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

December 4, 2020

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

RE: Notice of Exempt Modification
49 Brainerd Road, Niantic (East Lyme), CT 06357
Latitude: 41.307583
Longitude: -72.223916
T-Mobile Site #: CTNL805B_L600

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 160-foot level of the existing 169-foot Monopole Tower 49 Brainerd Rd., Niantic (East Lyme), CT. The 169-foot tower is owned by SBA Towers V, LLC. The property is owned by Christopher Samuelsen. T-Mobile now intends to remove (3) L700 antennas and replace with three (3) new 600/700 MHz antennas. The new antennas support 5G services and would be installed at the 160-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) Commscope LNX-6515DS-A1M antenna (remove) – (3) RFS APXVAARR24_43-U-NA20 antenna (replace)

Install New:

- (3) Ericsson Radio 4449 B71+B12 RRU
- (3) Modified T-Arm w/ PRK-1245L and PRK-SFS-L
- (3) 1-5/8" Fiber

Existing Equipment to Remain:

- (3) T-Arm
- (6) 1-5/8" Coax

Entitlements:

- (1) 1-5/8" Fiber
- (6) 1-5/8: coax

GROUND

Install New:

- Equipment inside existing RBS 6131 Equipment Cabinet

This facility was approved by the Council under Docket 396 on March 3, 2011. Approval was given for a monopole not to exceed a height of 170 feet above ground level. Antennas were to be attached via T-arms. A D&M plan was to be produced. A recalculated RF report was to be provided when there were to be changes in power density at the site. Upon the establishment of any new State or federal RF standards applicable to the facility, it was to be brought into compliance with same. The Certificate Holder was to permit public or private entities to share space for fair consideration, or to provide reasons precluding such sharing. Reasonable space on the tower was to be provided for no compensation for any Town of East Lyme public safety services provided such use could be accommodated and was compatible with the structural integrity of the tower. And any non-functioning antennas and associated mounting equipment were to be removed within 60 days. There were no further 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 East Lyme's First Selectman, Mark C. Nickerson, and Zoning Official, William Mulholland, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modification will not require the extension of the site boundary.

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

For the foregoing reasons, 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
Site Development Specialist II
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: Mark C. Nickerson, First Selectman / with attachments
Town of East Lyme, 108 Pennsylvania Ave., Niantic, CT 06357
William Mulholland, Zoning Official / with attachments
Town of East Lyme, 108 Pennsylvania Ave., Niantic, CT 06357
Christopher Samuelsen / with attachments
49 Brainerd Road Niantic CT 06357

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	CSC Docket 396
Exhibit 6	Construction Drawings	Chappell Engineering 11/18/20
Exhibit 7	Structural Analysis	TES 10/29/20
Exhibit 8	Mount Analysis	Geo Structural 6/20/19
Exhibit 9	Mount Mod CD	Geo Structural 6/21/19
Exhibit 10	EME Report	Transcom Engineering 6/8/19

EXHIBIT 1

Normally, Exhibit 1 would contain a 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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EXHIBIT 3

Property Location: 49 BRAINERD RD | **MAP ID:** 07.4/ 21/ / / | **Bldg Name:** | **State Use:** 1010

Vision ID: 5939 | **Account #** 005680 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 05/08/2018 19:24

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
SAMUELSEN CHRISTOPHER	4 Rolling	5 Well	1 Paved	2 Suburban
		6 Septic		
49 BRAINERD RD				
NIANTIC, CT 06357				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	Block
Sub-Div	Fire 000
Photo	Tot Disabled
Devl Lot #	Heart
Vet Exempt	Freeze
Tract 07162	
GIS ID: 07.4 21	*ASSOC PID#*

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
RES LAND	1-1	263,900	184,730
RES EXCES	1-2	6,800	4,760
DWELLING	1-3	190,300	133,210
RES OUTBL	1-4	41,400	28,980
FOREST	6-2	165,200	8,130
	Total	667,600	359,810

6045
EAST LYME, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
SAMUELSEN CHRISTOPHER	831/ 222	07/10/2009	U	I		04
SAMUELSEN CHRISTOPHER &	788/ 266	10/24/2007	U	I		04
SAMUELSEN CHRISTOPHER	748/ 207	07/13/2006	U	I	560,000	07
BOUTIN WYNN R	737/ 532	04/03/2006	U	I		01
BOUTIN ZACHARY H OR WYNN R	542/ 147	10/01/2001	U	I		08
BOUTIN WYNN R	368/ 94	01/28/1994	U	I	0	01

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2017	1-1	184,730	2016	1-1	184,730	2016	1-1	184,730
2017	1-2	4,760	2016	1-2	4,760	2016	1-2	4,760
2017	1-3	133,210	2016	1-3	133,210	2016	1-3	133,210
2017	1-4	28,980	2016	1-4	28,980	2016	1-4	28,980
2017	6-2	8,130	2016	6-2	8,130	2016	6-2	8,130
	Total:	359,810		*Total:*	359,810		*Total:*	359,810

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	190,300
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	41,400
Appraised Land Value (Bldg)	270,700
Special Land Value	165,200
Total Appraised Parcel Value	667,600
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	667,600

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
0060/A				

NOTES

10/1/11 NAT IA/EA FOREST CERT #9869
FGR ATT TO BARN, OB'S 1,2,3 ATT'D
ECO=RR TRACKS
10/1/06 RMV PA490-SOLD,DECL 748/734
10/1/06 NEW PA490-EXPIRES 7/13/2016
10/8/10 834/631 LEASE TO SBA TOWERS II
5/11/11 870/653 AMND LEASE MAP DR6/624
10/1/11 CHNG FOREST LN AC PER 870/653
9/1/11 - 875/652 ESMT TO SNET + 875/657
ESMT TO CL&P;886/520 & KEASE 887/341
10/1/16 NEW PA490 VALUES

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
B120809-9	08/20/2012	EL	Electric	800	10/02/2012	100	10/01/2012	ADD METER TO BARN
20071-78	03/08/2007	RS	Residential	120,000	11/08/2007	100	07/23/2007	ADDN TO HOUSE
20071-78A	03/08/2007	RS	Residential	46,284	11/08/2007	100	11/08/2007	ADDN TO BARN

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
09/07/2016			DM	63	Review
10/02/2012	02		SK	07	Measur/Inf/Dr Info taken
10/31/2011			MM	63	Review
08/30/2011			DB	55	Building Permit Change
08/15/2011			JR	10	Measu/LtrSnt Letter Se

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing Spec Use	Special Pricing Spec Calc	S Adj Fact	Adj. Unit Price	Land Value
1	1010	Single Fam MDL-01	R40				40,000	SF	3.59	1.0000	1	1.0000	1.75	0060	1.05	LOC-TOPO			1.00	6.60	263,900
1	1010	Single Fam MDL-01	R40				1.98	AC	6,500.00	1.0000	0	1.0000	0.50	0060	1.05				1.00	3,412.50	6,800
1	6100	FOREST C61 MDL-01	R40				48.41	AC	6,500.00	1.0000	0	1.0000	0.50	0060	1.05		490 :240		1.00	3,412.50	165,200

Total Card Land Units:	51.31	AC	**Parcel Total Land Area:**	51.31 AC	**Total Land Value:** 435,900

Property Location: 49 BRAINERD RD **MAP ID:** 07.4/ 21/ / / **Bldg Name:** **State Use:** 1010

Vision ID: 5939 **Account #** 005680 **Bldg #:** 1 of 1 **Sec #:** 1 of 1 **Card** 1 of 1 **Print Date:** 05/08/2018 19:24

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	06		Conventional
Model	01		Residential
Grade	06		Good
Stories	2		2 Stories
Occupancy	1		
Exterior Wall 1	14		Wood Shingle
Exterior Wall 2			
Roof Structure	03		Gable/Hip
Roof Cover	03		Asph/F Gls/Cmp
Interior Wall 1	05		Drywall/Sheet
Interior Wall 2			
Interior Flr 1	12		Hardwood
Interior Flr 2	11		Ceram Clay Til
Heat Fuel	02		Oil
Heat Type	05		Hot Water
AC Type	03		Central
Total Bedrooms	04		4 Bedrooms
Total Bthrms	2		
Total Half Baths	1		
Total Xtra Fixtrs			
Total Rooms	8		8 Rooms
Bath Style	03		Modern
Kitchen Style	03		Modern

CONSTRUCTION DETAIL (CONTINUED)

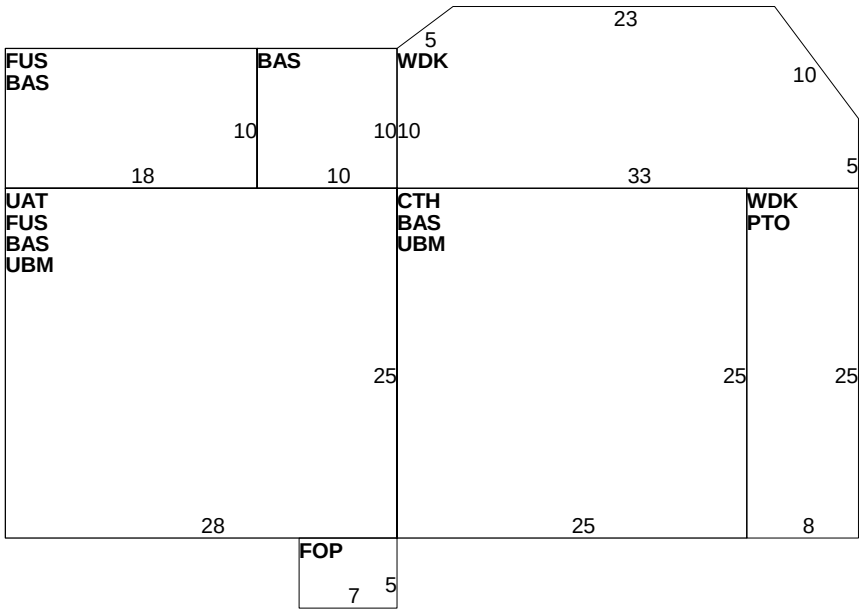
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
1010	Single Fam MDL-01	100

COST/MARKET VALUATION

Adj. Base Rate:	93.38
	274,348
Net Other Adj:	9,750.00
Replace Cost	284,098
AYB	1890
EYB	1988
Dep Code	GD
Remodel Rating	04
Year Remodeled	2007
Dep %	28
Functional Obslnc	0
External Obslnc	5
Cost Trend Factor	1
Condition	
% Complete	
Overall % Cond	67
Apprais Val	190,300
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
BRN4	1 STY LFT&B			L	378	15.00	2000		0		60	3,400
SHP1	WORK SHOP			L	841	25.00	2006		0		100	21,000
FGR2	GARAGE-GO			L	841	20.00	2006		0		100	16,800
SHD1	SHED FRAME			L	45	8.00	2011		0		50	200

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	1,605	1,605	1,605	93.38	149,873
CTH	Cathedral Ceiling	0	625	31	4.63	2,895
FOP	Porch, Open, Finished	0	35	7	18.68	654
FUS	Upper Story, Finished	880	880	880	93.38	82,174
PTO	Patio	0	200	20	9.34	1,868
UAT	Attic, Unfinished	0	700	70	9.34	6,537
UBM	Basement, Unfinished	0	1,325	265	18.68	24,745
WDK	Deck, Wood	0	599	60	9.35	5,603
	Ttl. Gross Liv/Lease Area:	2,485	5,969	2,938		284,098

EXHIBIT 4

Google Maps 49 Brainerd Rd

Map data ©2019 200 ft

49 Brainerd Rd

Niantic, CT 06357

Directions Save Nearby Send to your phone Share

8Q4G+MF East Lyme, Waterford, CT

At this location

Nordic Plumbing & Heating

Plumber · 49 Brainerd Rd

EXHIBIT 5

DOCKET NO. 396 – SBA Towers II, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and management of a telecommunications facility located at 49 Brainerd Road, Niantic (East Lyme), Connecticut.	}	Connecticut Siting Council March 3, 2011

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and management of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to SBA Towers II, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at the SBA Hybrid Site (i.e. approximately 310 feet to the south of the proposed location) at 49 Brainerd Road, East Lyme, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, managed, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC (AT&T), Cellco Partnership d/b/a Verizon Wireless (Cellco), and other entities, both public and private, but such tower shall not exceed a height of 170 feet above ground level. All commercial wireless telecommunications antennas shall be attached to the tower via T-arms.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of East Lyme for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
    b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of East Lyme public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of East Lyme. Any proposed modifications to this Decision and Order shall likewise be so served.

9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

10. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.

11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

12. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

13. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

14. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.

15. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Day.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
SBA Towers II LLC	Carrie L. Larson, Esq. Pullman & Comley, LLC 90 State House Square Hartford, CT 06103-3702
Intervenor	**Its Representative**
Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597
Intervenor	**Its Representative**
Russell L. Brown	Russell L. Brown 41 Brainerd Road Niantic, CT 06357
Party	**Its Representative**
Town of East Lyme	Edward B. O'Connell, Esq. Waller, Smith & Palmer, P.C. 52 Eugene O'Neill Drive P.O. Box 88 New London, CT 06320

Intervenor	**Its Representative**
New Cingular Wireless PCS, LLC	Daniel M. Laub, Esq. Christopher B. Fisher, Esq. Cuddy & Feder LLP 445 Hamilton Avenue, 14th floor White Plain, NY 10601
Party	**Its Representative**
Friends of the Pattagansett Trust	Keith R. Ainsworth, Esq. Evans Feldman & Ainsworth, LLC 261 Bradley Street P.O. Box 1694 New Haven, CT 06507-1694
Intervenor	**Its Representative**
Joseph Raia	Joseph Raia 97 West Main Street, Unit 9 Niantic, CT 06357

EXHIBIT 6

AMTRAK_EAST LYME

49 BRAINERD ROAD
NIANTIC, CT 06357
NEW LONDON COUNTY

SITE NO.: CTNL805B

SITE TYPE: 169'± MONOPOLE

RF DESIGN GUIDELINE: 67D02C

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
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.

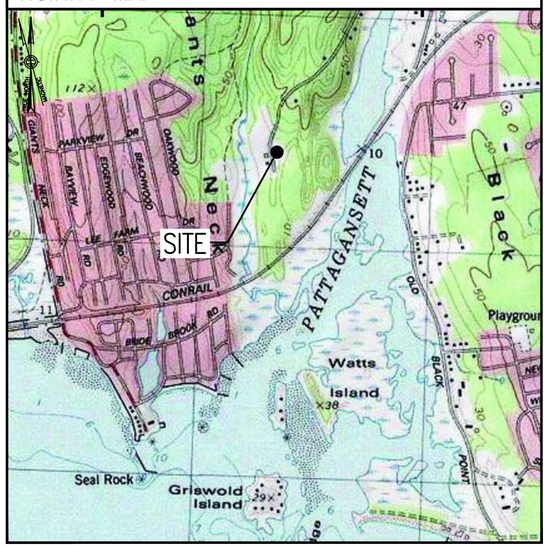
GENERAL NOTES

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.

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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:	CTNL805B
SBA SITE NUMBER:	CT11794-S
SBA SITE NAME:	EAST LYME 1
SITE ADDRESS:	49 BRAINERD ROAD NIANTIC, CT 06357
PROPERTY OWNER:	CHRISTOPHER SAMUELSEN 49 BRAINERD ROAD NIANTIC, CT 06357
TOWER OWNER:	SBA TOWERS V, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	NEW LONDON COUNTY
ZONING DISTRICT:	R40
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	169'
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.41.3076° (41°-18'-27.3") LONGITUDE W.-72.2239° (72°-13'-26.1")

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	11/18/20	ISSUED FOR CONSTRUCTION	BDJ
0	06/10/19	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTNL805B

SITE ADDRESS:
49 BRAINERD ROAD
NIANTIC, CT 06357

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.126

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 (400PSI) 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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STATE OF CONNECTICUT
CLEMENT J. SAJM
No. 26876
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	11/18/20	ISSUED FOR CONSTRUCTION	BDJ
0	06/10/19	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
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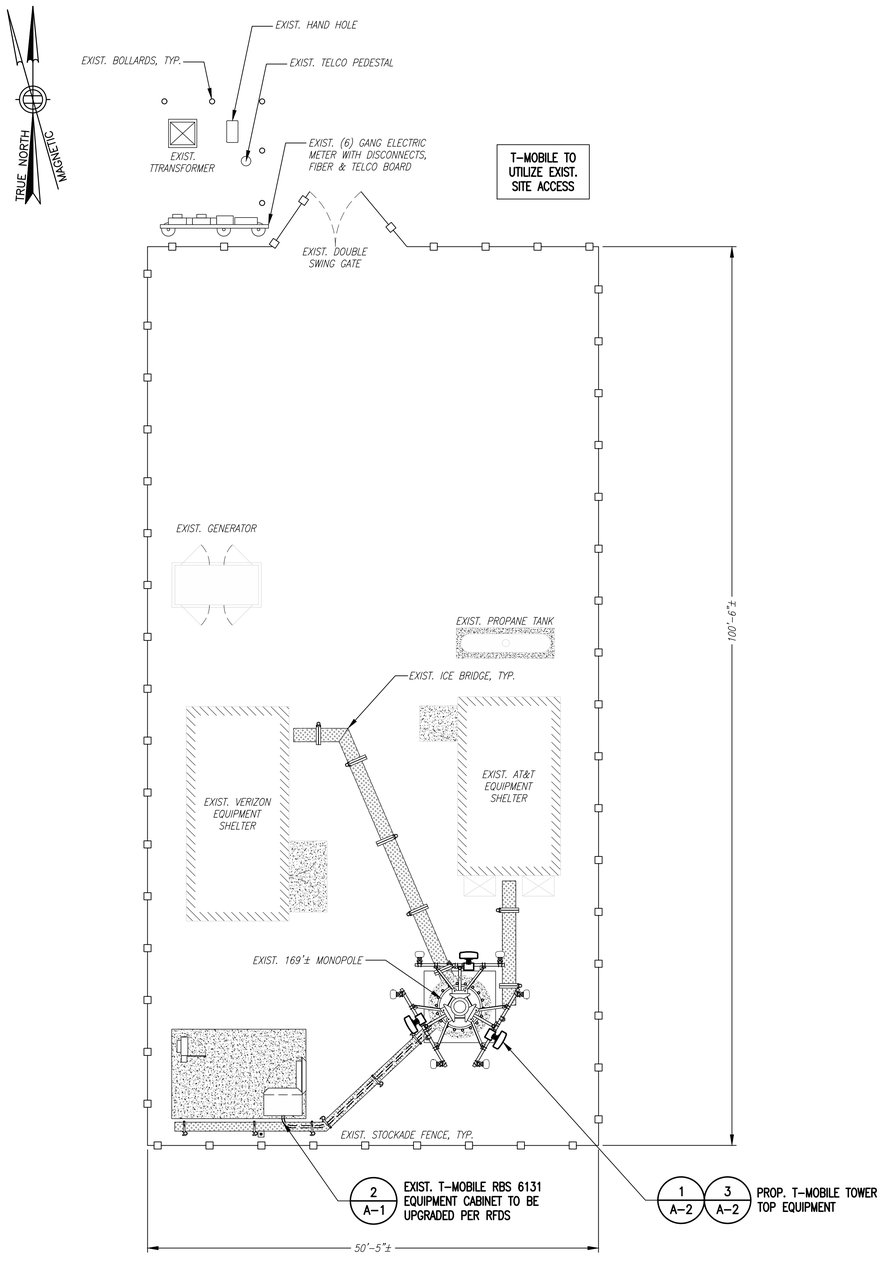
SITE ADDRESS:
49 BRAINERD ROAD
NIANTIC, CT 06357

SHEET TITLE
GENERAL NOTES

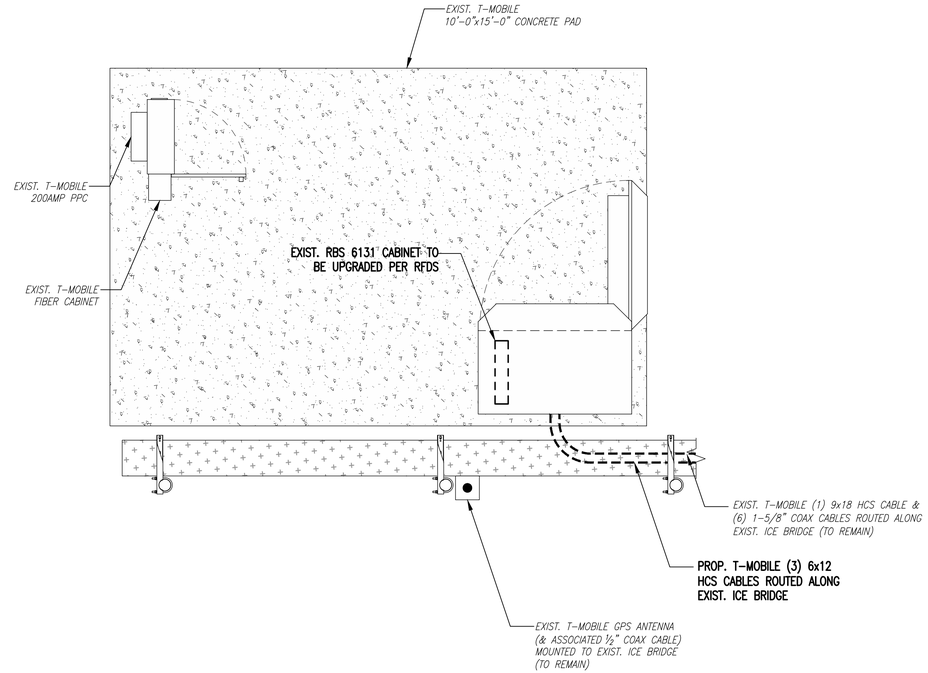
SHEET NUMBER
GN-1

1815.126

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.



COMPOUND PLAN 1 A-1
SCALE: 1" = 8'-0"
0 8'-0" 16'-0" 24'-0"



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

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COMPOUND & EQUIPMENT PLAN

SHEET NUMBER
A-1

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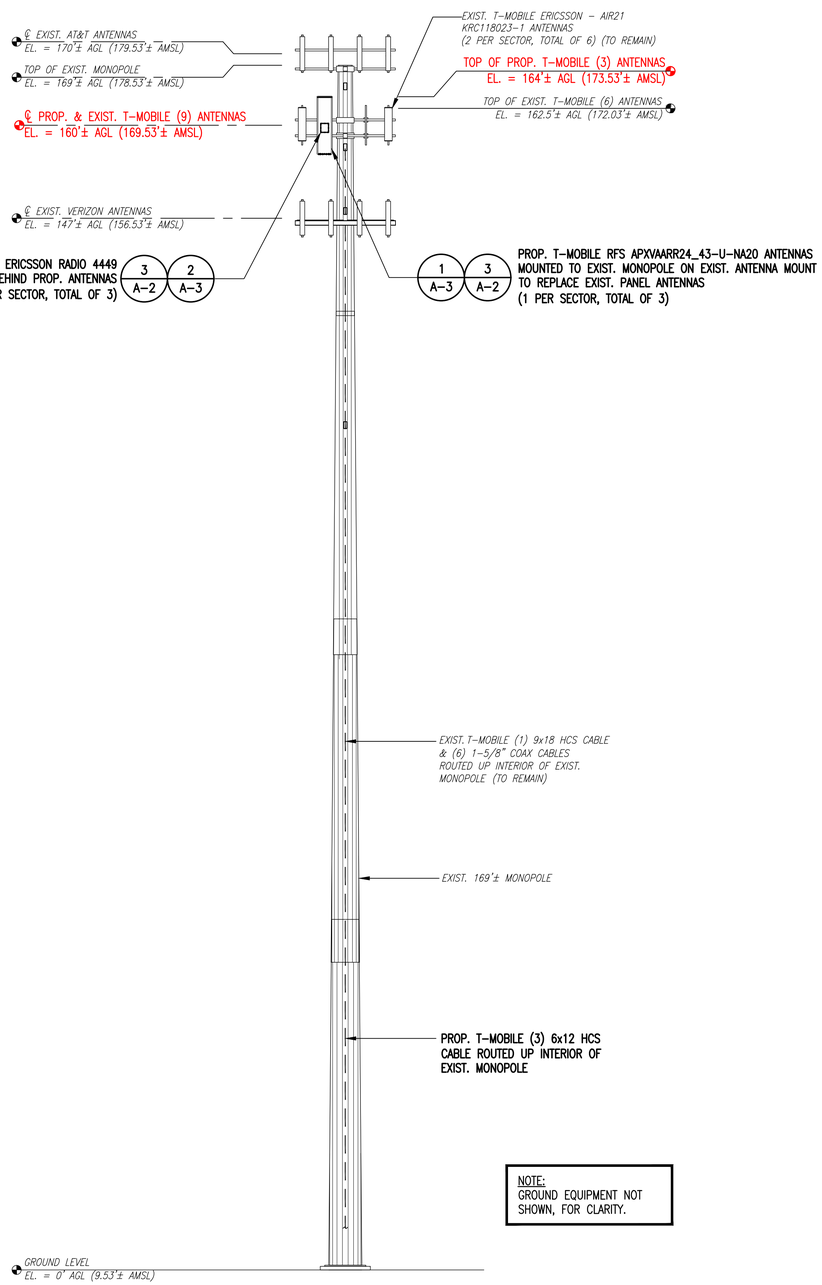
RAD CENTER NOTE:
T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.



NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

NOTE: ABOVE MEAN SEA LEVEL (AMSL)
SOURCE-GOOGLE MAP

TOWER ELEVATION
SCALE: 1" = 10'-0"
1 A-2

0 5' 10' 20' 30'

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
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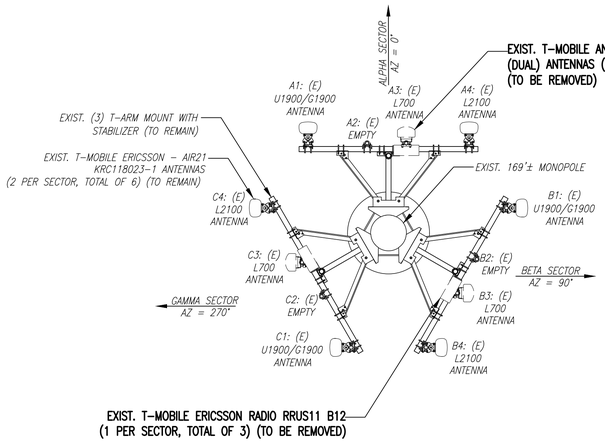
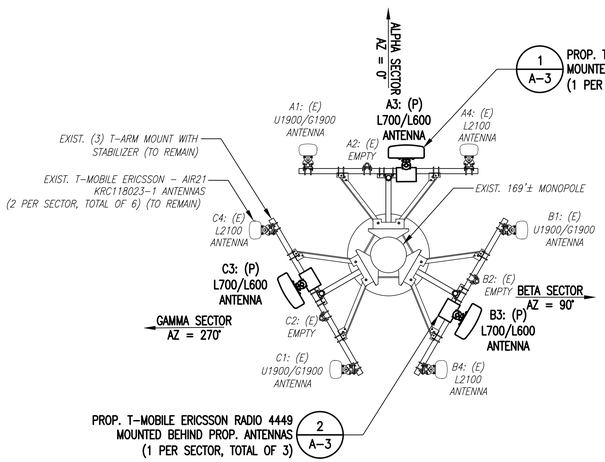


EXISTING ANTENNA PLAN
SCALE: N.T.S.
2 A-2
NORTH



GENERAL CONTRACTOR SHALL REFER TO MOUNT STRUCTURAL ANALYSIS AND ANY MOUNT MODIFICATION DESIGN PROVIDED BY SBA

PROPOSED ANTENNA PLAN
SCALE: N.T.S.
3 A-2
NORTH

ANTENNA LEGEND:

EMPTY - EMPTY PIPE

(E) - EXISTING

(P) - INSTALL

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

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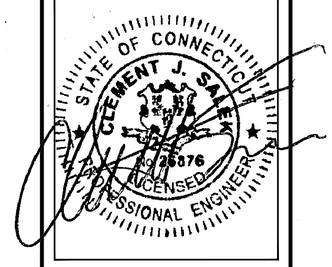

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SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

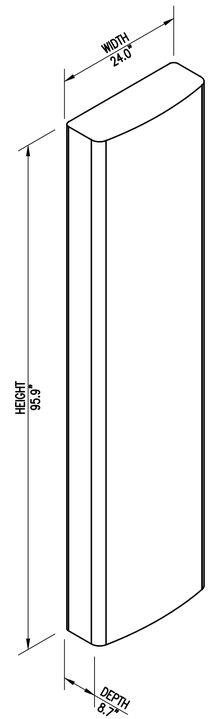
SHEET NUMBER
A-2

1815.126

FINAL ANTENNA CONFIGURATION

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	*ERICSSON AIR21 KRC118023-1_B2A_B4P*	*160'± AGL*	*0°*	*0°*	*2°*	*U1900/G1900*	–	*(1) 9x18 HCS CABLE (SHARED)*
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	–	–	–
	RFS APXVAARR24_43-U-NA20	**160'± AGL**	**0°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 6x12 HCS CABLE**
	ERICSSON AIR21 KRC118023-1_B2P_B4A	*160'± AGL*	*0°*	*0°*	*2°*	*L2100*	–	*(1) 9x18 HCS CABLE (SHARED)*
BETA	*ERICSSON AIR21 KRC118023-1_B2A_B4P*	*160'± AGL*	*90°*	*0°*	*2°*	*U1900/G1900*	–	*(1) 9x18 HCS CABLE (SHARED)*
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	–	–	–
	RFS APXVAARR24_43-U-NA20	**160'± AGL**	**90°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 6x12 HCS CABLE**
	ERICSSON AIR21 KRC118023-1_B2P_B4A	*160'± AGL*	*90°*	*0°*	*2°*	*L2100*	–	*(1) 9x18 HCS CABLE (SHARED)*
GAMMA	*ERICSSON AIR21 KRC118023-1_B2A_B4P*	*160'± AGL*	*270°*	*0°*	*2°*	*U1900/G1900*	–	*(1) 9x18 HCS CABLE (SHARED)*
	EMPTY	*N/A*	*N/A*	*N/A*	*N/A*	–	–	–
	RFS APXVAARR24_43-U-NA20	**160'± AGL**	**270°**	**0°**	**2°**	**L600/L700**	**ERICSSON RADIO 4449 B71+B12**	**(1) 6x12 HCS CABLE**
	ERICSSON AIR21 KRC118023-1_B2P_B4A	*160'± AGL*	*270°*	*0°*	*2°*	*L2100*	–	*(1) 9x18 HCS CABLE (SHARED)*

NOTE: EXIST. (6) 1-5/8" COAXIAL CABLES TO REMAIN DISCONNECTED.



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 (1 / A-3)
SCALE: N.T.S.

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 (2 / A-3)
SCALE: N.T.S.

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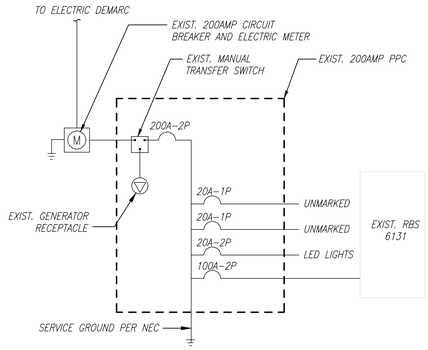
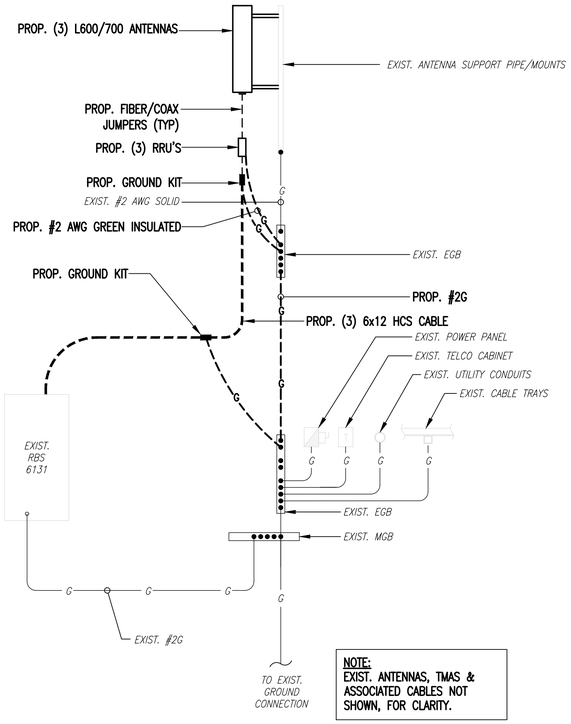
SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

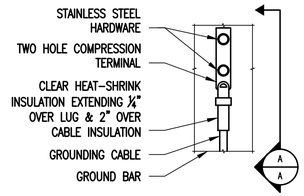
1815.126



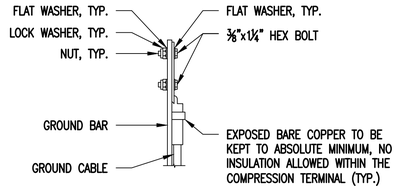
ONE LINE DIAGRAM (1 / E-1)
SCALE: NOT TO SCALE



GROUNDING RISER DIAGRAM (2 / E-1)
SCALE: NOT TO SCALE



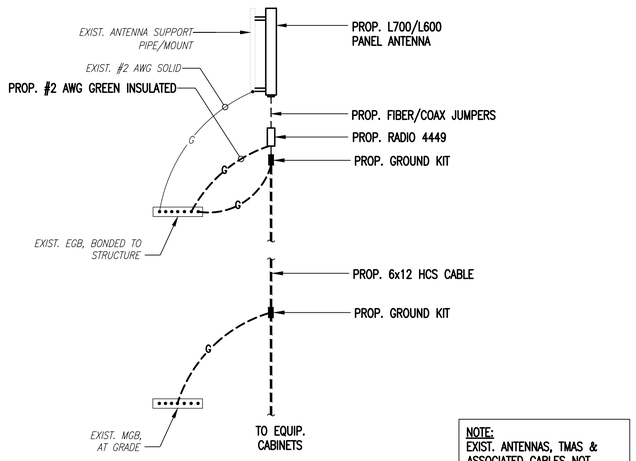
ELEVATION



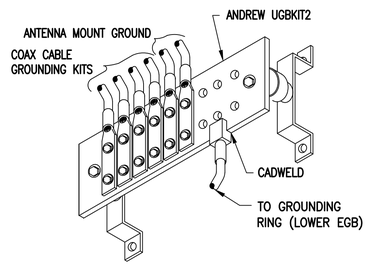
SECTION A-A

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 (3 / E-1)
SCALE: NOT TO SCALE



COAX CABLE CONNECTION AND GROUNDING DETAIL (4 / E-1)
SCALE: NOT TO SCALE



GROUND BAR (EGB) (5 / E-1)
SCALE: NOT TO SCALE

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 THHNINSULATION.
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.

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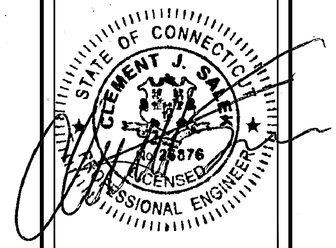

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REV.	DATE	DESCRIPTION	BY
1	11/18/20	ISSUED FOR CONSTRUCTION	BDJ
0	06/10/19	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTNL805B

SITE ADDRESS:
49 BRAINERD ROAD
NIANTIC, CT 06357

SHEET TITLE
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.126

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 169 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT11794-S

Customer Site Name: East Lyme 1

Carrier Name: T-Mobile (App#: 117055-2)

Carrier Site ID / Name: CTNL805B / East Lyme

Site Location: 49 Brainerd Road

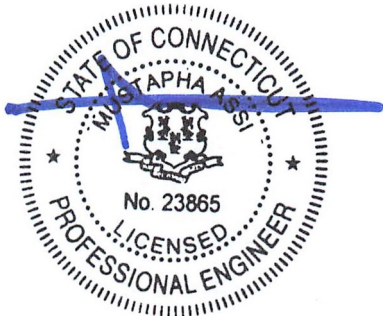
Niantic, Connecticut

New Haven County

Latitude: 41.307583

Longitude: -72.223916

Exp.01/31/2021



Analysis Result:

Max Structural Usage: 79.0% [Pass]

10/29/2020

Max Foundation Usage: 58.0% [Pass]

Additional Usage Caused by Mount Modification: +2%

Report Prepared By : Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 169 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Sabre Towers & Poles, Job# 42498. Dated 04/06/2011
Foundation Drawing	Sabre Towers & Poles, Job# 42498. Dated 04/06/2011
Geotechnical Report	Tower Engineering Professionals, Project #: 103196.01. Dated 03/18/2011.
Modification Drawings	N/A
Mount Analysis	GeoStructural L600 Project. Dated 06/20/2019.

