122.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.110	1.029	11.533	0.00	4.40
124.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	11.573	0.00	24.96
124.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.111	1.034	11.573	0.00	4.40
126.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.033	11.612	0.00	24.96
126.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.111	1.033	11.612	0.00	4.40
128.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.037	11.650	0.00	24.96
128.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.112	1.037	11.650	0.00	4.40
130.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	11.688	0.00	24.96
130.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.114	1.042	11.688	0.00	4.40
132.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	11.726	0.00	24.96

Linear Appurtenance Segment Forces (Factored)

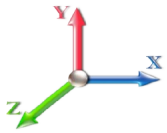
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 74	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
132.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.116	1.048	11.726	0.00	4.40
134.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.053	11.763	0.00	24.96
134.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.118	1.053	11.763	0.00	4.40
136.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.058	11.800	0.00	24.96
136.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.119	1.058	11.800	0.00	4.40
138.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.064	11.836	0.00	24.96
138.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.121	1.064	11.836	0.00	4.40
140.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	11.872	0.00	24.96
140.00	1 5/8" Hybrid	Yes	2.00	0.000	4.00	0.67	0.00	0.123	1.070	11.872	0.00	4.40
										Totals:	**0.0**	**2,055.2**

Calculated Forces

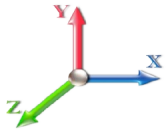
Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 75	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 29

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-55.71	-11.87	0.00	-1439.3	0.00	1439.38	5795.46	1682.91	8909.80	7510.36	0.00	0.000	0.000	0.201
2.00	-54.97	-11.80	0.00	-1415.6	0.00	1415.64	5776.44	1669.60	8769.44	7426.09	0.00	-0.016	0.000	0.200
4.00	-54.23	-11.73	0.00	-1392.0	0.00	1392.05	5757.00	1656.30	8630.20	7341.68	0.01	-0.033	0.000	0.199
6.00	-53.50	-11.66	0.00	-1368.5	0.00	1368.59	5737.14	1642.99	8492.07	7257.12	0.03	-0.050	0.000	0.198
8.00	-52.77	-11.59	0.00	-1345.2	0.00	1345.27	5716.84	1629.68	8355.05	7172.43	0.06	-0.066	0.000	0.197
10.00	-52.05	-11.52	0.00	-1322.0	0.00	1322.08	5696.12	1616.37	8219.15	7087.63	0.09	-0.083	0.000	0.196
12.00	-51.33	-11.46	0.00	-1299.0	0.00	1299.04	5674.97	1603.06	8084.36	7002.73	0.13	-0.100	0.000	0.195
14.00	-50.62	-11.39	0.00	-1276.1	0.00	1276.12	5653.40	1589.76	7950.69	6917.75	0.17	-0.118	0.000	0.193
16.00	-49.92	-11.32	0.00	-1253.3	0.00	1253.35	5631.39	1576.45	7818.13	6832.69	0.23	-0.135	0.000	0.192
18.00	-49.21	-11.25	0.00	-1230.7	0.00	1230.71	5608.96	1563.14	7686.69	6747.57	0.29	-0.152	0.000	0.191
20.00	-48.52	-11.18	0.00	-1208.2	0.00	1208.21	5586.10	1549.83	7556.36	6662.41	0.35	-0.170	0.000	0.190
22.00	-47.83	-11.11	0.00	-1185.8	0.00	1185.85	5562.81	1536.52	7427.15	6577.21	0.43	-0.187	0.000	0.189
24.00	-47.14	-11.03	0.00	-1163.6	0.00	1163.64	5539.10	1523.21	7299.05	6491.99	0.51	-0.205	0.000	0.188
26.00	-46.46	-10.96	0.00	-1141.5	0.00	1141.57	5514.96	1509.91	7172.06	6406.77	0.60	-0.223	0.000	0.187
28.00	-45.79	-10.88	0.00	-1119.6	0.00	1119.65	5490.39	1496.60	7046.19	6321.55	0.70	-0.241	0.000	0.186
30.00	-45.11	-10.80	0.00	-1097.8	0.00	1097.89	5465.39	1483.29	6921.43	6236.35	0.80	-0.259	0.000	0.184
32.00	-44.44	-10.72	0.00	-1076.2	0.00	1076.29	5439.96	1469.98	6797.79	6151.18	0.92	-0.278	0.000	0.183
34.00	-43.79	-10.64	0.00	-1054.8	0.00	1054.85	5414.11	1456.67	6675.26	6066.06	1.04	-0.296	0.000	0.182
35.50	-43.30	-10.58	0.00	-1038.8	0.00	1038.89	5394.44	1446.69	6584.09	6002.26	1.13	-0.310	0.000	0.181
36.00	-43.00	-10.56	0.00	-1033.6	0.00	1033.60	5387.83	1443.36	6553.84	5981.00	1.16	-0.315	0.000	0.181
38.00	-41.82	-10.48	0.00	-1012.4	0.00	1012.48	5361.12	1430.06	6433.54	5896.01	1.30	-0.333	0.000	0.180
40.00	-40.65	-10.40	0.00	-991.52	0.00	991.52	5333.99	1416.75	6314.36	5811.11	1.44	-0.352	0.000	0.178
42.00	-39.50	-10.31	0.00	-970.73	0.00	970.73	5306.43	1403.44	6196.29	5726.30	1.60	-0.371	0.000	0.177
43.00	-38.92	-10.27	0.00	-960.42	0.00	960.42	4823.70	1326.07	5927.09	5273.35	1.67	-0.381	0.000	0.190
44.00	-38.62	-10.23	0.00	-950.15	0.00	950.15	4812.47	1319.86	5871.70	5236.23	1.76	-0.390	0.000	0.190
46.00	-38.02	-10.15	0.00	-929.70	0.00	929.70	4789.68	1307.44	5761.71	5161.99	1.92	-0.410	0.000	0.188
48.00	-37.42	-10.06	0.00	-909.41	0.00	909.41	4766.46	1295.02	5652.75	5087.77	2.10	-0.430	0.000	0.187
50.00	-36.83	-9.98	0.00	-889.28	0.00	889.28	4742.82	1282.60	5544.84	5013.57	2.28	-0.449	0.000	0.185
52.00	-36.24	-9.90	0.00	-869.32	0.00	869.32	4718.75	1270.18	5437.96	4939.41	2.48	-0.469	0.000	0.184
54.00	-35.66	-9.82	0.00	-849.52	0.00	849.52	4694.25	1257.76	5332.12	4865.31	2.68	-0.489	0.000	0.182
56.00	-35.08	-9.73	0.00	-829.89	0.00	829.89	4669.32	1245.33	5227.33	4791.28	2.89	-0.510	0.000	0.181
58.00	-34.51	-9.65	0.00	-810.42	0.00	810.42	4643.97	1232.91	5123.57	4717.32	3.10	-0.530	0.000	0.179
60.00	-33.95	-9.57	0.00	-791.12	0.00	791.12	4618.19	1220.49	5020.86	4643.46	3.33	-0.550	0.000	0.178
62.00	-33.38	-9.49	0.00	-771.99	0.00	771.99	4591.98	1208.07	4919.18	4569.71	3.57	-0.571	0.000	0.176
64.00	-32.83	-9.40	0.00	-753.02	0.00	753.02	4565.34	1195.65	4818.55	4496.07	3.81	-0.591	0.000	0.175
66.00	-32.27	-9.32	0.00	-734.21	0.00	734.21	4538.28	1183.23	4718.95	4422.57	4.06	-0.612	0.000	0.173
68.00	-31.73	-9.24	0.00	-715.57	0.00	715.57	4510.78	1170.81	4620.40	4349.22	4.32	-0.633	0.000	0.172
70.00	-31.18	-9.15	0.00	-697.10	0.00	697.10	4482.87	1158.39	4522.88	4276.03	4.59	-0.654	0.000	0.170
72.00	-30.64	-9.07	0.00	-678.79	0.00	678.79	4454.52	1145.97	4426.41	4203.01	4.87	-0.675	0.000	0.168
74.00	-30.11	-8.99	0.00	-660.65	0.00	660.65	4425.74	1133.55	4330.97	4130.17	5.16	-0.697	0.000	0.167
74.50	-29.98	-8.97	0.00	-656.15	0.00	656.15	4418.48	1130.44	4307.27	4111.99	5.23	-0.702	0.000	0.166
76.00	-29.30	-8.90	0.00	-642.70	0.00	642.70	4396.54	1121.12	4236.58	4057.54	5.46	-0.718	0.000	0.165
78.00	-28.40	-8.81	0.00	-624.90	0.00	624.90	4366.91	1108.70	4143.22	3985.11	5.76	-0.740	0.000	0.163
80.00	-27.51	-8.72	0.00	-607.27	0.00	607.27	4336.86	1096.28	4050.91	3912.92	6.08	-0.761	0.000	0.162
81.00	-27.06	-8.68	0.00	-598.54	0.00	598.54	3502.12	951.57	3560.67	3204.59	6.24	-0.772	0.000	0.195
82.00	-26.83	-8.64	0.00	-589.86	0.00	589.86	3492.03	946.24	3520.94	3177.33	6.40	-0.783	0.000	0.193
84.00	-26.38	-8.56	0.00	-572.58	0.00	572.58	3471.52	935.60	3442.15	3122.83	6.73	-0.807	0.000	0.191
86.00	-25.93	-8.48	0.00	-555.46	0.00	555.46	3450.59	924.95	3364.26	3068.38	7.08	-0.832	0.000	0.189

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 76	

Tower Engineering Solutions

88.00	-25.48	-8.40	0.00	-538.50	0.00	538.50	3429.23	914.30	3287.26	3013.99	7.43	-0.856	0.000	0.186
90.00	-25.03	-8.32	0.00	-521.70	0.00	521.70	3407.44	903.66	3211.15	2959.67	7.79	-0.880	0.000	0.184
92.00	-24.60	-8.24	0.00	-505.07	0.00	505.07	3385.23	893.01	3135.93	2905.43	8.17	-0.905	0.000	0.181
94.00	-24.16	-8.16	0.00	-488.59	0.00	488.59	3362.58	882.36	3061.60	2851.28	8.55	-0.929	0.000	0.179
96.00	-23.73	-8.08	0.00	-472.27	0.00	472.27	3339.51	871.72	2988.16	2797.25	8.95	-0.954	0.000	0.176
98.00	-23.30	-8.00	0.00	-456.11	0.00	456.11	3316.01	861.07	2915.61	2743.33	9.35	-0.978	0.000	0.173
100.00	-22.88	-7.92	0.00	-440.11	0.00	440.11	3292.09	850.42	2843.96	2689.56	9.77	-1.003	0.000	0.171
102.00	-22.46	-7.84	0.00	-424.27	0.00	424.27	3267.73	839.78	2773.20	2635.93	10.19	-1.028	0.000	0.168
104.00	-22.05	-7.77	0.00	-408.58	0.00	408.58	3242.95	829.13	2703.33	2582.46	10.63	-1.052	0.000	0.165
106.00	-21.64	-7.69	0.00	-393.05	0.00	393.05	3217.75	818.48	2634.35	2529.17	11.08	-1.077	0.000	0.162
108.00	-21.23	-7.61	0.00	-377.68	0.00	377.68	3192.11	807.84	2566.26	2476.07	11.53	-1.102	0.000	0.159
110.00	-20.83	-7.53	0.00	-362.46	0.00	362.46	3166.05	797.19	2499.06	2423.18	12.00	-1.126	0.000	0.156
112.00	-20.43	-7.46	0.00	-347.39	0.00	347.39	3139.56	786.54	2432.76	2370.49	12.48	-1.151	0.000	0.153
114.00	-20.04	-7.38	0.00	-332.47	0.00	332.47	3112.64	775.90	2367.34	2318.04	12.96	-1.176	0.000	0.150
116.00	-19.65	-7.30	0.00	-317.71	0.00	317.71	3085.29	765.25	2302.82	2265.83	13.46	-1.200	0.000	0.147
118.00	-19.27	-7.23	0.00	-303.10	0.00	303.10	3057.52	754.60	2239.19	2213.87	13.97	-1.224	0.000	0.143
118.75	-19.12	-7.20	0.00	-297.68	0.00	297.68	3046.99	750.61	2215.56	2194.45	14.16	-1.234	0.000	0.142
120.00	-18.73	-7.15	0.00	-288.69	0.00	288.69	3029.32	743.96	2176.45	2162.18	14.49	-1.249	0.000	0.140
122.00	-18.11	-7.07	0.00	-274.39	0.00	274.39	3000.69	733.31	2114.60	2110.77	15.02	-1.273	0.000	0.136
124.00	-17.50	-6.98	0.00	-260.26	0.00	260.26	2338.57	614.36	1781.07	1656.86	15.56	-1.297	0.000	0.165
126.00	-17.17	-6.91	0.00	-246.30	0.00	246.30	2319.39	605.49	1730.00	1619.32	16.10	-1.320	0.000	0.160
128.00	-16.85	-6.83	0.00	-232.48	0.00	232.48	2299.78	596.62	1679.67	1581.89	16.66	-1.347	0.000	0.154
130.00	-16.53	-6.76	0.00	-218.82	0.00	218.82	2279.74	587.74	1630.09	1544.58	17.23	-1.373	0.000	0.149
132.00	-16.21	-6.68	0.00	-205.30	0.00	205.30	2259.27	578.87	1581.25	1507.39	17.81	-1.398	0.000	0.144
134.00	-15.90	-6.61	0.00	-191.93	0.00	191.93	2238.38	570.00	1533.15	1470.34	18.40	-1.423	0.000	0.138
136.00	-15.59	-6.54	0.00	-178.71	0.00	178.71	2217.06	561.13	1485.79	1433.45	19.01	-1.447	0.000	0.132
138.00	-15.29	-6.46	0.00	-165.64	0.00	165.64	2195.31	552.25	1439.18	1396.73	19.62	-1.471	0.000	0.126
140.00	-12.86	-5.13	0.00	-152.71	0.00	152.71	2173.13	543.38	1393.31	1360.19	20.24	-1.494	0.000	0.118
142.00	-12.59	-5.06	0.00	-142.46	0.00	142.46	2150.53	534.51	1348.18	1323.84	20.87	-1.517	0.000	0.114
144.00	-12.33	-4.99	0.00	-132.35	0.00	132.35	2127.50	525.64	1303.79	1287.70	21.51	-1.539	0.000	0.109
146.00	-12.07	-4.92	0.00	-122.37	0.00	122.37	2104.04	516.77	1260.15	1251.78	22.16	-1.560	0.000	0.104
148.00	-11.81	-4.86	0.00	-112.52	0.00	112.52	2080.15	507.89	1217.25	1216.10	22.82	-1.581	0.000	0.098
150.00	-9.37	-3.95	0.00	-102.81	0.00	102.81	2055.84	499.02	1175.10	1180.67	23.48	-1.601	0.000	0.092
152.00	-9.15	-3.89	0.00	-94.90	0.00	94.90	2031.10	490.15	1133.68	1145.49	24.16	-1.620	0.000	0.087
154.00	-8.93	-3.82	0.00	-87.12	0.00	87.12	2005.93	481.28	1093.01	1110.59	24.84	-1.639	0.000	0.083
154.75	-8.85	-3.80	0.00	-84.26	0.00	84.26	1996.38	477.95	1077.95	1097.58	25.10	-1.646	0.000	0.081
156.00	-8.64	-3.76	0.00	-79.51	0.00	79.51	1980.33	472.40	1053.09	1075.98	25.53	-1.658	0.000	0.078
158.00	-8.32	-3.69	0.00	-71.99	0.00	71.99	1946.84	463.53	1013.90	1037.68	26.23	-1.675	0.000	0.074
159.00	-8.16	-3.66	0.00	-68.29	0.00	68.29	942.51	280.76	619.93	509.56	26.58	-1.684	0.000	0.143
160.00	-8.09	-3.63	0.00	-64.63	0.00	64.63	939.15	278.09	608.23	502.90	26.94	-1.692	0.000	0.137
162.00	-7.95	-3.57	0.00	-57.37	0.00	57.37	932.13	272.77	585.17	489.52	27.65	-1.717	0.000	0.126
164.00	-7.81	-3.51	0.00	-50.23	0.00	50.23	924.68	267.45	562.55	476.06	28.37	-1.740	0.000	0.114
166.00	-7.67	-3.46	0.00	-43.20	0.00	43.20	916.80	262.12	540.38	462.54	29.11	-1.762	0.000	0.102
167.00	-3.66	-1.76	0.00	-39.74	0.00	39.74	912.70	259.46	529.46	455.76	29.48	-1.772	0.000	0.091
168.00	-3.61	-1.73	0.00	-37.98	0.00	37.98	908.49	256.80	518.65	448.97	29.85	-1.782	0.000	0.089
170.00	-3.50	-1.68	0.00	-34.52	0.00	34.52	899.76	251.48	497.37	435.36	30.60	-1.800	0.000	0.083
172.00	-3.40	-1.62	0.00	-31.17	0.00	31.17	890.60	246.15	476.54	421.74	31.36	-1.819	0.000	0.078
174.00	-3.31	-1.57	0.00	-27.92	0.00	27.92	881.01	240.83	456.15	408.10	32.12	-1.836	0.000	0.072
176.00	-3.21	-1.51	0.00	-24.79	0.00	24.79	870.99	235.51	436.21	394.47	32.90	-1.853	0.000	0.067
178.00	-3.11	-1.46	0.00	-21.76	0.00	21.76	860.55	230.18	416.71	380.86	33.68	-1.868	0.000	0.061
180.00	-3.02	-1.41	0.00	-18.83	0.00	18.83	849.68	224.86	397.66	367.28	34.46	-1.883	0.000	0.055
182.00	-2.93	-1.36	0.00	-16.01	0.00	16.01	838.38	219.54	379.06	353.74	35.25	-1.896	0.000	0.049
184.00	-2.84	-1.31	0.00	-13.29	0.00	13.29	826.65	214.21	360.90	340.26	36.05	-1.908	0.000	0.043
186.00	-2.76	-1.26	0.00	-10.66	0.00	10.66	814.50	208.89	343.18	326.85	36.85	-1.919	0.000	0.036
188.00	-2.67	-1.22	0.00	-8.13	0.00	8.13	801.91	203.57	325.91	313.52	37.66	-1.928	0.000	0.029
190.00	-2.59	-1.17	0.00	-5.70	0.00	5.70	788.90	198.24	309.09	300.29	38.47	-1.935	0.000	0.022
192.00	-2.51	-1.13	0.00	-3.36	0.00	3.36	775.47	192.92	292.71	287.17	39.28	-1.941	0.000	0.015

