UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

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   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
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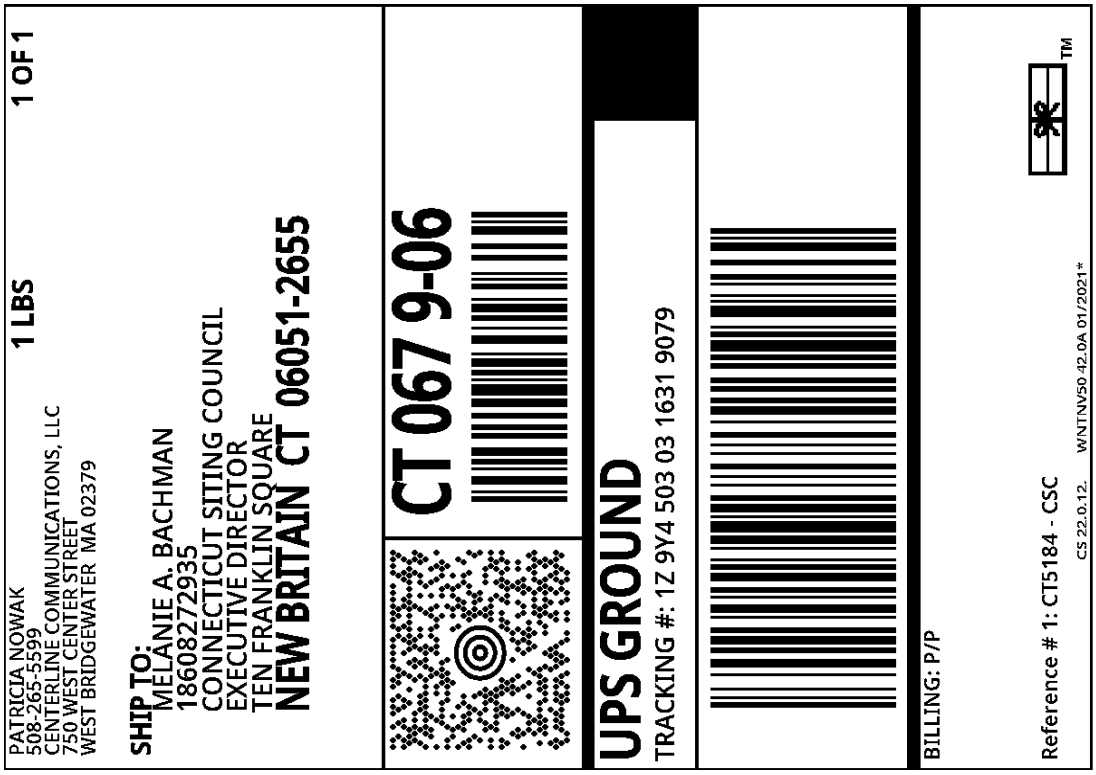


February 11, 2021

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

Regarding: Notice of Exempt Modification – AT&T Site CT5184
Address: 150 Foxon Road (a/k/a 108 Foxon Road), North Branford, Connecticut

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (hereinafter "AT&T") currently maintains a wireless telecommunications facility on an existing 175' monopole tower (the "Tower") at the above-referenced address, latitude 41.328208, longitude -72.819063. Said Tower is owned by SBA Communications Corporation.

AT&T desires to modify its existing telecommunications facility on the Tower by swapping (3) antennas, swapping (6) Remote Radio Units, and other related modifications, as more particularly detailed and described in the enclosed Construction Drawings prepared by Centerline Communications LLC, dated December 15, 2020 and last revised January 25, 2021. Please note this modification includes B2, B5, and B12 hardware that is both 4G (LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times. Enclosed please also find a Mount Analysis Report prepared by Centerline Communications, LLC dated December 18, 2020 and last revised January 25, 2021. The centerline height of the antennas will be at 157 feet.

The Tower was originally approved by the North Branford Planning and Zoning Commission on August 17, 2000 under the Site Development Plan for Application #99/2000-30. Enclosed please find a copy of the above-mentioned approval.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the following individuals: The Honorable Bob Viglione, Mayor of North Bradford, CT; Michael T. Paulhus, Town Manager of North Branford, CT; Carey Duques, Planning and Zoning Administrator and Town Planner of North Branford, CT; SBA Communications Corporation as the Tower owner; and 108 Foxon Road LLC., as the property owner. Enclosed please find property cards and GIS maps of the property.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require an 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 modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. *Please see the RF Emissions Analysis Report for AT&T's modified facility enclosed herewith.*

5. The proposed modifications will not cause an ineligible change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. *Please see the Structural Analysis Report dated February 5, 2021 and prepared by Tower Engineering Solutions.*

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

Sincerely,

Patricia Nowak
Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
pnowak@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 - Mount Analysis
Exhibit 3 – Town Approval
Exhibit 4 – Property Cards and GIS Maps
Exhibit 5 – RF Emissions Analysis Report
Exhibit 6 – Structural Analysis

cc:
The Honorable Bob Viglione, Mayor of North Bradford, CT
Michael T. Paulhus, Town Manager of North Branford, CT
Carey Duques, Planning and Zoning Administrator and Town Planner of North Branford, CT
SBA Communications Corporation as the Tower owner
108 Foxon Road LLC., as the property owner

EXHIBIT 1

PROJECT INFORMATION

TOWER OWNER:	SBA
SITE NAME:	EAST HAVEN (CT5184)
SITE ADDRESS:	108 FOXON ROAD NORTH BRANDFORD, CT 06471
LATITUDE:	41° 19' 42.93"
LONGITUDE:	-72° 49' 08.04"
TOWER HEIGHT:	176'-0"± AGL
RAD CENTER:	157'-0"± AGL
ZONING JURISDICTION:	TOWN OF NORTH BRANFORD
COUNTY:	EAST HAVEN

DESCRIPTION OF WORK:

TELECOMMUNICATIONS FACILITY UPGRADE (LTE 3C, 4C, 5G NR & RETRO);

MONOPOLE:

INSTALL:
- (3) DMP65R-BU6DA ANTENNAS (ONE PER SECTOR)
- (3) 4449 B5/B12 RRUS (ONE PER SECTOR)
- (3) 8843 B2/B66A RRUS (ONE PER SECTOR)
- (6) Y CABLES

REMOVE:
- (3) 7770 ANTENNAS (ONE PER SECTOR)
- (6) LGP-21401 TMAS
- (3) RRUS-11 B12 (ONE PER SECTOR)
- (3) RRUS-12 B2B2 + A2 B85 (ONE PER SECTOR)
- (3) LINES OF 1-5/8" COAX

EXISTING TO REMAIN:
- (3) HPA-65R-BUU-H6 ANTENNAS (ONE PER SECTOR)
- (1) DC6-48-60-18-8F SURGE ARRESTOR
- (1) 18 PAIR FIBER
- (2) 8 DC LINES
- (6) LINES OF 1-5/8" COAX

EQUIPMENT AREA/GROUND:

INSTALL:
- (1) 6630
- (1) IDLE
- (2) 4478 B14 RRUS
- (3) DBCT108F1V92-1 DIPLEXERS
- (1) FLEX 12 CABINET
- (1) BREAKER PANEL
- (1) FLEX 16 DOOR UPGRADE KIT
- (1) DC12

REMOVE:
- (6) 782 10250 DIPLEXERS

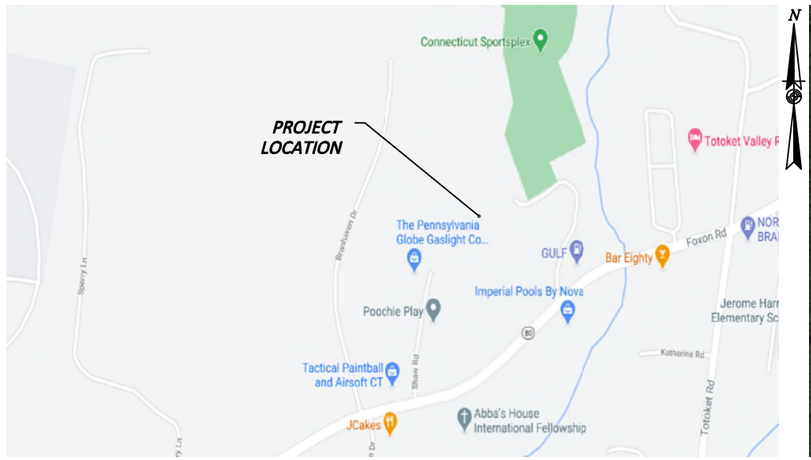
PROJECT DIRECTORY

A&E / PROJECT MANAGER:
CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
CONTACT: DAVID FORD
PHONE 844.748.8878

APPLICANT:
at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

at&t

SITE NUMBER: CT5184
FA# 10071146
SITE NAME: EAST HAVEN
PACE ID: MRCTB048461, MRCTB048640, MRCTB048518, MRCTB048533 & MRCTB048538
PROJECT: LTE 3C, 4C, 5G NR & RETRO



VICINITY MAP
NOT TO SCALE

LOCATION MAP
NOT TO SCALE

DIRECTIONS:

FROM FRAMINGHAM, MA: TAKE I-90 W. TAKE EXIT 4 TO MERGE ONTO I-91 N TOWARD HOLYOKE. TAKE EXIT 26 FOR MASSACHUSETTS 2 W/MASSACHUSETTS 2A E TOWARD GREENFIELD CENTER/NORTH ADAMS. AT THE TRAFFIC CIRCLE, TAKE THE 3RD EXIT ONTO MA-2 W/MOHAWK TRAIL. TURN LEFT ONTO MASSACHUSETTS 8A S. TURN LEFT ONTO W HAWLEY RD. CONTINUE ONTO S RIVER RD. THE SITE WILL BE ON THE RIGHT.

GENERAL NOTES:

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSE OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DRAWING INDEX

NO.	DESCRIPTION	REV.	DATE
T-1	TITLE SHEET	1	01/25/21
GN-1	GENERAL NOTES	1	01/25/21
A-1	COMPOUND & EQUIPMENT PLANS	1	01/25/21
A-2	ANTENNA LAYOUT & ELEVATIONS	1	01/25/21
A-3	DETAILS	1	01/25/21
SN-1	STRUCTURAL NOTES	1	01/25/21
RF-1	RF PLUMBING DIAGRAM	1	01/25/21
G-1	GROUNDING DETAILS	1	01/25/21

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
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0	12/15/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
SS	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED
PROFESSIONAL ENGINEER

811 DigSafe MA·ME·NH·RI·VT

SITE NAME:	EAST HAVEN
SITE NUMBER:	CT5184
SITE ADDRESS:	108 FOXON ROAD NORTH BRANDFORD, CT 06471
PROJECT TYPE:	LTE 3C, 4C, 5G NR & RETRO
SHEET TITLE:	TITLE SHEET
DRAWING #:	T-1
REVISION:	1

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – CENTERLINE COMMUNICATIONS
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T MOBILITY

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

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

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

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

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 SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, 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.

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 OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR–ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."

17. 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.

18. THE EXISTING CELL SITE IS 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.

19. SINCE THE 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 ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
LIGHTING CODE: NFPA 70–2017

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222–G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

RF NOTES

1. ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR
2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS–OCCUPIED, INDOORS–UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
5. RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.
6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
8. ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.
9. 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.
10. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.
11. ANTENNAS SHALL BE PAINTED,WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.
12. CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE AND SCHEDULING NOTES

1. SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.
2. TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER AT&T ANTENNA CABLE MARKING STANDARD:
   - TOP OF TOWER END OF MAIN COAX
   - BOTTOM OF TOWER END OF MAIN COAX
   - DIRECTLY BEFORE AND AFTER RF EQUIPMENT
   - END OF JUMPERS AT BTS EQUIPMENT
3. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.
4. PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

at&t MOBILITY CORP.
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
1	01/25/21	ISSUED FOR CONSTRUCTION
0	12/15/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
SS	DC

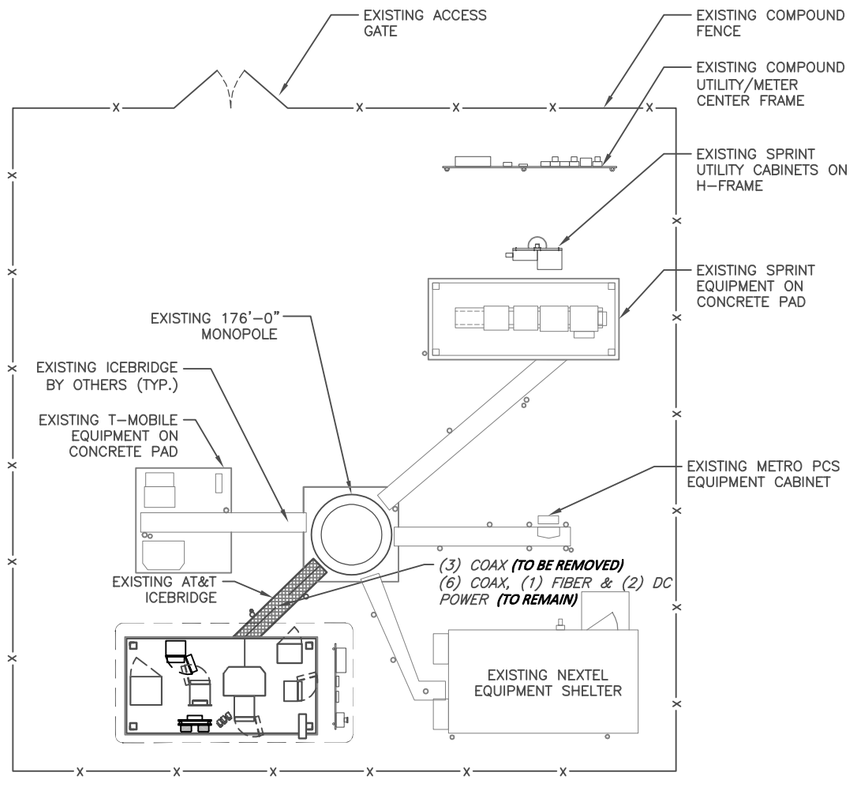
STATE OF CONNECTICUT
DEREK J. CREASER
No. 28554
LICENSED PROFESSIONAL ENGINEER

811 DigSafe MA·ME·NH·RI·VT

SITE NAME:	EAST HAVEN
SITE NUMBER:	CT5184
SITE ADDRESS:	108 FOXON ROAD NORTH BRANDFORD, CT 06471
PROJECT TYPE:	LTE 3C, 4C, 5G NR & RETRO
SHEET TITLE:	GENERAL NOTES
DRAWING #:	GN–1
REVISION:	1

NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

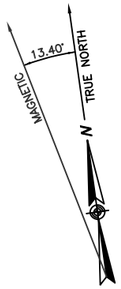


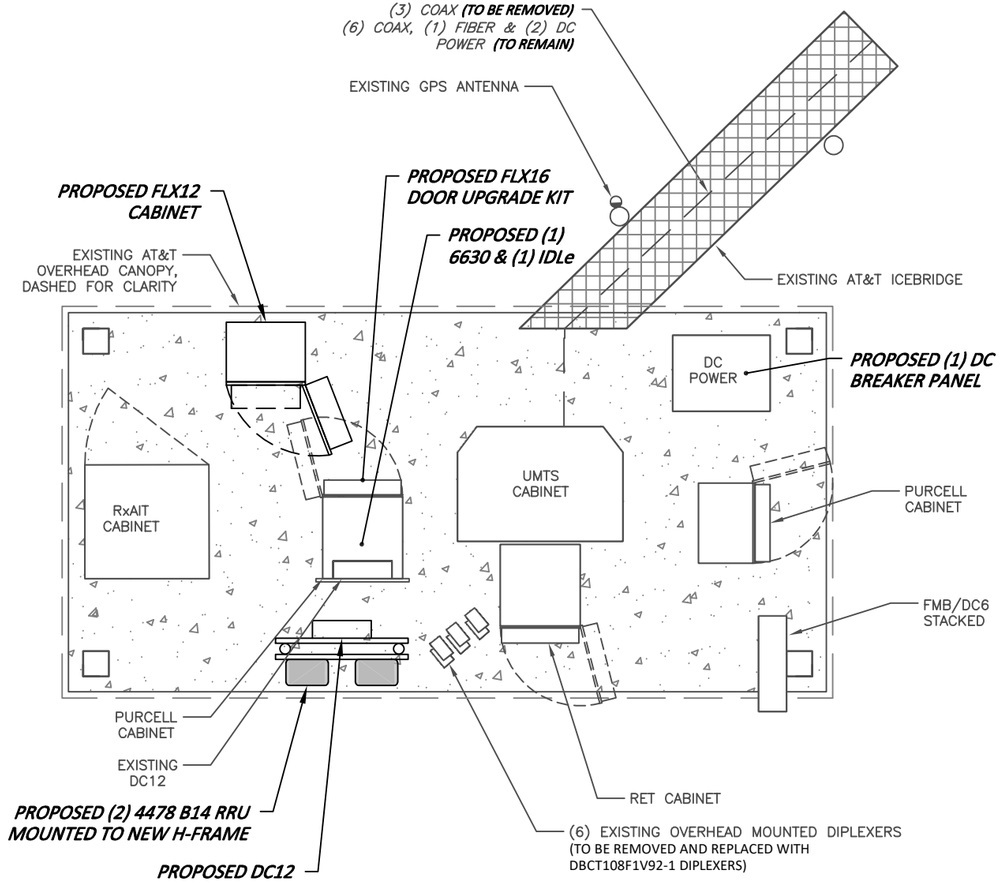
COMPOUND PLAN

SCALE: 1/8" = 1'-0" (22"X34")
1/16" = 1'-0" (11"X17")

GRAPHIC SCALE

8 0 4 8 16 32
(IN FEET)



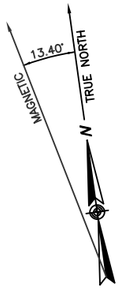


EQUIPMENT PLAN

SCALE: 1/2" = 1'-0" (22"X34")
1" = 1'-0" (11"X17")

GRAPHIC SCALE

2 0 1 2 4 8
(IN FEET)



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PHONE: 781.713.4725

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NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
SS	DC

811 DigSafe MA-ME-NH-RI-VT

SITE NAME:	EAST HAVEN
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PROJECT TYPE:	LTE 3C, 4C, 5G NR & RETRO
SHEET TITLE:	COMPOUND & EQUIPMENT PLANS
DRAWING #:	A-1
REVISION:	1

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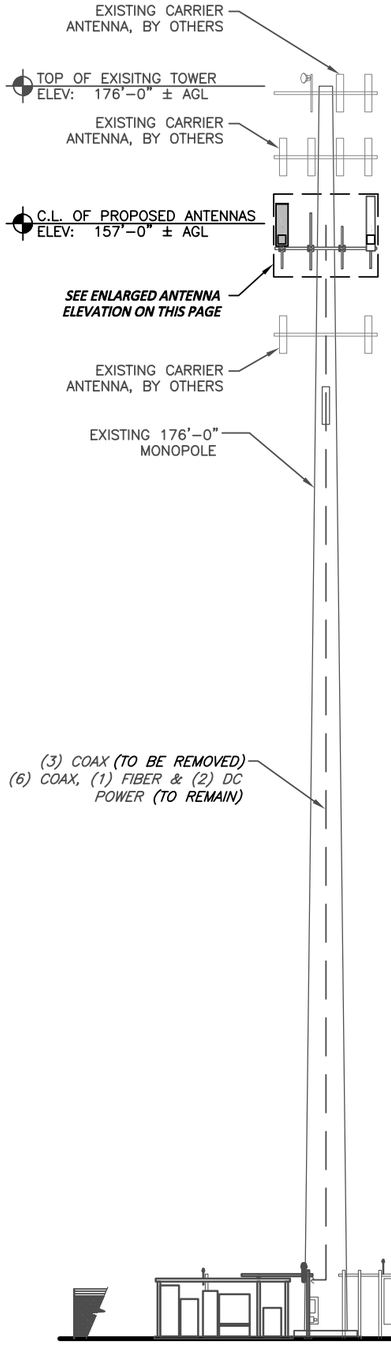
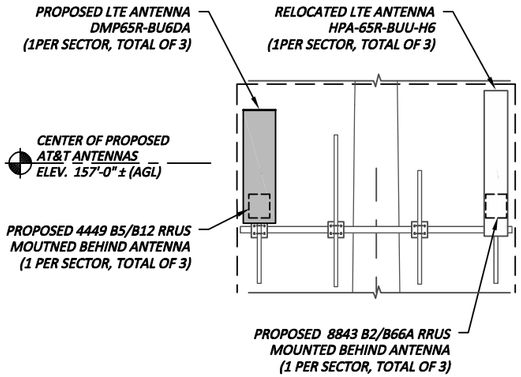


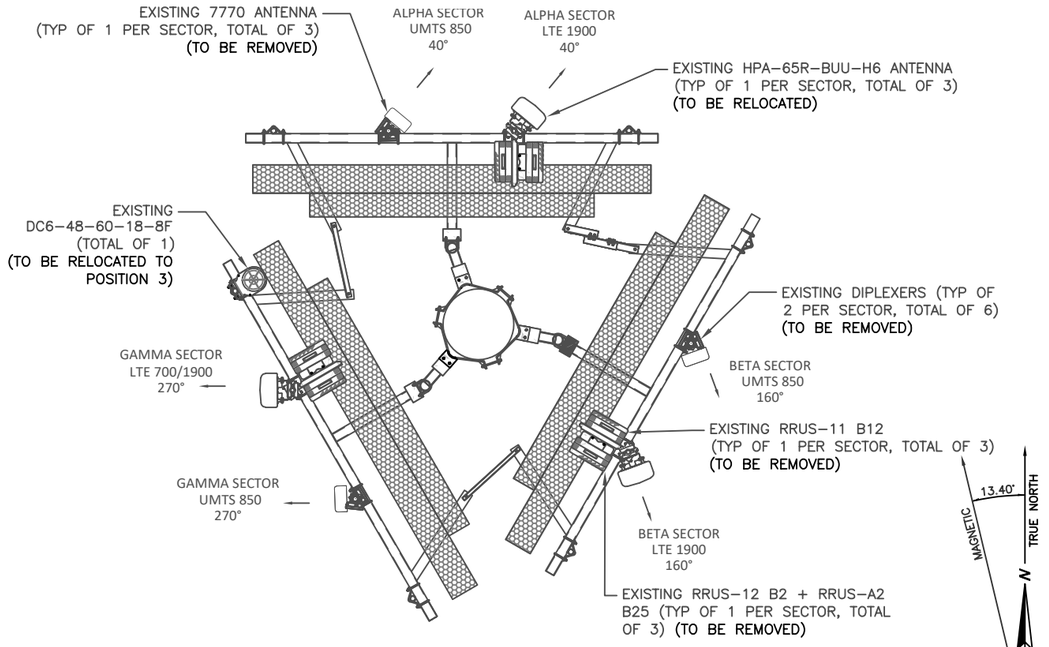
TOWER ELEVATION

SCALE: 3/32" = 1'-0" (22"X34")
3/64" = 1'-0" (11"X17")



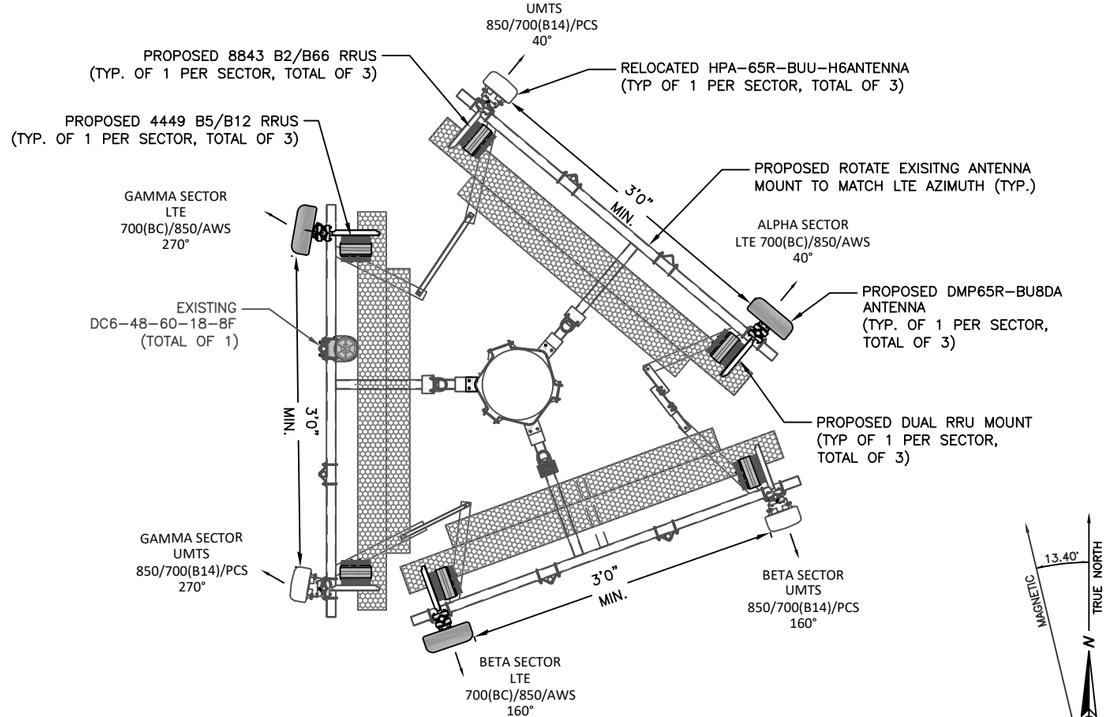
ENLARGED ANTENNA ELEVATION

SCALE: N.T.S



EXISTING ANTENNA CONFIGURATION

SCALE: N.T.S



PROPOSED ANTENNA CONFIGURATION

SCALE: N.T.S

GRAPHIC SCALE
5'-4" 0 5'-4" 10'-8" 21'-4" 42'-8"
(IN FEET)

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500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
1	01/25/21	ISSUED FOR CONSTRUCTION
0	12/15/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
SS	DC

811 DigSafe MA·ME·NH·RI·VT

SITE NAME:	EAST HAVEN
SITE NUMBER:	CT5184
SITE ADDRESS:	108 FOXON ROAD NORTH BRANDFORD, CT 06471
PROJECT TYPE:	LTE 3C, 4C, 5G NR & RETRO
SHEET TITLE:	ANTENNA LAYOUT & ELEVATIONS
DRAWING #: A-2	REVISION: 1

ANTENNA SCHEDULE

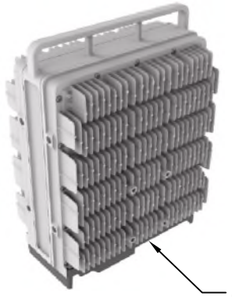
SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850/700(B14)/PCS	HPA-65R-BUU-H6	72.0X14.8X9.0	±157'	40°	**(1) DBCT108F1V92-1 (GROUND)**	**(P) (1) 4478 B14 RRUS (GROUND MOUNTED) (P) (1) 8843 B2/B66A RRUS**	**18.1x13.4x8.26 14.9X13.2X10.9**	(E) (2) 1-5/8" COAX CABLES	--
-	-	-	-	-	-	-	-	-	-	-	(E) (1) RAYCAP DC6-48-60-18-8F
-	-	-	-	-	-	-	-	-	-	-	
A4	**PROPOSED**	**LTE 700 (BC)/850/AWS**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**±157'**	**40°**	-	**(P) (1) 4449 B5/B12 RRUS**	**15x13.2x10.4**	-	
B1	EXISTING	UMTS 850/700(B14)/PCS	HPA-65R-BUU-H6	72.0X14.8X9.0	±157'	160°	**(1) DBCT108F1V92-1 (GROUND)**	**(P) (1) 4478 B14 RRUS (GROUND MOUNTED) (P) (1) 8843 B2/B66A RRUS**	**18.1x13.4x8.26 14.9X13.2X10.9**	(E) (2) 1-5/8" COAX CABLES	--
-	-	-	-	-	-	-	-	-	-	-	(E) (1) RAYCAP DC6-48-60-18-8F
-	-	-	-	-	-	-	-	-	-	-	
B4	**PROPOSED**	**LTE 700 (BC)/850/AWS**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**±157'**	**160°**	-	**(P) (1) 4449 B5/B12 RRUS**	**15x13.2x10.4**	-	
C1	EXISTING	UMTS 850/700(B14)/PCS	HPA-65R-BUU-H6	72.0X14.8X9.0	±157'	270°	**(1) DBCT108F1V92-1 (GROUND)**	**SHARED 4478 B14 RRUS (GROUND MOUNTED) (P) (1) 8843 B2/B66A RRUS**	**- 14.9X13.2X10.9**	(E) (2) 1-5/8" COAX CABLES	--
-	-	-	-	-	-	-	-	-	-	-	(E) (1) RAYCAP DC6-48-60-18-8F
-	-	-	-	-	-	-	-	-	-	(E) (2) DC POWER & (1) FIBER	
C4	**PROPOSED**	**LTE 700 (BC)/850/AWS**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**±157'**	**270°**	-	**(P) (1) 4449 B5/B12 RRUS**	**15x13.2x10.4**	-	

RRU CHART				
QUANTITY	MODEL	L	W	D
3(P)	4449 B5/B12	15.0"	13.2"	10.4"
2(P)	4478 B14	18.1"	13.4"	8.3"
3(P)	8843 B2/B66A	14.9"	13.2"	10.9"

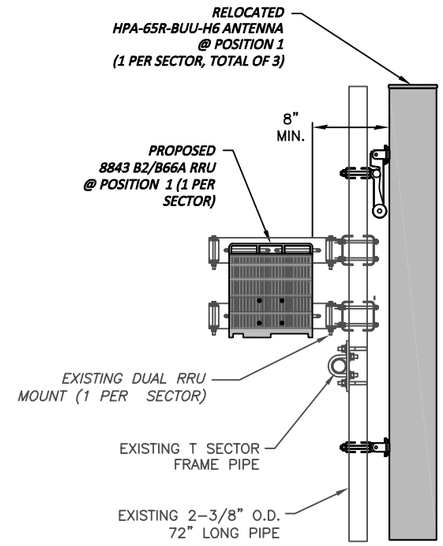
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

NOTES:

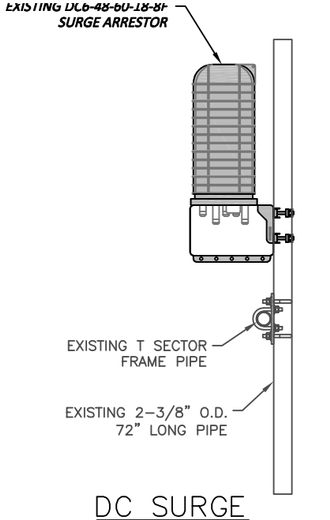
1. REFERENCE STRUCTURAL ANALYSIS BY OTHERS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



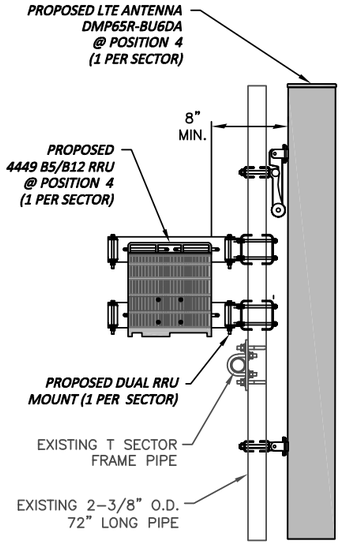
RRUS DETAIL
N.T.S.



ANTENNA & RRU MOUNTING DETAIL
N.T.S.



DC SURGE SUPPRESSOR DETAIL
N.T.S.



ANTENNA & RRU MOUNTING DETAIL
N.T.S.

at&t MOBILITY CORP.
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ROCKY HILL, CT 06067

CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS		
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0	12/15/20	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
SS	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 27551
LICENSED PROFESSIONAL ENGINEER

811 DigSafe MA·ME·NH·RI·VT

SITE NAME:	EAST HAVEN
SITE NUMBER:	CT5184
SITE ADDRESS:	108 FOXON ROAD NORTH BRANDFORD, CT 06471
PROJECT TYPE:	LTE 3C, 4C, 5G NR & RETRO
SHEET TITLE:	DETAILS
DRAWING #:	A-3
REVISION:	1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

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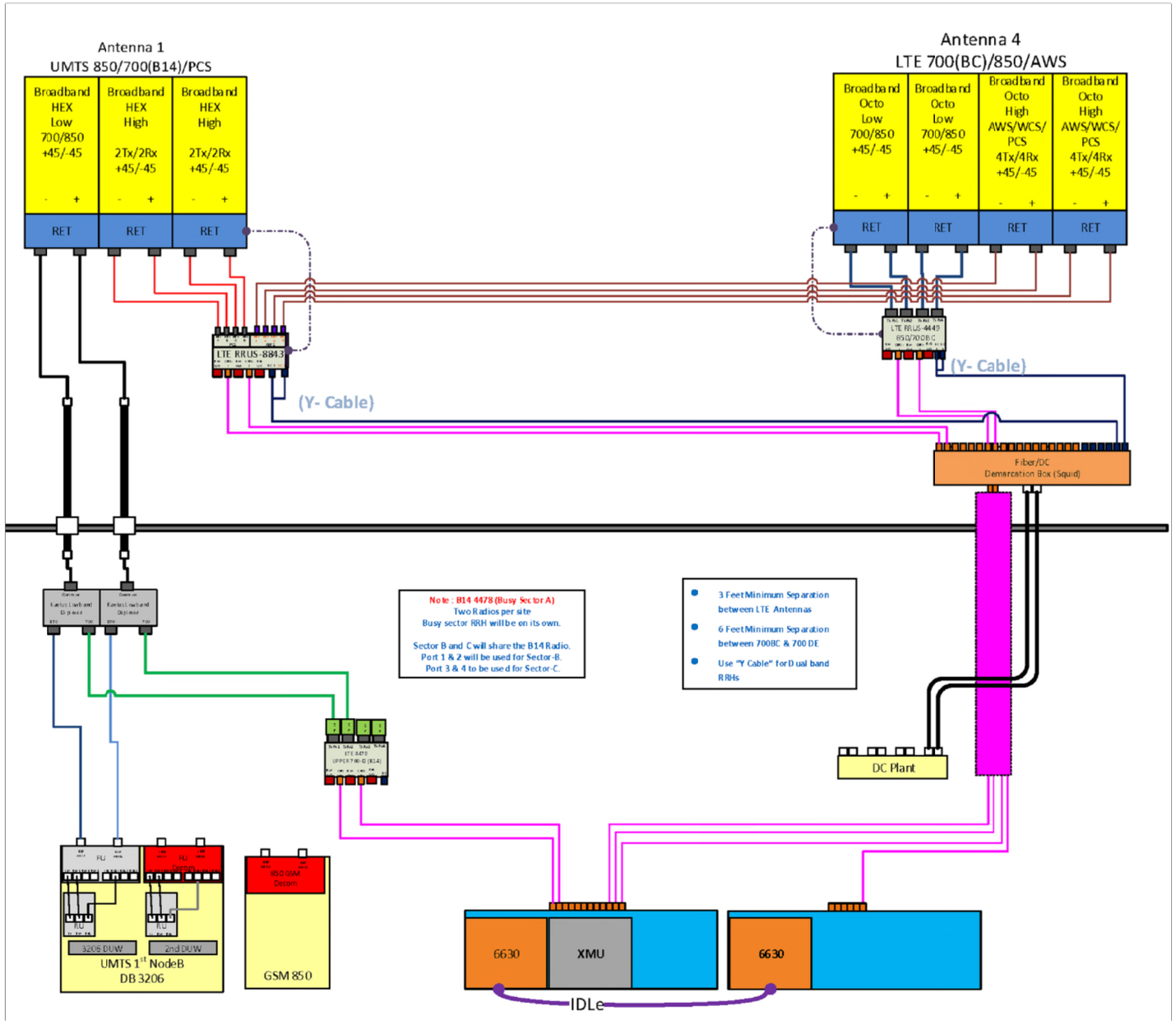
DESIGNED BY:	APPROVED BY:
SS	DC

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

SITE NAME:	EAST HAVEN
SITE NUMBER:	CT5184
SITE ADDRESS:	108 FOXON ROAD NORTH BRANDFORD, CT 06471
PROJECT TYPE:	LTE 3C, 4C, 5G NR & RETRO
SHEET TITLE:	STRUCTURAL NOTES
DRAWING #:	SN-1
REVISION:	1

CT5184_ABC_LTE Multi Carrier_BrStd_Rev2.vsd



PLUMBING DIAGRAM

N.T.S.

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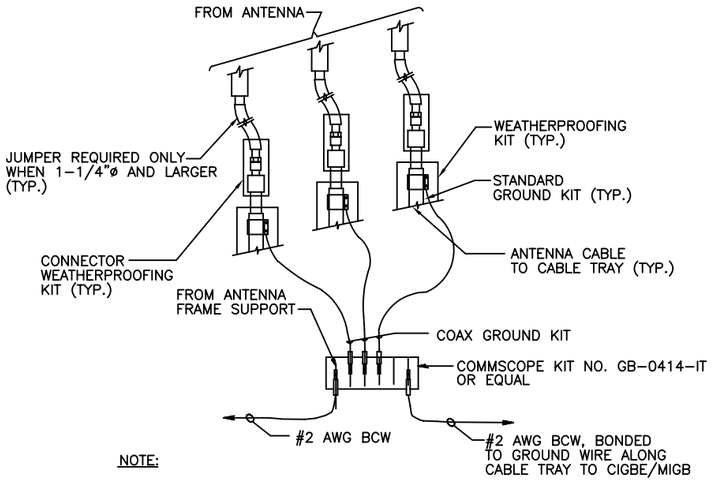
SITE NAME:	EAST HAVEN
SITE NUMBER:	CT5184
SITE ADDRESS:	108 FOXON ROAD NORTH BRANDFORD, CT 06471
PROJECT TYPE:	LTE 3C, 4C, 5G NR & RETRO
SHEET TITLE:	RF PLUMBING DIAGRAM
DRAWING #: RF-1	REVISION: 1



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUNDING RISER DIAGRAM

N.T.S.

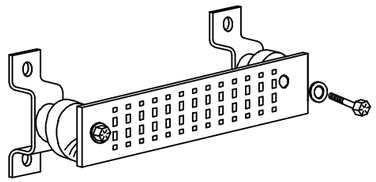
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
–48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

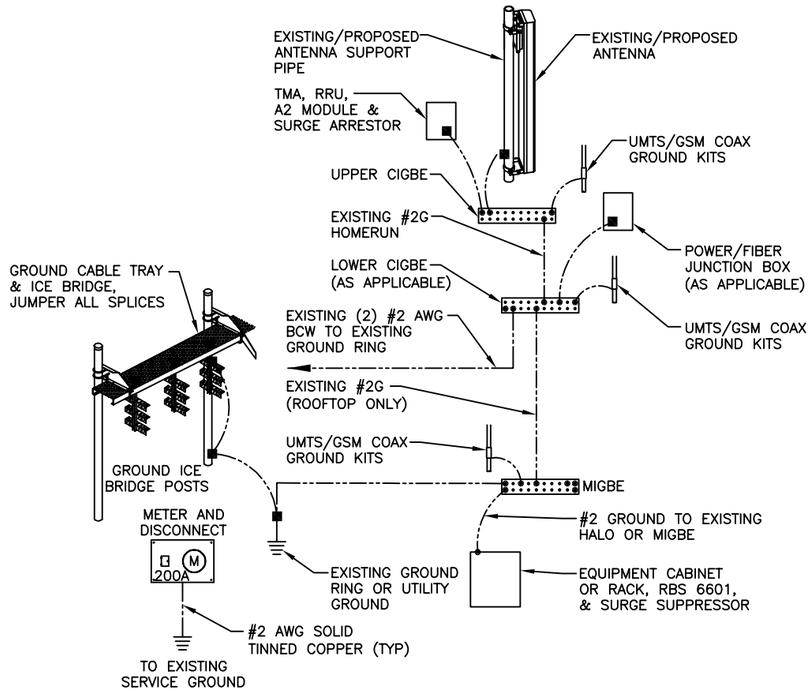
SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)



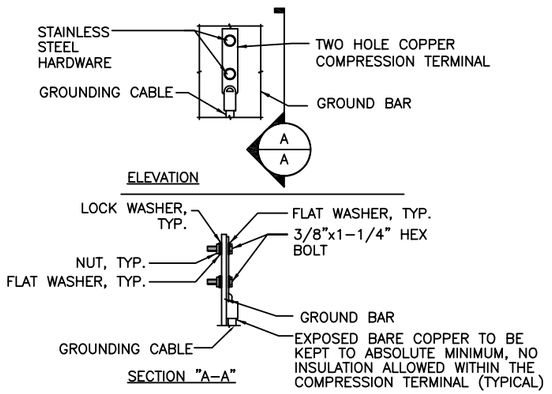
GROUND BAR DETAIL

N.T.S.



GROUNDING RISER DIAGRAM

N.T.S.



NOTE:

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

GROUND BAR CONNECTION DETAIL

N.T.S.