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 125.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	D
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.186, S_1 = 0.062

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	170.0	1	KMW AM-X-CD-14-65-00T-RET- Panel	(3) Reinforced T-Arms	(6) 1-5/8" (4) 0.64" DC Power [1] (1) 1.5" Fiber (1) 2" Conduit [2]	AT&T
2		1	Andrew SBNH-1D6565C 60.8#- Panel			
3		3	Cci DTMABP7819VG12A TMA			
4		1	KMW AM-X-CD-16-65-00T-RET w/ Mount Pipe - Panel			
5		1	Cci DMP65R-BU4DA - Panel			
6		1	Cci DMP65R-BU6DA- Panel			
7		1	Cci DMP65R-BU8DA- Panel			
8		3	Ericsson RRUS 4478 B14			
9		3	Ericsson 4449 B5/B12			
10		3	Raycap DC6-48-60-18-8F			
11		2	Cci HPA-65R-BUU-H8- Panel			
12		2	Cci HPA-65R-BUU-H6- Panel			
13		2	Commscope SBNHH-1D65A- Panel			
14		6	Ericsson RRUS 12 RRUs			
15		3	Ericsson RRUS-32 RRUs			
16		3	Ericsson RRUS E2 B29			
17		6	Ericsson RRUS-A2			
-	160.0	3	Ericsson - Air21 B2A/B4P - Panel	(3) T-Arms	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
-		3	Ericsson - Air21 B4A/B2P - Panel			
-		3	Commscope - LNX-6515DS-A1M - Panel			
-		3	Ericsson KRY 112-114/1 TMAs			
23	147.0	4	Swedcom SC-E 6014 rev2 - Panel	Low Profile Platform	(10) 1 5/8" (2) 1 5/8" Fiber	Verizon
24		6	Andrew SBNHH-1D65B - Panel			
25		2	Antel LPA-80080/4CF - Panel			
26		6	RFS FD9R6004/2C-3L - DP			
27		2	RFS DB-T1-6Z-8AB-0Z - RET			
28		3	Alcatel 2X60-770 U - RRH			
29		3	Alcatel 2x60-1900 - RRH			
30		3	Alcatel RRH 2x90 AWS - RRH			

1 - (4) 0.64" (Routed outside conduit)
2 - (Housing (1) 3/8" Fiber & (2) 0.64" DC cables)

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
18	160.0	3	Ericsson - Air 21 B2A/B4P - Panel	(3) Modified T-Arm with PRK-1245L and PRK-SFS-L	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
19		3	Ericsson - Air 21 B4A/B2P - Panel			
20		3	RFS - APXVAARR24_43-U-NA20 - Panel			
21		3	Ericsson KRY 112 144/1 TMAs			
22		3	Ericsson Radio 4449 B71+B12			

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:	**79.0%**	**74.7%**	**45.5%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5177.3	40.6	81.7

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 2.3152 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

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

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

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

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

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

Usage Diagram - Max Ratio 78.99% at 148.5ft

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020
Site Name:	East Lyme 1	**Exposure:**	D	
Height:	169.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

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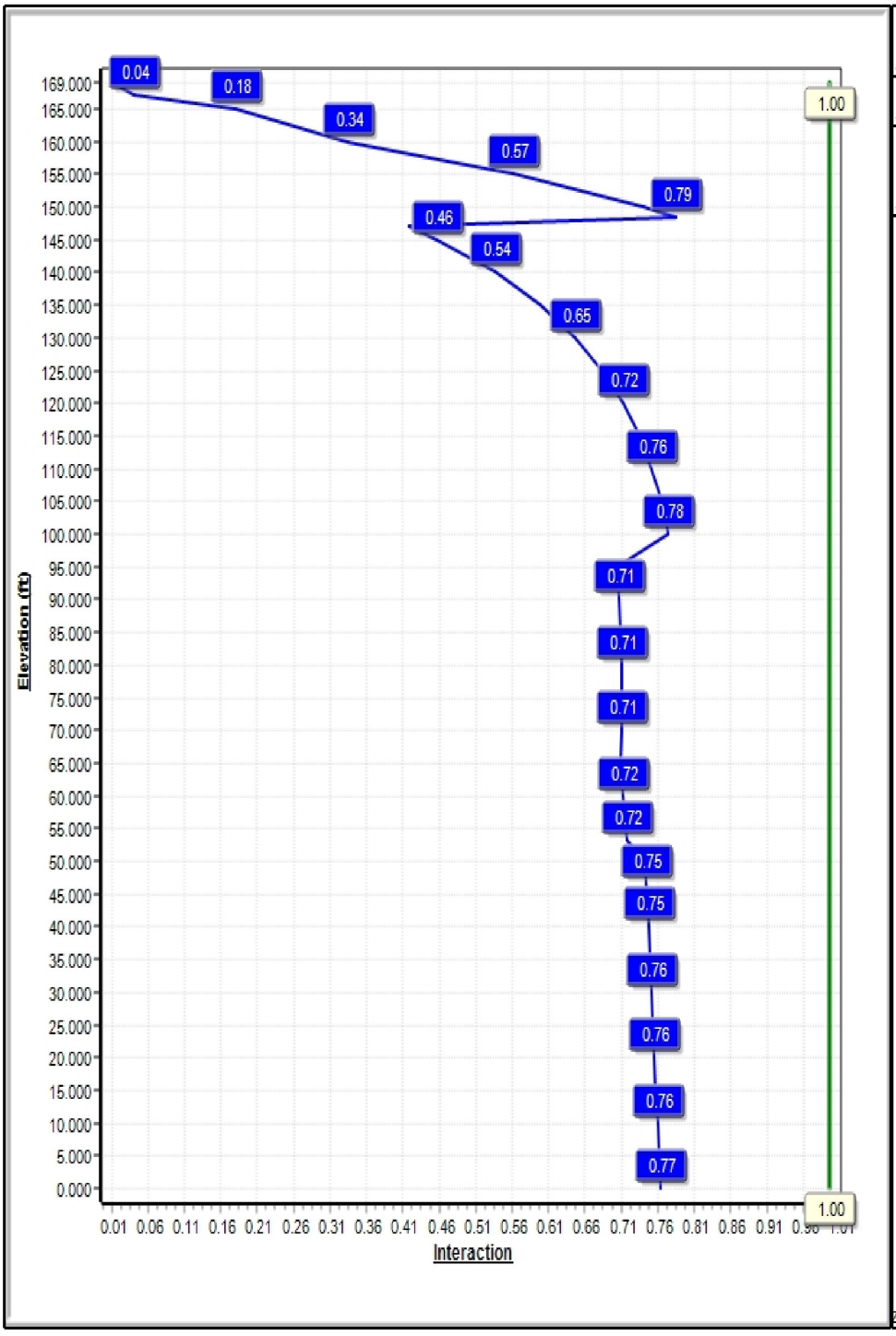
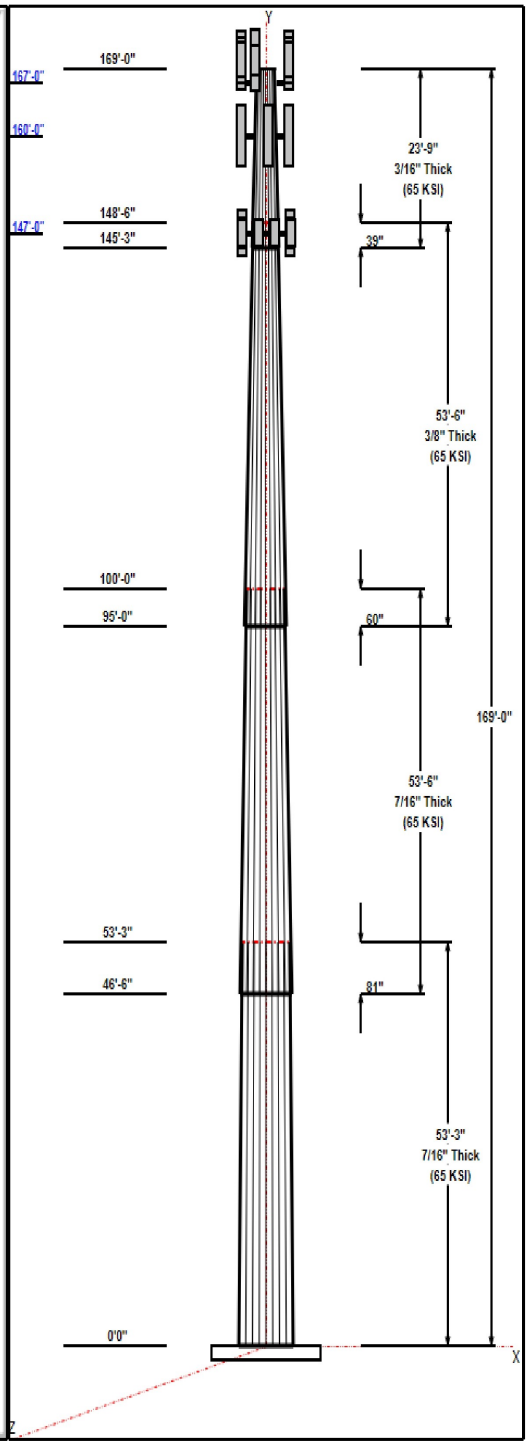
Dead Load Factor:	1.20	**Iterations:**	25
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 97 mph Wind





Structure: CT11794-S-SBA

Type: Tapered
Site Name: East Lyme 1
Height: 169.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.27302

10/29/2020

Tower Engineering Solutions

Shaft Properties

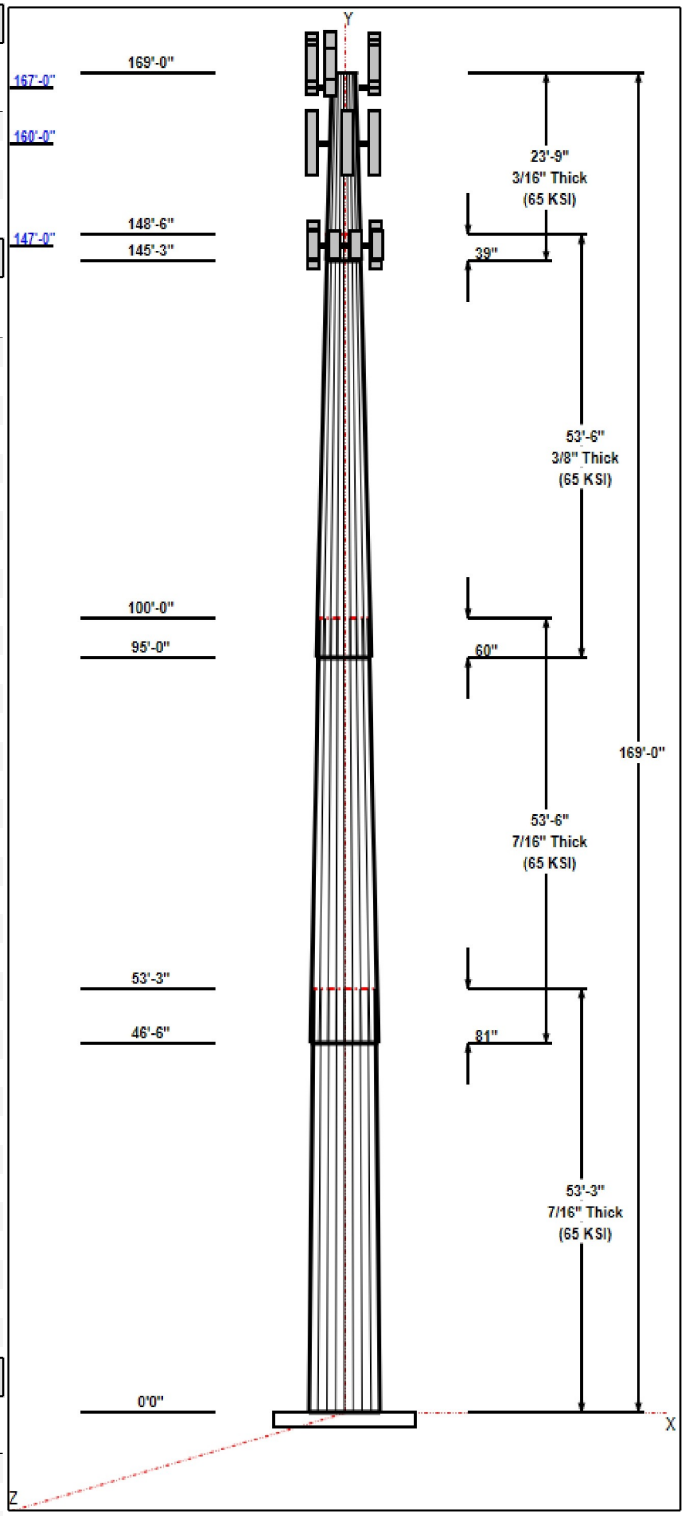
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	45.60	60.14	0.438		0.27302	65
2	53.50	33.71	48.32	0.438	Slip	0.27302	65
3	53.50	21.22	35.83	0.375	Slip	0.27302	65
4	23.75	16.00	22.48	0.188	Slip	0.27302	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
169.00	170.00	1	DMP65R-BU4DA	AT&T
169.00	170.00	1	DMP65R-BU6DA	AT&T
169.00	170.00	1	DMP65R-BU8DA	AT&T
169.00	170.00	3	RRUS 4478 B14	AT&T
169.00	170.00	3	4449 B5/B12	AT&T
169.00	170.00	1	KMW	AT&T
169.00	170.00	1	Andrew SBNH-1D6565C	AT&T
169.00	170.00	3	CCI DTMABP7819VG12A	AT&T
169.00	170.00	1	AM-X-CD-16-65-00T-RET	AT&T
167.00	170.00	3	Raycap DC6-48-60-18-8F	AT&T
167.00	167.00	3	Reinforced T-Arms	AT&T
167.00	170.00	2	HPA-65R-BBU-H8	AT&T
167.00	170.00	2	HPA-65R-BUU-H6	AT&T
167.00	170.00	2	SBNHH-1D65A	AT&T
167.00	170.00	6	Ericsson RRUS-12 RRUs	AT&T
167.00	170.00	3	Ericsson RRUS 32 RRUs	AT&T
167.00	170.00	3	Ericsson RRUS-E2 RRUs	AT&T
167.00	170.00	6	Ericsson RRUS A2	AT&T
160.00	160.00	3	Air 21 B2A/B4P	T-Mobile
160.00	160.00	3	Air 21 B4A/B2P	T-Mobile
160.00	160.00	3	APXVAARR24_43-U-NA20	T-Mobile
160.00	160.00	3	Ericsson KRY 112 144/1	T-Mobile
160.00	160.00	3	Ericsson Radio 4449	T-Mobile
160.00	160.00	1	PRK-1245L	T-Mobile
160.00	160.00	1	PRK-SFS-L	T-Mobile
160.00	160.00	3	T-Arm	T-Mobile
147.00	147.00	3	RRH 2X90 AWS	Verizon
147.00	147.00	3	Alcatel 2x60-1900 RRH	Verizon
147.00	147.00	4	Swedcom SC-E 6014 rev2	Verizon
147.00	147.00	2	Antel LPA-80080/4CF	Verizon
147.00	147.00	6	Andrew SBNHH-1D65B	Verizon
147.00	147.00	3	ALU 2X60-770 U RRH	Verizon
147.00	147.00	6	FD9R6004/2C-3L	Verizon
147.00	147.00	2	RFS DB-T1-6Z-8AB-0Z	Verizon
147.00	147.00	1	Low Profile Platform	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	170.00	Inside	0.64" DC Power	AT&T
0.00	170.00	Inside	1 5/8" Coax	AT&T
0.00	170.00	Inside	1.5" Fiber	AT&T
0.00	170.00	Inside	2" Conduit	AT&T
0.00	169.00	Outside	Safety Cable	
0.00	169.00	Outside	Step bolts (ladder)	
0.00	160.00	Inside	1 5/8" Coax	T-Mobile



0.00	160.00	Inside	1 5/8" Fiber	T-Mobile
0.00	147.00	Inside	1 5/8" Coax	Verizon
0.00	147.00	Inside	1 5/8" Fiber	Verizon

Anchor Bolts

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

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	72.8	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	5177.3	40.6	54.5
0.9D + 1.6W 97 mph Wind	5113.1	40.6	40.9
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1406.9	11.3	81.7
1.2D + 1.0E	322.8	2.4	54.6
0.9D + 1.0E	318.5	2.4	40.9
1.0D + 1.0W 60 mph Wind	1231.7	9.7	45.5

Structure: CT11794-S-SBA - Coax Line Placement

Type: Monopole
Site Name: East Lyme 1
Height: 169.00 (ft)

10/29/2020

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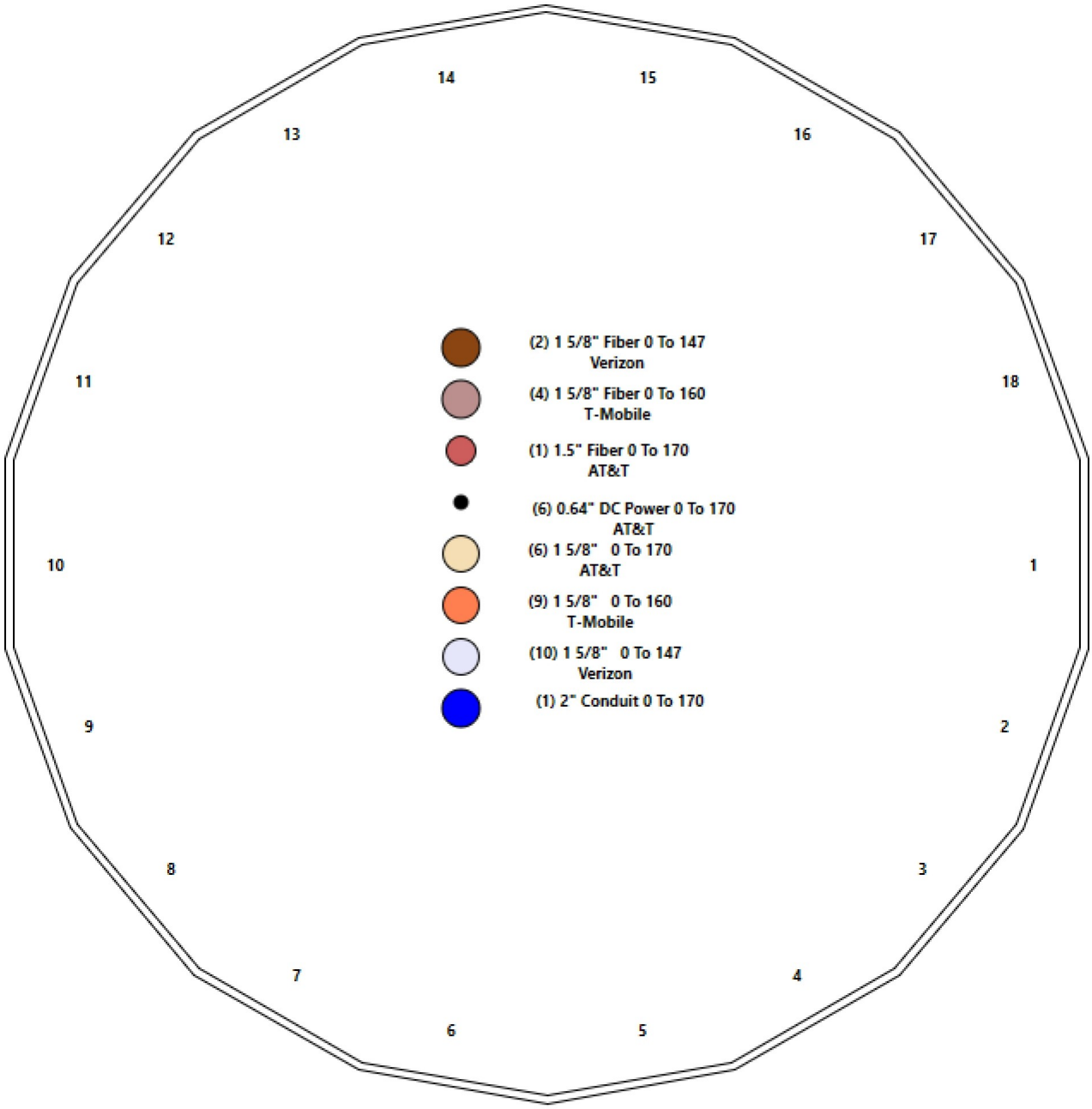

Shaft Properties

Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	10/29/2020
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
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	18	53.250	0.4375	65		0.00	13,193
2	18	53.500	0.4375	65	Slip	81.00	10,258
3	18	53.500	0.3750	65	Slip	60.00	6,099
4	18	23.750	0.1875	65	Slip	39.00	916
					Total Shaft Weight:		**30,466**

	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	60.14	0.00	82.90	37333.61	22.83	137.46	45.60	53.25	62.71	16162.5	16.97	104.2	0.273018
2	48.32	46.50	66.49	19259.46	18.06	110.44	33.71	100.00	46.21	6464.05	12.18	77.06	0.273018
3	35.83	95.00	42.20	6701.10	15.44	95.54	21.22	148.50	24.81	1362.38	8.57	56.59	0.273018
4	22.48	145.2	13.27	833.42	19.73	119.92	16.00	169.00	9.41	297.27	13.64	85.33	0.273018

Load Summary

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
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	169.00	DMP65R-BU4DA	1	67.90	8.28	0.71	395.72	9.573	0.73	0.00	1.00
2	169.00	DMP65R-BU6DA	1	79.40	12.71	0.72	370.82	14.217	0.74	0.00	1.00
3	169.00	DMP65R-BU8DA	1	95.70	17.87	0.73	477.77	19.716	0.75	0.00	1.00
4	169.00	RRUS 4478 B14	3	59.40	1.65	0.67	101.36	2.175	0.67	0.00	1.00
5	169.00	4449 B5/B12	3	71.00	1.97	0.67	125.02	2.524	0.67	0.00	1.00
6	169.00	KMW AM-X-CD-14-65-00T-RET	1	36.40	5.00	0.75	149.26	6.897	0.75	0.00	1.00
7	169.00	Andrew SBNH-1D6565C	1	60.80	11.47	0.80	274.79	14.760	0.80	0.00	1.00
8	169.00	CCI DTMABP7819VG12A TMAs	3	19.18	1.14	0.67	44.98	1.919	0.67	0.00	1.00
9	169.00	AM-X-CD-16-65-00T-RET	1	48.50	8.02	0.75	212.72	10.847	0.75	0.00	1.00
10	167.00	Raycap DC6-48-60-18-8F	3	32.80	1.47	1.00	95.29	2.177	1.00	0.00	3.00
11	167.00	Reinforced T-Arms	3	450.00	14.00	0.75	767.53	26.348	0.75	0.00	0.00
12	167.00	HPA-65R-BBU-H8	2	68.00	12.98	0.79	362.71	14.614	0.79	0.00	3.00
13	167.00	HPA-65R-BUU-H6	2	51.00	9.66	0.85	302.23	11.042	0.85	0.00	3.00
14	167.00	SBNHH-1D65A	2	33.50	5.88	0.83	193.92	6.973	0.83	0.00	3.00
15	167.00	Ericsson RRUS-12 RRUs	6	58.00	3.15	0.67	154.65	3.873	0.67	0.00	3.00
16	167.00	Ericsson RRUS 32 RRUs	3	77.00	3.87	0.67	192.07	4.115	0.67	0.00	3.00
17	167.00	Ericsson RRUS-E2 RRUs	3	60.00	3.87	0.67	156.65	3.873	0.67	0.00	3.00
18	167.00	Ericsson RRUS A2	6	22.00	1.86	0.67	59.88	2.844	0.67	0.00	3.00
19	160.00	Air 21 B2A/B4P	3	91.50	6.09	0.86	261.69	7.195	0.86	0.00	0.00
20	160.00	Air 21 B4A/B2P	3	90.40	6.09	0.86	260.59	7.195	0.86	0.00	0.00
21	160.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	548.99	22.153	0.70	0.00	0.00
22	160.00	Ericsson KRY 112 144/1 TMAs	3	11.00	0.41	0.70	21.85	0.888	0.70	0.00	0.00
23	160.00	Ericsson Radio 4449 B71+B12	3	70.00	1.65	0.67	138.80	2.192	0.67	0.00	0.00
24	160.00	PRK-1245L	1	464.91	9.50	1.00	791.56	19.512	1.00	0.00	0.00
25	160.00	PRK-SFS-L	1	394.00	16.60	1.00	1122.61	28.846	1.00	0.00	0.00
26	160.00	T-Arm	3	400.00	10.00	0.75	681.04	18.783	0.75	0.00	0.00
27	147.00	RRH 2X90 AWS	3	64.00	3.50	0.67	156.92	4.288	0.67	0.00	0.00
28	147.00	Alcatel 2x60-1900 RRH	3	40.00	1.51	0.67	106.97	2.465	0.67	0.00	0.00
29	147.00	Swedcom SC-E 6014 rev2	4	15.00	3.33	0.97	109.59	4.996	0.97	0.00	0.00
30	147.00	Antel LPA-80080/4CF	2	12.00	2.61	1.70	147.12	3.461	1.70	0.00	0.00
31	147.00	Andrew SBNHH-1D65B	6	40.00	8.08	0.83	242.64	9.457	0.83	0.00	0.00
32	147.00	ALU 2X60-770 U RRH	3	55.60	3.50	0.67	136.32	4.288	0.67	0.00	0.00
33	147.00	FD9R6004/2C-3L	6	3.10	0.36	1.00	11.11	0.802	1.00	0.00	0.00
34	147.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.80	0.71	187.39	5.672	0.71	0.00	0.00
35	147.00	Low Profile Platform	1	1200.00	26.00	1.00	2245.02	47.736	1.00	0.00	0.00
		Totals:	**95**	**8,822.85**			**23,063.33**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	170.00	(6) 0.64" DC Power	0.00	Inside
0.00	170.00	(6) 1 5/8" Coax	0.00	Inside
0.00	170.00	(1) 1.5" Fiber	0.00	Inside
0.00	170.00	(1) 2" Conduit	0.00	Inside
0.00	169.00	(1) Safety Cable	0.38	Outside
0.00	169.00	(1) Step bolts (ladder)	0.00	Outside

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	160.00	(9) 1 5/8" Coax			0.00	Inside					
0.00	160.00	(4) 1 5/8" Fiber			0.00	Inside					
0.00	147.00	(10) 1 5/8" Coax			0.00	Inside					
0.00	147.00	(2) 1 5/8" Fiber			0.00	Inside					

Shaft Section Properties

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	60.140	82.901	37333.6	22.83	137.46	74.6	1222.	0.0
5.00		0.4375	58.775	81.006	34830.8	22.28	134.34	75.2	1167.	1394.4
10.00		0.4375	57.410	79.110	32442.5	21.73	131.22	75.8	1113.	1362.1
15.00		0.4375	56.045	77.215	30165.9	21.18	128.10	76.5	1060.	1329.8
20.00		0.4375	54.680	75.319	27998.4	20.63	124.98	77.1	1008.	1297.6
25.00		0.4375	53.315	73.424	25937.3	20.08	121.86	77.8	958.2	1265.3
30.00		0.4375	51.949	71.528	23979.9	19.53	118.74	78.4	909.2	1233.1
35.00		0.4375	50.584	69.633	22123.5	18.98	115.62	79.1	861.4	1200.8
40.00		0.4375	49.219	67.737	20365.5	18.43	112.50	79.7	815.0	1168.6
45.00		0.4375	47.854	65.842	18703.2	17.88	109.38	80.4	769.8	1136.3
46.50	Bot - Section 2	0.4375	47.445	65.273	18222.8	17.71	108.44	80.6	756.5	334.6
50.00		0.4375	46.489	63.946	17133.9	17.33	106.26	81.0	725.9	1553.4
53.25	Top - Section 1	0.4375	46.477	63.929	17120.2	17.32	106.23	0.0	0.0	1414.2
55.00		0.4375	45.999	63.266	16592.7	17.13	105.14	81.3	710.5	378.7
60.00		0.4375	44.634	61.370	15145.5	16.58	102.02	81.9	668.3	1060.3
65.00		0.4375	43.269	59.475	13785.0	16.03	98.90	82.5	627.5	1028.0
70.00		0.4375	41.904	57.579	12508.5	15.48	95.78	82.5	587.9	995.8
75.00		0.4375	40.539	55.683	11313.4	14.93	92.66	82.5	549.7	963.5
80.00		0.4375	39.174	53.788	10196.9	14.38	89.54	82.5	512.7	931.3
85.00		0.4375	37.808	51.892	9156.4	13.83	86.42	82.5	477.0	899.0
90.00		0.4375	36.443	49.997	8189.2	13.28	83.30	82.5	442.6	866.8
95.00	Bot - Section 3	0.4375	35.078	48.101	7292.7	12.73	80.18	82.5	409.5	834.5
100.00	Top - Section 2	0.3750	34.463	40.572	5956.5	14.79	91.90	0.0	0.0	1506.4
105.00		0.3750	33.098	38.947	5269.1	14.15	88.26	82.5	313.6	676.5
110.00		0.3750	31.733	37.323	4636.8	13.51	84.62	82.5	287.8	648.8
115.00		0.3750	30.368	35.698	4057.3	12.87	80.98	82.5	263.1	621.2
120.00		0.3750	29.003	34.073	3528.1	12.23	77.34	82.5	239.6	593.5
125.00		0.3750	27.638	32.448	3047.1	11.58	73.70	82.5	217.2	565.9
130.00		0.3750	26.273	30.824	2611.9	10.94	70.06	82.5	195.8	538.3
135.00		0.3750	24.908	29.199	2220.3	10.30	66.42	82.5	175.6	510.6
140.00		0.3750	23.543	27.574	1869.9	9.66	62.78	82.5	156.4	483.0
145.00		0.3750	22.177	25.949	1558.4	9.02	59.14	82.5	138.4	455.3
145.25	Bot - Section 4	0.3750	22.109	25.868	1543.8	8.99	58.96	82.5	137.5	22.0
147.00		0.3750	21.631	25.300	1444.3	8.76	57.68	82.5	131.5	230.5
148.50	Top - Section 3	0.1875	21.597	12.741	737.8	18.90	115.18	0.0	0.0	193.5
150.00		0.1875	21.187	12.497	696.3	18.51	113.00	79.6	64.7	64.4
155.00		0.1875	19.822	11.685	569.1	17.23	105.72	81.1	56.6	205.7
160.00		0.1875	18.457	10.872	458.5	15.95	98.44	82.5	48.9	191.9
165.00		0.1875	17.092	10.060	363.2	14.66	91.16	82.5	41.9	178.1
167.00		0.1875	16.546	9.735	329.1	14.15	88.25	82.5	39.2	67.4
169.00		0.1875	16.000	9.410	297.3	13.64	85.33	82.5	36.6	65.1
										30466.3

Wind Loading - Shaft

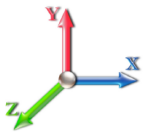
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	1.03	23.569	25.93	500.98	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	1.03	23.569	25.93	489.61	0.650	0.000	5.00	25.156	16.35	678.3	0.0	1673.2
10.00		1.00	1.03	23.569	25.93	478.24	0.650	0.000	5.00	24.579	15.98	662.7	0.0	1634.5
15.00		1.00	1.03	23.574	25.93	466.92	0.650	0.000	5.00	24.001	15.60	647.3	0.0	1595.8
20.00		1.00	1.08	24.784	27.26	467.09	0.650	0.000	5.00	23.423	15.23	664.1	0.0	1557.1
25.00		1.00	1.13	25.765	28.34	464.35	0.650	0.000	5.00	22.846	14.85	673.4	0.0	1518.4
30.00		1.00	1.16	26.595	29.25	459.69	0.650	0.000	5.00	22.268	14.47	677.5	0.0	1479.7
35.00		1.00	1.19	27.317	30.05	453.65	0.650	0.000	5.00	21.691	14.10	677.9	0.0	1441.0
40.00		1.00	1.22	27.959	30.75	446.56	0.650	0.000	5.00	21.113	13.72	675.3	0.0	1402.3
45.00		1.00	1.25	28.538	31.39	438.65	0.650	0.000	5.00	20.536	13.35	670.4	0.0	1363.6
46.50	Bot - Section 2	1.00	1.25	28.701	31.57	436.13	0.650	0.000	1.50	6.048	3.93	198.6	0.0	401.5
50.00		1.00	1.27	29.065	31.97	430.06	0.650	0.000	3.50	14.169	9.21	471.1	0.0	1864.1
53.25	Top - Section 1	1.00	1.28	29.385	32.32	424.16	0.650	0.000	3.25	12.904	8.39	433.8	0.0	1697.0
55.00		1.00	1.29	29.551	32.51	429.06	0.650	0.000	1.75	6.847	4.45	231.5	0.0	454.5
60.00		1.00	1.31	30.002	33.00	419.49	0.650	0.000	5.00	19.173	12.46	658.1	0.0	1272.3
65.00		1.00	1.33	30.422	33.46	409.50	0.650	0.000	5.00	18.596	12.09	647.2	0.0	1233.6
70.00		1.00	1.35	30.817	33.90	399.15	0.650	0.000	5.00	18.018	11.71	635.2	0.0	1194.9
75.00		1.00	1.36	31.189	34.31	388.47	0.650	0.000	5.00	17.440	11.34	622.3	0.0	1156.2
80.00		1.00	1.38	31.541	34.70	377.50	0.650	0.000	5.00	16.863	10.96	608.5	0.0	1117.5
85.00		1.00	1.39	31.875	35.06	366.27	0.650	0.000	5.00	16.285	10.59	593.9	0.0	1078.8
90.00		1.00	1.41	32.194	35.41	354.81	0.650	0.000	5.00	15.708	10.21	578.5	0.0	1040.1
95.00	Bot - Section 3	1.00	1.42	32.498	35.75	343.12	0.650	0.000	5.00	15.130	9.83	562.5	0.0	1001.4
100.00	Top - Section 2	1.00	1.43	32.789	36.07	331.25	0.650	0.000	5.00	14.870	9.67	557.8	0.0	1807.7
105.00		1.00	1.45	33.069	36.38	326.59	0.650	0.000	5.00	14.292	9.29	540.7	0.0	811.8
110.00		1.00	1.46	33.337	36.67	314.38	0.650	0.000	5.00	13.715	8.91	523.1	0.0	778.6
115.00		1.00	1.47	33.596	36.96	302.03	0.650	0.000	5.00	13.137	8.54	504.9	0.0	745.4
120.00		1.00	1.48	33.845	37.23	289.52	0.650	0.000	5.00	12.560	8.16	486.3	0.0	712.2
125.00		1.00	1.49	34.087	37.50	276.87	0.650	0.000	5.00	11.982	7.79	467.2	0.0	679.1
130.00		1.00	1.50	34.320	37.75	264.10	0.650	0.000	5.00	11.405	7.41	447.8	0.0	645.9
135.00		1.00	1.51	34.546	38.00	251.20	0.650	0.000	5.00	10.827	7.04	427.9	0.0	612.7
140.00		1.00	1.52	34.765	38.24	238.18	0.650	0.000	5.00	10.249	6.66	407.6	0.0	579.6
145.00		1.00	1.53	34.978	38.48	225.06	0.650	0.000	5.00	9.672	6.29	387.0	0.0	546.4
145.25	Bot - Section 4	1.00	1.53	34.988	38.49	224.40	0.650	0.000	0.25	0.468	0.30	18.7	0.0	26.4
147.00	Appurtenance(s)	1.00	1.53	35.061	38.57	219.78	0.650	0.000	1.75	3.294	2.14	132.1	0.0	276.6
148.50	Top - Section 3	1.00	1.53	35.123	38.64	215.81	0.650	0.000	1.50	2.767	1.80	111.2	0.0	232.3
150.00		1.00	1.54	35.185	38.70	215.64	0.650	0.000	1.50	2.715	1.76	109.3	0.0	77.3
155.00		1.00	1.55	35.386	38.92	202.33	0.650	0.000	5.00	8.675	5.64	351.2	0.0	246.9
160.00	Appurtenance(s)	1.00	1.55	35.582	39.14	188.91	0.650	0.000	5.00	8.098	5.26	329.6	0.0	230.3
165.00		1.00	1.56	35.773	39.35	175.41	0.650	0.000	5.00	7.520	4.89	307.8	0.0	213.7
167.00	Appurtenance(s)	1.00	1.57	35.848	39.43	169.99	0.650	0.000	2.00	2.846	1.85	116.7	0.0	80.8
169.00	Appurtenance(s)	1.00	1.57	35.922	39.51	164.55	0.650	0.000	2.00	2.754	1.79	113.2	0.0	78.2
								Totals:	**169.00**			**18,608.1**		**36,559.6**