Calculated Forces

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H
Site Name:	Stonington East	**Exposure:**	C
Height:	196.00 (ft)	**Crest Height:**	0.00
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock
Gh:	1.1	**Topography:** 1	**Struct Class:** II

7/17/2019

Tower Engineering Solutions

194.00	-2.44	-1.08	0.00	-1.11	0.00	1.11	761.60	187.60	276.78	274.17	40.09	-1.943	0.000	0.007
195.00	-0.04	-0.03	0.00	-0.03	0.00	0.03	754.51	184.94	268.98	267.73	40.50	-1.944	0.000	0.000
196.00	0.00	-0.03	0.00	0.00	0.00	0.00	747.31	182.27	261.30	261.31	40.91	-1.944	0.000	0.000

Final Analysis Summary

Structure:	CT00595-S-SBA	**Code:**	EIA/TIA-222-H	7/17/2019	
Site Name:	Stonington East	**Exposure:**	C		
Height:	196.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 78	

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 + 1.0W 128 mph Wind	54.0	0.00	66.81	0.00	0.00	6587.48
0.9D + 1.0W 128 mph Wind	54.0	0.00	50.10	0.00	0.00	6511.37
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.0	0.00	89.94	0.00	0.00	1392.69
1.2D + 1.0Ev + 1.0Eh	2.0	0.00	66.85	0.00	0.00	207.15
0.9D + 1.0Ev + 1.0Eh	2.0	0.00	50.14	0.00	0.00	204.73
1.0D + 1.0W 60 mph Wind	11.9	0.00	55.71	0.00	0.00	1439.38

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 + 1.0W 128 mph Wind	-66.81	-54.03	0.00	-6587.4	0.00	-6587.4	5795.46	1682.9	8909.80	7510.36	0.00	0.890
0.9D + 1.0W 128 mph Wind	-50.10	-54.02	0.00	-6511.3	0.00	-6511.3	5795.46	1682.9	8909.80	7510.36	0.00	0.877
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-89.94	-11.04	0.00	-1392.6	0.00	-1392.6	5795.46	1682.9	8909.80	7510.36	0.00	0.201
1.2D + 1.0Ev + 1.0Eh	-9.91	-0.76	0.00	-19.08	0.00	-19.08	942.51	280.76	619.93	509.56	159.00	0.048
0.9D + 1.0Ev + 1.0Eh	-7.43	-0.74	0.00	-18.82	0.00	-18.82	942.51	280.76	619.93	509.56	159.00	0.045
1.0D + 1.0W 60 mph Wind	-55.71	-11.87	0.00	-1439.3	0.00	-1439.3	5795.46	1682.9	8909.80	7510.36	0.00	0.201

Base Plate Summary

Structure:	CT00595-S-SB		**Code:**	EIA/TIA-222-H	7/17/2019
Site Name:	Stonington East		**Exposure:**	C	
Height:	196.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 79

Tower Engineering Solutions

Reactions	
Original Design	
Moment (kip-ft):	5768.00
Axial (kip):	59.50
Shear (kip):	46.30
Analysis	
Moment (kip-ft):	6587.48
Axial (kip):	89.94
Shear (kip):	54.03
Moment Design %:	114.21

Base Plate	
Yield (ksi):	60.00
Width (in):	78.76
Style:	Polygon
Polygon Sides:	12.00
Clip Length (in):	0.00
Effective Len (in):	13.07
Moment (kip-in):	809.52
Allow Stress (ksi):	81.00
Applied Stress (ksi):	0.00
Stress Ratio:	0.73

Anchor Bolts	
Bolt Circle:	72.76
Number Bolts:	24.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Radial
Cluster Dist (in):	0.00
Start Angle (deg):	0.00
Compression	
Force (kip):	184.82
Allowable (kip):	243.75
Ratio:	0.76
Tension	
Force (kip):	177.33
Allowable (kip):	243.75
Ratio:	0.73

Monopole Mat Foundation Design

				Date
				7/17/2019
	Customer Name:	T-Mobile	**EIA/TIA Standard:**	EIA-222-H
	Site Name:		**Structure Height (Ft.):**	196
	Site Number:	CT00595-S-SBA	**Engineer Name:**	M. Baker
	Engr. Number:	80542	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

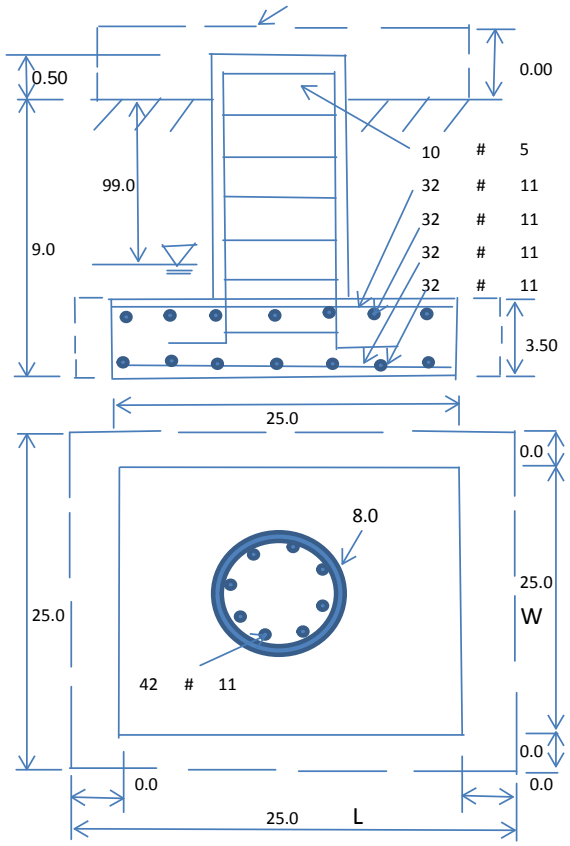
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	66.8	Shear Force (Kips):	54.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	6587.5
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	9.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	25	Width of Pad (ft.):	25
Final Length of pad (ft)	25.0	Final width of pad (ft):	25.0



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	42	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	11	
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):	32	Qty. of Rebar in Pad (W):	32	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	16000	Ultimate Skin Friction:		Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	3161.04	Total Dry Soil Weight (Kips):	347.71
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	347.71	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2489.09	Total Dry Concrete Weight (Kips):	373.36
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	373.36	Total Vertical Load on Base (Kips):	787.89

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	5358	<	Allowable Factored Soil Bearing (psf): 12000	0.45	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	8947.3	>	Design Factored Momont (kips-ft): 7100	0.79	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.26	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):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	12376.5	>	Design Factored Moment (Mu, Kips-F	6911.5	0.56	OK!
Calculated Shear Capacity (Kips):	924.8	>	Design Factored Shear (Kips):	54.0	0.06	OK!
Calculated Tension Capacity (Tn, Kips):	3538.1	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	12681.4	>	Design Factored Axial Load (Pu Kips):	66.8	0.01	OK!
Moment & Axial Strength Combination:	0.56	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.009		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1090.4	>	One-Way Factored Shear (L-D. Kips):	380.0	0.35	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1090.4	>	One-Way Factored Shear (W-D., Kips)	380.0	0.35	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	914.6	>	One-Way Factored Shear (C-C, Kips):	373.8	0.41	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0043	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0043		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	8276.7	>	Moment at Bottom (L-Dir. K-Ft):	2050.5	0.25	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	8276.7	>	Moment at Bottom (W-Dir. K-Ft):	2050.5	0.25	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	11568.6	>	Moment at Bottom (C-C Dir. K-Ft):	2899.9	0.25	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0043	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0043		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	8276.7	>	Moment at the top (L-Dir K-Ft):	971.9	0.12	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	8276.7	>	Moment at the top (W-Dir K-Ft):	971.9	0.12	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	11568.6	>	Moment at the top (C-C Dir. K-Ft):	917.9	0.08	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	2635.0	k-ft.	Max. factored shear stress v_{u_CD}:		5.1	Psi
Max. factored shear stress v_{u_AB}:	11.5	Psi	Factored shear Strength ϕv_n:		189.7	Psi
Max. factored shear stress v_u:	11.5	Psi	Check Usage of Punching Shear Capacity:		0.06	OK!

EXHIBIT 8

Antenna Mount Structural Analysis

Source: SBA Date: 4.18.2019

SBA Site:	CT00595-S Stonington East
T-Mobile Site Number:	CT11343A
Project:	L600 Project
Prepared For:	T-Mobile
Mount Description:	(1) Platform w/ Kicker and Handrail w/ V-Brace Augments
Site Location:	86 Voluntown Rd, Stonington, CT New London County 41.405539°, -71.845247°
Design Codes:	ANSI/TIA-222-G IBC 2015 w/ 2018 CT Building Code
Analysis Load Case:	T-Mobile Final Configuration
Analysis Result:	**Adequate @ 69%** - Once Augmented See Conclusion

Revision 0
June 13, 2019

GeoStructural ▪ P.O. Box 2621, Boise, ID 83701 ▪ Office: (530) 539-4787
Professional Engineers | Tower Technicians | Climbers | sUAS Mapping

1.0 Introduction

An antenna mount structural analysis has been performed on T-Mobile's existing mount assembly with augments located at the CT00595-S Stonington East communications site in New London County, CT considering the final equipment loading configuration listed in Section 3.0.

2.0 Analysis Criteria

An elastic three-dimensional model of the mount structure has been analyzed pursuant to the following criteria considering wind forces in 30° increments:

- 2018 Connecticut State Building Code.
- IBC 2015 – International Building Code.
- ANSI/TIA-222-G – Structural Standard for Antenna Supporting Structures and Antennas.
- AISC – Steel Construction Manual.
- ANSI/AWS D1.1 – Structural Welding Code.

Wind w/o ice = 140 mph (3-sec gust Ultimate Wind Speed) Wind w/o ice = 108 mph (3-sec gust Basic Wind Speed) Wind w/ ice = 50 mph (3-sec gust Basic) with 3/4" Design Ice, Escalated with Height
Topographic Category 1; Exposure Category C; Structure Class (Risk Category) II Gust Effect Factor = 1.0; Directionality Factor = 0.95 Site Class D "Stiff Soil"; F_a = 1.6; F_v = 2.4; S_{DS} = 0.171
Maintenance Loads**: Lm = 500 lb @ Worst Case Mount Pipe (Concurrent with 30 mph Wind Speed) Lv = 250 lb @ Worst Case Member Location (Center Span or Cantilever) ** *The mount face horizontal boom rails of T-Arm mount assemblies are not rated for rigging, hoisting or maintenance loading.*

The following documents were provided:

- Mount and Tower Record Documents
  SBA
- Tower Structural Analysis
  TES, 10/2/15.
- Construction Drawings
  Chappell, L600 Project, Rev-0, 5/20/19.
- Colo Application
  SBA 600 MHz, App # 116669 v1.
- RFDS
  T-Mobile L600 Project, V2.1, CT11343A, 4/25/19.

The results of the analysis are illustrated in Section 4.0. If any of the existing or proposed conditions reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

3.0 Appurtenance Information

Table 3.1 – T-Mobile Final Configuration[1,2,3]

COR	(Quantity) Appurtenance Make/Model	Mount Description
167.0'±	(3) ERICSSON AIR21 B2A/B4P	*(1) Platform w/ Kicker and Handrail w/ V-Brace Augments*
	(3) RFS APXVAARR24_43-U-NA20	
	(3) ERICSSON AIR21 B2P/B4A	
	(3) ERICSSON 4449 B71+B12 RRH	

1. *Refer to antenna installation Construction Drawings (by others, when applicable) for additional information regarding final antenna and equipment orientations.*
2. *Panel antennas to be installed as follows:*
   2.1. *AIR21 panels to be installed on mount pipes in Positions 1 and 3 similar to existing.*
   2.2. *AARR panels to be installed on mount pipes in Positions 2 similar to existing.*
3. *RRH/TMA units to be installed as follows:*
   3.1. *4449 RRHs to be installed on mount pipe behind panels in Position 2.*

4.0 Analysis Results

Table 4.1 – Augmented Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final T-Mobile Configuration	New Handrail V-Brace Assembly	17%	**Adequate Once Augmented[3]**
	Bracing	10%	
	Handrail	69%	
	Standoff	22%	
	Bottom Rail	43%	
	Pipe2.0STD Mount Pipes	52%	
	New Pipe2.5STD Mount Pipes	57%	
	PRK Double Angles	51%	
	Connection Plates	38%	

1. *Refer to the Calculations & Software Output portion of this report for mount component and structural information.*
2. *Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.2. 105% is an acceptable allowable stress percentage for mount components.*
3. *Refer to Section 5.0 for information regarding required mount augments.*

Table 4.2 – Structural Component Material Strengths

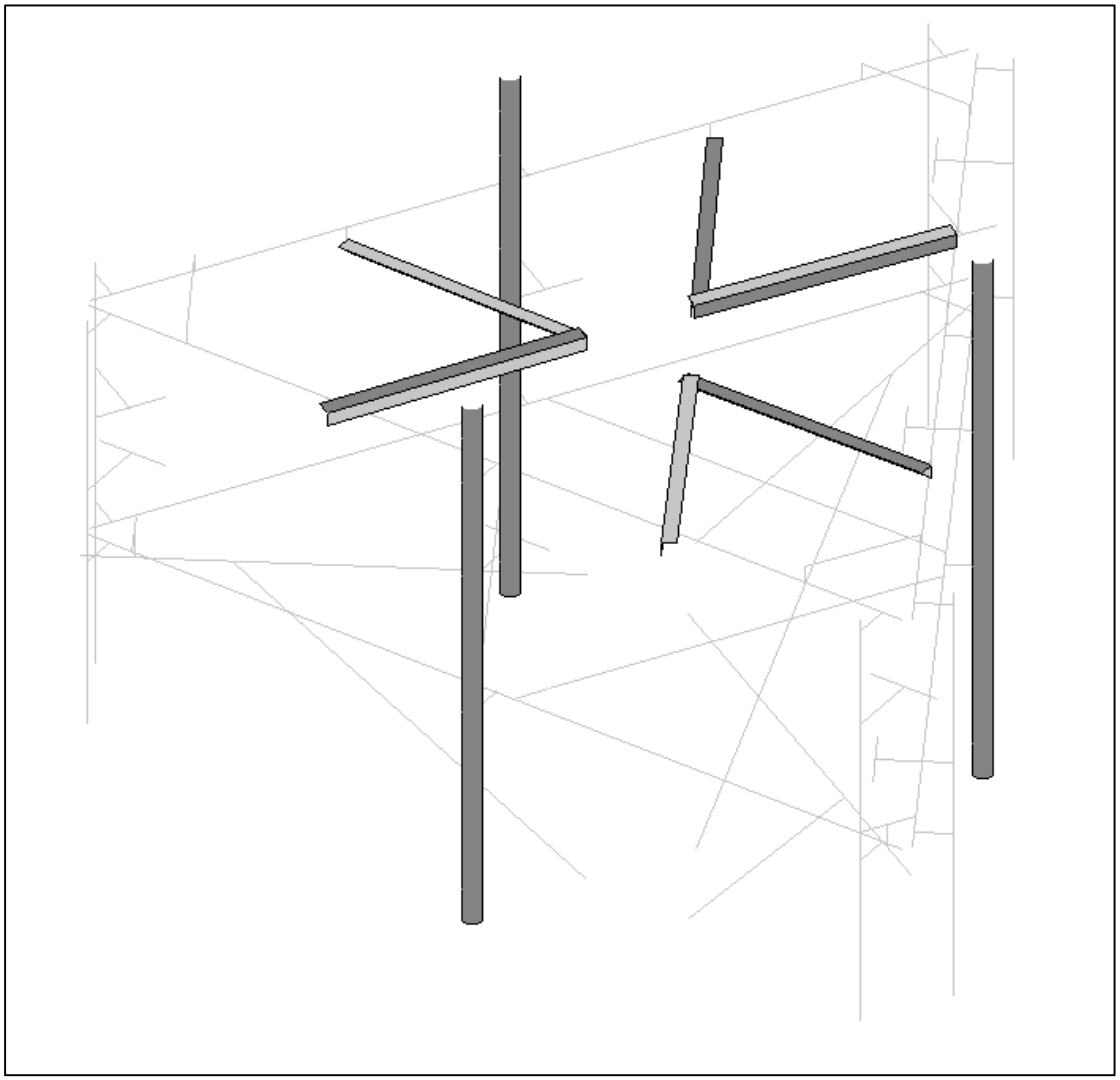
Structural Component	Nominal Strength/Material[1]
Pipe	F_y = 35 ksi (A53, Gr. B)
Tube	F_y = 46 ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate / Bar	F_y = 36 ksi (A36)
Uni-Strut	F_y = 33 ksi (A570, Gr. 33)
Connection Bolts	A325
Stainless Steel Bolts	18-8 Stainless, Grade 316/304 F_y = 74 ksi (Yield) & F_u = 29 ksi (Tension)
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) F_y = 57 ksi (Yield) & F_u = 74 ksi (Tension)
Welds	E70XX Electrodes

1. *Strengths listed were assumed for this analysis and are based upon ASTM, AISC, RCSC, AWS and ACI preferred specification values. Values and materials are consistent with industry standards. Material strengths were taken from original design documents when available.*

5.0 Conclusion & Recommendations

Based on T-Mobile's final equipment loading configuration, the mount assemblies do not have sufficient capacity to support the loading considered in this analysis pursuant to the listed standards. Structural modifications (augments) will be required and are briefly summarized below:

- Install V-Brace Kit; located approximately 3.0' above the existing mount face rail centerline.
  - Sitepro1 PRK-SFS-L, (1) total. Attach ring mount in kit to monopole shaft and SFS angle gate clamp brackets to handrail w/ a horiz. spread of approximately 5.2'.
  - Orient PRK-SFS collar and angle braces such that the climbing path in uninterrupted.
- Install (3) Pipe2.5STD x 8'-0" mount pipes at Position 2 mount pipe location (supporting RFS APXVAARR24 panel antenna and 4449 RRH). Attach new Pipe2.5STD mount pipe to existing bottom channel rail w/ (2) new U-bolt assemblies and to existing top handrail pipe w/ New Sitepro1 SCX x -43 cross-over plate assemblies. Remove the existing mount pipe.