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SITE ADDRESS:	108 FOXON ROAD NORTH BRANDFORD, CT 06471
PROJECT TYPE:	LTE 3C, 4C, 5G NR & RETRO
SHEET TITLE:	GROUNDING DETAILS
DRAWING #:	G–1
REVISION:	1

EXHIBIT 2

CENTERLINE COMMUNICATIONS

750 West Center Street, Suite 301
West Bridgewater, MA 02379
781.713.4725

Revised Mount Analysis Report

Site Number	CT5184
FA Number	10071146
Site Name	EAST HAVEN
Project	LTE 3C, 4C, 5G NR & RETRO
Pace ID	MRCTB048461, MRCTB048640, MRCTB048518, MRCTB048533, MRCTB048538
Site Location	108 Foxon Road North Branford, CT 06471 41.3285919° N, 72.8188989° W
Design Codes	TIA-222-H Standards 2015 IBC ASCE 7-16 2018 CT State Building Code
Mount Centerline	159 ft.
Mount Classification	T-Arm

	Stress Ratio	Overall Result
Existing Mount	**89%**	**PASS**

Client:

at&t Mobility Corp.
55 Cochituate Road
Framingham, MA 01701

at&t

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by: Derek J. Creaser, P.E.
DN: CN = Derek J. Creaser, P.E. email = dcreaser@clinellc.com C = US O = Centerline Communications OU = Director - A&E Services
Date: 2021.01.25 15:15:00 -05'00'

Date: 01/25/2021 (Rev. 1)
12/18/2020

Scope of Work:

Centerline Communications was authorized by AT&T to perform a mount analysis of the existing antenna mount to determine its capacity to support the proposed and existing AT&T equipment listed in this report. This mount was analyzed using RISA 3D v17.0.4.

Final Appurtenances Configuration:

Elevation (ft)	Position[1]	Azimuth (degrees)	Quantity	Appurtenance	Sector
157	-	40	1	HPA-65R-BUU-H6 Antenna	Sector 1
157	**-**	**40**	**1**	**DMP65R-BU6DA Antenna**	
157	**-**	**40**	**1**	**8843 B2/B66A RRH**	
157	**-**	**40**	**1**	**4449 B5/B12 RRH**	
157	-	160	1	HPA-65R-BUU-H6 Antenna	Sector 2
157	**-**	**160**	**1**	**DMP65R-BU6DA Antenna**	
157	**-**	**160**	**1**	**8843 B2/B66A RRH**	
157	**-**	**160**	**1**	**4449 B5/B12 RRH**	
157	MP1	270	1	HPA-65R-BUU-H6 Antenna	Sector 3
157	**MP4**	**270**	**1**	**DMP65R-BU6DA Antenna**	
157	**MP1**	**270**	**1**	**8843 B2/B66A RRH**	
157	**MP4**	**270**	**1**	**4449 B5/B12 RRH**	
157	MP4	270	1	DC6-48-60-18-8F Squid	

Notes:

1. MP represent Mount Pipe.
2. Existing Appurtenance
3. **Proposed Appurtenance**

Design Criteria:

Design Codes:

TIA-222-H Standards
2015 IBC
ASCE 7-16
2018 CT State Building Code

Ultimate Wind Speed	121 mph
Wind Speed with Ice	50 mph
Ice Thickness	1.0 in.
Exposure Category	C
Topographic Method	Method 1, Cat. 1
Risk Category	II
Site Soil Class (Assumed)	D-Stiff Soil
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_S	0.203 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.054 g
Short Period Site Coefficient, F_a	1.6
Long Period Site Coefficient, F_v	2.4

***Refer to calculations for additional design criteria.**

Conclusion:

The results of the analysis concluded that the existing AT&T mounts *are capable* to support the proposed and existing AT&T equipment loads.

	Stress Ratio	Overall Result
Existing Mount	**89%**	**PASS**

Reference Documents:

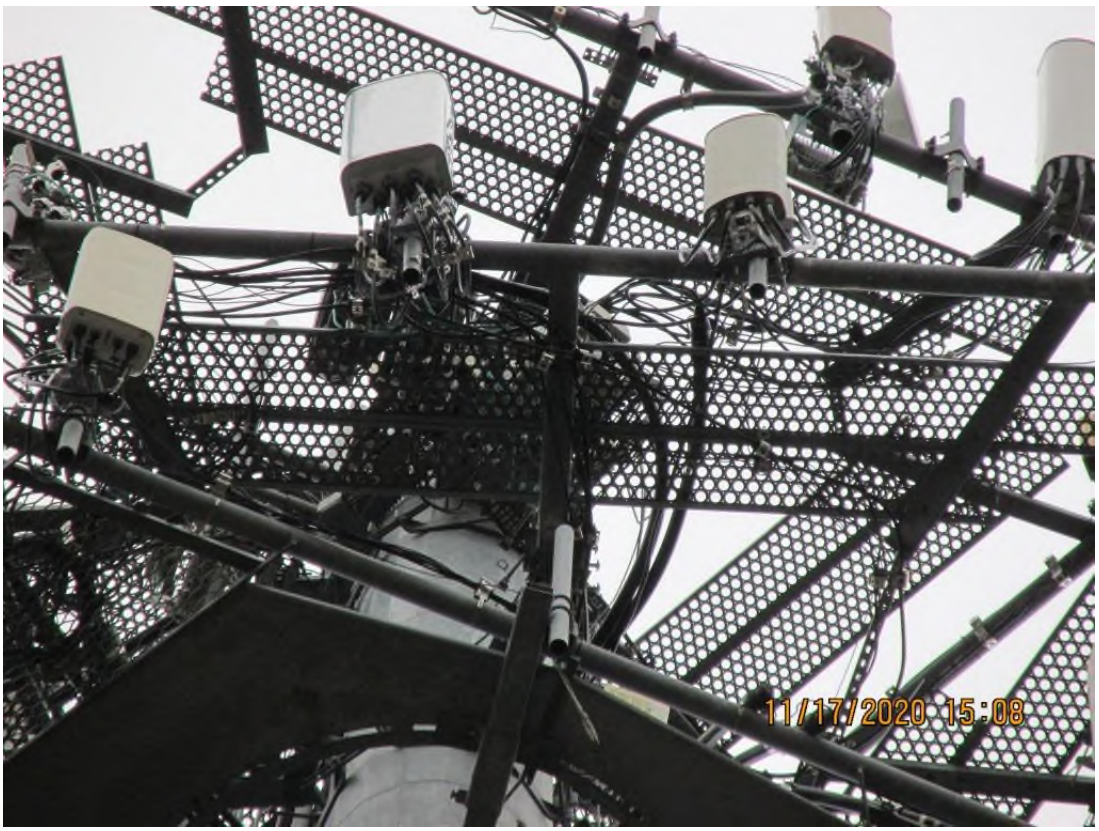
- AT&T RFDS ID #4093551 V4.0, dated 10/29/2020
- Structural Analysis by TES dated 08/19/2016
- Mount Analysis by Fullerton, dated 07/11/2016
- Mount Mapping Report by Trylon, dated 11/20/2020

Assumptions and Limitations:

- The calculations performed by Centerline Communications are limited to the structural members in these calculations only.
- Structural calculations in this report do not check the adequacy of the supporting structure, other mounts, or coax mounting attachments.
- The calculation assumes all structural members to be in good condition i.e. no damage, rust or other defects.

Photos:

Alpha Sector



Beta Sector

Gamma Sector

Overall Tower

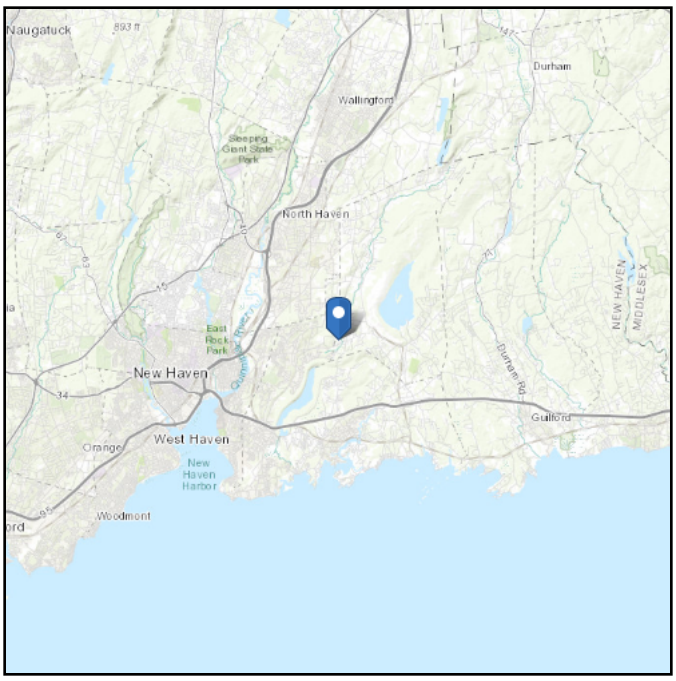
Design Calculations

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 149.59 ft (NAVD 88)
Latitude: 41.328592
Longitude: -72.818899



Wind

Results:

Wind Speed:	121 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	92 Vmph
100-year MRI	99 Vmph
Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4
Date Accessed:	Wed Dec 16 2020

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

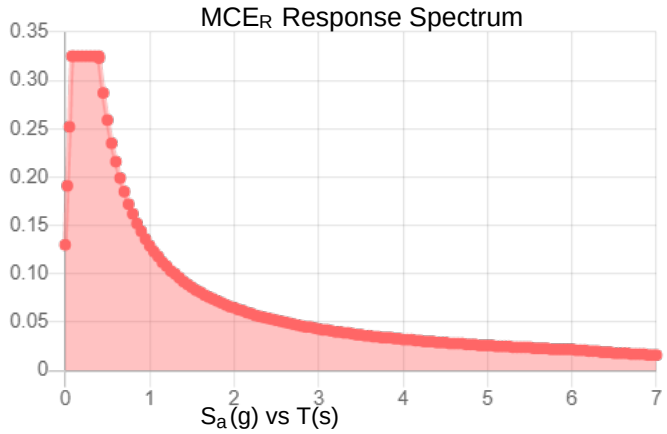
Seismic

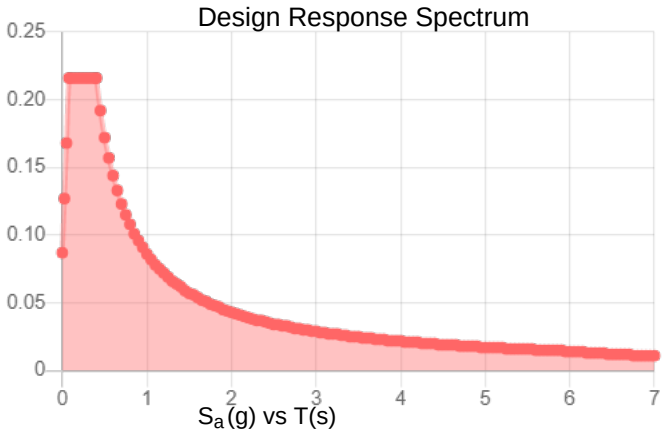
Site Soil Class: D - Stiff Soil

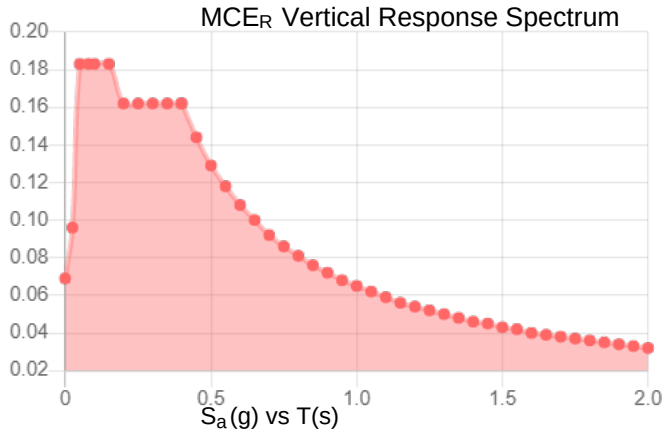
Results:

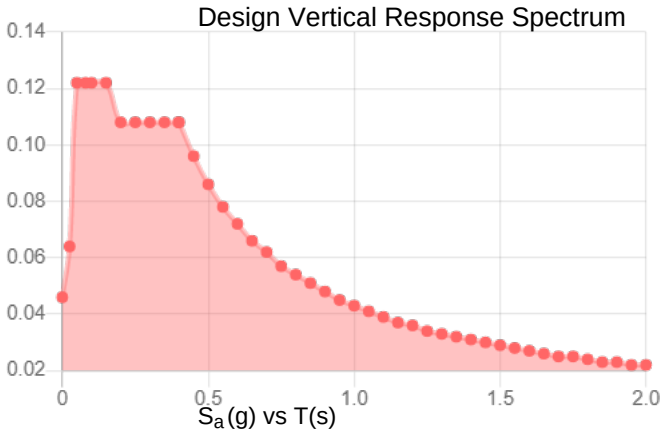
S_S :	0.203	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.113
F_v :	2.4	PGA_M :	0.178
S_{MS} :	0.325	F_{PGA} :	1.573
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.216	C_v :	0.706

Seismic Design Category B









Data Accessed: Wed Dec 16 2020

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Wed Dec 16 2020

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

CENTERLINE COMMUNICATIONS
750 West Center Street, Suite 301
West Bridgewater, MA 02379
781.713.4725

Site Details	
Site Name	EAST HAVEN
Carrier	AT&T
City, State	NORTH BRANFORD, CT
Project	LTE 3C, 4C, 5G NR & RETRO

Mount Details		
Mount Type	T-Arm	
Mount Height, z	157	ft
Number of Sectors	3	
Tower Type	Monopole	
Tower Height, h	177	ft

Topographic Factors		
Topographic Procedure	No Topo	
Feature	Flat	
Crest Height, H	N/A	ft
Distance from Crest, x	N/A	ft
Slope (H/L)	N/A	
Topographic Factor, K_{zt}	1.00	

Seismic Factors		
Importance Factor, I_E	1	
Short Period Spectral Acceleration, S_s	0.203	g
1 Second Period Spectral Acceleration, S_1	0.054	g
Long-Period Transition Period, T_L	6	
Design Category	B	
Short Period Site Coefficient, F_a	1.60	
Long-Period Site Coefficient, F_v	2.4	

Site Parameters		
Wind Speed, V	121	mph
Wind Speed with Ice, V_i	50	mph
Design Ice Thickness, t_i	1	in
Risk Category	II	
Exposure Category	C	
AMSL	149	ft
Site Soil Class	D-Stiff Soil (Assumed)	

Code	
Building Code	2015 IBC
TIA Code	TIA-222-H
ASCE Code	7-16

Site Constants		
Importance Factor, I	1.00	
Wind Direction Prob. Factor, K_d	0.95	
Velocity Pressure Coefficient, K_z	1.39	
Ground Elevation Factor, K_e	0.99	
Rootop Wind Speed-Up Factor, K_s	1.00	
Gust Effect Factor, G_h	1.00	
Design Ice Thickness, t_{iz}	1.17	in
Velocity Pressure, q_z	49.29	psf
Velocity Pressure with Ice, q_{zi}	8.42	psf
Shielding Factor, K_a	0.90	
Flat Velocity Pressure (Ca =2.0)	98.57	psf
Round Velocity Pressure (Ca = 1.2)	59.14	psf
Round Velocity Pressure with Ice (Ca = 1.2)	10.10	psf
Engineer Initials	**AP**	

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Members Forces								
Member Label	**Shape**	**Type**	**w, lbs/ft**	**q_z, psf**	**w_i, lbs/ft**	**q_{zi}, psf**	**E_v, lbs./ft**	**V_s, lbs/ft**
Mount Pipe	PIPE_2.0	Beam	3.47	59.145	5.06	10.1	0.15	0.38
Standoff	HSS4X4X4	Beam	12.33	98.575	9.75	10.1	0.53	1.34
Horizontal	PIPE_3.5	Beam	8.51	59.145	7.38	10.1	0.37	0.92
Standoff Pipe	PIPE_4.0	Beam	10.07	59.145	8.09	10.1	0.44	1.09
Grating Support	L4X4X4	Beam	6.57	98.575	9.75	10.1	0.28	0.71

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Sector 1							
		Wind Force				Dimensions	Weights
Appurtenances	Rad. Ht., ft	Front EPA ft^2	Side EPA ft^2	0° Force lbs.	90° Force lbs.	H/W/D, in	$Wt./Wt._{ice}$, lbs.
HPA-65R-BUU-H6 Antenna	157	9.66	6.45	369.61	344.91	72\14.8\9	51\157.28
DMP65R-BU6DA Antenna	157	12.71	5.62	433.75	379.11	71.2\20.7\7.7	79.4\183.31
8843 B2/B66A RRH	157	1.64	1.35	67.47	65.27	14.9\13.2\10.9	72\45.42
4449 B5/B12 RRH	157	1.64	1.30	66.64	63.98	14.96\13.19\10.43	73\44.44
DC6-48-60-18-8F Squid	157	3.60	3.60	159.50	159.50	31.4\10.24\10.24	26.2\66.26

*Dish force coefficient is calculated per Annex C of TIA-222-H, if available.

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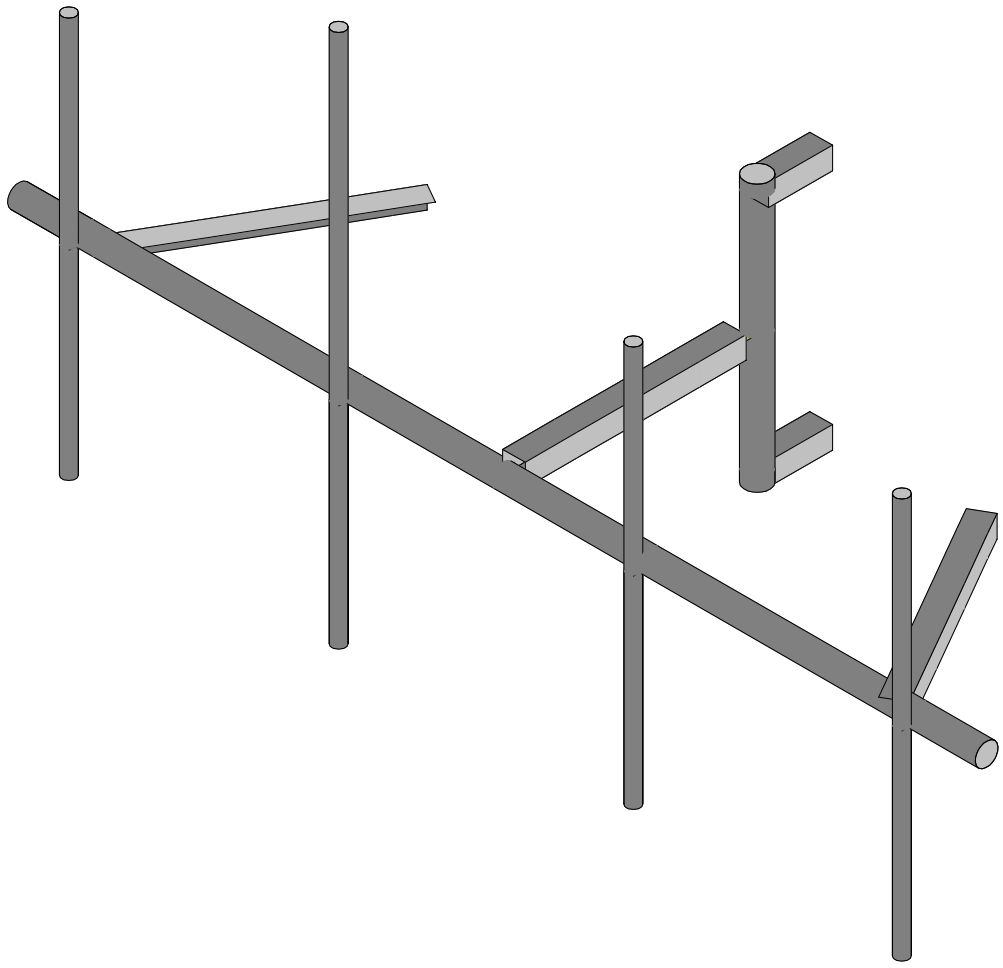
Sector 1 Continue…									
		Wind Force with Ice				Wind Force V = 30 mph		Seismic Force	
Appurtenances	Rad. Ht., ft	Front EPA ft^2	Side EPA ft^2	0° Force lbs.	90° Force lbs.	0° Force lbs.	90° Force lbs.	Ev, lbs	Vs, lbs
HPA-65R-BUU-H6 Antenna	157	6.55	4.62	106.72	99.96	22.72	21.20	2.21	5.52
DMP65R-BU6DA Antenna	157	8.42	4.14	124.42	109.47	26.66	23.30	3.44	8.60
8843 B2/B66A RRH	157	1.30	1.11	20.78	20.15	4.15	4.01	3.12	7.80
4449 B5/B12 RRH	157	1.31	1.07	20.54	19.78	4.10	3.93	3.16	7.90
DC6-48-60-18-8F Squid	157	6.52	6.52	76.60	76.60	9.80	9.80	1.13	2.84

Existing Mount Results



Centerline Communication...	CT5184_Mount	Rendered
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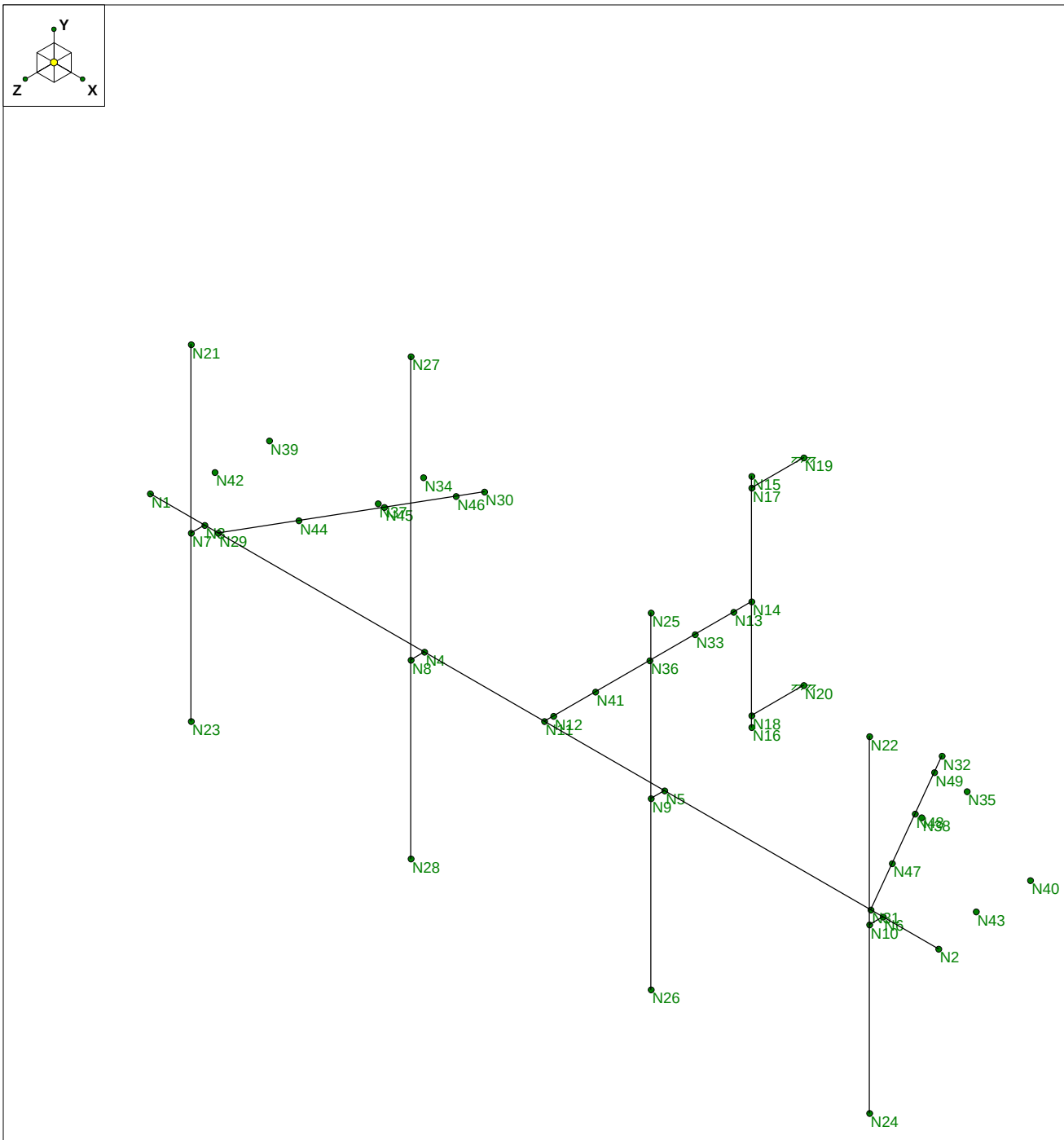
		CT5184_Mount.r3d



Centerline Communication...	CT5184_Mount	Wireframe
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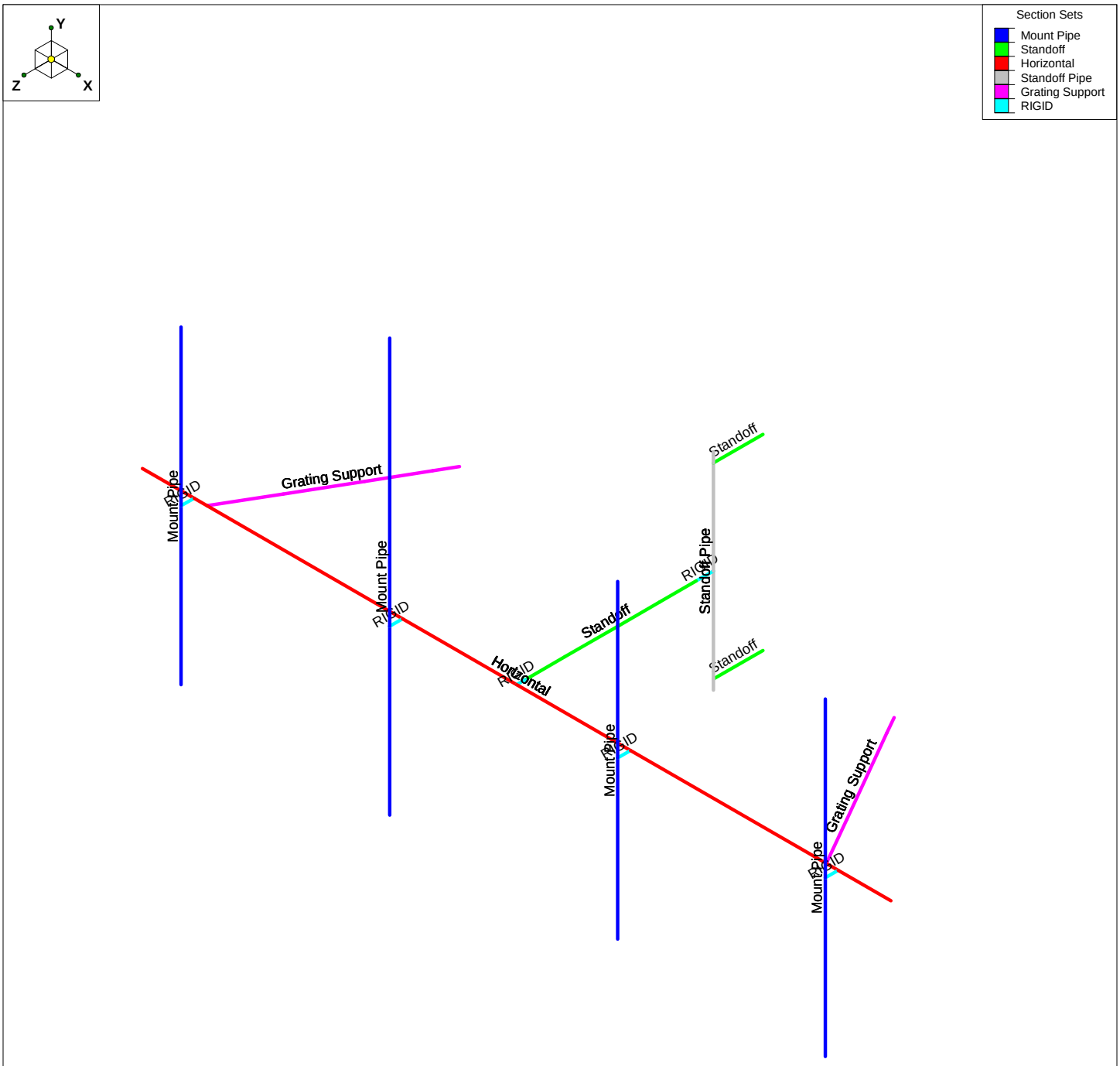

Centerline Communication...	CT5184_Mount	Section Sets
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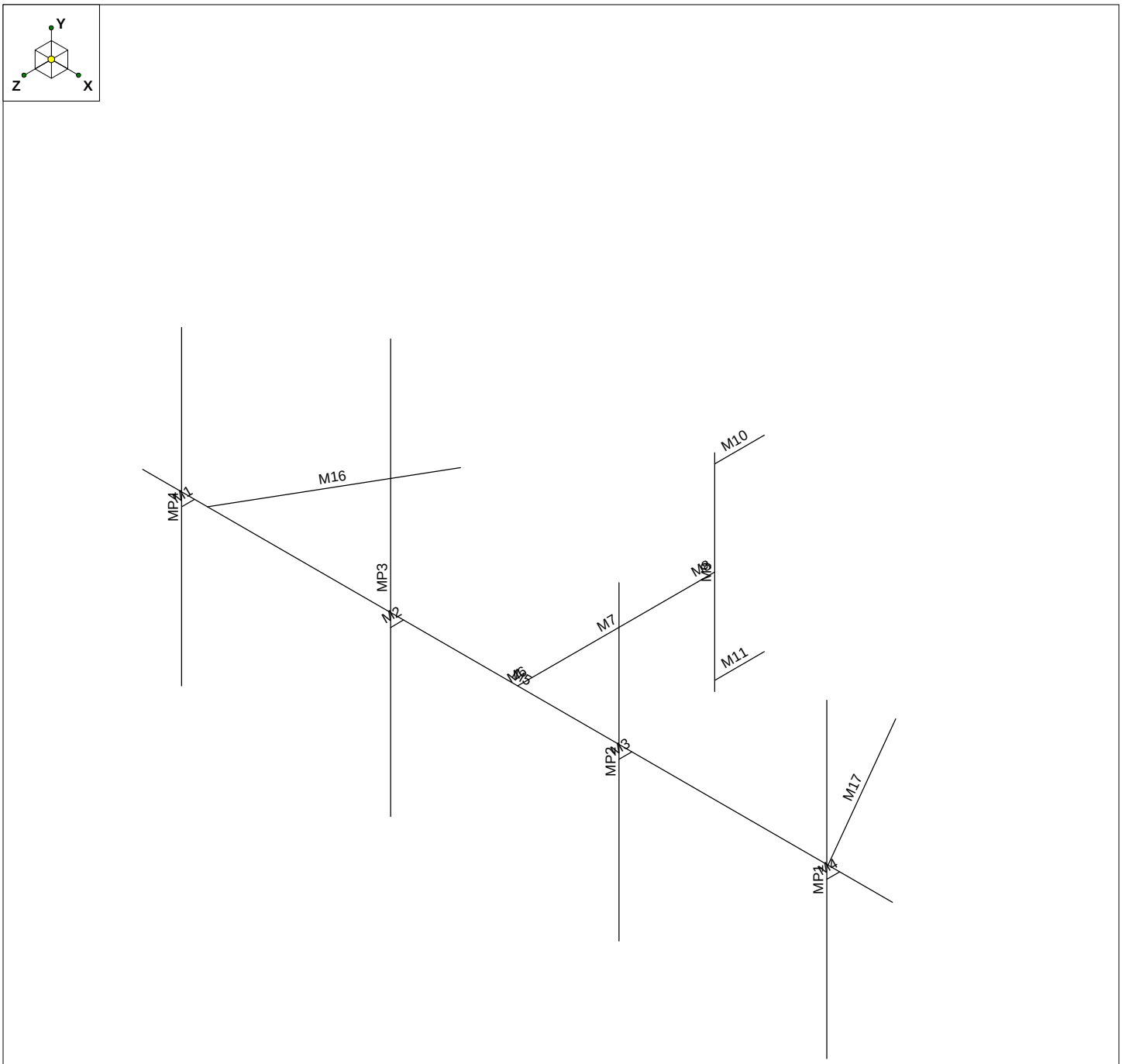

Centerline Communication...	CT5184_Mount	Member Label
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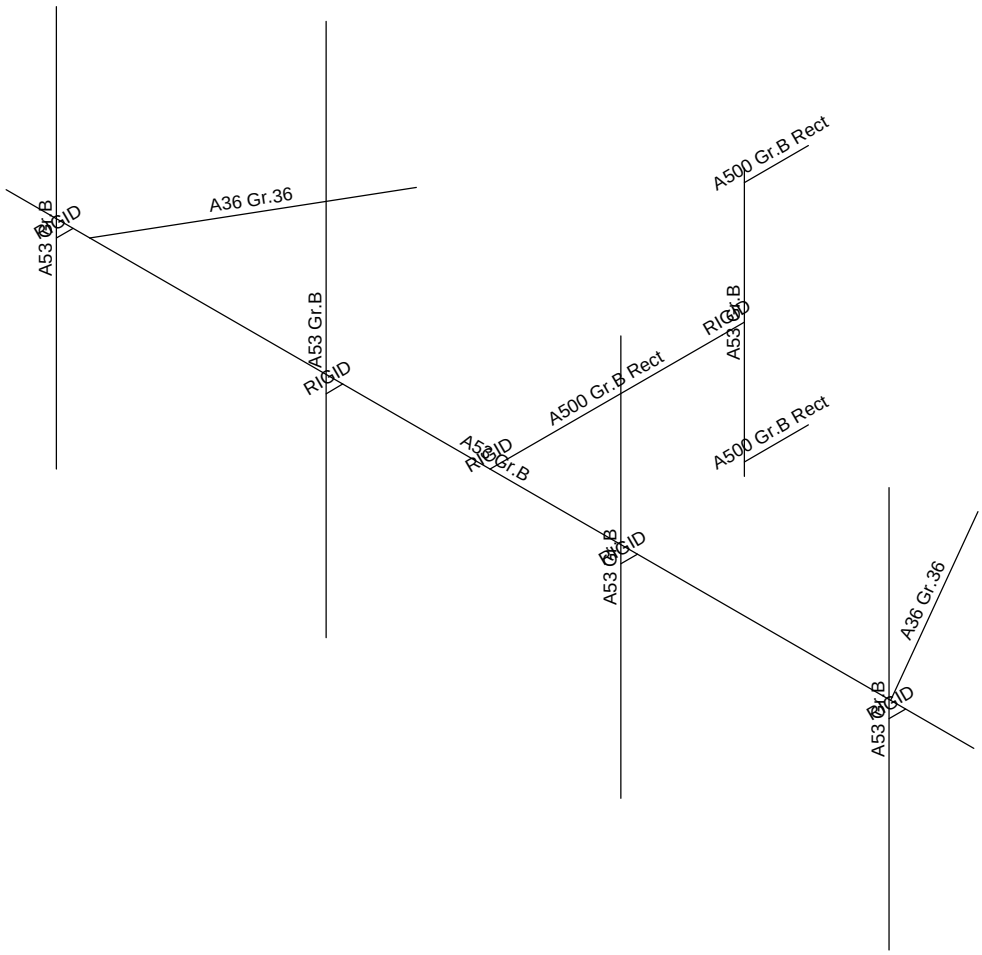

Centerline Communication...		Material Sets
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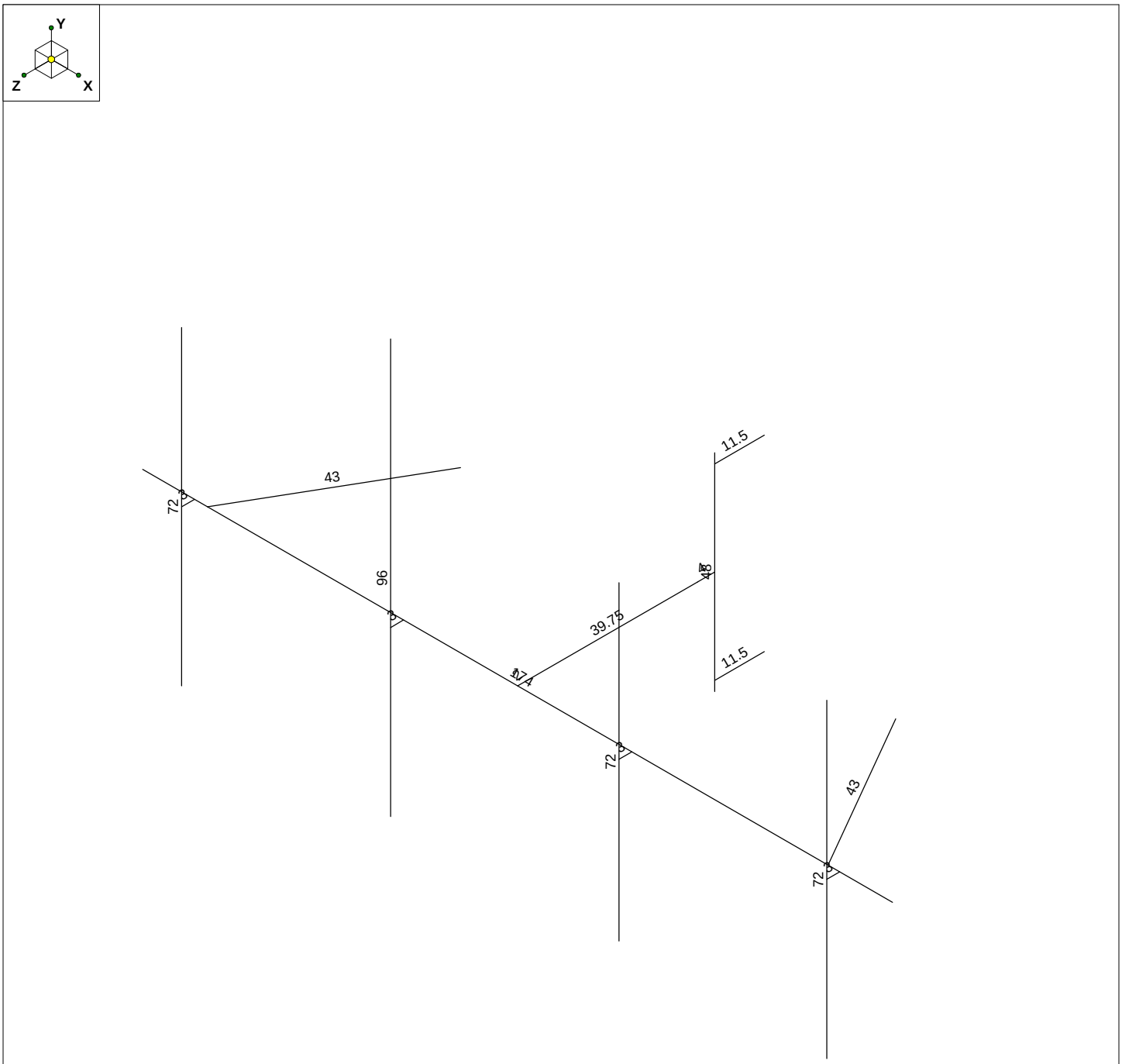