Discrete Appurtenance Forces

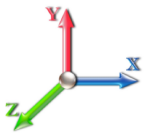
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	169.00	CCI DTMABP7819VG12A	3	35.959	39.555	0.60	0.90	2.06	69.05	0.000	1.000	130.52	0.00	130.52
2	169.00	AM-X-CD-16-65-00T-RET	1	35.959	39.555	0.75	1.00	6.01	58.20	0.000	1.000	380.68	0.00	380.68
3	169.00	KMW	1	35.959	39.555	0.75	1.00	3.75	43.68	0.000	1.000	237.33	0.00	237.33
4	169.00	Andrew SBNH-1D6565C	1	35.959	39.555	0.80	1.00	9.18	72.96	0.000	1.000	580.73	0.00	580.73
5	169.00	4449 B5/B12	3	35.959	39.555	0.60	0.90	3.56	255.60	0.000	1.000	225.54	0.00	225.54
6	169.00	DMP65R-BU6DA	1	35.959	39.555	0.65	0.90	8.25	95.28	0.000	1.000	521.97	0.00	521.97
7	169.00	DMP65R-BU8DA	1	35.959	39.555	0.65	0.90	11.69	114.84	0.000	1.000	739.98	0.00	739.98
8	169.00	RRUS 4478 B14	3	35.959	39.555	0.60	0.90	2.98	213.84	0.000	1.000	188.90	0.00	188.90
9	169.00	DMP65R-BU4DA	1	35.959	39.555	0.64	0.90	5.31	81.48	0.000	1.000	335.79	0.00	335.79
10	167.00	SBNHH-1D65A	2	35.959	39.555	0.75	0.90	8.78	80.40	0.000	3.000	555.97	0.00	1667.90
11	167.00	Reinforced T-Arms	3	35.848	39.433	0.56	0.75	23.63	1620.00	0.000	0.000	1490.55	0.00	0.00
12	167.00	HPA-65R-BBU-H8	2	35.959	39.555	0.71	0.90	18.46	163.20	0.000	3.000	1168.14	0.00	3504.42
13	167.00	HPA-65R-BUU-H6	2	35.959	39.555	0.77	0.90	14.78	122.40	0.000	3.000	935.38	0.00	2806.14
14	167.00	Ericsson RRUS-E2 RRUs	3	35.959	39.555	0.60	0.90	7.00	216.00	0.000	3.000	443.07	0.00	1329.20
15	167.00	Ericsson RRUS-12 RRUs	6	35.959	39.555	0.60	0.90	11.40	417.60	0.000	3.000	721.27	0.00	2163.82
16	167.00	Ericsson RRUS 32 RRUs	3	35.959	39.555	0.60	0.90	7.00	277.20	0.000	3.000	443.07	0.00	1329.20
17	167.00	Ericsson RRUS A2	6	35.959	39.555	0.60	0.90	6.73	158.40	0.000	3.000	425.89	0.00	1277.68
18	167.00	Raycap DC6-48-60-18-8F	3	35.959	39.555	0.90	0.90	3.97	118.08	0.000	3.000	251.19	0.00	753.57
19	160.00	PRK-SFS-L	1	35.582	39.140	0.75	0.75	12.45	472.80	0.000	0.000	779.67	0.00	0.00
20	160.00	PRK-1245L	1	35.582	39.140	0.75	0.75	7.13	557.89	0.000	0.000	446.20	0.00	0.00
21	160.00	Ericsson Radio 4449	3	35.582	39.140	0.54	0.80	2.65	252.00	0.000	0.000	166.15	0.00	0.00
22	160.00	Ericsson KRY 112 144/1	3	35.582	39.140	0.56	0.80	0.69	39.60	0.000	0.000	43.14	0.00	0.00
23	160.00	APXVAARR24_43-U-NA2	3	35.582	39.140	0.56	0.80	34.00	460.80	0.000	0.000	2129.42	0.00	0.00
24	160.00	Air 21 B4A/B2P	3	35.582	39.140	0.69	0.80	12.57	325.44	0.000	0.000	787.17	0.00	0.00
25	160.00	Air 21 B2A/B4P	3	35.582	39.140	0.69	0.80	12.57	329.40	0.000	0.000	787.17	0.00	0.00
26	160.00	T-Arm	3	35.582	39.140	0.56	0.75	16.88	1440.00	0.000	0.000	1056.78	0.00	0.00
27	147.00	Alcatel 2x60-1900 RRH	3	35.061	38.567	0.54	0.80	2.43	144.00	0.000	0.000	149.83	0.00	0.00
28	147.00	Swedcom SC-E 6014 rev2	4	35.061	38.567	0.78	0.80	10.34	72.00	0.000	0.000	637.83	0.00	0.00
29	147.00	Antel LPA-80080/4CF	2	35.061	38.567	1.36	0.80	7.10	28.80	0.000	0.000	438.08	0.00	0.00
30	147.00	RRH 2X90 AWS	3	35.061	38.567	0.54	0.80	5.63	230.40	0.000	0.000	347.29	0.00	0.00
31	147.00	Low Profile Platform	1	35.061	38.567	1.00	1.00	26.00	1440.00	0.000	0.000	1604.41	0.00	0.00
32	147.00	Andrew SBNHH-1D65B	6	35.061	38.567	0.66	0.80	32.19	288.00	0.000	0.000	1986.42	0.00	0.00
33	147.00	ALU 2X60-770 U RRH	3	35.061	38.567	0.54	0.80	5.63	200.16	0.000	0.000	347.29	0.00	0.00
34	147.00	FD9R6004/2C-3L	6	35.061	38.567	0.80	0.80	1.73	22.32	0.000	0.000	106.63	0.00	0.00
35	147.00	RFS DB-T1-6Z-8AB-0Z	2	35.061	38.567	0.57	0.80	5.45	105.60	0.000	0.000	336.48	0.00	0.00
							Totals:		**10,587.42**			**21,925.93**		

Total Applied Force Summary

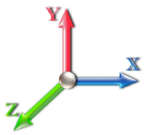
Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	10/29/2020
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

TES Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		678.29	1907.66	0.00	0.00
10.00		662.71	1868.96	0.00	0.00
15.00		647.29	1830.26	0.00	0.00
20.00		664.12	1791.56	0.00	0.00
25.00		673.38	1752.86	0.00	0.00
30.00		677.50	1714.16	0.00	0.00
35.00		677.86	1675.46	0.00	0.00
40.00		675.31	1636.76	0.00	0.00
45.00		670.43	1598.06	0.00	0.00
46.50		198.58	471.87	0.00	0.00
50.00		471.14	2028.23	0.00	0.00
53.25		433.78	1849.39	0.00	0.00
55.00		231.48	536.51	0.00	0.00
60.00		658.06	1506.76	0.00	0.00
65.00		647.19	1468.06	0.00	0.00
70.00		635.22	1429.36	0.00	0.00
75.00		622.28	1390.66	0.00	0.00
80.00		608.46	1351.96	0.00	0.00
85.00		593.85	1313.26	0.00	0.00
90.00		578.51	1274.56	0.00	0.00
95.00		562.51	1235.86	0.00	0.00
100.00		557.78	2042.09	0.00	0.00
105.00		540.69	1046.20	0.00	0.00
110.00		523.05	1013.03	0.00	0.00
115.00		504.91	979.85	0.00	0.00
120.00		486.30	946.68	0.00	0.00
125.00		467.25	913.51	0.00	0.00
130.00		447.77	880.34	0.00	0.00
135.00		427.89	847.17	0.00	0.00
140.00		407.63	814.00	0.00	0.00
145.00		387.02	780.82	0.00	0.00
145.25		18.75	38.17	0.00	0.00
147.00	(30) attachments	6086.39	2889.95	0.00	0.00
148.50		111.19	279.90	0.00	0.00
150.00		109.29	124.94	0.00	0.00
155.00		351.20	405.69	0.00	0.00
160.00	(20) attachments	6525.33	4267.04	0.00	0.00
165.00		307.76	289.96	0.00	0.00
167.00	(30) attachments	6551.26	3284.62	0.00	14831.93
169.00	(15) attachments	3454.62	1113.62	0.00	3341.44
	Totals:	**40,534.01**	**54,589.77**	**0.00**	**18,173.37**

Linear Appurtenance Segment Forces (Factored)

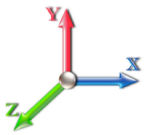
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.006	0.000	23.569	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.006	0.000	23.569	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.006	0.000	23.569	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.006	0.000	23.569	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	23.574	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	23.574	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	24.784	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	24.784	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	25.765	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	25.765	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	26.595	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	26.595	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	27.317	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	27.317	0.00	6.24
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	27.959	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	27.959	0.00	6.24
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.008	0.000	28.538	0.00	1.64
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.008	0.000	28.538	0.00	6.24
46.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.008	0.000	28.701	0.00	0.49
46.50	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.008	0.000	28.701	0.00	1.87
50.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.008	0.000	29.065	0.00	1.15
50.00	Step bolts (ladder)	Yes	3.50	0.000	0.00	0.00	0.00	0.008	0.000	29.065	0.00	4.37
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.008	0.000	29.385	0.00	1.06
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.00	0.00	0.00	0.008	0.000	29.385	0.00	4.06
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.008	0.000	29.551	0.00	0.57
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.008	0.000	29.551	0.00	2.18
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.008	0.000	30.002	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.008	0.000	30.002	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	30.422	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	30.422	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	30.817	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	30.817	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	31.189	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	31.189	0.00	6.24
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	31.541	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	31.541	0.00	6.24
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	31.875	0.00	1.64
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	31.875	0.00	6.24
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	32.194	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	32.194	0.00	6.24
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	32.498	0.00	1.64
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	32.498	0.00	6.24
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.011	0.000	32.789	0.00	1.64
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.011	0.000	32.789	0.00	6.24
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.011	0.000	33.069	0.00	1.64
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.011	0.000	33.069	0.00	6.24
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.012	0.000	33.337	0.00	1.64

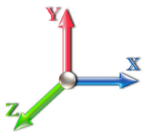
Linear Appurtenance Segment Forces (Factored)

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.012	0.000	33.337	0.00	6.24
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.012	0.000	33.596	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.012	0.000	33.596	0.00	6.24
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.013	0.000	33.845	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.013	0.000	33.845	0.00	6.24
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.013	0.000	34.087	0.00	1.64
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.013	0.000	34.087	0.00	6.24
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.014	0.000	34.320	0.00	1.64
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.014	0.000	34.320	0.00	6.24
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	34.546	0.00	1.64
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.015	0.000	34.546	0.00	6.24
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	34.765	0.00	1.64
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.015	0.000	34.765	0.00	6.24
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	34.978	0.00	1.64
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.016	0.000	34.978	0.00	6.24
145.25	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.017	0.000	34.988	0.00	0.08
145.25	Step bolts (ladder)	Yes	0.25	0.000	0.00	0.00	0.00	0.017	0.000	34.988	0.00	0.31
147.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.017	0.000	35.061	0.00	0.57
147.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.017	0.000	35.061	0.00	2.18
148.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.017	0.000	35.123	0.00	0.49
148.50	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.017	0.000	35.123	0.00	1.87
150.00	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.017	0.000	35.185	0.00	0.49
150.00	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.017	0.000	35.185	0.00	1.87
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	35.386	0.00	1.64
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.018	0.000	35.386	0.00	6.24
160.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	35.582	0.00	1.64
160.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.020	0.000	35.582	0.00	6.24
165.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	35.773	0.00	1.64
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.021	0.000	35.773	0.00	6.24
167.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	35.848	0.00	0.66
167.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.022	0.000	35.848	0.00	2.50
169.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	35.922	0.00	0.66
169.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.023	0.000	35.922	0.00	2.50
									Totals:		**0.0**	**266.3**

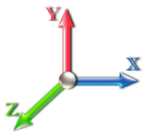
Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-54.52	-40.63	0.00	-5177.3	0.00	5177.31	5562.36	2781.18	13652.7	6836.50	0.00	0.000	0.000	0.767
5.00	-52.48	-40.13	0.00	-4974.1	0.00	4974.18	5482.35	2741.17	13146.4	6582.98	0.10	-0.193	0.000	0.765
10.00	-50.47	-39.63	0.00	-4773.5	0.00	4773.56	5400.13	2700.07	12644.0	6331.40	0.41	-0.392	0.000	0.764
15.00	-48.50	-39.15	0.00	-4575.4	0.00	4575.40	5315.71	2657.86	12145.8	6081.95	0.93	-0.597	0.000	0.762
20.00	-46.58	-38.63	0.00	-4379.6	0.00	4379.68	5229.08	2614.54	11652.3	5834.81	1.67	-0.809	0.000	0.760
25.00	-44.69	-38.10	0.00	-4186.5	0.00	4186.52	5140.25	2570.12	11163.7	5590.18	2.64	-1.026	0.000	0.758
30.00	-42.84	-37.56	0.00	-3996.0	0.00	3996.00	5049.20	2524.60	10680.6	5348.24	3.83	-1.251	0.000	0.756
35.00	-41.03	-37.02	0.00	-3808.1	0.00	3808.18	4955.95	2477.97	10203.2	5109.18	5.27	-1.482	0.000	0.754
40.00	-39.26	-36.46	0.00	-3623.1	0.00	3623.11	4860.49	2430.24	9731.91	4873.19	6.95	-1.721	0.000	0.752
45.00	-37.58	-35.85	0.00	-3440.8	0.00	3440.80	4762.82	2381.41	9267.12	4640.45	8.88	-1.968	0.000	0.750
46.50	-37.03	-35.71	0.00	-3387.0	0.00	3387.04	4733.09	2366.54	9129.00	4571.29	9.51	-2.046	0.000	0.749
50.00	-34.92	-35.28	0.00	-3262.0	0.00	3262.04	4662.94	2331.47	8809.20	4411.15	11.08	-2.227	0.000	0.747
53.25	-33.00	-34.85	0.00	-3147.3	0.00	3147.39	4662.03	2331.01	8805.10	4409.10	12.66	-2.400	0.000	0.721
55.00	-32.37	-34.69	0.00	-3086.4	0.00	3086.41	4626.54	2313.27	8646.55	4329.70	13.55	-2.496	0.000	0.720
60.00	-30.74	-34.11	0.00	-2912.9	0.00	2912.96	4523.67	2261.83	8198.57	4105.38	16.30	-2.753	0.000	0.717
65.00	-29.15	-33.52	0.00	-2742.4	0.00	2742.43	4418.66	2209.33	7758.49	3885.01	19.33	-3.019	0.000	0.713
70.00	-27.60	-32.95	0.00	-2574.8	0.00	2574.81	4277.83	2138.92	7269.40	3640.10	22.64	-3.293	0.000	0.714
75.00	-26.08	-32.37	0.00	-2410.0	0.00	2410.09	4137.00	2068.50	6796.24	3403.17	26.24	-3.577	0.000	0.715
80.00	-24.61	-31.81	0.00	-2248.2	0.00	2248.23	3996.18	1998.09	6339.00	3174.21	30.14	-3.870	0.000	0.715
85.00	-23.17	-31.25	0.00	-2089.2	0.00	2089.20	3855.35	1927.67	5897.69	2953.23	34.35	-4.172	0.000	0.714
90.00	-21.78	-30.69	0.00	-1932.9	0.00	1932.97	3714.52	1857.26	5472.29	2740.21	38.88	-4.485	0.000	0.712
95.00	-20.42	-30.15	0.00	-1779.5	0.00	1779.50	3573.69	1786.85	5062.82	2535.17	43.74	-4.807	0.000	0.708
100.00	-18.26	-29.53	0.00	-1628.7	0.00	1628.75	3014.30	1507.15	4208.99	2107.62	48.95	-5.139	0.000	0.779
105.00	-17.08	-29.00	0.00	-1481.1	0.00	1481.12	2893.59	1446.80	3876.87	1941.32	54.51	-5.482	0.000	0.769
110.00	-15.94	-28.49	0.00	-1336.1	0.00	1336.13	2772.88	1386.44	3558.41	1781.85	60.45	-5.862	0.000	0.756
115.00	-14.83	-27.98	0.00	-1193.7	0.00	1193.70	2652.17	1326.09	3253.59	1629.21	66.78	-6.250	0.000	0.739
120.00	-13.75	-27.49	0.00	-1053.7	0.00	1053.79	2531.46	1265.73	2962.42	1483.41	73.53	-6.644	0.000	0.716
125.00	-12.71	-27.00	0.00	-916.35	0.00	916.35	2410.75	1205.38	2684.90	1344.44	80.68	-7.041	0.000	0.687
130.00	-11.71	-26.53	0.00	-781.33	0.00	781.33	2290.04	1145.02	2421.02	1212.31	88.25	-7.437	0.000	0.650
135.00	-10.76	-26.07	0.00	-648.68	0.00	648.68	2169.33	1084.67	2170.80	1087.01	96.23	-7.827	0.000	0.602
140.00	-9.85	-25.61	0.00	-518.34	0.00	518.34	2048.62	1024.31	1934.22	968.55	104.61	-8.201	0.000	0.541
145.00	-9.05	-25.14	0.00	-390.29	0.00	390.29	1927.91	963.96	1711.29	856.92	113.36	-8.546	0.000	0.461
145.25	-8.99	-25.13	0.00	-384.00	0.00	384.00	1921.88	960.94	1700.50	851.51	113.80	-8.564	0.000	0.456
147.00	-7.01	-18.69	0.00	-340.03	0.00	340.03	1879.63	939.81	1625.94	814.18	116.95	-8.681	0.000	0.422
148.50	-6.72	-18.55	0.00	-311.99	0.00	311.99	907.84	453.92	797.93	399.56	119.69	-8.777	0.000	0.790
150.00	-6.51	-18.46	0.00	-284.17	0.00	284.17	895.57	447.78	771.95	386.55	122.45	-8.870	0.000	0.744
155.00	-6.03	-18.09	0.00	-191.88	0.00	191.88	853.23	426.61	687.23	344.13	131.97	-9.357	0.000	0.566
160.00	-2.85	-10.96	0.00	-101.42	0.00	101.42	807.76	403.88	604.95	302.92	141.94	-9.723	0.000	0.339
165.00	-2.60	-10.62	0.00	-46.60	0.00	46.60	747.41	373.70	517.50	259.13	152.21	-9.953	0.000	0.184
167.00	-0.50	-3.60	0.00	-10.53	0.00	10.53	723.26	361.63	484.43	242.57	156.38	-10.009	0.000	0.044
169.00	0.00	-3.45	0.00	-3.34	0.00	3.34	699.12	349.56	452.45	226.56	160.55	-10.021	0.000	0.015

Wind Loading - Shaft

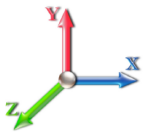
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	1.03	23.569	25.93	500.98	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	1.03	23.569	25.93	489.61	0.650	0.000	5.00	25.156	16.35	678.3	0.0	1254.9
10.00		1.00	1.03	23.569	25.93	478.24	0.650	0.000	5.00	24.579	15.98	662.7	0.0	1225.9
15.00		1.00	1.03	23.574	25.93	466.92	0.650	0.000	5.00	24.001	15.60	647.3	0.0	1196.9
20.00		1.00	1.08	24.784	27.26	467.09	0.650	0.000	5.00	23.423	15.23	664.1	0.0	1167.8
25.00		1.00	1.13	25.765	28.34	464.35	0.650	0.000	5.00	22.846	14.85	673.4	0.0	1138.8
30.00		1.00	1.16	26.595	29.25	459.69	0.650	0.000	5.00	22.268	14.47	677.5	0.0	1109.8
35.00		1.00	1.19	27.317	30.05	453.65	0.650	0.000	5.00	21.691	14.10	677.9	0.0	1080.8
40.00		1.00	1.22	27.959	30.75	446.56	0.650	0.000	5.00	21.113	13.72	675.3	0.0	1051.7
45.00		1.00	1.25	28.538	31.39	438.65	0.650	0.000	5.00	20.536	13.35	670.4	0.0	1022.7
46.50	Bot - Section 2	1.00	1.25	28.701	31.57	436.13	0.650	0.000	1.50	6.048	3.93	198.6	0.0	301.2
50.00		1.00	1.27	29.065	31.97	430.06	0.650	0.000	3.50	14.169	9.21	471.1	0.0	1398.1
53.25	Top - Section 1	1.00	1.28	29.385	32.32	424.16	0.650	0.000	3.25	12.904	8.39	433.8	0.0	1272.8
55.00		1.00	1.29	29.551	32.51	429.06	0.650	0.000	1.75	6.847	4.45	231.5	0.0	340.8
60.00		1.00	1.31	30.002	33.00	419.49	0.650	0.000	5.00	19.173	12.46	658.1	0.0	954.2
65.00		1.00	1.33	30.422	33.46	409.50	0.650	0.000	5.00	18.596	12.09	647.2	0.0	925.2
70.00		1.00	1.35	30.817	33.90	399.15	0.650	0.000	5.00	18.018	11.71	635.2	0.0	896.2
75.00		1.00	1.36	31.189	34.31	388.47	0.650	0.000	5.00	17.440	11.34	622.3	0.0	867.2
80.00		1.00	1.38	31.541	34.70	377.50	0.650	0.000	5.00	16.863	10.96	608.5	0.0	838.1
85.00		1.00	1.39	31.875	35.06	366.27	0.650	0.000	5.00	16.285	10.59	593.9	0.0	809.1
90.00		1.00	1.41	32.194	35.41	354.81	0.650	0.000	5.00	15.708	10.21	578.5	0.0	780.1
95.00	Bot - Section 3	1.00	1.42	32.498	35.75	343.12	0.650	0.000	5.00	15.130	9.83	562.5	0.0	751.1
100.00	Top - Section 2	1.00	1.43	32.789	36.07	331.25	0.650	0.000	5.00	14.870	9.67	557.8	0.0	1355.7
105.00		1.00	1.45	33.069	36.38	326.59	0.650	0.000	5.00	14.292	9.29	540.7	0.0	608.8
110.00		1.00	1.46	33.337	36.67	314.38	0.650	0.000	5.00	13.715	8.91	523.1	0.0	583.9
115.00		1.00	1.47	33.596	36.96	302.03	0.650	0.000	5.00	13.137	8.54	504.9	0.0	559.1
120.00		1.00	1.48	33.845	37.23	289.52	0.650	0.000	5.00	12.560	8.16	486.3	0.0	534.2
125.00		1.00	1.49	34.087	37.50	276.87	0.650	0.000	5.00	11.982	7.79	467.2	0.0	509.3
130.00		1.00	1.50	34.320	37.75	264.10	0.650	0.000	5.00	11.405	7.41	447.8	0.0	484.4
135.00		1.00	1.51	34.546	38.00	251.20	0.650	0.000	5.00	10.827	7.04	427.9	0.0	459.5
140.00		1.00	1.52	34.765	38.24	238.18	0.650	0.000	5.00	10.249	6.66	407.6	0.0	434.7
145.00		1.00	1.53	34.978	38.48	225.06	0.650	0.000	5.00	9.672	6.29	387.0	0.0	409.8
145.25	Bot - Section 4	1.00	1.53	34.988	38.49	224.40	0.650	0.000	0.25	0.468	0.30	18.7	0.0	19.8
147.00	Appurtenance(s)	1.00	1.53	35.061	38.57	219.78	0.650	0.000	1.75	3.294	2.14	132.1	0.0	207.5
148.50	Top - Section 3	1.00	1.53	35.123	38.64	215.81	0.650	0.000	1.50	2.767	1.80	111.2	0.0	174.2
150.00		1.00	1.54	35.185	38.70	215.64	0.650	0.000	1.50	2.715	1.76	109.3	0.0	58.0
155.00		1.00	1.55	35.386	38.92	202.33	0.650	0.000	5.00	8.675	5.64	351.2	0.0	185.1
160.00	Appurtenance(s)	1.00	1.55	35.582	39.14	188.91	0.650	0.000	5.00	8.098	5.26	329.6	0.0	172.7
165.00		1.00	1.56	35.773	39.35	175.41	0.650	0.000	5.00	7.520	4.89	307.8	0.0	160.3
167.00	Appurtenance(s)	1.00	1.57	35.848	39.43	169.99	0.650	0.000	2.00	2.846	1.85	116.7	0.0	60.6
169.00	Appurtenance(s)	1.00	1.57	35.922	39.51	164.55	0.650	0.000	2.00	2.754	1.79	113.2	0.0	58.6
								Totals:	**169.00**			**18,608.1**		**27,419.7**

Discrete Appurtenance Forces

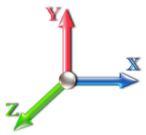
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	169.00	CCI DTMABP7819VG12A	3	35.959	39.555	0.60	0.90	2.06	51.79	0.000	1.000	130.52	0.00	130.52
2	169.00	AM-X-CD-16-65-00T-RET	1	35.959	39.555	0.75	1.00	6.01	43.65	0.000	1.000	380.68	0.00	380.68
3	169.00	KMW	1	35.959	39.555	0.75	1.00	3.75	32.76	0.000	1.000	237.33	0.00	237.33
4	169.00	Andrew SBNH-1D6565C	1	35.959	39.555	0.80	1.00	9.18	54.72	0.000	1.000	580.73	0.00	580.73
5	169.00	4449 B5/B12	3	35.959	39.555	0.60	0.90	3.56	191.70	0.000	1.000	225.54	0.00	225.54
6	169.00	DMP65R-BU6DA	1	35.959	39.555	0.65	0.90	8.25	71.46	0.000	1.000	521.97	0.00	521.97
7	169.00	DMP65R-BU8DA	1	35.959	39.555	0.65	0.90	11.69	86.13	0.000	1.000	739.98	0.00	739.98
8	169.00	RRUS 4478 B14	3	35.959	39.555	0.60	0.90	2.98	160.38	0.000	1.000	188.90	0.00	188.90
9	169.00	DMP65R-BU4DA	1	35.959	39.555	0.64	0.90	5.31	61.11	0.000	1.000	335.79	0.00	335.79
10	167.00	SBNHH-1D65A	2	35.959	39.555	0.75	0.90	8.78	60.30	0.000	3.000	555.97	0.00	1667.90
11	167.00	Reinforced T-Arms	3	35.848	39.433	0.56	0.75	23.63	1215.00	0.000	0.000	1490.55	0.00	0.00
12	167.00	HPA-65R-BBU-H8	2	35.959	39.555	0.71	0.90	18.46	122.40	0.000	3.000	1168.14	0.00	3504.42
13	167.00	HPA-65R-BUU-H6	2	35.959	39.555	0.77	0.90	14.78	91.80	0.000	3.000	935.38	0.00	2806.14
14	167.00	Ericsson RRUS-E2 RRUs	3	35.959	39.555	0.60	0.90	7.00	162.00	0.000	3.000	443.07	0.00	1329.20
15	167.00	Ericsson RRUS-12 RRUs	6	35.959	39.555	0.60	0.90	11.40	313.20	0.000	3.000	721.27	0.00	2163.82
16	167.00	Ericsson RRUS 32 RRUs	3	35.959	39.555	0.60	0.90	7.00	207.90	0.000	3.000	443.07	0.00	1329.20
17	167.00	Ericsson RRUS A2	6	35.959	39.555	0.60	0.90	6.73	118.80	0.000	3.000	425.89	0.00	1277.68
18	167.00	Raycap DC6-48-60-18-8F	3	35.959	39.555	0.90	0.90	3.97	88.56	0.000	3.000	251.19	0.00	753.57
19	160.00	PRK-SFS-L	1	35.582	39.140	0.75	0.75	12.45	354.60	0.000	0.000	779.67	0.00	0.00
20	160.00	PRK-1245L	1	35.582	39.140	0.75	0.75	7.13	418.42	0.000	0.000	446.20	0.00	0.00
21	160.00	Ericsson Radio 4449	3	35.582	39.140	0.54	0.80	2.65	189.00	0.000	0.000	166.15	0.00	0.00
22	160.00	Ericsson KRY 112 144/1	3	35.582	39.140	0.56	0.80	0.69	29.70	0.000	0.000	43.14	0.00	0.00
23	160.00	APXVAARR24_43-U-NA2	3	35.582	39.140	0.56	0.80	34.00	345.60	0.000	0.000	2129.42	0.00	0.00
24	160.00	Air 21 B4A/B2P	3	35.582	39.140	0.69	0.80	12.57	244.08	0.000	0.000	787.17	0.00	0.00
25	160.00	Air 21 B2A/B4P	3	35.582	39.140	0.69	0.80	12.57	247.05	0.000	0.000	787.17	0.00	0.00
26	160.00	T-Arm	3	35.582	39.140	0.56	0.75	16.88	1080.00	0.000	0.000	1056.78	0.00	0.00
27	147.00	Alcatel 2x60-1900 RRH	3	35.061	38.567	0.54	0.80	2.43	108.00	0.000	0.000	149.83	0.00	0.00
28	147.00	Swedcom SC-E 6014 rev2	4	35.061	38.567	0.78	0.80	10.34	54.00	0.000	0.000	637.83	0.00	0.00
29	147.00	Antel LPA-80080/4CF	2	35.061	38.567	1.36	0.80	7.10	21.60	0.000	0.000	438.08	0.00	0.00
30	147.00	RRH 2X90 AWS	3	35.061	38.567	0.54	0.80	5.63	172.80	0.000	0.000	347.29	0.00	0.00
31	147.00	Low Profile Platform	1	35.061	38.567	1.00	1.00	26.00	1080.00	0.000	0.000	1604.41	0.00	0.00
32	147.00	Andrew SBNHH-1D65B	6	35.061	38.567	0.66	0.80	32.19	216.00	0.000	0.000	1986.42	0.00	0.00
33	147.00	ALU 2X60-770 U RRH	3	35.061	38.567	0.54	0.80	5.63	150.12	0.000	0.000	347.29	0.00	0.00
34	147.00	FD9R6004/2C-3L	6	35.061	38.567	0.80	0.80	1.73	16.74	0.000	0.000	106.63	0.00	0.00
35	147.00	RFS DB-T1-6Z-8AB-0Z	2	35.061	38.567	0.57	0.80	5.45	79.20	0.000	0.000	336.48	0.00	0.00
							Totals:		**7,940.57**			**21,925.93**		

Total Applied Force Summary

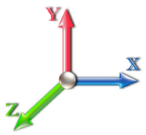
Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	10/29/2020
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 17

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		678.29	1430.74	0.00	0.00
10.00		662.71	1401.72	0.00	0.00
15.00		647.29	1372.69	0.00	0.00
20.00		664.12	1343.67	0.00	0.00
25.00		673.38	1314.64	0.00	0.00
30.00		677.50	1285.62	0.00	0.00
35.00		677.86	1256.59	0.00	0.00
40.00		675.31	1227.57	0.00	0.00
45.00		670.43	1198.54	0.00	0.00
46.50		198.58	353.90	0.00	0.00
50.00		471.14	1521.17	0.00	0.00
53.25		433.78	1387.05	0.00	0.00
55.00		231.48	402.38	0.00	0.00
60.00		658.06	1130.07	0.00	0.00
65.00		647.19	1101.04	0.00	0.00
70.00		635.22	1072.02	0.00	0.00
75.00		622.28	1042.99	0.00	0.00
80.00		608.46	1013.97	0.00	0.00
85.00		593.85	984.94	0.00	0.00
90.00		578.51	955.92	0.00	0.00
95.00		562.51	926.89	0.00	0.00
100.00		557.78	1531.57	0.00	0.00
105.00		540.69	784.65	0.00	0.00
110.00		523.05	759.77	0.00	0.00
115.00		504.91	734.89	0.00	0.00
120.00		486.30	710.01	0.00	0.00
125.00		467.25	685.13	0.00	0.00
130.00		447.77	660.25	0.00	0.00
135.00		427.89	635.38	0.00	0.00
140.00		407.63	610.50	0.00	0.00
145.00		387.02	585.62	0.00	0.00
145.25		18.75	28.63	0.00	0.00
147.00	(30) attachments	6086.39	2167.46	0.00	0.00
148.50		111.19	209.93	0.00	0.00
150.00		109.29	93.71	0.00	0.00
155.00		351.20	304.27	0.00	0.00
160.00	(20) attachments	6525.33	3200.28	0.00	0.00
165.00		307.76	217.47	0.00	0.00
167.00	(30) attachments	6551.26	2463.47	0.00	14831.93
169.00	(15) attachments	3454.62	835.21	0.00	3341.44
	Totals:	**40,534.01**	**40,942.33**	**0.00**	**18,173.37**

Linear Appurtenance Segment Forces (Factored)

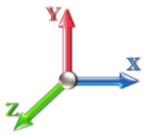
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.006	0.000	23.569	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.006	0.000	23.569	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.006	0.000	23.569	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.006	0.000	23.569	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	23.574	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	23.574	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	24.784	0.00	1.23
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	24.784	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	25.765	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	25.765	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	26.595	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	26.595	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	27.317	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	27.317	0.00	4.68
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	27.959	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	27.959	0.00	4.68
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.008	0.000	28.538	0.00	1.23
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.008	0.000	28.538	0.00	4.68
46.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.008	0.000	28.701	0.00	0.37
46.50	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.008	0.000	28.701	0.00	1.40
50.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.008	0.000	29.065	0.00	0.86
50.00	Step bolts (ladder)	Yes	3.50	0.000	0.00	0.00	0.00	0.008	0.000	29.065	0.00	3.28
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.008	0.000	29.385	0.00	0.80
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.00	0.00	0.00	0.008	0.000	29.385	0.00	3.04
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.008	0.000	29.551	0.00	0.43
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.008	0.000	29.551	0.00	1.64
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.008	0.000	30.002	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.008	0.000	30.002	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	30.422	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	30.422	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	30.817	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	30.817	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	31.189	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	31.189	0.00	4.68
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	31.541	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	31.541	0.00	4.68
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	31.875	0.00	1.23
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	31.875	0.00	4.68
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	32.194	0.00	1.23
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	32.194	0.00	4.68
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	32.498	0.00	1.23
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	32.498	0.00	4.68
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.011	0.000	32.789	0.00	1.23
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.011	0.000	32.789	0.00	4.68
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.011	0.000	33.069	0.00	1.23
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.011	0.000	33.069	0.00	4.68
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.012	0.000	33.337	0.00	1.23

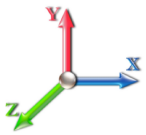
Linear Appurtenance Segment Forces (Factored)

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.012	0.000	33.337	0.00	4.68
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.012	0.000	33.596	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.012	0.000	33.596	0.00	4.68
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.013	0.000	33.845	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.013	0.000	33.845	0.00	4.68
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.013	0.000	34.087	0.00	1.23
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.013	0.000	34.087	0.00	4.68
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.014	0.000	34.320	0.00	1.23
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.014	0.000	34.320	0.00	4.68
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	34.546	0.00	1.23
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.015	0.000	34.546	0.00	4.68
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	34.765	0.00	1.23
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.015	0.000	34.765	0.00	4.68
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	34.978	0.00	1.23
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.016	0.000	34.978	0.00	4.68
145.25	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.017	0.000	34.988	0.00	0.06
145.25	Step bolts (ladder)	Yes	0.25	0.000	0.00	0.00	0.00	0.017	0.000	34.988	0.00	0.23
147.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.017	0.000	35.061	0.00	0.43
147.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.017	0.000	35.061	0.00	1.64
148.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.017	0.000	35.123	0.00	0.37
148.50	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.017	0.000	35.123	0.00	1.40
150.00	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.017	0.000	35.185	0.00	0.37
150.00	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.017	0.000	35.185	0.00	1.40
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	35.386	0.00	1.23
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.018	0.000	35.386	0.00	4.68
160.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	35.582	0.00	1.23
160.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.020	0.000	35.582	0.00	4.68
165.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	35.773	0.00	1.23
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.021	0.000	35.773	0.00	4.68
167.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	35.848	0.00	0.49
167.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.022	0.000	35.848	0.00	1.87
169.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	35.922	0.00	0.49
169.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.023	0.000	35.922	0.00	1.87
									Totals:		**0.0**	**199.7**

Calculated Forces

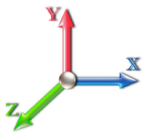
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-40.87	-40.60	0.00	-5113.1	0.00	5113.11	5562.36	2781.18	13652.7	6836.50	0.00	0.000	0.000	0.755
5.00	-39.31	-40.06	0.00	-4910.1	0.00	4910.10	5482.35	2741.17	13146.4	6582.98	0.10	-0.191	0.000	0.753
10.00	-37.77	-39.52	0.00	-4709.8	0.00	4709.83	5400.13	2700.07	12644.0	6331.40	0.41	-0.387	0.000	0.751
15.00	-36.27	-38.99	0.00	-4512.2	0.00	4512.24	5315.71	2657.86	12145.8	6081.95	0.92	-0.590	0.000	0.749
20.00	-34.79	-38.44	0.00	-4317.3	0.00	4317.30	5229.08	2614.54	11652.3	5834.81	1.65	-0.798	0.000	0.747
25.00	-33.34	-37.87	0.00	-4125.1	0.00	4125.12	5140.25	2570.12	11163.7	5590.18	2.60	-1.012	0.000	0.745
30.00	-31.92	-37.29	0.00	-3935.7	0.00	3935.78	5049.20	2524.60	10680.6	5348.24	3.78	-1.233	0.000	0.742
35.00	-30.53	-36.71	0.00	-3749.3	0.00	3749.32	4955.95	2477.97	10203.2	5109.18	5.20	-1.461	0.000	0.740
40.00	-29.18	-36.12	0.00	-3565.7	0.00	3565.78	4860.49	2430.24	9731.91	4873.19	6.85	-1.696	0.000	0.738
45.00	-27.90	-35.49	0.00	-3385.1	0.00	3385.17	4762.82	2381.41	9267.12	4640.45	8.76	-1.939	0.000	0.736
46.50	-27.48	-35.34	0.00	-3331.9	0.00	3331.93	4733.09	2366.54	9129.00	4571.29	9.38	-2.016	0.000	0.735
50.00	-25.87	-34.89	0.00	-3208.2	0.00	3208.24	4662.94	2331.47	8809.20	4411.15	10.92	-2.194	0.000	0.733
53.25	-24.42	-34.46	0.00	-3094.8	0.00	3094.83	4662.03	2331.01	8805.10	4409.10	12.48	-2.365	0.000	0.707
55.00	-23.92	-34.29	0.00	-3034.5	0.00	3034.53	4626.54	2313.27	8646.55	4329.70	13.36	-2.459	0.000	0.706
60.00	-22.67	-33.68	0.00	-2863.1	0.00	2863.10	4523.67	2261.83	8198.57	4105.38	16.07	-2.712	0.000	0.703
65.00	-21.45	-33.08	0.00	-2694.7	0.00	2694.70	4418.66	2209.33	7758.49	3885.01	19.05	-2.973	0.000	0.699
70.00	-20.26	-32.48	0.00	-2529.3	0.00	2529.30	4277.83	2138.92	7269.40	3640.10	22.31	-3.242	0.000	0.700
75.00	-19.10	-31.90	0.00	-2366.8	0.00	2366.88	4137.00	2068.50	6796.24	3403.17	25.85	-3.521	0.000	0.700
80.00	-17.97	-31.32	0.00	-2207.4	0.00	2207.41	3996.18	1998.09	6339.00	3174.21	29.69	-3.808	0.000	0.700
85.00	-16.86	-30.74	0.00	-2050.8	0.00	2050.83	3855.35	1927.67	5897.69	2953.23	33.83	-4.105	0.000	0.699
90.00	-15.79	-30.18	0.00	-1897.1	0.00	1897.11	3714.52	1857.26	5472.29	2740.21	38.29	-4.412	0.000	0.697
95.00	-14.74	-29.63	0.00	-1746.1	0.00	1746.19	3573.69	1786.85	5062.82	2535.17	43.08	-4.728	0.000	0.693
100.00	-13.10	-29.02	0.00	-1598.0	0.00	1598.04	3014.30	1507.15	4208.99	2107.62	48.20	-5.055	0.000	0.763
105.00	-12.19	-28.49	0.00	-1452.9	0.00	1452.93	2893.59	1446.80	3876.87	1941.32	53.67	-5.390	0.000	0.753
110.00	-11.30	-27.97	0.00	-1310.4	0.00	1310.49	2772.88	1386.44	3558.41	1781.85	59.50	-5.763	0.000	0.740
115.00	-10.44	-27.46	0.00	-1170.6	0.00	1170.65	2652.17	1326.09	3253.59	1629.21	65.73	-6.144	0.000	0.723
120.00	-9.60	-26.96	0.00	-1033.3	0.00	1033.35	2531.46	1265.73	2962.42	1483.41	72.36	-6.530	0.000	0.701
125.00	-8.80	-26.48	0.00	-898.53	0.00	898.53	2410.75	1205.38	2684.90	1344.44	79.40	-6.920	0.000	0.672
130.00	-8.02	-26.01	0.00	-766.13	0.00	766.13	2290.04	1145.02	2421.02	1212.31	86.84	-7.308	0.000	0.636
135.00	-7.28	-25.55	0.00	-636.09	0.00	636.09	2169.33	1084.67	2170.80	1087.01	94.68	-7.690	0.000	0.589
140.00	-6.58	-25.10	0.00	-508.34	0.00	508.34	2048.62	1024.31	1934.22	968.55	102.91	-8.057	0.000	0.529
145.00	-5.98	-24.65	0.00	-382.82	0.00	382.82	1927.91	963.96	1711.29	856.92	111.50	-8.396	0.000	0.450
145.25	-5.93	-24.64	0.00	-376.66	0.00	376.66	1921.88	960.94	1700.50	851.51	111.94	-8.413	0.000	0.446
147.00	-4.65	-18.31	0.00	-333.54	0.00	333.54	1879.63	939.81	1625.94	814.18	115.04	-8.528	0.000	0.413
148.50	-4.43	-18.17	0.00	-306.08	0.00	306.08	907.84	453.92	797.93	399.56	117.72	-8.622	0.000	0.773
150.00	-4.25	-18.07	0.00	-278.82	0.00	278.82	895.57	447.78	771.95	386.55	120.44	-8.714	0.000	0.728
155.00	-3.88	-17.71	0.00	-188.44	0.00	188.44	853.23	426.61	687.23	344.13	129.80	-9.191	0.000	0.554
160.00	-1.73	-10.76	0.00	-99.90	0.00	99.90	807.76	403.88	604.95	302.92	139.59	-9.551	0.000	0.333
165.00	-1.55	-10.42	0.00	-46.11	0.00	46.11	747.41	373.70	517.50	259.13	149.68	-9.778	0.000	0.181
167.00	-0.23	-3.55	0.00	-10.43	0.00	10.43	723.26	361.63	484.43	242.57	153.77	-9.834	0.000	0.043
169.00	0.00	-3.45	0.00	-3.34	0.00	3.34	699.12	349.56	452.45	226.56	157.87	-9.846	0.000	0.015