Once the recommended augments are successfully implemented, the augmented mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

Augmentation Requirements:

- Antennas and equipment shall be installed centered vertically on the mount front face bottom rail (limit vertical installation eccentricity) same as existing. This analysis accounts for vertical eccentricities necessary to install all panel antennas at the same relative top tip elevation.
- Panel antennas to be installed as follows:
  - AIR21 panels to be installed on mount pipes in Positions 1 and 3 similar to existing.
  - AARR panels to be installed on mount pipes in Positions 2 similar to existing.
- RRH/TMA units to be installed as follows:
  - 4449 RRHs to be installed on mount pipe behind panels in Position 2.
- In order to obtain a mount structure capable of supporting the currently proposed final loading configuration, upgrade augments must be installed in accordance with GeoStructural's mount augment *recommendations*.

All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study, nor have they been provided a mount mapping to verify existing conditions and the results of this analysis are based solely on the information provided.

This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

Prepared by:

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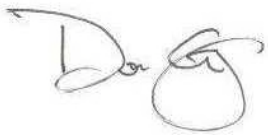
Reviewed and Approved by:



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6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.

- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.

- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.

- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.

- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.

- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.

- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.

- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

7.0 Calculations & Software Output

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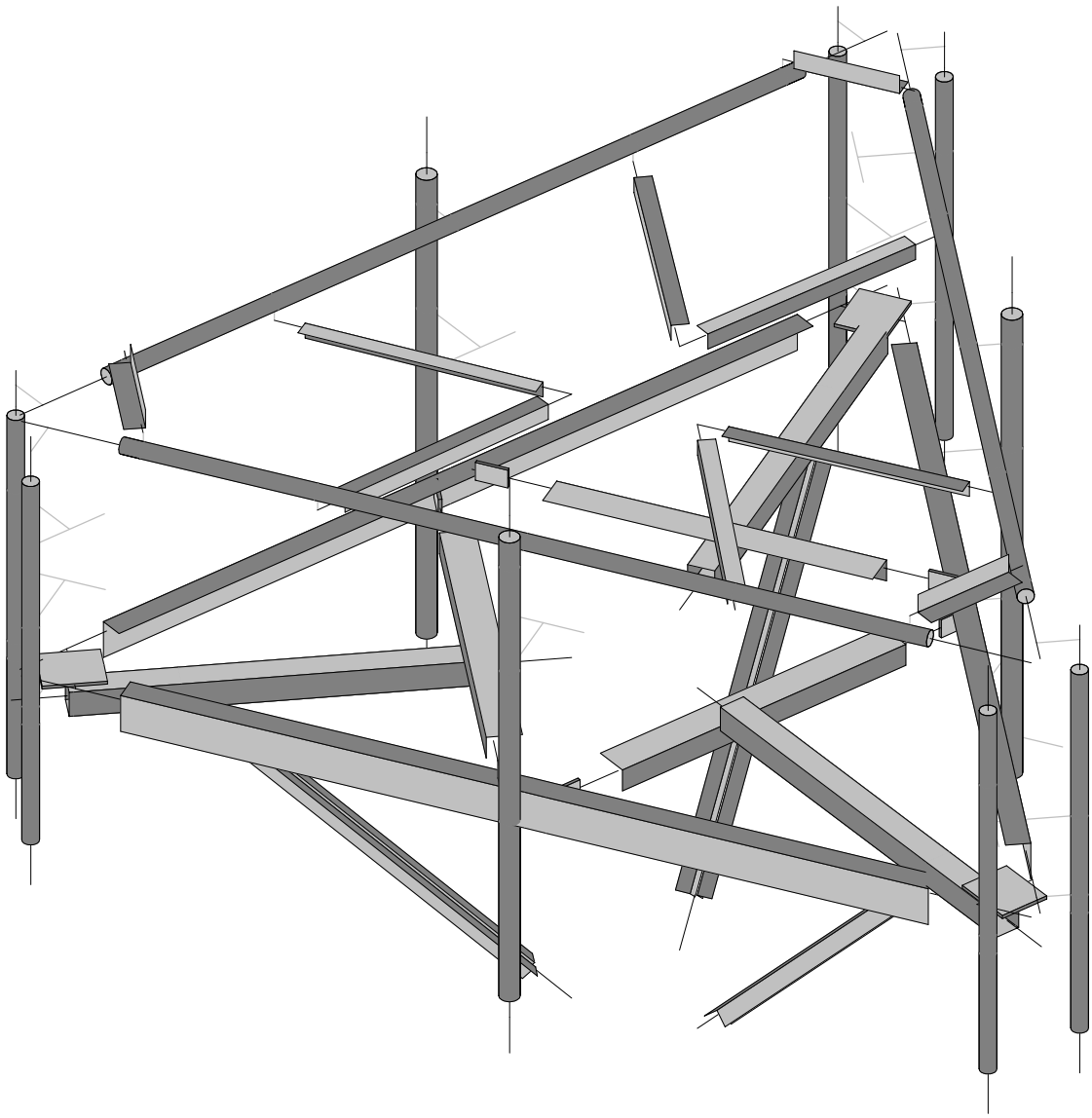

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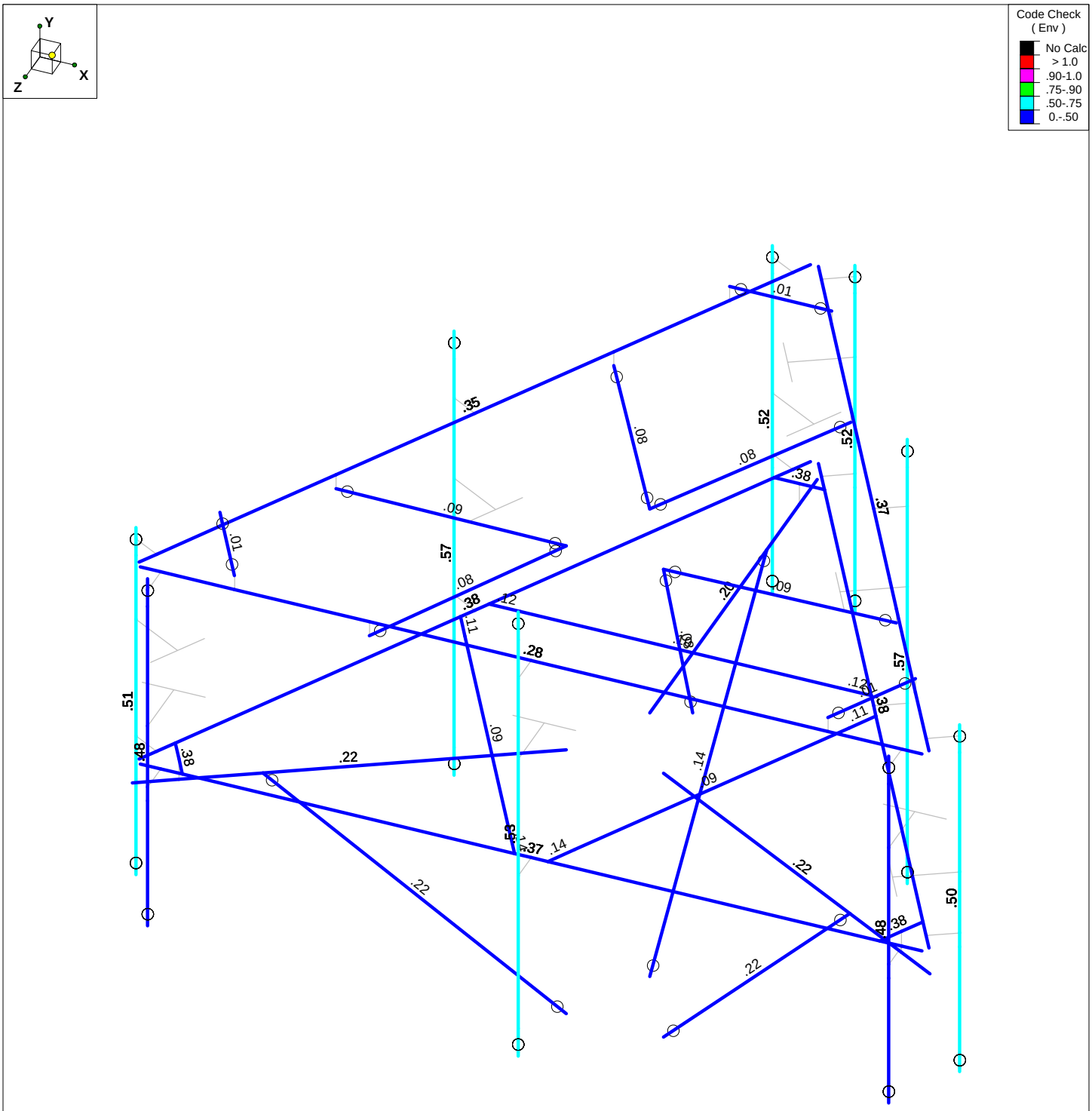

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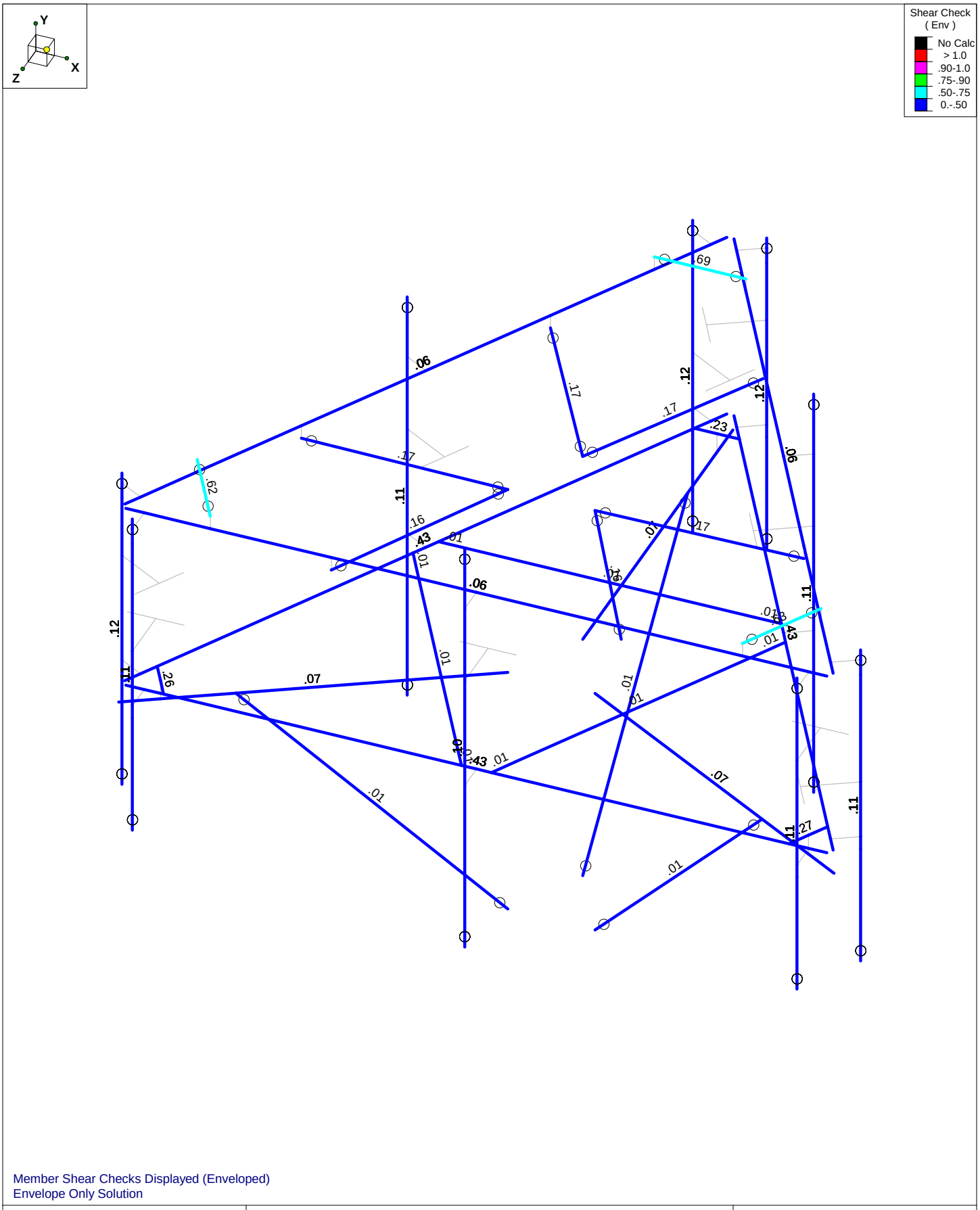

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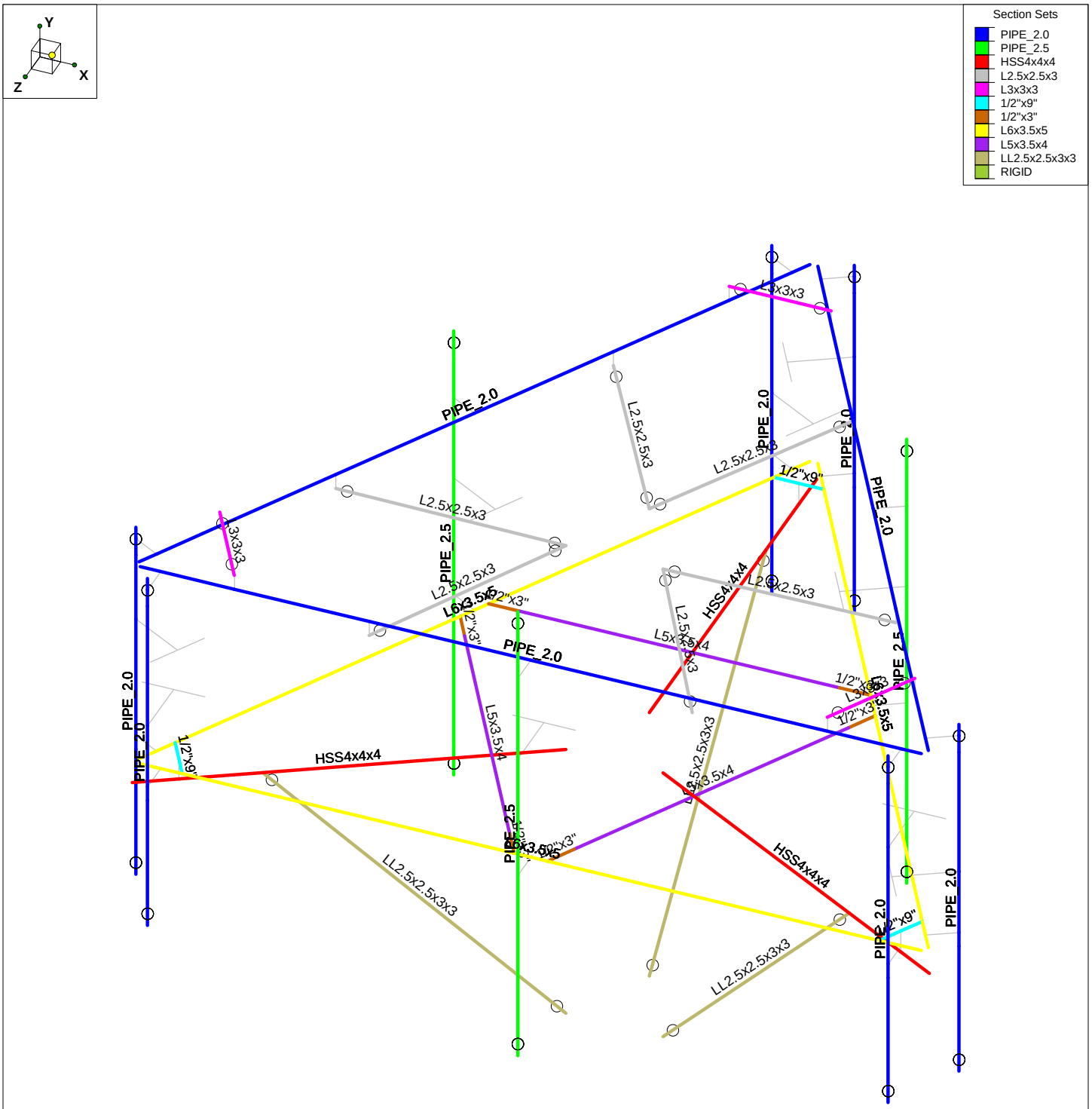