Member Length (in) Displayed

Centerline Communication...	CT5184_Mount	Member Length
AP		Jan 25, 2021 at 11:55 AM
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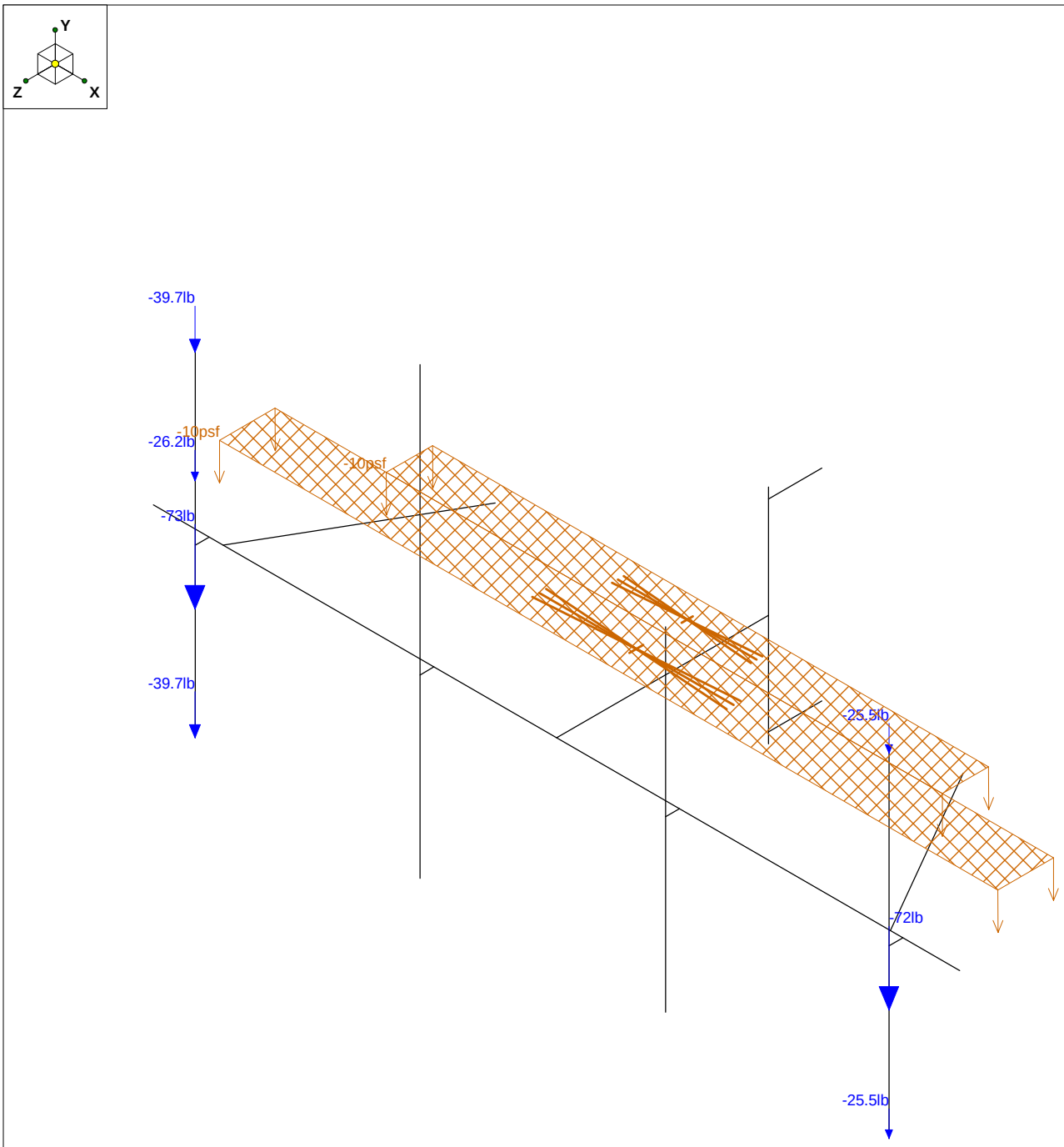
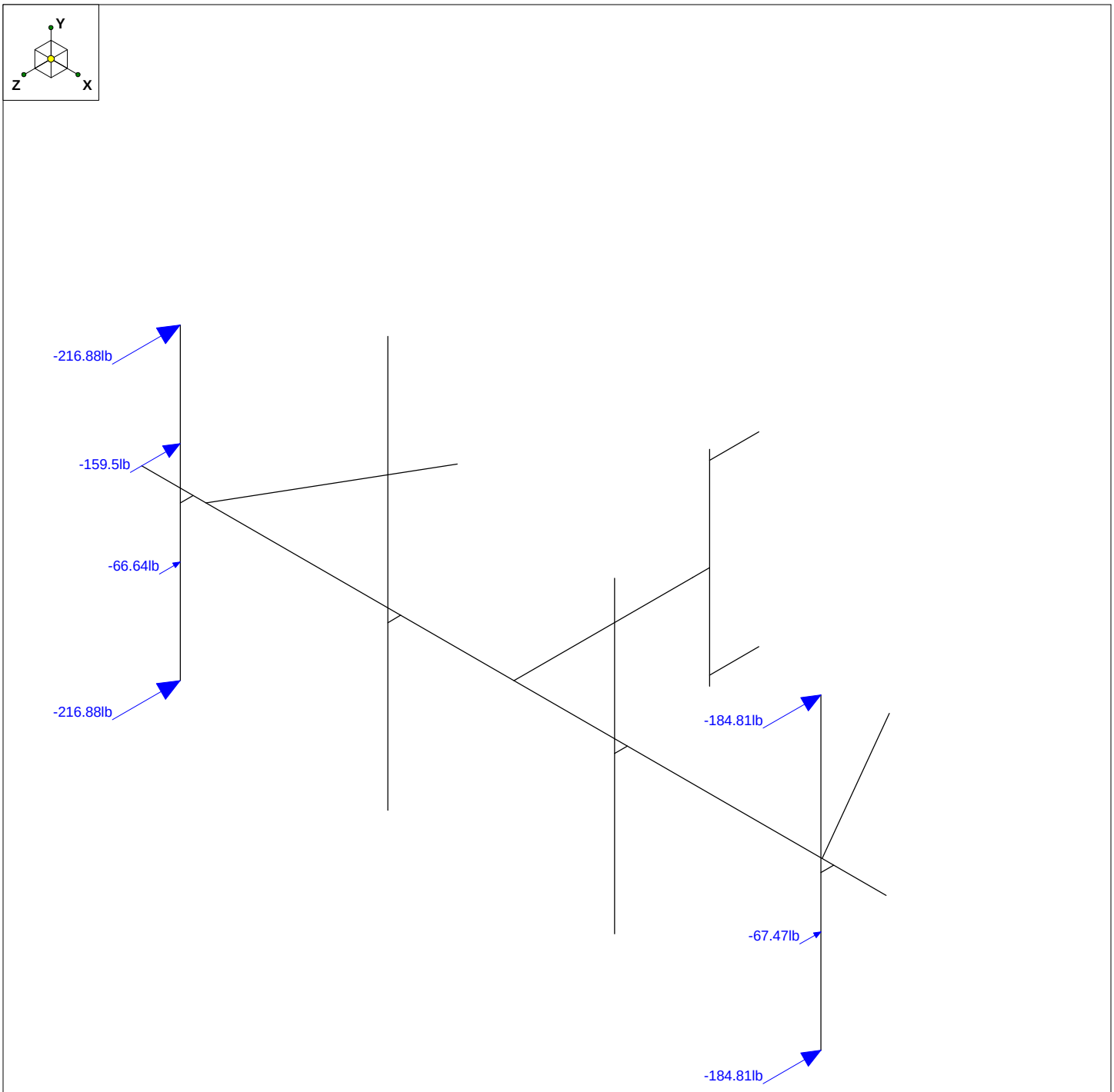


Loads: BLC 1, Dead Load

Centerline Communication...	CT5184_Mount	Dead Load
AP		Jan 25, 2021 at 11:55 AM
		CT5184_Mount.r3d



Loads: BLC 2, Wind 0

Centerline Communication...	CT5184_Mount	Wind 0
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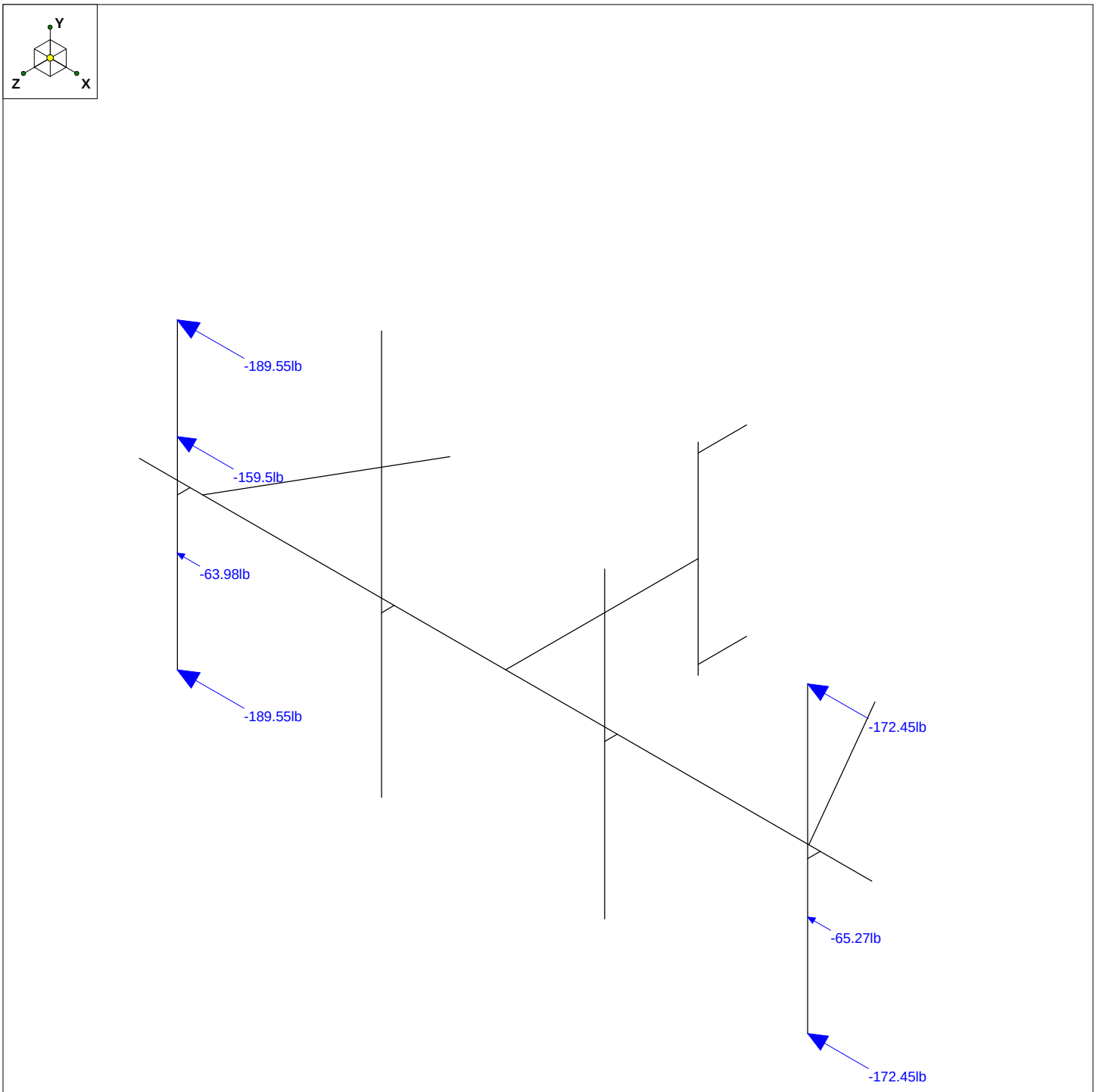

Loads: BLC 5, Wind 90

Centerline Communication...	CT5184_Mount	Wind 90
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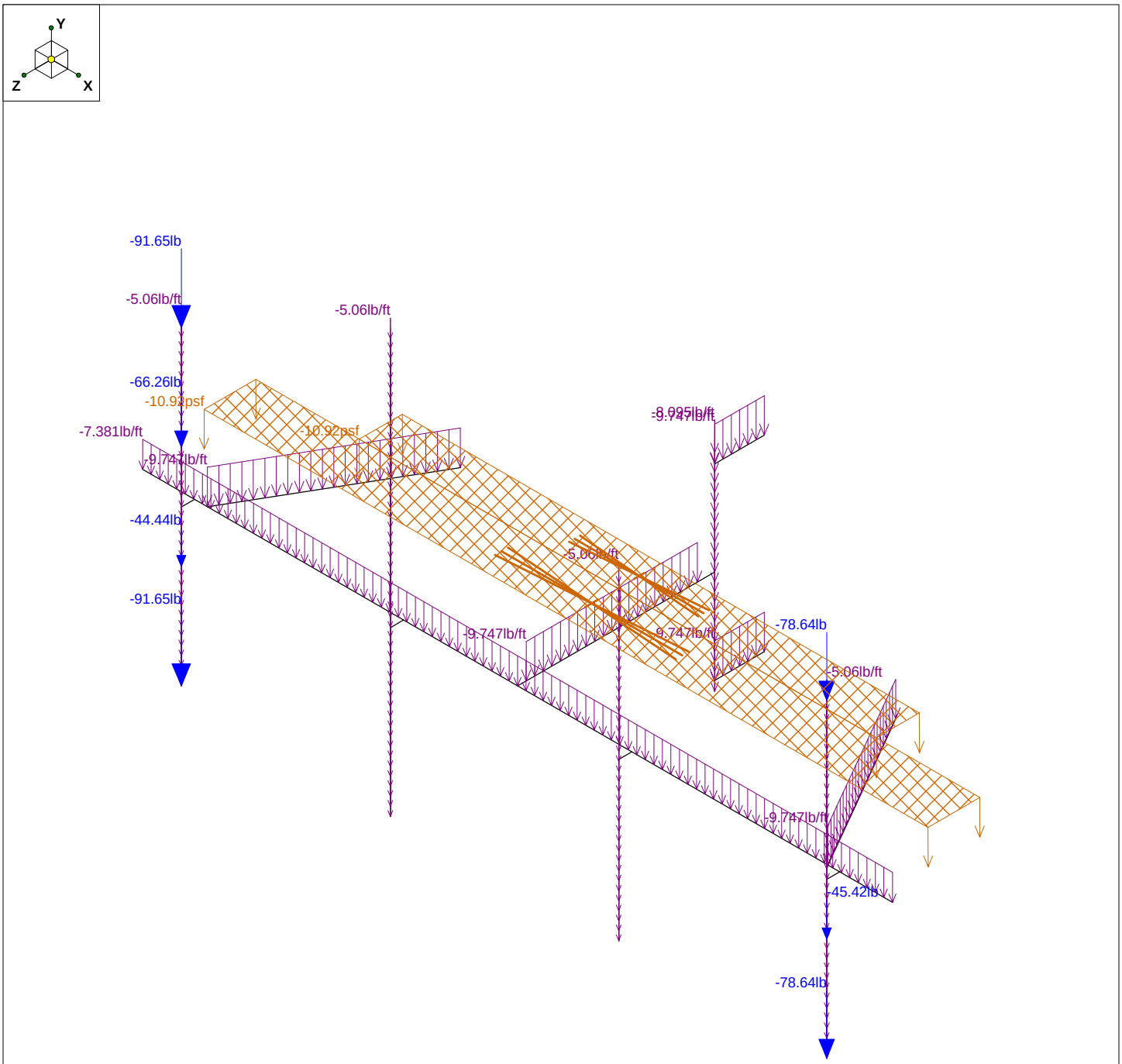

Loads: BLC 9, Ice Weight

Centerline Communication...	CT5184_Mount	Ice Weight
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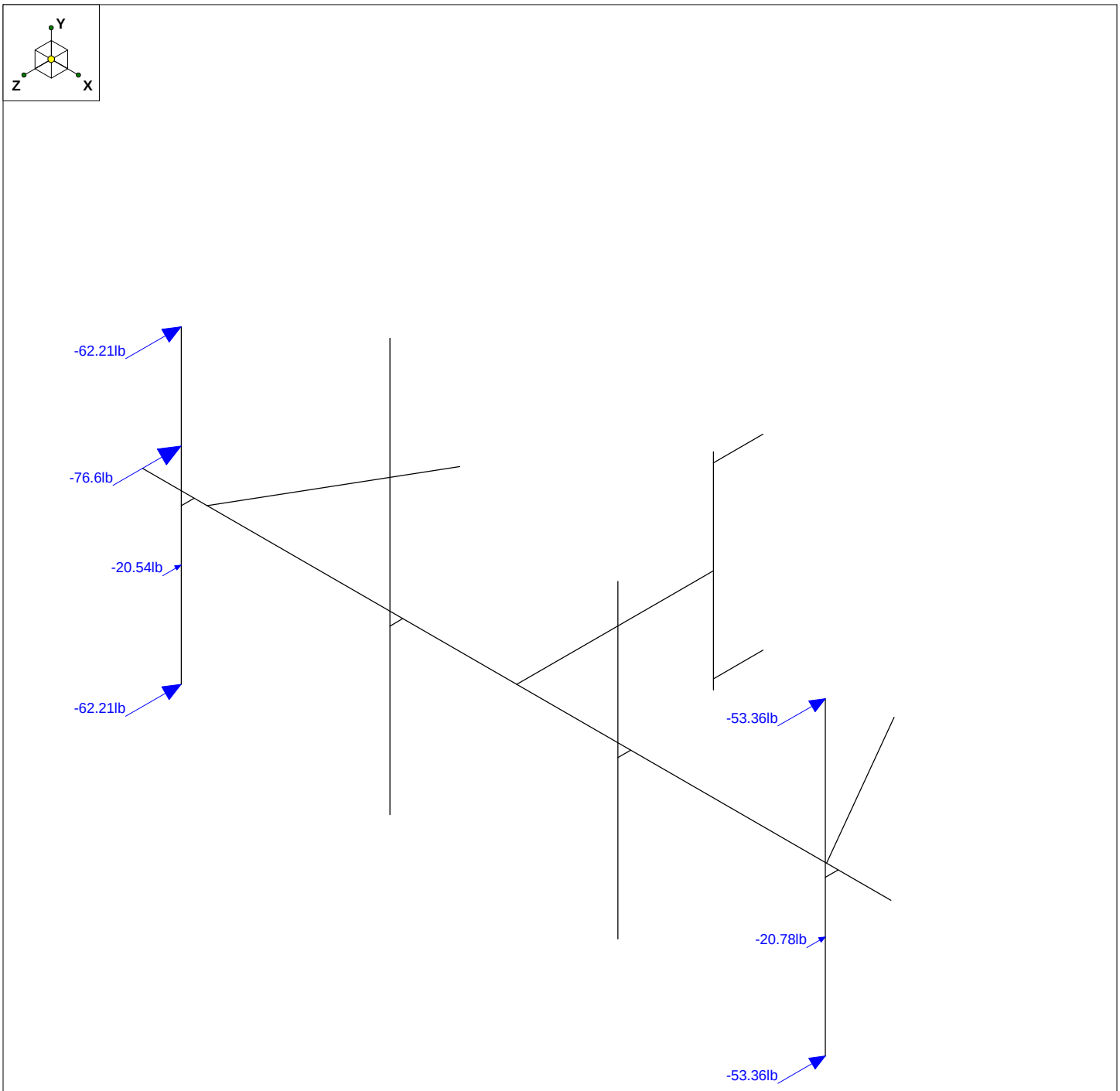
		CT5184_Mount.r3d



Loads: BLC 10, Ice + Wind 0

Centerline Communication...	CT5184_Mount	Ice + Wind 0
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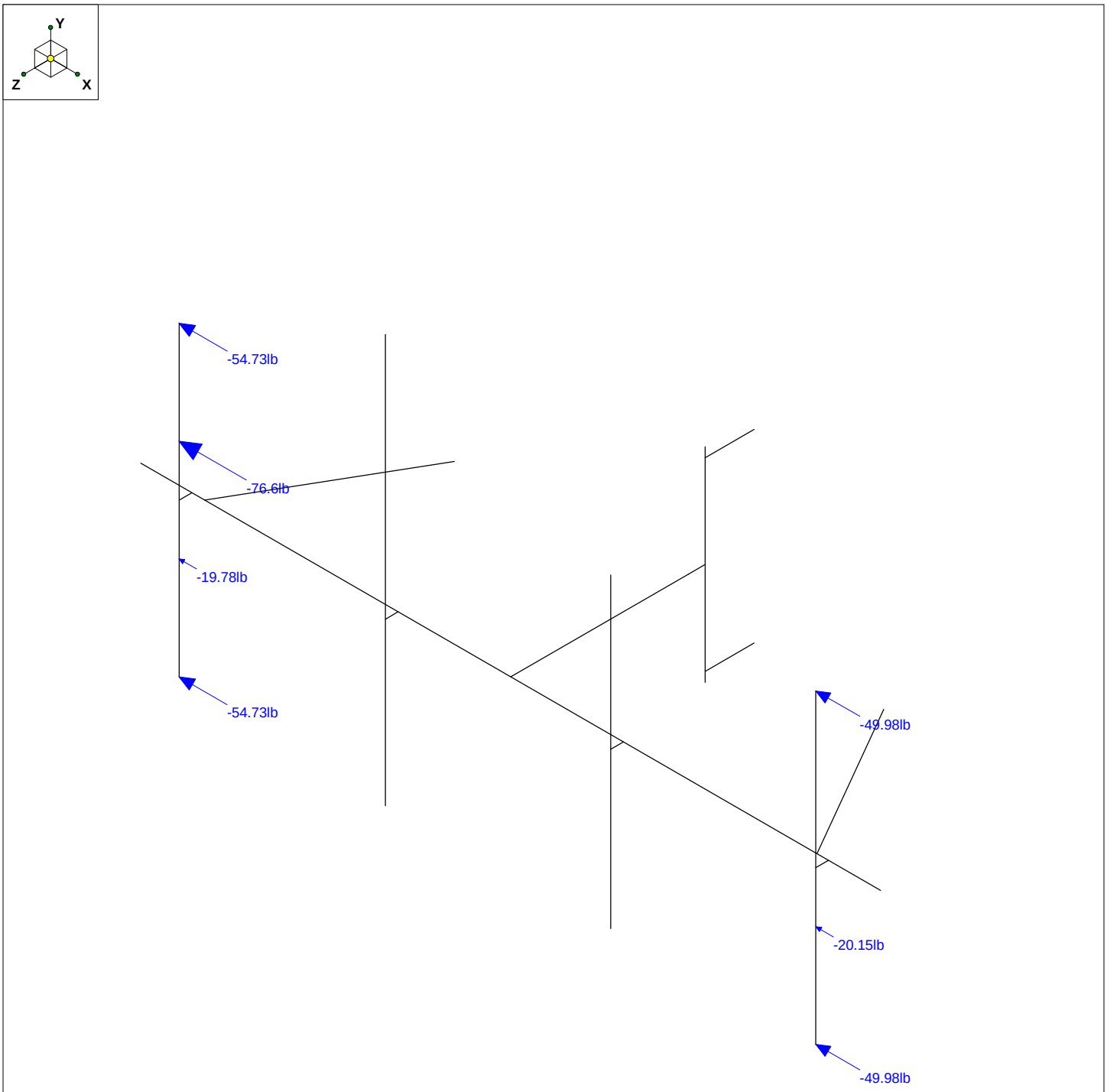

Loads: BLC 13, Ice + Wind 90

Centerline Communication...	CT5184_Mount	Ice + Wind 90
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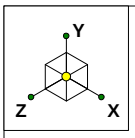
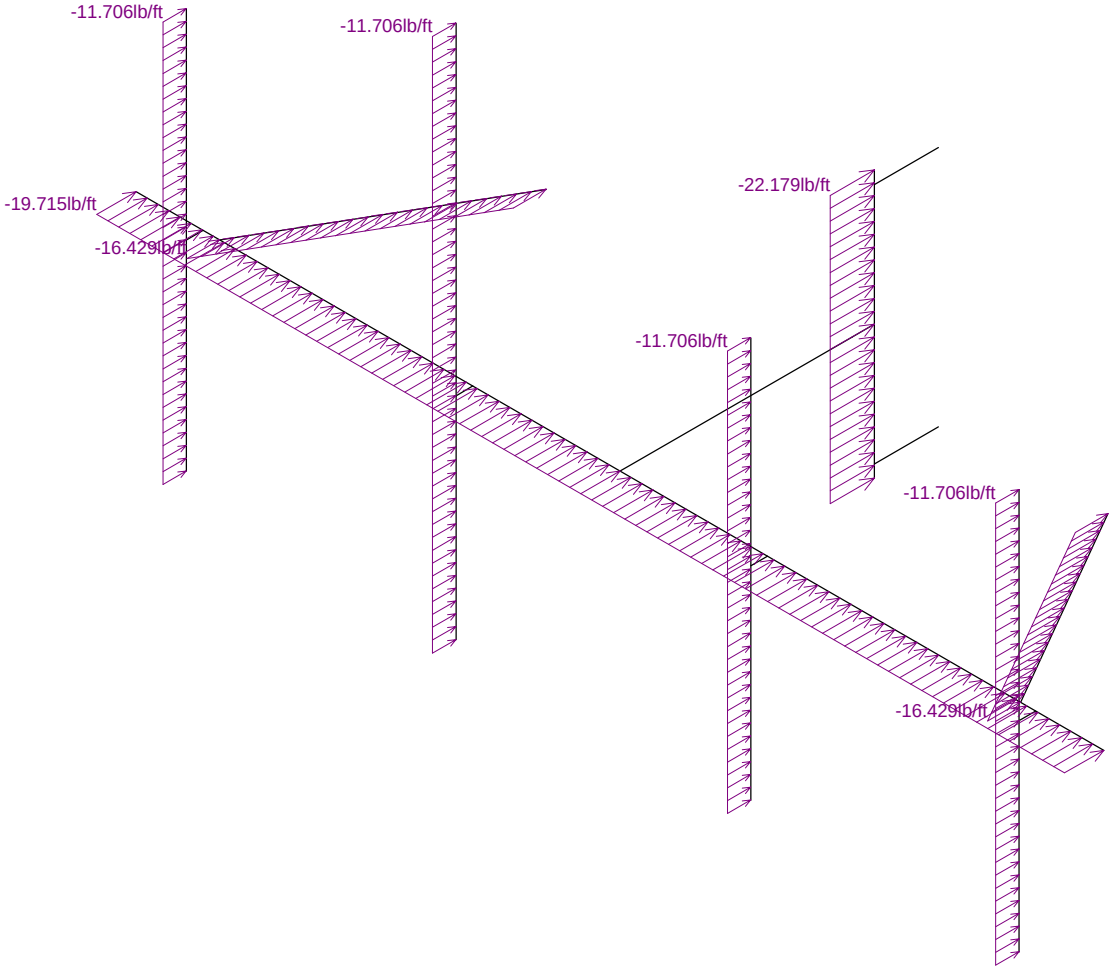
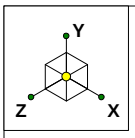
		CT5184_Mount.r3d

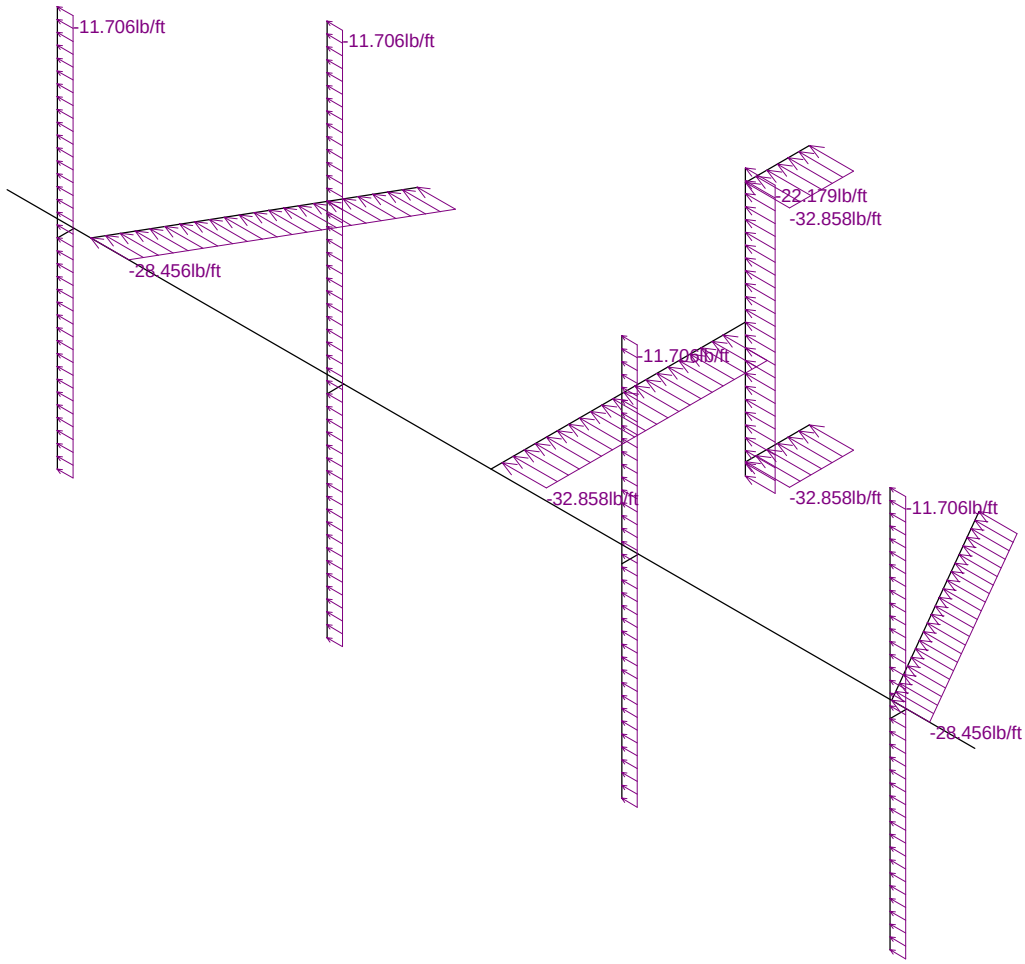




Loads: BLC 17, Distri. Wind Z

Centerline Communication...	CT5184_Mount	Distri. Wind 0
AP		Jan 25, 2021 at 11:56 AM
		CT5184_Mount.r3d





Loads: BLC 18, Distri. Wind X

Centerline Communication...		Distri. Wind 90
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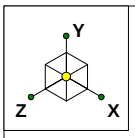
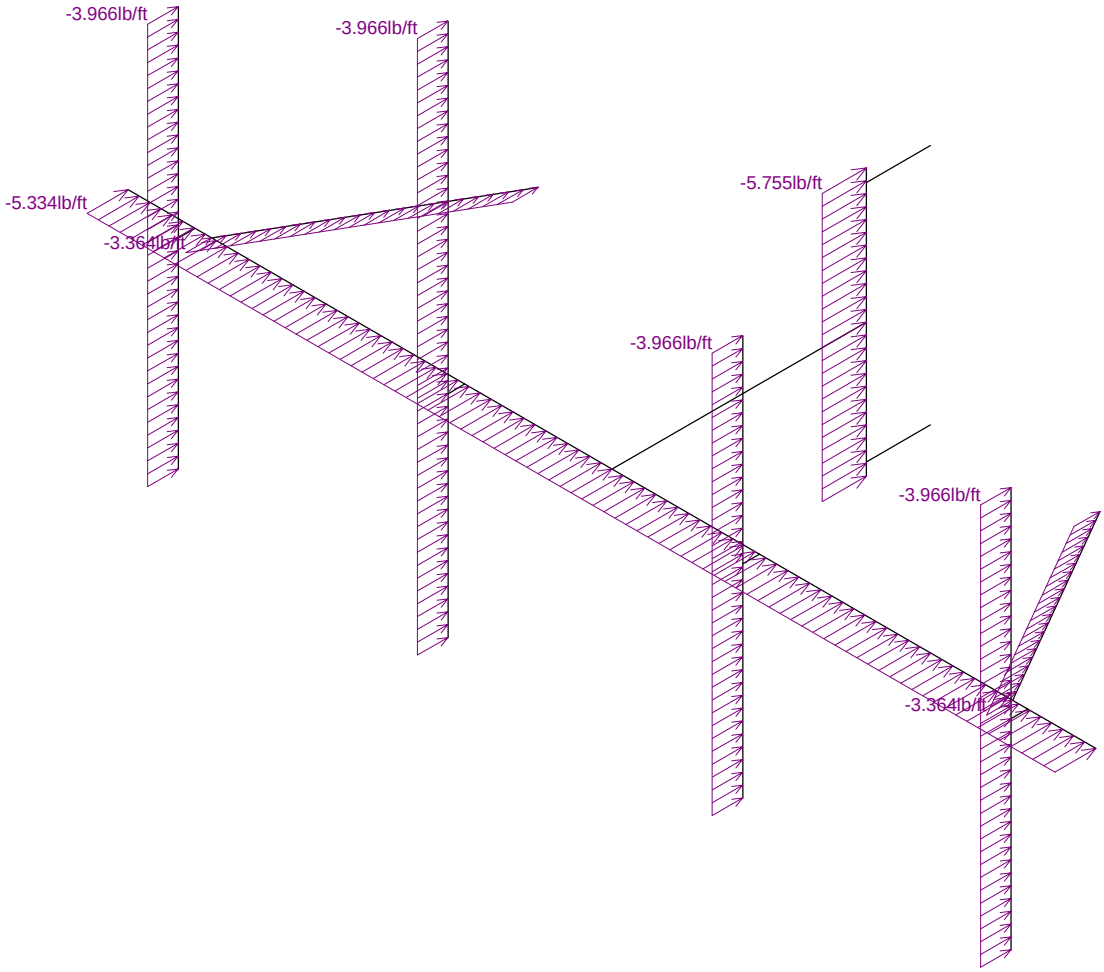
		CT5184_Mount.r3d





Loads: BLC 19, Distri. Ice + Wind Z

Centerline Communication...		Distri. Ice + Wind 0
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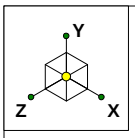
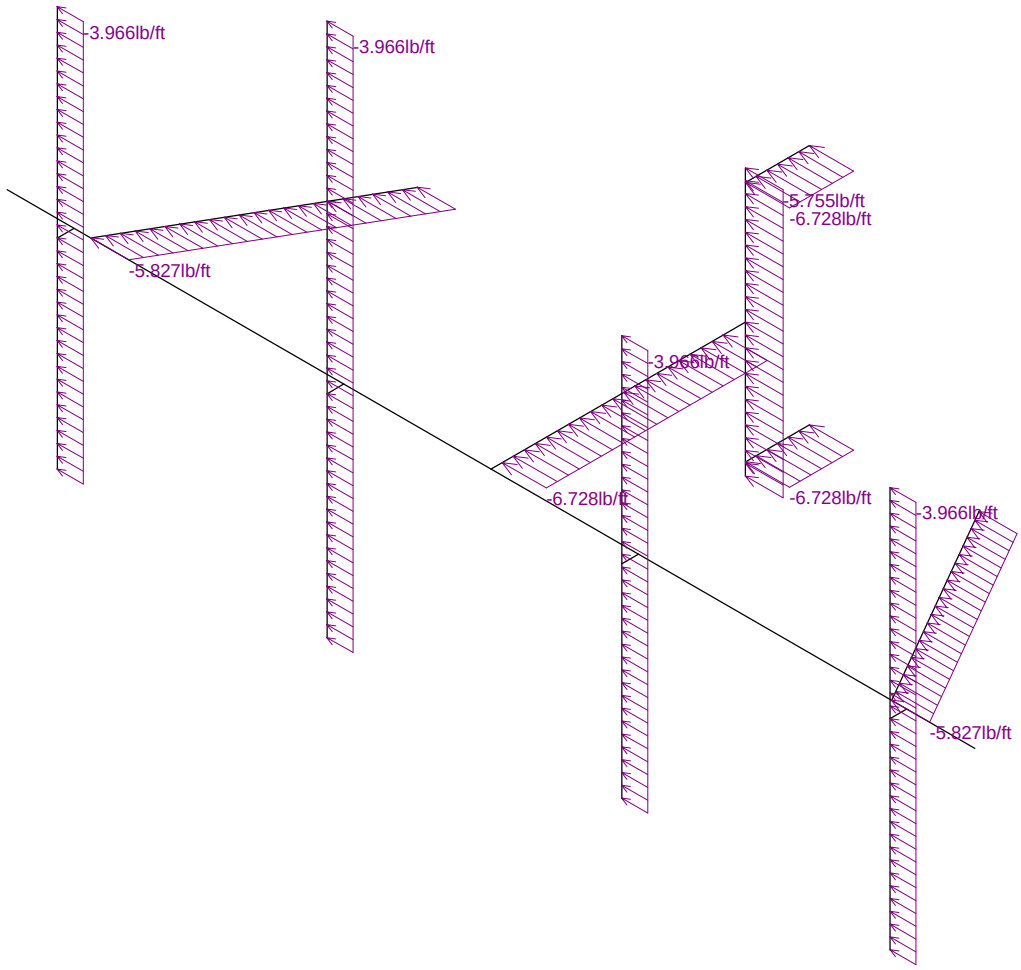
		CT5184_Mount.r3d





Loads: BLC 20, Distrr. Ice + Wind X

Centerline Communication...	CT5184_Mount	Distri. Ice + Wind 90
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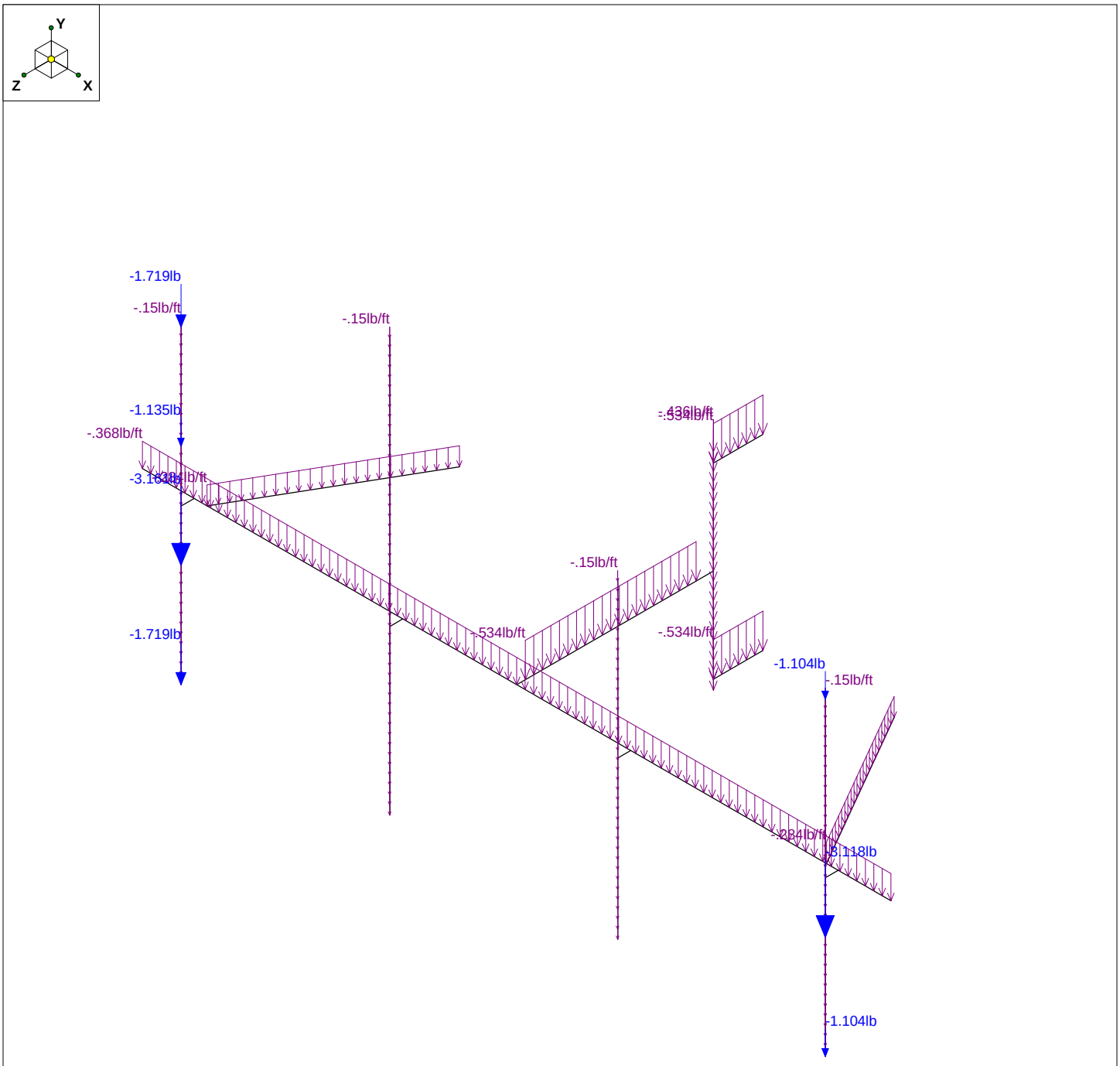
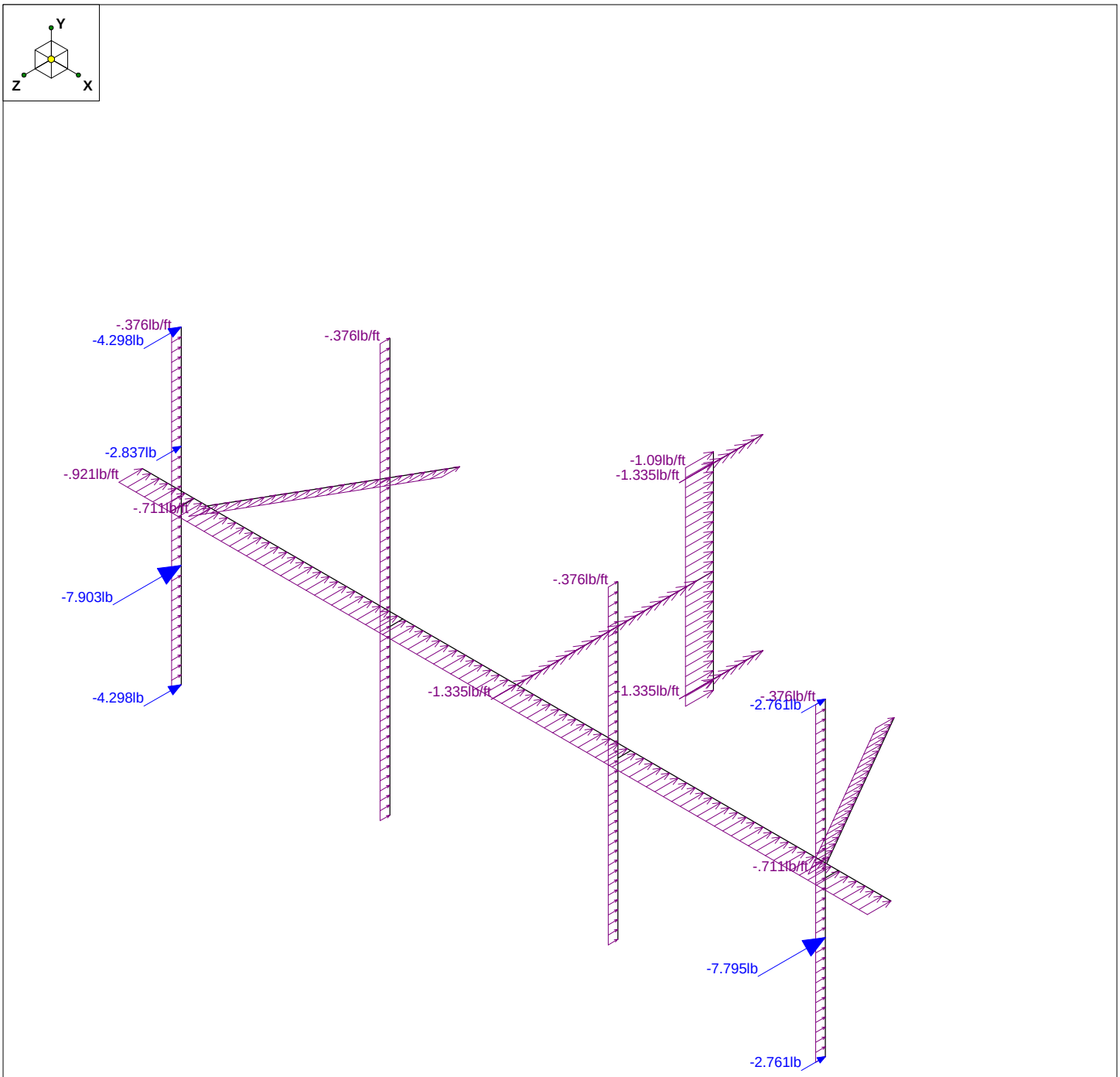