Wind Loading - Shaft

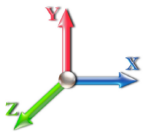
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

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 25

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	1.03	6.262	6.89	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	1.03	6.262	6.89	0.00	1.200	1.242	5.00	26.191	31.43	216.5	467.0	2140.2
10.00		1.00	1.03	6.262	6.89	0.00	1.200	1.331	5.00	25.688	30.83	212.3	489.9	2124.4
15.00		1.00	1.03	6.264	6.89	0.00	1.200	1.386	5.00	25.156	30.19	208.0	498.7	2094.6
20.00		1.00	1.08	6.585	7.24	0.00	1.200	1.427	5.00	24.612	29.53	213.9	501.4	2058.6
25.00		1.00	1.13	6.846	7.53	0.00	1.200	1.459	5.00	24.062	28.87	217.4	500.6	2019.0
30.00		1.00	1.16	7.066	7.77	0.00	1.200	1.486	5.00	23.506	28.21	219.3	497.3	1977.0
35.00		1.00	1.19	7.258	7.98	0.00	1.200	1.509	5.00	22.948	27.54	219.9	492.3	1933.4
40.00		1.00	1.22	7.429	8.17	0.00	1.200	1.529	5.00	22.387	26.86	219.5	486.1	1888.4
45.00		1.00	1.25	7.583	8.34	0.00	1.200	1.547	5.00	21.825	26.19	218.4	478.8	1842.4
46.50	Bot - Section 2	1.00	1.25	7.626	8.39	0.00	1.200	1.552	1.50	6.436	7.72	64.8	142.9	544.5
50.00		1.00	1.27	7.723	8.50	0.00	1.200	1.564	3.50	15.081	18.10	153.7	335.4	2199.6
53.25	Top - Section 1	1.00	1.28	7.808	8.59	0.00	1.200	1.574	3.25	13.756	16.51	141.8	307.8	2004.8
55.00		1.00	1.29	7.852	8.64	0.00	1.200	1.579	1.75	7.307	8.77	75.7	164.7	619.1
60.00		1.00	1.31	7.972	8.77	0.00	1.200	1.592	5.00	20.500	24.60	215.7	461.1	1733.4
65.00		1.00	1.33	8.083	8.89	0.00	1.200	1.605	5.00	19.933	23.92	212.7	451.2	1684.8
70.00		1.00	1.35	8.188	9.01	0.00	1.200	1.617	5.00	19.366	23.24	209.3	440.8	1635.7
75.00		1.00	1.36	8.287	9.12	0.00	1.200	1.628	5.00	18.797	22.56	205.6	430.0	1586.3
80.00		1.00	1.38	8.381	9.22	0.00	1.200	1.639	5.00	18.229	21.87	201.7	418.9	1536.4
85.00		1.00	1.39	8.469	9.32	0.00	1.200	1.649	5.00	17.659	21.19	197.4	407.4	1486.3
90.00		1.00	1.41	8.554	9.41	0.00	1.200	1.658	5.00	17.090	20.51	193.0	395.7	1435.8
95.00	Bot - Section 3	1.00	1.42	8.635	9.50	0.00	1.200	1.667	5.00	16.520	19.82	188.3	383.7	1385.1
100.00	Top - Section 2	1.00	1.43	8.712	9.58	0.00	1.200	1.676	5.00	16.267	19.52	187.1	379.3	2186.9
105.00		1.00	1.45	8.786	9.67	0.00	1.200	1.684	5.00	15.696	18.83	182.0	366.8	1178.6
110.00		1.00	1.46	8.858	9.74	0.00	1.200	1.692	5.00	15.125	18.15	176.8	354.1	1132.7
115.00		1.00	1.47	8.927	9.82	0.00	1.200	1.699	5.00	14.554	17.46	171.5	341.2	1086.7
120.00		1.00	1.48	8.993	9.89	0.00	1.200	1.707	5.00	13.982	16.78	166.0	328.2	1040.4
125.00		1.00	1.49	9.057	9.96	0.00	1.200	1.714	5.00	13.410	16.09	160.3	314.9	994.0
130.00		1.00	1.50	9.119	10.03	0.00	1.200	1.720	5.00	12.838	15.41	154.5	301.5	947.4
135.00		1.00	1.51	9.179	10.10	0.00	1.200	1.727	5.00	12.266	14.72	148.6	288.0	900.7
140.00		1.00	1.52	9.237	10.16	0.00	1.200	1.733	5.00	11.694	14.03	142.6	274.2	853.8
145.00		1.00	1.53	9.294	10.22	0.00	1.200	1.739	5.00	11.121	13.35	136.4	260.4	806.8
145.25	Bot - Section 4	1.00	1.53	9.297	10.23	0.00	1.200	1.740	0.25	0.541	0.65	6.6	13.0	39.4
147.00	Appurtenance(s)	1.00	1.53	9.316	10.25	0.00	1.200	1.742	1.75	3.802	4.56	46.8	90.6	367.2
148.50	Top - Section 3	1.00	1.53	9.332	10.27	0.00	1.200	1.743	1.50	3.203	3.84	39.5	76.4	308.7
150.00		1.00	1.54	9.349	10.28	0.00	1.200	1.745	1.50	3.152	3.78	38.9	75.2	152.4
155.00		1.00	1.55	9.402	10.34	0.00	1.200	1.751	5.00	10.135	12.16	125.8	236.4	483.3
160.00	Appurtenance(s)	1.00	1.55	9.454	10.40	0.00	1.200	1.757	5.00	9.562	11.47	119.3	222.2	452.5
165.00		1.00	1.56	9.505	10.46	0.00	1.200	1.762	5.00	8.989	10.79	112.8	207.9	421.6
167.00	Appurtenance(s)	1.00	1.57	9.525	10.48	0.00	1.200	1.764	2.00	3.434	4.12	43.2	80.8	161.7
169.00	Appurtenance(s)	1.00	1.57	9.545	10.50	0.00	1.200	1.766	2.00	3.343	4.01	42.1	78.5	156.7
								Totals:	**169.00**			**6,205.8**		**49,601.0**

Discrete Appurtenance Forces

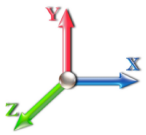
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

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 25

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	169.00	CCI DTMABP7819VG12A	3	9.554	10.510	0.60	0.90	3.47	124.49	0.000	1.000	36.48	0.00	36.48
2	169.00	AM-X-CD-16-65-00T-RET	1	9.554	10.510	0.75	1.00	8.14	175.92	0.000	1.000	85.50	0.00	85.50
3	169.00	KMW	1	9.554	10.510	0.75	1.00	5.17	124.64	0.000	1.000	54.36	0.00	54.36
4	169.00	Andrew SBNH-1D6565C	1	9.554	10.510	0.80	1.00	11.81	215.75	0.000	1.000	124.10	0.00	124.10
5	169.00	4449 B5/B12	3	9.554	10.510	0.60	0.90	4.57	376.86	0.000	1.000	47.99	0.00	47.99
6	169.00	DMP65R-BU6DA	1	9.554	10.510	0.67	0.90	9.49	386.70	0.000	1.000	99.78	0.00	99.78
7	169.00	DMP65R-BU8DA	1	9.554	10.510	0.67	0.90	13.24	496.91	0.000	1.000	139.12	0.00	139.12
8	169.00	RRUS 4478 B14	3	9.554	10.510	0.60	0.90	3.93	311.53	0.000	1.000	41.34	0.00	41.34
9	169.00	DMP65R-BU4DA	1	9.554	10.510	0.66	0.90	6.30	397.20	0.000	1.000	66.19	0.00	66.19
10	167.00	SBNHH-1D65A	2	9.554	10.510	0.75	0.90	10.42	401.23	0.000	3.000	109.49	0.00	328.46
11	167.00	Reinforced T-Arms	3	9.525	10.477	0.56	0.75	44.46	2482.59	0.000	0.000	465.85	0.00	0.00
12	167.00	HPA-65R-BBU-H8	2	9.554	10.510	0.71	0.90	20.78	752.62	0.000	3.000	218.40	0.00	655.21
13	167.00	HPA-65R-BUU-H6	2	9.554	10.510	0.77	0.90	16.89	624.85	0.000	3.000	177.56	0.00	532.67
14	167.00	Ericsson RRUS-E2 RRUs	3	9.554	10.510	0.60	0.90	7.01	505.95	0.000	3.000	73.63	0.00	220.89
15	167.00	Ericsson RRUS-12 RRUs	6	9.554	10.510	0.60	0.90	14.01	997.49	0.000	3.000	147.26	0.00	441.77
16	167.00	Ericsson RRUS 32 RRUs	3	9.554	10.510	0.60	0.90	7.44	622.42	0.000	3.000	78.24	0.00	234.73
17	167.00	Ericsson RRUS A2	6	9.554	10.510	0.60	0.90	10.29	329.27	0.000	3.000	108.16	0.00	324.47
18	167.00	Raycap DC6-48-60-18-8F	3	9.554	10.510	0.90	0.90	5.88	252.45	0.000	3.000	61.79	0.00	185.36
19	160.00	PRK-SFS-L	1	9.454	10.400	0.75	0.75	21.63	1021.41	0.000	0.000	224.99	0.00	0.00
20	160.00	PRK-1245L	1	9.454	10.400	0.75	0.75	14.63	789.45	0.000	0.000	152.19	0.00	0.00
21	160.00	Ericsson Radio 4449	3	9.454	10.400	0.54	0.80	3.52	458.41	0.000	0.000	36.65	0.00	0.00
22	160.00	Ericsson KRY 112 144/1	3	9.454	10.400	0.56	0.80	1.49	62.85	0.000	0.000	15.52	0.00	0.00
23	160.00	APXVAARR24_43-U-NA2	3	9.454	10.400	0.56	0.80	37.22	1723.76	0.000	0.000	387.04	0.00	0.00
24	160.00	Air 21 B4A/B2P	3	9.454	10.400	0.69	0.80	14.85	836.02	0.000	0.000	154.44	0.00	0.00
25	160.00	Air 21 B2A/B4P	3	9.454	10.400	0.69	0.80	14.85	839.98	0.000	0.000	154.44	0.00	0.00
26	160.00	T-Arm	3	9.454	10.400	0.56	0.75	31.70	2043.13	0.000	0.000	329.62	0.00	0.00
27	147.00	Alcatel 2x60-1900 RRH	3	9.316	10.247	0.54	0.80	3.96	344.91	0.000	0.000	40.62	0.00	0.00
28	147.00	Swedcom SC-E 6014 rev2	4	9.316	10.247	0.78	0.80	15.51	341.98	0.000	0.000	158.90	0.00	0.00
29	147.00	Antel LPA-80080/4CF	2	9.316	10.247	1.36	0.80	9.41	299.04	0.000	0.000	96.48	0.00	0.00
30	147.00	RRH 2X90 AWS	3	9.316	10.247	0.54	0.80	6.89	475.86	0.000	0.000	70.65	0.00	0.00
31	147.00	Low Profile Platform	1	9.316	10.247	1.00	1.00	47.74	2185.02	0.000	0.000	489.18	0.00	0.00
32	147.00	Andrew SBNHH-1D65B	6	9.316	10.247	0.66	0.80	37.68	1503.87	0.000	0.000	386.10	0.00	0.00
33	147.00	ALU 2X60-770 U RRH	3	9.316	10.247	0.54	0.80	6.89	368.83	0.000	0.000	70.65	0.00	0.00
34	147.00	FD9R6004/2C-3L	6	9.316	10.247	0.80	0.80	3.85	56.58	0.000	0.000	39.47	0.00	0.00
35	147.00	RFS DB-T1-6Z-8AB-0Z	2	9.316	10.247	0.57	0.80	6.44	392.37	0.000	0.000	66.03	0.00	0.00
							Totals:		**23,322.35**			**5,008.20**		

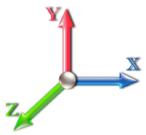
Total Applied Force Summary

Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	10/29/2020
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 23

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		216.51	2398.55	0.00	0.00
10.00		212.35	2385.86	0.00	0.00
15.00		208.00	2358.09	0.00	0.00
20.00		213.94	2323.64	0.00	0.00
25.00		217.43	2285.32	0.00	0.00
30.00		219.26	2244.44	0.00	0.00
35.00		219.86	2201.71	0.00	0.00
40.00		219.53	2157.57	0.00	0.00
45.00		218.45	2112.31	0.00	0.00
46.50		64.79	625.50	0.00	0.00
50.00		153.74	2388.99	0.00	0.00
53.25		141.77	2181.00	0.00	0.00
55.00		75.74	714.04	0.00	0.00
60.00		215.71	2005.21	0.00	0.00
65.00		212.69	1957.16	0.00	0.00
70.00		209.31	1908.62	0.00	0.00
75.00		205.62	1859.64	0.00	0.00
80.00		201.65	1810.27	0.00	0.00
85.00		197.42	1760.55	0.00	0.00
90.00		192.96	1710.52	0.00	0.00
95.00		188.29	1660.19	0.00	0.00
100.00		187.07	2462.41	0.00	0.00
105.00		182.04	1454.42	0.00	0.00
110.00		176.84	1408.92	0.00	0.00
115.00		171.48	1363.21	0.00	0.00
120.00		165.97	1317.30	0.00	0.00
125.00		160.32	1271.20	0.00	0.00
130.00		154.53	1224.93	0.00	0.00
135.00		148.62	1178.50	0.00	0.00
140.00		142.58	1131.90	0.00	0.00
145.00		136.43	1085.17	0.00	0.00
145.25		6.64	53.35	0.00	0.00
147.00	(30) attachments	1464.83	6433.17	0.00	0.00
148.50		39.46	369.56	0.00	0.00
150.00		38.89	213.36	0.00	0.00
155.00		125.78	686.60	0.00	0.00
160.00	(20) attachments	1574.21	8431.07	0.00	0.00
165.00		112.78	542.84	0.00	0.00
167.00	(30) attachments	1483.55	7179.10	0.00	2923.55
169.00	(15) attachments	736.98	2815.31	0.00	694.86
	Totals:	**11,214.03**	**81,671.52**	**0.00**	**3,618.41**

Linear Appurtenance Segment Forces (Factored)

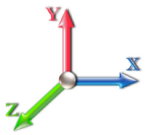
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

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 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	1.19	0.00	0.006	0.000	6.262	0.00	12.93
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.006	0.000	6.262	0.00	18.85
10.00	Safety Cable	Yes	5.00	0.000	0.38	1.27	0.00	0.006	0.000	6.262	0.00	14.46
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.006	0.000	6.262	0.00	20.46
15.00	Safety Cable	Yes	5.00	0.000	0.38	1.31	0.00	0.007	0.000	6.264	0.00	15.46
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	6.264	0.00	21.51
20.00	Safety Cable	Yes	5.00	0.000	0.38	1.35	0.00	0.007	0.000	6.585	0.00	16.21
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	6.585	0.00	22.31
25.00	Safety Cable	Yes	5.00	0.000	0.38	1.37	0.00	0.007	0.000	6.846	0.00	16.83
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	6.846	0.00	22.95
30.00	Safety Cable	Yes	5.00	0.000	0.38	1.40	0.00	0.007	0.000	7.066	0.00	17.35
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	7.066	0.00	23.50
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.42	0.00	0.007	0.000	7.258	0.00	17.80
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	7.258	0.00	23.98
40.00	Safety Cable	Yes	5.00	0.000	0.38	1.43	0.00	0.007	0.000	7.429	0.00	18.21
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	7.429	0.00	24.40
45.00	Safety Cable	Yes	5.00	0.000	0.38	1.45	0.00	0.008	0.000	7.583	0.00	18.58
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.008	0.000	7.583	0.00	24.79
46.50	Safety Cable	Yes	1.50	0.000	0.38	0.44	0.00	0.008	0.000	7.626	0.00	5.60
46.50	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.008	0.000	7.626	0.00	7.47
50.00	Safety Cable	Yes	3.50	0.000	0.38	1.02	0.00	0.008	0.000	7.723	0.00	13.24
50.00	Step bolts (ladder)	Yes	3.50	0.000	0.00	0.00	0.00	0.008	0.000	7.723	0.00	17.60
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.96	0.00	0.008	0.000	7.808	0.00	12.43
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.00	0.00	0.00	0.008	0.000	7.808	0.00	16.48
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.52	0.00	0.008	0.000	7.852	0.00	6.73
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.008	0.000	7.852	0.00	8.91
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.49	0.00	0.008	0.000	7.972	0.00	19.51
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.008	0.000	7.972	0.00	25.76
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.50	0.00	0.009	0.000	8.083	0.00	19.78
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	8.083	0.00	26.04
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.51	0.00	0.009	0.000	8.188	0.00	20.03
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	8.188	0.00	26.31
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.009	0.000	8.287	0.00	20.27
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	8.287	0.00	26.56
80.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.009	0.000	8.381	0.00	20.49
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	8.381	0.00	26.79
85.00	Safety Cable	Yes	5.00	0.000	0.38	1.53	0.00	0.010	0.000	8.469	0.00	20.71
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	8.469	0.00	27.02
90.00	Safety Cable	Yes	5.00	0.000	0.38	1.54	0.00	0.010	0.000	8.554	0.00	20.91
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	8.554	0.00	27.23
95.00	Safety Cable	Yes	5.00	0.000	0.38	1.55	0.00	0.010	0.000	8.635	0.00	21.11
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	8.635	0.00	27.44
100.00	Safety Cable	Yes	5.00	0.000	0.38	1.55	0.00	0.011	0.000	8.712	0.00	21.30
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.011	0.000	8.712	0.00	27.63
105.00	Safety Cable	Yes	5.00	0.000	0.38	1.56	0.00	0.011	0.000	8.786	0.00	21.48
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.011	0.000	8.786	0.00	27.82
110.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.012	0.000	8.858	0.00	21.65

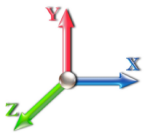
Linear Appurtenance Segment Forces (Factored)

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.012	0.000	8.858	0.00	28.00
115.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.012	0.000	8.927	0.00	21.82
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.012	0.000	8.927	0.00	28.18
120.00	Safety Cable	Yes	5.00	0.000	0.38	1.58	0.00	0.013	0.000	8.993	0.00	21.98
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.013	0.000	8.993	0.00	28.34
125.00	Safety Cable	Yes	5.00	0.000	0.38	1.59	0.00	0.013	0.000	9.057	0.00	22.14
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.013	0.000	9.057	0.00	28.51
130.00	Safety Cable	Yes	5.00	0.000	0.38	1.59	0.00	0.014	0.000	9.119	0.00	22.29
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.014	0.000	9.119	0.00	28.67
135.00	Safety Cable	Yes	5.00	0.000	0.38	1.60	0.00	0.015	0.000	9.179	0.00	22.43
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.015	0.000	9.179	0.00	28.82
140.00	Safety Cable	Yes	5.00	0.000	0.38	1.60	0.00	0.015	0.000	9.237	0.00	22.57
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.015	0.000	9.237	0.00	28.97
145.00	Safety Cable	Yes	5.00	0.000	0.38	1.61	0.00	0.016	0.000	9.294	0.00	22.71
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.016	0.000	9.294	0.00	29.11
145.25	Safety Cable	Yes	0.25	0.000	0.38	0.08	0.00	0.017	0.000	9.297	0.00	1.14
145.25	Step bolts (ladder)	Yes	0.25	0.000	0.00	0.00	0.00	0.017	0.000	9.297	0.00	1.46
147.00	Safety Cable	Yes	1.75	0.000	0.38	0.56	0.00	0.017	0.000	9.316	0.00	7.97
147.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.017	0.000	9.316	0.00	10.21
148.50	Safety Cable	Yes	1.50	0.000	0.38	0.48	0.00	0.017	0.000	9.332	0.00	6.84
148.50	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.017	0.000	9.332	0.00	8.76
150.00	Safety Cable	Yes	1.50	0.000	0.38	0.48	0.00	0.017	0.000	9.349	0.00	6.85
150.00	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.017	0.000	9.349	0.00	8.78
155.00	Safety Cable	Yes	5.00	0.000	0.38	1.62	0.00	0.018	0.000	9.402	0.00	22.98
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.018	0.000	9.402	0.00	29.39
160.00	Safety Cable	Yes	5.00	0.000	0.38	1.62	0.00	0.020	0.000	9.454	0.00	23.11
160.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.020	0.000	9.454	0.00	29.52
165.00	Safety Cable	Yes	5.00	0.000	0.38	1.63	0.00	0.021	0.000	9.505	0.00	23.23
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.021	0.000	9.505	0.00	29.65
167.00	Safety Cable	Yes	2.00	0.000	0.38	0.65	0.00	0.022	0.000	9.525	0.00	9.31
167.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.022	0.000	9.525	0.00	11.88
169.00	Safety Cable	Yes	2.00	0.000	0.38	0.65	0.00	0.023	0.000	9.545	0.00	9.33
169.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.023	0.000	9.545	0.00	11.90
									Totals:		**0.0**	**1,571.7**

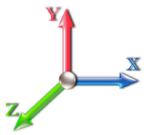
Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

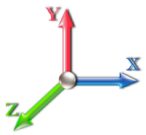
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-81.67	-11.25	0.00	-1406.9	0.00	1406.93	5562.36	2781.18	13652.7	6836.50	0.00	0.000	0.000	0.220
5.00	-79.26	-11.11	0.00	-1350.6	0.00	1350.67	5482.35	2741.17	13146.4	6582.98	0.03	-0.053	0.000	0.220
10.00	-76.86	-10.97	0.00	-1295.1	0.00	1295.13	5400.13	2700.07	12644.0	6331.40	0.11	-0.107	0.000	0.219
15.00	-74.49	-10.83	0.00	-1240.3	0.00	1240.30	5315.71	2657.86	12145.8	6081.95	0.25	-0.162	0.000	0.218
20.00	-72.16	-10.68	0.00	-1186.1	0.00	1186.18	5229.08	2614.54	11652.3	5834.81	0.45	-0.219	0.000	0.217
25.00	-69.86	-10.52	0.00	-1132.7	0.00	1132.79	5140.25	2570.12	11163.7	5590.18	0.72	-0.278	0.000	0.216
30.00	-67.61	-10.36	0.00	-1080.1	0.00	1080.18	5049.20	2524.60	10680.6	5348.24	1.04	-0.339	0.000	0.215
35.00	-65.40	-10.20	0.00	-1028.3	0.00	1028.36	4955.95	2477.97	10203.2	5109.18	1.43	-0.401	0.000	0.214
40.00	-63.23	-10.04	0.00	-977.35	0.00	977.35	4860.49	2430.24	9731.91	4873.19	1.88	-0.466	0.000	0.214
45.00	-61.11	-9.85	0.00	-927.15	0.00	927.15	4762.82	2381.41	9267.12	4640.45	2.41	-0.532	0.000	0.213
46.50	-60.48	-9.81	0.00	-912.38	0.00	912.38	4733.09	2366.54	9129.00	4571.29	2.58	-0.553	0.000	0.212
50.00	-58.09	-9.69	0.00	-878.03	0.00	878.03	4662.94	2331.47	8809.20	4411.15	3.00	-0.602	0.000	0.212
53.25	-55.90	-9.56	0.00	-846.55	0.00	846.55	4662.03	2331.01	8805.10	4409.10	3.43	-0.649	0.000	0.204
55.00	-55.18	-9.52	0.00	-829.83	0.00	829.83	4626.54	2313.27	8646.55	4329.70	3.67	-0.675	0.000	0.204
60.00	-53.17	-9.34	0.00	-782.25	0.00	782.25	4523.67	2261.83	8198.57	4105.38	4.41	-0.744	0.000	0.202
65.00	-51.20	-9.17	0.00	-735.54	0.00	735.54	4418.66	2209.33	7758.49	3885.01	5.23	-0.815	0.000	0.201
70.00	-49.28	-8.99	0.00	-689.71	0.00	689.71	4277.83	2138.92	7269.40	3640.10	6.13	-0.889	0.000	0.201
75.00	-47.42	-8.82	0.00	-644.74	0.00	644.74	4137.00	2068.50	6796.24	3403.17	7.10	-0.965	0.000	0.201
80.00	-45.60	-8.65	0.00	-600.63	0.00	600.63	3996.18	1998.09	6339.00	3174.21	8.15	-1.043	0.000	0.201
85.00	-43.83	-8.48	0.00	-557.37	0.00	557.37	3855.35	1927.67	5897.69	2953.23	9.28	-1.124	0.000	0.200
90.00	-42.11	-8.32	0.00	-514.96	0.00	514.96	3714.52	1857.26	5472.29	2740.21	10.51	-1.207	0.000	0.199
95.00	-40.44	-8.16	0.00	-473.36	0.00	473.36	3573.69	1786.85	5062.82	2535.17	11.82	-1.293	0.000	0.198
100.00	-37.97	-7.97	0.00	-432.59	0.00	432.59	3014.30	1507.15	4208.99	2107.62	13.22	-1.381	0.000	0.218
105.00	-36.51	-7.81	0.00	-392.74	0.00	392.74	2893.59	1446.80	3876.87	1941.32	14.71	-1.472	0.000	0.215
110.00	-35.09	-7.66	0.00	-353.67	0.00	353.67	2772.88	1386.44	3558.41	1781.85	16.31	-1.573	0.000	0.211
115.00	-33.72	-7.51	0.00	-315.37	0.00	315.37	2652.17	1326.09	3253.59	1629.21	18.01	-1.675	0.000	0.206
120.00	-32.40	-7.37	0.00	-277.81	0.00	277.81	2531.46	1265.73	2962.42	1483.41	19.82	-1.779	0.000	0.200
125.00	-31.12	-7.22	0.00	-240.98	0.00	240.98	2410.75	1205.38	2684.90	1344.44	21.74	-1.884	0.000	0.192
130.00	-29.89	-7.08	0.00	-204.87	0.00	204.87	2290.04	1145.02	2421.02	1212.31	23.77	-1.988	0.000	0.182
135.00	-28.70	-6.94	0.00	-169.47	0.00	169.47	2169.33	1084.67	2170.80	1087.01	25.91	-2.090	0.000	0.169
140.00	-27.57	-6.80	0.00	-134.78	0.00	134.78	2048.62	1024.31	1934.22	968.55	28.15	-2.187	0.000	0.153
145.00	-26.48	-6.64	0.00	-100.78	0.00	100.78	1927.91	963.96	1711.29	856.92	30.49	-2.277	0.000	0.131
145.25	-26.43	-6.64	0.00	-99.12	0.00	99.12	1921.88	960.94	1700.50	851.51	30.61	-2.282	0.000	0.130
147.00	-20.05	-4.93	0.00	-87.50	0.00	87.50	1879.63	939.81	1625.94	814.18	31.45	-2.312	0.000	0.118
148.50	-19.68	-4.88	0.00	-80.11	0.00	80.11	907.84	453.92	797.93	399.56	32.18	-2.336	0.000	0.222
150.00	-19.47	-4.86	0.00	-72.78	0.00	72.78	895.57	447.78	771.95	386.55	32.92	-2.360	0.000	0.210
155.00	-18.78	-4.74	0.00	-48.47	0.00	48.47	853.23	426.61	687.23	344.13	35.46	-2.484	0.000	0.163
160.00	-10.42	-2.81	0.00	-24.76	0.00	24.76	807.76	403.88	604.95	302.92	38.11	-2.576	0.000	0.095
165.00	-9.88	-2.68	0.00	-10.71	0.00	10.71	747.41	373.70	517.50	259.13	40.84	-2.631	0.000	0.055
167.00	-2.78	-0.87	0.00	-2.43	0.00	2.43	723.26	361.63	484.43	242.57	41.95	-2.643	0.000	0.014
169.00	0.00	-0.74	0.00	-0.69	0.00	0.69	699.12	349.56	452.45	226.56	43.06	-2.646	0.000	0.003

Seismic Segment Forces (Factored)

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E					**Iterations**	23
Gust Response Factor	1.10			**Sds**	0.20	**Ss**	0.19
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.35	**SA**	0.03	**Seismic Importance Factor**	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1394.3	0.00	0.03	0.02	25.51	
10.00		1362.1	0.01	0.05	0.03	36.75	
15.00		1329.8	0.01	0.06	0.04	41.92	
20.00		1297.6	0.03	0.07	0.04	44.10	
25.00		1265.3	0.04	0.07	0.04	44.80	
30.00		1233.1	0.06	0.07	0.04	44.84	
35.00		1200.8	0.08	0.07	0.04	44.64	
40.00		1168.6	0.11	0.07	0.04	44.38	
45.00		1136.3	0.13	0.07	0.03	44.03	
46.50	Bot - Section 2	334.62	0.14	0.07	0.03	13.04	
50.00		1553.4	0.17	0.07	0.03	61.13	
53.25	Top - Section 1	1414.1	0.19	0.06	0.02	55.89	
55.00		378.71	0.20	0.06	0.02	14.96	
60.00		1060.2	0.24	0.06	0.02	41.10	
65.00		1028.0	0.28	0.05	0.01	37.66	
70.00		995.77	0.32	0.04	0.01	32.34	
75.00		963.52	0.37	0.03	0.01	24.80	
80.00		931.27	0.42	0.01	0.01	15.06	
85.00		899.02	0.48	-0.01	0.01	3.75	
90.00		866.77	0.54	-0.03	0.01	-7.80	
95.00	Bot - Section 3	834.52	0.60	-0.05	0.01	-17.96	
100.00	Top - Section 2	1506.3	0.66	-0.07	0.02	-47.59	
105.00		676.47	0.73	-0.10	0.04	-25.72	
110.00		648.82	0.80	-0.11	0.05	-26.14	
115.00		621.18	0.88	-0.12	0.08	-23.76	
120.00		593.54	0.95	-0.12	0.11	-18.99	
125.00		565.89	1.03	-0.10	0.15	-12.22	
130.00		538.25	1.12	-0.06	0.20	-3.83	
135.00		510.61	1.21	0.01	0.26	5.83	
140.00		482.96	1.30	0.12	0.33	16.43	
145.00		455.32	1.39	0.27	0.42	27.67	
145.25	Bot - Section 4	22.04	1.40	0.28	0.43	1.37	
147.00	Appurtenance(s)	2339.9	1.43	0.34	0.46	169.94	
148.50	Top - Section 3	193.54	1.46	0.41	0.50	15.86	
150.00		64.41	1.49	0.47	0.53	5.91	
155.00		205.71	1.59	0.75	0.66	26.11	
160.00	Appurtenance(s)	3423.5	1.69	1.10	0.81	569.95	
165.00		178.07	1.80	1.55	0.98	37.49	
167.00	Appurtenance(s)	2711.7	1.85	1.75	1.06	622.09	
169.00	Appurtenance(s)	902.59	1.89	1.98	1.14	224.77	
	Totals:	**39,289.2**				**2,210.1**	**Total Wind:** **40,534.0**

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

Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	23
Gust Response Factor	1.10			**Sds**	0.20			**Ss**	0.19
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.35	**SA**	0.03	**Seismic Importance Factor**			1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-54.59	-2.40	0.00	-322.78	0.00	322.78	5562.36	2781.18	13652.7	6836.50		0.00	0.00	0.057
5.00	-52.68	-2.38	0.00	-310.79	0.00	310.79	5482.35	2741.17	13146.4	6582.98		0.01	-0.01	0.057
10.00	-50.81	-2.36	0.00	-298.86	0.00	298.86	5400.13	2700.07	12644.0	6331.40		0.03	-0.02	0.057
15.00	-48.98	-2.33	0.00	-287.07	0.00	287.07	5315.71	2657.86	12145.8	6081.95		0.06	-0.04	0.056
20.00	-47.19	-2.29	0.00	-275.44	0.00	275.44	5229.08	2614.54	11652.3	5834.81		0.10	-0.05	0.056
25.00	-45.44	-2.26	0.00	-263.97	0.00	263.97	5140.25	2570.12	11163.7	5590.18		0.16	-0.06	0.056
30.00	-43.72	-2.22	0.00	-252.69	0.00	252.69	5049.20	2524.60	10680.6	5348.24		0.24	-0.08	0.056
35.00	-42.05	-2.18	0.00	-241.58	0.00	241.58	4955.95	2477.97	10203.2	5109.18		0.33	-0.09	0.056
40.00	-40.41	-2.15	0.00	-230.66	0.00	230.66	4860.49	2430.24	9731.91	4873.19		0.44	-0.11	0.056
45.00	-38.81	-2.11	0.00	-219.91	0.00	219.91	4762.82	2381.41	9267.12	4640.45		0.56	-0.12	0.056
46.50	-38.34	-2.10	0.00	-216.75	0.00	216.75	4733.09	2366.54	9129.00	4571.29		0.60	-0.13	0.056
50.00	-36.31	-2.04	0.00	-209.40	0.00	209.40	4662.94	2331.47	8809.20	4411.15		0.70	-0.14	0.055
53.25	-34.46	-1.99	0.00	-202.77	0.00	202.77	4662.03	2331.01	8805.10	4409.10		0.80	-0.15	0.053
55.00	-33.92	-1.98	0.00	-199.29	0.00	199.29	4626.54	2313.27	8646.55	4329.70		0.85	-0.16	0.053
60.00	-32.42	-1.94	0.00	-189.41	0.00	189.41	4523.67	2261.83	8198.57	4105.38		1.03	-0.17	0.053
65.00	-30.95	-1.91	0.00	-179.71	0.00	179.71	4418.66	2209.33	7758.49	3885.01		1.22	-0.19	0.053
70.00	-29.52	-1.88	0.00	-170.18	0.00	170.18	4277.83	2138.92	7269.40	3640.10		1.43	-0.21	0.054
75.00	-28.13	-1.86	0.00	-160.78	0.00	160.78	4137.00	2068.50	6796.24	3403.17		1.66	-0.23	0.054
80.00	-26.77	-1.85	0.00	-151.48	0.00	151.48	3996.18	1998.09	6339.00	3174.21		1.91	-0.25	0.054
85.00	-25.46	-1.85	0.00	-142.25	0.00	142.25	3855.35	1927.67	5897.69	2953.23		2.18	-0.27	0.055
90.00	-24.18	-1.85	0.00	-133.01	0.00	133.01	3714.52	1857.26	5472.29	2740.21		2.47	-0.29	0.055
95.00	-22.95	-1.85	0.00	-123.76	0.00	123.76	3573.69	1786.85	5062.82	2535.17		2.79	-0.31	0.055
100.00	-20.90	-1.85	0.00	-114.50	0.00	114.50	3014.30	1507.15	4208.99	2107.62		3.13	-0.34	0.061
105.00	-19.86	-1.85	0.00	-105.25	0.00	105.25	2893.59	1446.80	3876.87	1941.32		3.50	-0.36	0.061
110.00	-18.84	-1.86	0.00	-95.98	0.00	95.98	2772.88	1386.44	3558.41	1781.85		3.89	-0.39	0.061
115.00	-17.86	-1.86	0.00	-86.71	0.00	86.71	2652.17	1326.09	3253.59	1629.21		4.31	-0.42	0.060
120.00	-16.92	-1.86	0.00	-77.42	0.00	77.42	2531.46	1265.73	2962.42	1483.41		4.76	-0.44	0.059
125.00	-16.00	-1.86	0.00	-68.13	0.00	68.13	2410.75	1205.38	2684.90	1344.44		5.24	-0.47	0.057
130.00	-15.12	-1.86	0.00	-58.83	0.00	58.83	2290.04	1145.02	2421.02	1212.31		5.75	-0.50	0.055
135.00	-14.27	-1.85	0.00	-49.53	0.00	49.53	2169.33	1084.67	2170.80	1087.01		6.29	-0.53	0.052
140.00	-13.46	-1.84	0.00	-40.27	0.00	40.27	2048.62	1024.31	1934.22	968.55		6.87	-0.56	0.048
145.00	-12.68	-1.80	0.00	-31.08	0.00	31.08	1927.91	963.96	1711.29	856.92		7.47	-0.59	0.043
145.25	-12.64	-1.80	0.00	-30.63	0.00	30.63	1921.88	960.94	1700.50	851.51		7.50	-0.59	0.043
147.00	-9.75	-1.60	0.00	-27.48	0.00	27.48	1879.63	939.81	1625.94	814.18		7.72	-0.60	0.039
148.50	-9.47	-1.59	0.00	-25.07	0.00	25.07	907.84	453.92	797.93	399.56		7.91	-0.61	0.073
150.00	-9.34	-1.58	0.00	-22.69	0.00	22.69	895.57	447.78	771.95	386.55		8.10	-0.61	0.069
155.00	-8.94	-1.56	0.00	-14.77	0.00	14.77	853.23	426.61	687.23	344.13		8.77	-0.65	0.053
160.00	-4.68	-0.94	0.00	-6.98	0.00	6.98	807.76	403.88	604.95	302.92		9.47	-0.68	0.029
165.00	-4.39	-0.90	0.00	-2.28	0.00	2.28	747.41	373.70	517.50	259.13		10.19	-0.69	0.015
167.00	-1.11	-0.24	0.00	-0.48	0.00	0.48	723.26	361.63	484.43	242.57		10.48	-0.70	0.004
169.00	0.00	-0.22	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56		10.77	-0.70	0.000