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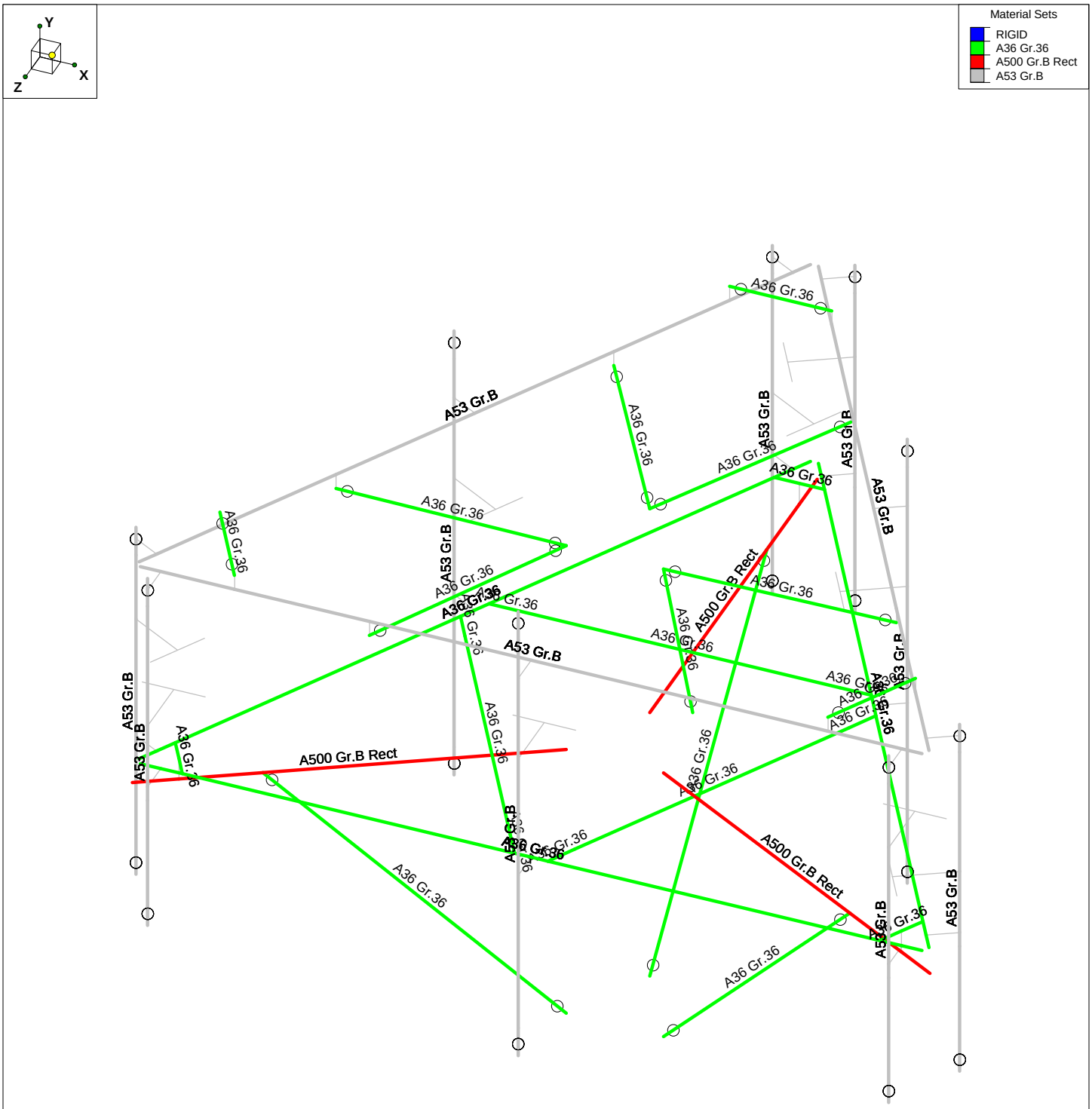

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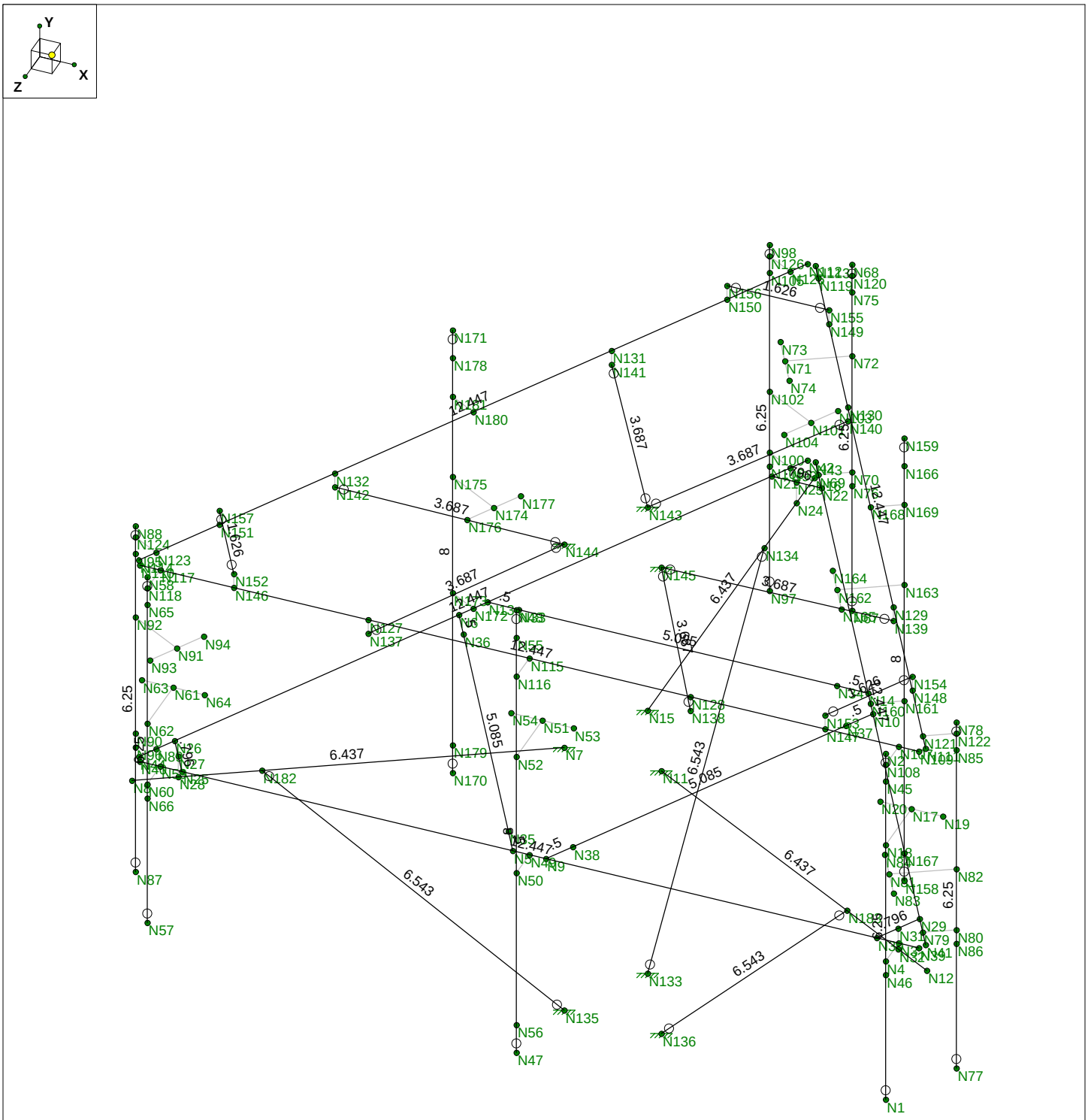

Member Length (ft) Displayed
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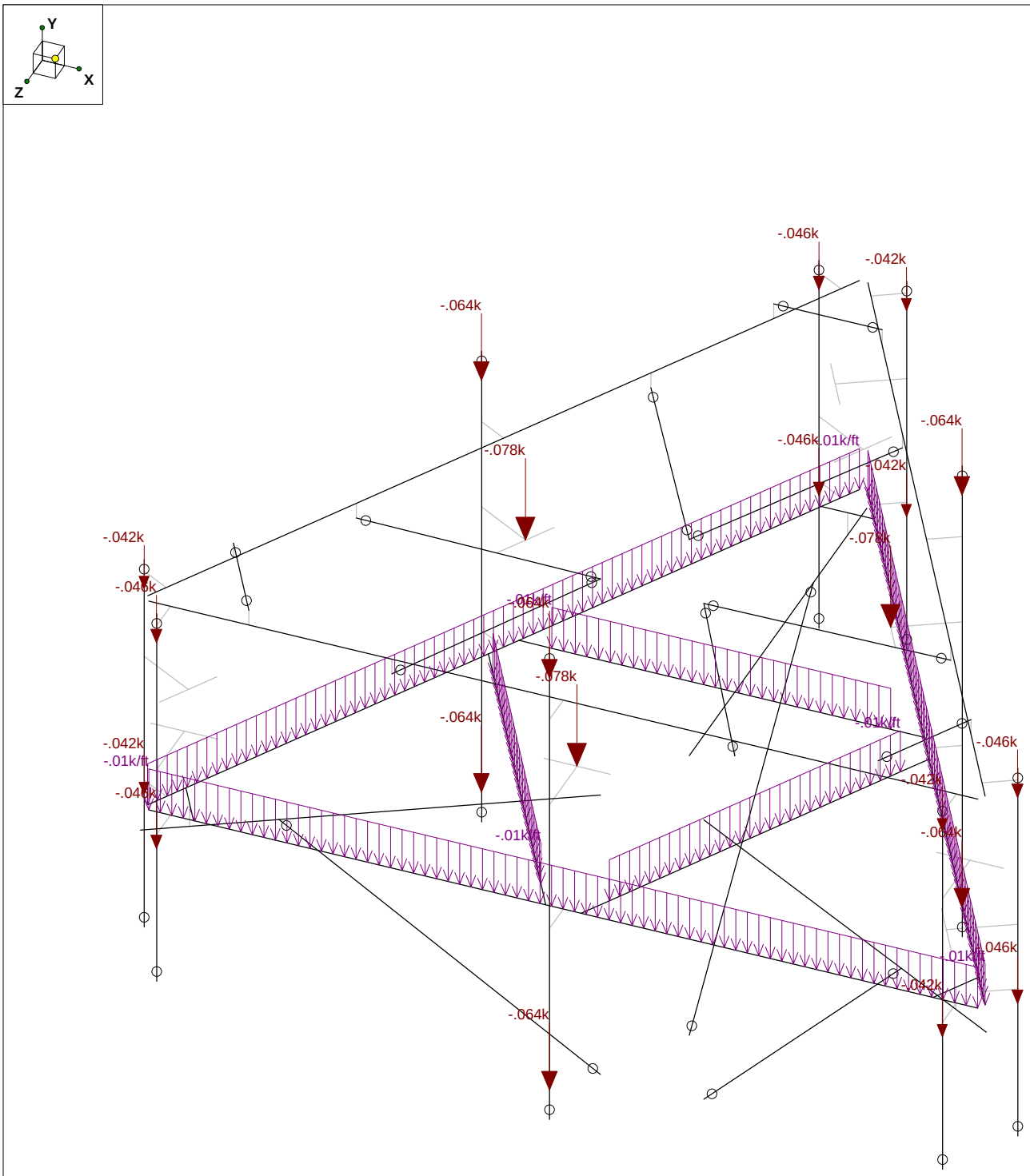

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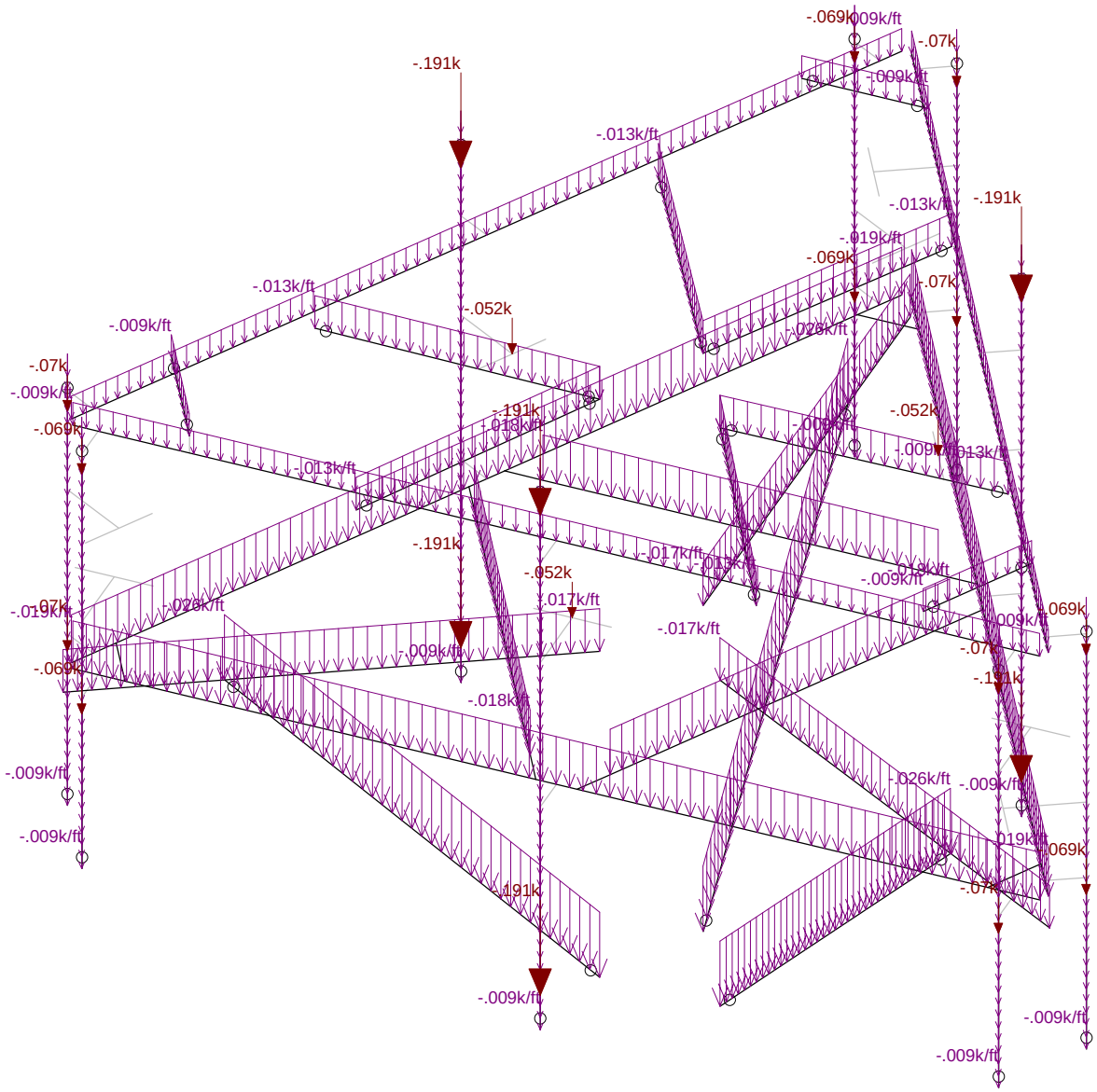

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Envelope Only Solution

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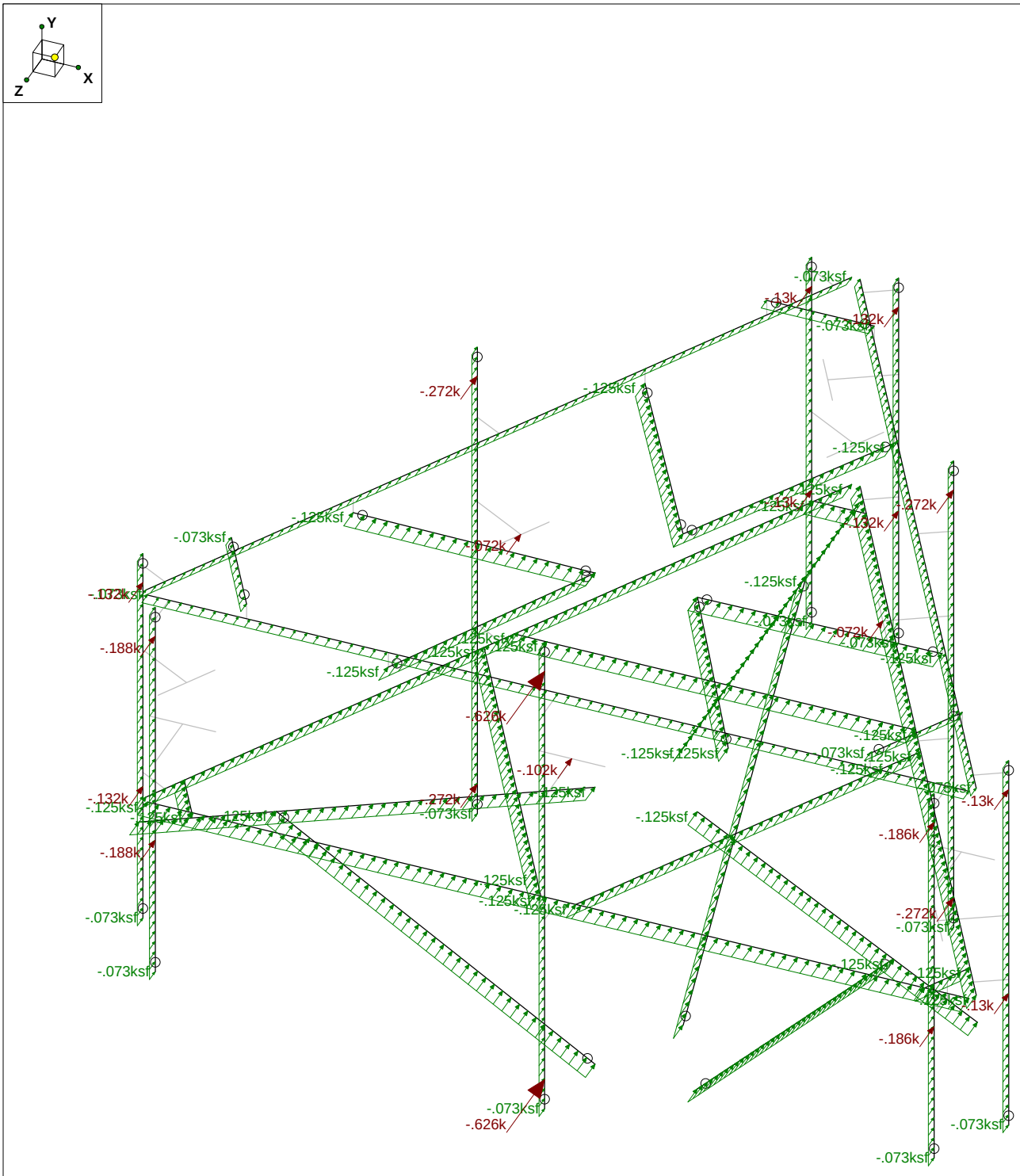