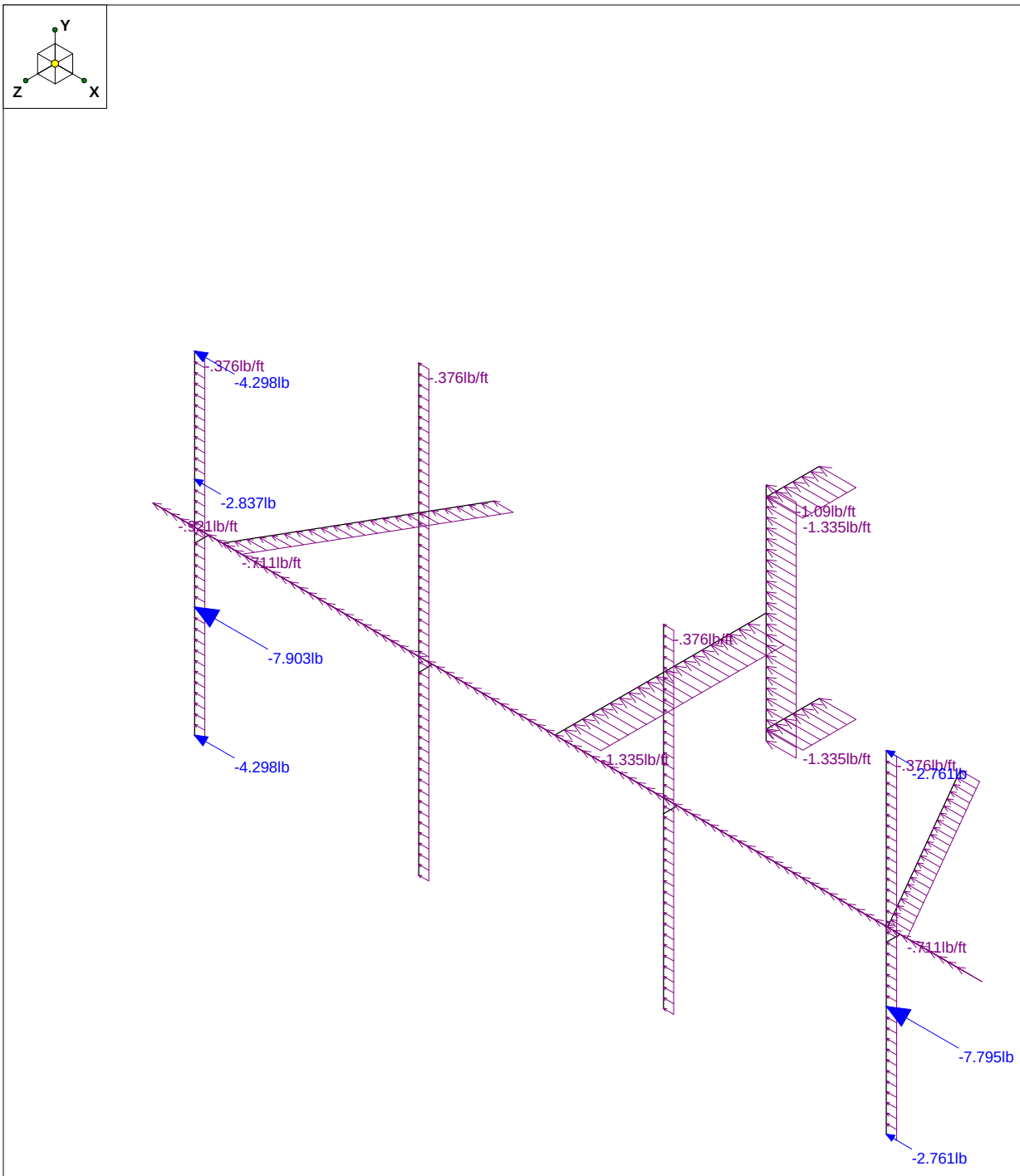
Loads: BLC 21, Seismic Load Y

Centerline Communication...	CT5184_Mount	Seismic Y
AP		Jan 25, 2021 at 11:57 AM
		CT5184_Mount.r3d



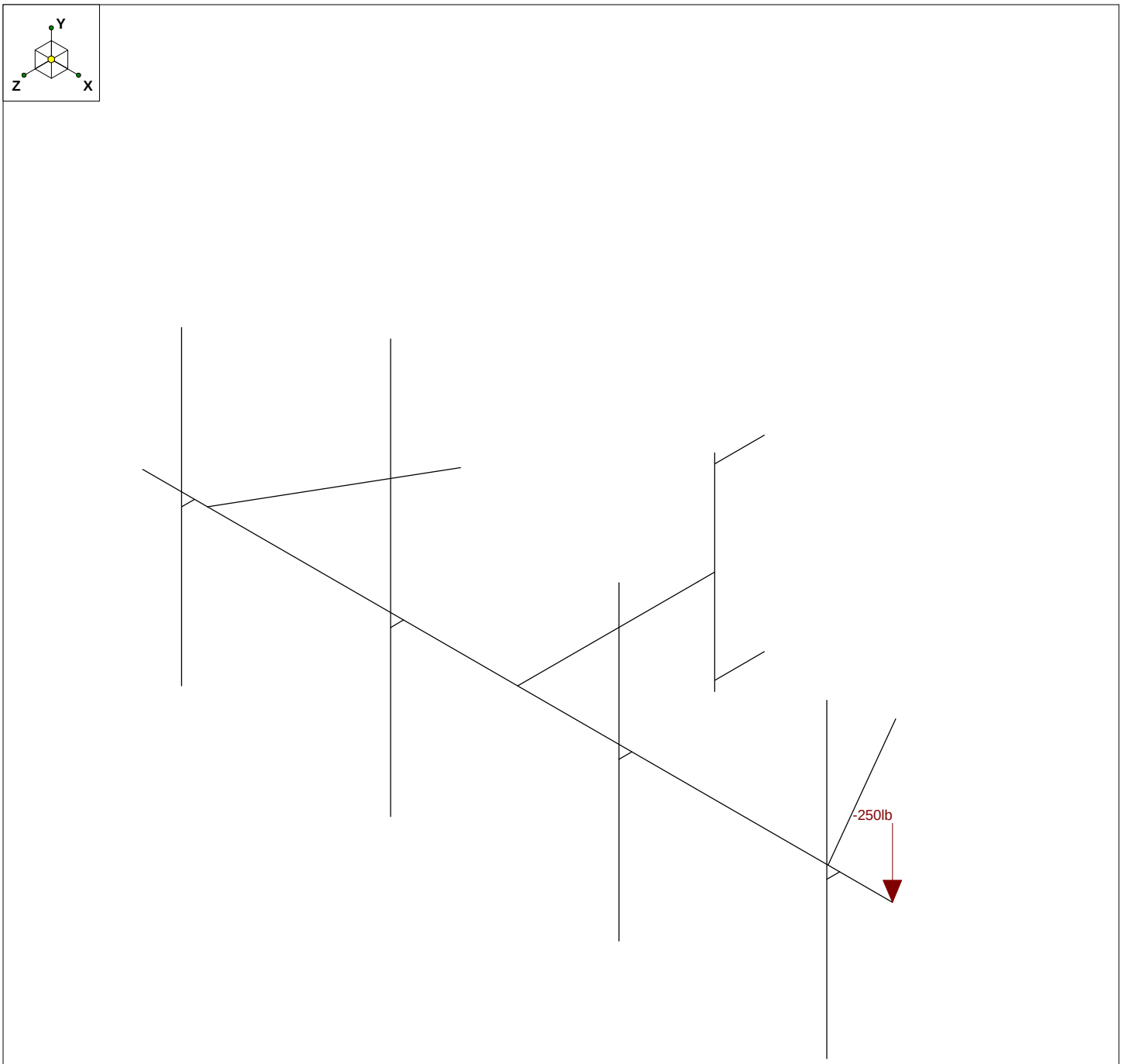
Loads: BLC 22, Seismic Load Z

Centerline Communication...		Seismic 0
AP	CT5184_Mount	Jan 25, 2021 at 11:57 AM
		CT5184_Mount.r3d



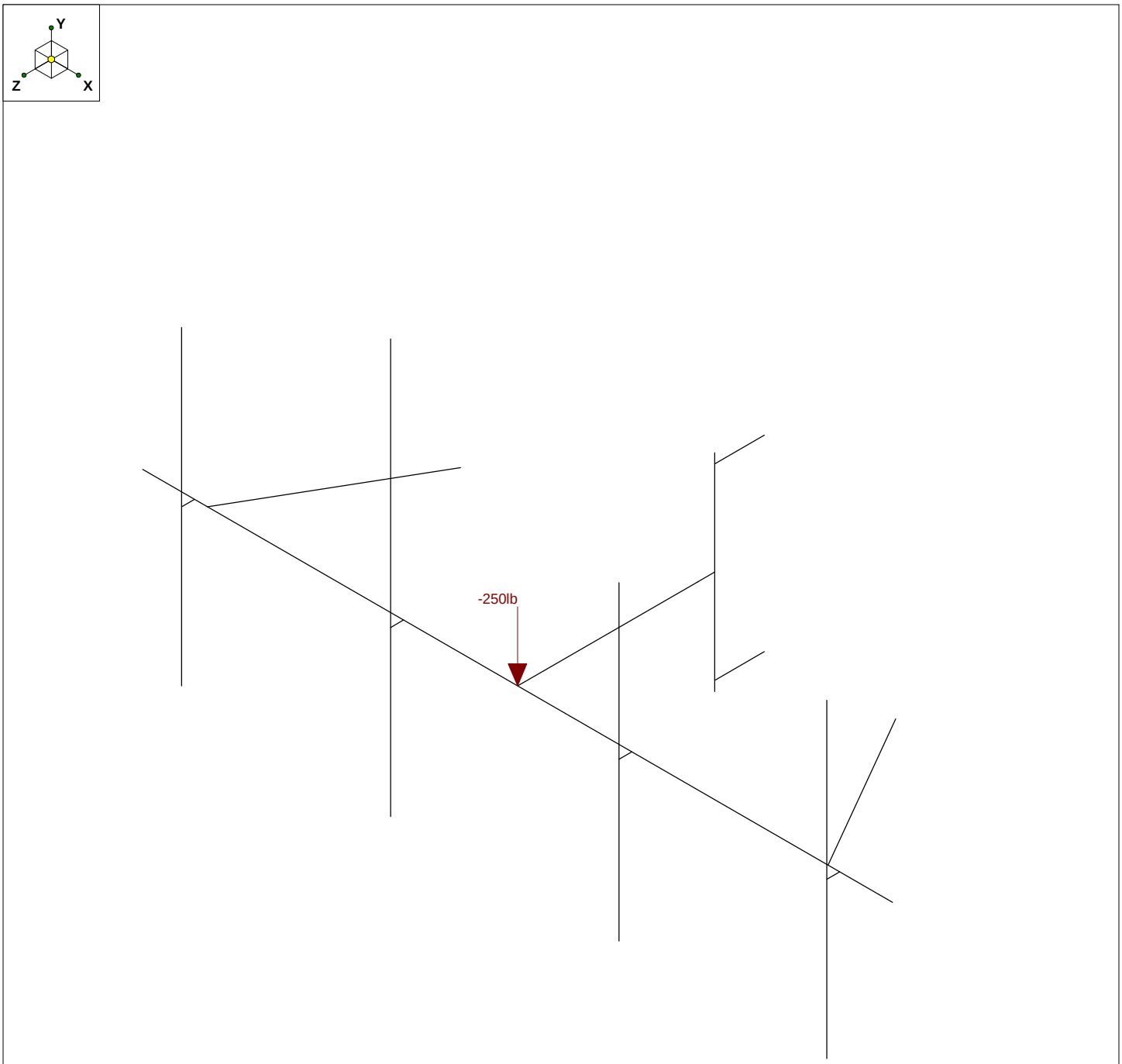
Loads: BLC 23, Seismic Load X

Centerline Communication...	CT5184_Mount	Seismic 90
AP		Jan 25, 2021 at 11:58 AM
		CT5184_Mount.r3d



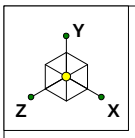
Loads: BLC 24, Live Loads 1

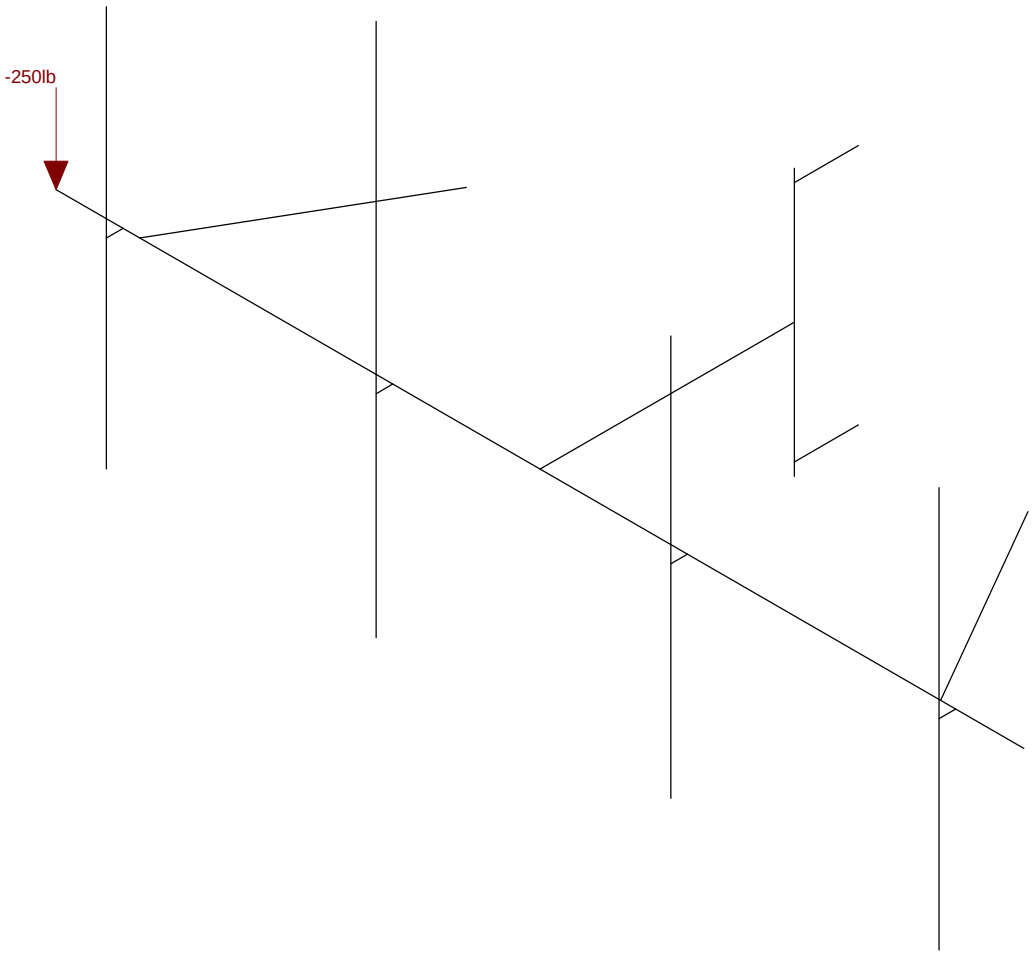
Centerline Communication...	CT5184_Mount	Live Load 1
AP		Jan 25, 2021 at 11:58 AM
		CT5184_Mount.r3d



Loads: BLC 25, Live Loads 2

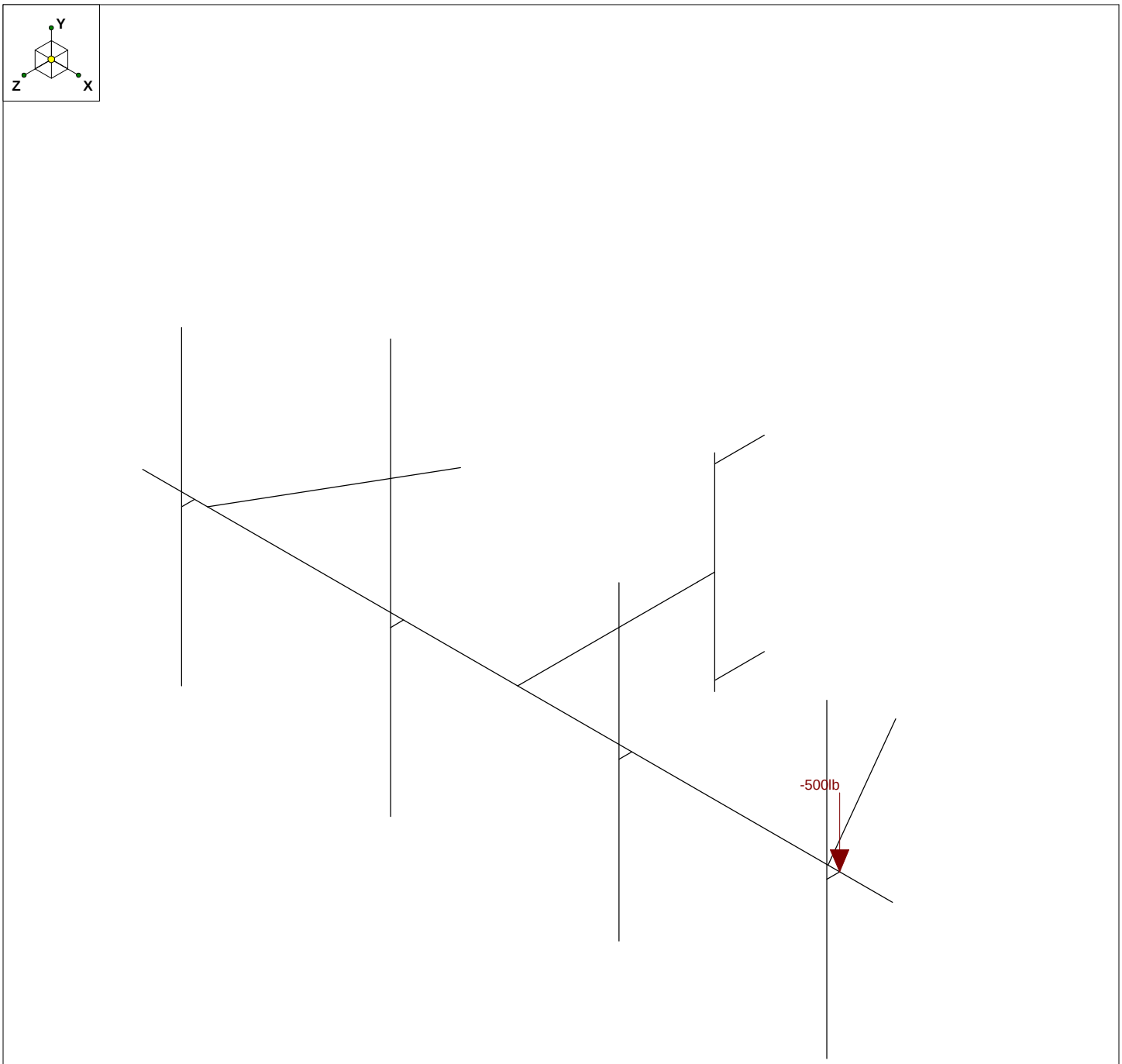
Centerline Communication...	CT5184_Mount	Live Load 2
AP		Jan 25, 2021 at 11:58 AM
		CT5184_Mount.r3d





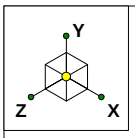
Loads: BLC 26, Live Loads 3

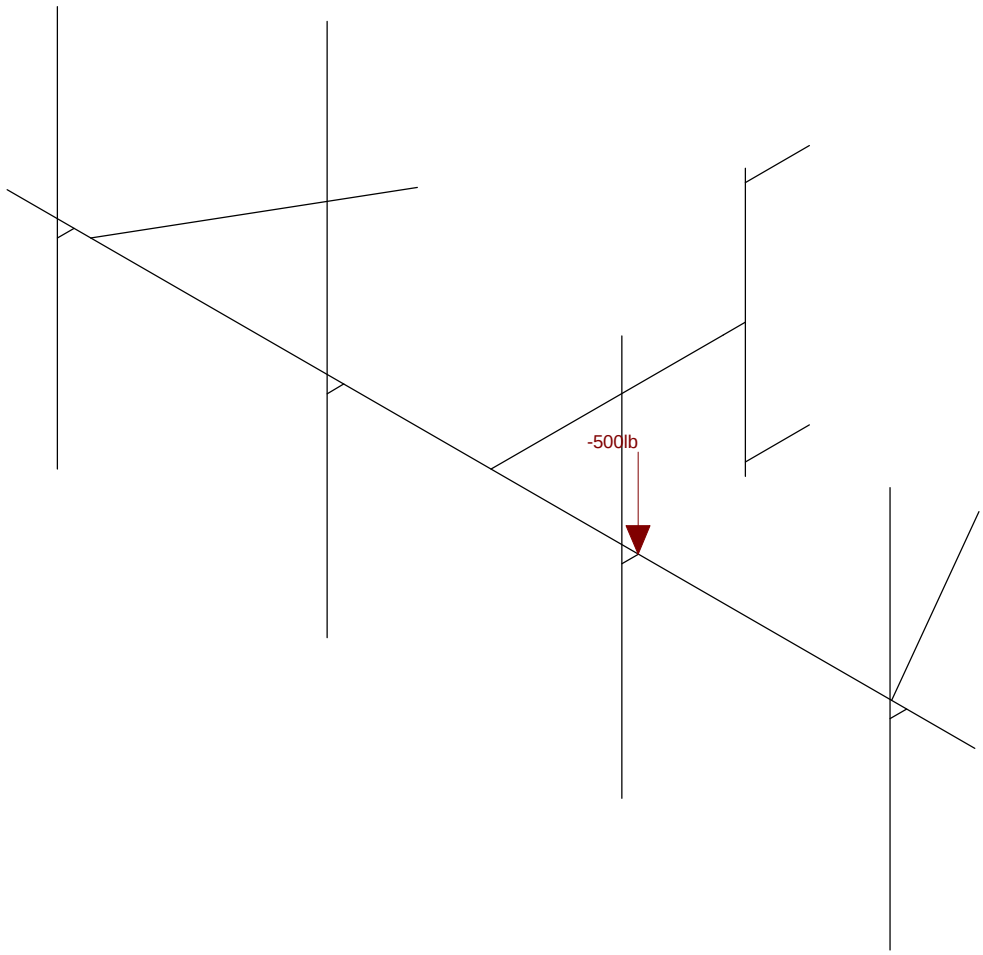
Centerline Communication...	CT5184_Mount	Live Load 3
AP		Jan 25, 2021 at 11:58 AM
		CT5184_Mount.r3d



Loads: BLC 27, Maintenance Load 1

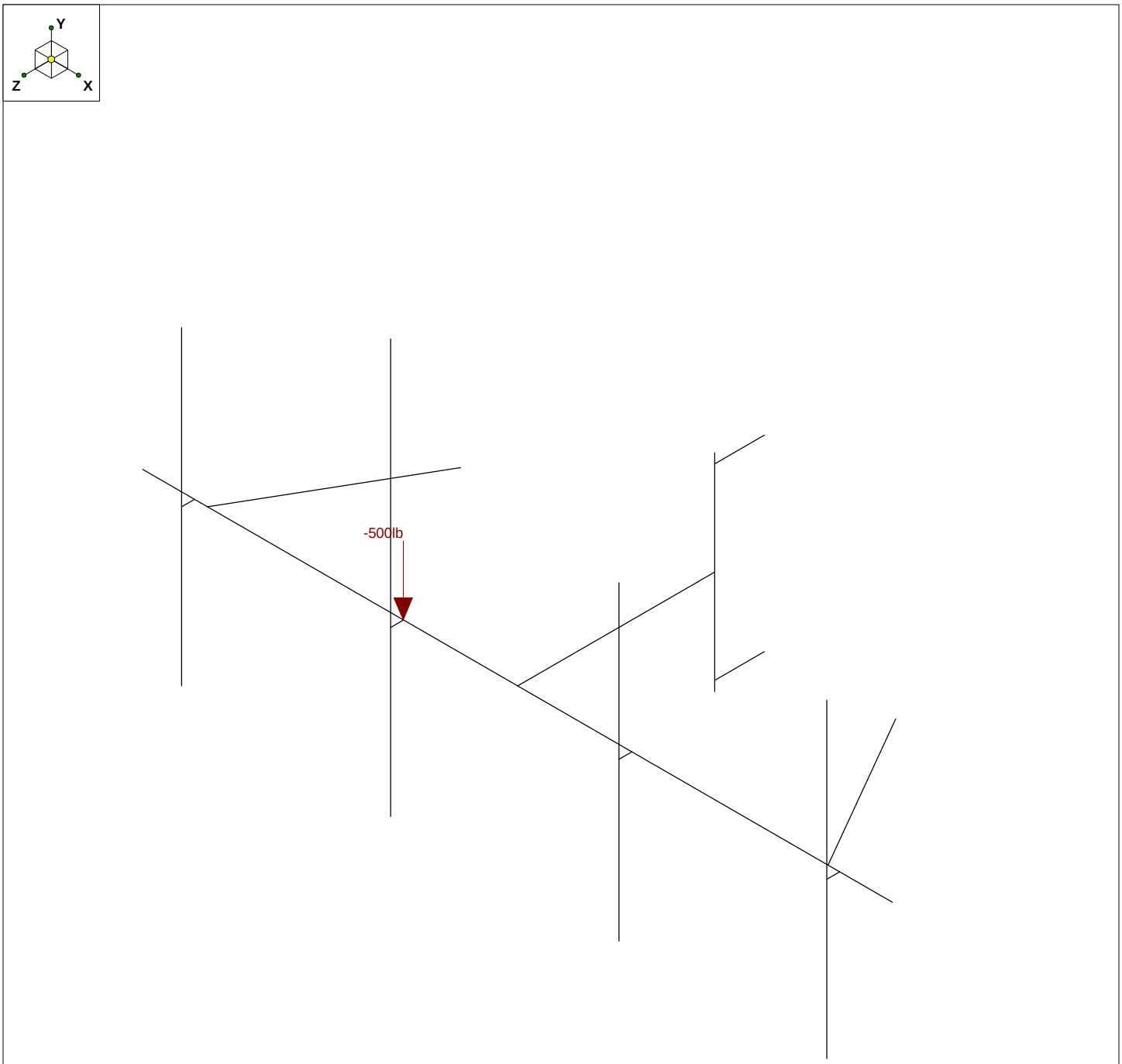
Centerline Communication...	CT5184_Mount	Maintenance Load 1
AP		Jan 25, 2021 at 11:58 AM
		CT5184_Mount.r3d





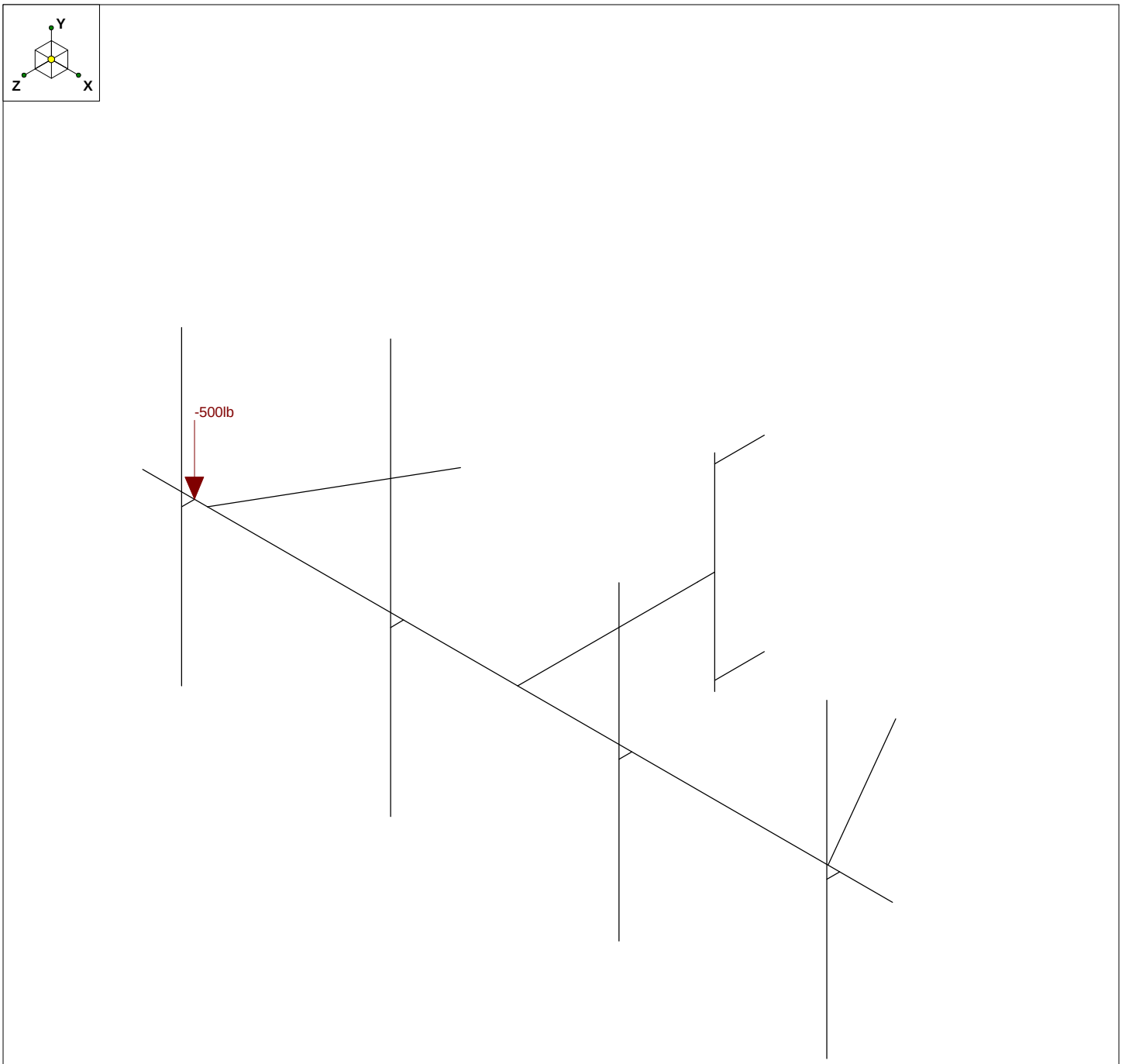
Loads: BLC 28, Maintenance Load 2

Centerline Communication...	CT5184_Mount	Maintenance Load 2
AP		Jan 25, 2021 at 11:59 AM
		CT5184_Mount.r3d



Loads: BLC 29, Maintenance Load 3

Centerline Communication...	CT5184_Mount	Maintenance Load 3
AP		Jan 25, 2021 at 11:59 AM
		CT5184_Mount.r3d



Loads: BLC 30, Maintenance Load 4

Centerline Communication...	CT5184_Mount	Maintenance Load 4
AP		Jan 25, 2021 at 11:59 AM
		CT5184_Mount.r3d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[lb/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	490	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	490	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	490	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	490	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	490	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	490	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipe	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Standoff	HSS4X4X4	Beam	Tube	A500 Gr.B R...	Typical	3.37	7.8	7.8	12.8
3	Horizontal	PIPE_3.5	Beam	Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
4	Standoff Pipe	PIPE_4.0	Beam	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
5	Grating Support	L4X4X4	Beam	Single Angle	A36 Gr.36	Typical	1.93	3	3	.044

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF1A	8CU1.25X057	Beam	None	A653 SS ...	Typical	.581	.057	4.41	.00063

Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	174	0	0	0	
3	N3	12	0	0	0	
4	N4	60.5	0	0	0	
5	N5	113.5	0	0	0	
6	N6	161.75	0	0	0	
7	N7	12	0	3	0	
8	N8	60.5	0	3	0	
9	N9	113.5	0	3	0	
10	N10	161.75	0	3	0	
11	N11	87	0	0	0	
12	N12	87	0	-2	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
13	N13	87	0	-41.75	0	
14	N14	87	0	-45.75	0	
15	N15	87	24	-45.75	0	
16	N16	87	-24	-45.75	0	
17	N17	87	21.75	-45.75	0	
18	N18	87	-21.75	-45.75	0	
19	N19	87	21.75	-57.25	0	
20	N20	87	-21.75	-57.25	0	
21	N21	12	36	3	0	
22	N22	161.75	36	3	0	
23	N23	12	-36	3	0	
24	N24	161.75	-36	3	0	
25	N25	113.5	35.5	3	0	
26	N26	113.5	-36.5	3	0	
27	N27	60.5	58	3	0	
28	N28	60.5	-38	3	0	
29	N29	15	0	0	0	
30	N30	36.5	0	-37.239092	0	
31	N31	159	0	0	0	
32	N32	137.5	0	-37.239092	0	
33	N33	87	0	-33.25	0	
34	N34	27	0	-33.25	0	
35	N35	147	0	-33.25	0	
36	N36	87	0	-23.25	0	
37	N37	27	0	-23.25	0	
38	N38	147	0	-23.25	0	
39	N39	3	0	-23.25	0	
40	N40	171	0	-23.25	0	
41	N41	87	0	-11.25	0	
42	N42	3	0	-11.25	0	
43	N43	171	0	-11.25	0	
44	N44	21.495191	0	-11.25	0	
45	N45	28.423394	0	-23.25	0	
46	N46	34.196896	0	-33.25	0	
47	N47	152.504809	0	-11.25	0	
48	N48	145.576606	0	-23.25	0	
49	N49	139.803104	0	-33.25	0	

Joint Loads and Enforced Displacements (BLC 24 : Live Loads 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N2	L	Y	-250

Joint Loads and Enforced Displacements (BLC 25 : Live Loads 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N11	L	Y	-250

Joint Loads and Enforced Displacements (BLC 26 : Live Loads 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N1	L	Y	-250

Joint Loads and Enforced Displacements (BLC 27 : Maintenance Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N6	L	Y	-500

Joint Loads and Enforced Displacements (BLC 28 : Maintenance Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N5	L	Y	-500

Joint Loads and Enforced Displacements (BLC 29 : Maintenance Load 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N4	L	Y	-500

Joint Loads and Enforced Displacements (BLC 30 : Maintenance Load 4)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N3	L	Y	-500

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N19	max	1617.63	78	1348.828	22	113.293	9	21.033	9	3964.697	5	507.183	5
2		min	-1290.216	60	-413.431	9	-2749.62	22	-144.318	22	-1090.569	60	-225.198	60
3	N20	max	1344.321	57	1348.962	16	2716.794	16	36.613	15	3746.121	12	272.666	81
4		min	-1563.373	81	-412.816	15	-55.779	15	-157.903	2	-1313.628	81	-459.575	12
5	Totals:	max	1781.579	5	2200.761	16	1893.672	2						
6		min	-.002	8	801.316	13	-1893.671	8						

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	N19	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N20	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M5	Horizontal	174			Lbyy						Lateral
2	M7	Standoff	39.75			Lbyy						Lateral
3	M9	Standoff Pipe	48			Lbyy						Lateral
4	M10	Standoff	11.5			Lbyy						Lateral
5	M11	Standoff	11.5			Lbyy						Lateral
6	MP4	Mount Pipe	72			Lbyy						Lateral
7	MP3	Mount Pipe	96			Lbyy						Lateral
8	MP2	Mount Pipe	72			Lbyy						Lateral
9	MP1	Mount Pipe	72			Lbyy						Lateral
10	M16	Grating Sup...	43			Lbyy						Lateral
11	M17	Grating Sup...	43			Lbyy						Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N7			RIGID	None	None	RIGID	Typical
2	M2	N4	N8			RIGID	None	None	RIGID	Typical
3	M3	N5	N9			RIGID	None	None	RIGID	Typical
4	M4	N6	N10			RIGID	None	None	RIGID	Typical
5	M5	N1	N2			Horizontal	Beam	Pipe	A53 Gr.B	Typical
6	M6	N11	N12			RIGID	None	None	RIGID	Typical
7	M7	N12	N13			Standoff	Beam	Tube	A500 Gr.B...	Typical
8	M8	N13	N14			RIGID	None	None	RIGID	Typical
9	M9	N15	N16			Standoff Pipe	Beam	Pipe	A53 Gr.B	Typical
10	M10	N17	N19			Standoff	Beam	Tube	A500 Gr.B...	Typical
11	M11	N18	N20			Standoff	Beam	Tube	A500 Gr.B...	Typical
12	MP4	N21	N23			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
13	MP3	N27	N28			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
14	MP2	N25	N26			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
15	MP1	N22	N24			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
16	M16	N29	N30		90	Grating Support	Beam	Single Angle	A36 Gr.36	Typical
17	M17	N31	N32		180	Grating Support	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes	** NA **			None
2	M2						Yes	** NA **			None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M5						Yes				None
6	M6						Yes	** NA **			None
7	M7						Yes				None
8	M8						Yes	** NA **			None
9	M9						Yes				None
10	M10						Yes				None
11	M11						Yes				None
12	MP4						Yes				None
13	MP3						Yes				None
14	MP2						Yes				None
15	MP1						Yes				None
16	M16						Yes				None
17	M17						Yes				None

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Dead Load	DL		-1			7		2	
2	Wind 0	WLZ					14			
3	Wind 30	None					14			
4	Wind 60	None					14			
5	Wind 90	WLX					14			
6	Wind 120	None					14			
7	Wind 150	None					14			
8	Wind 180	WLZ					14			
9	Ice Weight	DL					7	17	2	
10	Ice + Wind 0	WLZ					14			
11	Ice + Wind 30	None					14			
12	Ice + Wind 60	None					14			
13	Ice + Wind 90	WLX					14			
14	Ice + Wind 120	None					14			
15	Ice + Wind 150	None					14			
16	Ice + Wind 180	WLZ					14			
17	Distri. Wind Z	WLZ						17		
18	Distri. Wind X	WLX						17		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
19	Distri. Ice + Wind Z	WLZ						17		
20	Distrr. Ice + Wind X	WLX						17		
21	Seismic Load Y	ELY					7	17		
22	Seismic Load Z	ELZ					7	17		
23	Seismic Load X	ELX					7	17		
24	Live Loads 1	LL				1				
25	Live Loads 2	LL				1				
26	Live Loads 3	LL				1				
27	Maintenance Load 1	None				1				
28	Maintenance Load 2	None				1				
29	Maintenance Load 3	None				1				
30	Maintenance Load 4	None				1				
31	BLC 1 Transient Area...	None						29		
32	BLC 9 Transient Area...	None						29		

Load Combinations

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		1	1.4																		
2	1.2D + 1.0W 0°	Yes	Y		1	1.2	2	1	17	1	18													
3	1.2D + 1.0W 30°	Yes	Y		1	1.2	3	1	17	.866	18	.5												
4	1.2D + 1.0W 60°	Yes	Y		1	1.2	4	1	17	.5	18	.866												
5	1.2D + 1.0W 90°	Yes	Y		1	1.2	5	1	17		18	1												
6	1.2D + 1.0W 120°	Yes	Y		1	1.2	6	1	17	-.5	18	.866												
7	1.2D + 1.0W 150°	Yes	Y		1	1.2	7	1	17	-.866	18	.5												
8	1.2D + 1.0W 180°	Yes	Y		1	1.2	8	1	17	-1	18													
9	0.9D + 1.0W 0°	Yes	Y		1	.9	2	1	17	1	18													
10	0.9D + 1.0W 30°	Yes	Y		1	.9	3	1	17	.866	18	.5												
11	0.9D + 1.0W 60°	Yes	Y		1	.9	4	1	17	.5	18	.866												
12	0.9D + 1.0W 90°	Yes	Y		1	.9	5	1	17		18	1												
13	0.9D + 1.0W 120°	Yes	Y		1	.9	6	1	17	-.5	18	.866												
14	0.9D + 1.0W 150°	Yes	Y		1	.9	7	1	17	-.866	18	.5												
15	0.9D + 1.0W 180°	Yes	Y		1	.9	8	1	17	-1	18													
16	1.2D + 1.0Di + 1.0Wi 0°	Yes	Y		1	1.2	9	1	10	1	19	1	20											
17	1.2D + 1.0Di + 1.0Wi 3...	Yes	Y		1	1.2	9	1	11	1	19	.866	20	.5										
18	1.2D + 1.0Di + 1.0Wi 6...	Yes	Y		1	1.2	9	1	12	1	19	.5	20	.866										
19	1.2D + 1.0Di + 1.0Wi 9...	Yes	Y		1	1.2	9	1	13	1	19		20	1										
20	1.2D + 1.0Di + 1.0Wi 1...	Yes	Y		1	1.2	9	1	14	1	19	-.5	20	.866										
21	1.2D + 1.0Di + 1.0Wi 1...	Yes	Y		1	1.2	9	1	15	1	19	-.866	20	.5										
22	1.2D + 1.0Di + 1.0Wi 1...	Yes	Y		1	1.2	9	1	16	1	19	-1	20											