Seismic Segment Forces (Factored)

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	23
Gust Response Factor	1.10				**Sds**	0.20		**Ss**	0.19
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.35		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1394.3	0.00	0.03	0.02	25.51	
10.00		1362.1	0.01	0.05	0.03	36.75	
15.00		1329.8	0.01	0.06	0.04	41.92	
20.00		1297.6	0.03	0.07	0.04	44.10	
25.00		1265.3	0.04	0.07	0.04	44.80	
30.00		1233.1	0.06	0.07	0.04	44.84	
35.00		1200.8	0.08	0.07	0.04	44.64	
40.00		1168.6	0.11	0.07	0.04	44.38	
45.00		1136.3	0.13	0.07	0.03	44.03	
46.50	Bot - Section 2	334.62	0.14	0.07	0.03	13.04	
50.00		1553.4	0.17	0.07	0.03	61.13	
53.25	Top - Section 1	1414.1	0.19	0.06	0.02	55.89	
55.00		378.71	0.20	0.06	0.02	14.96	
60.00		1060.2	0.24	0.06	0.02	41.10	
65.00		1028.0	0.28	0.05	0.01	37.66	
70.00		995.77	0.32	0.04	0.01	32.34	
75.00		963.52	0.37	0.03	0.01	24.80	
80.00		931.27	0.42	0.01	0.01	15.06	
85.00		899.02	0.48	-0.01	0.01	3.75	
90.00		866.77	0.54	-0.03	0.01	-7.80	
95.00	Bot - Section 3	834.52	0.60	-0.05	0.01	-17.96	
100.00	Top - Section 2	1506.3	0.66	-0.07	0.02	-47.59	
105.00		676.47	0.73	-0.10	0.04	-25.72	
110.00		648.82	0.80	-0.11	0.05	-26.14	
115.00		621.18	0.88	-0.12	0.08	-23.76	
120.00		593.54	0.95	-0.12	0.11	-18.99	
125.00		565.89	1.03	-0.10	0.15	-12.22	
130.00		538.25	1.12	-0.06	0.20	-3.83	
135.00		510.61	1.21	0.01	0.26	5.83	
140.00		482.96	1.30	0.12	0.33	16.43	
145.00		455.32	1.39	0.27	0.42	27.67	
145.25	Bot - Section 4	22.04	1.40	0.28	0.43	1.37	
147.00	Appurtenance(s)	2339.9	1.43	0.34	0.46	169.94	
148.50	Top - Section 3	193.54	1.46	0.41	0.50	15.86	
150.00		64.41	1.49	0.47	0.53	5.91	
155.00		205.71	1.59	0.75	0.66	26.11	
160.00	Appurtenance(s)	3423.5	1.69	1.10	0.81	569.95	
165.00		178.07	1.80	1.55	0.98	37.49	
167.00	Appurtenance(s)	2711.7	1.85	1.75	1.06	622.09	
169.00	Appurtenance(s)	902.59	1.89	1.98	1.14	224.77	
	Totals:	**39,289.2**				**2,210.1**	**Total Wind:** **40,534.0**

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

Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	23
Gust Response Factor	1.10			**Sds**	0.20			**Ss**	0.19
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.35	**SA**	0.03	**Seismic Importance Factor**			1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-40.94	-2.40	0.00	-318.53	0.00	318.53	5562.36	2781.18	13652.7	6836.50		0.00	0.00	0.054
5.00	-39.51	-2.38	0.00	-306.54	0.00	306.54	5482.35	2741.17	13146.4	6582.98		0.01	-0.01	0.054
10.00	-38.11	-2.35	0.00	-294.64	0.00	294.64	5400.13	2700.07	12644.0	6331.40		0.03	-0.02	0.054
15.00	-36.74	-2.32	0.00	-282.88	0.00	282.88	5315.71	2657.86	12145.8	6081.95		0.06	-0.04	0.053
20.00	-35.39	-2.28	0.00	-271.29	0.00	271.29	5229.08	2614.54	11652.3	5834.81		0.10	-0.05	0.053
25.00	-34.08	-2.24	0.00	-259.89	0.00	259.89	5140.25	2570.12	11163.7	5590.18		0.16	-0.06	0.053
30.00	-32.79	-2.20	0.00	-248.68	0.00	248.68	5049.20	2524.60	10680.6	5348.24		0.24	-0.08	0.053
35.00	-31.53	-2.17	0.00	-237.66	0.00	237.66	4955.95	2477.97	10203.2	5109.18		0.33	-0.09	0.053
40.00	-30.30	-2.13	0.00	-226.83	0.00	226.83	4860.49	2430.24	9731.91	4873.19		0.43	-0.11	0.053
45.00	-29.11	-2.09	0.00	-216.20	0.00	216.20	4762.82	2381.41	9267.12	4640.45		0.55	-0.12	0.053
46.50	-28.75	-2.08	0.00	-213.07	0.00	213.07	4733.09	2366.54	9129.00	4571.29		0.59	-0.13	0.053
50.00	-27.23	-2.02	0.00	-205.80	0.00	205.80	4662.94	2331.47	8809.20	4411.15		0.69	-0.14	0.052
53.25	-25.84	-1.96	0.00	-199.25	0.00	199.25	4662.03	2331.01	8805.10	4409.10		0.78	-0.15	0.051
55.00	-25.44	-1.95	0.00	-195.81	0.00	195.81	4626.54	2313.27	8646.55	4329.70		0.84	-0.16	0.051
60.00	-24.31	-1.91	0.00	-186.06	0.00	186.06	4523.67	2261.83	8198.57	4105.38		1.01	-0.17	0.051
65.00	-23.21	-1.88	0.00	-176.50	0.00	176.50	4418.66	2209.33	7758.49	3885.01		1.20	-0.19	0.051
70.00	-22.14	-1.85	0.00	-167.10	0.00	167.10	4277.83	2138.92	7269.40	3640.10		1.41	-0.21	0.051
75.00	-21.09	-1.83	0.00	-157.85	0.00	157.85	4137.00	2068.50	6796.24	3403.17		1.63	-0.23	0.051
80.00	-20.08	-1.82	0.00	-148.71	0.00	148.71	3996.18	1998.09	6339.00	3174.21		1.88	-0.24	0.052
85.00	-19.09	-1.81	0.00	-139.63	0.00	139.63	3855.35	1927.67	5897.69	2953.23		2.15	-0.26	0.052
90.00	-18.14	-1.82	0.00	-130.56	0.00	130.56	3714.52	1857.26	5472.29	2740.21		2.44	-0.29	0.053
95.00	-17.21	-1.82	0.00	-121.47	0.00	121.47	3573.69	1786.85	5062.82	2535.17		2.75	-0.31	0.053
100.00	-15.68	-1.82	0.00	-112.38	0.00	112.38	3014.30	1507.15	4208.99	2107.62		3.08	-0.33	0.059
105.00	-14.89	-1.82	0.00	-103.30	0.00	103.30	2893.59	1446.80	3876.87	1941.32		3.44	-0.35	0.058
110.00	-14.13	-1.82	0.00	-94.21	0.00	94.21	2772.88	1386.44	3558.41	1781.85		3.82	-0.38	0.058
115.00	-13.39	-1.82	0.00	-85.10	0.00	85.10	2652.17	1326.09	3253.59	1629.21		4.24	-0.41	0.057
120.00	-12.68	-1.82	0.00	-76.00	0.00	76.00	2531.46	1265.73	2962.42	1483.41		4.68	-0.44	0.056
125.00	-12.00	-1.82	0.00	-66.88	0.00	66.88	2410.75	1205.38	2684.90	1344.44		5.15	-0.47	0.055
130.00	-11.34	-1.82	0.00	-57.76	0.00	57.76	2290.04	1145.02	2421.02	1212.31		5.66	-0.49	0.053
135.00	-10.70	-1.82	0.00	-48.64	0.00	48.64	2169.33	1084.67	2170.80	1087.01		6.19	-0.52	0.050
140.00	-10.09	-1.80	0.00	-39.55	0.00	39.55	2048.62	1024.31	1934.22	968.55		6.75	-0.55	0.046
145.00	-9.50	-1.77	0.00	-30.55	0.00	30.55	1927.91	963.96	1711.29	856.92		7.34	-0.58	0.041
145.25	-9.47	-1.77	0.00	-30.11	0.00	30.11	1921.88	960.94	1700.50	851.51		7.38	-0.58	0.040
147.00	-7.31	-1.58	0.00	-27.02	0.00	27.02	1879.63	939.81	1625.94	814.18		7.59	-0.59	0.037
148.50	-7.10	-1.56	0.00	-24.65	0.00	24.65	907.84	453.92	797.93	399.56		7.78	-0.60	0.070
150.00	-7.00	-1.56	0.00	-22.31	0.00	22.31	895.57	447.78	771.95	386.55		7.96	-0.60	0.066
155.00	-6.70	-1.53	0.00	-14.52	0.00	14.52	853.23	426.61	687.23	344.13		8.62	-0.64	0.050
160.00	-3.51	-0.93	0.00	-6.87	0.00	6.87	807.76	403.88	604.95	302.92		9.31	-0.67	0.027
165.00	-3.29	-0.89	0.00	-2.24	0.00	2.24	747.41	373.70	517.50	259.13		10.01	-0.68	0.013
167.00	-0.83	-0.23	0.00	-0.47	0.00	0.47	723.26	361.63	484.43	242.57		10.30	-0.68	0.003
169.00	0.00	-0.22	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56		10.59	-0.68	0.000

Wind Loading - Shaft

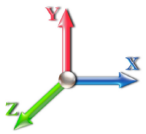
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	1.03	9.018	9.92	309.89	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	1.03	9.018	9.92	302.85	0.650	0.000	5.00	25.156	16.35	162.2	0.0	1394.4
10.00		1.00	1.03	9.018	9.92	295.82	0.650	0.000	5.00	24.579	15.98	158.5	0.0	1362.1
15.00		1.00	1.03	9.020	9.92	288.82	0.650	0.000	5.00	24.001	15.60	154.8	0.0	1329.8
20.00		1.00	1.08	9.483	10.43	288.92	0.650	0.000	5.00	23.423	15.23	158.8	0.0	1297.6
25.00		1.00	1.13	9.858	10.84	287.23	0.650	0.000	5.00	22.846	14.85	161.0	0.0	1265.3
30.00		1.00	1.16	10.175	11.19	284.34	0.650	0.000	5.00	22.268	14.47	162.0	0.0	1233.1
35.00		1.00	1.19	10.452	11.50	280.61	0.650	0.000	5.00	21.691	14.10	162.1	0.0	1200.8
40.00		1.00	1.22	10.697	11.77	276.22	0.650	0.000	5.00	21.113	13.72	161.5	0.0	1168.6
45.00		1.00	1.25	10.919	12.01	271.33	0.650	0.000	5.00	20.536	13.35	160.3	0.0	1136.3
46.50	Bot - Section 2	1.00	1.25	10.981	12.08	269.77	0.650	0.000	1.50	6.048	3.93	47.5	0.0	334.6
50.00		1.00	1.27	11.121	12.23	266.01	0.650	0.000	3.50	14.169	9.21	112.7	0.0	1553.4
53.25	Top - Section 1	1.00	1.28	11.243	12.37	262.37	0.650	0.000	3.25	12.904	8.39	103.7	0.0	1414.2
55.00		1.00	1.29	11.307	12.44	265.40	0.650	0.000	1.75	6.847	4.45	55.4	0.0	378.7
60.00		1.00	1.31	11.479	12.63	259.48	0.650	0.000	5.00	19.173	12.46	157.4	0.0	1060.3
65.00		1.00	1.33	11.640	12.80	253.30	0.650	0.000	5.00	18.596	12.09	154.8	0.0	1028.0
70.00		1.00	1.35	11.791	12.97	246.90	0.650	0.000	5.00	18.018	11.71	151.9	0.0	995.8
75.00		1.00	1.36	11.933	13.13	240.29	0.650	0.000	5.00	17.440	11.34	148.8	0.0	963.5
80.00		1.00	1.38	12.068	13.27	233.50	0.650	0.000	5.00	16.863	10.96	145.5	0.0	931.3
85.00		1.00	1.39	12.196	13.42	226.56	0.650	0.000	5.00	16.285	10.59	142.0	0.0	899.0
90.00		1.00	1.41	12.318	13.55	219.47	0.650	0.000	5.00	15.708	10.21	138.3	0.0	866.8
95.00	Bot - Section 3	1.00	1.42	12.434	13.68	212.24	0.650	0.000	5.00	15.130	9.83	134.5	0.0	834.5
100.00	Top - Section 2	1.00	1.43	12.546	13.80	204.89	0.650	0.000	5.00	14.870	9.67	133.4	0.0	1506.4
105.00		1.00	1.45	12.652	13.92	202.01	0.650	0.000	5.00	14.292	9.29	129.3	0.0	676.5
110.00		1.00	1.46	12.755	14.03	194.46	0.650	0.000	5.00	13.715	8.91	125.1	0.0	648.8
115.00		1.00	1.47	12.854	14.14	186.82	0.650	0.000	5.00	13.137	8.54	120.7	0.0	621.2
120.00		1.00	1.48	12.950	14.24	179.08	0.650	0.000	5.00	12.560	8.16	116.3	0.0	593.5
125.00		1.00	1.49	13.042	14.35	171.26	0.650	0.000	5.00	11.982	7.79	111.7	0.0	565.9
130.00		1.00	1.50	13.131	14.44	163.36	0.650	0.000	5.00	11.405	7.41	107.1	0.0	538.3
135.00		1.00	1.51	13.218	14.54	155.38	0.650	0.000	5.00	10.827	7.04	102.3	0.0	510.6
140.00		1.00	1.52	13.302	14.63	147.33	0.650	0.000	5.00	10.249	6.66	97.5	0.0	483.0
145.00		1.00	1.53	13.383	14.72	139.21	0.650	0.000	5.00	9.672	6.29	92.5	0.0	455.3
145.25	Bot - Section 4	1.00	1.53	13.387	14.73	138.80	0.650	0.000	0.25	0.468	0.30	4.5	0.0	22.0
147.00	Appurtenance(s)	1.00	1.53	13.415	14.76	135.95	0.650	0.000	1.75	3.294	2.14	31.6	0.0	230.5
148.50	Top - Section 3	1.00	1.53	13.439	14.78	133.49	0.650	0.000	1.50	2.767	1.80	26.6	0.0	193.5
150.00		1.00	1.54	13.462	14.81	133.39	0.650	0.000	1.50	2.715	1.76	26.1	0.0	64.4
155.00		1.00	1.55	13.539	14.89	125.15	0.650	0.000	5.00	8.675	5.64	84.0	0.0	205.7
160.00	Appurtenance(s)	1.00	1.55	13.614	14.98	116.85	0.650	0.000	5.00	8.098	5.26	78.8	0.0	191.9
165.00		1.00	1.56	13.687	15.06	108.50	0.650	0.000	5.00	7.520	4.89	73.6	0.0	178.1
167.00	Appurtenance(s)	1.00	1.57	13.716	15.09	105.15	0.650	0.000	2.00	2.846	1.85	27.9	0.0	67.4
169.00	Appurtenance(s)	1.00	1.57	13.744	15.12	101.78	0.650	0.000	2.00	2.754	1.79	27.1	0.0	65.1
								Totals:	**169.00**			**4,449.8**		**30,466.3**

Discrete Appurtenance Forces

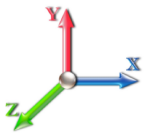
Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	169.00	CCI DTMABP7819VG12A	3	13.758	15.134	0.60	0.90	2.06	57.54	0.000	1.000	31.21	0.00	31.21
2	169.00	AM-X-CD-16-65-00T-RET	1	13.758	15.134	0.75	1.00	6.01	48.50	0.000	1.000	91.03	0.00	91.03
3	169.00	KMW	1	13.758	15.134	0.75	1.00	3.75	36.40	0.000	1.000	56.75	0.00	56.75
4	169.00	Andrew SBNH-1D6565C	1	13.758	15.134	0.80	1.00	9.18	60.80	0.000	1.000	138.87	0.00	138.87
5	169.00	4449 B5/B12	3	13.758	15.134	0.60	0.90	3.56	213.00	0.000	1.000	53.93	0.00	53.93
6	169.00	DMP65R-BU6DA	1	13.758	15.134	0.65	0.90	8.25	79.40	0.000	1.000	124.82	0.00	124.82
7	169.00	DMP65R-BU8DA	1	13.758	15.134	0.65	0.90	11.69	95.70	0.000	1.000	176.95	0.00	176.95
8	169.00	RRUS 4478 B14	3	13.758	15.134	0.60	0.90	2.98	178.20	0.000	1.000	45.17	0.00	45.17
9	169.00	DMP65R-BU4DA	1	13.758	15.134	0.64	0.90	5.31	67.90	0.000	1.000	80.30	0.00	80.30
10	167.00	SBNHH-1D65A	2	13.758	15.134	0.75	0.90	8.78	67.00	0.000	3.000	132.95	0.00	398.85
11	167.00	Reinforced T-Arms	3	13.716	15.087	0.56	0.75	23.63	1350.00	0.000	0.000	356.44	0.00	0.00
12	167.00	HPA-65R-BBU-H8	2	13.758	15.134	0.71	0.90	18.46	136.00	0.000	3.000	279.34	0.00	838.02
13	167.00	HPA-65R-BUU-H6	2	13.758	15.134	0.77	0.90	14.78	102.00	0.000	3.000	223.68	0.00	671.04
14	167.00	Ericsson RRUS-E2 RRUs	3	13.758	15.134	0.60	0.90	7.00	180.00	0.000	3.000	105.95	0.00	317.86
15	167.00	Ericsson RRUS-12 RRUs	6	13.758	15.134	0.60	0.90	11.40	348.00	0.000	3.000	172.48	0.00	517.44
16	167.00	Ericsson RRUS 32 RRUs	3	13.758	15.134	0.60	0.90	7.00	231.00	0.000	3.000	105.95	0.00	317.86
17	167.00	Ericsson RRUS A2	6	13.758	15.134	0.60	0.90	6.73	132.00	0.000	3.000	101.85	0.00	305.54
18	167.00	Raycap DC6-48-60-18-8F	3	13.758	15.134	0.90	0.90	3.97	98.40	0.000	3.000	60.07	0.00	180.20
19	160.00	PRK-SFS-L	1	13.614	14.975	0.75	0.75	12.45	394.00	0.000	0.000	186.44	0.00	0.00
20	160.00	PRK-1245L	1	13.614	14.975	0.75	0.75	7.13	464.91	0.000	0.000	106.70	0.00	0.00
21	160.00	Ericsson Radio 4449	3	13.614	14.975	0.54	0.80	2.65	210.00	0.000	0.000	39.73	0.00	0.00
22	160.00	Ericsson KRY 112 144/1	3	13.614	14.975	0.56	0.80	0.69	33.00	0.000	0.000	10.32	0.00	0.00
23	160.00	APXVAARR24_43-U-NA2	3	13.614	14.975	0.56	0.80	34.00	384.00	0.000	0.000	509.21	0.00	0.00
24	160.00	Air 21 B4A/B2P	3	13.614	14.975	0.69	0.80	12.57	271.20	0.000	0.000	188.24	0.00	0.00
25	160.00	Air 21 B2A/B4P	3	13.614	14.975	0.69	0.80	12.57	274.50	0.000	0.000	188.24	0.00	0.00
26	160.00	T-Arm	3	13.614	14.975	0.56	0.75	16.88	1200.00	0.000	0.000	252.71	0.00	0.00
27	147.00	Alcatel 2x60-1900 RRH	3	13.415	14.756	0.54	0.80	2.43	120.00	0.000	0.000	35.83	0.00	0.00
28	147.00	Swedcom SC-E 6014 rev2	4	13.415	14.756	0.78	0.80	10.34	60.00	0.000	0.000	152.53	0.00	0.00
29	147.00	Antel LPA-80080/4CF	2	13.415	14.756	1.36	0.80	7.10	24.00	0.000	0.000	104.76	0.00	0.00
30	147.00	RRH 2X90 AWS	3	13.415	14.756	0.54	0.80	5.63	192.00	0.000	0.000	83.05	0.00	0.00
31	147.00	Low Profile Platform	1	13.415	14.756	1.00	1.00	26.00	1200.00	0.000	0.000	383.67	0.00	0.00
32	147.00	Andrew SBNHH-1D65B	6	13.415	14.756	0.66	0.80	32.19	240.00	0.000	0.000	475.02	0.00	0.00
33	147.00	ALU 2X60-770 U RRH	3	13.415	14.756	0.54	0.80	5.63	166.80	0.000	0.000	83.05	0.00	0.00
34	147.00	FD9R6004/2C-3L	6	13.415	14.756	0.80	0.80	1.73	18.60	0.000	0.000	25.50	0.00	0.00
35	147.00	RFS DB-T1-6Z-8AB-0Z	2	13.415	14.756	0.57	0.80	5.45	88.00	0.000	0.000	80.46	0.00	0.00
							Totals:		**8,822.85**			**5,243.21**		

Total Applied Force Summary

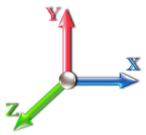
Structure:	CT11794-S-SBA		**Code:**	EIA/TIA-222-G	10/29/2020
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		162.20	1589.72	0.00	0.00
10.00		158.48	1557.46	0.00	0.00
15.00		154.79	1525.21	0.00	0.00
20.00		158.81	1492.96	0.00	0.00
25.00		161.03	1460.71	0.00	0.00
30.00		162.01	1428.46	0.00	0.00
35.00		162.10	1396.21	0.00	0.00
40.00		161.49	1363.96	0.00	0.00
45.00		160.32	1331.71	0.00	0.00
46.50		47.49	393.22	0.00	0.00
50.00		112.66	1690.19	0.00	0.00
53.25		103.73	1541.16	0.00	0.00
55.00		55.35	447.09	0.00	0.00
60.00		157.36	1255.63	0.00	0.00
65.00		154.76	1223.38	0.00	0.00
70.00		151.90	1191.13	0.00	0.00
75.00		148.81	1158.88	0.00	0.00
80.00		145.50	1126.63	0.00	0.00
85.00		142.01	1094.38	0.00	0.00
90.00		138.34	1062.13	0.00	0.00
95.00		134.51	1029.88	0.00	0.00
100.00		133.38	1701.74	0.00	0.00
105.00		129.30	871.83	0.00	0.00
110.00		125.08	844.19	0.00	0.00
115.00		120.74	816.55	0.00	0.00
120.00		116.29	788.90	0.00	0.00
125.00		111.73	761.26	0.00	0.00
130.00		107.08	733.62	0.00	0.00
135.00		102.32	705.97	0.00	0.00
140.00		97.48	678.33	0.00	0.00
145.00		92.55	650.69	0.00	0.00
145.25		4.48	31.81	0.00	0.00
147.00	(30) attachments	1455.46	2408.29	0.00	0.00
148.50		26.59	233.25	0.00	0.00
150.00		26.14	104.12	0.00	0.00
155.00		83.98	338.08	0.00	0.00
160.00	(20) attachments	1560.42	3555.87	0.00	0.00
165.00		73.60	241.63	0.00	0.00
167.00	(30) attachments	1566.62	2737.18	0.00	3546.80
169.00	(15) attachments	826.11	928.01	0.00	799.05
	Totals:	**9,693.01**	**45,491.47**	**0.00**	**4,345.85**

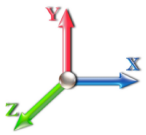
Linear Appurtenance Segment Forces (Factored)

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.006	0.000	9.018	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.006	0.000	9.018	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.006	0.000	9.018	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.006	0.000	9.018	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	9.020	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	9.020	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	9.483	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	9.483	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	9.858	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	9.858	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	10.175	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	10.175	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	10.452	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	10.452	0.00	5.20
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.007	0.000	10.697	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.007	0.000	10.697	0.00	5.20
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.008	0.000	10.919	0.00	1.37
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.008	0.000	10.919	0.00	5.20
46.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.008	0.000	10.981	0.00	0.41
46.50	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.008	0.000	10.981	0.00	1.56
50.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.008	0.000	11.121	0.00	0.96
50.00	Step bolts (ladder)	Yes	3.50	0.000	0.00	0.00	0.00	0.008	0.000	11.121	0.00	3.64
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.008	0.000	11.243	0.00	0.89
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.00	0.00	0.00	0.008	0.000	11.243	0.00	3.38
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.008	0.000	11.307	0.00	0.48
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.008	0.000	11.307	0.00	1.82
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.008	0.000	11.479	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.008	0.000	11.479	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	11.640	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	11.640	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	11.791	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	11.791	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	11.933	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	11.933	0.00	5.20
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.009	0.000	12.068	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.009	0.000	12.068	0.00	5.20
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	12.196	0.00	1.37
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	12.196	0.00	5.20
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	12.318	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	12.318	0.00	5.20
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.010	0.000	12.434	0.00	1.37
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.010	0.000	12.434	0.00	5.20
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.011	0.000	12.546	0.00	1.37
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.011	0.000	12.546	0.00	5.20
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.011	0.000	12.652	0.00	1.37
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.011	0.000	12.652	0.00	5.20
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.012	0.000	12.755	0.00	1.37

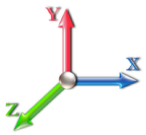
Linear Appurtenance Segment Forces (Factored)

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.012	0.000	12.755	0.00	5.20
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.012	0.000	12.854	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.012	0.000	12.854	0.00	5.20
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.013	0.000	12.950	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.013	0.000	12.950	0.00	5.20
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.013	0.000	13.042	0.00	1.37
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.013	0.000	13.042	0.00	5.20
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.014	0.000	13.131	0.00	1.37
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.014	0.000	13.131	0.00	5.20
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	13.218	0.00	1.37
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.015	0.000	13.218	0.00	5.20
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	13.302	0.00	1.37
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.015	0.000	13.302	0.00	5.20
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	13.383	0.00	1.37
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.016	0.000	13.383	0.00	5.20
145.25	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.017	0.000	13.387	0.00	0.07
145.25	Step bolts (ladder)	Yes	0.25	0.000	0.00	0.00	0.00	0.017	0.000	13.387	0.00	0.26
147.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.017	0.000	13.415	0.00	0.48
147.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.017	0.000	13.415	0.00	1.82
148.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.017	0.000	13.439	0.00	0.41
148.50	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.017	0.000	13.439	0.00	1.56
150.00	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.017	0.000	13.462	0.00	0.41
150.00	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.017	0.000	13.462	0.00	1.56
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	13.539	0.00	1.37
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.018	0.000	13.539	0.00	5.20
160.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	13.614	0.00	1.37
160.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.020	0.000	13.614	0.00	5.20
165.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	13.687	0.00	1.37
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.021	0.000	13.687	0.00	5.20
167.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	13.716	0.00	0.55
167.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.022	0.000	13.716	0.00	2.08
169.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	13.744	0.00	0.55
169.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.023	0.000	13.744	0.00	2.08
									Totals:		**0.0**	**221.9**

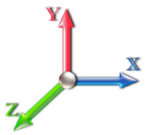
Calculated Forces

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.49	-9.71	0.00	-1231.6	0.00	1231.67	5562.36	2781.18	13652.7	6836.50	0.00	0.000	0.000	0.188
5.00	-43.89	-9.58	0.00	-1183.1	0.00	1183.12	5482.35	2741.17	13146.4	6582.98	0.02	-0.046	0.000	0.188
10.00	-42.32	-9.46	0.00	-1135.2	0.00	1135.20	5400.13	2700.07	12644.0	6331.40	0.10	-0.093	0.000	0.187
15.00	-40.79	-9.34	0.00	-1087.9	0.00	1087.91	5315.71	2657.86	12145.8	6081.95	0.22	-0.142	0.000	0.187
20.00	-39.29	-9.21	0.00	-1041.2	0.00	1041.23	5229.08	2614.54	11652.3	5834.81	0.40	-0.192	0.000	0.186
25.00	-37.82	-9.08	0.00	-995.19	0.00	995.19	5140.25	2570.12	11163.7	5590.18	0.63	-0.244	0.000	0.185
30.00	-36.39	-8.94	0.00	-949.81	0.00	949.81	5049.20	2524.60	10680.6	5348.24	0.91	-0.297	0.000	0.185
35.00	-34.98	-8.81	0.00	-905.10	0.00	905.10	4955.95	2477.97	10203.2	5109.18	1.25	-0.352	0.000	0.184
40.00	-33.61	-8.67	0.00	-861.07	0.00	861.07	4860.49	2430.24	9731.91	4873.19	1.65	-0.409	0.000	0.184
45.00	-32.28	-8.52	0.00	-817.72	0.00	817.72	4762.82	2381.41	9267.12	4640.45	2.11	-0.468	0.000	0.183
46.50	-31.88	-8.49	0.00	-804.94	0.00	804.94	4733.09	2366.54	9129.00	4571.29	2.26	-0.486	0.000	0.183
50.00	-30.18	-8.38	0.00	-775.24	0.00	775.24	4662.94	2331.47	8809.20	4411.15	2.63	-0.529	0.000	0.182
53.25	-28.64	-8.28	0.00	-748.00	0.00	748.00	4662.03	2331.01	8805.10	4409.10	3.01	-0.571	0.000	0.176
55.00	-28.19	-8.24	0.00	-733.51	0.00	733.51	4626.54	2313.27	8646.55	4329.70	3.22	-0.593	0.000	0.176
60.00	-26.92	-8.10	0.00	-692.31	0.00	692.31	4523.67	2261.83	8198.57	4105.38	3.88	-0.655	0.000	0.175
65.00	-25.69	-7.96	0.00	-651.83	0.00	651.83	4418.66	2209.33	7758.49	3885.01	4.60	-0.718	0.000	0.174
70.00	-24.49	-7.82	0.00	-612.04	0.00	612.04	4277.83	2138.92	7269.40	3640.10	5.38	-0.783	0.000	0.174
75.00	-23.33	-7.68	0.00	-572.95	0.00	572.95	4137.00	2068.50	6796.24	3403.17	6.24	-0.850	0.000	0.174
80.00	-22.19	-7.55	0.00	-534.55	0.00	534.55	3996.18	1998.09	6339.00	3174.21	7.17	-0.920	0.000	0.174
85.00	-21.09	-7.41	0.00	-496.82	0.00	496.82	3855.35	1927.67	5897.69	2953.23	8.17	-0.992	0.000	0.174
90.00	-20.02	-7.28	0.00	-459.76	0.00	459.76	3714.52	1857.26	5472.29	2740.21	9.25	-1.066	0.000	0.173
95.00	-18.99	-7.15	0.00	-423.36	0.00	423.36	3573.69	1786.85	5062.82	2535.17	10.40	-1.143	0.000	0.172
100.00	-17.28	-7.01	0.00	-387.60	0.00	387.60	3014.30	1507.15	4208.99	2107.62	11.64	-1.222	0.000	0.190
105.00	-16.40	-6.88	0.00	-352.56	0.00	352.56	2893.59	1446.80	3876.87	1941.32	12.97	-1.303	0.000	0.187
110.00	-15.55	-6.76	0.00	-318.13	0.00	318.13	2772.88	1386.44	3558.41	1781.85	14.38	-1.394	0.000	0.184
115.00	-14.72	-6.65	0.00	-284.31	0.00	284.31	2652.17	1326.09	3253.59	1629.21	15.89	-1.486	0.000	0.180
120.00	-13.93	-6.53	0.00	-251.08	0.00	251.08	2531.46	1265.73	2962.42	1483.41	17.50	-1.580	0.000	0.175
125.00	-13.16	-6.42	0.00	-218.41	0.00	218.41	2410.75	1205.38	2684.90	1344.44	19.20	-1.675	0.000	0.168
130.00	-12.42	-6.31	0.00	-186.31	0.00	186.31	2290.04	1145.02	2421.02	1212.31	21.01	-1.769	0.000	0.159
135.00	-11.71	-6.21	0.00	-154.75	0.00	154.75	2169.33	1084.67	2170.80	1087.01	22.91	-1.862	0.000	0.148
140.00	-11.02	-6.10	0.00	-123.72	0.00	123.72	2048.62	1024.31	1934.22	968.55	24.91	-1.951	0.000	0.133
145.00	-10.37	-6.00	0.00	-93.20	0.00	93.20	1927.91	963.96	1711.29	856.92	27.00	-2.034	0.000	0.114
145.25	-10.34	-5.99	0.00	-91.70	0.00	91.70	1921.88	960.94	1700.50	851.51	27.11	-2.038	0.000	0.113
147.00	-7.98	-4.46	0.00	-81.21	0.00	81.21	1879.63	939.81	1625.94	814.18	27.86	-2.066	0.000	0.104
148.50	-7.75	-4.42	0.00	-74.53	0.00	74.53	907.84	453.92	797.93	399.56	28.51	-2.089	0.000	0.195
150.00	-7.64	-4.40	0.00	-67.90	0.00	67.90	895.57	447.78	771.95	386.55	29.17	-2.111	0.000	0.184
155.00	-7.30	-4.32	0.00	-45.88	0.00	45.88	853.23	426.61	687.23	344.13	31.45	-2.227	0.000	0.142
160.00	-3.80	-2.62	0.00	-24.28	0.00	24.28	807.76	403.88	604.95	302.92	33.83	-2.315	0.000	0.085
165.00	-3.56	-2.54	0.00	-11.16	0.00	11.16	747.41	373.70	517.50	259.13	36.29	-2.370	0.000	0.048
167.00	-0.89	-0.86	0.00	-2.53	0.00	2.53	723.26	361.63	484.43	242.57	37.29	-2.384	0.000	0.012
169.00	0.00	-0.83	0.00	-0.80	0.00	0.80	699.12	349.56	452.45	226.56	38.28	-2.387	0.000	0.004

Final Analysis Summary

Structure:	CT11794-S-SBA	**Code:**	EIA/TIA-222-G	10/29/2020	
Site Name:	East Lyme 1	**Exposure:**	D		
Height:	169.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 37	

Tower Engineering Solutions

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 97 mph Wind	40.6	0.00	54.52	0.00	0.00	5177.31
0.9D + 1.6W 97 mph Wind	40.6	0.00	40.87	0.00	0.00	5113.11
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.3	0.00	81.67	0.00	0.00	1406.93
1.2D + 1.0E	2.4	0.00	54.59	0.00	0.00	322.78
0.9D + 1.0E	2.4	0.00	40.94	0.00	0.00	318.53
1.0D + 1.0W 60 mph Wind	9.7	0.00	45.49	0.00	0.00	1231.67

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 97 mph Wind	-6.72	-18.55	0.00	-311.99	0.00	-311.99	907.84	453.92	797.93	399.56	148.50	0.790
0.9D + 1.6W 97 mph Wind	-4.43	-18.17	0.00	-306.08	0.00	-306.08	907.84	453.92	797.93	399.56	148.50	0.773
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-19.68	-4.88	0.00	-80.11	0.00	-80.11	907.84	453.92	797.93	399.56	148.50	0.222
1.2D + 1.0E	-9.47	-1.59	0.00	-25.07	0.00	-25.07	907.84	453.92	797.93	399.56	148.50	0.073
0.9D + 1.0E	-7.10	-1.56	0.00	-24.65	0.00	-24.65	907.84	453.92	797.93	399.56	148.50	0.070
1.0D + 1.0W 60 mph Wind	-7.75	-4.42	0.00	-74.53	0.00	-74.53	907.84	453.92	797.93	399.56	148.50	0.195

Base Plate Summary

Structure:	CT11794-S-SB		**Code:**	EIA/TIA-222-G	10/29/2020
Site Name:	East Lyme 1		**Exposure:**	D	
Height:	169.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 38

IES Tower Engineering Solutions

Reactions	
Original Design	
Moment (kip-ft):	6776.67
Axial (kip):	62.81
Shear (kip):	55.54
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	5177.31
Axial (kip):	54.52
Shear (kip):	40.63

Base Plate	
Yield (ksi):	50.00
Width (in):	72.75
Style:	Round
Polygon Sides:	0.00
Clip Length (in):	0.00
Effective Len (in):	13.07
Moment (kip-in):	628.72
Allow Stress (ksi):	67.50
Applied Stress (ksi):	38.48
Stress Ratio:	0.57

Anchor Bolts	
Bolt Circle:	66.75
Number Bolts:	20.00
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):	190.23
Allowable (kip):	260.00
Ratio:	0.75
Tension	
Force (kip):	182.07
Allowable (kip):	260.00
Ratio:	0.72

Monopole Mat Foundation Design

				Date
				10/29/2020
	Customer Name:	T-Mobile	**EIA/TIA Standard:**	EIA-222-G
	Site Name:		**Structure Height (Ft.):**	169
	Site Number:	CT11794-S-SBA	**Engineer Name:**	T. Alajaj
	Engr. Number:	99201	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

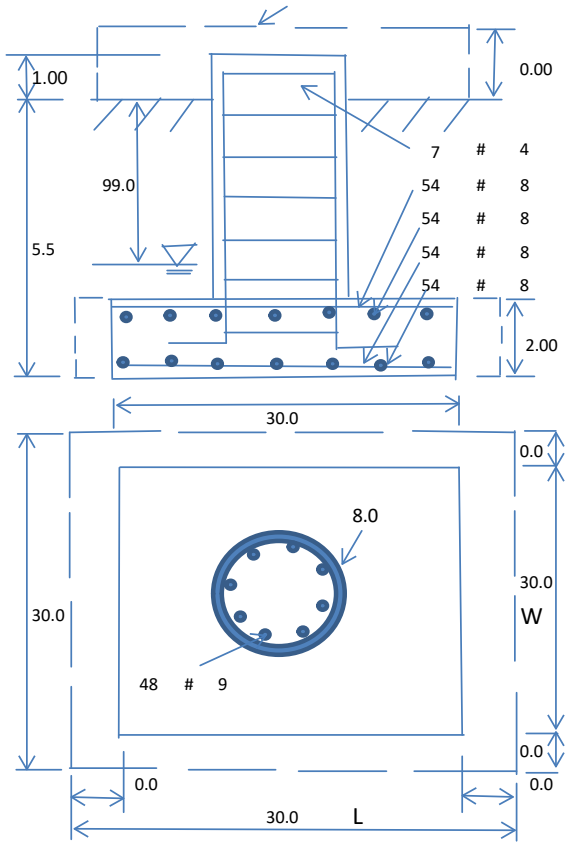
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	54.5	Shear Force (Kips):	40.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5177.3
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	30	Width of Pad (ft.):	30
Final Length of pad (ft)	30.0	Final width of pad (ft):	30.0



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 #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	48	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	54	Qty. of Rebar in Pad (W):	54	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	54	Qty. of Rebar in Pad (W):	54	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	15000	Ultimate Skin Friction:	175	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		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.):	2974.07	Total Dry Soil Weight (Kips):	356.89
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	356.89	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2026.19	Total Dry Concrete Weight (Kips):	303.93
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	303.93	Total Vertical Load on Base (Kips):	715.32

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2081	<	Allowable Factored Soil Bearing (psf): 11250	0.19	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	9738.5	>	Design Factored Momont (kips-ft): 5441	0.56	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.79	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):	1.00		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	9280.8	>	Design Factored Moment (Mu, Kips-F	5360.0	0.58	OK!
Calculated Shear Capacity (Kips):	840.3	>	Design Factored Shear (Kips):	40.6	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	2592.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	12712.3	>	Design Factored Axial Load (Pu Kips):	54.5	0.00	OK!
Moment & Axial Strength Combination:	0.58	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.007		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	700.1	>	One-Way Factored Shear (L-D. Kips):	309.5	0.44	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	700.1	>	One-Way Factored Shear (W-D., Kips)	309.5	0.44	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	723.7	>	One-Way Factored Shear (C-C, Kips):	312.1	0.43	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0058	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0058		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3734.7	>	Moment at Bottom (L-Dir. K-Ft):	1847.0	0.49	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3734.7	>	Moment at Bottom (W-Dir. K-Ft):	1847.0	0.49	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	5215.6	>	Moment at Bottom (C-C Dir. K-Ft):	2612.1	0.50	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0058	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0058		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	3734.7	>	Moment at the top (L-Dir K-Ft):	876.2	0.23	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	3734.7	>	Moment at the top (W-Dir K-Ft):	876.2	0.23	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	5215.6	>	Moment at the top (C-C Dir. K-Ft):	820.7	0.16	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	2070.9	k-ft.	Max. factored shear stress v_{u_CD}:		4.1	Psi
Max. factored shear stress v_{u_AB}:	16.5	Psi	Factored shear Strength ϕv_n:		189.7	Psi
Max. factored shear stress v_u:	16.5	Psi	Check Usage of Punching Shear Capacity:		0.09	OK!