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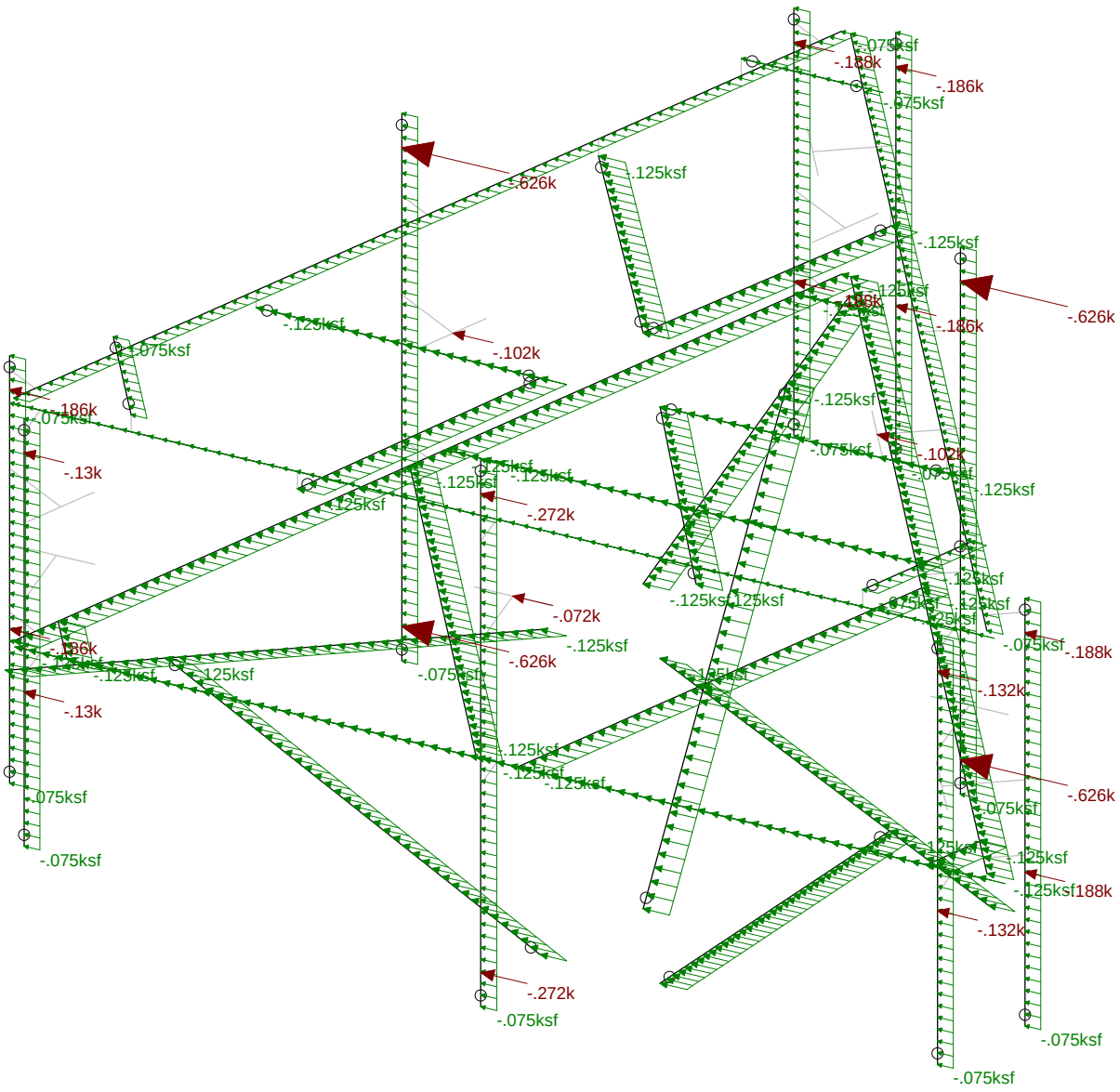

Loads: BLC 6, Wox
Envelope Only Solution

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Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	D	DL		-1		22		6		
2	Di	SL				22		36		
3	Lm [500]	LL				1				
4	Lv [250]	LL				2				
5	Woz	WL				22		42		
6	Wox	WL				22		42		
7	Wiz	WL				22		42		
8	Wix	WL				22		42		
9	Ez	EL				22				
10	Ex	EL				22				

Load Combination Design

	Description	ASIF	CD	Service	Hot Rol...	Cold Form...	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1) 1.4D				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	ASIF	CD	Service	Hot Rol...	Cold Form...	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
42	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	6) 1.2D+1.5Lv				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	PIPE_1.5	PIPE_1.5	Beam	Pipe Def...	A53 Gr.B	Typical	.749	.293	.293	.586
2	PIPE_2.0	PIPE_2.0	Beam	Pipe Def...	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	PIPE_2.5	PIPE_2.5	Beam	Pipe Def...	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	PIPE_3.0	PIPE_3.0	Beam	Pipe Def...	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	PIPE_3.5	PIPE_3.5	Beam	Pipe Def...	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
6	PIPE_4.0	PIPE_4.0	Beam	Pipe Def...	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
7	PIPE_2.0X	PIPE_2.0X	Beam	Pipe Def...	A53 Gr.B	Typical	1.4	.827	.827	1.65
8	HSS2x2x3	HSS2x2x3	Beam	Tube Def...	A500 Gr.B Rect	Typical	1.19	.641	.641	1.09
9	HSS3x3x3	HSS3x3x3	Beam	Tube Def...	A500 Gr.B Rect	Typical	1.89	2.46	2.46	4.03

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
10	HSS4x4x3	HSS4x4x3	Beam	Tube Def...	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
11	HSS4x4x4	HSS4x4x4	Beam	Tube Def...	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
12	HSS5x5x4	HSS5x5x4	Beam	Tube Def...	A500 Gr.B Rect	Typical	4.3	16	16	25.8
13	C3x3.5	C3x3.5	Beam	Channel ...	A36 Gr.36	Typical	1.09	.169	1.57	.023
14	C4x4.5	C4X4.5_HRA	Beam	Channel ...	A36 Gr.36	Typical	1.38	.289	3.65	.032
15	C5x6.7	C5x6.7	Beam	Channel ...	A36 Gr.36	Typical	1.97	.47	7.48	.055
16	L2.5x2.5x3	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	.901	.535	.535	.011
17	L2.5x2.5x4	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	.692	.692	.026
18	L3x3x3	L3x3x3	Beam	None	A36 Gr.36	Typical	1.09	.948	.948	.014
19	L3x3x4	L3x3x4	Beam	None	A36 Gr.36	Typical	1.44	1.23	1.23	.031
20	L3x3x6	L3x3x6	Beam	None	A36 Gr.36	Typical	2.11	1.75	1.75	.101
21	L4x4x4	L4x4x4	Beam	None	A36 Gr.36	Typical	1.93	3	3	.044
22	LL3x3x4x0	LL3x3x4x0	Beam	None	A36 Gr.36	Typical	2.88	4.5	2.46	.063
23	1/2"x6"	1/2"x6"	Beam	Rectangu...	A36 Gr.36	Typical	3	.063	9	.237
24	1/2"x9"	1/2"x9"	Beam	Rectangu...	A36 Gr.36	Typical	4.5	.094	30.375	.362
25	1/2"x3"	1/2"x3"	Beam	Rectangu...	A36 Gr.36	Typical	1.5	.031	1.125	.112
26	L6x3.5x5	L6x3.5x5	Beam	None	A36 Gr.36	Typical	2.89	2.84	10.9	.099
27	L5x3.5x4	L5x3.5x4	Beam	None	A36 Gr.36	Typical	2.07	2.2	5.36	.046
28	LL2.5x2.5x3x3	LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical	1.8	2.46	1.07	.023

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N7	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N11	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N15	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N133	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N134						
6	N135	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	N136	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N143	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
9	N144	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
10	N145	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
11	N182						
12	N183						

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2		180	PIPE 2.0	Beam	Pipe Default	A53 Gr.B	Typical
2	M2	N3	N4			RIGID	None	None	RIGID	DR1
3	M3	N7	N8		90	HSS4x4x4	Beam	Tube Default	A500 Gr.B...	Typical
4	M4	N11	N12		90	HSS4x4x4	Beam	Tube Default	A500 Gr.B...	Typical
5	M5	N33	N34		90	L5x3.5x4	Beam	None	A36 Gr.36	Typical
6	M6	N15	N16		90	HSS4x4x4	Beam	Tube Default	A500 Gr.B...	Typical
7	M7	N17	N18			RIGID	None	None	RIGID	DR1
8	M8	N20	N19			RIGID	None	None	RIGID	DR1
9	M9	N21	N22		90	1/2"x9"	Beam	Rectangular D...	A36 Gr.36	Typical
10	M10	N23	N24			RIGID	None	None	RIGID	DR1
11	M11	N25	N26		90	1/2"x9"	Beam	Rectangular D...	A36 Gr.36	Typical
12	M12	N27	N28			RIGID	None	None	RIGID	DR1
13	M13	N29	N30		90	1/2"x9"	Beam	Rectangular D...	A36 Gr.36	Typical
14	M14	N31	N32			RIGID	None	None	RIGID	DR1
15	M15	N14	N34			1/2"x3"	Beam	Rectangular D...	A36 Gr.36	Typical
16	M16	N13	N33			1/2"x3"	Beam	Rectangular D...	A36 Gr.36	Typical
17	M17	N35	N36		90	L5x3.5x4	Beam	None	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
18	M18	N6	N36			1/2"x3"	Beam	Rectangular D...	A36 Gr.36	Typical
19	M19	N5	N35			1/2"x3"	Beam	Rectangular D...	A36 Gr.36	Typical
20	M20	N37	N38		90	L5x3.5x4	Beam	None	A36 Gr.36	Typical
21	M21	N9	N38			1/2"x3"	Beam	Rectangular D...	A36 Gr.36	Typical
22	M22	N10	N37			1/2"x3"	Beam	Rectangular D...	A36 Gr.36	Typical
23	M23	N40	N39		180	L6x3.5x5	Beam	None	A36 Gr.36	Typical
24	M24	N41	N43		180	L6x3.5x5	Beam	None	A36 Gr.36	Typical
25	M25	N42	N44		180	L6x3.5x5	Beam	None	A36 Gr.36	Typical
26	M26	N47	N48		180	PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
27	M27	N49	N50			RIGID	None	None	RIGID	DR1
28	M28	N51	N52			RIGID	None	None	RIGID	DR1
29	M29	N54	N53			RIGID	None	None	RIGID	DR1
30	M30	N57	N58		180	PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
31	M31	N59	N60			RIGID	None	None	RIGID	DR1
32	M32	N61	N62			RIGID	None	None	RIGID	DR1
33	M33	N64	N63			RIGID	None	None	RIGID	DR1
34	M34	N67	N68		180	PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
35	M35	N69	N70			RIGID	None	None	RIGID	DR1
36	M36	N71	N72			RIGID	None	None	RIGID	DR1
37	M37	N74	N73			RIGID	None	None	RIGID	DR1
38	M38	N77	N78		180	PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
39	M39	N79	N80			RIGID	None	None	RIGID	DR1
40	M40	N81	N82			RIGID	None	None	RIGID	DR1
41	M41	N84	N83			RIGID	None	None	RIGID	DR1
42	M42	N87	N88		180	PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
43	M43	N89	N90			RIGID	None	None	RIGID	DR1
44	M44	N91	N92			RIGID	None	None	RIGID	DR1
45	M45	N94	N93			RIGID	None	None	RIGID	DR1
46	M46	N97	N98		180	PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
47	M47	N99	N100			RIGID	None	None	RIGID	DR1
48	M48	N101	N102			RIGID	None	None	RIGID	DR1
49	M49	N104	N103			RIGID	None	None	RIGID	DR1
50	M50	N107	N108			RIGID	None	None	RIGID	DR1
51	M51	N110	N109		180	PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
52	M52	N111	N113		180	PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
53	M53	N112	N114		180	PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
54	M54	N115	N116			RIGID	None	None	RIGID	DR1
55	M55	N117	N118			RIGID	None	None	RIGID	DR1
56	M56	N119	N120			RIGID	None	None	RIGID	DR1
57	M57	N121	N122			RIGID	None	None	RIGID	DR1
58	M58	N123	N124			RIGID	None	None	RIGID	DR1
59	M59	N125	N126			RIGID	None	None	RIGID	DR1
60	M60	N134	N133			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
61	M61	N142	N144		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
62	M62	N137	N144		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
63	M63	N138	N145		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
64	M64	N139	N145		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
65	M65	N140	N143		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
66	M66	N141	N143		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
67	M67	N127	N137			RIGID	None	None	RIGID	DR1
68	M68	N132	N142			RIGID	None	None	RIGID	DR1
69	M69	N129	N139			RIGID	None	None	RIGID	DR1
70	M70	N128	N138			RIGID	None	None	RIGID	DR1
71	M71	N131	N141			RIGID	None	None	RIGID	DR1
72	M72	N130	N140			RIGID	None	None	RIGID	DR1
73	M73	N152	N146			RIGID	None	None	RIGID	DR1
74	M74	N153	N147			RIGID	None	None	RIGID	DR1