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
23	1.2D + 1.0Ev + 1.0Eh 0°	Yes	Y		1	1.2	21	1	22	1	23													
24	1.2D + 1.0Ev + 1.0Eh ...	Yes	Y		1	1.2	21	1	22	.866	23	.5												
25	1.2D + 1.0Ev + 1.0Eh ...	Yes	Y		1	1.2	21	1	22	.5	23	.866												
26	1.2D + 1.0Ev + 1.0Eh ...	Yes	Y		1	1.2	21	1	22		23	1												
27	1.2D + 1.0Ev + 1.0Eh ...	Yes	Y		1	1.2	21	1	22	-.5	23	.866												
28	1.2D + 1.0Ev + 1.0Eh ...	Yes	Y		1	1.2	21	1	22	-.866	23	.5												
29	1.2D + 1.0Ev + 1.0Eh ...	Yes	Y		1	1.2	21	1	22	-1	23													
30	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	2	.22	17	.22	18											
31	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	3	.22	17	.191	18	.11										
32	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	4	.22	17	.11	18	.191										
33	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	5	.22	17		18	.22										
34	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	6	.22	17	-.11	18	.191										
35	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	7	.22	17	-.191	18	.11										
36	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	8	.22	17	-.22	18											
37	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	2	.22	17		18											
38	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	3	.22	17	.11	18											
39	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	4	.22	17	.191	18											
40	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	5	.22	17		18											
41	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	6	.22	17	.191	18											
42	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	7	.22	17	.11	18											
43	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	8	.22	17		18											
44	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	26	1.5	2	.22	17	.048	18											
45	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	26	1.5	3	.22	17	.042	18	.024										
46	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	26	1.5	4	.22	17	.024	18	.042										
47	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	26	1.5	5	.22	17		18	.048										
48	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	26	1.5	6	.22	17	-.024	18	.042										
49	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	26	1.5	7	.22	17	-.042	18	.024										
50	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	26	1.5	8	.22	17	-.048	18											
51	1.2D + 1.5Lv	Yes	Y		1	1.2	24	1.5																
52	1.2D + 1.5Lv	Yes	Y		1	1.2	25	1.5																
53	1.2D + 1.5Lv	Yes	Y		1	1.2	26	1.5																
54	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	27	1.5	2	.061	17	.061	18											
55	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	27	1.5	3	.061	17	.053	18	.031										
56	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	27	1.5	4	.061	17	.031	18	.053										
57	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	27	1.5	5	.061	17		18	.061										
58	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	27	1.5	6	.061	17	-.031	18	.053										
59	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	27	1.5	7	.061	17	-.053	18	.031										
60	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	27	1.5	8	.061	17	-.061	18											
61	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	28	1.5	2	.061	17	.061	18											
62	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	28	1.5	3	.061	17	.053	18	.031										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
63	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	28	1.5	4	.061	17	.031	18	.053										
64	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	28	1.5	5	.061	17		18	.061										
65	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	28	1.5	6	.061	17	-.031	18	.053										
66	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	28	1.5	7	.061	17	-.053	18	.031										
67	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	28	1.5	8	.061	17	-.061	18											
68	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	29	1.5	2	.061	17	.061	18											
69	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	29	1.5	3	.061	17	.053	18	.031										
70	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	29	1.5	4	.061	17	.031	18	.053										
71	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	29	1.5	5	.061	17		18	.061										
72	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	29	1.5	6	.061	17	-.031	18	.053										
73	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	29	1.5	7	.061	17	-.053	18	.031										
74	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	29	1.5	8	.061	17	-.061	18											
75	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	30	1.5	2	.061	17	.061	18											
76	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	30	1.5	3	.061	17	.053	18	.031										
77	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	30	1.5	4	.061	17	.031	18	.053										
78	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	30	1.5	5	.061	17		18	.061										
79	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	30	1.5	6	.061	17	-.031	18	.053										
80	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	30	1.5	7	.061	17	-.053	18	.031										
81	1.2D + 1.5Lm + 1.0W ...	Yes	Y		1	1.2	30	1.5	8	.061	17	-.061	18											

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
1	M5	PIPE_3.5	.891	87	81	.089	87		2	33421...	78750	7953....	7953....	...	H1-1b
2	M7	HSS4X4...	.546	39.75	78	.420	39.75	y	75	13325...	139518	16180...	16180...	....	H3-6
3	MP4	PIPE_2.0	.465	36	8	.043	36		8	20866...	32130	1871....	1871....	...	H1-1b
4	M9	PIPE_4.0	.387	24	76	.374	45.5		4	88587...	93240	10631...	10631...	....	H1-1b
5	MP1	PIPE_2.0	.362	36	8	.030	36		15	20866...	32130	1871....	1871....	...	H1-1b
6	M10	HSS4X4...	.253	11.5	5	.064	11.5	z	78	13898...	139518	16180...	16180...	....	H1-1b
7	M11	HSS4X4...	.239	0	4	.061	0	z	81	13898...	139518	16180...	16180...	....	H1-1b
8	M17	L4X4X4	.144	0	19	.010	0	y	18	46814...	62532	3137....	6714....	...	H2-1
9	M16	L4X4X4	.142	0	22	.010	0	z	16	46814...	62532	3137....	6714....	...	H2-1
10	MP3	PIPE_2.0	.074	58	6	.006	58		6	14916...	32130	1871....	1871....	...	H1-1b
11	MP2	PIPE_2.0	.028	36	8	.004	36		8	20866...	32130	1871....	1871....	...	H1-1b

EXHIBIT 3

TOWN OF NORTH BRANFORD

TOWN HALL P.O. BOX 287 1599 FOXON ROAD NORTH BRANFORD, CONNECTICUT 06471-0287
TOWN MANAGER (203) 315-6000 TOWN HALL FAX (203) 315-6025

Certified Mail #7099 3220 0010 3404 7074
August 23, 2000

Michael Hickey
SBA, Inc.
80 Eastern Boulevard
Glastonbury, CT 06033

Subject: Application #99/2000-30 - Site Plan, 150 Foxon Road

Dear Mr. Hickey:

At its Regular Meeting of August 17, 2000, the North Branford Planning and Zoning Commission voted to approve the Site Development Plan for Planning and Zoning Application #99/2000-30, Site Plan, 150 Foxon Road AKA 108 Foxon Road, Assessor's Map 14, Lot 14, Industrial I-3 Zone, Construction of a 180 foot high monopole telecommunications tower with the installation and operation of associated antennas and equipment within a 100 foot by 100 foot leased area, owner 108 Foxon Road, LLC, Applicant SBA, Inc. on plans entitled "SBA Site Number 10125-053 North Branford – West, 108 Foxon Road, North Branford, CT. Cover Sheet Dated 3-27-00 Revised 7-19-00, Existing Condition Survey Dated 3-27-00, Abutting Property Owners Dated 3-27-00 Revised 7-19-00, Comprehensive Site Plan Dated 3-27-00 Revised 7-19-00, Site Layout and Elevations Dated 3-27-00 Revised 7-19-00, Details Drawing CT5061Z3, CT5053Z4, CT5053Z5 dated 3-27-00 Revised 7-19-00 prepared by Goodkind & O'Dea, Inc. and supplemental information prepared by SBA, Inc. with the following conditions:

1. That this approval shall be null and void if construction/site improvements do not commence within one year and be completed within five (5) years of this approval date.

2. That the Town Planner and/or Town Engineer be notified at least forty-eight (48) hours prior to the start of any construction.

3. That no Certificate of Zoning Compliance be issued until such time as all site work is completed or a bond for remaining work is submitted in an amount approved by the Town Engineer and having form and surety acceptable to the Town Attorney.

4. That all sedimentation and erosion controls be in place prior to the start of construction and that the Town Planner and/or Town Engineer be notified at least forty-eight (48) hours prior to start of construction. The Commission reserves the

right to require the developer to install additional sedimentation and erosion control devices in addition to those shown on the approved record plans as deemed necessary by the Town Engineer and/or New Haven Soil and Water Conservation District. A certificate of soil erosion and sediment control compliance shall be issued upon determination that the soil erosion and sediment control complies with the North Branford Subdivision Regulations/Zoning Regulations. Failure to comply with the approved soil erosion and sediment control plan may result in the revocation of the erosion and sediment control certification and other sanctions provided by law.

5. That the erosion and sedimentation control measures be installed as per the approved control plan utilizing the CT Guideline for Erosion and Sedimentation Control Handbook, CT Council on Soil and Water Conservation October, 1984.

6. The proposed 12 foot wide access drive shall be paved.

If you have any questions, please do not hesitate to contact me at (203) 315-6010.

Sincerely,

Carol A. Zebb

Carol A. Zebb
Town Planner/Inland Wetlands Enforcement Officer

CAZ:dfs

cc: Kurt A. Weiss, P.E., Town Engineer

EXHIBIT 4

150 FOXON RD

Location	150 FOXON RD	**Mblu**	14/ 14/ / /
Acct#	000912	**Owner**	108 FOXON ROAD LLC
Assessment	$237,100	**Appraisal**	$338,600
PID	889	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$0	$338,600	$338,600
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$0	$237,100	$237,100

Owner of Record

Owner	108 FOXON ROAD LLC	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	250 TOTOKET RD NORTH BRANFORD, CT 06471-1035	**Book & Page**	0288/0237
		Sale Date	02/09/2000

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
108 FOXON ROAD LLC	$0		0288/0237	02/09/2000
CANDELORA SALVATORE A +	$0		0288/0236	02/09/2000
CANDELORA SALVATORE A	$125,000		0253/0851	07/22/1996
CORBIN-SMITH ASSOCIATES	$0		0136/0602	03/19/1981

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:

Replacement Cost
Less Depreciation: $0

Building Attributes	
Field	**Description**
Style:	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(http://images.vgsi.com/photos/NorthBranfordCTPhotos//default.jpg)

Building Layout

Building Layout
(http://images.vgsi.com/photos/NorthBranfordCTPhotos//Sketches/889_914

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	3880
Description	OTHR OUTDR MDL-00
Zone	I3
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	13.5
Frontage	0
Depth	0
Assessed Value	$237,100
Appraised Value	$338,600

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$0	$338,600	$338,600
2018	$0	$338,600	$338,600
2017	$0	$338,600	$338,600

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$0	$237,100	$237,100
2018	$0	$237,100	$237,100
2017	$0	$237,100	$237,100

150 FOXON RD

Location	150 FOXON RD	**Mblu**	14/ 14/2 / /
Acct#	09122	**Owner**	108 FOXON ROAD LLC
Assessment	$127,800	**Appraisal**	$182,500
PID	102661	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$182,500	$0	$182,500
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$127,800	$0	$127,800

Owner of Record

Owner	108 FOXON ROAD LLC	**Sale Price**	$0
Co-Owner	C/O SBA	**Certificate**	
Address	250 TOTOKET RD NORTH BRANFORD, CT 06471-1035	**Book & Page**	0288/0237
		Sale Date	02/09/2000

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
108 FOXON ROAD LLC	$0		0288/0237	02/09/2000

Building Information

Building 1 : Section 1

Year Built:	
Living Area:	0
Replacement Cost:	$0
Building Percent Good:	
Replacement Cost Less Depreciation:	$0

Building Attributes

Field	Description
Style:	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Cndtn	
Num Park	
Fireplaces	
Fndtn Cndtn	
Basement	

Building Photo

(http://images.vgsi.com/photos/NorthBranfordCTPhotos//default.jpg)

Building Layout

Building Layout
(http://images.vgsi.com/photos/NorthBranfordCTPhotos//Sketches/102661_

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 1060

Land Line Valuation

Size (Acres) 0

Description	AC LND IMP	**Frontage**	0
Zone	I3	**Depth**	0
Neighborhood		**Assessed Value**	$0
Alt Land Appr	No	**Appraised Value**	$0
Category			

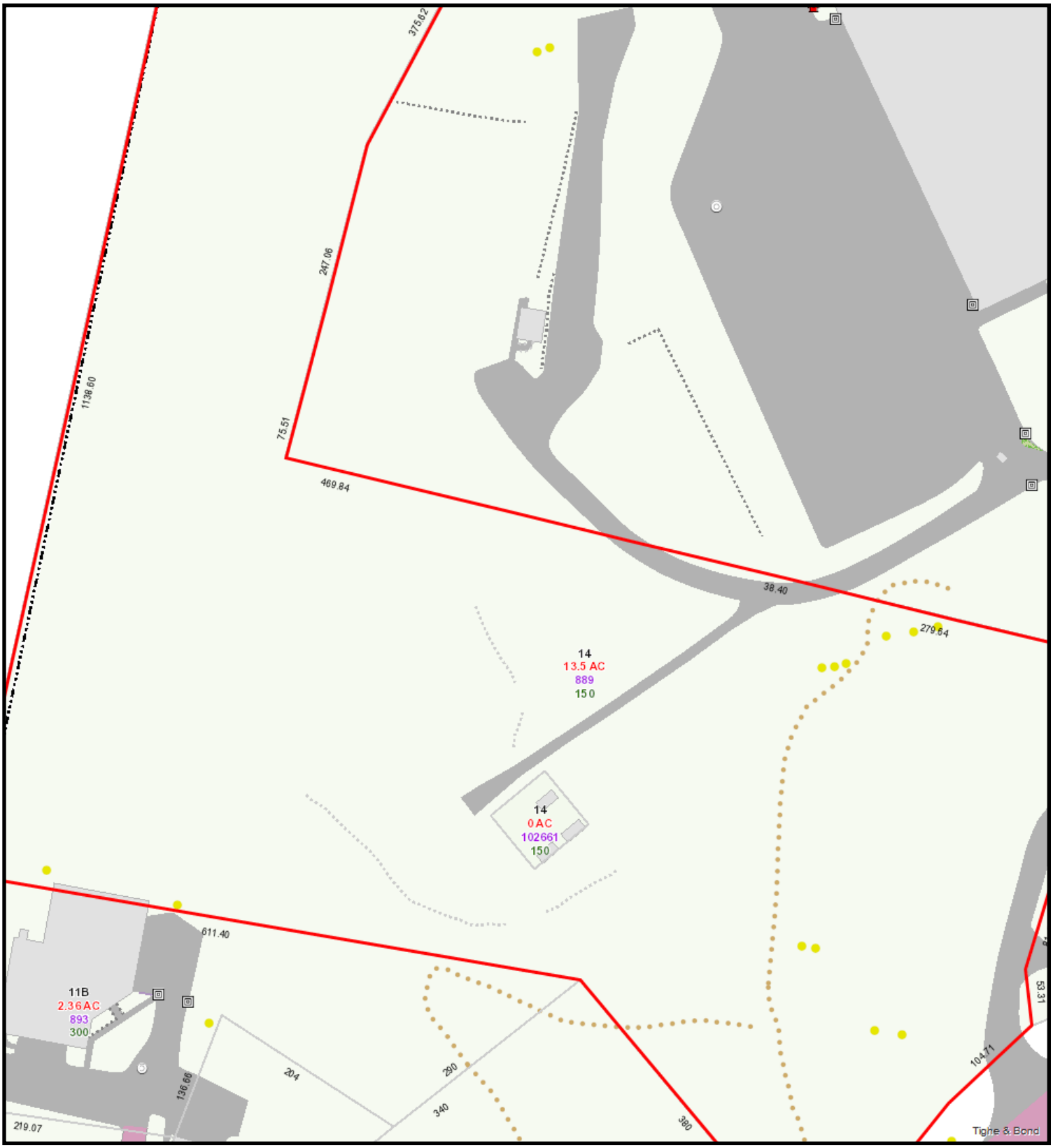
Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN3	FENCE-6' CHAIN			180.00 L.F.	$1,800	1
ELCB	ELECTRONIC COMM BLDG			264.00 S.F.	$41,600	1
ELCB	ELECTRONIC COMM BLDG			240.00 S.F.	$37,800	1
TW1	CELL TOWER			150.00 HEIGHT	$101,300	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$182,500	$0	$182,500
2018	$182,500	$0	$182,500
2017	$182,500	$0	$182,500

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$127,800	$0	$127,800
2018	$127,800	$0	$127,800
2017	$127,800	$0	$127,800



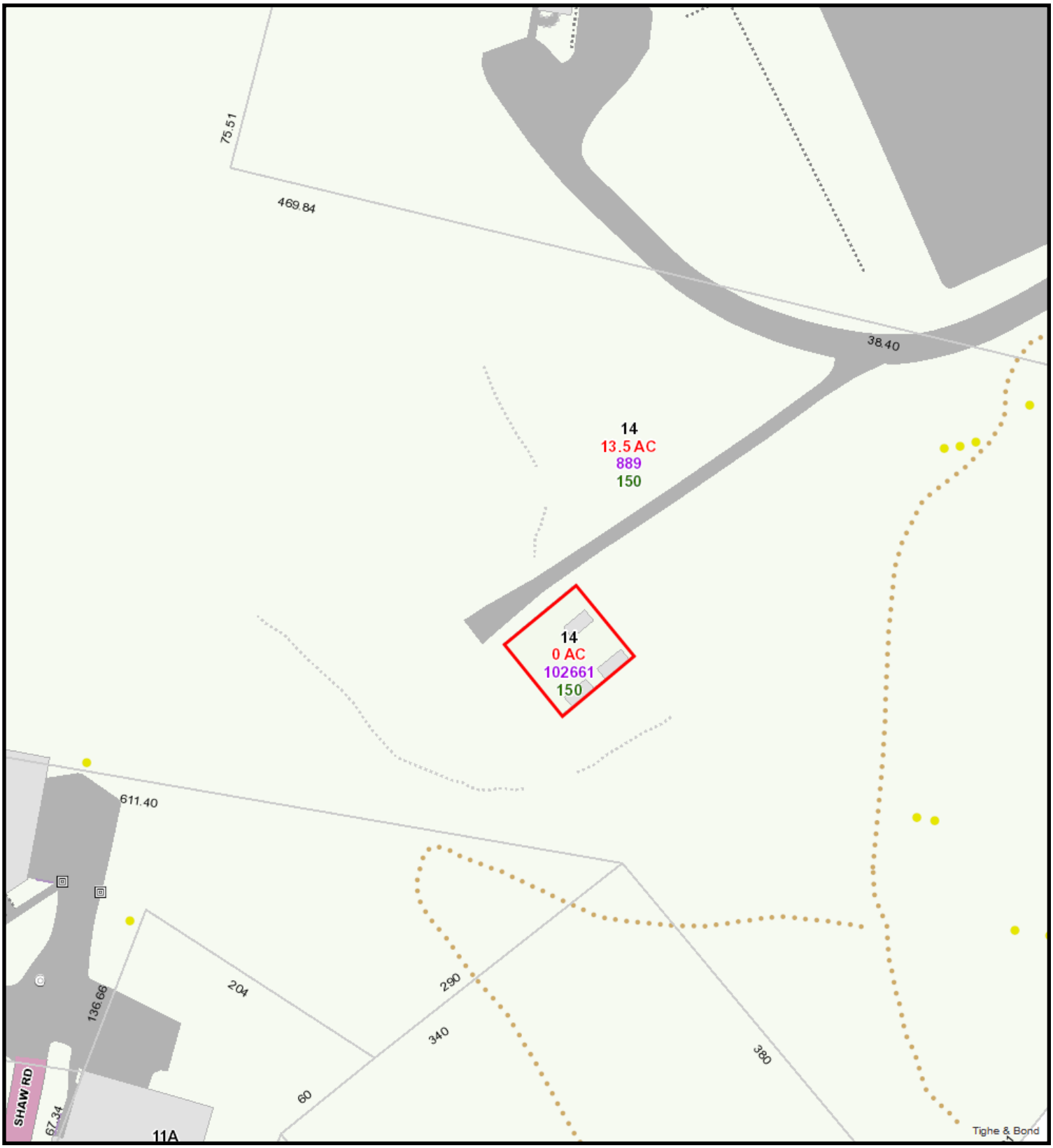
150 Foxon Road

2/10/2021 12:06:49 PM

Scale: 1"=133'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



150 Foxon Road

2/10/2021 11:59:54 AM

Scale: 1"=100'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

EXHIBIT 5

Radio Frequency Emissions Analysis Report

January 5, 2021

Centerline Communications on behalf of AT&T

Site Name: East Haven
PACE IDs: MRCTB048518, MRCTB048461, MRCTB048640, MRCTB048533, and MRCTB048538
Site Address: 108 Foxon Road, North Branford, CT 06471
FA#: 10071146
USID: 44031

Site Compliance Summary

Compliance Status:	Compliant
Carrier MPE% of FCC General Population Allowable Limit:	0.10496801%
Composite MPE% of FCC General Population Allowable Limit:	0.10496801%

January 5, 2021

AT&T New England
Attn: John Benedetto
550 Cochituate Road Suite 550 – 13&14
Framingham, MA 01701

Emissions Analysis for Site: **East Haven**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility to be located a monopole near **108 Foxon Road, North Branford CT 06471** for the purpose of determining whether the emissions from the proposed facility 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 µW/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 (µW/cm^2). The general population exposure limits for the 700 MHz bands is 466.67 µW/cm^2 . The general population exposure limits for the 850 MHz bands is 566.67 µW/cm^2 . The general population exposure limits for the 1900 MHz and 2100 MHz bands is 1000 µW/cm^2.

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, 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 facility using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing focused omnidirectional antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. This is a very conservative estimate since the gain reduction in actual applications is typically greater than 10 dB in the direction of ground immediately surrounding the facility. Real world emissions values from this facility are expected to be lower than values listed in this report at ground level. 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.

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

RRH #	Frequency Band	Technology	Channel Count	Transmit Power per Channel (W)
1	850	UMTS	2	40
1	700	LTE	2	40
1	1900	LTE	4	40
2	700	LTE	2	40
2	850	LTE	2	40
2	850	5G	2	40
2	2100	LTE	4	40
3	850	UMTS	2	40
3	700	LTE	2	40
3	1900	LTE	4	40
4	700	LTE	2	40
4	850	LTE	2	40
4	850	5G	2	40
4	2100	LTE	4	40
5	850	UMTS	2	40
5	700	LTE	2	40

5	1900	LTE	4	40
6	700	LTE	2	40
6	850	LTE	2	40
6	850	5G	2	40
6	2100	LTE	4	40

Table 1: Channel Data Table

The following antennas listed in Table 2 were used in the modeling for transmission in the 700MHz, 850 MHz, 1900 MHz (PCS), and 2100 MHz (AWS) frequency bands. This is based on information from the carrier with regard to anticipated antenna selection.

Sector	Antenna Number	Make / Model	Centerline (ft)
A	1	CCI HPA-65R-BUU-H6	157.5
A	1	CCI HPA-65R-BUU-H6	157.5
A	1	CCI HPA-65R-BUU-H6	157.5
A	2	CCI DMP65R-BU6D	157.5
A	2	CCI DMP65R-BU6D	157.5
A	2	CCI DMP65R-BU6D	157.5
A	2	CCI DMP65R-BU6D	157.5
B	3	CCI HPA-65R-BUU-H6	157.5
B	3	CCI HPA-65R-BUU-H6	157.5
B	3	CCI HPA-65R-BUU-H6	157.5
B	4	CCI DMP65R-BU6D	157.5
B	4	CCI DMP65R-BU6D	157.5
B	4	CCI DMP65R-BU6D	157.5
B	4	CCI DMP65R-BU6D	157.5
C	5	CCI HPA-65R-BUU-H6	157.5
C	5	CCI HPA-65R-BUU-H6	157.5
C	5	CCI HPA-65R-BUU-H6	157.5
C	6	CCI DMP65R-BU6D	157.5
C	6	CCI DMP65R-BU6D	157.5
C	6	CCI DMP65R-BU6D	157.5
C	6	CCI DMP65R-BU6D	157.5

Table 2: Antenna Data

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

Results

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

ID	Make / Model	Frequency Band	Gain (dBd)	Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
AT&T A 1	CCI HPA-65R-BUU-H6	850	12.97	157.5	2	40	1585.221621	0.000019197
AT&T A 1	CCI HPA-65R-BUU-H6	700	12.46	157.5	2	40	1409.580837	0.000025947
AT&T A 1	CCI HPA-65R-BUU-H6	1900	14.91	157.5	4	40	4955.870879	0.000035309
AT&T A 2	CCI DMP65R-BU6D	700	11.75	157.5	2	40	1196.988525	0.000046790
AT&T A 2	CCI DMP65R-BU6D	850	11.45	157.5	2	40	1117.094689	0.000009991
AT&T A 2	CCI DMP65R-BU6D	850	11.45	157.5	2	40	1117.094689	0.000009991
AT&T A 2	CCI DMP65R-BU6D	2100	15.35	157.5	4	40	5484.284585	0.000021146
AT&T B 3	CCI HPA-65R-BUU-H6	850	12.97	157.5	2	40	1585.221621	0.006591373
AT&T B 3	CCI HPA-65R-BUU-H6	700	12.47	157.5	2	40	1412.830257	0.008686492
AT&T B 3	CCI HPA-65R-BUU-H6	1900	14.82	157.5	4	40	4854.225895	0.008379096
AT&T B 4	CCI DMP65R-BU6D	700	11.25	157.5	2	40	1066.817146	0.008551570
AT&T B 4	CCI DMP65R-BU6D	850	11.35	157.5	2	40	1091.666509	0.006365978
AT&T B 4	CCI DMP65R-BU6D	850	11.35	157.5	2	40	1091.666509	0.006365978
AT&T B 4	CCI DMP65R-BU6D	2100	15.25	157.5	4	40	5359.447027	0.007323896
AT&T C 5	CCI HPA-65R-BUU-H6	850	12.97	157.5	2	40	1585.221621	0.006591476
AT&T C 5	CCI HPA-65R-BUU-H6	700	12.47	157.5	2	40	1412.830257	0.008686546
AT&T C 5	CCI HPA-65R-BUU-H6	1900	14.82	157.5	4	40	4854.225895	0.008379148
AT&T C 6	CCI DMP65R-BU6D	700	11.25	157.5	2	40	1066.817146	0.008574001
AT&T C 6	CCI DMP65R-BU6D	850	11.35	157.5	2	40	1091.666509	0.006490105
AT&T C 6	CCI DMP65R-BU6D	850	11.35	157.5	2	40	1091.666509	0.006490105
AT&T C 6	CCI DMP65R-BU6D	2100	15.25	157.5	4	40	5359.447027	0.007323873
AT&T MPE%								**0.10496801 %**

Table 3: AT&T Antenna Inventory & Power Level

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 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s).

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	MPE %
850	UMTS	157.5	2	792.6108103	0.0001088	567	0.00001920
700	LTE	157.5	2	704.7904186	0.0001211	467	0.00002595
1900	LTE	157.5	4	1238.96772	0.0003531	1000	0.00003531
700	LTE	157.5	2	598.4942624	0.0002184	467	0.00004679
850	LTE	157.5	2	558.5473444	0.0000566	567	0.00000999
850	5G	157.5	2	558.5473444	0.0000566	567	0.00000999
2100	LTE	157.5	4	1371.071146	0.0002115	1000	0.00002115
850	UMTS	157.5	2	792.6108103	0.0373511	567	0.00659137
700	LTE	157.5	2	706.4151283	0.0405370	467	0.00868649
1900	LTE	157.5	4	1213.556474	0.0837910	1000	0.00837910
700	LTE	157.5	2	533.4085729	0.0399073	467	0.00855157
850	LTE	157.5	2	545.8332546	0.0360739	567	0.00636598
850	5G	157.5	2	545.8332546	0.0360739	567	0.00636598
2100	LTE	157.5	4	1339.861757	0.0732390	1000	0.00732390
850	UMTS	157.5	2	792.6108103	0.0373517	567	0.00659148
700	LTE	157.5	2	706.4151283	0.0405372	467	0.00868655
1900	LTE	157.5	4	1213.556474	0.0837915	1000	0.00837915
700	LTE	157.5	2	533.4085729	0.0400120	467	0.00857400
850	LTE	157.5	2	545.8332546	0.0367773	567	0.00649011
850	5G	157.5	2	545.8332546	0.0367773	567	0.00649011
2100	LTE	157.5	4	1339.861757	0.0732387	1000	0.00732387
AT&T MPE%							**0.10496801 %**

Table 4: AT&T 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 AT&T 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:

Carrier	Predicted MPE %
AT&T	0.10496801%
Composite	**0.10496801%**

Table 5: Total Predicted MPE(%) by Carrier

Compliance Status:

The anticipated composite MPE value for this site assuming all carriers present is **0.10496801%** of the allowable FCC established general population limit sampled at the ground level.

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.

Samuel Cosgrove
RF Compliance Consultant
Centerline Communications, LLC
750 West Center St. Suite 301
West Bridgewater, MA 02379

EXHIBIT 6

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

Structural Analysis Report

Existing 175 ft. Nudd Corporation Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT03110-S
Customer Site Name: North Branford
Carrier Name: AT&T (App#: 142572, V1)
Carrier Site ID / Name: CT5184 / East Haven
Site Location: 108 Foxon Road
North Branford, Connecticut
New Haven County
Latitude: 41.328208
Longitude: -72.819063

Analysis Result:

Max Structural Usage: 68.3% [Pass]
Max Foundation Usage: 35.0% [Pass]
Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By : Delu Zhou

Introduction

The purpose of this report is to summarize the analysis results on the 175 ft. Nudd Corporation 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	Fred A. Nudd Corporation, Project 7735: #10125-053, original design drawing dated September, 2000
Foundation Drawing	Fred A. Nudd Corporation, Project 7735: #10125-053, original design drawing dated September, 2000
Geotechnical Report	Jaworski Geotech, Inc. Geotechnical Report, dated 06/01/2000
Modification Drawings	Paul J. Ford and Company, Project # 41702-0001, post-modification calculations dated 05/10/2002
Mount Analysis	CenterLine MA, dated 1/25/2021

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 130.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 101.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft.

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	175.0	3	RFS APXVTM14-C-120 - Panel	(3) T-Arms w/ work Platform	(4) 1 1/4"	Sprint
2		3	RFS APXVSPP18-C-A20 - Panel			
3		3	ALU 800 MHz RRU			
4		3	ALU 1900MHz RRU			
5		3	ALU TD-RRH8x20-25			
6		3	ALU 800 MHz Filter			
7		4	RFS ACU-A20-N			
-	152.0	6	Allgon/ 7184 - Panel	(3) T-Arm w/ Platform	(9) 1 5/8" (1) 3/8" Fiber (2) 1/2" DC	AT&T
-		3	Powerwave/ 7770 - Panel			
-		3	HPA-65R-BUU-H6 - Panel			
-		6	Powerwave/ LGP 21401			
-		6	Powerwave/ 7020 RET			
-		6	Ericsson/ RRUS-11			
-		3	Ericsson/ RRUS-12			
-		3	Ericsson/ RRUS A2			
-		1	Raycap/ DC6-48-60-18-8F			
17	141.0	3	Ericsson Air 6449 B41 Panel	(1) Low Profile Platform w/ SUPPORT RAIL & V-Bracing & Connect Kit	(9) 1-5/8" Coax (4) 1-5/8" Fiber	T-Mobile
18		3	AIR32 KRD901146-1_B66A_B2A			
19		3	RFS APXVAALL24-43-U-NA20 Panel			
20		3	Ericsson KRY 112 144/1 TMA			
21		3	Commscope SDX1926Q-43 DIplexeer			
22		3	Ericsson Radio 4449 B71+B85			
23		3	Ericsson 4415 B25			
24	75.0	1	GPS	Flush Mount	(1) 1/2"	Sprint

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
8	157.0	6	Allgon 7184 Panel	(3) T-Arm w/ Platform	(9) 1-5/8" (1) 3/8" Fiber (2) 1/2" DC	AT&T
9		3	CCI HPA-65R-BUU-H6 Panel			
10		3	CCI DMP65R-BU6DA Panel			
11		6	Powerwave LGP 21401			
12		6	Powerwave 7020 RET			
13		3	Ericsson RRUS-11			
14		3	Ericsson RRUS 8843 B2/B66A			
15		3	Ericsson RRUS 4449 B5/B12			
16		1	Raycap DC6-48-60-18-8F			

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:	**68.3%**	**23.8%**	**48.3%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4356.3	37.0	81.8

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.0620 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

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

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

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

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

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

Usage Diagram - Max Ratio 68.33% at 18.0ft

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

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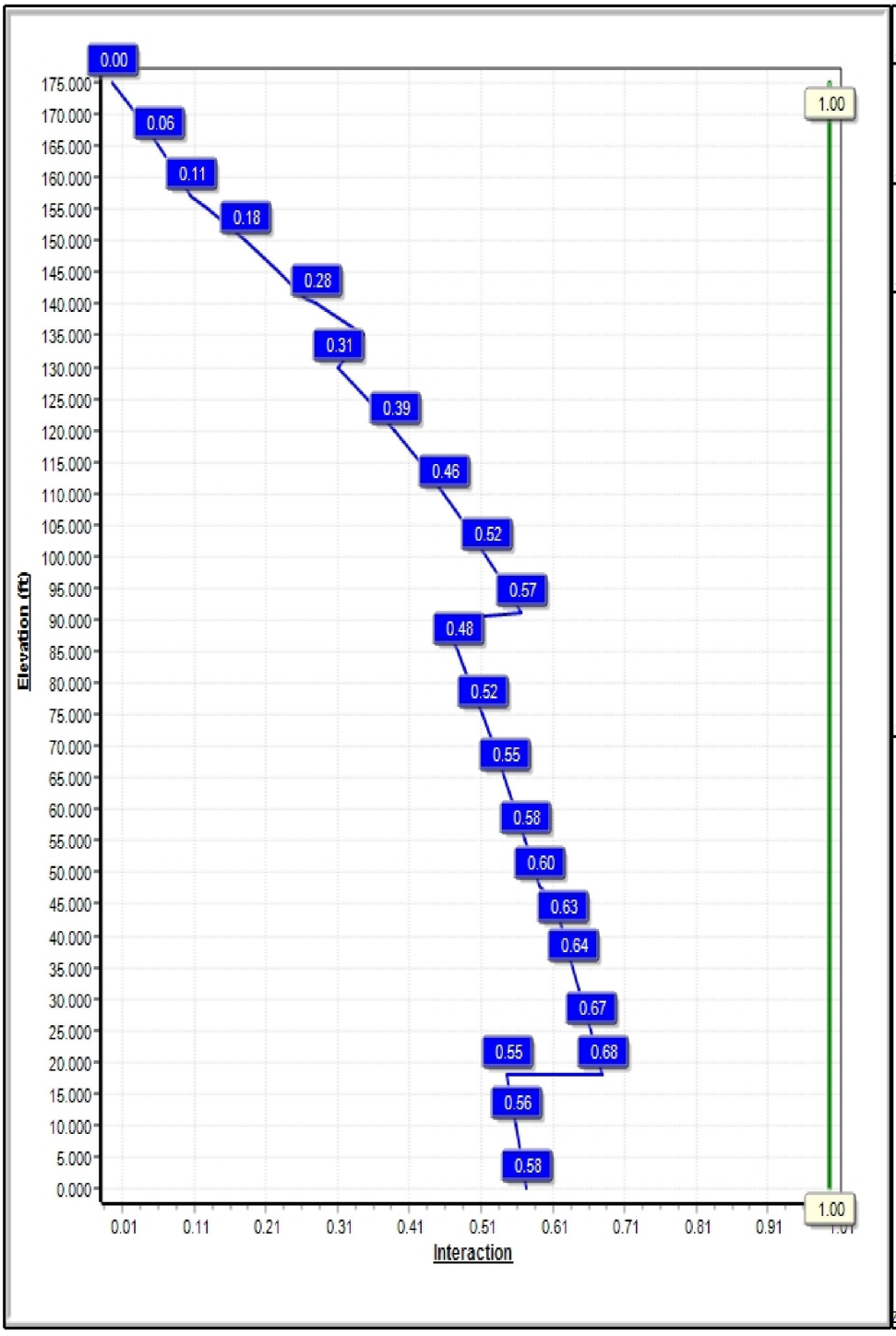
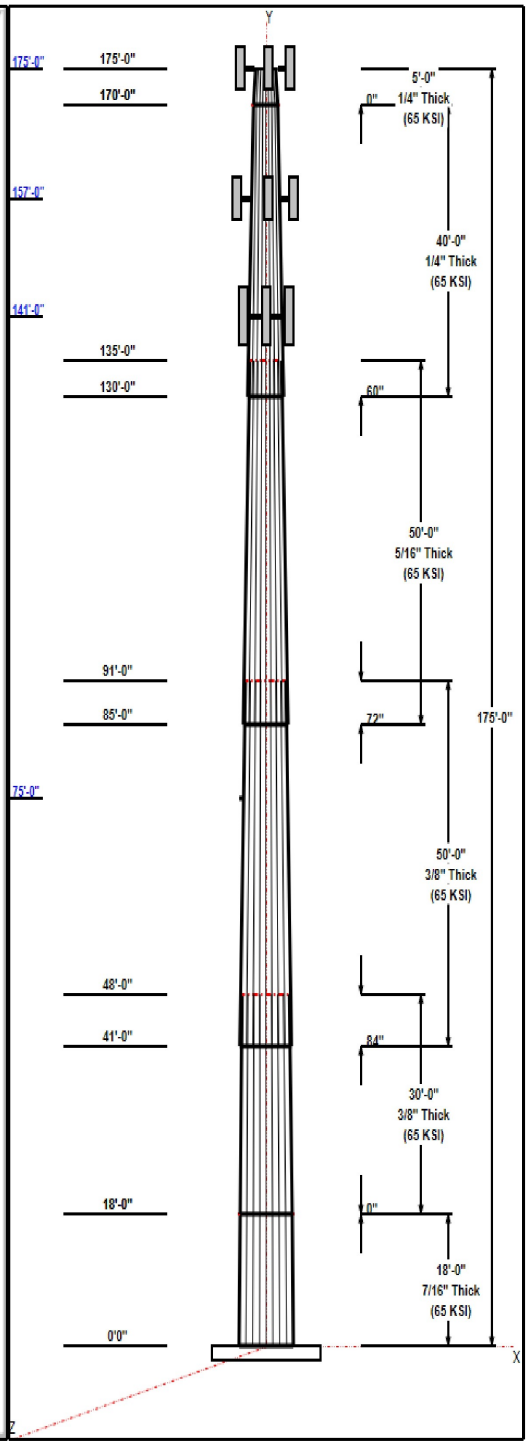
Dead Load Factor:	1.20	**Iterations:**	23
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 101 mph Wind





Structure: CT03110-S-SBA

Type: Tapered
Site Name: North Branford
Height: 175.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.24214

2/5/2021

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	18.00	60.14	64.50	0.438		0.24214	65
2	30.00	52.88	60.14	0.375	Butt	0.24214	65
3	50.00	43.22	55.32	0.375	Slip	0.24214	65
4	50.00	33.19	45.29	0.313	Slip	0.24214	65
5	40.00	25.21	34.90	0.250	Slip	0.24214	65
6	5.00	24.00	25.21	0.250	Butt	0.24214	65