EXHIBIT 8

Antenna Mount Structural Analysis

Source: SBA Date: 06.01.2016

SBA Site:	CT11794-S East Lyme 1
T-Mobile Site Number:	CTNL805B
Project:	L600 Project
Prepared For:	T-Mobile
Mount Description:	(3) T-Arms w/ Handrail and Kicker Augments
Site Location:	49 Brainerd Rd, Niantic, CT New Haven County 41.307583°, -72.223916°
Design Codes:	ANSI/TIA-222-G IBC 2015 w/ 2018 CT Building Code
Analysis Load Case:	T-Mobile Final Configuration
Analysis Result:	**Adequate @ 73%** - Once Augmented See Conclusion

STATE OF CONNECTICUT
GREGORY DURGIN
No.32155
LICENSED
PROFESSIONAL ENGINEER

Revision 0
June 20, 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 CT11794-S East Lyme 1 communications site in New Haven 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 = 135 mph (3-sec gust Ultimate Wind Speed) Wind w/o ice = 105 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} = 0.172
Maintenance Loads**: Lm = 0 lb @ Worst Case Mount Pipe (Concurrent with 30 mph Wind Speed) Lv = 0 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, 7/12/16.
- Tower Structural Analysis
  Hudson, L700 Project, Rev-1, 7/28/16.
- Colo Application
  SBA 600 MHz, App # 117055 v1.
- RFDS
  T-Mobile L600 Project, V3.1, CTNL805B, 5/14/19.

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
160.0'±	(3) ERICSSON AIR21 B2A/B4P	(3) T-Arms w/ Handrail and Kicker 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 remain installed on mount pipes in Positions 1 and 4 similar to existing.*
   - 2.2. *AARR panels to be installed on New Pipe2.5STD mount pipe in Position 3.*
3. *RRH/TMA units to be installed as follows:*
   - 3.1. *4449 RRHs to be installed on mount pipe behind panels in Position 3.*

4.0 Analysis Results

Table 4.1 – Augmented Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final T-Mobile Configuration	New V-Brace Angle	16%	**Adequate Once Augmented[3]**
	Standoff	38%	
	Bottom Rail	51%	
	Pipe2.0STD Mount Pipe	30%	
	New Pipe2.5STD Mount Pipe	51%	
	New PRK Double Angles	47%	
	New Handrail	43%	
	Standoff Plate	53%	
	Boom U-Bolts	73%	

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 Platform Reinforcement Kit;
  - Sitepro1 PRK-1245L, (1) total.
- Install V-Brace Kit and Handrail Kit;
  - Sitepro1 PRK-SFS-L, (1) total.

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 remain installed on mount pipes in Positions 1 and 4 similar to existing.
  - AARR panels to be installed on New Pipe2.5STD mount pipe in Position 3.
- RRH/TMA units to be installed as follows:
  - 4449 RRHs to be installed on mount pipe behind panels in Position 3.
- 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 CDs and recommendations*.

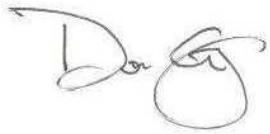
All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study, nor have they been provided a mount mapping to verify existing conditions and the results of this analysis are based solely on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

Jesse Drennen, PE, MLE
208.761.7986
jesse.drennen@geostructural.com

Reviewed and Approved by:



Don George, PE, SE, MLSE
208.602.6569
don.george@geostructural.com

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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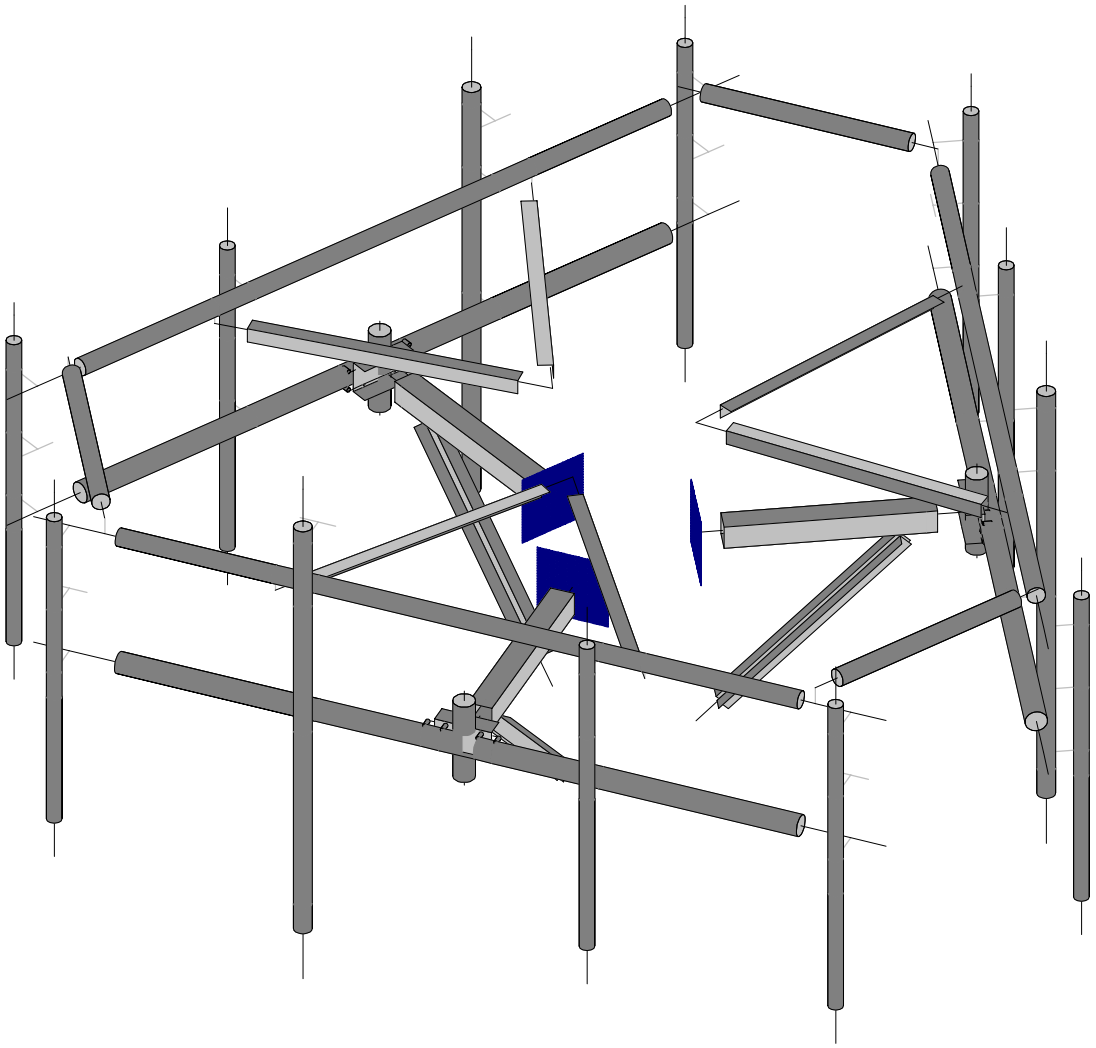

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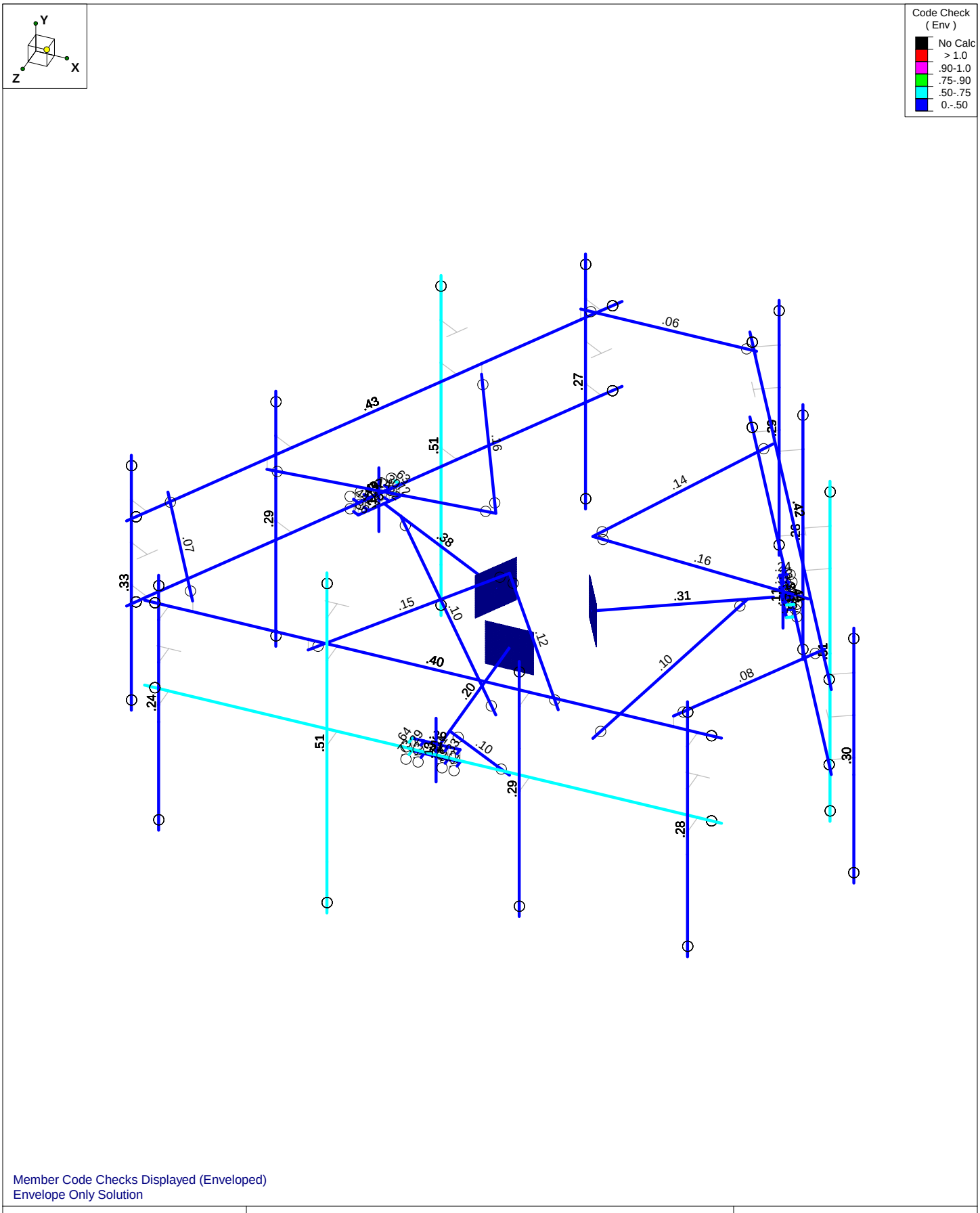

Member Code Checks Displayed (Enveloped)
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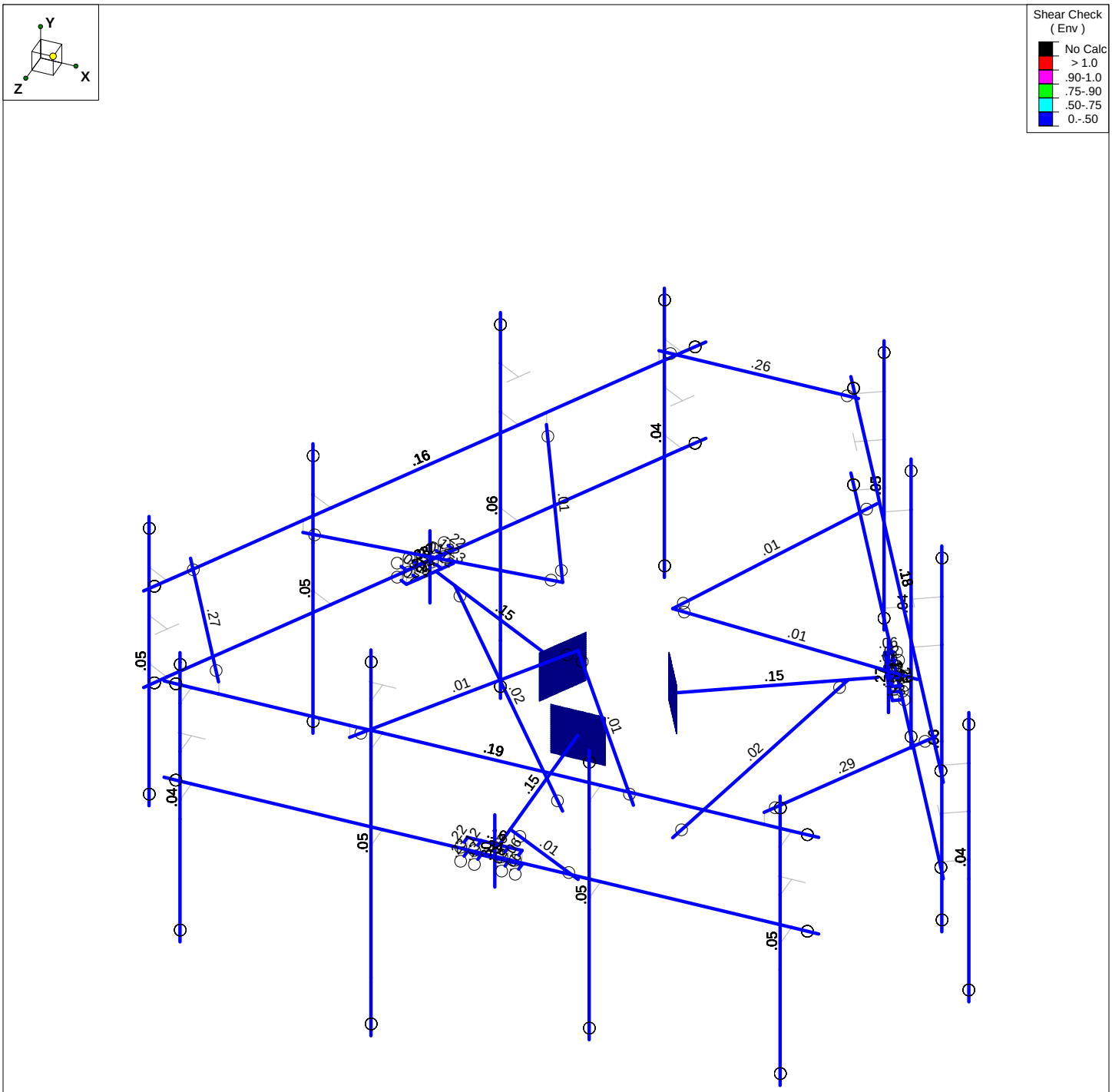

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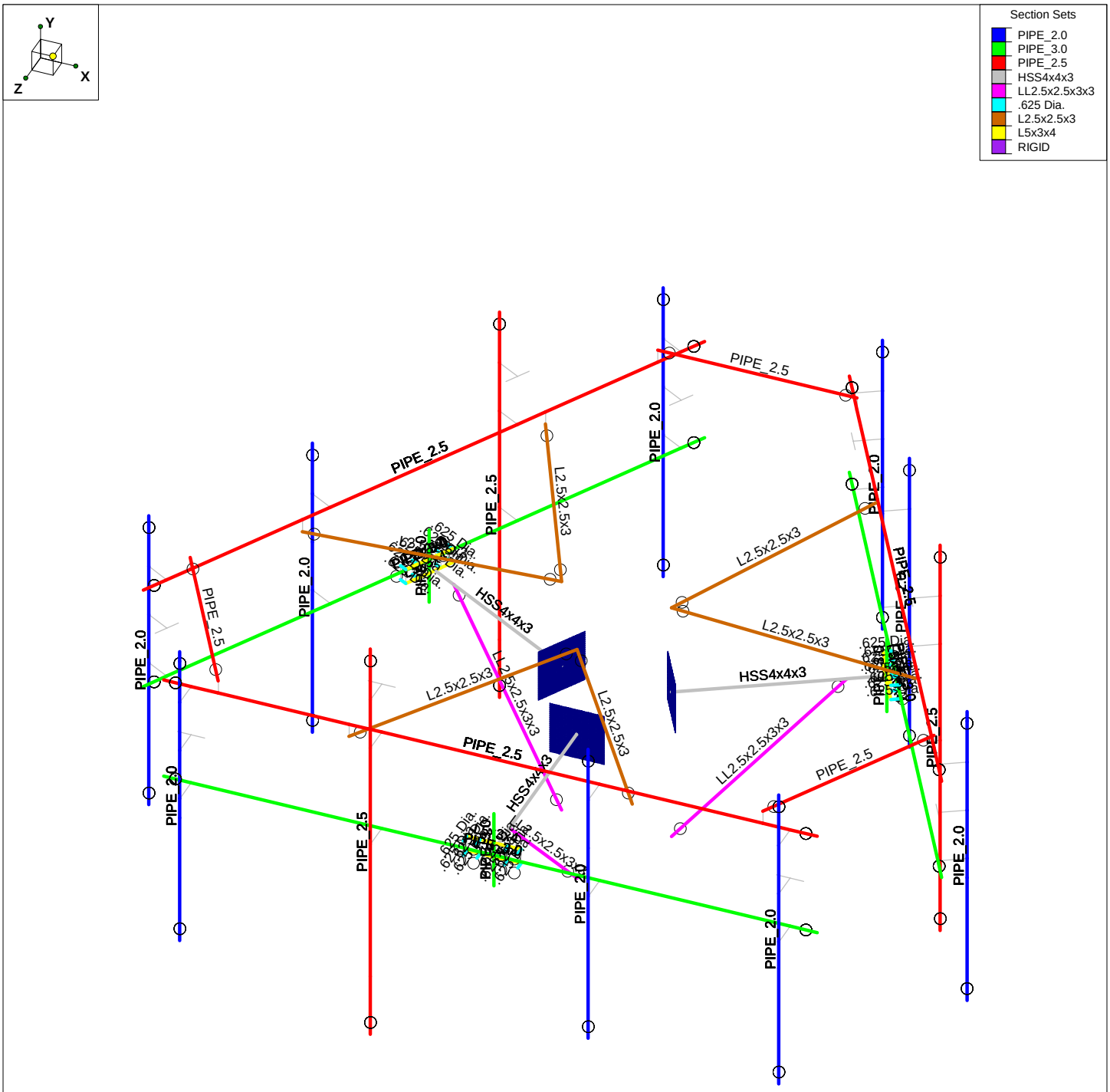

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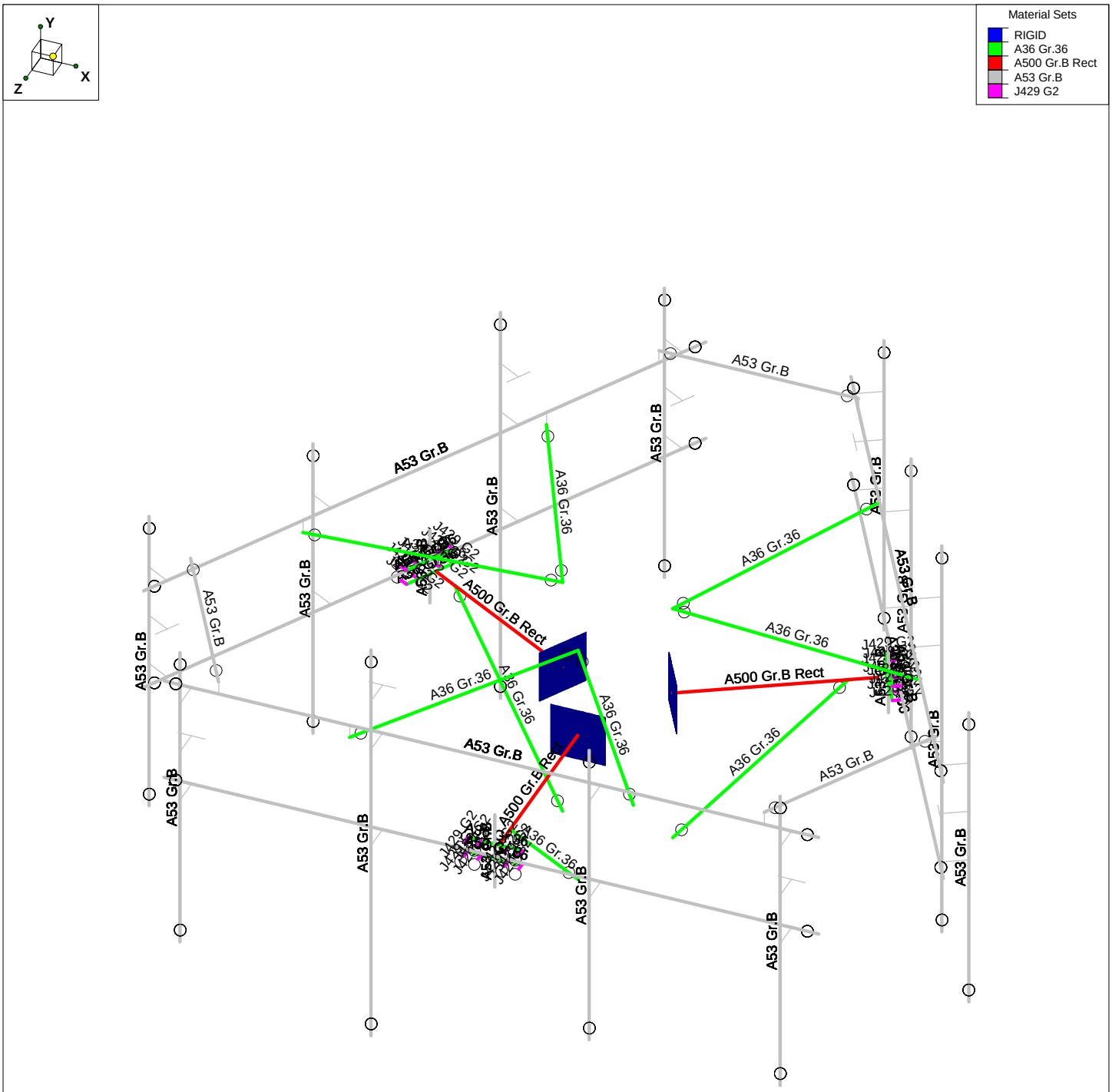

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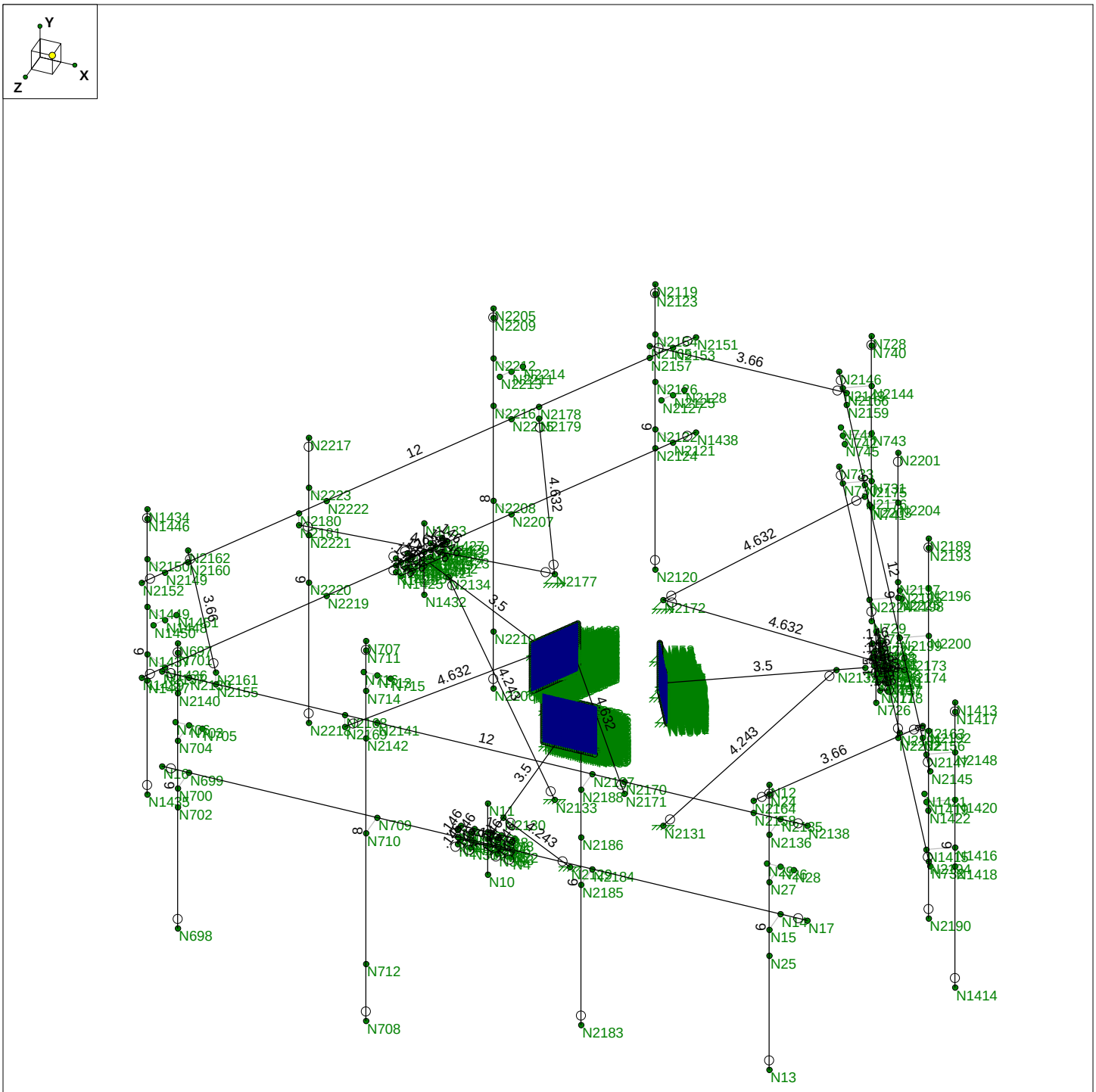

Member Length (ft) Displayed
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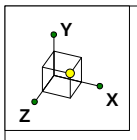

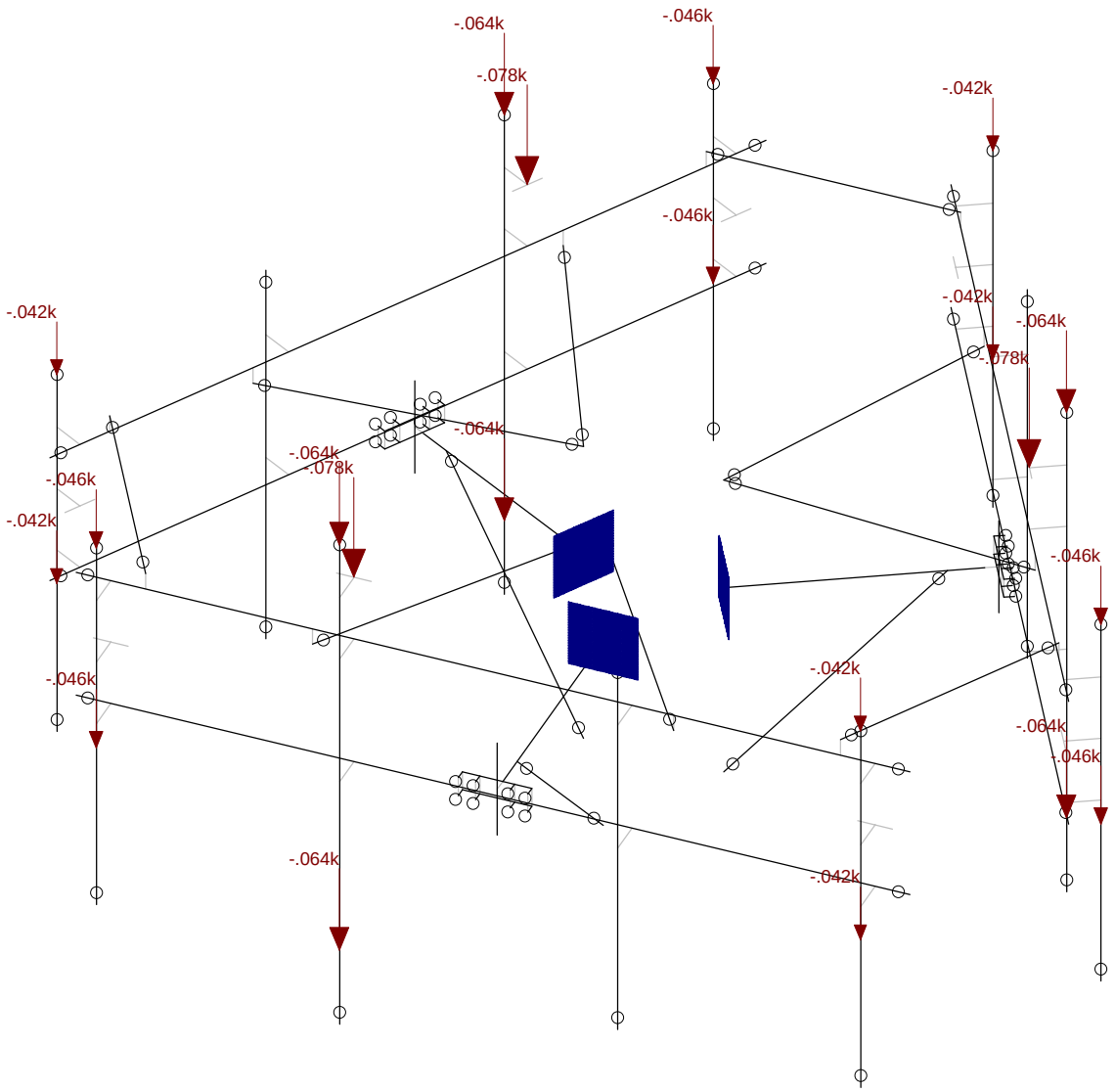

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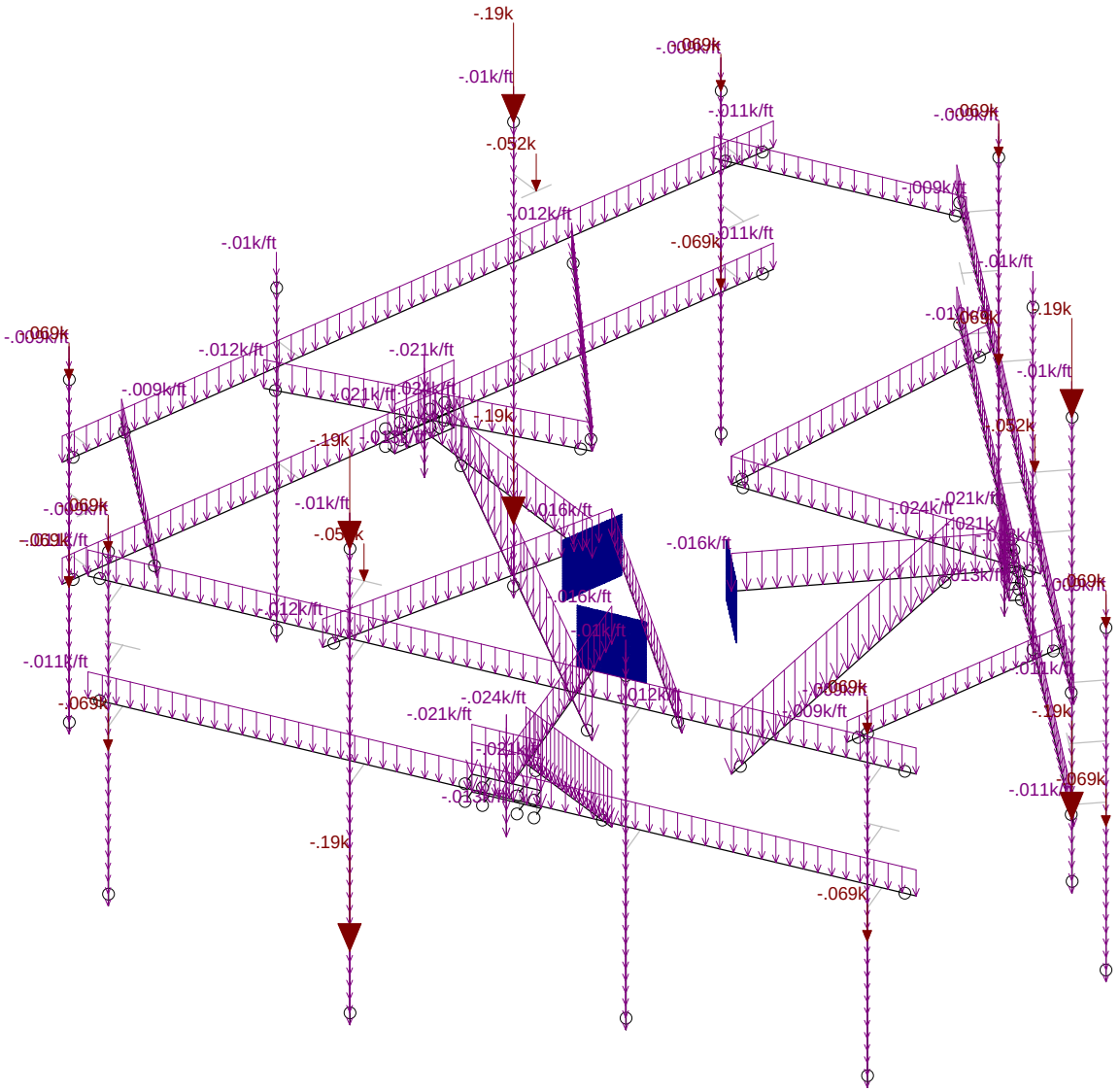