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
75	M75	N154	N148			RIGID	None	None	RIGID	DR1
76	M76	N155	N149			RIGID	None	None	RIGID	DR1
77	M77	N156	N150			RIGID	None	None	RIGID	DR1
78	M78	N157	N151			RIGID	None	None	RIGID	DR1
79	M79	N157	N152			L3x3x3	Beam	None	A36 Gr.36	Typical
80	M80	N153	N154			L3x3x3	Beam	None	A36 Gr.36	Typical
81	M81	N155	N156			L3x3x3	Beam	None	A36 Gr.36	Typical
82	M82	N158	N159		180	PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
83	M83	N160	N161			RIGID	None	None	RIGID	DR1
84	M84	N162	N163			RIGID	None	None	RIGID	DR1
85	M85	N165	N164			RIGID	None	None	RIGID	DR1
86	M86	N168	N169			RIGID	None	None	RIGID	DR1
87	M87	N170	N171		180	PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
88	M88	N172	N173			RIGID	None	None	RIGID	DR1
89	M89	N174	N175			RIGID	None	None	RIGID	DR1
90	M90	N177	N176			RIGID	None	None	RIGID	DR1
91	M91	N180	N181			RIGID	None	None	RIGID	DR1
92	M92	N182	N135			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
93	M93	N183	N136			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1	BenPIN	BenPIN				Yes				None
2	M2						Yes	** NA **			None
3	M3						Yes				None
4	M4						Yes				None
5	M5						Yes				None
6	M6						Yes				None
7	M7						Yes	** NA **			None
8	M8						Yes	** NA **			None
9	M9						Yes				None
10	M10						Yes	** NA **			None
11	M11						Yes				None
12	M12						Yes	** NA **			None
13	M13						Yes				None
14	M14						Yes	** NA **			None
15	M15						Yes				None
16	M16						Yes				None
17	M17						Yes				None
18	M18						Yes				None
19	M19						Yes				None
20	M20						Yes				None
21	M21						Yes				None
22	M22						Yes				None
23	M23						Yes				None
24	M24						Yes				None
25	M25						Yes				None
26	M26	BenPIN	BenPIN				Yes				None
27	M27						Yes	** NA **			None
28	M28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30	BenPIN	BenPIN				Yes				None
31	M31						Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
34	M34	BenPIN	BenPIN				Yes				None
35	M35						Yes	** NA **			None
36	M36						Yes	** NA **			None
37	M37						Yes	** NA **			None
38	M38	BenPIN	BenPIN				Yes				None
39	M39						Yes	** NA **			None
40	M40						Yes	** NA **			None
41	M41						Yes	** NA **			None
42	M42	BenPIN	BenPIN				Yes				None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	M45						Yes	** NA **			None
46	M46	BenPIN	BenPIN				Yes				None
47	M47						Yes	** NA **			None
48	M48						Yes	** NA **			None
49	M49						Yes	** NA **			None
50	M50	BenPIN					Yes	** NA **			None
51	M51						Yes				None
52	M52						Yes				None
53	M53						Yes				None
54	M54	BenPIN					Yes	** NA **			None
55	M55	BenPIN					Yes	** NA **			None
56	M56	BenPIN					Yes	** NA **			None
57	M57	BenPIN					Yes	** NA **			None
58	M58	BenPIN					Yes	** NA **			None
59	M59	BenPIN					Yes	** NA **			None
60	M60	BenPIN	BenPIN				Yes				None
61	M61	BenPIN	BenPIN				Yes				None
62	M62	BenPIN	BenPIN				Yes				None
63	M63	BenPIN	BenPIN				Yes				None
64	M64	BenPIN	BenPIN				Yes				None
65	M65	BenPIN	BenPIN				Yes				None
66	M66	BenPIN	BenPIN				Yes				None
67	M67						Yes	** NA **			None
68	M68						Yes	** NA **			None
69	M69						Yes	** NA **			None
70	M70						Yes	** NA **			None
71	M71						Yes	** NA **			None
72	M72						Yes	** NA **			None
73	M73						Yes	** NA **			None
74	M74						Yes	** NA **			None
75	M75						Yes	** NA **			None
76	M76						Yes	** NA **			None
77	M77						Yes	** NA **			None
78	M78						Yes	** NA **			None
79	M79	BenPIN	BenPIN				Yes				None
80	M80	BenPIN	BenPIN				Yes				None
81	M81	BenPIN	BenPIN				Yes				None
82	M82	BenPIN	BenPIN				Yes				None
83	M83						Yes	** NA **			None
84	M84						Yes	** NA **			None
85	M85						Yes	** NA **			None
86	M86	BenPIN					Yes	** NA **			None
87	M87	BenPIN	BenPIN				Yes				None
88	M88						Yes	** NA **			None
89	M89						Yes	** NA **			None
90	M90						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
91	M91	BenPIN					Yes	** NA **			None
92	M92	BenPIN	BenPIN				Yes				None
93	M93	BenPIN	BenPIN				Yes				None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	PIPE_2.0	6.25			Lbyy						Lateral
2	M3	HSS4x4x4	6.437			Lbyy						Lateral
3	M4	HSS4x4x4	6.437			Lbyy						Lateral
4	M5	L5x3.5x4	5.085			Lbyy						Lateral
5	M6	HSS4x4x4	6.437			Lbyy						Lateral
6	M9	1/2"x9"	.796									Lateral
7	M11	1/2"x9"	.796									Lateral
8	M13	1/2"x9"	.796									Lateral
9	M15	1/2"x3"	.5			Lbyy						Lateral
10	M16	1/2"x3"	.5			Lbyy						Lateral
11	M17	L5x3.5x4	5.085			Lbyy						Lateral
12	M18	1/2"x3"	.5			Lbyy						Lateral
13	M19	1/2"x3"	.5			Lbyy						Lateral
14	M20	L5x3.5x4	5.085			Lbyy						Lateral
15	M21	1/2"x3"	.5			Lbyy						Lateral
16	M22	1/2"x3"	.5			Lbyy						Lateral
17	M23	L6x3.5x5	12.447	5.3	5.3	Lbyy						Lateral
18	M24	L6x3.5x5	12.447	5.3	5.3	Lbyy						Lateral
19	M25	L6x3.5x5	12.447	5.3	5.3	Lbyy						Lateral
20	M26	PIPE_2.5	8			Lbyy						Lateral
21	M30	PIPE_2.0	6.25			Lbyy						Lateral
22	M34	PIPE_2.0	6.25			Lbyy						Lateral
23	M38	PIPE_2.0	6.25			Lbyy						Lateral
24	M42	PIPE_2.0	6.25			Lbyy						Lateral
25	M46	PIPE_2.0	6.25			Lbyy						Lateral
26	M51	PIPE_2.0	12.447	5.3	5.3	Lbyy						Lateral
27	M52	PIPE_2.0	12.447	5.3	5.3	Lbyy						Lateral
28	M53	PIPE_2.0	12.447	5.3	5.3	Lbyy						Lateral
29	M60	LL2.5x2.5x3...	6.543			Lbyy						Lateral
30	M61	L2.5x2.5x3	3.687			Lbyy						Lateral
31	M62	L2.5x2.5x3	3.687			Lbyy						Lateral
32	M63	L2.5x2.5x3	3.687			Lbyy						Lateral
33	M64	L2.5x2.5x3	3.687			Lbyy						Lateral
34	M65	L2.5x2.5x3	3.687			Lbyy						Lateral
35	M66	L2.5x2.5x3	3.687			Lbyy						Lateral
36	M79	L3x3x3	1.626			Lbyy						Lateral
37	M80	L3x3x3	1.626			Lbyy						Lateral
38	M81	L3x3x3	1.626			Lbyy						Lateral
39	M82	PIPE_2.5	8			Lbyy						Lateral
40	M87	PIPE_2.5	8			Lbyy						Lateral
41	M92	LL2.5x2.5x3...	6.543			Lbyy						Lateral
42	M93	LL2.5x2.5x3...	6.543			Lbyy						Lateral

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N7	max	5.345	18	.674	24	3.997	12	.54	5	1.632	12	1.082	6
2		min	-6.281	12	-.894	6	-3.488	18	-.404	23	-1.625	6	-.825	24
3	N11	max	6.282	4	.674	16	3.995	4	.546	11	1.618	10	.826	16

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
4		min	-5.345	22	-.894	10	-3.486	22	-.401	17	-1.621	4	-1.078	10
5	N15	max	.752	17	.633	20	5.823	14	.853	20	2.664	11	.354	23
6		min	-.753	23	-.857	2	-6.877	8	-1.147	2	-2.662	5	-.359	5
7	N133	max	.083	17	3.41	26	.208	20	0	74	0	11	0	17
8		min	-.083	23	-.332	20	-3.111	26	0	1	0	17	0	11
9	N135	max	.224	24	3.42	30	1.56	30	0	5	0	11	0	11
10		min	-2.699	30	-.413	24	-.136	24	0	11	0	5	0	5
11	N136	max	2.698	34	3.419	34	1.56	34	0	11	0	11	0	11
12		min	-.224	16	-.413	16	-.136	16	0	5	0	5	0	5
13	N143	max	.523	5	.062	32	.074	31	.009	8	0	74	.029	11
14		min	-.52	11	.009	23	.002	14	-.008	14	0	1	-.029	5
15	N144	max	.199	4	.062	31	.421	15	.023	16	0	74	.015	20
16		min	-.174	22	.01	15	-.443	9	-.024	10	0	1	-.016	2
17	N145	max	.174	18	.062	33	.421	25	.023	24	0	74	.016	2
18		min	-.202	12	.01	25	-.439	7	-.024	6	0	1	-.015	20
19	Totals:	max	10.079	5	8.797	37	9.404	14						
20		min	-10.079	23	2.609	67	-9.404	8						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code ...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M81	L3x3x3	.012	.813	20	.688	1.626	y	5	30.525	35.316	1.32	2.828	1....	H2-1
2	M80	L3x3x3	.013	.813	16	.625	0	y	13	30.525	35.316	1.32	2.828	1....	H2-1
3	M79	L3x3x3	.013	.813	24	.625	0	y	3	30.525	35.316	1.32	2.828	1....	H2-1
4	M24	L6x3.5x5	.376	6.224	28	.429	11.799	z	5	57.349	93.636	3.395	9.652	1....	H2-1
5	M25	L6x3.5x5	.375	6.224	31	.428	.648	z	11	57.349	93.636	3.395	9.653	1....	H2-1
6	M23	L6x3.5x5	.373	6.224	29	.428	11.799	z	12	57.349	93.636	3.395	9.652	1....	H2-1
7	M13	1/2"x9"	.381	.398	36	.266	.398	y	11	110.855	145.8	1.519	27.338	1....	H1-1b
8	M11	1/2"x9"	.379	.398	32	.263	.398	y	5	110.855	145.8	1.519	27.338	1....	H1-1b
9	M9	1/2"x9"	.380	.398	28	.230	.398	y	3	110.855	145.8	1.519	27.338	1....	H1-1b
10	M64	L2.5x2.5x3	.093	1.844	8	.169	0	z	6	18.554	29.192	.873	1.782	1....	H2-1
11	M61	L2.5x2.5x3	.093	1.843	8	.168	0	y	10	18.557	29.192	.873	1.782	1....	H2-1
12	M65	L2.5x2.5x3	.081	1.843	4	.167	3.687	y	6	18.557	29.192	.873	1.782	1....	H2-1
13	M66	L2.5x2.5x3	.081	1.844	12	.167	0	z	10	18.554	29.192	.873	1.782	1....	H2-1
14	M62	L2.5x2.5x3	.080	1.844	4	.157	0	z	2	18.554	29.192	.873	1.782	1....	H2-1
15	M63	L2.5x2.5x3	.080	1.843	12	.157	0	y	2	18.557	29.192	.873	1.782	1....	H2-1
16	M46	PIPE_2.0	.517	2.539	12	.119	2.539		13	20.114	32.13	1.872	1.872	1....	H1-1b
17	M34	PIPE_2.0	.516	2.539	4	.119	2.539		3	20.114	32.13	1.872	1.872	2	H1-1b
18	M42	PIPE_2.0	.505	2.539	7	.115	2.539		7	20.114	32.13	1.872	1.872	2....	H1-1b
19	M38	PIPE_2.0	.504	2.539	9	.115	2.539		9	20.114	32.13	1.872	1.872	2....	H1-1b
20	M82	PIPE_2.5	.567	3.25	4	.112	3.25		3	30.038	50.715	3.596	3.596	1....	H1-1b
21	M87	PIPE_2.5	.567	3.25	12	.112	3.25		13	30.038	50.715	3.596	3.596	1....	H1-1b
22	M30	PIPE_2.0	.482	2.539	5	.107	2.539		5	20.114	32.13	1.872	1.872	2....	H1-1b
23	M1	PIPE_2.0	.482	2.539	11	.107	2.539		11	20.114	32.13	1.872	1.872	2....	H1-1b
24	M26	PIPE_2.5	.528	3.25	2	.099	3.25		11	30.038	50.715	3.596	3.596	1....	H1-1b
25	M6	HSS4x4x4	.196	4.492	2	.071	4.559	z	28	117.309	139.518	16.181	16.181	2....	H1-1b
26	M3	HSS4x4x4	.217	4.492	6	.071	4.559	z	31	117.309	139.518	16.181	16.181	2....	H1-1b
27	M4	HSS4x4x4	.217	4.492	10	.070	4.559	z	33	117.309	139.518	16.181	16.181	2....	H1-1b
28	M52	PIPE_2.0	.365	6.224	4	.057	8.687		3	22.943	32.13	1.872	1.872	1....	H1-1b
29	M53	PIPE_2.0	.349	6.094	12	.057	3.76		13	22.943	32.13	1.872	1.872	2....	H1-1b
30	M51	PIPE_2.0	.285	6.224	4	.056	8.687		11	22.943	32.13	1.872	1.872	1....	H1-1b
31	M93	LL2.5x2.5x3x3	.219	3.272	11	.013	0	y	11	33.518	58.32	3.954	2.55	1....	H1-1b
32	M92	LL2.5x2.5x3x3	.219	3.272	5	.013	6.543	y	5	33.518	58.32	3.954	2.55	1....	H1-1b
33	M60	LL2.5x2.5x3x3	.138	6.543	26	.007	6.543	z	11	33.518	58.32	3.954	2.55	1	H1-1b*
34	M5	L5x3.5x4	.102	2.542	8	.006	0	z	29	41.093	67.068	2.629	7.255	1....	H2-1
35	M20	L5x3.5x4	.092	2.49	4	.006	5.085	z	30	41.093	67.068	2.629	7.246	1....	H2-1

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code ...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y...	phi*Mn z...	Cb	Eqn
36	M17	L5x3.5x4	.092	2.595	12	.006	5.085	z	28	41.093	67.068	2.629	7.246	1....	H2-1
37	M16	1/2"x3"	.118	0	2	.005	0	y	29	44.374	48.6	.506	3.038	1....	H1-1b
38	M15	1/2"x3"	.118	0	2	.005	0	y	35	44.372	48.6	.506	3.038	1....	H1-1b
39	M21	1/2"x3"	.143	0	5	.005	0	y	29	44.372	48.6	.506	3.038	1....	H1-1b
40	M19	1/2"x3"	.143	0	11	.005	0	y	35	44.374	48.6	.506	3.038	1....	H1-1b
41	M18	1/2"x3"	.109	0	13	.005	0	y	28	44.372	48.6	.506	3.038	1....	H1-1b
42	M22	1/2"x3"	.109	0	3	.005	0	y	36	44.374	48.6	.506	3.038	1....	H1-1b

Envelope Plate/Shell Principal Stresses

Plate	Surf...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [ksi]	LC	Angle [rad]	LC	Von Mises [ksi]	LC
No Data to Print ...											

EXHIBIT 9

T-MOBILE: CT11343A
SBA: CT00595-S STONINGTON EAST

MOUNT AUGMENTATION @ 167'

MONOPOLE TOWER

STONINGTON, CT
NEW LONDON COUNTY

SITE INFORMATION

STRUCTURE TYPE:	MONOPOLE
MOUNT TYPE:	PLATFORM W/ KICKER & HANDRAIL
LATITUDE:	41.405539 (NAD 83)
LONGITUDE:	-71.845247 (NAD 83)
CITY / STATE:	STONINGTON, CT
COUNTY:	NEW LONDON

COORDINATES ARE FOR NAVIGATIONAL PURPOSES ONLY, NOT TO 1A ACCURACY.

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE LABOR & MATERIALS FOR THE DISCREPANCIES.

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

BUILDING CODE AND DESIGN STANDARD: 2015 IBC / TIA-222 / 2018 CT BUILDING CODE

A&E INFORMATION

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GENERAL DESIGN NOTES

1. THIS PLAN HAS BEEN DESIGNED UTILIZING THE CORRESPONDING MOUNT STRUCTURAL ANALYSIS.
2. THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222, ASCE 7, AWS, ACI, AND AISC. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE-MENTIONED CODES AND THE CONTRACT SPECIFICATIONS.
3. ALL STRUCTURE INFORMATION OBTAINED IN THE FORM OF INFORMATION PROVIDED BY THE CLIENT. CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH THE REFERENCED DOCUMENTS. CONTRACTOR SHALL ISSUE A REQUEST FOR INFORMATION (RFI) IN THE EVENT ANY DISCREPANCIES ARE DISCOVERED BETWEEN THESE DOCUMENTS AND THE AS-BUILT CONDITIONS IN THE FIELD IN A SITE VISIT THAT SHALL BE PERFORMED PRIOR TO STARTING FABRICATION OR CONSTRUCTION.
4. ALL MATERIALS UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS.
5. ALL PRODUCT OR MATERIAL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER SUITABLE TO DETERMINE IF SUBSTITUTE IS ACCEPTABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
6. PROVIDE STRUCTURAL STEEL SHOP DRAWING(S) TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION (ONLY IF SPECIFICALLY REQUESTED BY ENGINEER).
7. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS AND REINFORCING SHALL MAINTAIN THE EXISTING MEMBER WORK LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
8. ANY CONTRACTOR-CAUSED DAMAGE TO PROPERTY OF THE LAND OWNER, PROPERTY OF THE STRUCTURE OWNER, PROPERTY OF THE CUSTOMER, SITE FENCING OR GATES, ANY AND ALL UTILITY AND/OR SERVICE LINES, SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE REPAIRED OR REPLACED AT THE SOLE COST OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED BY THE CONTRACTOR OR SUBCONTRACTOR AS APPROVED BY THE ENGINEER OF RECORD AND LAND OWNER. DAMAGE TO EQUIPMENT OR PROPERTY OF ANY KIND BELONGING TO OTHER COMPANIES (BESIDES THE INDICATED CUSTOMER) SHALL BE ADDRESSED BY THE CONTRACTOR WITH THE COMPANIES THAT OWN THE DAMAGED ITEMS.

SHEET INDEX

MOUNT AUGMENTATION CONFIGURATION

AUGMENTATION SCOPE

MODIFY ALL SECTORS OF CARRIER'S EXISTING MOUNT INSTALLATION AS REQUIRED (UNLESS NOTED OTHERWISE)

T-Mobile

SBA

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WWW.GEOSTRUCTURAL.COM

REVISIONS:

0	06/19/19	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:
MOUNT AUGMENTATION

T-MOBILE: CT11343A
SBA: CT00595-S
STONINGTON EAST

STONINGTON, CT

LATITUDE: 41.405539
LONGITUDE: -71.845247

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

S-1

GENERAL PROJECT NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ERECTING TEMPORARY BARRICADES AND/OR FENCING TO PROTECT THE SAFETY OF THE PUBLIC DURING CONSTRUCTION. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY BARRIERS AND REPAIR ALL DAMAGE TO PROPERTY ON THE SITE CAUSED BY THIS CONSTRUCTION. THE COST OF REPAIR IS THE CONTRACTOR'S RESPONSIBILITY.
2. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE PRIOR TO ORDERING ANY MATERIALS OR CONDUCTING ANY WORK.
4. THESE PLANS DO NOT ADDRESS THE SAFETY AND STABILITY OF THE STRUCTURE DURING ASSEMBLY AND ERECTION, WHICH ARE THE RESPONSIBILITY OF THE ERECTOR, BASED ON THE MEANS AND METHODS CHOSEN BY THE ERECTOR.