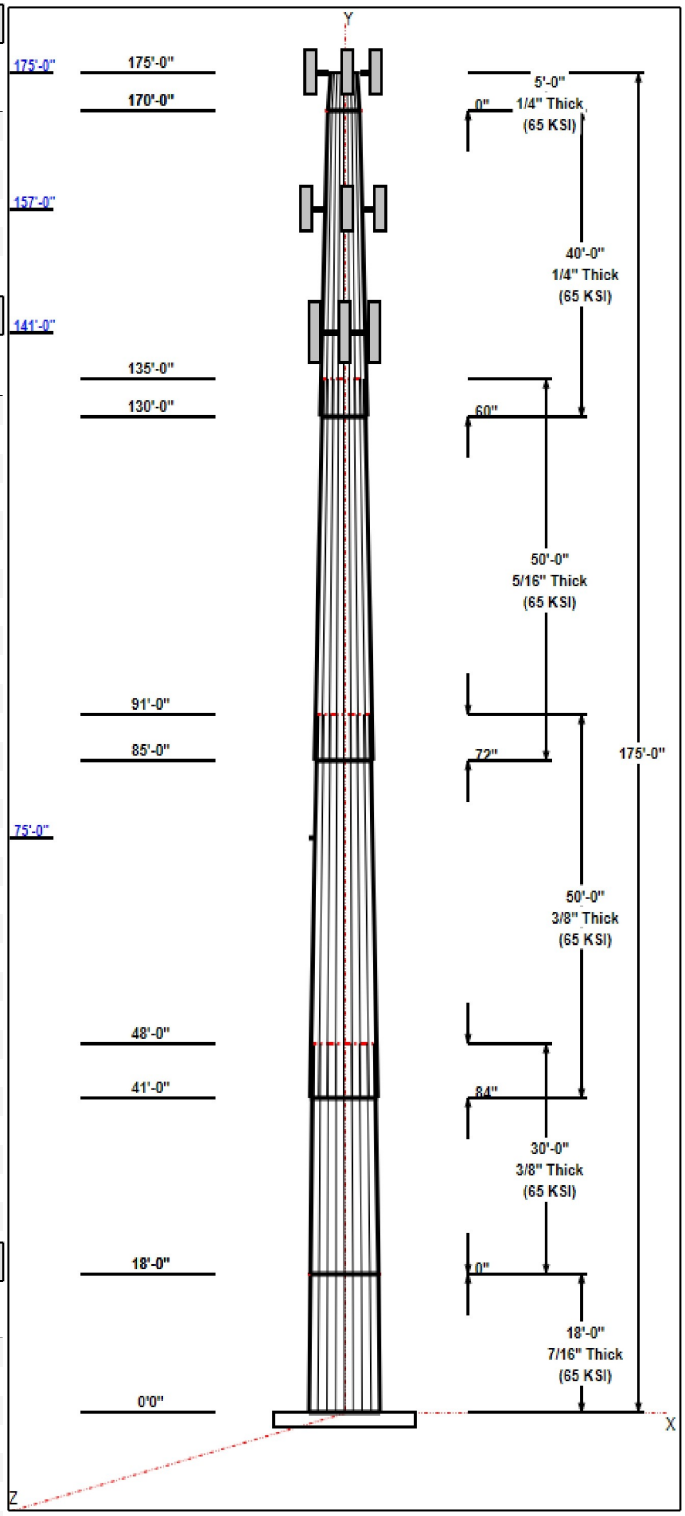
Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
175.00	175.00	3	APXVTM14-C-120	Sprint
175.00	175.00	3	APXVSPP18-C-A20	Sprint
175.00	175.00	3	ALU 800 MHz RRU	Sprint
175.00	175.00	3	ALU 1900MHz RRU	Sprint
175.00	175.00	3	TD-RRH8x20-25	Sprint
175.00	175.00	3	800 MHz Filter	Sprint
175.00	175.00	4	ACU-A20-N	Sprint
175.00	175.00	3	T-Arm w/ work Platform	Sprint
157.00	157.00	3	T-Arm w/ Platform	AT&T
157.00	157.00	6	Powerwave LGP 21401	AT&T
157.00	157.00	1	Raycap DC6-48-60-18-8F	AT&T
157.00	157.00	3	Ericsson RRUS-11	AT&T
157.00	157.00	6	Allgon 7184	AT&T
157.00	157.00	3	HPA-65R-BUU-H6	AT&T
157.00	157.00	6	Powerwave 7020 RET	AT&T
157.00	157.00	3	DMP65R-BU6DA	AT&T
157.00	157.00	3	Ericsson RRUS 8843	AT&T
157.00	157.00	3	Ericsson RRUS 4449	AT&T
141.00	141.00	3	KRY 112 144	T-Mobile
141.00	141.00	3	APXVAALL24-43-U-NA20	T-Mobile
141.00	141.00	3	AIR6449 B41	T-Mobile
141.00	141.00	3	AIR32	T-Mobile
141.00	141.00	3	SDX1926Q-43	T-Mobile
141.00	141.00	3	4449 B71 + B85	T-Mobile
141.00	141.00	3	RRUS 4415 B25	T-Mobile
141.00	141.00	1	(3) SFS-H (V-Braces)	T-Mobile
141.00	141.00	1	Support rail / End	T-Mobile
141.00	141.00	1	Low Profile Platform	T-Mobile
75.00	75.00	1	GPS	Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	175.00	Outside	1 1/4" Coax	Sprint
0.00	175.00	Outside	Safety Cable	
0.00	175.00	Outside	Step bolts (ladder)	
0.00	157.00	Inside	1-5/8" Coax	AT&T
0.00	157.00	Inside	1/2" DC	AT&T
0.00	157.00	Inside	3/8" Fiber	AT&T
0.00	147.00	Inside	1-5/8" Coax	T-Mobile
0.00	147.00	Inside	1-5/8" Fiber	T-Mobile
0.00	75.00	Inside	1/2" Coax	Sprint

Anchor Bolts



Qty	Specifications	Grade (ksi)	Arrangement
24	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.5000	84.5	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	4356.3	37.0	53.2
0.9D + 1.6W 101 mph Wind	4318.1	37.0	39.9
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1167.9	10.0	81.8
1.0D + 1.0W 60 mph Wind	956.1	8.2	44.4

Structure: CT03110-S-SBA - Coax Line Placement

Type: Monopole
Site Name: North Branford
Height: 175.00 (ft)

2/5/2021

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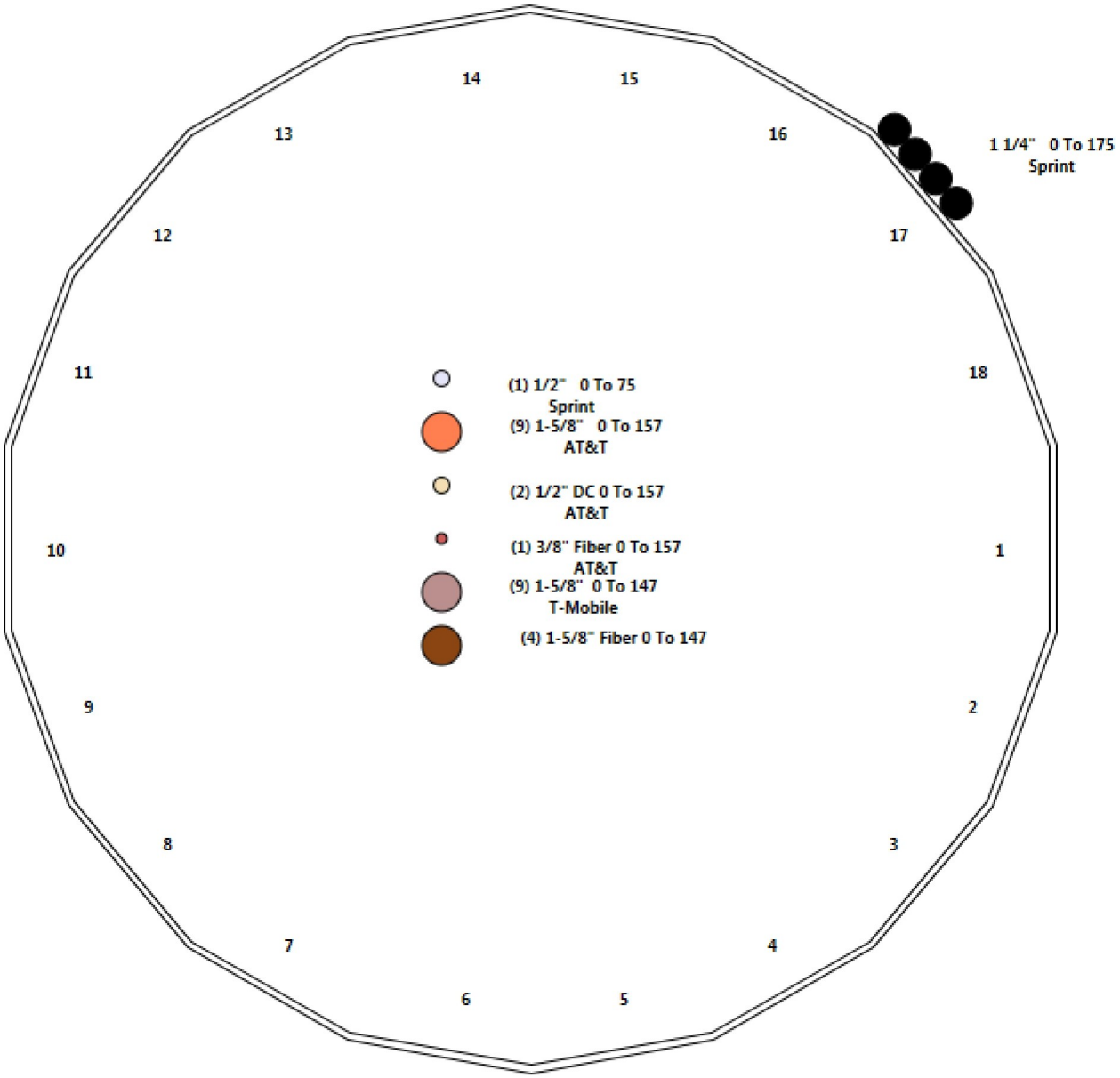

Shaft Properties

Structure:	CT03110-S-SBA		**Code:**	EIA/TIA-222-G	2/5/2021
Site Name:	North Branford		**Exposure:**	C	
Height:	175.00 (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	18.000	0.4375	65		0.00	5,263
2	18	30.000	0.3750	65	Flange	0.00	6,820
3	18	50.000	0.3750	65	Slip	84.00	9,901
4	18	50.000	0.3125	65	Slip	72.00	6,569
5	18	40.000	0.2500	65	Slip	60.00	3,219
6	18	5.000	0.2500	65	Flange	0.00	329
					Total Shaft Weight:		**32,101**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	64.50	0.00	88.96	46124.76	24.59	147.43	60.14	18.00	82.90	37336.2	22.83	137.4	0.242143
2	60.14	18.00	71.13	32103.14	26.87	160.38	52.88	48.00	62.49	21762.4	23.45	141.0	0.242143
3	55.32	41.00	65.40	24946.58	24.60	147.53	43.22	91.00	50.99	11822.9	18.91	115.2	0.242143
4	45.29	85.00	44.61	11404.15	24.15	144.94	33.19	135.00	32.60	4451.65	17.31	106.1	0.242143
5	34.90	130.0	27.49	4169.27	23.20	139.59	25.21	170.00	19.81	1559.03	16.37	100.8	0.242143
6	25.21	170.0	19.81	1559.03	16.37	100.84	24.00	175.00	18.84	1343.00	15.52	96.00	0.242143

Load Summary

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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	

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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	175.00	APXVTM14-C-120	3	56.00	6.34	0.79	259.40	9.336	0.80	0.00	0.00
2	175.00	APXVSPP18-C-A20	3	57.00	8.02	0.83	232.54	10.857	0.84	0.00	0.00
3	175.00	ALU 800 MHz RRU	3	53.00	2.49	0.67	128.11	3.651	0.67	0.00	0.00
4	175.00	ALU 1900MHz RRU	3	44.00	3.80	0.67	154.86	5.212	0.67	0.00	0.00
5	175.00	TD-RRH8x20-25	3	70.00	4.05	0.67	182.54	4.877	0.67	0.00	0.00
6	175.00	800 MHz Filter	3	10.00	0.42	0.67	35.39	1.038	0.67	0.00	0.00
7	175.00	ACU-A20-N	4	1.00	0.14	0.67	5.36	0.441	0.68	0.00	0.00
8	175.00	T-Arm w/ work Platform	3	400.00	10.00	0.75	683.57	18.862	0.75	0.00	0.00
9	157.00	T-Arm w/ Platform	3	400.00	12.00	0.75	680.51	22.519	0.75	0.00	0.00
10	157.00	Powerwave LGP 21401	6	14.10	1.29	0.50	39.22	2.130	0.50	0.00	0.00
11	157.00	Raycap DC6-48-60-18-8F	1	32.80	1.47	1.00	96.86	2.173	1.00	0.00	0.00
12	157.00	Ericsson RRUS-11	3	50.00	2.52	0.67	131.96	3.224	0.67	0.00	0.00
13	157.00	Allgon 7184	6	9.70	2.85	0.69	60.85	4.571	0.70	0.00	0.00
14	157.00	HPA-65R-BUU-H6	3	51.00	9.66	0.85	300.43	11.033	0.86	0.00	0.00
15	157.00	Powerwave 7020 RET	6	2.20	0.40	0.50	12.48	0.886	0.50	0.00	0.00
16	157.00	DMP65R-BU6DA	3	79.40	12.71	0.67	375.29	14.181	0.67	0.00	0.00
17	157.00	Ericsson RRUS 8843 B2/B66A	3	72.00	1.64	0.67	119.06	2.139	0.67	0.00	0.00
18	157.00	Ericsson RRUS 4449 B5/B12	3	73.00	1.97	0.67	128.14	2.520	0.67	0.00	0.00
19	141.00	KRY 112 144	3	11.00	0.41	0.67	21.71	0.882	0.67	0.00	0.00
20	141.00	APXVAALL24-43-U-NA20	3	128.00	20.24	0.70	555.51	22.128	0.70	0.00	0.00
21	141.00	AIR6449 B41	3	103.00	5.65	0.71	239.27	6.595	0.71	0.00	0.00
22	141.00	AIR32	3	132.20	6.51	0.87	315.23	7.683	0.87	0.00	0.00
23	141.00	SDX1926Q-43	3	17.60	0.32	0.67	42.68	0.584	0.67	0.00	0.00
24	141.00	4449 B71 + B85	3	73.20	1.97	0.67	130.59	2.536	0.67	0.00	0.00
25	141.00	RRUS 4415 B25	3	46.00	1.64	0.67	86.85	2.152	0.67	0.00	0.00
26	141.00	(3) SFS-H (V-Braces)	1	197.00	6.30	1.00	470.35	12.856	1.00	0.00	0.00
27	141.00	Support rail / End connection Kits / V	1	650.00	15.50	1.00	1461.72	31.630	1.00	0.00	0.00
28	141.00	Low Profile Platform	1	1200.00	25.00	1.00	2240.67	45.813	1.00	0.00	0.00
29	75.00	GPS	1	10.00	1.00	1.00	37.36	1.664	1.00	0.00	0.00
		Totals:	**87**	**8,029.00**			**19,414.53**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	175.00	(4) 1 1/4" Coax	0.00	Outside
0.00	175.00	(1) Safety Cable	0.00	Outside
0.00	175.00	(1) Step bolts (ladder)	0.00	Outside
0.00	157.00	(9) 1-5/8" Coax	0.00	Inside
0.00	157.00	(2) 1/2" DC	0.00	Inside
0.00	157.00	(1) 3/8" Fiber	0.00	Inside
0.00	147.00	(9) 1-5/8" Coax	0.00	Inside
0.00	147.00	(4) 1-5/8" Fiber	0.00	Inside
0.00	75.00	(1) 1/2" Coax	0.00	Inside

Shaft Section Properties

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	64.500	88.956	46124.8	24.59	147.43	72.5	1408.	0.0
5.00		0.4375	63.289	87.274	43558.7	24.10	144.66	73.1	1355.	1499.2
10.00		0.4375	62.079	85.593	41089.7	23.61	141.89	73.6	1303.	1470.6
15.00		0.4375	60.868	83.912	38715.8	23.12	139.13	74.2	1252.	1442.0
18.00	Top - Section 1	0.4375	60.141	82.903	37336.3	22.83	137.47	74.6	1222.	851.5
18.00	Bot - Section 2	0.3750	60.141	71.134	32103.1	26.63	160.38	69.8	1051.	
20.00		0.3750	59.657	70.558	31329.1	26.64	159.09	70.1	1034.	482.1
25.00		0.3750	58.446	69.117	29448.5	26.07	155.86	70.7	992.4	1188.2
30.00		0.3750	57.236	67.676	27644.7	25.50	152.63	71.4	951.3	1163.7
35.00		0.3750	56.025	66.235	25916.2	24.93	149.40	72.1	911.1	1139.2
40.00		0.3750	54.814	64.794	24261.2	24.36	146.17	72.7	871.8	1114.7
41.00	Bot - Section 3	0.3750	54.572	64.506	23938.9	24.25	145.53	72.9	864.0	220.0
45.00		0.3750	53.604	63.353	22678.3	23.79	142.94	73.4	833.3	1752.5
48.00	Top - Section 2	0.3750	53.627	63.381	22708.4	23.81	143.01	0.0	0.0	1293.7
50.00		0.3750	53.143	62.805	22094.5	23.58	141.71	73.7	818.9	429.4
55.00		0.3750	51.932	61.364	20608.3	23.01	138.49	74.3	781.6	1056.3
60.00		0.3750	50.721	59.923	19190.3	22.44	135.26	75.0	745.2	1031.8
65.00		0.3750	49.511	58.482	17838.9	21.87	132.03	75.7	709.7	1007.3
70.00		0.3750	48.300	57.041	16552.4	21.30	128.80	76.3	675.0	982.7
75.00		0.3750	47.089	55.600	15329.4	20.73	125.57	77.0	641.2	958.2
80.00		0.3750	45.879	54.159	14168.1	20.16	122.34	77.7	608.3	933.7
85.00	Bot - Section 4	0.3750	44.668	52.718	13067.0	19.59	119.11	78.4	576.2	909.2
90.00		0.3750	43.457	51.277	12024.5	19.02	115.89	79.0	545.0	1633.5
91.00	Top - Section 3	0.3125	43.840	43.172	10334.4	23.33	140.29	0.0	0.0	321.3
95.00		0.3125	42.871	42.212	9659.8	22.78	137.19	74.6	443.8	581.1
100.00		0.3125	41.661	41.011	8858.6	22.10	133.31	75.4	418.8	708.0
105.00		0.3125	40.450	39.810	8103.0	21.41	129.44	76.2	394.6	687.5
110.00		0.3125	39.239	38.609	7391.6	20.73	125.57	77.0	371.0	667.1
115.00		0.3125	38.029	37.408	6723.2	20.05	121.69	77.8	348.2	646.7
120.00		0.3125	36.818	36.207	6096.3	19.36	117.82	78.6	326.1	626.2
125.00		0.3125	35.607	35.007	5509.6	18.68	113.94	79.4	304.8	605.8
130.00	Bot - Section 5	0.3125	34.396	33.806	4961.8	18.00	110.07	80.2	284.1	585.4
135.00	Top - Section 4	0.2500	33.686	26.530	3747.3	22.35	134.74	0.0	0.0	1024.5
140.00		0.2500	32.475	25.570	3354.8	21.49	129.90	76.1	203.5	443.2
141.00		0.2500	32.233	25.377	3279.7	21.32	128.93	76.3	200.4	86.7
145.00		0.2500	31.264	24.609	2990.7	20.64	125.06	77.1	188.4	340.2
150.00		0.2500	30.054	23.648	2653.9	19.79	120.21	78.1	173.9	410.5
155.00		0.2500	28.843	22.688	2343.5	18.93	115.37	79.1	160.0	394.2
157.00		0.2500	28.359	22.303	2226.4	18.59	113.43	79.5	154.6	153.1
160.00		0.2500	27.632	21.727	2058.2	18.08	110.53	80.1	146.7	224.7
165.00		0.2500	26.421	20.766	1797.1	17.22	105.69	81.1	134.0	361.5
170.00	Top - Section 5	0.2500	25.211	19.806	1559.0	16.37	100.84	82.1	121.8	345.1
170.00	Bot - Section 6	0.2500	25.211	19.806	1559.0	16.37	100.84	82.1	121.8	
175.00		0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	328.8
										32101.0

Wind Loading - Shaft

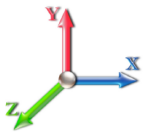
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	508.23	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	498.69	0.650	0.000	5.00	27.033	17.57	652.2	0.0	1799.0
10.00		1.00	0.85	21.088	23.20	489.15	0.650	0.000	5.00	26.521	17.24	639.8	0.0	1764.7
15.00		1.00	0.85	21.088	23.20	479.61	0.650	0.000	5.00	26.009	16.91	627.4	0.0	1730.4
18.00	Top - Section 1	1.00	0.88	21.884	24.07	482.75	0.650	0.000	3.00	15.360	9.98	384.5	0.0	1021.7
20.00		1.00	0.90	22.375	24.61	484.20	0.650	0.000	2.00	10.137	6.59	259.5	0.0	578.6
25.00		1.00	0.95	23.451	25.80	485.65	0.650	0.000	5.00	24.984	16.24	670.3	0.0	1425.8
30.00		1.00	0.98	24.369	26.81	484.81	0.650	0.000	5.00	24.472	15.91	682.2	0.0	1396.4
35.00		1.00	1.01	25.172	27.69	482.31	0.650	0.000	5.00	23.960	15.57	690.0	0.0	1367.0
40.00		1.00	1.04	25.890	28.48	478.57	0.650	0.000	5.00	23.448	15.24	694.5	0.0	1337.6
41.00	Bot - Section 3	1.00	1.05	26.025	28.63	477.70	0.650	0.000	1.00	4.628	3.01	137.8	0.0	264.0
45.00		1.00	1.07	26.540	29.19	473.84	0.650	0.000	4.00	18.561	12.06	563.6	0.0	2102.9
48.00	Top - Section 2	1.00	1.08	26.903	29.59	470.60	0.650	0.000	3.00	13.706	8.91	421.8	0.0	1552.5
50.00		1.00	1.09	27.135	29.85	475.00	0.650	0.000	2.00	9.035	5.87	280.5	0.0	515.3
55.00		1.00	1.12	27.685	30.45	468.86	0.650	0.000	5.00	22.228	14.45	704.0	0.0	1267.6
60.00		1.00	1.14	28.197	31.02	462.15	0.650	0.000	5.00	21.716	14.12	700.5	0.0	1238.1
65.00		1.00	1.16	28.676	31.54	454.93	0.650	0.000	5.00	21.204	13.78	695.6	0.0	1208.7
70.00		1.00	1.17	29.127	32.04	447.28	0.650	0.000	5.00	20.692	13.45	689.5	0.0	1179.3
75.00	Appurtenance(s)	1.00	1.19	29.553	32.51	439.25	0.650	0.000	5.00	20.179	13.12	682.2	0.0	1149.9
80.00		1.00	1.21	29.958	32.95	430.87	0.650	0.000	5.00	19.667	12.78	674.0	0.0	1120.4
85.00	Bot - Section 4	1.00	1.22	30.342	33.38	422.19	0.650	0.000	5.00	19.155	12.45	664.9	0.0	1091.0
90.00		1.00	1.24	30.710	33.78	413.22	0.650	0.000	5.00	18.907	12.29	664.2	0.0	1960.2
91.00	Top - Section 3	1.00	1.24	30.781	33.86	411.40	0.650	0.000	1.00	3.720	2.42	131.0	0.0	385.6
95.00		1.00	1.25	31.061	34.17	409.98	0.650	0.000	4.00	14.675	9.54	521.5	0.0	697.3
100.00		1.00	1.27	31.399	34.54	400.56	0.650	0.000	5.00	17.883	11.62	642.3	0.0	849.6
105.00		1.00	1.28	31.723	34.89	390.92	0.650	0.000	5.00	17.370	11.29	630.4	0.0	825.0
110.00		1.00	1.29	32.035	35.24	381.08	0.650	0.000	5.00	16.858	10.96	617.8	0.0	800.5
115.00		1.00	1.30	32.336	35.57	371.06	0.650	0.000	5.00	16.346	10.62	604.7	0.0	776.0
120.00		1.00	1.32	32.627	35.89	360.86	0.650	0.000	5.00	15.834	10.29	591.0	0.0	751.5
125.00		1.00	1.33	32.909	36.20	350.49	0.650	0.000	5.00	15.321	9.96	576.8	0.0	727.0
130.00	Bot - Section 5	1.00	1.34	33.182	36.50	339.98	0.650	0.000	5.00	14.809	9.63	562.1	0.0	702.5
135.00	Top - Section 4	1.00	1.35	33.446	36.79	329.31	0.650	0.000	5.00	14.508	9.43	555.1	0.0	1229.4
140.00		1.00	1.36	33.703	37.07	323.50	0.650	0.000	5.00	13.996	9.10	539.6	0.0	531.9
141.00	Appurtenance(s)	1.00	1.36	33.754	37.13	321.33	0.650	0.000	1.00	2.738	1.78	105.7	0.0	104.0
145.00		1.00	1.37	33.953	37.35	312.59	0.650	0.000	4.00	10.746	6.98	417.4	0.0	408.2
150.00		1.00	1.38	34.196	37.62	301.56	0.650	0.000	5.00	12.972	8.43	507.5	0.0	492.6
155.00		1.00	1.39	34.433	37.88	290.41	0.650	0.000	5.00	12.459	8.10	490.8	0.0	473.0
157.00	Appurtenance(s)	1.00	1.39	34.526	37.98	285.92	0.650	0.000	2.00	4.840	3.15	191.2	0.0	183.7
160.00		1.00	1.40	34.664	38.13	279.15	0.650	0.000	3.00	7.107	4.62	281.8	0.0	269.7
165.00		1.00	1.41	34.890	38.38	267.79	0.650	0.000	5.00	11.435	7.43	456.4	0.0	433.8
170.00	Top - Section 5	1.00	1.42	35.110	38.62	256.32	0.650	0.000	5.00	10.923	7.10	438.7	0.0	414.2
175.00	Appurtenance(s)	1.00	1.42	35.324	38.86	244.76	0.650	0.000	5.00	10.410	6.77	420.7	0.0	394.6
								Totals:	**175.00**			**21,461.6**		**38,521.2**

Discrete Appurtenance Forces

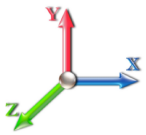
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	ALU 1900MHz RRU	3	35.324	38.857	0.60	0.90	6.87	158.40	0.000	0.000	427.38	0.00	0.00
2	175.00	APXVTM14-C-120	3	35.324	38.857	0.71	0.90	13.52	201.60	0.000	0.000	840.75	0.00	0.00
3	175.00	APXVSPP18-C-A20	3	35.324	38.857	0.75	0.90	17.97	205.20	0.000	0.000	1117.39	0.00	0.00
4	175.00	ALU 800 MHz RRU	3	35.324	38.857	0.60	0.90	4.50	190.80	0.000	0.000	280.04	0.00	0.00
5	175.00	T-Arm w/ work Platform	3	35.324	38.857	0.56	0.75	16.88	1440.00	0.000	0.000	1049.14	0.00	0.00
6	175.00	TD-RRH8x20-25	3	35.324	38.857	0.60	0.90	7.33	252.00	0.000	0.000	455.49	0.00	0.00
7	175.00	800 MHz Filter	3	35.324	38.857	0.60	0.90	0.76	36.00	0.000	0.000	47.24	0.00	0.00
8	175.00	ACU-A20-N	4	35.324	38.857	0.60	0.90	0.34	4.80	0.000	0.000	20.99	0.00	0.00
9	157.00	Allgon 7184	6	34.526	37.979	0.55	0.80	9.44	69.84	0.000	0.000	573.59	0.00	0.00
10	157.00	Ericsson RRUS-11	3	34.526	37.979	0.54	0.80	4.05	180.00	0.000	0.000	246.24	0.00	0.00
11	157.00	Raycap DC6-48-60-18-8F	1	34.526	37.979	1.00	1.00	1.47	39.36	0.000	0.000	89.33	0.00	0.00
12	157.00	Powerwave LGP 21401	6	34.526	37.979	0.40	0.80	3.10	101.52	0.000	0.000	188.13	0.00	0.00
13	157.00	Ericsson RRUS 4449	3	34.526	37.979	0.54	0.80	3.17	262.80	0.000	0.000	192.49	0.00	0.00
14	157.00	Ericsson RRUS 8843	3	34.526	37.979	0.54	0.80	2.64	259.20	0.000	0.000	160.25	0.00	0.00
15	157.00	DMP65R-BU6DA	3	34.526	37.979	0.54	0.80	20.44	285.84	0.000	0.000	1241.93	0.00	0.00
16	157.00	HPA-65R-BUU-H6	3	34.526	37.979	0.68	0.80	19.71	183.60	0.000	0.000	1197.49	0.00	0.00
17	157.00	T-Arm w/ Platform	3	34.526	37.979	0.56	0.75	20.25	1440.00	0.000	0.000	1230.52	0.00	0.00
18	157.00	Powerwave 7020 RET	6	34.526	37.979	0.40	0.80	0.96	15.84	0.000	0.000	58.34	0.00	0.00
19	141.00	AIR6449 B41	3	33.754	37.129	0.53	0.75	9.03	370.80	0.000	0.000	536.20	0.00	0.00
20	141.00	Support rail / End	1	33.754	37.129	0.75	0.75	11.63	780.00	0.000	0.000	690.60	0.00	0.00
21	141.00	Low Profile Platform	1	33.754	37.129	1.00	1.00	25.00	1440.00	0.000	0.000	1485.17	0.00	0.00
22	141.00	APXVAALL24-43-U-NA20	3	33.754	37.129	0.52	0.75	31.88	460.80	0.000	0.000	1893.77	0.00	0.00
23	141.00	KRY 112 144	3	33.754	37.129	0.50	0.75	0.62	39.60	0.000	0.000	36.72	0.00	0.00
24	141.00	SDX1926Q-43	3	33.754	37.129	0.50	0.75	0.48	63.36	0.000	0.000	28.66	0.00	0.00
25	141.00	AIR32	3	33.754	37.129	0.65	0.75	12.74	475.92	0.000	0.000	757.04	0.00	0.00
26	141.00	4449 B71 + B85	3	33.754	37.129	0.50	0.75	2.97	263.52	0.000	0.000	176.42	0.00	0.00
27	141.00	RRUS 4415 B25	3	33.754	37.129	0.50	0.75	2.47	165.60	0.000	0.000	146.87	0.00	0.00
28	141.00	(3) SFS-H (V-Braces)	1	33.754	37.129	0.75	0.75	4.72	236.40	0.000	0.000	280.70	0.00	0.00
29	75.00	GPS	1	29.553	32.509	1.00	1.00	1.00	12.00	0.000	0.000	52.01	0.00	0.00
							Totals:		**9,634.80**			**15,500.88**		

Total Applied Force Summary

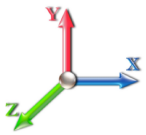
Structure:	CT03110-S-SBA		**Code:**	EIA/TIA-222-G	2/5/2021
Site Name:	North Branford		**Exposure:**	C	
Height:	175.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 10

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		652.16	1964.69	0.00	0.00
10.00		639.80	1930.37	0.00	0.00
15.00		627.44	1896.04	0.00	0.00
18.00		384.53	1121.15	0.00	0.00
20.00		259.48	644.85	0.00	0.00
25.00		670.28	1591.53	0.00	0.00
30.00		682.23	1562.11	0.00	0.00
35.00		689.98	1532.69	0.00	0.00
40.00		694.48	1503.27	0.00	0.00
41.00		137.79	297.12	0.00	0.00
45.00		563.55	2235.48	0.00	0.00
48.00		421.83	1651.90	0.00	0.00
50.00		280.46	581.53	0.00	0.00
55.00		704.01	1433.23	0.00	0.00
60.00		700.51	1403.81	0.00	0.00
65.00		695.61	1374.39	0.00	0.00
70.00		689.47	1344.97	0.00	0.00
75.00	(1) attachments	734.26	1327.55	0.00	0.00
80.00		674.02	1285.17	0.00	0.00
85.00		664.90	1255.75	0.00	0.00
90.00		664.24	2124.92	0.00	0.00
91.00		130.99	418.51	0.00	0.00
95.00		521.46	829.08	0.00	0.00
100.00		642.34	1014.28	0.00	0.00
105.00		630.38	989.76	0.00	0.00
110.00		617.81	965.25	0.00	0.00
115.00		604.67	940.73	0.00	0.00
120.00		590.99	916.21	0.00	0.00
125.00		576.81	891.69	0.00	0.00
130.00		562.15	867.18	0.00	0.00
135.00		555.13	1394.13	0.00	0.00
140.00		539.64	696.57	0.00	0.00
141.00	(24) attachments	6137.87	4432.96	0.00	0.00
145.00		417.41	540.00	0.00	0.00
150.00		507.46	607.81	0.00	0.00
155.00		490.80	555.17	0.00	0.00
157.00	(37) attachments	5369.48	3054.58	0.00	0.00
160.00		281.83	283.92	0.00	0.00
165.00		456.41	457.50	0.00	0.00
170.00		438.71	437.89	0.00	0.00
175.00	(25) attachments	4659.11	2907.08	0.00	0.00
	Totals:	**36,962.47**	**53,262.80**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

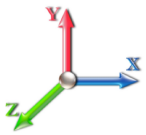
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	15.84
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	6.24
10.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	15.84
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	6.24
15.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	15.84
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	6.24
18.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	21.884	0.00	9.50
18.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	21.884	0.00	0.98
18.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	21.884	0.00	3.74
20.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	6.34
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	0.66
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	2.50
25.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	15.84
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	6.24
30.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	15.84
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	6.24
35.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	15.84
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	6.24
40.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	15.84
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	6.24
41.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.025	0.00	3.17
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.025	0.00	0.33
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.025	0.00	1.25
45.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	12.67
45.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	1.31
45.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	4.99
48.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.903	0.00	9.50
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.903	0.00	0.98
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.903	0.00	3.74
50.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	6.34
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	0.66
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	2.50
55.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	15.84
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	1.64
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	6.24
60.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	15.84
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	6.24
65.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	15.84
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	1.64

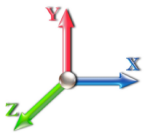
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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	

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	6.24
70.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	15.84
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	6.24
75.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	15.84
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	6.24
80.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	15.84
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	6.24
85.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	15.84
85.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	1.64
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	6.24
90.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	15.84
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	6.24
91.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.781	0.00	3.17
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.781	0.00	0.33
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.781	0.00	1.25
95.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	12.67
95.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	1.31
95.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	4.99
100.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	15.84
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	1.64
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	6.24
105.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	15.84
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	1.64
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	6.24
110.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	15.84
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	1.64
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	6.24
115.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	15.84
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	6.24
120.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	15.84
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	6.24
125.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	15.84
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	1.64
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	6.24
130.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	15.84
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	1.64
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	6.24
135.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	15.84
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	1.64
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	6.24
140.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	15.84

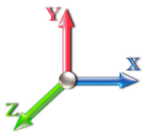
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	1.64
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	6.24
141.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	33.754	0.00	3.17
141.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	33.754	0.00	0.33
141.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	33.754	0.00	1.25
145.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	12.67
145.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	1.31
145.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	4.99
150.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	15.84
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	1.64
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	6.24
155.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	15.84
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	1.64
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	6.24
157.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.526	0.00	6.34
157.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.526	0.00	0.66
157.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.526	0.00	2.50
160.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	34.664	0.00	9.50
160.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	34.664	0.00	0.98
160.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	34.664	0.00	3.74
165.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.890	0.00	15.84
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.890	0.00	1.64
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.890	0.00	6.24
170.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.110	0.00	15.84
170.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.110	0.00	1.64
170.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.110	0.00	6.24
175.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.324	0.00	15.84
175.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.324	0.00	1.64
175.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.324	0.00	6.24
										Totals:	**0.0**	**830.1**

Calculated Forces

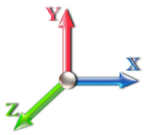
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-53.22	-37.02	0.00	-4356.2	0.00	4356.27	5803.10	2901.55	15291.3	7657.05	0.00	0.000	0.000	0.578
5.00	-51.17	-36.49	0.00	-4171.1	0.00	4171.15	5738.51	2869.25	14833.4	7427.75	0.07	-0.131	0.000	0.571
10.00	-49.16	-35.96	0.00	-3988.7	0.00	3988.71	5672.18	2836.09	14377.6	7199.49	0.28	-0.265	0.000	0.563
15.00	-47.20	-35.41	0.00	-3808.9	0.00	3808.93	5604.11	2802.06	13924.1	6972.40	0.63	-0.400	0.000	0.555
18.00	-46.04	-35.07	0.00	-3702.7	0.00	3702.71	5562.44	2781.22	13653.2	6836.76	0.91	-0.483	0.000	0.550
18.00	-46.04	-35.07	0.00	-3702.7	0.00	3702.71	4468.60	2234.30	10991.3	5503.84	0.91	-0.483	0.000	0.683
20.00	-45.33	-34.89	0.00	-3632.5	0.00	3632.57	4449.40	2224.70	10854.8	5435.51	1.12	-0.538	0.000	0.679
25.00	-43.65	-34.33	0.00	-3458.1	0.00	3458.12	4400.18	2200.09	10514.1	5264.91	1.77	-0.699	0.000	0.667
30.00	-42.00	-33.74	0.00	-3286.4	0.00	3286.49	4349.23	2174.61	10174.3	5094.75	2.60	-0.862	0.000	0.655
35.00	-40.38	-33.15	0.00	-3117.7	0.00	3117.77	4296.53	2148.27	9835.69	4925.16	3.59	-1.027	0.000	0.643
40.00	-38.84	-32.49	0.00	-2952.0	0.00	2952.04	4242.10	2121.05	9498.40	4756.26	4.75	-1.194	0.000	0.630
41.00	-38.49	-32.40	0.00	-2919.5	0.00	2919.55	4231.01	2115.50	9431.14	4722.58	5.01	-1.228	0.000	0.628
45.00	-36.21	-31.86	0.00	-2789.9	0.00	2789.94	4185.94	2092.97	9162.77	4588.20	6.09	-1.364	0.000	0.617
48.00	-34.52	-31.45	0.00	-2694.3	0.00	2694.35	4187.05	2093.52	9169.29	4591.46	6.98	-1.467	0.000	0.595
50.00	-33.88	-31.23	0.00	-2631.4	0.00	2631.44	4164.11	2082.05	9035.54	4524.49	7.61	-1.537	0.000	0.590
55.00	-32.38	-30.58	0.00	-2475.3	0.00	2475.30	4105.54	2052.77	8702.63	4357.78	9.31	-1.701	0.000	0.576
60.00	-30.91	-29.92	0.00	-2322.4	0.00	2322.42	4045.24	2022.62	8371.99	4192.22	11.18	-1.867	0.000	0.562
65.00	-29.48	-29.27	0.00	-2172.8	0.00	2172.80	3983.21	1991.60	8043.90	4027.93	13.23	-2.033	0.000	0.547
70.00	-28.07	-28.61	0.00	-2026.4	0.00	2026.47	3919.43	1959.72	7718.60	3865.04	15.45	-2.201	0.000	0.532
75.00	-26.70	-27.90	0.00	-1883.4	0.00	1883.42	3853.92	1926.96	7396.37	3703.68	17.84	-2.369	0.000	0.516
80.00	-25.36	-27.25	0.00	-1743.9	0.00	1743.91	3786.67	1893.34	7077.46	3543.99	20.41	-2.537	0.000	0.499
85.00	-24.06	-26.60	0.00	-1607.6	0.00	1607.66	3717.69	1858.85	6762.13	3386.09	23.16	-2.705	0.000	0.481
90.00	-21.92	-25.87	0.00	-1474.6	0.00	1474.67	3646.97	1823.48	6450.65	3230.12	26.08	-2.873	0.000	0.463
91.00	-21.47	-25.75	0.00	-1448.8	0.00	1448.81	2873.92	1436.96	5143.64	2575.64	26.69	-2.908	0.000	0.570
95.00	-20.60	-25.24	0.00	-1345.8	0.00	1345.81	2834.39	1417.20	4959.20	2483.29	29.18	-3.042	0.000	0.550
100.00	-19.54	-24.61	0.00	-1219.5	0.00	1219.59	2783.42	1391.71	4730.46	2368.74	32.47	-3.231	0.000	0.522
105.00	-18.51	-23.98	0.00	-1096.5	0.00	1096.53	2730.70	1365.35	4503.96	2255.33	35.95	-3.417	0.000	0.493
110.00	-17.52	-23.36	0.00	-976.61	0.00	976.61	2676.25	1338.13	4279.98	2143.17	39.63	-3.599	0.000	0.463
115.00	-16.55	-22.75	0.00	-859.80	0.00	859.80	2620.07	1310.03	4058.76	2032.40	43.49	-3.776	0.000	0.430
120.00	-15.61	-22.14	0.00	-746.05	0.00	746.05	2562.14	1281.07	3840.57	1923.14	47.53	-3.945	0.000	0.394
125.00	-14.70	-21.55	0.00	-635.33	0.00	635.33	2502.48	1251.24	3625.68	1815.54	51.75	-4.107	0.000	0.356
130.00	-13.82	-20.96	0.00	-527.61	0.00	527.61	2441.09	1220.54	3414.34	1709.71	56.13	-4.257	0.000	0.315
135.00	-12.43	-20.33	0.00	-422.82	0.00	422.82	1793.55	896.77	2465.05	1234.36	60.66	-4.393	0.000	0.350
140.00	-11.75	-19.75	0.00	-321.20	0.00	321.20	1751.71	875.86	2319.73	1161.59	65.32	-4.512	0.000	0.284
141.00	-7.81	-13.29	0.00	-301.45	0.00	301.45	1743.14	871.57	2290.90	1147.15	66.27	-4.538	0.000	0.267
145.00	-7.28	-12.84	0.00	-248.30	0.00	248.30	1708.14	854.07	2176.40	1089.82	70.11	-4.634	0.000	0.232
150.00	-6.69	-12.30	0.00	-184.09	0.00	184.09	1662.84	831.42	2035.30	1019.16	75.02	-4.736	0.000	0.185
155.00	-6.17	-11.77	0.00	-122.61	0.00	122.61	1615.80	807.90	1896.71	949.77	80.02	-4.819	0.000	0.133
157.00	-3.58	-6.16	0.00	-99.08	0.00	99.08	1596.49	798.25	1842.04	922.39	82.04	-4.846	0.000	0.110
160.00	-3.31	-5.86	0.00	-80.59	0.00	80.59	1567.02	783.51	1760.89	881.75	85.10	-4.880	0.000	0.094
165.00	-2.89	-5.37	0.00	-51.30	0.00	51.30	1516.50	758.25	1628.10	815.26	90.23	-4.926	0.000	0.065
170.00	-2.49	-4.89	0.00	-24.47	0.00	24.47	1464.25	732.13	1498.59	750.41	95.40	-4.956	0.000	0.034
170.00	-2.49	-4.89	0.00	-24.47	0.00	24.47	1464.25	732.13	1498.59	750.41	95.40	-4.956	0.000	0.034
175.00	0.00	-4.66	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	100.59	-4.967	0.000	0.000