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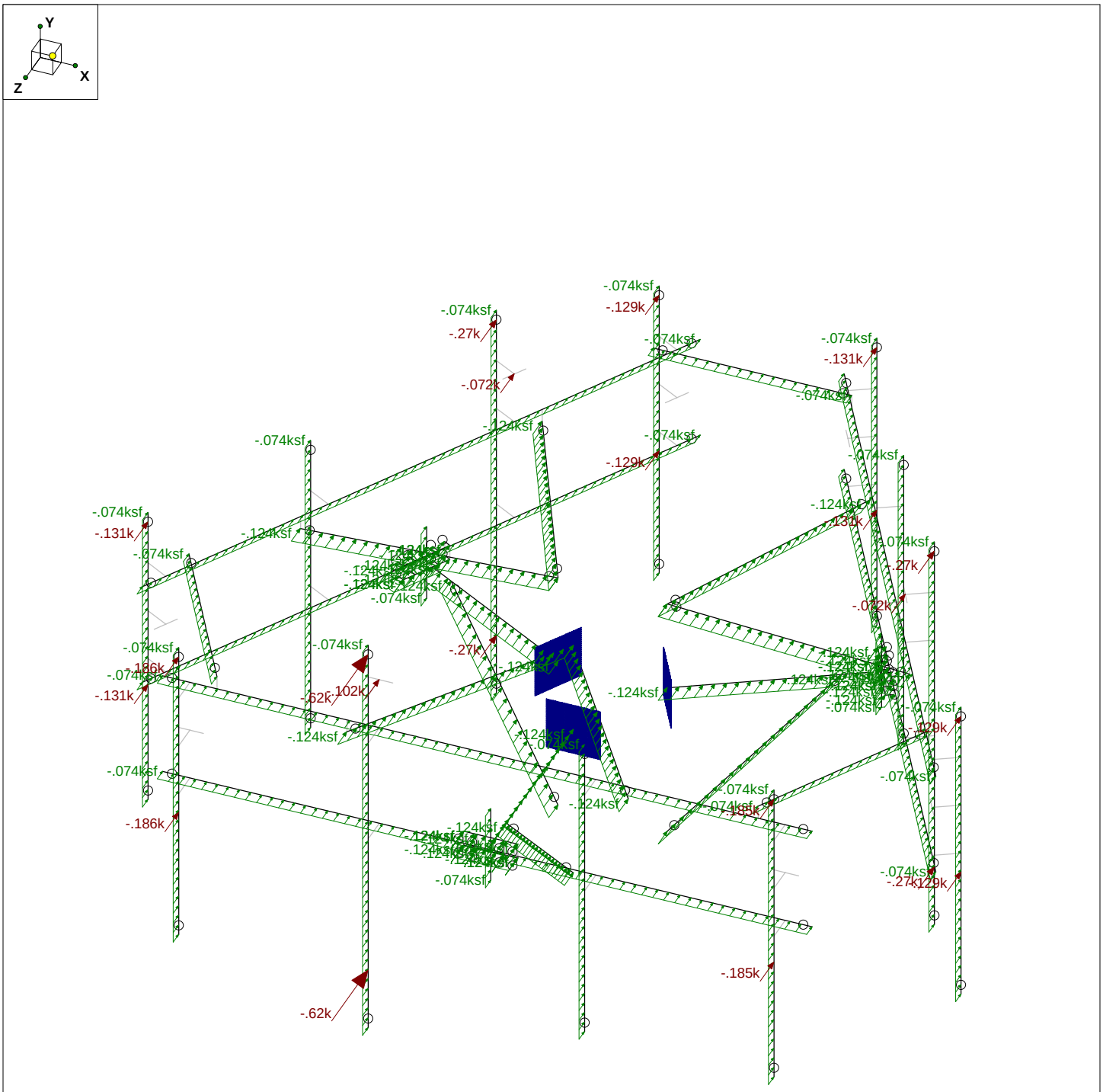

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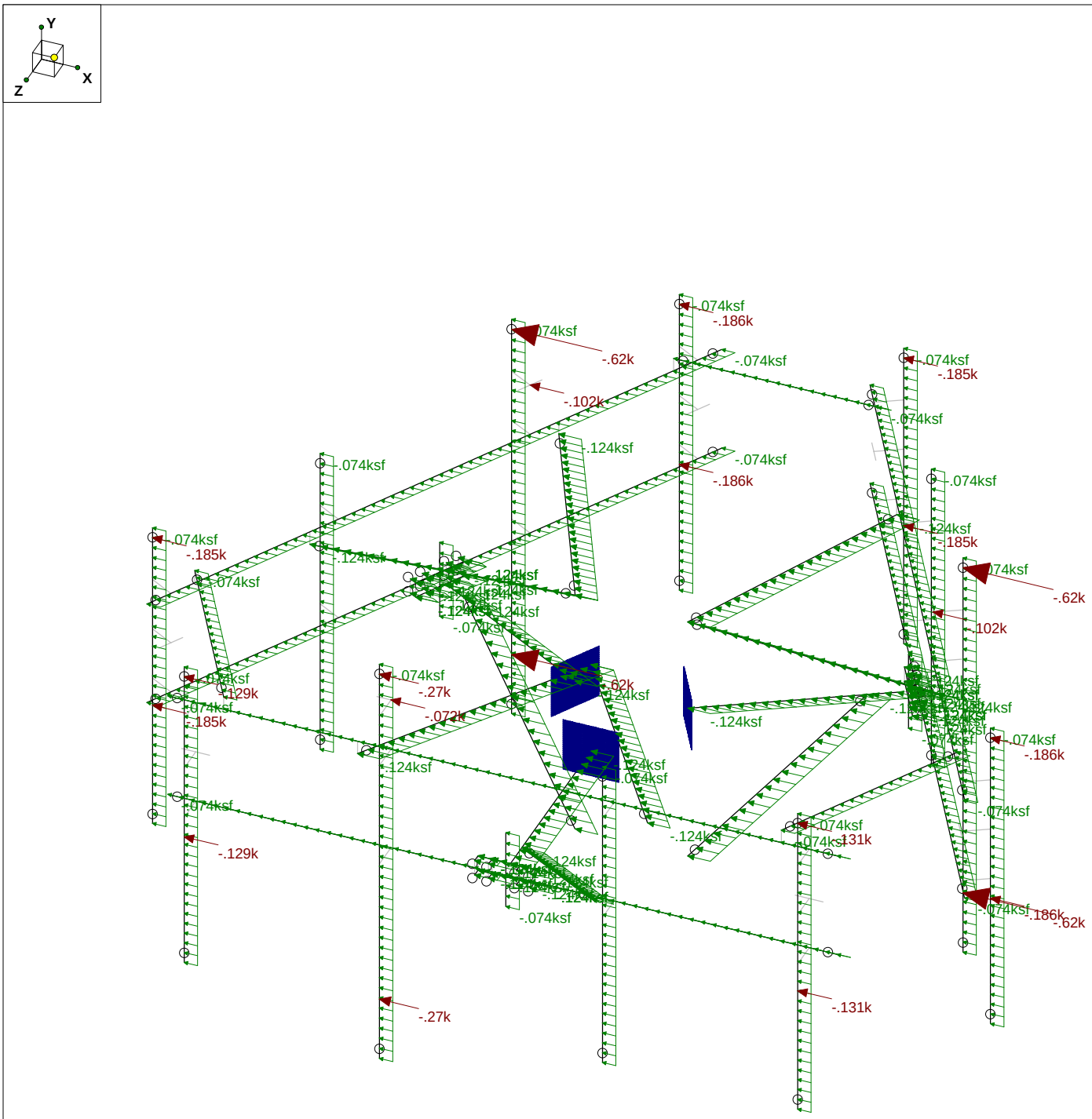

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Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	D	DL		-1		22				
2	Di	SL				22		45		
3	Lm [500]	LL								
4	Lv [250]	LL								
5	Woz	WL				22		66		
6	Wox	WL				22		66		
7	Wiz	WL				22		66		
8	Wix	WL				22		66		
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
7	A500 Gr.B RND_1	29000	11154	.3	.65	.527	42	1.4	58	1.3
8	A500 Gr.B Rect_1	29000	11154	.3	.65	.527	46	1.4	58	1.3
9	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
10	J429 G2	29000	11154	.3	.65	.49	57	1.5	75	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_2.0	PIPE_2.0	Beam	Pipe Def...	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	PIPE_3.0	PIPE_3.0	Beam	Pipe Def...	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
3	PIPE_2.5	PIPE_2.5	Beam	Pipe Def...	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	HSS4x4x3	HSS4x4x3	Beam	Tube Def...	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
5	3/8"x2.5"	3/8"x2.5"	Beam	Rectangu...	A36 Gr.36	Typical	.938	.011	.488	.04

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
6	LL2.5x2.5x3x3	LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical	1.8	2.46	1.07	.023
7	.625 Dia.	.625 Dia.	Beam	Round D...	J429 G2	Typical	.307	.007	.007	.015
8	3/8"x8"	3/8"x8"	Beam	Rectangu...	A36 Gr.36	Typical	3	.035	16	.136
9	L2.5x2.5x3	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	.901	.535	.535	.011
10	L5x3x4	L5x3x4	Beam	None	A36 Gr.36	Typical	1.94	1.41	5.09	.044

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	N18						
2	N40						
3	N41						
4	N42						
5	N43						
6	N138	Reaction	Reaction	Reaction			
7	N120	Reaction	Reaction	Reaction			
8	N569	Reaction	Reaction	Reaction			
9	N586						
10	N587	Reaction	Reaction	Reaction			
11	N696						
12	N734						
13	N756						
14	N757						
15	N758						
16	N759						
17	N836	Reaction	Reaction	Reaction			
18	N854	Reaction	Reaction	Reaction			
19	N1285	Reaction	Reaction	Reaction			
20	N1302						
21	N1303	Reaction	Reaction	Reaction			
22	N1412						
23	N1440						
24	N1462						
25	N1463						
26	N1464						
27	N1465						
28	N1542	Reaction	Reaction	Reaction			
29	N1560	Reaction	Reaction	Reaction			
30	N1991	Reaction	Reaction	Reaction			
31	N2008						
32	N2009	Reaction	Reaction	Reaction			
33	N2118						
34	N2129	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
35	N2130						
36	N2131	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
37	N2132						
38	N2133	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
39	N2134						
40	N2167	Reaction	Reaction	Reaction			
41	N2172	Reaction	Reaction	Reaction			
42	N2177	Reaction	Reaction	Reaction			

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N1			L5x3x4	Beam	None	A36 Gr.36	Typical
2	M2	N7	N1			RIGID	None	None	RIGID	Typical
3	M3	N8	N3			RIGID	None	None	RIGID	Typical
4	M4	N5	N2			RIGID	None	None	RIGID	Typical
5	M5	N6	N4			RIGID	None	None	RIGID	Typical
6	M6	N1	N2			.625 Dia.	Beam	Round Default	J429 G2	Typical
7	M7	N3	N4			.625 Dia.	Beam	Round Default	J429 G2	Typical
8	M8	N7	N5			.625 Dia.	Beam	Round Default	J429 G2	Typical
9	M9	N8	N6			.625 Dia.	Beam	Round Default	J429 G2	Typical
10	M10	N7	N8		180	L5x3x4	Beam	None	A36 Gr.36	Typical
11	M11	N9	N19			RIGID	None	None	RIGID	Typical
12	M12	N10	N11			PIPE_3.0	Beam	Pipe Default	A53 Gr.B	Typical
13	M13	N12	N13			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
14	M14	N14	N15			RIGID	None	None	RIGID	Typical
15	M15	N16	N17			PIPE_3.0	Beam	Pipe Default	A53 Gr.B	Typical
16	M16	N18	N19			HSS4x4x3	Beam	Tube Default	A500 Gr.B...	Typical
17	M17	N26	N27			RIGID	None	None	RIGID	Typical
18	M18	N29	N28			RIGID	None	None	RIGID	Typical
19	M19	N32	N31			RIGID	None	None	RIGID	Typical
20	M20	N30	N31			.625 Dia.	Beam	Round Default	J429 G2	Typical
21	M21	N33	N32			.625 Dia.	Beam	Round Default	J429 G2	Typical
22	M22	N37	N36			RIGID	None	None	RIGID	Typical
23	M23	N35	N36			.625 Dia.	Beam	Round Default	J429 G2	Typical
24	M24	N38	N37			.625 Dia.	Beam	Round Default	J429 G2	Typical
25	M25	N33	N30			RIGID	None	None	RIGID	Typical
26	M26	N38	N35			RIGID	None	None	RIGID	Typical
27	M27	N664	N250			RIGID	None	None	RIGID	Typical
28	M28	N665	N251			RIGID	None	None	RIGID	Typical
29	M29	N666	N252			RIGID	None	None	RIGID	Typical
30	M30	N667	N253			RIGID	None	None	RIGID	Typical
31	M31	N668	N254			RIGID	None	None	RIGID	Typical
32	M32	N669	N255			RIGID	None	None	RIGID	Typical
33	M33	N670	N256			RIGID	None	None	RIGID	Typical
34	M34	N671	N257			RIGID	None	None	RIGID	Typical
35	M35	N672	N258			RIGID	None	None	RIGID	Typical
36	M36	N674	N283			RIGID	None	None	RIGID	Typical
37	M37	N676	N308			RIGID	None	None	RIGID	Typical
38	M38	N678	N333			RIGID	None	None	RIGID	Typical
39	M39	N680	N357			RIGID	None	None	RIGID	Typical
40	M40	N682	N382			RIGID	None	None	RIGID	Typical
41	M41	N684	N407			RIGID	None	None	RIGID	Typical
42	M42	N686	N432			RIGID	None	None	RIGID	Typical
43	M43	N695	N457			RIGID	None	None	RIGID	Typical
44	M44	N694	N456			RIGID	None	None	RIGID	Typical
45	M45	N693	N455			RIGID	None	None	RIGID	Typical
46	M46	N692	N454			RIGID	None	None	RIGID	Typical
47	M47	N691	N453			RIGID	None	None	RIGID	Typical
48	M48	N690	N452			RIGID	None	None	RIGID	Typical
49	M49	N689	N451			RIGID	None	None	RIGID	Typical
50	M50	N688	N450			RIGID	None	None	RIGID	Typical
51	M51	N687	N449			RIGID	None	None	RIGID	Typical
52	M52	N685	N424			RIGID	None	None	RIGID	Typical
53	M53	N683	N399			RIGID	None	None	RIGID	Typical
54	M54	N681	N374			RIGID	None	None	RIGID	Typical
55	M55	N679	N350			RIGID	None	None	RIGID	Typical
56	M56	N677	N325			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
57	M57	N675	N300			RIGID	None	None	RIGID	Typical
58	M58	N673	N275			RIGID	None	None	RIGID	Typical
59	M59	N664	N672			RIGID	None	None	RIGID	Typical
60	M60	N672	N695			RIGID	None	None	RIGID	Typical
61	M61	N695	N687			RIGID	None	None	RIGID	Typical
62	M62	N687	N664			RIGID	None	None	RIGID	Typical
63	M63	N696	N680			RIGID	None	None	RIGID	Typical
64	M64	N696	N668			RIGID	None	None	RIGID	Typical
65	M65	N696	N679			RIGID	None	None	RIGID	Typical
66	M66	N696	N691			RIGID	None	None	RIGID	Typical
67	M67	N697	N698			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
68	M68	N699	N700			RIGID	None	None	RIGID	Typical
69	M69	N703	N704			RIGID	None	None	RIGID	Typical
70	M70	N706	N705			RIGID	None	None	RIGID	Typical
71	M71	N707	N708			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
72	M72	N709	N710			RIGID	None	None	RIGID	Typical
73	M73	N713	N714			RIGID	None	None	RIGID	Typical
74	M74	N716	N715			RIGID	None	None	RIGID	Typical
75	M75	N719	N717			L5x3x4	Beam	None	A36 Gr.36	Typical
76	M76	N723	N717			RIGID	None	None	RIGID	Typical
77	M77	N724	N719			RIGID	None	None	RIGID	Typical
78	M78	N721	N718			RIGID	None	None	RIGID	Typical
79	M79	N722	N720			RIGID	None	None	RIGID	Typical
80	M80	N717	N718			.625 Dia.	Beam	Round Default	J429 G2	Typical
81	M81	N719	N720			.625 Dia.	Beam	Round Default	J429 G2	Typical
82	M82	N723	N721			.625 Dia.	Beam	Round Default	J429 G2	Typical
83	M83	N724	N722			.625 Dia.	Beam	Round Default	J429 G2	Typical
84	M84	N723	N724		180	L5x3x4	Beam	None	A36 Gr.36	Typical
85	M85	N725	N735			RIGID	None	None	RIGID	Typical
86	M86	N726	N727			PIPE_3.0	Beam	Pipe Default	A53 Gr.B	Typical
87	M87	N728	N729			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
88	M88	N730	N731			RIGID	None	None	RIGID	Typical
89	M89	N732	N733			PIPE_3.0	Beam	Pipe Default	A53 Gr.B	Typical
90	M90	N734	N735			HSS4x4x3	Beam	Tube Default	A500 Gr.B...	Typical
91	M91	N742	N743			RIGID	None	None	RIGID	Typical
92	M92	N745	N744			RIGID	None	None	RIGID	Typical
93	M93	N748	N747			RIGID	None	None	RIGID	Typical
94	M94	N746	N747			.625 Dia.	Beam	Round Default	J429 G2	Typical
95	M95	N749	N748			.625 Dia.	Beam	Round Default	J429 G2	Typical
96	M96	N753	N752			RIGID	None	None	RIGID	Typical
97	M97	N751	N752			.625 Dia.	Beam	Round Default	J429 G2	Typical
98	M98	N754	N753			.625 Dia.	Beam	Round Default	J429 G2	Typical
99	M99	N749	N746			RIGID	None	None	RIGID	Typical
100	M100	N754	N751			RIGID	None	None	RIGID	Typical
101	M101	N1380	N966			RIGID	None	None	RIGID	Typical
102	M102	N1381	N967			RIGID	None	None	RIGID	Typical
103	M103	N1382	N968			RIGID	None	None	RIGID	Typical
104	M104	N1383	N969			RIGID	None	None	RIGID	Typical
105	M105	N1384	N970			RIGID	None	None	RIGID	Typical
106	M106	N1385	N971			RIGID	None	None	RIGID	Typical
107	M107	N1386	N972			RIGID	None	None	RIGID	Typical
108	M108	N1387	N973			RIGID	None	None	RIGID	Typical
109	M109	N1388	N974			RIGID	None	None	RIGID	Typical
110	M110	N1390	N999			RIGID	None	None	RIGID	Typical
111	M111	N1392	N1024			RIGID	None	None	RIGID	Typical
112	M112	N1394	N1049			RIGID	None	None	RIGID	Typical
113	M113	N1396	N1073			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
114	M114	N1398	N1098			RIGID	None	None	RIGID	Typical
115	M115	N1400	N1123			RIGID	None	None	RIGID	Typical
116	M116	N1402	N1148			RIGID	None	None	RIGID	Typical
117	M117	N1411	N1173			RIGID	None	None	RIGID	Typical
118	M118	N1410	N1172			RIGID	None	None	RIGID	Typical
119	M119	N1409	N1171			RIGID	None	None	RIGID	Typical
120	M120	N1408	N1170			RIGID	None	None	RIGID	Typical
121	M121	N1407	N1169			RIGID	None	None	RIGID	Typical
122	M122	N1406	N1168			RIGID	None	None	RIGID	Typical
123	M123	N1405	N1167			RIGID	None	None	RIGID	Typical
124	M124	N1404	N1166			RIGID	None	None	RIGID	Typical
125	M125	N1403	N1165			RIGID	None	None	RIGID	Typical
126	M126	N1401	N1140			RIGID	None	None	RIGID	Typical
127	M127	N1399	N1115			RIGID	None	None	RIGID	Typical
128	M128	N1397	N1090			RIGID	None	None	RIGID	Typical
129	M129	N1395	N1066			RIGID	None	None	RIGID	Typical
130	M130	N1393	N1041			RIGID	None	None	RIGID	Typical
131	M131	N1391	N1016			RIGID	None	None	RIGID	Typical
132	M132	N1389	N991			RIGID	None	None	RIGID	Typical
133	M133	N1380	N1388			RIGID	None	None	RIGID	Typical
134	M134	N1388	N1411			RIGID	None	None	RIGID	Typical
135	M135	N1411	N1403			RIGID	None	None	RIGID	Typical
136	M136	N1403	N1380			RIGID	None	None	RIGID	Typical
137	M137	N1412	N1396			RIGID	None	None	RIGID	Typical
138	M138	N1412	N1384			RIGID	None	None	RIGID	Typical
139	M139	N1412	N1395			RIGID	None	None	RIGID	Typical
140	M140	N1412	N1407			RIGID	None	None	RIGID	Typical
141	M141	N1413	N1414			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
142	M142	N1415	N1416			RIGID	None	None	RIGID	Typical
143	M143	N1419	N1420			RIGID	None	None	RIGID	Typical
144	M144	N1422	N1421			RIGID	None	None	RIGID	Typical
145	M145	N1425	N1423			L5x3x4	Beam	None	A36 Gr.36	Typical
146	M146	N1429	N1423			RIGID	None	None	RIGID	Typical
147	M147	N1430	N1425			RIGID	None	None	RIGID	Typical
148	M148	N1427	N1424			RIGID	None	None	RIGID	Typical
149	M149	N1428	N1426			RIGID	None	None	RIGID	Typical
150	M150	N1423	N1424			.625 Dia.	Beam	Round Default	J429 G2	Typical
151	M151	N1425	N1426			.625 Dia.	Beam	Round Default	J429 G2	Typical
152	M152	N1429	N1427			.625 Dia.	Beam	Round Default	J429 G2	Typical
153	M153	N1430	N1428			.625 Dia.	Beam	Round Default	J429 G2	Typical
154	M154	N1429	N1430		180	L5x3x4	Beam	None	A36 Gr.36	Typical
155	M155	N1431	N1441			RIGID	None	None	RIGID	Typical
156	M156	N1432	N1433			PIPE_3.0	Beam	Pipe Default	A53 Gr.B	Typical
157	M157	N1434	N1435			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
158	M158	N1436	N1437			RIGID	None	None	RIGID	Typical
159	M159	N1438	N1439			PIPE_3.0	Beam	Pipe Default	A53 Gr.B	Typical
160	M160	N1440	N1441			HSS4x4x3	Beam	Tube Default	A500 Gr.B...	Typical
161	M161	N1448	N1449			RIGID	None	None	RIGID	Typical
162	M162	N1451	N1450			RIGID	None	None	RIGID	Typical
163	M163	N1454	N1453			RIGID	None	None	RIGID	Typical
164	M164	N1452	N1453			.625 Dia.	Beam	Round Default	J429 G2	Typical
165	M165	N1455	N1454			.625 Dia.	Beam	Round Default	J429 G2	Typical
166	M166	N1459	N1458			RIGID	None	None	RIGID	Typical
167	M167	N1457	N1458			.625 Dia.	Beam	Round Default	J429 G2	Typical
168	M168	N1460	N1459			.625 Dia.	Beam	Round Default	J429 G2	Typical
169	M169	N1455	N1452			RIGID	None	None	RIGID	Typical
170	M170	N1460	N1457			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
171	M171	N2086	N1672			RIGID	None	None	RIGID	Typical
172	M172	N2087	N1673			RIGID	None	None	RIGID	Typical
173	M173	N2088	N1674			RIGID	None	None	RIGID	Typical
174	M174	N2089	N1675			RIGID	None	None	RIGID	Typical
175	M175	N2090	N1676			RIGID	None	None	RIGID	Typical
176	M176	N2091	N1677			RIGID	None	None	RIGID	Typical
177	M177	N2092	N1678			RIGID	None	None	RIGID	Typical
178	M178	N2093	N1679			RIGID	None	None	RIGID	Typical
179	M179	N2094	N1680			RIGID	None	None	RIGID	Typical
180	M180	N2096	N1705			RIGID	None	None	RIGID	Typical
181	M181	N2098	N1730			RIGID	None	None	RIGID	Typical
182	M182	N2100	N1755			RIGID	None	None	RIGID	Typical
183	M183	N2102	N1779			RIGID	None	None	RIGID	Typical
184	M184	N2104	N1804			RIGID	None	None	RIGID	Typical
185	M185	N2106	N1829			RIGID	None	None	RIGID	Typical
186	M186	N2108	N1854			RIGID	None	None	RIGID	Typical
187	M187	N2117	N1879			RIGID	None	None	RIGID	Typical
188	M188	N2116	N1878			RIGID	None	None	RIGID	Typical
189	M189	N2115	N1877			RIGID	None	None	RIGID	Typical
190	M190	N2114	N1876			RIGID	None	None	RIGID	Typical
191	M191	N2113	N1875			RIGID	None	None	RIGID	Typical
192	M192	N2112	N1874			RIGID	None	None	RIGID	Typical
193	M193	N2111	N1873			RIGID	None	None	RIGID	Typical
194	M194	N2110	N1872			RIGID	None	None	RIGID	Typical
195	M195	N2109	N1871			RIGID	None	None	RIGID	Typical
196	M196	N2107	N1846			RIGID	None	None	RIGID	Typical
197	M197	N2105	N1821			RIGID	None	None	RIGID	Typical
198	M198	N2103	N1796			RIGID	None	None	RIGID	Typical
199	M199	N2101	N1772			RIGID	None	None	RIGID	Typical
200	M200	N2099	N1747			RIGID	None	None	RIGID	Typical
201	M201	N2097	N1722			RIGID	None	None	RIGID	Typical
202	M202	N2095	N1697			RIGID	None	None	RIGID	Typical
203	M203	N2086	N2094			RIGID	None	None	RIGID	Typical
204	M204	N2094	N2117			RIGID	None	None	RIGID	Typical
205	M205	N2117	N2109			RIGID	None	None	RIGID	Typical
206	M206	N2109	N2086			RIGID	None	None	RIGID	Typical
207	M207	N2118	N2102			RIGID	None	None	RIGID	Typical
208	M208	N2118	N2090			RIGID	None	None	RIGID	Typical
209	M209	N2118	N2101			RIGID	None	None	RIGID	Typical
210	M210	N2118	N2113			RIGID	None	None	RIGID	Typical
211	M211	N2119	N2120			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
212	M212	N2121	N2122			RIGID	None	None	RIGID	Typical
213	M213	N2125	N2126			RIGID	None	None	RIGID	Typical
214	M214	N2128	N2127			RIGID	None	None	RIGID	Typical
215	M215	N2130	N2129			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
216	M216	N2132	N2131			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
217	M217	N2134	N2133			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
218	M218	N2135	N2136			RIGID	None	None	RIGID	Typical
219	M219	N2137	N2138			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
220	M220	N2139	N2140			RIGID	None	None	RIGID	Typical
221	M221	N2141	N2142			RIGID	None	None	RIGID	Typical
222	M222	N2143	N2144			RIGID	None	None	RIGID	Typical
223	M223	N2145	N2146			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
224	M224	N2147	N2148			RIGID	None	None	RIGID	Typical
225	M225	N2149	N2150			RIGID	None	None	RIGID	Typical
226	M226	N2151	N2152			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
227	M227	N2153	N2154			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
228	M228	N2161	N2155			RIGID	None	None	RIGID	Typical
229	M229	N2162	N2160			RIGID	None	None	RIGID	Typical
230	M230	N2162	N2161			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
231	M231	N2163	N2156			RIGID	None	None	RIGID	Typical
232	M232	N2164	N2158			RIGID	None	None	RIGID	Typical
233	M233	N2164	N2163			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
234	M234	N2165	N2157			RIGID	None	None	RIGID	Typical
235	M235	N2166	N2159			RIGID	None	None	RIGID	Typical
236	M236	N2166	N2165			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
237	M237	N2168	N2169			RIGID	None	None	RIGID	Typical
238	M238	N2169	N2167		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
239	M239	N2170	N2171			RIGID	None	None	RIGID	Typical
240	M240	N2171	N2167		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
241	M241	N2173	N2174			RIGID	None	None	RIGID	Typical
242	M242	N2174	N2172		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
243	M243	N2175	N2176			RIGID	None	None	RIGID	Typical
244	M244	N2176	N2172		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
245	M245	N2178	N2179			RIGID	None	None	RIGID	Typical
246	M246	N2179	N2177		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
247	M247	N2180	N2181			RIGID	None	None	RIGID	Typical
248	M248	N2181	N2177		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
249	M249	N2182	N2183			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
250	M250	N2184	N2185			RIGID	None	None	RIGID	Typical
251	M251	N2187	N2188			RIGID	None	None	RIGID	Typical
252	M252	N2189	N2190			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
253	M253	N2191	N2192			RIGID	None	None	RIGID	Typical
254	M254	N2195	N2196			RIGID	None	None	RIGID	Typical
255	M255	N2198	N2197			RIGID	None	None	RIGID	Typical
256	M256	N2199	N2200			RIGID	None	None	RIGID	Typical
257	M257	N2201	N2202			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
258	M258	N2203	N2204			RIGID	None	None	RIGID	Typical
259	M259	N2205	N2206			PIPE_2.5	Beam	Pipe Default	A53 Gr.B	Typical
260	M260	N2207	N2208			RIGID	None	None	RIGID	Typical
261	M261	N2211	N2212			RIGID	None	None	RIGID	Typical
262	M262	N2214	N2213			RIGID	None	None	RIGID	Typical
263	M263	N2215	N2216			RIGID	None	None	RIGID	Typical
264	M264	N2217	N2218			PIPE_2.0	Beam	Pipe Default	A53 Gr.B	Typical
265	M265	N2219	N2220			RIGID	None	None	RIGID	Typical
266	M266	N2222	N2223			RIGID	None	None	RIGID	Typical
267	M267	N2224	N2225			RIGID	None	None	RIGID	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						Yes				None
2	M2						Yes	** NA **			None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M5						Yes	** NA **			None
6	M6	BenPIN					Yes				None
7	M7	BenPIN					Yes				None
8	M8	BenPIN					Yes				None
9	M9	BenPIN					Yes				None
10	M10						Yes				None
11	M11						Yes	** NA **			None
12	M12						Yes				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...
13	M13	BenPIN	BenPIN				Yes				None
14	M14						Yes	** NA **			None
15	M15	BenPIN	BenPIN				Yes				None
16	M16						Yes	Default			None
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19						Yes	** NA **			None
20	M20	BenPIN					Yes				None
21	M21	BenPIN					Yes				None
22	M22						Yes	** NA **			None
23	M23	BenPIN					Yes				None
24	M24	BenPIN					Yes				None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None
28	M28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30						Yes	** NA **			None
31	M31						Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None
34	M34						Yes	** NA **			None
35	M35						Yes	** NA **			None
36	M36						Yes	** NA **			None
37	M37						Yes	** NA **			None
38	M38						Yes	** NA **			None
39	M39						Yes	** NA **			None
40	M40						Yes	** NA **			None
41	M41						Yes	** NA **			None
42	M42						Yes	** NA **			None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	M45						Yes	** NA **			None
46	M46						Yes	** NA **			None
47	M47						Yes	** NA **			None
48	M48						Yes	** NA **			None
49	M49						Yes	** NA **			None
50	M50						Yes	** NA **			None
51	M51						Yes	** NA **			None
52	M52						Yes	** NA **			None
53	M53						Yes	** NA **			None
54	M54						Yes	** NA **			None
55	M55						Yes	** NA **			None
56	M56						Yes	** NA **			None
57	M57						Yes	** NA **			None
58	M58						Yes	** NA **			None
59	M59						Yes	** NA **			None
60	M60						Yes	** NA **			None
61	M61						Yes	** NA **			None
62	M62						Yes	** NA **			None
63	M63						Yes	** NA **			None
64	M64						Yes	** NA **			None
65	M65						Yes	** NA **			None
66	M66						Yes	** NA **			None
67	M67	BenPIN	BenPIN				Yes				None
68	M68						Yes	** NA **			None
69	M69						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...
70	M70						Yes	** NA **			None
71	M71	BenPIN	BenPIN				Yes				None
72	M72						Yes	** NA **			None
73	M73						Yes	** NA **			None
74	M74						Yes	** NA **			None
75	M75						Yes				None
76	M76						Yes	** NA **			None
77	M77						Yes	** NA **			None
78	M78						Yes	** NA **			None
79	M79						Yes	** NA **			None
80	M80	BenPIN					Yes				None
81	M81	BenPIN					Yes				None
82	M82	BenPIN					Yes				None
83	M83	BenPIN					Yes				None
84	M84						Yes				None
85	M85						Yes	** NA **			None
86	M86						Yes				None
87	M87	BenPIN	BenPIN				Yes				None
88	M88						Yes	** NA **			None
89	M89	BenPIN	BenPIN				Yes				None
90	M90						Yes	Default			None
91	M91						Yes	** NA **			None
92	M92						Yes	** NA **			None
93	M93						Yes	** NA **			None
94	M94	BenPIN					Yes				None
95	M95	BenPIN					Yes				None
96	M96						Yes	** NA **			None
97	M97	BenPIN					Yes				None
98	M98	BenPIN					Yes				None
99	M99						Yes	** NA **			None
100	M100						Yes	** NA **			None
101	M101						Yes	** NA **			None
102	M102						Yes	** NA **			None
103	M103						Yes	** NA **			None
104	M104						Yes	** NA **			None
105	M105						Yes	** NA **			None
106	M106						Yes	** NA **			None
107	M107						Yes	** NA **			None
108	M108						Yes	** NA **			None
109	M109						Yes	** NA **			None
110	M110						Yes	** NA **			None
111	M111						Yes	** NA **			None
112	M112						Yes	** NA **			None
113	M113						Yes	** NA **			None
114	M114						Yes	** NA **			None
115	M115						Yes	** NA **			None
116	M116						Yes	** NA **			None
117	M117						Yes	** NA **			None
118	M118						Yes	** NA **			None
119	M119						Yes	** NA **			None
120	M120						Yes	** NA **			None
121	M121						Yes	** NA **			None
122	M122						Yes	** NA **			None
123	M123						Yes	** NA **			None
124	M124						Yes	** NA **			None
125	M125						Yes	** NA **			None
126	M126						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...
127	M127						Yes	** NA **			None
128	M128						Yes	** NA **			None
129	M129						Yes	** NA **			None
130	M130						Yes	** NA **			None
131	M131						Yes	** NA **			None
132	M132						Yes	** NA **			None
133	M133						Yes	** NA **			None
134	M134						Yes	** NA **			None
135	M135						Yes	** NA **			None
136	M136						Yes	** NA **			None
137	M137						Yes	** NA **			None
138	M138						Yes	** NA **			None
139	M139						Yes	** NA **			None
140	M140						Yes	** NA **			None
141	M141	BenPIN	BenPIN				Yes				None
142	M142						Yes	** NA **			None
143	M143						Yes	** NA **			None
144	M144						Yes	** NA **			None
145	M145						Yes				None
146	M146						Yes	** NA **			None
147	M147						Yes	** NA **			None
148	M148						Yes	** NA **			None
149	M149						Yes	** NA **			None
150	M150	BenPIN					Yes				None
151	M151	BenPIN					Yes				None
152	M152	BenPIN					Yes				None
153	M153	BenPIN					Yes				None
154	M154						Yes				None
155	M155						Yes	** NA **			None
156	M156						Yes				None
157	M157	BenPIN	BenPIN				Yes				None
158	M158						Yes	** NA **			None
159	M159	BenPIN	BenPIN				Yes				None
160	M160						Yes	Default			None
161	M161						Yes	** NA **			None
162	M162						Yes	** NA **			None
163	M163						Yes	** NA **			None
164	M164	BenPIN					Yes				None
165	M165	BenPIN					Yes				None
166	M166						Yes	** NA **			None
167	M167	BenPIN					Yes				None
168	M168	BenPIN					Yes				None
169	M169						Yes	** NA **			None
170	M170						Yes	** NA **			None
171	M171						Yes	** NA **			None
172	M172						Yes	** NA **			None
173	M173						Yes	** NA **			None
174	M174						Yes	** NA **			None
175	M175						Yes	** NA **			None
176	M176						Yes	** NA **			None
177	M177						Yes	** NA **			None
178	M178						Yes	** NA **			None
179	M179						Yes	** NA **			None
180	M180						Yes	** NA **			None
181	M181						Yes	** NA **			None
182	M182						Yes	** NA **			None
183	M183						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...
184	M184						Yes	** NA **			None
185	M185						Yes	** NA **			None
186	M186						Yes	** NA **			None
187	M187						Yes	** NA **			None
188	M188						Yes	** NA **			None
189	M189						Yes	** NA **			None
190	M190						Yes	** NA **			None
191	M191						Yes	** NA **			None
192	M192						Yes	** NA **			None
193	M193						Yes	** NA **			None
194	M194						Yes	** NA **			None
195	M195						Yes	** NA **			None
196	M196						Yes	** NA **			None
197	M197						Yes	** NA **			None
198	M198						Yes	** NA **			None
199	M199						Yes	** NA **			None
200	M200						Yes	** NA **			None
201	M201						Yes	** NA **			None
202	M202						Yes	** NA **			None
203	M203						Yes	** NA **			None
204	M204						Yes	** NA **			None
205	M205						Yes	** NA **			None
206	M206						Yes	** NA **			None
207	M207						Yes	** NA **			None
208	M208						Yes	** NA **			None
209	M209						Yes	** NA **			None
210	M210						Yes	** NA **			None
211	M211	BenPIN	BenPIN				Yes				None
212	M212						Yes	** NA **			None
213	M213						Yes	** NA **			None
214	M214						Yes	** NA **			None
215	M215	BenPIN	BenPIN				Yes				None
216	M216	BenPIN	BenPIN				Yes				None
217	M217	BenPIN	BenPIN				Yes				None
218	M218		BenPIN				Yes	** NA **			None
219	M219	BenPIN	BenPIN				Yes				None
220	M220		BenPIN				Yes	** NA **			None
221	M221		BenPIN				Yes	** NA **			None
222	M222		BenPIN				Yes	** NA **			None
223	M223	BenPIN	BenPIN				Yes				None
224	M224		BenPIN				Yes	** NA **			None
225	M225		BenPIN				Yes	** NA **			None
226	M226	BenPIN	BenPIN				Yes				None
227	M227		BenPIN				Yes	** NA **			None
228	M228						Yes	** NA **			None
229	M229						Yes	** NA **			None
230	M230	BenPIN	BenPIN				Yes				None
231	M231						Yes	** NA **			None
232	M232						Yes	** NA **			None
233	M233	BenPIN	BenPIN				Yes				None
234	M234						Yes	** NA **			None
235	M235						Yes	** NA **			None
236	M236	BenPIN	BenPIN				Yes				None
237	M237						Yes	** NA **			None
238	M238	BenPIN	BenPIN				Yes				None
239	M239						Yes	** NA **			None
240	M240	BenPIN	BenPIN				Yes				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...
241	M241						Yes	** NA **			None
242	M242	BenPIN	BenPIN				Yes				None
243	M243						Yes	** NA **			None
244	M244	BenPIN	BenPIN				Yes				None
245	M245						Yes	** NA **			None
246	M246	BenPIN	BenPIN				Yes				None
247	M247						Yes	** NA **			None
248	M248	BenPIN	BenPIN				Yes				None
249	M249	BenPIN	BenPIN				Yes				None
250	M250						Yes	** NA **			None
251	M251		BenPIN				Yes	** NA **			None
252	M252	BenPIN	BenPIN				Yes				None
253	M253						Yes	** NA **			None
254	M254						Yes	** NA **			None
255	M255						Yes	** NA **			None
256	M256		BenPIN				Yes	** NA **			None
257	M257	BenPIN	BenPIN				Yes				None
258	M258		BenPIN				Yes	** NA **			None
259	M259	BenPIN	BenPIN				Yes				None
260	M260						Yes	** NA **			None
261	M261						Yes	** NA **			None
262	M262						Yes	** NA **			None
263	M263		BenPIN				Yes	** NA **			None
264	M264	BenPIN	BenPIN				Yes				None
265	M265						Yes	** NA **			None
266	M266		BenPIN				Yes	** NA **			None
267	M267						Yes	** NA **			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	L5x3x4	1			Lbyy						Lateral
2	M6	.625 Dia.	.146			Lbyy						Lateral
3	M7	.625 Dia.	.146			Lbyy						Lateral
4	M8	.625 Dia.	.146			Lbyy						Lateral
5	M9	.625 Dia.	.146			Lbyy						Lateral
6	M10	L5x3x4	1			Lbyy						Lateral
7	M12	PIPE_3.0	1.5			Lbyy						Lateral
8	M13	PIPE_2.0	6			Lbyy						Lateral
9	M15	PIPE_3.0	12			Lbyy						Lateral
10	M16	HSS4x4x3	3.5			Lbyy						Lateral
11	M20	.625 Dia.	.146			Lbyy						Lateral
12	M21	.625 Dia.	.146			Lbyy						Lateral
13	M23	.625 Dia.	.146			Lbyy						Lateral
14	M24	.625 Dia.	.146			Lbyy						Lateral
15	M67	PIPE_2.0	6			Lbyy						Lateral
16	M71	PIPE_2.5	8			Lbyy						Lateral
17	M75	L5x3x4	1			Lbyy						Lateral
18	M80	.625 Dia.	.146			Lbyy						Lateral
19	M81	.625 Dia.	.146			Lbyy						Lateral
20	M82	.625 Dia.	.146			Lbyy						Lateral
21	M83	.625 Dia.	.146			Lbyy						Lateral
22	M84	L5x3x4	1			Lbyy						Lateral
23	M86	PIPE_3.0	1.5			Lbyy						Lateral
24	M87	PIPE_2.0	6			Lbyy						Lateral
25	M89	PIPE_3.0	12			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
26	M90	HSS4x4x3	3.5			Lbyy						Lateral
27	M94	.625 Dia.	.146			Lbyy						Lateral
28	M95	.625 Dia.	.146			Lbyy						Lateral
29	M97	.625 Dia.	.146			Lbyy						Lateral
30	M98	.625 Dia.	.146			Lbyy						Lateral
31	M141	PIPE_2.0	6			Lbyy						Lateral
32	M145	L5x3x4	1			Lbyy						Lateral
33	M150	.625 Dia.	.146			Lbyy						Lateral
34	M151	.625 Dia.	.146			Lbyy						Lateral
35	M152	.625 Dia.	.146			Lbyy						Lateral
36	M153	.625 Dia.	.146			Lbyy						Lateral
37	M154	L5x3x4	1			Lbyy						Lateral
38	M156	PIPE_3.0	1.5			Lbyy						Lateral
39	M157	PIPE_2.0	6			Lbyy						Lateral
40	M159	PIPE_3.0	12			Lbyy						Lateral
41	M160	HSS4x4x3	3.5			Lbyy						Lateral
42	M164	.625 Dia.	.146			Lbyy						Lateral
43	M165	.625 Dia.	.146			Lbyy						Lateral
44	M167	.625 Dia.	.146			Lbyy						Lateral
45	M168	.625 Dia.	.146			Lbyy						Lateral
46	M211	PIPE_2.0	6			Lbyy						Lateral
47	M215	LL2.5x2.5x3...	4.243			Lbyy						Lateral
48	M216	LL2.5x2.5x3...	4.243			Lbyy						Lateral
49	M217	LL2.5x2.5x3...	4.243			Lbyy						Lateral
50	M219	PIPE_2.5	12			Lbyy						Lateral
51	M223	PIPE_2.5	12			Lbyy						Lateral
52	M226	PIPE_2.5	12			Lbyy						Lateral
53	M230	PIPE_2.5	3.66			Lbyy						Lateral
54	M233	PIPE_2.5	3.66			Lbyy						Lateral
55	M236	PIPE_2.5	3.66			Lbyy						Lateral
56	M238	L2.5x2.5x3	4.632			Lbyy						Lateral
57	M240	L2.5x2.5x3	4.632			Lbyy						Lateral
58	M242	L2.5x2.5x3	4.632			Lbyy						Lateral
59	M244	L2.5x2.5x3	4.632			Lbyy						Lateral
60	M246	L2.5x2.5x3	4.632			Lbyy						Lateral
61	M248	L2.5x2.5x3	4.632			Lbyy						Lateral
62	M249	PIPE_2.0	6			Lbyy						Lateral
63	M252	PIPE_2.5	8			Lbyy						Lateral
64	M257	PIPE_2.0	6			Lbyy						Lateral
65	M259	PIPE_2.5	8			Lbyy						Lateral
66	M264	PIPE_2.0	6			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	N138	max	.202	29	.072	18	.608	23	0	74	0	74	0	74
2		min	.008	22	-.45	37	-.923	5	0	1	0	1	0	1
3	N120	max	.299	28	.241	10	1.098	15	0	74	0	74	0	74
4		min	-.02	21	-.129	16	-1.39	9	0	1	0	1	0	1
5	N569	max	.15	17	.144	9	.719	16	0	74	0	74	0	74
6		min	-.39	35	-.046	16	-1.22	10	0	1	0	1	0	1
7	N587	max	.178	17	.04	19	.655	22	0	74	0	74	0	74
8		min	-.361	11	-.424	26	-1.174	4	0	1	0	1	0	1
9	N836	max	1.576	21	.235	13	1.384	16	0	74	0	74	0	74
10		min	-1.957	4	-.117	19	-1.388	10	0	1	0	1	0	1
11	N854	max	2.437	16	.004	22	1.071	10	0	74	0	74	0	74