CONTRACTOR NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, ALL CONTRACTORS AND SUBCONTRACTORS MUST ACKNOWLEDGE IN WRITING TO TOWER OWNER THAT THEY HAVE OBTAINED, UNDERSTAND, AND WILL FOLLOW STRUCTURE OWNER STANDARDS OF PRACTICE, CONSTRUCTION GUIDELINES, ALL SITE AND STRUCTURE/TOWER SAFETY PROCEDURES, ALL PRODUCT LIMITATIONS AND INSTALLATION PROCEDURES USED ON SITE, AND PROPOSED MODIFICATIONS DESCRIBED. RECEIPT OF ACKNOWLEDGEMENT MUST OCCUR PRIOR TO BEGINNING CONSTRUCTION OR CLIMBING. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THIS DOCUMENTATION FOR STRUCTURE OWNER ON COMPANY LETTERHEAD AND THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN THIS DOCUMENTATION FROM ANY SUBCONTRACTORS (ON SUBCONTRACTOR LETTERHEAD) AND DELIVER IT TO THE STRUCTURE OWNER.
2. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, THE ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY TO EVALUATE THE SIGNIFICANCE OF THE DEVIATION.
3. THE CONTRACTOR SHALL SOLICIT AND HIRE THE SERVICES OF A QUALIFIED AUGMENTATION INSPECTOR PRIOR TO BEGINNING CONSTRUCTION. THE AUGMENTATION INSPECTOR MAY BE AN EMPLOYEE OF THE CONTRACTOR'S FIRM, HOWEVER THE INSPECTOR'S ONLY DUTIES SHALL BE INSPECTION, TESTING, AND REPORT CREATION AS REQUIRED ON THE "AUGMENTATION INSPECTION NOTES" SHEET.
4. THE CONTRACTOR SHALL NOTIFY THE TOWER OWNER OF THE PLANNED CONSTRUCTION & INSPECTION SCHEDULE, AS WELL AS ANY CHANGES TO THE SCHEDULE, WITHIN TWO BUSINESS DAYS OF THE COMPLETION OF THE SCHEDULE OR SCHEDULE REVISION BOTH PRIOR TO BEGINNING CONSTRUCTION AND DURING CONSTRUCTION AS THE SCHEDULE CHANGES. THE STRUCTURE OWNER WHEN THE WORK HAS BEEN COMPLETED WITHIN 2 BUSINESS DAYS OF THE COMPLETION OF THE WORK AND ASSOCIATED AUGMENTATION INSPECTIONS & TESTING (WHEN APPLICABLE).
5. IT IS ASSUMED THAT ANY STRUCTURAL AUGMENTATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE. THIS INCLUDES PROVIDING THE NECESSARY CERTIFICATIONS TO THE STRUCTURE OWNER AND ENGINEER INCLUDING BUT NOT LIMITED TO TOWER CLIMBER AND RESCUE CLIMBER CERTIFICATIONS, ET CETERA.
6. THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
7. CONTRACTOR SHALL WORK WITHIN THE LIMITS OF THE STRUCTURE OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

1. THE STRUCTURAL DRAWINGS ILLUSTRATE THE COMPLETED STRUCTURE WITH ALL ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED AND BRACED.
2. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING AS REQUIRED DURING CONSTRUCTION TO ENSURE STABILITY. DESIGN AND SEQUENCING OF CONSTRUCTION SHORING AND BRACING IS OUTSIDE THE SCOPE OF THIS WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, GUYING, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC STEEL CONSTRUCTION MANUAL AND SECTION 4 OF THE TIA CODE.
2. PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MINIMUM GRADES UNLESS OTHERWISE NOTED:
   - CHANNELS & ANGLES ..... ASTM A36, (Fy = 36 KSI)
   - PLATES ..... ASTM A36, (Fy = 36 KSI)
   - PIPES ..... ASTM A53 GR.B, (Fy = 35 KSI)
   - HSS ROUND ..... ASTM A500 GR.B, (Fy = 42 KSI)
   - HSS RECTANGULAR ..... ASTM A500 GR.B, (Fy = 46 KSI)
   - W-FLANGE ..... ASTM A992 (Fy = 50 KSI)
   - STRUCTURAL BOLTS ..... ASTM A325
   - U-BOLTS ..... ASTM A307 GR.A
   - NUTS FOR BOLTS ..... ASTM A563 (THREADING TO MATCH BOLT)
   - WASHERS FOR BOLTS ..... ASTM F436
   - SEE TABLE 5-1 OF THE TIA CODE FOR ADDITIONAL SHAPES AND STANDARDS THAT ARE NOT LISTED ABOVE.
3. NON PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS PER THE TIA CODE:
   - THE CARBON EQUIVALENT OF STEEL SHALL NOT EXCEED 0.65 PER SECTION 5.4.2 OF THE TIA CODE
   - ELONGATION OF STEEL SHALL NOT BE LESS THAN 18%
   - TEST REPORTS SHALL BE IN ACCORDANCE WITH ASTM A6 OR A568
   - TOLERANCES SHALL BE IN ACCORDANCE WITH ASTM A6
4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH AND COLD GALVANIZED.
5. ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 STRUCTURAL WELDING CODE. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY. WELDING ELECTRODES SHALL BE E70XX.
6. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECS AND CODES, LATEST EDITION.
7. UPON REQUEST, THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ENGINEER OF RECORD TO REVIEW FOR COMPLIANCE WITH DESIGN INTENT PRIOR TO THE START OF FABRICATION AND/OR ERECTION. GEOSTRUCTURAL IS ABSOLVED OF ALL LIABILITY ASSOCIATED WIT THE MISINTERPRETATION OF THE CONSTRUCTION DOCUMENTS IF CONTRACTOR CHOOSES NOT TO SUBMIT SHOP DRAWINGS.
8. TORCH-CUTTING OF ANY KIND SHALL NOT BE PERMITTED.
9. ALL BOLT HOLES SHALL BE STANDARD SIZE BOLT HOLES PER AISC 360, UNLESS OTHERWISE NOTED. ALL HOLES SHALL BE SHOP DRILLED OR SUB-PUNCHED AND REAMED. BURNING OF HOLES IS NOT PERMITTED. WHERE SLOTTED OR OVERSIZE HOLES ARE SPECIFIED ON THE DRAWINGS, EXTRA-THICK ASTM F436 PLATE WASHERS SHALL BE USED (3/16" MINIMUM THICKNESS) WITH A DIAMETER SUITABLE TO COVER THE EXTENTS OF THE SLOT OR HOLE. BOLTS SHALL BE HEAVY-HEX WHERE AVAILABLE IN THE SIZE AND GRADE SPECIFIED, OTHERWISE BOLTS SHALL BE HEX HEAD CAP SCREWS.
10. ALL STEEL HARDWARE, INCLUDING ADHESIVE OR EMBEDDED ANCHOR BOLTS AND THEIR ACCESSORIES, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 (EXCEPT BOLTS SMALLER THAN ½" SHALL CONFORM TO FE/ZN 3 AT PER ASTM F1941 WHERE HOT-DIP GALVANIZED BOLTS ARE NOT AVAILABLE). ALL STEEL MEMBERS, INCLUDING WELDMENTS, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. REPAIR DAMAGE TO GALVANIZED COATINGS USING ASTM A780 PROCEDURES WITH A ZINC RICH PAINT (SUCH AS ZINC GALVILITE) FOR GALVANIZING DAMAGED BY HANDLING, TRANSPORTING, CUTTING, WELDING, OR BOLTING. DO NOT HEAT SURFACES TO WHICH REPAIR PAINT HAS BEEN APPLIED. CALL OUT HOLES REQUIRED FOR HOT-DIP GALVANIZING ON SHOP DRAWINGS.
11. MEMBERS SHALL BE SHOP-FABRICATED AND WELDED TO THE EXTENT PRACTICABLE IN ORDER TO REDUCE FIELD INSTALLATION COSTS.

STRUCTURAL BOLTS

1. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED GALVANIZED HIGH STRENGTH ASTM A325 OR A490 BOLTS WITH THREADS EXCLUDED FROM SHEAR PLANE.
2. FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES, WITH BOLT HEADS FACING DOWN WHERE APPLICABLE.
3. ALL BOLTS AT EVERY CONNECTION SHALL BE INSTALLED SNUG-TIGHT UNTIL THE SECTION IS FULLY COMPACTED AND ALL PLIES ARE JOINED, AND THEN TIGHTENED FURTHER BY AISC - "TURN OF THE NUT" METHOD. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.
4. BOLT LENGTHS UP TO AND INCLUDING 4 DIAMETERS SHALL BE TENSIONED 1/3 TURN BEYOND SNUG-TIGHT. BOLT LENGTHS OVER 4 DIAMETERS SHALL BE 1½ TURNS BEYOND SNUG-TIGHT.
5. ALL BOLTED CONNECTIONS SHALL USE LOCK WASHERS.
6. MINIMUM EDGE DISTANCE FOR BOLTS SHALL BE 1½" CENTER TO EDGE UNLESS OTHERWISE NOTED.

NOMINAL HOLE DIMENSIONS:

BOLT Ø	STANDARD HOLE Ø
1/2"Ø	9/16"Ø
5/8"Ø	11/16"Ø
3/4"Ø	13/16"Ø
7/8"Ø	15/16"Ø
1"Ø	1 1/16"Ø

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REVISIONS:

0	06/19/19	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

T-MOBILE: CT11343A
SBA: CT00595-S
STONINGTON EAST

STONINGTON, CT

LATITUDE: 41.405539
LONGITUDE: -71.845247

SHEET TITLE:

NOTES AND SPECIFICATIONS

SHEET NUMBER:

S-2

PRE-CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	AUGMENTATION INSPECTION CHECKLIST
√	APPROVED SHOP DRAWINGS (LATEST REVISION)
√	FABRICATION INSPECTION
	FABRICATOR'S CERTIFIED WELD INSPECTOR (CWI)
	FABRICATOR'S QUALIFIED PERSONNEL FOR WELDING
√	MATERIAL TEST REPORT(S) / MILL CERTIFICATE(S)
	FABRICATOR'S NON-DESTRUCTIVE TESTING (NDT) TECHNICIAN
√	PACKING SLIPS FOR STRUCTURAL MATERIALS

CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	CONSTRUCTION INSPECTIONS
	FOUNDATION INSPECTIONS
	CONCRETE COMPRESSIVE STRENGTH AND SLUMP TESTING RESULTS/CERTIFICATES
	ADHESIVE ANCHOR ROD(S) INSTALLATION INSPECTION
	BASE PLATE GROUT INSPECTION
	THIRD-PARTY CERTIFIED WELD INSPECTION (INCLUDING IBC SPECIAL INSPECTIONS)
	SOIL EXCAVATION — DENSITY TESTING, COMPACTION INSPECTION/VERIFICATION, USE OF SUITABLE FILL
√	GALVANIZING REPAIR MATERIAL PREPARATION, INSPECTION, & PAINT APPLICATION
	GUY WIRE (RE-)TENSION REPORT AND INSPECTION
√	PRIME CONTRACTOR'S AS-BUILT DOCUMENTS (SIGNED & DATED)

POST-CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	AUGMENTATION INSPECTOR'S ISSUE LIST (INCLUDING CORRECTIVE ACTIONS TAKEN) AND/OR REDLINED RECORD DRAWINGS
	POST-INSTALLED ADHESIVE ANCHOR ROD PULL-OUT TESTING
√	PHOTOGRAPHS OF AUGMENTATIONS (INCLUDE PHOTOS OF BOTH SIDES OF WELDED OR BOLTED CONNECTIONS, OF OVERALL AND DETAIL VIEWS OF INSTALLED AUGMENTATIONS, AND BEFORE/AFTER PHOTOS OF ANY ISSUES IDENTIFIED BY THE INSPECTOR)

GENERAL NOTES

1. THE POST-AUGMENTATION INSPECTION IS A VISUAL EXAMINATION OF STRUCTURE AUGMENTATIONS AND A REVIEW OF ANY REQUIRED CONSTRUCTION INSPECTIONS, TESTING, AND OTHER DATA TO VERIFY THAT THE AUGMENTATIONS ARE INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AS DESIGNED BY THE ENGINEER OF RECORD. THE CONTRACT DOCUMENTS INCLUDE THESE AUGMENTATION DRAWINGS, ANY PROJECT SPECIFICATIONS REFERENCED TO IN THE PROJECT NOTES OR OTHERWISE PROVIDED WITH THE DRAWINGS, AND OTHER DOCUMENTS OR DRAWINGS PROVIDED WITH THE AUGMENTATION DRAWINGS WITH THE INTENT THAT THEY BE USED AS A DESIGN AID OR GUIDELINE FOR CONSTRUCTION.
2. THE POST-AUGMENTATION INSPECTION SHALL CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A QUALITATIVE REVIEW OF THE ENGINEERING ASPECTS OF THE DESIGN OR THE DESIGN DRAWINGS. THE AUGMENTATION INSPECTOR IS NOT TAKING OWNERSHIP OF THE AUGMENTATION DESIGN IN THE PERFORMANCE OF THEIR DUTIES. OWNERSHIP OF THE AUGMENTATION DESIGN'S EFFECTIVENESS AND INTENT, LIES WITH THE ENGINEER OF RECORD.
3. TO ENSURE THAT THE REQUIREMENTS OF THE POST-AUGMENTATION INSPECTION ARE MET, IT IS ESSENTIAL THAT COORDINATION BETWEEN THE PRIME CONTRACTOR AND THE AUGMENTATION INSPECTOR BEGIN AS SOON AS THE PROJECT IS FUNDED AND WORK ENTERS THE PLANNING STAGE. THE PRIME CONTRACTOR AND AUGMENTATION INSPECTOR SHALL BE PROACTIVE IN IDENTIFYING CONSTRUCTION ISSUES AND COMMUNICATING THESE ISSUES TO EACH OTHER AND TO THE ENGINEER OF RECORD AND STRUCTURE OWNER AND/OR CUSTOMER, AS REQUIRED.

INSPECTION AND REPORT RECOMMENDATIONS

1. THE FOLLOWING ARE PROVIDED IN THE INTENT OF ENHANCING THE EFFECTIVENESS OF THE AUGMENTATION INSPECTION AND IMPROVING THE EFFICIENCY OF THE PROCESS OF COLLECTING AND COMPILING THE INFORMATION INTO A USABLE REPORT:

1.1. IT IS RECOMMENDED THAT THE PRIME CONTRACTOR PROVIDE THE AUGMENTATION INSPECTOR AT LEAST 5 BUSINESS DAYS NOTICE FOR WHEN THE SITE WILL BE READY FOR THE AUGMENTATION INSPECTION.

1.2. THE PRIME CONTRACTOR AND THE AUGMENTATION INSPECTOR SHALL COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.

1.3. THE PRIME CONTRACTOR AND AUGMENTATION INSPECTOR SHALL BOTH BE PRESENT DURING THE INITIAL INSPECTION IN ORDER TO ALLOW FOR THE REMEDIATION OF DEFICIENCIES DURING THE INSPECTION, AS PRACTICABLE. IT MAY BE PREFERABLE TO KEEP WORK CREWS AND THEIR EQUIPMENT ON SITE TO REMEDIATE DEFICIENCIES DURING INSPECTIONS.

INSPECTION RESCHEDULING AND CANCELLATION

1. IF THE PRIME CONTRACTOR AND AUGMENTATION INSPECTOR HAVE AGREED UPON A TIME AND DATE FOR A GIVEN INSPECTION AND EITHER PARTY RESCHEDULES OR CANCELS THE INSPECTION, THE STRUCTURE OWNER SHALL NOT BE RESPONSIBLE FOR COSTS, FEES, LOST DEPOSITS, OR OTHER EXPENSES INCURRED BY THE PRIME CONTRACTOR, THEIR SUBCONTRACTOR(S), OR THE AUGMENTATION INSPECTOR DUE TO THESE SCHEDULING CHANGES. EXCEPTIONS MAY BE MADE IN THE EVENT OF UNCONTROLLABLE SITUATIONS SUCH AS NATURAL DISASTERS, SEVERE WEATHER, OR OTHER CONDITIONS THAT COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

REMEDIATION OF FAILING INSPECTION

1. IN THE EVENT THAT ANY PORTION OF THE AUGMENTATION WORK IS DETERMINED TO BE UNSATISFACTORY BY THE MODIFICATION INSPECTOR, THE PRIME CONTRACTOR SHALL WORK WITH THE AUGMENTATION INSPECTOR TO CREATE A PLAN OF ACTION THAT WILL EITHER:

1.1. REPAIR THE DEFICIENT WORK TO SATISFACTORY CONDITION AND INCLUDE A SUBSEQUENT RE-INSPECTION OF THE WORK TO VERIFY THAT IT IS SATISFACTORY.

1.2. OR, WITH THE PERMISSION OF THE STRUCTURE OWNER AND/OR CUSTOMER, THE PRIME CONTRACTOR MAY WORK WITH THE ENGINEER OF RECORD TO REVIEW THE AS-BUILT CONDITION OF THE AUGMENTATION TO DETERMINE IF IT IS STRUCTURALLY ACCEPTABLE. IF THIS ACTION IS NOT ACCEPTABLE TO ANY PARTY, THE PRIME CONTRACTOR SHALL PROCEED TO REPAIR THE DEFICIENT WORK TO A SATISFACTORY CONDITION.