Wind Loading - Shaft

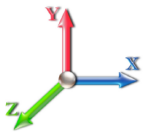
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	508.23	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	498.69	0.650	0.000	5.00	27.033	17.57	652.2	0.0	1349.3
10.00		1.00	0.85	21.088	23.20	489.15	0.650	0.000	5.00	26.521	17.24	639.8	0.0	1323.5
15.00		1.00	0.85	21.088	23.20	479.61	0.650	0.000	5.00	26.009	16.91	627.4	0.0	1297.8
18.00	Top - Section 1	1.00	0.88	21.884	24.07	482.75	0.650	0.000	3.00	15.360	9.98	384.5	0.0	766.3
20.00		1.00	0.90	22.375	24.61	484.20	0.650	0.000	2.00	10.137	6.59	259.5	0.0	433.9
25.00		1.00	0.95	23.451	25.80	485.65	0.650	0.000	5.00	24.984	16.24	670.3	0.0	1069.4
30.00		1.00	0.98	24.369	26.81	484.81	0.650	0.000	5.00	24.472	15.91	682.2	0.0	1047.3
35.00		1.00	1.01	25.172	27.69	482.31	0.650	0.000	5.00	23.960	15.57	690.0	0.0	1025.3
40.00		1.00	1.04	25.890	28.48	478.57	0.650	0.000	5.00	23.448	15.24	694.5	0.0	1003.2
41.00	Bot - Section 3	1.00	1.05	26.025	28.63	477.70	0.650	0.000	1.00	4.628	3.01	137.8	0.0	198.0
45.00		1.00	1.07	26.540	29.19	473.84	0.650	0.000	4.00	18.561	12.06	563.6	0.0	1577.2
48.00	Top - Section 2	1.00	1.08	26.903	29.59	470.60	0.650	0.000	3.00	13.706	8.91	421.8	0.0	1164.4
50.00		1.00	1.09	27.135	29.85	475.00	0.650	0.000	2.00	9.035	5.87	280.5	0.0	386.4
55.00		1.00	1.12	27.685	30.45	468.86	0.650	0.000	5.00	22.228	14.45	704.0	0.0	950.7
60.00		1.00	1.14	28.197	31.02	462.15	0.650	0.000	5.00	21.716	14.12	700.5	0.0	928.6
65.00		1.00	1.16	28.676	31.54	454.93	0.650	0.000	5.00	21.204	13.78	695.6	0.0	906.5
70.00		1.00	1.17	29.127	32.04	447.28	0.650	0.000	5.00	20.692	13.45	689.5	0.0	884.5
75.00	Appurtenance(s)	1.00	1.19	29.553	32.51	439.25	0.650	0.000	5.00	20.179	13.12	682.2	0.0	862.4
80.00		1.00	1.21	29.958	32.95	430.87	0.650	0.000	5.00	19.667	12.78	674.0	0.0	840.3
85.00	Bot - Section 4	1.00	1.22	30.342	33.38	422.19	0.650	0.000	5.00	19.155	12.45	664.9	0.0	818.3
90.00		1.00	1.24	30.710	33.78	413.22	0.650	0.000	5.00	18.907	12.29	664.2	0.0	1470.2
91.00	Top - Section 3	1.00	1.24	30.781	33.86	411.40	0.650	0.000	1.00	3.720	2.42	131.0	0.0	289.2
95.00		1.00	1.25	31.061	34.17	409.98	0.650	0.000	4.00	14.675	9.54	521.5	0.0	523.0
100.00		1.00	1.27	31.399	34.54	400.56	0.650	0.000	5.00	17.883	11.62	642.3	0.0	637.2
105.00		1.00	1.28	31.723	34.89	390.92	0.650	0.000	5.00	17.370	11.29	630.4	0.0	618.8
110.00		1.00	1.29	32.035	35.24	381.08	0.650	0.000	5.00	16.858	10.96	617.8	0.0	600.4
115.00		1.00	1.30	32.336	35.57	371.06	0.650	0.000	5.00	16.346	10.62	604.7	0.0	582.0
120.00		1.00	1.32	32.627	35.89	360.86	0.650	0.000	5.00	15.834	10.29	591.0	0.0	563.6
125.00		1.00	1.33	32.909	36.20	350.49	0.650	0.000	5.00	15.321	9.96	576.8	0.0	545.2
130.00	Bot - Section 5	1.00	1.34	33.182	36.50	339.98	0.650	0.000	5.00	14.809	9.63	562.1	0.0	526.8
135.00	Top - Section 4	1.00	1.35	33.446	36.79	329.31	0.650	0.000	5.00	14.508	9.43	555.1	0.0	922.1
140.00		1.00	1.36	33.703	37.07	323.50	0.650	0.000	5.00	13.996	9.10	539.6	0.0	398.9
141.00	Appurtenance(s)	1.00	1.36	33.754	37.13	321.33	0.650	0.000	1.00	2.738	1.78	105.7	0.0	78.0
145.00		1.00	1.37	33.953	37.35	312.59	0.650	0.000	4.00	10.746	6.98	417.4	0.0	306.2
150.00		1.00	1.38	34.196	37.62	301.56	0.650	0.000	5.00	12.972	8.43	507.5	0.0	369.5
155.00		1.00	1.39	34.433	37.88	290.41	0.650	0.000	5.00	12.459	8.10	490.8	0.0	354.8
157.00	Appurtenance(s)	1.00	1.39	34.526	37.98	285.92	0.650	0.000	2.00	4.840	3.15	191.2	0.0	137.8
160.00		1.00	1.40	34.664	38.13	279.15	0.650	0.000	3.00	7.107	4.62	281.8	0.0	202.3
165.00		1.00	1.41	34.890	38.38	267.79	0.650	0.000	5.00	11.435	7.43	456.4	0.0	325.3
170.00	Top - Section 5	1.00	1.42	35.110	38.62	256.32	0.650	0.000	5.00	10.923	7.10	438.7	0.0	310.6
175.00	Appurtenance(s)	1.00	1.42	35.324	38.86	244.76	0.650	0.000	5.00	10.410	6.77	420.7	0.0	295.9
								Totals:	**175.00**			**21,461.6**		**28,890.9**

Discrete Appurtenance Forces

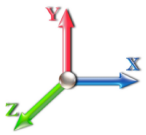
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	ALU 1900MHz RRU	3	35.324	38.857	0.60	0.90	6.87	118.80	0.000	0.000	427.38	0.00	0.00
2	175.00	APXVTM14-C-120	3	35.324	38.857	0.71	0.90	13.52	151.20	0.000	0.000	840.75	0.00	0.00
3	175.00	APXVSPP18-C-A20	3	35.324	38.857	0.75	0.90	17.97	153.90	0.000	0.000	1117.39	0.00	0.00
4	175.00	ALU 800 MHz RRU	3	35.324	38.857	0.60	0.90	4.50	143.10	0.000	0.000	280.04	0.00	0.00
5	175.00	T-Arm w/ work Platform	3	35.324	38.857	0.56	0.75	16.88	1080.00	0.000	0.000	1049.14	0.00	0.00
6	175.00	TD-RRH8x20-25	3	35.324	38.857	0.60	0.90	7.33	189.00	0.000	0.000	455.49	0.00	0.00
7	175.00	800 MHz Filter	3	35.324	38.857	0.60	0.90	0.76	27.00	0.000	0.000	47.24	0.00	0.00
8	175.00	ACU-A20-N	4	35.324	38.857	0.60	0.90	0.34	3.60	0.000	0.000	20.99	0.00	0.00
9	157.00	Allgon 7184	6	34.526	37.979	0.55	0.80	9.44	52.38	0.000	0.000	573.59	0.00	0.00
10	157.00	Ericsson RRUS-11	3	34.526	37.979	0.54	0.80	4.05	135.00	0.000	0.000	246.24	0.00	0.00
11	157.00	Raycap DC6-48-60-18-8F	1	34.526	37.979	1.00	1.00	1.47	29.52	0.000	0.000	89.33	0.00	0.00
12	157.00	Powerwave LGP 21401	6	34.526	37.979	0.40	0.80	3.10	76.14	0.000	0.000	188.13	0.00	0.00
13	157.00	Ericsson RRUS 4449	3	34.526	37.979	0.54	0.80	3.17	197.10	0.000	0.000	192.49	0.00	0.00
14	157.00	Ericsson RRUS 8843	3	34.526	37.979	0.54	0.80	2.64	194.40	0.000	0.000	160.25	0.00	0.00
15	157.00	DMP65R-BU6DA	3	34.526	37.979	0.54	0.80	20.44	214.38	0.000	0.000	1241.93	0.00	0.00
16	157.00	HPA-65R-BUU-H6	3	34.526	37.979	0.68	0.80	19.71	137.70	0.000	0.000	1197.49	0.00	0.00
17	157.00	T-Arm w/ Platform	3	34.526	37.979	0.56	0.75	20.25	1080.00	0.000	0.000	1230.52	0.00	0.00
18	157.00	Powerwave 7020 RET	6	34.526	37.979	0.40	0.80	0.96	11.88	0.000	0.000	58.34	0.00	0.00
19	141.00	AIR6449 B41	3	33.754	37.129	0.53	0.75	9.03	278.10	0.000	0.000	536.20	0.00	0.00
20	141.00	Support rail / End	1	33.754	37.129	0.75	0.75	11.63	585.00	0.000	0.000	690.60	0.00	0.00
21	141.00	Low Profile Platform	1	33.754	37.129	1.00	1.00	25.00	1080.00	0.000	0.000	1485.17	0.00	0.00
22	141.00	APXVAALL24-43-U-NA20	3	33.754	37.129	0.52	0.75	31.88	345.60	0.000	0.000	1893.77	0.00	0.00
23	141.00	KRY 112 144	3	33.754	37.129	0.50	0.75	0.62	29.70	0.000	0.000	36.72	0.00	0.00
24	141.00	SDX1926Q-43	3	33.754	37.129	0.50	0.75	0.48	47.52	0.000	0.000	28.66	0.00	0.00
25	141.00	AIR32	3	33.754	37.129	0.65	0.75	12.74	356.94	0.000	0.000	757.04	0.00	0.00
26	141.00	4449 B71 + B85	3	33.754	37.129	0.50	0.75	2.97	197.64	0.000	0.000	176.42	0.00	0.00
27	141.00	RRUS 4415 B25	3	33.754	37.129	0.50	0.75	2.47	124.20	0.000	0.000	146.87	0.00	0.00
28	141.00	(3) SFS-H (V-Braces)	1	33.754	37.129	0.75	0.75	4.72	177.30	0.000	0.000	280.70	0.00	0.00
29	75.00	GPS	1	29.553	32.509	1.00	1.00	1.00	9.00	0.000	0.000	52.01	0.00	0.00
							Totals:		**7,226.10**			**15,500.88**		

Total Applied Force Summary

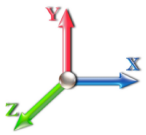
Structure:	CT03110-S-SBA		**Code:**	EIA/TIA-222-G	2/5/2021
Site Name:	North Branford		**Exposure:**	C	
Height:	175.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 17

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		652.16	1473.52	0.00	0.00
10.00		639.80	1447.78	0.00	0.00
15.00		627.44	1422.03	0.00	0.00
18.00		384.53	840.86	0.00	0.00
20.00		259.48	483.64	0.00	0.00
25.00		670.28	1193.65	0.00	0.00
30.00		682.23	1171.58	0.00	0.00
35.00		689.98	1149.52	0.00	0.00
40.00		694.48	1127.45	0.00	0.00
41.00		137.79	222.84	0.00	0.00
45.00		563.55	1676.61	0.00	0.00
48.00		421.83	1238.92	0.00	0.00
50.00		280.46	436.15	0.00	0.00
55.00		704.01	1074.92	0.00	0.00
60.00		700.51	1052.86	0.00	0.00
65.00		695.61	1030.79	0.00	0.00
70.00		689.47	1008.73	0.00	0.00
75.00	(1) attachments	734.26	995.66	0.00	0.00
80.00		674.02	963.88	0.00	0.00
85.00		664.90	941.81	0.00	0.00
90.00		664.24	1593.69	0.00	0.00
91.00		130.99	313.88	0.00	0.00
95.00		521.46	621.81	0.00	0.00
100.00		642.34	760.71	0.00	0.00
105.00		630.38	742.32	0.00	0.00
110.00		617.81	723.93	0.00	0.00
115.00		604.67	705.55	0.00	0.00
120.00		590.99	687.16	0.00	0.00
125.00		576.81	668.77	0.00	0.00
130.00		562.15	650.38	0.00	0.00
135.00		555.13	1045.60	0.00	0.00
140.00		539.64	522.43	0.00	0.00
141.00	(24) attachments	6137.87	3324.72	0.00	0.00
145.00		417.41	405.00	0.00	0.00
150.00		507.46	455.86	0.00	0.00
155.00		490.80	416.38	0.00	0.00
157.00	(37) attachments	5369.48	2290.93	0.00	0.00
160.00		281.83	212.94	0.00	0.00
165.00		456.41	343.13	0.00	0.00
170.00		438.71	328.42	0.00	0.00
175.00	(25) attachments	4659.11	2180.31	0.00	0.00
	Totals:	**36,962.47**	**39,947.10**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

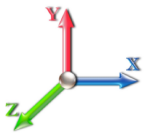
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	11.88
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	4.68
10.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	11.88
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	4.68
15.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	11.88
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	4.68
18.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	21.884	0.00	7.13
18.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	21.884	0.00	0.74
18.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	21.884	0.00	2.81
20.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	4.75
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	0.49
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	1.87
25.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	11.88
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	4.68
30.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	11.88
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	4.68
35.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	11.88
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	4.68
40.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	11.88
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	4.68
41.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.025	0.00	2.38
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.025	0.00	0.25
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.025	0.00	0.94
45.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	9.50
45.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	0.98
45.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	3.74
48.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.903	0.00	7.13
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.903	0.00	0.74
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.903	0.00	2.81
50.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	4.75
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	0.49
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	1.87
55.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	11.88
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	1.23
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	4.68
60.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	11.88
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	4.68
65.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	11.88
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	1.23

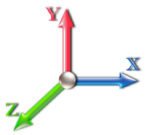
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	4.68
70.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	11.88
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	4.68
75.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	11.88
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	4.68
80.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	11.88
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	4.68
85.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	11.88
85.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	1.23
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	4.68
90.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	11.88
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	1.23
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	4.68
91.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.781	0.00	2.38
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.781	0.00	0.25
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	30.781	0.00	0.94
95.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	9.50
95.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	0.98
95.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	3.74
100.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	11.88
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	1.23
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	4.68
105.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	11.88
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	1.23
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	4.68
110.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	11.88
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	1.23
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	4.68
115.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	11.88
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	4.68
120.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	11.88
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	4.68
125.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	11.88
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	1.23
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	4.68
130.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	11.88
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	1.23
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	4.68
135.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	11.88
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	1.23
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	4.68
140.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	11.88

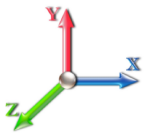
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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	

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	1.23
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	4.68
141.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	33.754	0.00	2.38
141.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	33.754	0.00	0.25
141.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	33.754	0.00	0.94
145.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	9.50
145.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	0.98
145.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	3.74
150.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	11.88
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	1.23
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	4.68
155.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	11.88
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	1.23
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	4.68
157.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.526	0.00	4.75
157.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.526	0.00	0.49
157.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.526	0.00	1.87
160.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	34.664	0.00	7.13
160.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	34.664	0.00	0.74
160.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	34.664	0.00	2.81
165.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.890	0.00	11.88
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.890	0.00	1.23
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.890	0.00	4.68
170.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.110	0.00	11.88
170.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.110	0.00	1.23
170.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.110	0.00	4.68
175.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.324	0.00	11.88
175.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.324	0.00	1.23
175.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.324	0.00	4.68
										Totals:	**0.0**	**622.6**

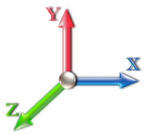
Calculated Forces

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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	

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-39.90	-37.01	0.00	-4318.0	0.00	4318.05	5803.10	2901.55	15291.3	7657.05	0.00	0.000	0.000	0.571
5.00	-38.35	-36.44	0.00	-4133.0	0.00	4133.01	5738.51	2869.25	14833.4	7427.75	0.07	-0.130	0.000	0.563
10.00	-36.82	-35.88	0.00	-3950.8	0.00	3950.81	5672.18	2836.09	14377.6	7199.49	0.28	-0.262	0.000	0.555
15.00	-35.33	-35.31	0.00	-3771.3	0.00	3771.39	5604.11	2802.06	13924.1	6972.40	0.63	-0.396	0.000	0.547
18.00	-34.45	-34.96	0.00	-3665.4	0.00	3665.46	5562.44	2781.22	13653.2	6836.76	0.90	-0.478	0.000	0.542
18.00	-34.45	-34.96	0.00	-3665.4	0.00	3665.46	4468.60	2234.30	10991.3	5503.84	0.90	-0.478	0.000	0.674
20.00	-33.91	-34.76	0.00	-3595.5	0.00	3595.53	4449.40	2224.70	10854.8	5435.51	1.11	-0.533	0.000	0.669
25.00	-32.63	-34.17	0.00	-3421.7	0.00	3421.71	4400.18	2200.09	10514.1	5264.91	1.76	-0.693	0.000	0.658
30.00	-31.37	-33.56	0.00	-3250.8	0.00	3250.85	4349.23	2174.61	10174.3	5094.75	2.57	-0.854	0.000	0.646
35.00	-30.14	-32.94	0.00	-3083.0	0.00	3083.04	4296.53	2148.27	9835.69	4925.16	3.55	-1.017	0.000	0.633
40.00	-28.97	-32.27	0.00	-2918.3	0.00	2918.34	4242.10	2121.05	9498.40	4756.26	4.71	-1.181	0.000	0.621
41.00	-28.70	-32.17	0.00	-2886.0	0.00	2886.06	4231.01	2115.50	9431.14	4722.58	4.96	-1.215	0.000	0.618
45.00	-26.97	-31.63	0.00	-2757.3	0.00	2757.37	4185.94	2092.97	9162.77	4588.20	6.03	-1.350	0.000	0.608
48.00	-25.70	-31.22	0.00	-2662.4	0.00	2662.48	4187.05	2093.52	9169.29	4591.46	6.92	-1.452	0.000	0.586
50.00	-25.21	-30.98	0.00	-2600.0	0.00	2600.05	4164.11	2082.05	9035.54	4524.49	7.54	-1.520	0.000	0.581
55.00	-24.06	-30.31	0.00	-2445.1	0.00	2445.18	4105.54	2052.77	8702.63	4357.78	9.22	-1.683	0.000	0.567
60.00	-22.95	-29.64	0.00	-2293.6	0.00	2293.63	4045.24	2022.62	8371.99	4192.22	11.07	-1.846	0.000	0.553
65.00	-21.86	-28.98	0.00	-2145.4	0.00	2145.41	3983.21	1991.60	8043.90	4027.93	13.09	-2.011	0.000	0.538
70.00	-20.79	-28.31	0.00	-2000.5	0.00	2000.54	3919.43	1959.72	7718.60	3865.04	15.29	-2.176	0.000	0.523
75.00	-19.75	-27.59	0.00	-1858.9	0.00	1858.99	3853.92	1926.96	7396.37	3703.68	17.65	-2.342	0.000	0.507
80.00	-18.74	-26.94	0.00	-1721.0	0.00	1721.01	3786.67	1893.34	7077.46	3543.99	20.20	-2.508	0.000	0.491
85.00	-17.75	-26.28	0.00	-1586.3	0.00	1586.34	3717.69	1858.85	6762.13	3386.09	22.91	-2.674	0.000	0.473
90.00	-16.15	-25.57	0.00	-1454.9	0.00	1454.94	3646.97	1823.48	6450.65	3230.12	25.80	-2.840	0.000	0.455
91.00	-15.80	-25.44	0.00	-1429.3	0.00	1429.37	2873.92	1436.96	5143.64	2575.64	26.40	-2.874	0.000	0.561
95.00	-15.14	-24.93	0.00	-1327.6	0.00	1327.60	2834.39	1417.20	4959.20	2483.29	28.86	-3.007	0.000	0.540
100.00	-14.33	-24.30	0.00	-1202.9	0.00	1202.93	2783.42	1391.71	4730.46	2368.74	32.11	-3.193	0.000	0.513
105.00	-13.55	-23.67	0.00	-1081.4	0.00	1081.44	2730.70	1365.35	4503.96	2255.33	35.55	-3.376	0.000	0.485
110.00	-12.80	-23.05	0.00	-963.10	0.00	963.10	2676.25	1338.13	4279.98	2143.17	39.19	-3.556	0.000	0.454
115.00	-12.06	-22.44	0.00	-847.86	0.00	847.86	2620.07	1310.03	4058.76	2032.40	43.00	-3.730	0.000	0.422
120.00	-11.36	-21.83	0.00	-735.68	0.00	735.68	2562.14	1281.07	3840.57	1923.14	47.00	-3.898	0.000	0.387
125.00	-10.67	-21.24	0.00	-626.52	0.00	626.52	2502.48	1251.24	3625.68	1815.54	51.16	-4.056	0.000	0.350
130.00	-10.01	-20.66	0.00	-520.32	0.00	520.32	2441.09	1220.54	3414.34	1709.71	55.49	-4.204	0.000	0.309
135.00	-8.97	-20.05	0.00	-417.03	0.00	417.03	1793.55	896.77	2465.05	1234.36	59.96	-4.339	0.000	0.343
140.00	-8.46	-19.48	0.00	-316.80	0.00	316.80	1751.71	875.86	2319.73	1161.59	64.57	-4.456	0.000	0.278
141.00	-5.61	-13.11	0.00	-297.33	0.00	297.33	1743.14	871.57	2290.90	1147.15	65.51	-4.482	0.000	0.263
145.00	-5.22	-12.67	0.00	-244.91	0.00	244.91	1708.14	854.07	2176.40	1089.82	69.30	-4.576	0.000	0.228
150.00	-4.79	-12.13	0.00	-181.58	0.00	181.58	1662.84	831.42	2035.30	1019.16	74.14	-4.678	0.000	0.181
155.00	-4.40	-11.61	0.00	-120.92	0.00	120.92	1615.80	807.90	1896.71	949.77	79.08	-4.759	0.000	0.130
157.00	-2.57	-6.07	0.00	-97.69	0.00	97.69	1596.49	798.25	1842.04	922.39	81.08	-4.785	0.000	0.108
160.00	-2.37	-5.77	0.00	-79.48	0.00	79.48	1567.02	783.51	1760.89	881.75	84.10	-4.819	0.000	0.092
165.00	-2.07	-5.29	0.00	-50.60	0.00	50.60	1516.50	758.25	1628.10	815.26	89.16	-4.864	0.000	0.063
170.00	-1.77	-4.83	0.00	-24.14	0.00	24.14	1464.25	732.13	1498.59	750.41	94.27	-4.894	0.000	0.033
170.00	-1.77	-4.83	0.00	-24.14	0.00	24.14	1464.25	732.13	1498.59	750.41	94.27	-4.894	0.000	0.033
175.00	0.00	-4.66	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	99.40	-4.905	0.000	0.000

Wind Loading - Shaft

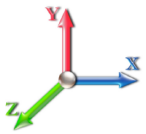
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

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 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	28.069	33.68	191.5	502.1	2301.1
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	27.631	33.16	188.5	528.8	2293.5
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	27.164	32.60	185.3	540.6	2271.0
18.00	Top - Section 1	1.00	0.88	5.363	5.90	0.00	1.200	1.412	3.00	16.065	19.28	113.7	326.6	1348.4
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	2.00	10.613	12.74	76.8	218.4	797.0
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	26.200	31.44	198.8	547.5	1973.3
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	25.710	30.85	202.7	546.5	1943.0
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	25.217	30.26	205.3	543.8	1910.8
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	24.722	29.67	207.1	539.7	1877.3
41.00	Bot - Section 3	1.00	1.05	6.378	7.02	0.00	1.200	1.533	1.00	4.884	5.86	41.1	107.7	371.7
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	4.00	19.593	23.51	168.2	433.4	2536.4
48.00	Top - Section 2	1.00	1.08	6.593	7.25	0.00	1.200	1.557	3.00	14.484	17.38	126.1	323.0	1875.5
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.00	9.556	11.47	83.9	214.3	729.6
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	5.00	23.544	28.25	210.9	529.1	1796.7
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	23.043	27.65	210.2	521.8	1759.9
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	22.542	27.05	209.1	513.9	1722.7
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	22.039	26.45	207.7	505.6	1684.9
75.00	Appurtenance(s)	1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	21.536	25.84	205.9	496.9	1646.7
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	21.033	25.24	203.8	487.8	1608.2
85.00	Bot - Section 4	1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	20.529	24.63	201.5	478.3	1569.4
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	20.289	24.35	201.6	475.1	2435.3
91.00	Top - Section 3	1.00	1.24	7.544	8.30	0.00	1.200	1.660	1.00	3.997	4.80	39.8	94.6	480.2
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	4.00	15.786	18.94	158.6	372.1	1069.4
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	5.00	19.279	23.13	195.8	454.9	1304.4
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	18.774	22.53	192.7	444.4	1269.4
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	18.268	21.92	189.3	433.7	1234.2
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	17.762	21.31	185.8	422.8	1198.8
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	17.256	20.71	182.1	411.8	1163.2
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	16.749	20.10	178.3	400.5	1127.5
130.00	Bot - Section 5	1.00	1.34	8.132	8.95	0.00	1.200	1.720	5.00	16.243	19.49	174.4	389.1	1091.6
135.00	Top - Section 4	1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	15.947	19.14	172.5	383.0	1612.4
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	5.00	15.440	18.53	168.3	371.3	903.1
141.00	Appurtenance(s)	1.00	1.36	8.272	9.10	0.00	1.200	1.734	1.00	3.027	3.63	33.1	73.8	177.8
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	4.00	11.906	14.29	130.8	287.6	695.8
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	5.00	14.426	17.31	159.6	347.5	840.1
155.00		1.00	1.39	8.439	9.28	0.00	1.200	1.751	5.00	13.918	16.70	155.0	335.4	808.4
157.00	Appurtenance(s)	1.00	1.39	8.462	9.31	0.00	1.200	1.753	2.00	5.425	6.51	60.6	132.2	315.9
160.00		1.00	1.40	8.495	9.34	0.00	1.200	1.757	3.00	7.985	9.58	89.5	193.9	463.6
165.00		1.00	1.41	8.551	9.41	0.00	1.200	1.762	5.00	12.903	15.48	145.6	310.9	744.7
170.00	Top - Section 5	1.00	1.42	8.604	9.46	0.00	1.200	1.767	5.00	12.395	14.87	140.8	298.5	712.6
175.00	Appurtenance(s)	1.00	1.42	8.657	9.52	0.00	1.200	1.772	5.00	11.887	14.26	135.8	285.9	680.5
								Totals:	**175.00**			**6,528.1**		**54,346.0**

Discrete Appurtenance Forces

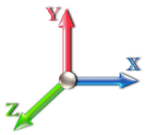
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

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 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	ALU 1900MHz RRU	3	8.657	9.523	0.60	0.90	9.43	397.38	0.000	0.000	89.78	0.00	0.00
2	175.00	APXVTM14-C-120	3	8.657	9.523	0.72	0.90	20.17	811.79	0.000	0.000	192.04	0.00	0.00
3	175.00	APXVSPP18-C-A20	3	8.657	9.523	0.76	0.90	24.62	583.31	0.000	0.000	234.49	0.00	0.00
4	175.00	ALU 800 MHz RRU	3	8.657	9.523	0.60	0.90	6.61	352.83	0.000	0.000	62.90	0.00	0.00
5	175.00	T-Arm w/ work Platform	3	8.657	9.523	0.56	0.75	31.83	2050.72	0.000	0.000	303.10	0.00	0.00
6	175.00	TD-RRH8x20-25	3	8.657	9.523	0.60	0.90	8.82	589.63	0.000	0.000	84.01	0.00	0.00
7	175.00	800 MHz Filter	3	8.657	9.523	0.60	0.90	1.88	112.16	0.000	0.000	17.88	0.00	0.00
8	175.00	ACU-A20-N	4	8.657	9.523	0.61	0.90	1.08	17.05	0.000	0.000	10.29	0.00	0.00
9	157.00	Allgon 7184	6	8.462	9.308	0.56	0.80	15.36	289.72	0.000	0.000	142.95	0.00	0.00
10	157.00	Ericsson RRUS-11	3	8.462	9.308	0.54	0.80	5.18	425.88	0.000	0.000	48.26	0.00	0.00
11	157.00	Raycap DC6-48-60-18-8F	1	8.462	9.308	1.00	1.00	2.17	86.72	0.000	0.000	20.23	0.00	0.00
12	157.00	Powerwave LGP 21401	6	8.462	9.308	0.40	0.80	5.11	209.61	0.000	0.000	47.57	0.00	0.00
13	157.00	Ericsson RRUS 4449	3	8.462	9.308	0.54	0.80	4.05	393.41	0.000	0.000	37.71	0.00	0.00
14	157.00	Ericsson RRUS 8843	3	8.462	9.308	0.54	0.80	3.44	364.38	0.000	0.000	32.02	0.00	0.00
15	157.00	DMP65R-BU6DA	3	8.462	9.308	0.54	0.80	22.80	971.61	0.000	0.000	212.24	0.00	0.00
16	157.00	HPA-65R-BUU-H6	3	8.462	9.308	0.69	0.80	22.77	931.87	0.000	0.000	211.95	0.00	0.00
17	157.00	T-Arm w/ Platform	3	8.462	9.308	0.56	0.75	38.00	2041.53	0.000	0.000	353.70	0.00	0.00
18	157.00	Powerwave 7020 RET	6	8.462	9.308	0.40	0.80	2.13	60.09	0.000	0.000	19.80	0.00	0.00
19	141.00	AIR6449 B41	3	8.272	9.099	0.53	0.75	10.54	684.52	0.000	0.000	95.86	0.00	0.00
20	141.00	Support rail / End	1	8.272	9.099	0.75	0.75	23.72	1441.72	0.000	0.000	215.86	0.00	0.00
21	141.00	Low Profile Platform	1	8.272	9.099	1.00	1.00	45.81	2180.67	0.000	0.000	416.88	0.00	0.00
22	141.00	APXVAALL24-43-U-NA20	3	8.272	9.099	0.52	0.75	34.85	1743.33	0.000	0.000	317.13	0.00	0.00
23	141.00	KRY 112 144	3	8.272	9.099	0.50	0.75	1.33	62.44	0.000	0.000	12.10	0.00	0.00
24	141.00	SDX1926Q-43	3	8.272	9.099	0.50	0.75	0.88	138.61	0.000	0.000	8.01	0.00	0.00
25	141.00	AIR32	3	8.272	9.099	0.65	0.75	15.04	1025.01	0.000	0.000	136.84	0.00	0.00
26	141.00	4449 B71 + B85	3	8.272	9.099	0.50	0.75	3.82	260.48	0.000	0.000	34.78	0.00	0.00
27	141.00	RRUS 4415 B25	3	8.272	9.099	0.50	0.75	3.24	259.95	0.000	0.000	29.52	0.00	0.00
28	141.00	(3) SFS-H (V-Braces)	1	8.272	9.099	0.75	0.75	9.64	422.75	0.000	0.000	87.74	0.00	0.00
29	75.00	GPS	1	7.243	7.967	1.00	1.00	1.66	31.36	0.000	0.000	13.26	0.00	0.00
							Totals:		**18,940.53**			**3,488.90**		

Total Applied Force Summary

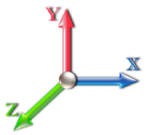
Structure:	CT03110-S-SBA		**Code:**	EIA/TIA-222-G	2/5/2021
Site Name:	North Branford		**Exposure:**	C	
Height:	175.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 24

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 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		191.48	2534.10	0.00	0.00
10.00		188.49	2533.15	0.00	0.00
15.00		185.31	2514.95	0.00	0.00
18.00		113.73	1495.95	0.00	0.00
20.00		76.82	895.82	0.00	0.00
25.00		198.76	2223.10	0.00	0.00
30.00		202.68	2194.93	0.00	0.00
35.00		205.35	2164.68	0.00	0.00
40.00		207.06	2132.86	0.00	0.00
41.00		41.11	422.91	0.00	0.00
45.00		168.22	2742.06	0.00	0.00
48.00		126.06	2030.25	0.00	0.00
50.00		83.88	832.99	0.00	0.00
55.00		210.86	2056.46	0.00	0.00
60.00		210.19	2020.90	0.00	0.00
65.00		209.11	1984.73	0.00	0.00
70.00		207.67	1948.02	0.00	0.00
75.00	(1) attachments	219.16	1942.20	0.00	0.00
80.00		203.83	1872.28	0.00	0.00
85.00		201.51	1834.29	0.00	0.00
90.00		201.56	2701.06	0.00	0.00
91.00		39.80	533.38	0.00	0.00
95.00		158.63	1282.64	0.00	0.00
100.00		195.82	1571.76	0.00	0.00
105.00		192.66	1537.51	0.00	0.00
110.00		189.32	1503.02	0.00	0.00
115.00		185.80	1468.30	0.00	0.00
120.00		182.13	1433.37	0.00	0.00
125.00		178.31	1398.24	0.00	0.00
130.00		174.35	1362.93	0.00	0.00
135.00		172.55	1884.32	0.00	0.00
140.00		168.35	1175.65	0.00	0.00
141.00	(24) attachments	1387.78	8451.81	0.00	0.00
145.00		130.77	914.25	0.00	0.00
150.00		159.59	1064.20	0.00	0.00
155.00		155.04	1000.01	0.00	0.00
157.00	(37) attachments	1187.01	6167.48	0.00	0.00
160.00		89.54	543.81	0.00	0.00
165.00		145.63	878.85	0.00	0.00
170.00		140.78	847.30	0.00	0.00
175.00	(25) attachments	1130.33	5730.50	0.00	0.00
	Totals:	**10,017.03**	**81,827.00**	**0.00**	**0.00**

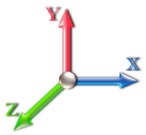
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	59.22
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	12.93
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	18.85
10.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	62.77
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	14.46
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	20.46
15.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	65.01
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	15.46
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	21.51
18.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	5.363	0.00	39.64
18.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	5.363	0.00	9.56
18.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	5.363	0.00	13.21
20.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	26.67
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	6.48
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	8.92
25.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	68.03
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	16.83
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	22.95
30.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	69.16
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	17.35
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	23.50
35.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	70.14
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	17.80
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	23.98
40.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	71.00
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	18.21
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	24.40
41.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.378	0.00	14.23
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.378	0.00	3.66
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.378	0.00	4.90
45.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	57.42
45.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	14.86
45.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	19.83
48.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	6.593	0.00	43.33
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	6.593	0.00	11.27
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	6.593	0.00	15.00
50.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	28.99
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	7.56
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	10.06
55.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	73.14
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	19.22
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	25.46
60.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	73.73
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	19.51
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	25.76
65.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	74.29
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	19.78

Linear Appurtenance Segment Forces (Factored)

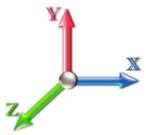
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

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 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	26.04
70.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	74.82
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	20.03
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	26.31
75.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	75.31
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	20.27
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	26.56
80.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	75.77
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	20.49
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	26.79
85.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	76.21
85.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	20.71
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	27.02
90.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	76.63
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	20.91
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	27.23
91.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.544	0.00	15.34
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.544	0.00	4.19
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.544	0.00	5.45
95.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	61.63
95.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	16.89
95.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	21.95
100.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	77.41
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	21.30
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	27.63
105.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	77.78
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	21.48
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	27.82
110.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.851	0.00	78.13
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.851	0.00	21.65
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.851	0.00	28.00
115.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.925	0.00	78.47
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.925	0.00	21.82
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.925	0.00	28.18
120.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.996	0.00	78.79
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.996	0.00	21.98
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.996	0.00	28.34
125.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.065	0.00	79.11
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.065	0.00	22.14
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.065	0.00	28.51
130.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.132	0.00	79.41
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.132	0.00	22.29
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.132	0.00	28.67
135.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.197	0.00	79.71
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.197	0.00	22.43
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.197	0.00	28.82
140.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	79.99

Linear Appurtenance Segment Forces (Factored)

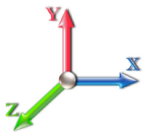
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	22.57
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	28.97
141.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.272	0.00	16.01
141.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.272	0.00	4.52
141.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.272	0.00	5.80
145.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.321	0.00	64.21
145.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.321	0.00	18.17
145.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.321	0.00	23.29
150.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.381	0.00	80.53
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.381	0.00	22.85
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.381	0.00	29.25
155.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.439	0.00	80.80
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.439	0.00	22.98
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.439	0.00	29.39
157.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.462	0.00	32.36
157.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.462	0.00	9.21
157.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.462	0.00	11.78
160.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.495	0.00	48.63
160.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.495	0.00	13.86
160.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.495	0.00	17.71
165.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.551	0.00	81.30
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.551	0.00	23.23
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.551	0.00	29.65
170.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.604	0.00	81.54
170.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.604	0.00	23.35
170.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.604	0.00	29.78
175.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.657	0.00	81.77
175.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.657	0.00	23.47
175.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.657	0.00	29.90
									Totals:		**0.0**	**4,263.8**

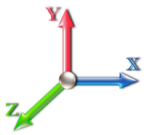
Calculated Forces

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-81.82	-10.04	0.00	-1167.9	0.00	1167.95	5803.10	2901.55	15291.3	7657.05	0.00	0.000	0.000	0.167
5.00	-79.28	-9.90	0.00	-1117.7	0.00	1117.74	5738.51	2869.25	14833.4	7427.75	0.02	-0.035	0.000	0.164
10.00	-76.74	-9.76	0.00	-1068.2	0.00	1068.24	5672.18	2836.09	14377.6	7199.49	0.08	-0.071	0.000	0.162
15.00	-74.23	-9.61	0.00	-1019.4	0.00	1019.46	5604.11	2802.06	13924.1	6972.40	0.17	-0.107	0.000	0.159
18.00	-72.73	-9.51	0.00	-990.65	0.00	990.65	5562.44	2781.22	13653.2	6836.76	0.24	-0.129	0.000	0.158
18.00	-72.73	-9.51	0.00	-990.65	0.00	990.65	4468.60	2234.30	10991.3	5503.84	0.24	-0.129	0.000	0.196
20.00	-71.83	-9.47	0.00	-971.62	0.00	971.62	4449.40	2224.70	10854.8	5435.51	0.30	-0.144	0.000	0.195
25.00	-69.60	-9.32	0.00	-924.28	0.00	924.28	4400.18	2200.09	10514.1	5264.91	0.48	-0.187	0.000	0.191
30.00	-67.40	-9.16	0.00	-877.69	0.00	877.69	4349.23	2174.61	10174.3	5094.75	0.69	-0.231	0.000	0.188
35.00	-65.22	-8.99	0.00	-831.91	0.00	831.91	4296.53	2148.27	9835.69	4925.16	0.96	-0.275	0.000	0.184
40.00	-63.09	-8.80	0.00	-786.94	0.00	786.94	4242.10	2121.05	9498.40	4756.26	1.27	-0.319	0.000	0.180
41.00	-62.66	-8.79	0.00	-778.14	0.00	778.14	4231.01	2115.50	9431.14	4722.58	1.34	-0.328	0.000	0.180
45.00	-59.92	-8.63	0.00	-743.00	0.00	743.00	4185.94	2092.97	9162.77	4588.20	1.63	-0.364	0.000	0.176
48.00	-57.88	-8.52	0.00	-717.10	0.00	717.10	4187.05	2093.52	9169.29	4591.46	1.87	-0.392	0.000	0.170
50.00	-57.05	-8.46	0.00	-700.06	0.00	700.06	4164.11	2082.05	9035.54	4524.49	2.04	-0.411	0.000	0.168
55.00	-54.99	-8.27	0.00	-657.77	0.00	657.77	4105.54	2052.77	8702.63	4357.78	2.49	-0.454	0.000	0.164
60.00	-52.96	-8.09	0.00	-616.40	0.00	616.40	4045.24	2022.62	8371.99	4192.22	2.99	-0.498	0.000	0.160
65.00	-50.97	-7.90	0.00	-575.96	0.00	575.96	3983.21	1991.60	8043.90	4027.93	3.54	-0.542	0.000	0.156
70.00	-49.02	-7.71	0.00	-536.45	0.00	536.45	3919.43	1959.72	7718.60	3865.04	4.13	-0.587	0.000	0.151
75.00	-47.07	-7.51	0.00	-497.89	0.00	497.89	3853.92	1926.96	7396.37	3703.68	4.77	-0.631	0.000	0.147
80.00	-45.20	-7.32	0.00	-460.35	0.00	460.35	3786.67	1893.34	7077.46	3543.99	5.45	-0.676	0.000	0.142
85.00	-43.36	-7.13	0.00	-423.76	0.00	423.76	3717.69	1858.85	6762.13	3386.09	6.18	-0.720	0.000	0.137
90.00	-40.66	-6.91	0.00	-388.12	0.00	388.12	3646.97	1823.48	6450.65	3230.12	6.96	-0.764	0.000	0.131
91.00	-40.12	-6.88	0.00	-381.21	0.00	381.21	2873.92	1436.96	5143.64	2575.64	7.12	-0.773	0.000	0.162
95.00	-38.84	-6.73	0.00	-353.69	0.00	353.69	2834.39	1417.20	4959.20	2483.29	7.79	-0.809	0.000	0.156
100.00	-37.27	-6.55	0.00	-320.04	0.00	320.04	2783.42	1391.71	4730.46	2368.74	8.66	-0.858	0.000	0.149
105.00	-35.73	-6.36	0.00	-287.31	0.00	287.31	2730.70	1365.35	4503.96	2255.33	9.58	-0.907	0.000	0.140
110.00	-34.22	-6.17	0.00	-255.52	0.00	255.52	2676.25	1338.13	4279.98	2143.17	10.56	-0.955	0.000	0.132
115.00	-32.75	-5.99	0.00	-224.65	0.00	224.65	2620.07	1310.03	4058.76	2032.40	11.59	-1.001	0.000	0.123
120.00	-31.32	-5.80	0.00	-194.71	0.00	194.71	2562.14	1281.07	3840.57	1923.14	12.66	-1.045	0.000	0.113
125.00	-29.92	-5.62	0.00	-165.69	0.00	165.69	2502.48	1251.24	3625.68	1815.54	13.78	-1.087	0.000	0.103
130.00	-28.56	-5.44	0.00	-137.59	0.00	137.59	2441.09	1220.54	3414.34	1709.71	14.94	-1.126	0.000	0.092
135.00	-26.67	-5.24	0.00	-110.39	0.00	110.39	1793.55	896.77	2465.05	1234.36	16.14	-1.162	0.000	0.104
140.00	-25.50	-5.06	0.00	-84.17	0.00	84.17	1751.71	875.86	2319.73	1161.59	17.37	-1.193	0.000	0.087
141.00	-17.08	-3.50	0.00	-79.11	0.00	79.11	1743.14	871.57	2290.90	1147.15	17.62	-1.200	0.000	0.079
145.00	-16.16	-3.36	0.00	-65.11	0.00	65.11	1708.14	854.07	2176.40	1089.82	18.64	-1.225	0.000	0.069
150.00	-15.10	-3.18	0.00	-48.32	0.00	48.32	1662.84	831.42	2035.30	1019.16	19.94	-1.252	0.000	0.057
155.00	-14.10	-3.01	0.00	-32.41	0.00	32.41	1615.80	807.90	1896.71	949.77	21.26	-1.274	0.000	0.043
157.00	-7.96	-1.69	0.00	-26.39	0.00	26.39	1596.49	798.25	1842.04	922.39	21.79	-1.281	0.000	0.034
160.00	-7.42	-1.59	0.00	-21.33	0.00	21.33	1567.02	783.51	1760.89	881.75	22.60	-1.290	0.000	0.029
165.00	-6.55	-1.42	0.00	-13.41	0.00	13.41	1516.50	758.25	1628.10	815.26	23.96	-1.302	0.000	0.021
170.00	-5.70	-1.26	0.00	-6.31	0.00	6.31	1464.25	732.13	1498.59	750.41	25.33	-1.310	0.000	0.012
170.00	-5.70	-1.26	0.00	-6.31	0.00	6.31	1464.25	732.13	1498.59	750.41	25.33	-1.310	0.000	0.012
175.00	0.00	-1.13	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	26.70	-1.313	0.000	0.000