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
12		min	-2.744	10	-.442	28	-1.057	16	0	1	0	1	0	1
13	N1285	max	1.771	22	.288	11	1.739	4	0	74	0	74	0	74
14		min	-2.108	4	-.178	17	-1.256	22	0	1	0	1	0	1
15	N1303	max	2.224	16	-.044	16	1.275	10	0	74	0	74	0	74
16		min	-2.539	10	-.415	33	-.869	16	0	1	0	1	0	1
17	N1542	max	3.178	6	.185	6	1.472	6	0	74	0	74	0	74
18		min	-3.044	24	-.074	24	-1.171	24	0	1	0	1	0	1
19	N1560	max	2.367	12	0	15	1.897	12	0	74	0	74	0	74
20		min	-2.138	19	-.441	33	-1.607	18	0	1	0	1	0	1
21	N1991	max	3.118	6	.176	13	1.333	6	0	74	0	74	0	74
22		min	-2.59	24	-.074	19	-1.305	24	0	1	0	1	0	1
23	N2009	max	2.802	12	.129	17	1.858	12	0	74	0	74	0	74
24		min	-2.236	18	-.439	36	-1.739	18	0	1	0	1	0	1
25	N2129	max	.053	17	3.104	26	3.05	26	0	74	0	16	0	16
26		min	-.053	23	.427	20	.338	20	0	1	0	10	0	10
27	N2131	max	2.636	30	3.097	30	-.189	24	.001	22	.002	22	0	4
28		min	.322	24	.478	24	-1.522	30	-.002	4	-.002	4	0	22
29	N2133	max	-.297	17	3.1	34	-.179	16	.002	6	.002	24	.001	6
30		min	-2.639	35	.458	16	-1.525	34	-.002	24	-.002	6	-.001	24
31	N2167	max	.966	6	.075	30	2.012	14	0	74	0	74	0	74
32		min	-.874	24	.003	25	-2.434	8	0	1	0	1	0	1
33	N2172	max	1.877	17	.075	34	1.212	13	0	74	0	74	0	74
34		min	-2.313	11	.004	18	-1.095	19	0	1	0	1	0	1
35	N2177	max	1.997	4	.075	26	1.533	3	0	74	0	74	0	74
36		min	-1.668	22	.004	22	-1.237	21	0	1	0	1	0	1
37	N1438	max	NC		NC		NC		NC		NC		LOCKED	
38		min	NC		NC		NC		NC		NC		LOCKED	
39	N2151	max	NC		NC		NC		NC		NC		LOCKED	
40		min	NC		NC		NC		NC		NC		LOCKED	
41	N2152	max	NC		NC		NC		NC		NC		LOCKED	
42		min	NC		NC		NC		NC		NC		LOCKED	
43	N1439	max	NC		NC		NC		NC		NC		LOCKED	
44		min	NC		NC		NC		NC		NC		LOCKED	
45	N2145	max	NC		NC		NC		NC		NC		LOCKED	
46		min	NC		NC		NC		NC		NC		LOCKED	
47	N732	max	NC		NC		NC		NC		NC		LOCKED	
48		min	NC		NC		NC		NC		NC		LOCKED	
49	N733	max	NC		NC		NC		NC		NC		LOCKED	
50		min	NC		NC		NC		NC		NC		LOCKED	
51	N2146	max	NC		NC		NC		NC		NC		LOCKED	
52		min	NC		NC		NC		NC		NC		LOCKED	
53	Totals:	max	8.945	17	7.609	27	8.183	2						
54		min	-8.945	11	2.059	69	-8.183	20						

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	M6	.625 Dia.	.727	.146	37	.230	0		36	15.575	15.739	.164	.164	1....	H1-1b
2	M150	.625 Dia.	.719	.146	34	.227	0		33	15.575	15.739	.164	.164	1....	H1-1b
3	M80	.625 Dia.	.715	.146	29	.226	0		28	15.575	15.739	.164	.164	1....	H1-1b
4	M82	.625 Dia.	.646	.146	36	.216	0		37	15.575	15.739	.164	.164	1....	H1-1b
5	M8	.625 Dia.	.639	.146	34	.219	0		36	15.575	15.739	.164	.164	1....	H1-1b
6	M152	.625 Dia.	.630	.146	26	.215	0		34	15.575	15.739	.164	.164	1....	H1-1b
7	M252	PIPE_2.5	.507	4.083	11	.058	2		11	30.038	50.715	3.596	3.596	2....	H1-1b
8	M259	PIPE_2.5	.507	4.083	11	.058	2		11	30.038	50.715	3.596	3.596	1....	H1-1b
9	M71	PIPE_2.5	.506	4.083	8	.052	2.083		30	30.038	50.715	3.596	3.596	1....	H1-1b

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
10	M15	PIPE_3.0	.505	5.5	8	.343	5.5		8	30.165	65.205	5.749	5.749	1....	H3-6
11	M1	L5x3x4	.496	.5	2	.251	.75	z	2	49.845	62.856	1.939	6.809	1....	H2-1
12	M159	PIPE_3.0	.490	5.5	4	.333	5.5		4	30.165	65.205	5.749	5.749	1....	H3-6
13	M145	L5x3x4	.457	.5	10	.239	.75	z	10	49.845	62.856	1.939	6.809	1....	H2-1
14	M75	L5x3x4	.448	.5	5	.214	.75	z	6	49.845	62.856	1.939	6.809	1....	H2-1
15	M89	PIPE_3.0	.443	5.5	5	.291	5.5		12	30.165	65.205	5.749	5.749	1....	H1-1b
16	M153	.625 Dia.	.435	.146	5	.094	0		5	15.575	15.739	.164	.164	1....	H1-1b
17	M226	PIPE_2.5	.428	8.5	5	.162	8.5		6	15.797	50.715	3.596	3.596	3....	H1-1b
18	M223	PIPE_2.5	.416	8.5	12	.179	8.5		2	15.797	50.715	3.596	3.596	2....	H1-1b
19	M219	PIPE_2.5	.397	8.5	9	.189	8.5		11	15.797	50.715	3.596	3.596	3....	H1-1b
20	M10	L5x3x4	.389	.25	20	.158	.25	z	9	49.845	62.856	1.939	5.435	1....	H2-1
21	M160	HSS4x4x3	.383	.036	12	.153	3.026	y	36	101.673	106.812	12.662	12.662	1....	H1-1b
22	M154	L5x3x4	.368	.25	16	.173	.25	z	5	49.845	62.856	1.939	5.425	1....	H2-1
23	M151	.625 Dia.	.357	.146	11	.072	0		5	15.575	15.739	.164	.164	1....	H1-1b
24	M84	L5x3x4	.343	.25	24	.134	.25	z	12	49.845	62.856	1.939	5.355	1....	H2-1
25	M157	PIPE_2.0	.334	3	11	.049	1.063		33	20.867	32.13	1.872	1.872	1....	H1-1b
26	M81	.625 Dia.	.333	.146	6	.077	0		6	15.575	15.739	.164	.164	1....	H1-1b
27	M9	.625 Dia.	.331	.146	8	.065	0		8	15.575	15.739	.164	.164	1....	H1-1b
28	M95	.625 Dia.	.327	.146	11	.117	0		35	15.575	15.739	.164	.164	1....	H1-1b
29	M20	.625 Dia.	.326	.146	37	.125	0		37	15.575	15.739	.164	.164	1....	H1-1b
30	M94	.625 Dia.	.324	.146	29	.123	0		28	15.575	15.739	.164	.164	1....	H1-1b
31	M7	.625 Dia.	.322	.146	3	.063	0		27	15.575	15.739	.164	.164	1....	H1-1b
32	M164	.625 Dia.	.321	.146	33	.124	0		34	15.575	15.739	.164	.164	1....	H1-1b
33	M90	HSS4x4x3	.309	.036	4	.154	3.026	y	36	101.673	106.812	12.662	12.662	1....	H1-1b
34	M165	.625 Dia.	.299	.146	36	.118	0		36	15.575	15.739	.164	.164	1....	H1-1b
35	M141	PIPE_2.0	.298	3	5	.038	3		30	20.867	32.13	1.872	1.872	1....	H1-1b
36	M249	PIPE_2.0	.292	3	37	.046	1.063		37	20.867	32.13	1.872	1.872	1....	H1-1b
37	M168	.625 Dia.	.289	.146	11	.053	0		17	15.575	15.739	.164	.164	1....	H1-1b
38	M264	PIPE_2.0	.288	3	34	.046	3		35	20.867	32.13	1.872	1.872	1....	H1-1b
39	M21	.625 Dia.	.287	.146	26	.118	0		36	15.575	15.739	.164	.164	1....	H1-1b
40	M87	PIPE_2.0	.286	3	7	.049	1.063		28	20.867	32.13	1.872	1.872	1....	H1-1b
41	M257	PIPE_2.0	.285	3	28	.045	3		32	20.867	32.13	1.872	1.872	1....	H1-1b
42	M13	PIPE_2.0	.282	3	2	.050	1.063		36	20.867	32.13	1.872	1.872	1....	H1-1b
43	M211	PIPE_2.0	.274	3	8	.037	3		34	20.867	32.13	1.872	1.872	1....	H1-1b
44	M67	PIPE_2.0	.236	3	12	.037	1.063		27	20.867	32.13	1.872	1.872	1....	H1-1b
45	M83	.625 Dia.	.235	.146	13	.059	0		28	15.575	15.739	.164	.164	1....	H1-1b
46	M24	.625 Dia.	.212	.146	2	.030	.146		7	15.575	15.739	.164	.164	1....	H1-1b
47	M16	HSS4x4x3	.196	2.99	26	.154	3.026	y	36	101.673	106.812	12.662	12.662	1....	H1-1b
48	M167	.625 Dia.	.171	.146	11	.041	0		17	15.575	15.739	.164	.164	1....	H1-1b
49	M242	L2.5x2.5x3	.159	2.316	15	.009	4.632	y	20	14.418	29.192	.873	1.692	1....	H2-1
50	M246	L2.5x2.5x3	.158	2.364	22	.008	4.632	y	23	14.418	29.192	.873	1.692	1....	H2-1
51	M238	L2.5x2.5x3	.147	2.413	24	.007	0	y	22	14.418	29.192	.873	1.692	1....	H2-1
52	M248	L2.5x2.5x3	.145	2.316	21	.009	4.632	z	20	14.418	29.192	.873	1.692	1....	H2-1
53	M244	L2.5x2.5x3	.145	2.364	18	.008	4.632	z	17	14.418	29.192	.873	1.692	1....	H2-1
54	M12	PIPE_3.0	.128	.75	2	.304	.75		13	64.424	65.205	5.749	5.749	1....	H1-1b
55	M98	.625 Dia.	.128	.146	7	.021	0		7	15.575	15.739	.164	.164	1....	H1-1b
56	M23	.625 Dia.	.127	.146	3	.024	0		20	15.575	15.739	.164	.164	1....	H1-1b
57	M240	L2.5x2.5x3	.124	2.413	16	.007	4.632	z	24	14.418	29.192	.873	1.692	1....	H2-1
58	M97	.625 Dia.	.121	.146	7	.027	0		7	15.575	15.739	.164	.164	1....	H1-1b
59	M156	PIPE_3.0	.119	.75	10	.272	.75		10	64.424	65.205	5.749	5.749	1....	H1-1b
60	M86	PIPE_3.0	.113	.75	5	.266	.75		5	64.424	65.205	5.749	5.749	1....	H1-1b
61	M217	LL2.5x2.5x3x3	.105	2.121	11	.021	0	z	6	44.024	58.32	3.954	1.593	1....	H1-1b
62	M216	LL2.5x2.5x3x3	.104	2.121	5	.017	0	z	4	44.024	58.32	3.954	1.593	1....	H1-1b
63	M215	LL2.5x2.5x3x3	.099	4.243	26	.009	0	y	9	44.024	58.32	3.954	2.55	1	H1-1b*
64	M233	PIPE_2.5	.082	2.02	12	.294	0		13	45.45	50.715	3.596	3.596	1....	H3-6
65	M230	PIPE_2.5	.070	1.601	9	.266	0		9	45.45	50.715	3.596	3.596	1....	H3-6
66	M236	PIPE_2.5	.064	1.715	5	.256	0		5	45.45	50.715	3.596	3.596	1....	H3-6

Envelope Plate/Shell Principal Stresses

	Plate		Surf...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [ksi]	LC	Angle [rad]	LC	Von Mises [ksi]	LC
1	P1351	max	T	29.562	6	15.674	6	6.944	6	2.354	45	25.617	6
2		min		-14.515	24	-27.471	24	.108	46	-.781	70	.265	47
3		max	B	27.194	24	14.409	24	6.767	6	2.212	48	25.38	6
4		min		-15.744	6	-29.279	6	.09	38	-.738	10	.308	47
5	P1519	max	T	28.612	6	15.376	6	6.618	6	2.312	15	24.802	6
6		min		-13.434	24	-24.955	24	.116	3	-.782	3	.202	3
7		max	B	24.768	24	13.545	24	6.535	6	2.355	41	24.612	6
8		min		-15.32	6	-28.39	6	.113	3	-.785	31	.198	3
9	P1530	max	T	28.573	12	14.889	12	6.842	12	2.354	48	24.752	12
10		min		-12.803	18	-24.202	18	.284	42	-.739	10	.607	42
11		max	B	23.933	18	12.798	18	6.526	12	.899	15	24.429	12
12		min		-15.131	12	-28.183	12	.1	42	-.694	4	.437	42
13	P1305	max	T	27.275	6	10.362	6	8.457	6	2.353	41	23.847	6
14		min		-9.063	24	-25.358	24	.095	73	-.78	31	.458	73
15		max	B	24.873	24	9.444	24	8.273	6	2.25	35	23.575	6
16		min		-10.448	6	-26.993	6	.038	35	-.763	47	.154	47
17	P1327	max	T	27.449	6	15.293	6	6.078	6	2.353	40	23.823	6
18		min		-14.055	24	-25.54	24	.075	46	-.783	69	.283	47
19		max	B	25.06	24	14.167	24	5.838	6	2.224	48	23.538	6
20		min		-15.417	6	-27.093	6	.082	38	-.737	10	.193	47
21	P1375	max	T	26.614	6	12.774	6	6.92	6	2.258	3	23.055	6
22		min		-11.839	24	-24.697	24	.073	47	-.763	38	.155	35
23		max	B	24.528	24	11.646	24	6.793	6	2.351	48	22.87	6
24		min		-12.818	6	-26.404	6	.105	74	-.57	10	.331	15
25	P1543	max	T	26.558	6	14.857	6	5.85	6	2.243	14	23.054	6
26		min		-12.851	24	-22.991	24	.096	3	.676	16	.174	3
27		max	B	22.805	24	12.935	24	5.623	6	2.28	8	22.762	6
28		min		-14.95	6	-26.196	6	.14	3	-.778	42	.248	3
29	P1569	max	T	26.294	6	9.704	6	8.295	6	2.257	24	23.03	6
30		min		-7.743	24	-22.438	24	.124	48	.695	19	.524	3
31		max	B	22.331	24	7.681	24	7.989	6	2.355	9	22.665	6
32		min		-9.963	6	-25.94	6	.221	47	-.768	42	.721	3
33	P1576	max	T	26.279	12	9.896	12	8.191	12	2.327	48	22.988	12
34		min		-7.388	18	-22.004	18	.239	41	-.761	3	.852	42
35		max	B	21.65	18	7.596	18	8.146	12	.878	23	22.802	12
36		min		-9.766	12	-26.058	12	.109	42	-.688	20	.71	42
37	P1554	max	T	26.486	12	14.601	12	5.942	12	2.34	48	22.977	12
38		min		-12.282	18	-22.393	18	.221	42	-.739	10	.578	42
39		max	B	22	18	12.398	18	5.663	12	.886	14	22.672	12
40		min		-14.778	12	-26.104	12	.111	42	-.681	17	.501	42
41	P1304	max	T	26.477	6	12.684	6	6.896	6	2.355	68	22.936	6
42		min		-11.416	24	-24.582	24	.085	73	-.772	44	.334	47
43		max	B	24.147	24	11.677	24	6.666	6	2.337	37	22.634	6
44		min		-12.801	6	-26.134	6	.062	38	-.779	36	.167	47
45	P1495	max	T	25.872	6	12.668	6	6.602	6	2.242	15	22.407	6
46		min		-11.182	24	-22.782	24	.099	48	-.777	3	.259	3
47		max	B	22.632	24	11.292	24	6.589	6	2.331	38	22.283	6
48		min		-12.55	6	-25.728	6	.073	3	-.772	35	.141	3
49	P1362	max	T	25.728	12	14.05	12	5.839	12	2.355	21	22.312	12
50		min		-12.336	18	-23.041	18	.08	68	-.772	9	.23	41
51		max	B	22.808	18	12.359	18	5.896	12	2.35	34	22.221	12
52		min		-13.839	12	-25.632	12	.101	43	-.784	74	.237	43
53	P1506	max	T	25.677	12	12.027	12	6.825	12	2.355	29	22.252	12
54		min		-10.532	18	-21.905	18	.277	42	-.771	32	.521	42
55		max	B	21.721	18	10.474	18	6.533	12	1.092	15	21.963	12
56		min		-12.291	12	-25.357	12	.07	42	-.535	4	.29	42

Envelope Plate/Shell Principal Stresses (Continued)

	Plate		Surf...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [ksi]	LC	Angle [rad]	LC	Von Mises [ksi]	LC
5700		min		.002	6	-.586	15	.009	66	-.785	2	.018	66
5701	P553	max	T	.377	16	0	6	.309	10	2.35	14	.608	10
5702		min		-.002	25	-.597	10	.001	25	.684	25	.003	25
5703		max	B	.62	10	-.003	66	.323	10	2.356	23	.633	10
5704		min		.003	6	-.383	16	.018	25	-.785	11	.035	25
5705	P576	max	T	.354	22	-.003	12	.304	4	2.355	14	.598	4
5706		min		.002	72	-.587	4	.033	72	-.785	7	.065	72
5707		max	B	.623	4	-.003	72	.325	4	2.356	11	.637	4
5708		min		.004	12	-.381	22	.035	72	-.785	23	.068	72
5709	P24	max	T	.317	23	0	13	.237	5	2.355	11	.465	5
5710		min		0	8	-.456	5	.004	20	-.783	24	.007	20
5711		max	B	.468	5	0	72	.244	5	2.355	6	.478	5
5712		min		.001	20	-.346	23	.002	20	-.783	19	.003	20

EXHIBIT 9

T-MOBILE: CTNL805B
SBA: CT11794-S EAST LYME 1

MOUNT AUGMENTATION @ 160'

MONOPOLE TOWER

NIANTIC, CT
NEW HAVEN COUNTY

SITE INFORMATION

STRUCTURE TYPE:	MONOPOLE
MOUNT TYPE:	(3) T-ARMS
LATITUDE:	41.307583 (NAD 83)
LONGITUDE:	-72.223916 (NAD 83)
CITY / STATE:	NIANTIC, CT
COUNTY:	NEW HAVEN

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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CONTACT@GEOSTRUCTURAL.COM
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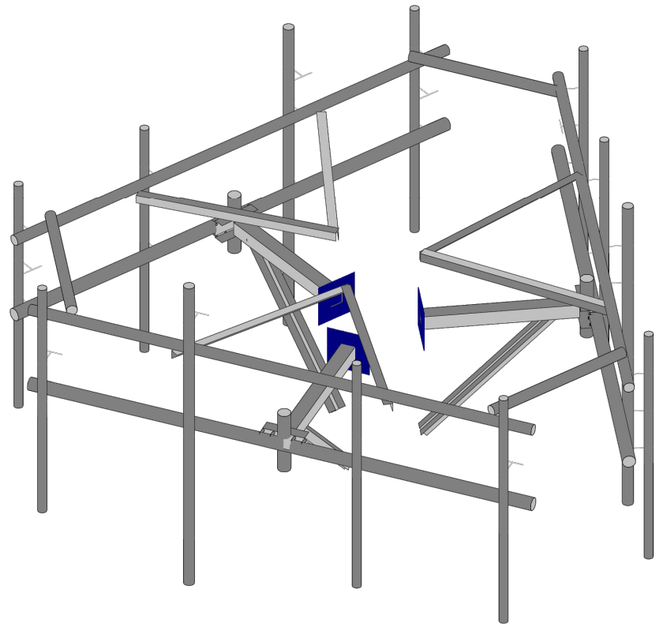
GENERAL DESIGN NOTES

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	06/21/19	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:
MOUNT AUGMENTATION

T-MOBILE: CTNL805B
SBA: CT11794-S EAST LYME 1

NIANTIC, CT

LATITUDE: 41.307583
LONGITUDE: -72.223916

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

T-Mobile

SBA

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REVISIONS:

0	06/21/19	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

T-MOBILE: CTNL805B
SBA: CT11794-S EAST LYME 1

NIANTIC, CT

LATITUDE: 41.307583
LONGITUDE: -72.223916

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

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REVISIONS:

0	06/21/19	ISSUE FOR CONSTRUCTION	RWR

CHECKED BY: DWG

SITE INFORMATION:

MOUNT AUGMENTATION

T-MOBILE: CTNL805B
SBA: CT11794-S EAST LYME 1

NIANTIC, CT

LATITUDE: 41.307583
LONGITUDE: -72.223916

SHEET TITLE:

INSPECTION NOTES

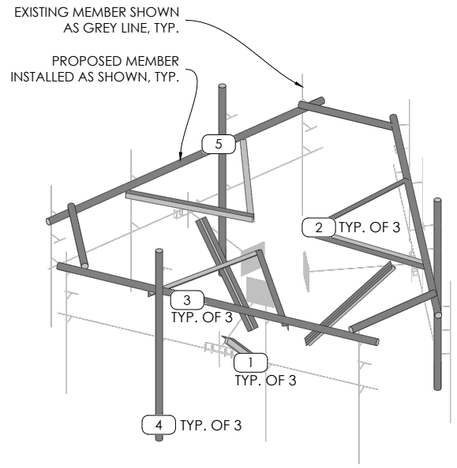
SHEET NUMBER:

S-3

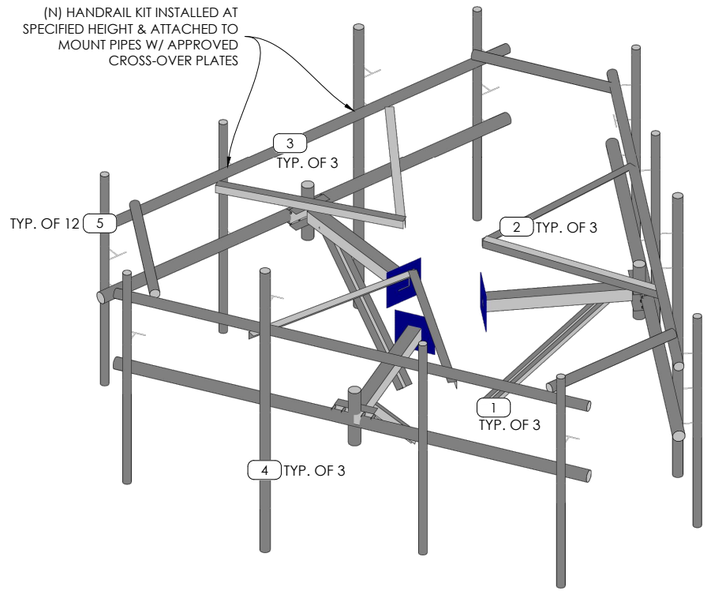
NEW MOUNT AUGMENTATIONS	
1	INSTALL PLATFORM REINFORCEMENT KIT; LOCATED 3.0' BELOW THE EXISTING STANDOFF CENTERLINE AND ATTACHING TO THE EXISTING STANDOFF MEMBER END NEAR THE FACE RAIL. - SITEPRO1 PRK-1245L, (1) TOTAL.
2	INSTALL V-BRACE KIT; LOCATED 2.0' ABOVE THE EXISTING MOUNT FACE RAIL CENTERLINE. - SITEPRO1 PRK-SFS-L, (1) TOTAL. ATTACH RING MOUNT IN KIT TO MONOPOLE SHAFT AND SFS ANGLE GATE CLAMP BRACKETS TO NEW HANDRAIL W/ A HORIZ. SPREAD OF APPROXIMATELY 5.2'.
3	INSTALL HANDRAIL KIT; LOCATED 2.0' ABOVE THE EXISTING MOUNT FACE RAIL CENTERLINE. - PIPE2.5STD x 12.5' (MATCH EXISTING) HORIZONTAL RAIL, VERIFY REQUIRED SIZE IN FIELD. (3) TOTAL. ATTACH PRK-SFS-L KIT ANGLES TO NEW HORIZONTAL RAIL. - PIPE2.5STD x ~5' LONG CORNER BRACES, (3) TOTAL. ATTACH TO NEW HORIZONTAL RAIL W/ SITEPRO1 PUCK BRACKETS, (6) TOTAL.
4	INSTALL (3) PIPE2.5STD x 8'-0" MOUNT PIPES AT POSITION 3 MOUNT PIPE LOCATION. ATTACH NEW PIPE2.5STD MOUNT PIPE TO EXISTING RAIL AND TO NEW TOP HANDRAIL PIPE WITH APPROVED CROSS-OVER PLATE.
5	INSTALL NEW APPROVED CROSS-OVER PLATE ASSEMBLIES BETWEEN NEW HANDRAIL AND ALL MOUNT PIPES. - SITEPRO1 SCX x -K (12) TOTAL.
AUGMENTATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT.	

EXISTING MOUNT

(3) T-ARMS @ 160' AUGMENTATION



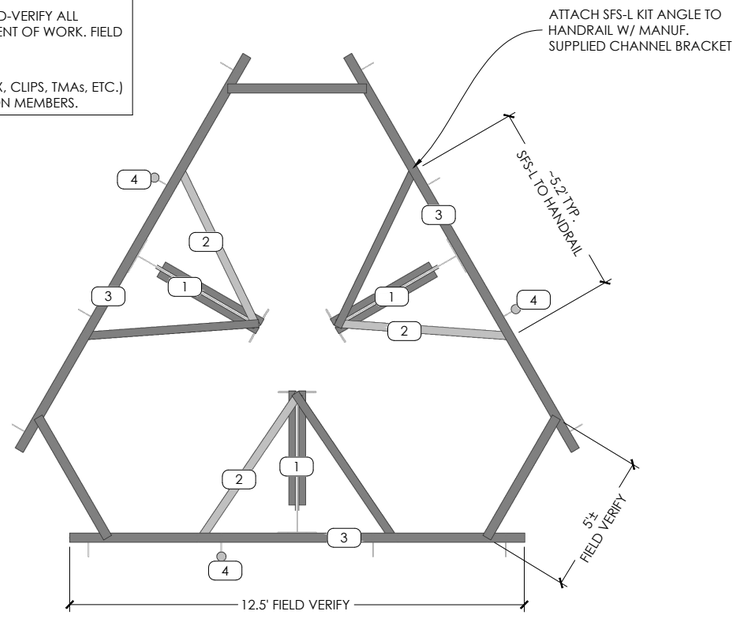
MOUNT AUGMENTATION ISOLATION
SCALE: N.T.S.



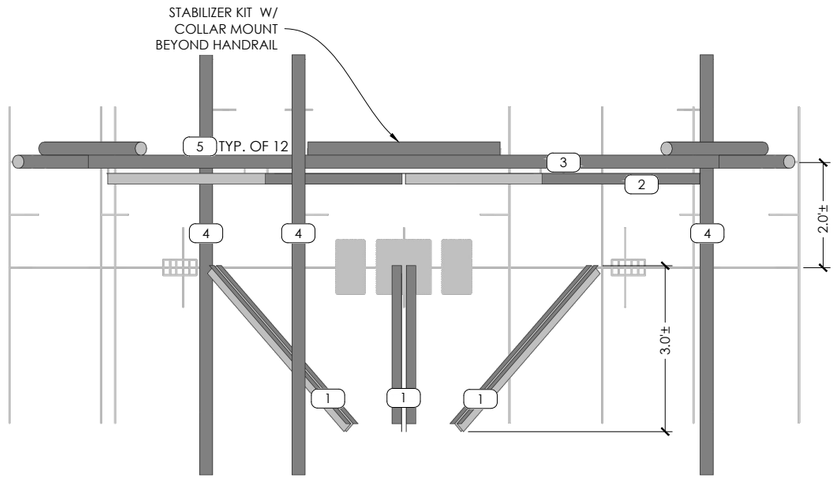
AUGMENTED MOUNT ISOMETRIC
SCALE: N.T.S.

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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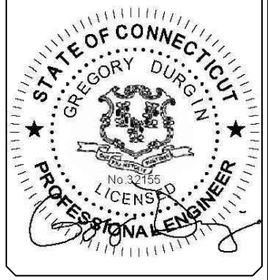

SITE INFORMATION:
MOUNT AUGMENTATION

T-MOBILE: CTNL805B
SBA: CT11794-S EAST LYME 1

NIANTIC, CT

LATITUDE: 41.307583
LONGITUDE: -72.223916

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: CTNL805B

Amtrak_EastLyme
49 Brainard Rd
East Lyme, CT 06357

June 8, 2019

Transcom Engineering Project Number: 737001-0076

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**9.71 %**

June 8, 2019

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

Emissions Analysis for Site: **CTNL805B – Amtrak_EastLyme**

Transcom Engineering, Inc ("Transcom") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **49 Brainard Rd, East Lyme, 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 MHz & 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 **49 Brainard Rd, East Lyme, 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)
GSM	1900 MHz (PCS)	1	15
UMTS	1900 MHz (PCS)	1	40
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 MHz, 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	160
A	2	Ericsson AIR21 B4A/B2P	160
A	3	RFS APXVAARR24_43-U-NA20	160
B	1	Ericsson AIR21 B2A/B4P	160
B	2	Ericsson AIR21 B4A/B2P	160
B	3	RFS APXVAARR24_43-U-NA20	160
C	1	Ericsson AIR21 B2A/B4P	160
C	2	Ericsson AIR21 B4A/B2P	160
C	3	RFS APXVAARR24_43-U-NA20	160

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	0.33
Antenna A2	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	2	120	4,668.54	0.71
Antenna A3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.88
						Sector A Composite MPE%	**1.92**
Antenna B1	Ericsson AIR21 B2A/B4P	1900 MHz (PCS)	15.9	2	55	2,139.75	0.33
Antenna B2	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	2	120	4,668.54	0.71
Antenna B3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.88
						Sector B Composite MPE%	**1.92**
Antenna C1	Ericsson AIR21 B2A/B4P	1900 MHz (PCS)	15.9	2	55	2,139.75	0.33
Antenna C2	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	2	120	4,668.54	0.71
Antenna C3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.88
						Sector C Composite MPE%	**1.92**

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	**1.92 %**
AT&T	3.82 %
Verizon Wireless	3.97 %
Site Total MPE %:	**9.71 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	1.92 %
T-MOBILE Sector B Total:	1.92 %
T-MOBILE Sector C Total:	1.92 %
Site Total:	9.71 %

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) GSM	1	583.57	160	0.88	1900 MHz (PCS)	1000	0.09%
T-Mobile 1900 MHz (PCS) UMTS	1	1,556.18	160	2.36	1900 MHz (PCS)	1000	0.24%
T-Mobile 2100 MHz (AWS) LTE	2	2,334.27	160	7.08	2100 MHz (AWS)	1000	0.71%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	160	2.39	600 MHz	400	0.60%
T-Mobile 700 MHz LTE	2	432.54	160	1.31	700 MHz	467	0.28%
						Total:	**1.92%**

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:	1.92 %
Sector B:	1.92 %
Sector C:	1.92 %
T-MOBILE Maximum Total (per sector):	1.92 %
Site Total:	9.71 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **9.71 %** 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
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Transcom Engineering, Inc
PO Box 1048
Sterling, MA 01564