AUGMENTATION INSPECTOR'S RESPONSIBILITIES

1. THE AUGMENTATION INSPECTOR MAY BE AN EMPLOYEE OF THE CONTRACTOR'S FIRM, HOWEVER THE INSPECTOR'S ONLY DUTIES SHALL BE INSPECTION, TESTING, AND REPORT CREATION.
2. THE AUGMENTATION INSPECTOR SHALL CONTACT THE PRIME CONTRACTOR AS SOON AS THEY HAVE RECEIVED A PURCHASE ORDER OR PAYMENT FOR THIS INSPECTION. THE AUGMENTATION INSPECTOR SHALL REVIEW THE REQUIREMENTS OF THE INSPECTION CHECKLIST, SHALL WORK WITH THE PRIME CONTRACTOR TO DEVELOP A SCHEDULE OF NECESSARY ON-SITE INSPECTIONS, AND SHALL DISCUSS ANY SITE-SPECIFIC INSPECTION REQUIREMENTS OR OTHER CONCERNS.
3. THE AUGMENTATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL PRIME CONTRACTOR INSPECTION AND TEST REPORTS (INCLUDING THOSE OF ASSIGNED SUB-CONTRACTORS), SHALL REVIEW THE REPORTS FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SHALL CONDUCT THE NECESSARY ON-SITE INSPECTIONS.

PRIME CONTRACTOR'S RESPONSIBILITIES

1. THE PRIME CONTRACTOR SHALL CONTACT THE AUGMENTATION INSPECTOR AS SOON AS THEY HAVE RECEIVED A PURCHASE ORDER OR PAYMENT FOR THE AUGMENTATION INSTALLATION OR PROJECT. THE PRIME CONTRACTOR SHALL REVIEW THE REQUIREMENTS OF THE AUGMENTATION INSPECTION CHECKLIST, SHALL WORK WITH THE AUGMENTATION INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, AND SHALL DISCUSS SPECIFIC INSPECTION AND TESTING REQUIREMENTS WITH THE AUGMENTATION INSPECTOR IN DETAIL TO OBTAIN A FULL UNDERSTANDING OF THE REQUIRED INSPECTIONS AND TESTING.
2. THE PRIME CONTRACTOR SHALL PERFORM AND RECORD THE TESTING AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUGMENTATION INSPECTION CHECKLIST.

PHOTOGRAPHY REQUIREMENTS

1. THE PRIME CONTRACTOR AND AUGMENTATION INSPECTOR SHALL BETWEEN THE EFFORTS OF BOTH PARTIES AND THEIR EMPLOYED PERSONNEL PROVIDE PHOTOGRAPHS WITH THE INSPECTION REPORT TO INCLUDE THE FOLLOWING:

a. GENERAL SITE PHOTOGRAPHS PRE-CONSTRUCTION

b. AUGMENTATION INSTALLATION PHOTOGRAPHS DURING CONSTRUCTION/ERECTION OPERATIONS AND INSPECTIONS

b.1. RAW MATERIALS

b.2. PHOTOS OF DETAILED WORK REQUIRED ON THE DRAWINGS (CONNECTIONS, WELDMENTS, FIELD-FABRICATED MEMBERS, ETC)

b.3. BOLT INSTALLATION AND TORQUE/PRETENSION.

b.4. FINAL INSTALLED CONDITION (AFTER DEFICIENT CONDITIONS, IF ANY, ARE REMEDIATED).

b.5. REPAIR OF SURFACE COATINGS (INCLUDING GALVANIZING AND/OR PAINT COATING)

c. POST-AUGMENTATION PHOTOGRAPHS OF THE SITE & WORK.

d. PHOTOGRAPHS OF THE FINAL STATE OF THE SITE AT CONCLUSION OF THE WORK BY THE PRIME CONTRACTOR, ASSOCIATED SUBCONTRACTORS, AND THE AUGMENTATION INSPECTOR.

e. OTHER PHOTOS MAY BE INCLUDED AT PRIME CONTRACTOR & AUGMENTATION INSPECTOR'S DISCRETION.

NOTE: PHOTOS OF AUGMENTATIONS INSTALLED ON THE STRUCTURE ABOVE AN ELEVATION OF 20 FT SHALL REQUIRE PHOTOS TAKEN FROM THE STRUCTURE AS WELL AS OVERALL PHOTOGRAPHS OF THE AUGMENTATIONS TAKEN FROM THE GROUND.

OWNER INSPECTIONS

1. THE STRUCTURE OWNER MAY CONDUCT INSPECTIONS TO VERIFY THE QUALITY AND COMPLETENESS OF THE PREVIOUSLY COMPLETED AUGMENTATION INSPECTION REPORTS FOR THE AUGMENTATION INSTALLATION WORK.
2. INSPECTIONS MAY BE COMPLETED BY A 3RD-PARTY FIRM OF THE STRUCTURE OWNER'S CHOOSING AFTER A AUGMENTATION PROJECT IS COMPLETED AND A PASSING AUGMENTATION INSPECTION REPORT IS ISSUED.

T-Mobile

SBA

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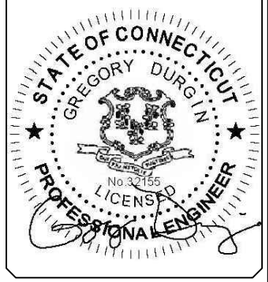
REVISIONS:

0	06/19/19	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG



SITE INFORMATION:

MOUNT AUGMENTATION

T-MOBILE: CT11343A
SBA: CT00595-S
STONINGTON EAST

STONINGTON, CT

LATITUDE: 41.405539
LONGITUDE: -71.845247

SHEET TITLE:

INSPECTION NOTES

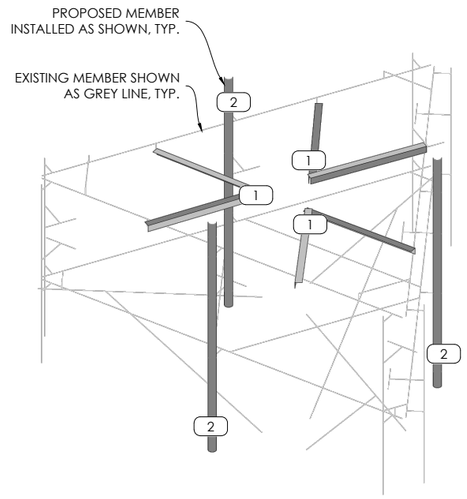
SHEET NUMBER:

S-3

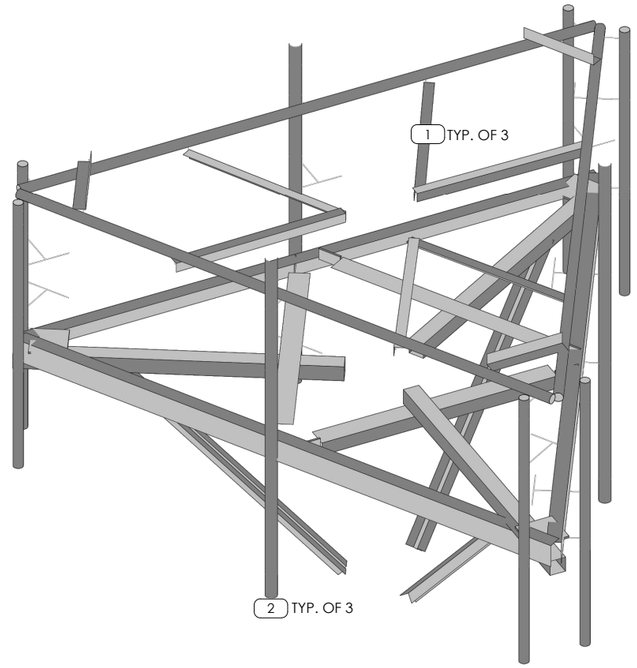
NEW MOUNT AUGMENTATIONS	
1	INSTALL V-BRACE KIT; LOCATED APPROXIMATELY 3.0' ABOVE THE EXISTING MOUNT FACE RAIL CENTERLINE. - SITEPRO1 PRK-SFS-L, (1) TOTAL. ATTACH RING MOUNT IN KIT TO MONOPOLE SHAFT AND SFS ANGLE GATE CLAMP BRACKETS TO HANDRAIL W/ A HORIZ. SPREAD OF APPROXIMATELY 5.2'. - ORIENT PRK-SFS COLLAR AND ANGLE BRACES SUCH THAT THE SAFETY CLIMB IS UNAFFECTED.
2	INSTALL (3) PIPE2.5STD x 8'-0" MOUNT PIPES AT POSITION 2 MOUNT PIPE LOCATION (SUPPORTING RFS APXVAARR24 PANEL ANTENNA AND 4449 RRH). ATTACH NEW PIPE2.5STD MOUNT PIPE TO EXISTING BOTTOM CHANNEL RAIL W/ (2) NEW U-BOLT ASSEMBLIES AND TO EXISTING TOP HANDRAIL PIPE W/ NEW SITEPRO1 SCX x -43 CROSS-OVER PLATE ASSEMBLIES. REMOVE THE EXISTING MOUNT PIPE.
AUGMENTATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT.	

EXISTING MOUNT

PLATFORM W/ KICKER & HANDRAIL @ 167' AUGMENTATION



MOUNT AUGMENTATION ISOLATION
SCALE: N.T.S.



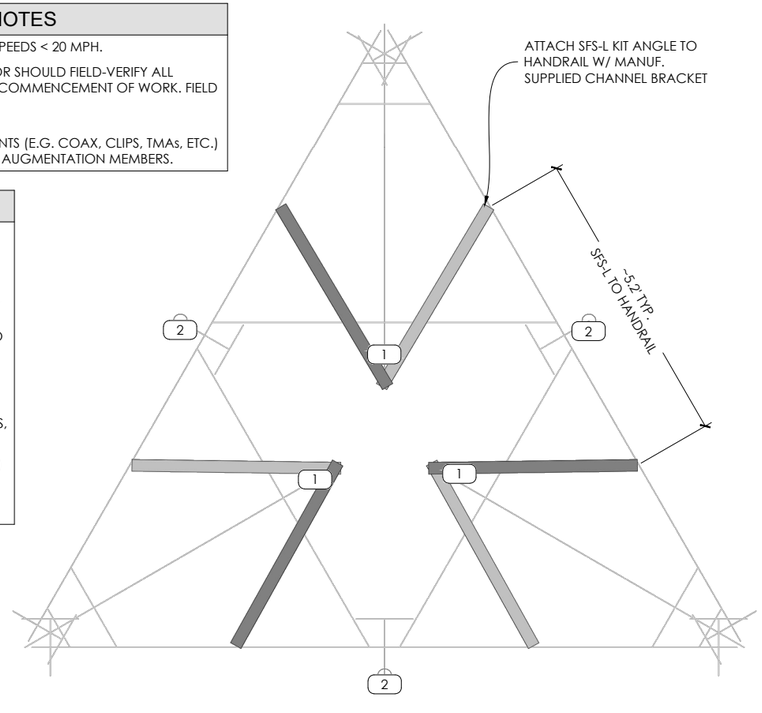
AUGMENTED MOUNT ISOMETRIC
SCALE: N.T.S.

CONSTRUCTION NOTES

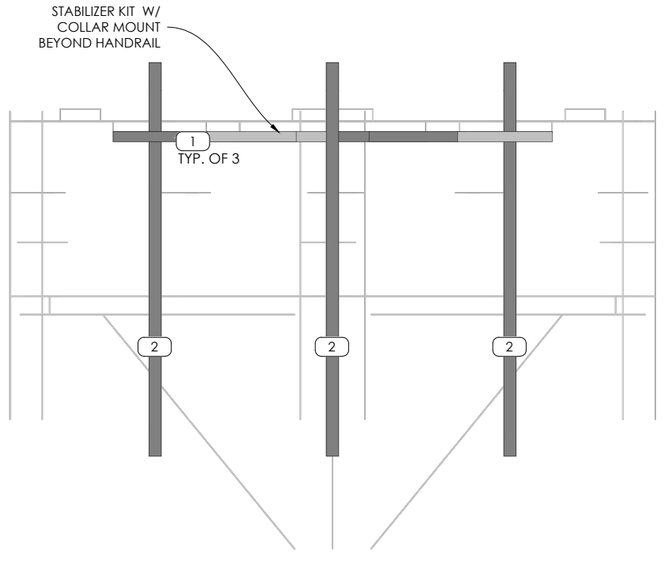
1. SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH.
2. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHOULD FIELD-VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
3. CONTRACTOR TO COORDINATE THE TEMPORARY REMOVAL/RELOCATION/REPLACEMENT OF ELEMENTS (E.G. COAX, CLIPS, TMAs, ETC.) CONNECTED TO, OR IN THE DIRECT PATH, OF NEW AUGMENTATION MEMBERS.

INSTALLATION NOTES

1. AUGMENTATION MEMBER(S) MAY NEED TO BE FIELD-CUT TO LENGTH TO ACCOMMODATE THIS INSTALLATION. CONTRACTOR TO CUT AND DRILL TO SUIT AS REQUIRED AND APPLY (2) COATS OF COLD-GALV. COMPOUND TO CUT MEMBER ENDS.
2. CONTRACTOR TO CHECK ALL EXISTING MEMBER CONNECTION BOLTS, PARTICULARLY STANDOFF TO TOWER BOLTS, FOR PROPER INSTALLATION AND TIGHTNESS.
3. COORDINATE PLACEMENT OF NEW AUGMENTATION MEMBERS WITH EXISTING TOWER AND CLIMBING FACILITY ELEMENTS (E.G. STEP PEGS, COAX PORTS, ETC.)
4. REFER TO CONSTRUCTION DRAWINGS (BY OTHERS) AND MOUNT STRUCTURAL ANALYSIS FOR APPROVED INSTALLATION LOCATIONS AND QUANTITIES OF APPURTENANCES.



AUGMENTED MOUNT PLAN
SCALE: N.T.S.



AUGMENTED MOUNT FRONT ELEVATION
SCALE: N.T.S.

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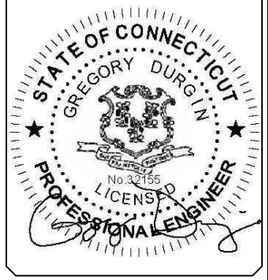

SITE INFORMATION:

MOUNT AUGMENTATION

T-MOBILE: CT11343A
SBA: CT00595-S
STONINGTON EAST

STONINGTON, CT

LATITUDE: 41.405539
LONGITUDE: -71.845247

SHEET TITLE:

AUGMENTATIONS SECTIONS & DETAILS

SHEET NUMBER:

S-4

EXHIBIT 10

Transcom Engineering, Inc.
Wireless Network Design and Deployment

Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CT11343A

Stonington/ I-95_1
86 Voluntown Road
Stonington, CT 06379

May 29, 2019

Transcom Engineering Project Number: 737001-0065

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**8.51 %**

May 29, 2019

T-MOBILE
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 6009

Emissions Analysis for Site: **CT11343A – Stonington/ I-95_1**

Transcom Engineering, Inc ("Transcom") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **86 Voluntown Road, Stonington, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE 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.

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 600 & 700 MHz bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) 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 performed for the proposed upgrades to the T-MOBILE antenna facility located at **86 Voluntown Road, Stonington, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE 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 for directional panel antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	1900 MHz (PCS)	1	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	2	60
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) 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 for directional panel antennas, 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Ericsson AIR21 B2A/B4P	167
A	2	Ericsson AIR21 B4A/B2P	167
A	3	RFS APXVAARR24_43-U-NA20	167
B	1	Ericsson AIR21 B2A/B4P	167
B	2	Ericsson AIR21 B4A/B2P	167
B	3	RFS APXVAARR24_43-U-NA20	167
C	1	Ericsson AIR21 B2A/B4P	167
C	2	Ericsson AIR21 B4A/B2P	167
C	3	RFS APXVAARR24_43-U-NA20	167

Table 2: Antenna Data

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

RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Ericsson AIR21 B2A/B4P	1900 MHz (PCS)	15.9	2	55	2,139.75	0.30
Antenna A2	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	2	120	4,668.54	0.65
Antenna A3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.81
						Sector A Composite MPE%	**1.76**
Antenna B1	Ericsson AIR21 B2A/B4P	1900 MHz (PCS)	15.9	2	55	2,139.75	0.30
Antenna B2	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	2	120	4,668.54	0.65
Antenna B3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.81
						Sector B Composite MPE%	**1.76**
Antenna C1	Ericsson AIR21 B2A/B4P	1900 MHz (PCS)	15.9	2	55	2,139.75	0.30
Antenna C2	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	2	120	4,668.54	0.65
Antenna C3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.81
						Sector C Composite MPE%	**1.76**

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
T-MOBILE – Max Per Sector Value	**1.76 %**
Nextel	0.19 %
Sprint	1.49 %
MetroPCS	0.51 %
AT&T	1.65 %
Verizon Wireless	2.91 %
Site Total MPE %:	**8.51 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	1.76 %
T-MOBILE Sector B Total:	1.76 %
T-MOBILE Sector C Total:	1.76 %
Site Total:	8.51 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ 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
T-Mobile 1900 MHz (PCS) UMTS	1	1,556.18	167	2.16	1900 MHz (PCS)	1000	0.22%
T-Mobile 1900 MHz (PCS) GSM	1	583.57	167	0.81	1900 MHz (PCS)	1000	0.08%
T-Mobile 2100 MHz (AWS) LTE	2	2,334.27	167	6.47	2100 MHz (AWS)	1000	0.65%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	167	2.19	600 MHz	400	0.55%
T-Mobile 700 MHz LTE	2	432.54	167	1.20	700 MHz	467	0.26%
						Total:	**1.76%**

Table 6: T-MOBILE Maximum Sector MPE Power Values

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 T-MOBILE 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:

T-MOBILE Sector	Power Density Value (%)
Sector A:	1.76 %
Sector B:	1.76 %
Sector C:	1.76 %
T-MOBILE Maximum Total (per sector):	1.76 %
Site Total:	8.51 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **8.51 %** 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.

Scott Heffernan
RF Engineering Director
Transcom Engineering, Inc
PO Box 1048
Sterling, MA 01564