Wind Loading - Shaft

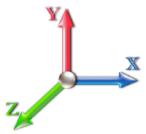
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	301.92	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	296.25	0.650	0.000	5.00	27.033	17.57	143.8	0.0	1499.2
10.00		1.00	0.85	7.442	8.19	290.58	0.650	0.000	5.00	26.521	17.24	141.1	0.0	1470.6
15.00		1.00	0.85	7.442	8.19	284.92	0.650	0.000	5.00	26.009	16.91	138.4	0.0	1442.0
18.00	Top - Section 1	1.00	0.88	7.723	8.50	286.78	0.650	0.000	3.00	15.360	9.98	84.8	0.0	851.5
20.00		1.00	0.90	7.896	8.69	287.64	0.650	0.000	2.00	10.137	6.59	57.2	0.0	482.1
25.00		1.00	0.95	8.276	9.10	288.50	0.650	0.000	5.00	24.984	16.24	147.8	0.0	1188.2
30.00		1.00	0.98	8.600	9.46	288.00	0.650	0.000	5.00	24.472	15.91	150.5	0.0	1163.7
35.00		1.00	1.01	8.883	9.77	286.52	0.650	0.000	5.00	23.960	15.57	152.2	0.0	1139.2
40.00		1.00	1.04	9.137	10.05	284.30	0.650	0.000	5.00	23.448	15.24	153.2	0.0	1114.7
41.00	Bot - Section 3	1.00	1.05	9.184	10.10	283.78	0.650	0.000	1.00	4.628	3.01	30.4	0.0	220.0
45.00		1.00	1.07	9.366	10.30	281.49	0.650	0.000	4.00	18.561	12.06	124.3	0.0	1752.5
48.00	Top - Section 2	1.00	1.08	9.494	10.44	279.57	0.650	0.000	3.00	13.706	8.91	93.0	0.0	1293.7
50.00		1.00	1.09	9.576	10.53	282.18	0.650	0.000	2.00	9.035	5.87	61.9	0.0	429.4
55.00		1.00	1.12	9.770	10.75	278.53	0.650	0.000	5.00	22.228	14.45	155.3	0.0	1056.3
60.00		1.00	1.14	9.951	10.95	274.54	0.650	0.000	5.00	21.716	14.12	154.5	0.0	1031.8
65.00		1.00	1.16	10.120	11.13	270.26	0.650	0.000	5.00	21.204	13.78	153.4	0.0	1007.3
70.00		1.00	1.17	10.279	11.31	265.71	0.650	0.000	5.00	20.692	13.45	152.1	0.0	982.7
75.00	Appurtenance(s)	1.00	1.19	10.430	11.47	260.94	0.650	0.000	5.00	20.179	13.12	150.5	0.0	958.2
80.00		1.00	1.21	10.572	11.63	255.96	0.650	0.000	5.00	19.667	12.78	148.7	0.0	933.7
85.00	Bot - Section 4	1.00	1.22	10.708	11.78	250.80	0.650	0.000	5.00	19.155	12.45	146.7	0.0	909.2
90.00		1.00	1.24	10.838	11.92	245.48	0.650	0.000	5.00	18.907	12.29	146.5	0.0	1633.5
91.00	Top - Section 3	1.00	1.24	10.863	11.95	244.40	0.650	0.000	1.00	3.720	2.42	28.9	0.0	321.3
95.00		1.00	1.25	10.962	12.06	243.55	0.650	0.000	4.00	14.675	9.54	115.0	0.0	581.1
100.00		1.00	1.27	11.081	12.19	237.96	0.650	0.000	5.00	17.883	11.62	141.7	0.0	708.0
105.00		1.00	1.28	11.195	12.31	232.23	0.650	0.000	5.00	17.370	11.29	139.0	0.0	687.5
110.00		1.00	1.29	11.305	12.44	226.39	0.650	0.000	5.00	16.858	10.96	136.3	0.0	667.1
115.00		1.00	1.30	11.412	12.55	220.43	0.650	0.000	5.00	16.346	10.62	133.4	0.0	646.7
120.00		1.00	1.32	11.514	12.67	214.37	0.650	0.000	5.00	15.834	10.29	130.4	0.0	626.2
125.00		1.00	1.33	11.614	12.78	208.21	0.650	0.000	5.00	15.321	9.96	127.2	0.0	605.8
130.00	Bot - Section 5	1.00	1.34	11.710	12.88	201.97	0.650	0.000	5.00	14.809	9.63	124.0	0.0	585.4
135.00	Top - Section 4	1.00	1.35	11.803	12.98	195.63	0.650	0.000	5.00	14.508	9.43	122.4	0.0	1024.5
140.00		1.00	1.36	11.894	13.08	192.18	0.650	0.000	5.00	13.996	9.10	119.0	0.0	443.2
141.00	Appurtenance(s)	1.00	1.36	11.912	13.10	190.89	0.650	0.000	1.00	2.738	1.78	23.3	0.0	86.7
145.00		1.00	1.37	11.982	13.18	185.70	0.650	0.000	4.00	10.746	6.98	92.1	0.0	340.2
150.00		1.00	1.38	12.068	13.27	179.14	0.650	0.000	5.00	12.972	8.43	111.9	0.0	410.5
155.00		1.00	1.39	12.152	13.37	172.52	0.650	0.000	5.00	12.459	8.10	108.3	0.0	394.2
157.00	Appurtenance(s)	1.00	1.39	12.185	13.40	169.85	0.650	0.000	2.00	4.840	3.15	42.2	0.0	153.1
160.00		1.00	1.40	12.233	13.46	165.83	0.650	0.000	3.00	7.107	4.62	62.2	0.0	224.7
165.00		1.00	1.41	12.313	13.54	159.08	0.650	0.000	5.00	11.435	7.43	100.7	0.0	361.5
170.00	Top - Section 5	1.00	1.42	12.390	13.63	152.27	0.650	0.000	5.00	10.923	7.10	96.8	0.0	345.1
175.00	Appurtenance(s)	1.00	1.42	12.466	13.71	145.40	0.650	0.000	5.00	10.410	6.77	92.8	0.0	328.8
								Totals:	**175.00**			**4,733.7**		**32,101.0**

Discrete Appurtenance Forces

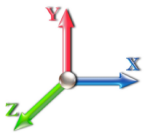
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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	175.00	ALU 1900MHz RRU	3	12.466	13.713	0.60	0.90	6.87	132.00	0.000	0.000	94.26	0.00	0.00
2	175.00	APXVTM14-C-120	3	12.466	13.713	0.71	0.90	13.52	168.00	0.000	0.000	185.44	0.00	0.00
3	175.00	APXVSPP18-C-A20	3	12.466	13.713	0.75	0.90	17.97	171.00	0.000	0.000	246.46	0.00	0.00
4	175.00	ALU 800 MHz RRU	3	12.466	13.713	0.60	0.90	4.50	159.00	0.000	0.000	61.77	0.00	0.00
5	175.00	T-Arm w/ work Platform	3	12.466	13.713	0.56	0.75	16.88	1200.00	0.000	0.000	231.40	0.00	0.00
6	175.00	TD-RRH8x20-25	3	12.466	13.713	0.60	0.90	7.33	210.00	0.000	0.000	100.47	0.00	0.00
7	175.00	800 MHz Filter	3	12.466	13.713	0.60	0.90	0.76	30.00	0.000	0.000	10.42	0.00	0.00
8	175.00	ACU-A20-N	4	12.466	13.713	0.60	0.90	0.34	4.00	0.000	0.000	4.63	0.00	0.00
9	157.00	Allgon 7184	6	12.185	13.403	0.55	0.80	9.44	58.20	0.000	0.000	126.51	0.00	0.00
10	157.00	Ericsson RRUS-11	3	12.185	13.403	0.54	0.80	4.05	150.00	0.000	0.000	54.31	0.00	0.00
11	157.00	Raycap DC6-48-60-18-8F	1	12.185	13.403	1.00	1.00	1.47	32.80	0.000	0.000	19.70	0.00	0.00
12	157.00	Powerwave LGP 21401	6	12.185	13.403	0.40	0.80	3.10	84.60	0.000	0.000	41.50	0.00	0.00
13	157.00	Ericsson RRUS 4449	3	12.185	13.403	0.54	0.80	3.17	219.00	0.000	0.000	42.46	0.00	0.00
14	157.00	Ericsson RRUS 8843	3	12.185	13.403	0.54	0.80	2.64	216.00	0.000	0.000	35.35	0.00	0.00
15	157.00	DMP65R-BU6DA	3	12.185	13.403	0.54	0.80	20.44	238.20	0.000	0.000	273.93	0.00	0.00
16	157.00	HPA-65R-BUU-H6	3	12.185	13.403	0.68	0.80	19.71	153.00	0.000	0.000	264.13	0.00	0.00
17	157.00	T-Arm w/ Platform	3	12.185	13.403	0.56	0.75	20.25	1200.00	0.000	0.000	271.41	0.00	0.00
18	157.00	Powerwave 7020 RET	6	12.185	13.403	0.40	0.80	0.96	13.20	0.000	0.000	12.87	0.00	0.00
19	141.00	AIR6449 B41	3	11.912	13.103	0.53	0.75	9.03	309.00	0.000	0.000	118.27	0.00	0.00
20	141.00	Support rail / End	1	11.912	13.103	0.75	0.75	11.63	650.00	0.000	0.000	152.32	0.00	0.00
21	141.00	Low Profile Platform	1	11.912	13.103	1.00	1.00	25.00	1200.00	0.000	0.000	327.58	0.00	0.00
22	141.00	APXVAALL24-43-U-NA20	3	11.912	13.103	0.52	0.75	31.88	384.00	0.000	0.000	417.70	0.00	0.00
23	141.00	KRY 112 144	3	11.912	13.103	0.50	0.75	0.62	33.00	0.000	0.000	8.10	0.00	0.00
24	141.00	SDX1926Q-43	3	11.912	13.103	0.50	0.75	0.48	52.80	0.000	0.000	6.32	0.00	0.00
25	141.00	AIR32	3	11.912	13.103	0.65	0.75	12.74	396.60	0.000	0.000	166.98	0.00	0.00
26	141.00	4449 B71 + B85	3	11.912	13.103	0.50	0.75	2.97	219.60	0.000	0.000	38.91	0.00	0.00
27	141.00	RRUS 4415 B25	3	11.912	13.103	0.50	0.75	2.47	138.00	0.000	0.000	32.39	0.00	0.00
28	141.00	(3) SFS-H (V-Braces)	1	11.912	13.103	0.75	0.75	4.72	197.00	0.000	0.000	61.91	0.00	0.00
29	75.00	GPS	1	10.430	11.473	1.00	1.00	1.00	10.00	0.000	0.000	11.47	0.00	0.00
							Totals:		**8,029.00**			**3,418.98**		

Total Applied Force Summary

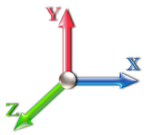
Structure:	CT03110-S-SBA		**Code:**	EIA/TIA-222-G	2/5/2021
Site Name:	North Branford		**Exposure:**	C	
Height:	175.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 31

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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		143.84	1637.24	0.00	0.00
10.00		141.12	1608.64	0.00	0.00
15.00		138.39	1580.04	0.00	0.00
18.00		84.81	934.29	0.00	0.00
20.00		57.23	537.37	0.00	0.00
25.00		147.84	1326.27	0.00	0.00
30.00		150.48	1301.76	0.00	0.00
35.00		152.19	1277.24	0.00	0.00
40.00		153.18	1252.72	0.00	0.00
41.00		30.39	247.60	0.00	0.00
45.00		124.30	1862.90	0.00	0.00
48.00		93.04	1376.58	0.00	0.00
50.00		61.86	484.61	0.00	0.00
55.00		155.28	1194.36	0.00	0.00
60.00		154.51	1169.84	0.00	0.00
65.00		153.43	1145.32	0.00	0.00
70.00		152.07	1120.81	0.00	0.00
75.00	(1) attachments	161.95	1106.29	0.00	0.00
80.00		148.67	1070.97	0.00	0.00
85.00		146.65	1046.46	0.00	0.00
90.00		146.51	1770.77	0.00	0.00
91.00		28.89	348.76	0.00	0.00
95.00		115.02	690.90	0.00	0.00
100.00		141.68	845.23	0.00	0.00
105.00		139.04	824.80	0.00	0.00
110.00		136.27	804.37	0.00	0.00
115.00		133.37	783.94	0.00	0.00
120.00		130.35	763.51	0.00	0.00
125.00		127.23	743.08	0.00	0.00
130.00		123.99	722.65	0.00	0.00
135.00		122.44	1161.77	0.00	0.00
140.00		119.03	580.48	0.00	0.00
141.00	(24) attachments	1353.81	3694.13	0.00	0.00
145.00		92.07	450.00	0.00	0.00
150.00		111.93	506.51	0.00	0.00
155.00		108.25	462.64	0.00	0.00
157.00	(37) attachments	1184.33	2545.48	0.00	0.00
160.00		62.16	236.60	0.00	0.00
165.00		100.67	381.25	0.00	0.00
170.00		96.76	364.91	0.00	0.00
175.00	(25) attachments	1027.64	2422.56	0.00	0.00
	Totals:	**8,152.69**	**44,385.67**	**0.00**	**0.00**

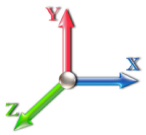
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	13.20
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.20
10.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	13.20
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.20
15.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	13.20
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.20
18.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.723	0.00	7.92
18.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.723	0.00	0.82
18.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.723	0.00	3.12
20.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	5.28
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	0.55
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	2.08
25.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	13.20
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	5.20
30.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	13.20
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	5.20
35.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	13.20
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	5.20
40.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	13.20
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	5.20
41.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.184	0.00	2.64
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.184	0.00	0.27
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.184	0.00	1.04
45.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	10.56
45.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	1.09
45.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	4.16
48.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	9.494	0.00	7.92
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	9.494	0.00	0.82
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	9.494	0.00	3.12
50.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	5.28
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	0.55
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	2.08
55.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	13.20
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	1.37
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	5.20
60.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	13.20
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	5.20
65.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	13.20
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	1.37

Linear Appurtenance Segment Forces (Factored)

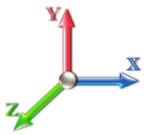
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 33	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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)
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	5.20
70.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	13.20
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	5.20
75.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	13.20
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	5.20
80.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	13.20
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	5.20
85.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	13.20
85.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	1.37
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	5.20
90.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	13.20
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	5.20
91.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.863	0.00	2.64
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.863	0.00	0.27
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.863	0.00	1.04
95.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	10.56
95.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	1.09
95.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	4.16
100.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	13.20
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	1.37
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	5.20
105.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	13.20
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	1.37
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	5.20
110.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.305	0.00	13.20
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.305	0.00	1.37
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.305	0.00	5.20
115.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.412	0.00	13.20
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.412	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.412	0.00	5.20
120.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.514	0.00	13.20
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.514	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.514	0.00	5.20
125.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.614	0.00	13.20
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.614	0.00	1.37
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.614	0.00	5.20
130.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.710	0.00	13.20
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.710	0.00	1.37
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.710	0.00	5.20
135.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.803	0.00	13.20
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.803	0.00	1.37
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.803	0.00	5.20
140.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.894	0.00	13.20

Linear Appurtenance Segment Forces (Factored)

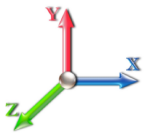
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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)
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.894	0.00	1.37
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.894	0.00	5.20
141.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.912	0.00	2.64
141.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.912	0.00	0.27
141.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.912	0.00	1.04
145.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	11.982	0.00	10.56
145.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	11.982	0.00	1.09
145.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	11.982	0.00	4.16
150.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.068	0.00	13.20
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.068	0.00	1.37
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.068	0.00	5.20
155.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.152	0.00	13.20
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.152	0.00	1.37
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.152	0.00	5.20
157.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	12.185	0.00	5.28
157.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	12.185	0.00	0.55
157.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	12.185	0.00	2.08
160.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	12.233	0.00	7.92
160.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	12.233	0.00	0.82
160.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	12.233	0.00	3.12
165.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.313	0.00	13.20
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.313	0.00	1.37
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.313	0.00	5.20
170.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.390	0.00	13.20
170.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.390	0.00	1.37
170.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.390	0.00	5.20
175.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.466	0.00	13.20
175.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.466	0.00	1.37
175.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.466	0.00	5.20
									Totals:		**0.0**	**691.8**

Calculated Forces

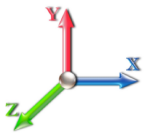
Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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	-44.38	-8.16	0.00	-956.07	0.00	956.07	5803.10	2901.55	15291.3	7657.05	0.00	0.000	0.000	0.133
5.00	-42.74	-8.04	0.00	-915.26	0.00	915.26	5738.51	2869.25	14833.4	7427.75	0.02	-0.029	0.000	0.131
10.00	-41.13	-7.92	0.00	-875.05	0.00	875.05	5672.18	2836.09	14377.6	7199.49	0.06	-0.058	0.000	0.129
15.00	-39.55	-7.80	0.00	-835.46	0.00	835.46	5604.11	2802.06	13924.1	6972.40	0.14	-0.088	0.000	0.127
18.00	-38.61	-7.72	0.00	-812.07	0.00	812.07	5562.44	2781.22	13653.2	6836.76	0.20	-0.106	0.000	0.126
18.00	-38.61	-7.72	0.00	-812.07	0.00	812.07	4468.60	2234.30	10991.3	5503.84	0.20	-0.106	0.000	0.156
20.00	-38.07	-7.68	0.00	-796.63	0.00	796.63	4449.40	2224.70	10854.8	5435.51	0.25	-0.118	0.000	0.155
25.00	-36.74	-7.55	0.00	-758.25	0.00	758.25	4400.18	2200.09	10514.1	5264.91	0.39	-0.153	0.000	0.152
30.00	-35.43	-7.42	0.00	-720.51	0.00	720.51	4349.23	2174.61	10174.3	5094.75	0.57	-0.189	0.000	0.150
35.00	-34.15	-7.28	0.00	-683.43	0.00	683.43	4296.53	2148.27	9835.69	4925.16	0.79	-0.225	0.000	0.147
40.00	-32.90	-7.14	0.00	-647.02	0.00	647.02	4242.10	2121.05	9498.40	4756.26	1.04	-0.262	0.000	0.144
41.00	-32.65	-7.11	0.00	-639.88	0.00	639.88	4231.01	2115.50	9431.14	4722.58	1.10	-0.269	0.000	0.143
45.00	-30.78	-7.00	0.00	-611.43	0.00	611.43	4185.94	2092.97	9162.77	4588.20	1.34	-0.299	0.000	0.141
48.00	-29.40	-6.90	0.00	-590.44	0.00	590.44	4187.05	2093.52	9169.29	4591.46	1.53	-0.322	0.000	0.136
50.00	-28.92	-6.85	0.00	-576.63	0.00	576.63	4164.11	2082.05	9035.54	4524.49	1.67	-0.337	0.000	0.134
55.00	-27.72	-6.71	0.00	-542.37	0.00	542.37	4105.54	2052.77	8702.63	4357.78	2.04	-0.373	0.000	0.131
60.00	-26.55	-6.56	0.00	-508.83	0.00	508.83	4045.24	2022.62	8371.99	4192.22	2.45	-0.409	0.000	0.128
65.00	-25.40	-6.42	0.00	-476.03	0.00	476.03	3983.21	1991.60	8043.90	4027.93	2.90	-0.446	0.000	0.125
70.00	-24.27	-6.27	0.00	-443.95	0.00	443.95	3919.43	1959.72	7718.60	3865.04	3.39	-0.482	0.000	0.121
75.00	-23.17	-6.11	0.00	-412.59	0.00	412.59	3853.92	1926.96	7396.37	3703.68	3.91	-0.519	0.000	0.117
80.00	-22.09	-5.97	0.00	-382.03	0.00	382.03	3786.67	1893.34	7077.46	3543.99	4.48	-0.556	0.000	0.114
85.00	-21.04	-5.83	0.00	-352.18	0.00	352.18	3717.69	1858.85	6762.13	3386.09	5.08	-0.593	0.000	0.110
90.00	-19.27	-5.67	0.00	-323.05	0.00	323.05	3646.97	1823.48	6450.65	3230.12	5.72	-0.630	0.000	0.105
91.00	-18.92	-5.64	0.00	-317.38	0.00	317.38	2873.92	1436.96	5143.64	2575.64	5.85	-0.637	0.000	0.130
95.00	-18.23	-5.53	0.00	-294.82	0.00	294.82	2834.39	1417.20	4959.20	2483.29	6.40	-0.667	0.000	0.125
100.00	-17.38	-5.39	0.00	-267.17	0.00	267.17	2783.42	1391.71	4730.46	2368.74	7.12	-0.708	0.000	0.119
105.00	-16.55	-5.25	0.00	-240.22	0.00	240.22	2730.70	1365.35	4503.96	2255.33	7.88	-0.749	0.000	0.113
110.00	-15.75	-5.12	0.00	-213.96	0.00	213.96	2676.25	1338.13	4279.98	2143.17	8.69	-0.789	0.000	0.106
115.00	-14.96	-4.98	0.00	-188.38	0.00	188.38	2620.07	1310.03	4058.76	2032.40	9.54	-0.827	0.000	0.098
120.00	-14.20	-4.85	0.00	-163.47	0.00	163.47	2562.14	1281.07	3840.57	1923.14	10.42	-0.865	0.000	0.091
125.00	-13.46	-4.72	0.00	-139.23	0.00	139.23	2502.48	1251.24	3625.68	1815.54	11.35	-0.900	0.000	0.082
130.00	-12.73	-4.59	0.00	-115.64	0.00	115.64	2441.09	1220.54	3414.34	1709.71	12.31	-0.933	0.000	0.073
135.00	-11.57	-4.45	0.00	-92.69	0.00	92.69	1793.55	896.77	2465.05	1234.36	13.30	-0.963	0.000	0.082
140.00	-10.99	-4.33	0.00	-70.42	0.00	70.42	1751.71	875.86	2319.73	1161.59	14.33	-0.989	0.000	0.067
141.00	-7.32	-2.91	0.00	-66.09	0.00	66.09	1743.14	871.57	2290.90	1147.15	14.53	-0.995	0.000	0.062
145.00	-6.87	-2.82	0.00	-54.44	0.00	54.44	1708.14	854.07	2176.40	1089.82	15.38	-1.016	0.000	0.054
150.00	-6.37	-2.70	0.00	-40.36	0.00	40.36	1662.84	831.42	2035.30	1019.16	16.45	-1.038	0.000	0.043
155.00	-5.90	-2.58	0.00	-26.88	0.00	26.88	1615.80	807.90	1896.71	949.77	17.55	-1.056	0.000	0.032
157.00	-3.38	-1.35	0.00	-21.72	0.00	21.72	1596.49	798.25	1842.04	922.39	17.99	-1.062	0.000	0.026
160.00	-3.15	-1.28	0.00	-17.67	0.00	17.67	1567.02	783.51	1760.89	881.75	18.66	-1.070	0.000	0.022
165.00	-2.77	-1.18	0.00	-11.25	0.00	11.25	1516.50	758.25	1628.10	815.26	19.79	-1.080	0.000	0.016
170.00	-2.40	-1.07	0.00	-5.37	0.00	5.37	1464.25	732.13	1498.59	750.41	20.92	-1.086	0.000	0.009
170.00	-2.40	-1.07	0.00	-5.37	0.00	5.37	1464.25	732.13	1498.59	750.41	20.92	-1.086	0.000	0.009
175.00	0.00	-1.03	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	22.06	-1.089	0.000	0.000

Final Analysis Summary

Structure:	CT03110-S-SBA	**Code:**	EIA/TIA-222-G	2/5/2021	
Site Name:	North Branford	**Exposure:**	C		
Height:	175.00 (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	

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 101 mph Wind	37.0	0.00	53.22	0.00	0.00	4356.27
0.9D + 1.6W 101 mph Wind	37.0	0.00	39.90	0.00	0.00	4318.05
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.0	0.00	81.82	0.00	0.00	1167.95
1.0D + 1.0W 60 mph Wind	8.2	0.00	44.38	0.00	0.00	956.07

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 101 mph Wind	-46.04	-35.07	0.00	-3702.7	0.00	-3702.7	5562.44	2781.2	13653.2	6836.76	18.00	0.683
0.9D + 1.6W 101 mph Wind	-34.45	-34.96	0.00	-3665.4	0.00	-3665.4	5562.44	2781.2	13653.2	6836.76	18.00	0.674
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-72.73	-9.51	0.00	-990.65	0.00	-990.65	5562.44	2781.2	13653.2	6836.76	18.00	0.196
1.0D + 1.0W 60 mph Wind	-38.61	-7.72	0.00	-812.07	0.00	-812.07	5562.44	2781.2	13653.2	6836.76	18.00	0.156

Base Plate Summary

Structure:	CT03110-S-SB		**Code:**	EIA/TIA-222-G	2/5/2021
Site Name:	North Branford		**Exposure:**	C	
Height:	175.00 (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		Base Plate		Anchor Bolts	
Original Design		**Yield (ksi):**	50.00	**Bolt Circle:**	58.00
Moment (kip-ft):	5240.00	**Width (in):**	84.50	**Number Bolts:**	24.00
Axial (kip):	51.00	**Style:**	Round	**Bolt Type:**	2.00" A687
Shear (kip):	41.49	**Polygon Sides:**	0.00	**Bolt Diameter (in):**	2.00
		Clip Length (in):	0.00	**Yield (ksi):**	105.00
Analysis (1.2D + 1.6W)		**Effective Len (in):**	14.71	**Ultimate (ksi):**	150.00
Moment (kip-ft):	4356.27	**Moment (kip-in):**	-499.28	**Arrangement:**	Radial
Axial (kip):	53.22	**Allow Stress (ksi):**	67.50	**Cluster Dist (in):**	0.00
Shear (kip):	37.02	**Applied Stress (ksi):**	-32.40	**Start Angle (deg):**	0.00
		Stress Ratio:	-0.48	Compression	
				Force (kip):	68.30
				Allowable (kip):	300.00
				Ratio:	0.24
				Tension	
				Force (kip):	61.49
				Allowable (kip):	300.00
				Ratio:	0.22

Monopole Mat Foundation Design

			Date: 2/5/2021
Customer Name:	AT&T	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	175
Site Number:	CT03110-S-SBA	**Engineer Name:**	D. Zhou
Engr. Number:	102335	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

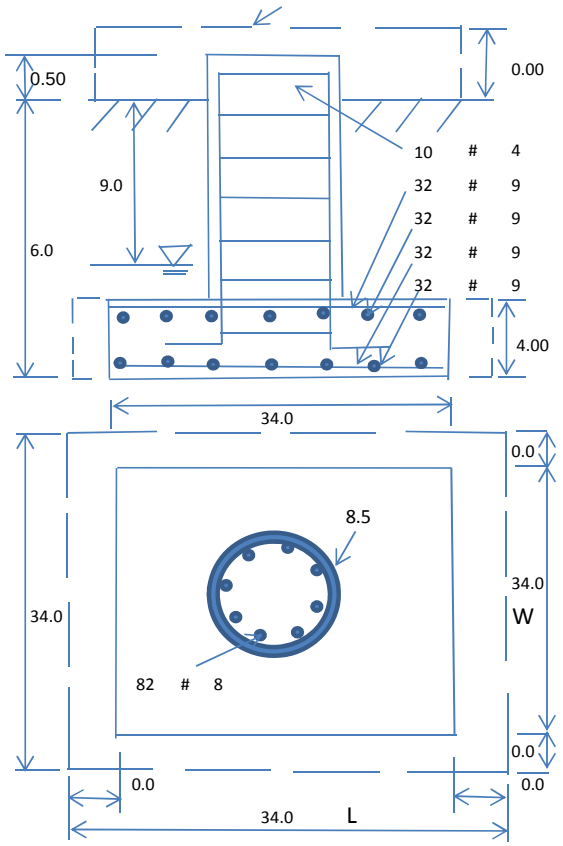
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	53.2	Shear Force (Kips):	37.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4356.3
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.5	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	4.00
Length of Pad (ft.):	34	Width of Pad (ft.):	34
Final Length of pad (ft)	34.0	Final width of pad (ft):	34.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	82	Tie Spacing (in):	8.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	9.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	5000	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.):	2198.51	Total Dry Soil Weight (Kips):	263.82
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	263.82	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	4765.86	Total Dry Concrete Weight (Kips):	714.88
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	714.88	Total Vertical Load on Base (Kips):	1031.90

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1280	<	Allowable Factored Soil Bearing (psf):	3750	0.34	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	15878.5	>	Design Factored Momont (kips-ft):	4597	0.29	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	3.45	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00			
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	0.79		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	12788.7	>	Design Factored Moment (Mu, Kips-F	4448.8	0.35	OK!
Calculated Shear Capacity (Kips):	916.1	>	Design Factored Shear (Kips):	37.0	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	3498.1	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	10749.2	>	Design Factored Axial Load (Pu Kips):	53.2	0.00	OK!
Moment & Axial Strength Combination:	0.35	OK!	Check Tie Spacing (Design/Required):		0.6667	OK!
Pier Reinforcement Ratio:	0.008		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1489.6	>	One-Way Factored Shear (L-D. Kips):	278.4	0.19	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1489.6	>	One-Way Factored Shear (W-D., Kips)	278.4	0.19	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1409.7	>	One-Way Factored Shear (C-C, Kips):	245.0	0.17	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	6266.1	>	Moment at Bottom (L-Dir. K-Ft):	2199.9	0.35	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	6266.1	>	Moment at Bottom (W-Dir. K-Ft):	2199.9	0.35	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	8821.3	>	Moment at Bottom (C-C Dir. K-Ft):	3111.1	0.35	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	6266.1	>	Moment at the top (L-Dir K-Ft):	806.4	0.13	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	6266.1	>	Moment at the top (W-Dir K-Ft):	806.4	0.13	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	8821.3	>	Moment at the top (C-C Dir. K-Ft):	754.1	0.09	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1742.5	k-ft.	Max. factored shear stress v_{u_CD}:		2.2	Psi
Max. factored shear stress v_{u_AB}:	6.2	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	6.2	Psi	Check Usage of Punching Shear Capacity:		0.04	OK!

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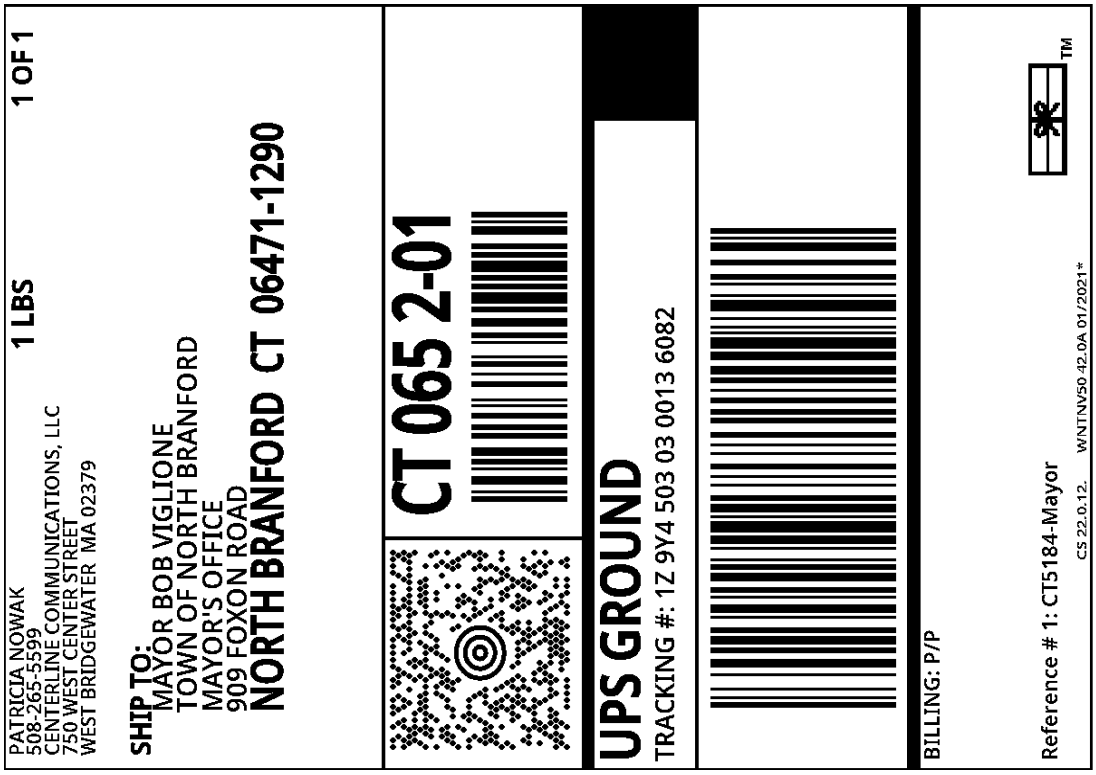

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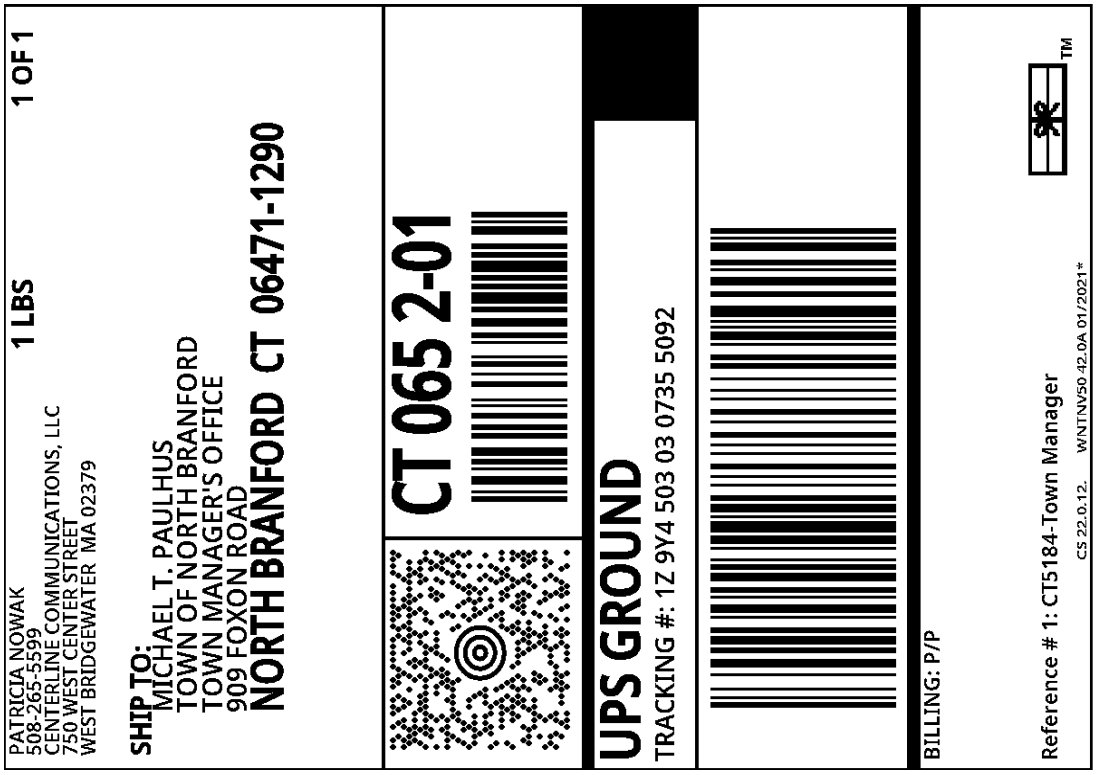

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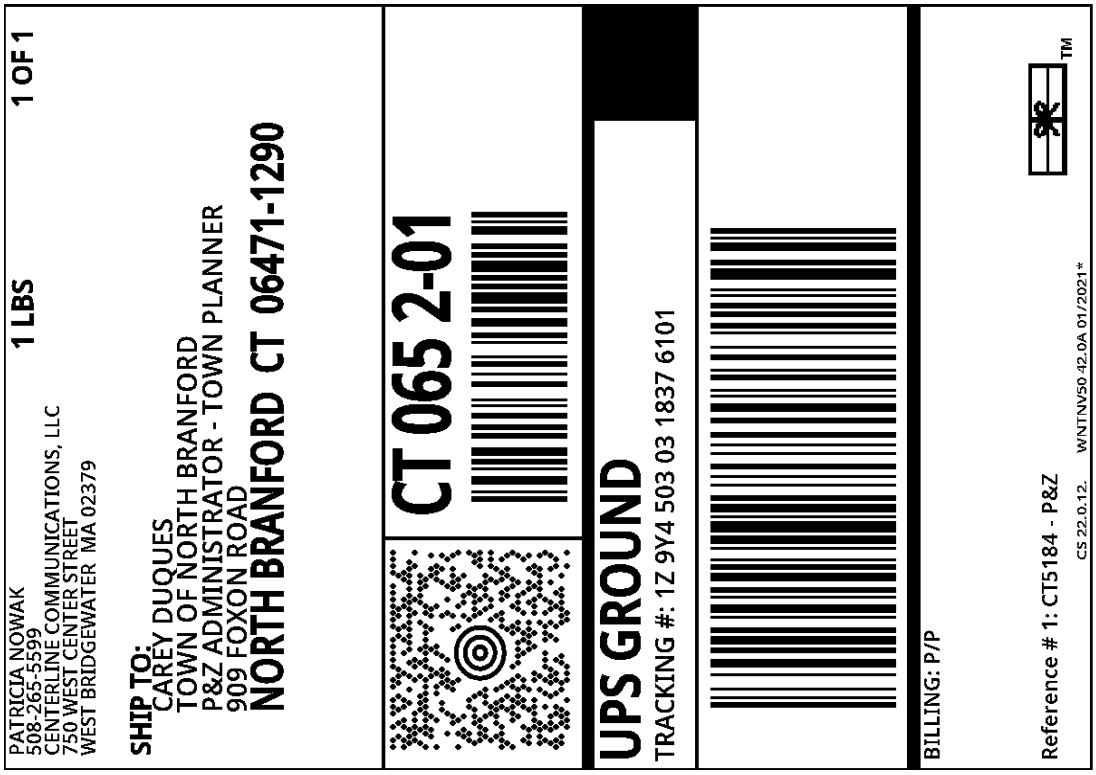

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